



Thomson ST516/536/546

CLI Reference Guide

Thomson ST516/536/546

CLI Reference Guide
R6.2

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| | |
|---|-----------|
| About this CLI Reference Guide | 1 |
| 1 Root Commands | 3 |
| ping | 4 |
| traceroute | 5 |
| 2 ADSL Commands..... | 7 |
| adsl config | 8 |
| adsl info | 9 |
| adsl debug bitloadinginfo | 11 |
| adsl debug deltconfig | 12 |
| adsl debug deltinfo | 13 |
| adsl debug modemoptioninfo | 14 |
| adsl debug modemoption | 15 |
| adsl debug traceconfig | 16 |
| 3 ATM Commands | 17 |
| atm flush | 19 |
| atm ifadd | 20 |
| atm ifattach | 21 |
| atm ifconfig | 22 |
| atm ifdelete | 24 |
| atm ifdetach | 25 |
| atm iflist..... | 26 |
| atm bundle add..... | 27 |
| atm bundle attach..... | 28 |
| atm bundle config | 29 |
| atm bundle clear | 30 |
| atm bundle delete..... | 31 |
| atm bundle detach..... | 32 |
| atm bundle flush..... | 33 |
| atm bundle ifadd | 34 |
| atm bundle ifconfig | 35 |
| atm bundle ifdelete | 36 |
| atm bundle list | 37 |
| atm cac config..... | 38 |
| atm cac list | 39 |
| atm cac overbooking..... | 40 |

| | |
|--------------------------------|-----------|
| atm debug aal5stats | 41 |
| atm debug gstats | 42 |
| atm debug portstats | 43 |
| atm oam config..... | 44 |
| atm oam list | 45 |
| atm oam modify | 46 |
| atm oam ping..... | 48 |
| atm oam cc list..... | 49 |
| atm oam cc modify..... | 50 |
| atm oam cc send | 51 |
| atm oam vclb add..... | 52 |
| atm oam vclb del | 53 |
| atm oam vclb list | 54 |
| atm phonebook add | 55 |
| atm phonebook autolist | 56 |
| atm phonebook delete | 57 |
| atm phonebook flush | 58 |
| atm phonebook list..... | 59 |
| atm qosbook add..... | 60 |
| atm qosbook config..... | 61 |
| atm qosbook ctdadd..... | 62 |
| atm qosbook ctdelete..... | 64 |
| atm qosbook ctlist | 65 |
| atm qosbook delete..... | 66 |
| atm qosbook flush..... | 67 |
| atm qosbook list | 68 |
| 4 AutoPVC Commands..... | 69 |
| autopvc config | 70 |
| autopvc list..... | 72 |
| 5 Config Commands | 73 |
| config delete | 74 |
| config dump..... | 75 |
| config flush | 76 |
| config list..... | 77 |
| config load | 78 |
| config save | 80 |

| | | |
|----------|---------------------------------|------------|
| 6 | Connection Commands..... | 81 |
| | connection appconfig..... | 82 |
| | connection appinfo..... | 84 |
| | connection applist..... | 85 |
| | connection bind..... | 86 |
| | connection bindlist..... | 87 |
| | connection clean..... | 88 |
| | connection clear..... | 89 |
| | connection config..... | 90 |
| | connection debug..... | 91 |
| | connection describe..... | 92 |
| | connection flush..... | 93 |
| | connection info..... | 94 |
| | connection list..... | 95 |
| | connection refresh..... | 96 |
| | connection stats..... | 97 |
| | connection timerclear..... | 98 |
| | connection timerconfig..... | 99 |
| | connection unbind..... | 100 |
| 7 | CWMP Commands..... | 101 |
| | cwmp config..... | 102 |
| | cwmp server config..... | 104 |
| 8 | Debug Commands..... | 105 |
| | debug exec..... | 106 |
| 9 | DHCP Commands..... | 107 |
| | dhcp client flush..... | 109 |
| | dhcp client ifadd..... | 110 |
| | dhcp client ifattach..... | 111 |
| | dhcp client ifconfig..... | 112 |
| | dhcp client ifdelete..... | 113 |
| | dhcp client ifdetach..... | 114 |
| | dhcp client iflist..... | 115 |
| | dhcp client ifrenew..... | 117 |
| | dhcp client debug clear..... | 119 |
| | dhcp client debug stats..... | 120 |

| | |
|---------------------------------------|-----|
| dhcp client debug traceconfig | 121 |
| dhcp client roptions add | 122 |
| dhcp client roptions delete | 123 |
| dhcp client roptions list | 124 |
| dhcp client roptions optionlist | 125 |
| dhcp client txoptions add | 126 |
| dhcp client txoptions delete | 127 |
| dhcp client txoptions list..... | 128 |
| dhcp client txoptions optionlist..... | 129 |
| dhcp relay add | 130 |
| dhcp relay debug stats..... | 131 |
| dhcp relay debug traceconfig..... | 132 |
| dhcp relay config | 133 |
| dhcp relay delete | 134 |
| dhcp relay flush | 135 |
| dhcp relay ifconfig | 136 |
| dhcp relay iflist | 138 |
| dhcp relay list..... | 139 |
| dhcp relay modify..... | 140 |
| dhcp relay ruleadd..... | 141 |
| dhcp relay ruledelete..... | 142 |
| dhcp rule add | 143 |
| dhcp rule debug traceconfig..... | 144 |
| dhcp rule delete | 145 |
| dhcp rule flush | 146 |
| dhcp rule list | 147 |
| dhcp server config | 148 |
| dhcp server flush | 149 |
| dhcp server policy | 150 |
| dhcp server debug clear | 151 |
| dhcp server debug stats..... | 152 |
| dhcp server debug traceconfig..... | 154 |
| dhcp server lease add | 155 |
| dhcp server lease delete | 157 |
| dhcp server lease flush | 158 |
| dhcp server lease list..... | 159 |
| dhcp server option flush | 160 |
| dhcp server option instadd..... | 161 |

| | |
|---|------------|
| dhcp server option instdelete | 163 |
| dhcp server option instlist | 164 |
| dhcp server option tmpladd | 165 |
| dhcp server option tmpldelete | 166 |
| dhcp server option tmplist..... | 167 |
| dhcp server pool add | 168 |
| dhcp server pool config | 170 |
| dhcp server pool delete | 172 |
| dhcp server pool flush | 173 |
| dhcp server pool list..... | 174 |
| dhcp server pool optadd..... | 175 |
| dhcp server pool optdelete..... | 176 |
| dhcp server pool rtadd..... | 178 |
| dhcp server pool rtdelete..... | 179 |
| dhcp server pool ruleadd..... | 180 |
| dhcp server pool ruleddelete..... | 181 |
| 10 DNS Commands | 183 |
| dns client config | 184 |
| dns client dnsadd | 185 |
| dns client dnsdelete | 186 |
| dns client dnslist..... | 187 |
| dns client flush..... | 188 |
| dns client nslookup | 189 |
| dns server config | 190 |
| dns server flush | 191 |
| dns server debug clear..... | 192 |
| dns server debug stats..... | 193 |
| dns server debug spoof clear | 194 |
| dns server debug spoof getaddress | 195 |
| dns server debug spoof getflags..... | 196 |
| dns server debug spoof list | 197 |
| dns server debug spoof update | 198 |
| dns server host add..... | 199 |
| dns server host delete | 200 |
| dns server host flush | 201 |
| dns server host list | 202 |
| dns server route add | 203 |

| | |
|---------------------------------|------------|
| dns server route delete | 205 |
| dns server route flush | 206 |
| dns server route list..... | 207 |
| 11 DSD Commands..... | 209 |
| dsd config..... | 210 |
| dsd debug config..... | 211 |
| dsd debug connection list..... | 212 |
| dsd debug proxy..... | 213 |
| dsd debug recycling | 214 |
| dsd debug stats | 215 |
| dsd intercept config..... | 216 |
| dsd syslog config..... | 217 |
| dsd syslog list | 218 |
| dsd urlfilter config | 219 |
| dsd urlfilter rule add..... | 220 |
| dsd urlfilter rule delete..... | 221 |
| dsd urlfilter rule flush..... | 222 |
| dsd urlfilter rule list | 223 |
| dsd urlfilter rule modify | 224 |
| 12 DynDNS Commands..... | 227 |
| dyndns add | 228 |
| dyndns delete | 229 |
| dyndns flush | 230 |
| dyndns list..... | 231 |
| dyndns modify..... | 232 |
| dyndns host add | 234 |
| dyndns host delete | 235 |
| dyndns host flush | 236 |
| dyndns host list | 237 |
| dyndns service list..... | 238 |
| dyndns service modify..... | 240 |
| 13 Env Commands..... | 243 |
| env flush..... | 244 |
| env get..... | 245 |
| env list | 246 |

| | |
|--|------------|
| env set | 247 |
| env unset..... | 248 |
| 14 Eth Commands | 249 |
| eth ifadd | 252 |
| eth ifattach | 253 |
| eth ifconfig | 254 |
| eth ifdelete | 255 |
| eth ifdetach | 256 |
| eth iflist..... | 257 |
| eth flush..... | 258 |
| eth bridge clear..... | 259 |
| eth bridge list | 260 |
| eth bridge add..... | 261 |
| eth bridge delete..... | 262 |
| eth bridge select | 263 |
| eth bridge config | 264 |
| eth bridge dynvlan actlist | 265 |
| eth bridge dynvlan add | 266 |
| eth bridge dynvlan config..... | 267 |
| eth bridge dynvlan delete | 268 |
| eth bridge dynvlan flush | 269 |
| eth bridge dynvlan list | 270 |
| eth bridge flush..... | 271 |
| eth bridge ifadd | 272 |
| eth bridge ifattach | 273 |
| eth bridge ifconfig | 274 |
| eth bridge ifdelete | 276 |
| eth bridge ifdetach | 277 |
| eth bridge iflist..... | 278 |
| eth bridge ifflush | 279 |
| eth bridge igmpsnooping config..... | 280 |
| eth bridge igmpsnooping list | 281 |
| eth bridge igmpsnooping ifconfig | 282 |
| eth bridge igmpsnooping iflist | 283 |
| eth bridge igmpsnooping clear | 284 |
| eth bridge macadd | 285 |
| eth bridge macdelete | 287 |

| | |
|---------------------------------|-----|
| eth bridge maclist | 289 |
| eth bridge mcdadd | 290 |
| eth bridge mcdddelete | 291 |
| eth bridge mcddlist..... | 292 |
| eth bridge rule add | 293 |
| eth bridge rule delete | 294 |
| eth bridge rule flush | 295 |
| eth bridge rule list | 296 |
| eth bridge vlan ifadd | 297 |
| eth bridge vlan ifconfig | 298 |
| eth bridge vlan ifdelete | 299 |
| eth bridge vlan iflist..... | 300 |
| eth device ifconfig | 301 |
| eth device iflist..... | 303 |
| eth switch group flush | 304 |
| eth switch group list..... | 305 |
| eth switch group move | 306 |
| eth switch mirror capture | 307 |
| eth switch mirror egress | 308 |
| eth switch mirror ingress | 309 |
| eth switch share add | 310 |
| eth switch share delete | 311 |
| eth switch share list..... | 312 |
| eth switch info | 313 |
| eth switch qos config | 314 |
| eth switch qos ifconfig | 315 |
| eth switch qos list..... | 316 |
| eth switch qos weights | 317 |
| eth switch shaper config..... | 318 |
| eth switch shaper ifconfig..... | 319 |
| eth switch shaper iflist | 320 |
| eth switch storm ifconfig | 321 |
| eth switch storm iflist..... | 322 |
| eth vlan add | 323 |
| eth vlan delete | 324 |
| eth vlan flush | 325 |
| eth vlan list..... | 326 |

| | | |
|-----------|---------------------------------------|------------|
| 15 | Expr Commands | 327 |
| | expr add | 328 |
| | expr delete | 332 |
| | expr flush | 334 |
| | expr list..... | 335 |
| | expr modify..... | 339 |
| | | |
| 16 | Firewall Commands..... | 343 |
| | firewall config | 344 |
| | firewall clear..... | 346 |
| | firewall list..... | 347 |
| | firewall chain add | 349 |
| | firewall chain delete | 351 |
| | firewall chain flush | 353 |
| | firewall chain list..... | 354 |
| | firewall debug clear..... | 355 |
| | firewall debug stats | 356 |
| | firewall debug traceconfig | 357 |
| | firewall level add | 358 |
| | firewall level delete | 359 |
| | firewall level flush | 360 |
| | firewall level list..... | 361 |
| | firewall level modify..... | 362 |
| | firewall level set..... | 363 |
| | firewall rule add..... | 364 |
| | firewall rule delete..... | 365 |
| | firewall rule flush..... | 366 |
| | firewall rule list | 367 |
| | firewall rule modify | 369 |
| | firewall rule debug clear | 370 |
| | firewall rule debug stats | 372 |
| | firewall rule debug traceconfig | 374 |
| | | |
| 17 | GRP Commands..... | 375 |
| | grp config | 376 |
| | grp flush | 377 |
| | grp rtlist..... | 378 |
| | grp rip config | 379 |

| | |
|----------------------------------|------------|
| grp rip flush..... | 382 |
| grp rip ifconfig | 383 |
| grp rip show..... | 385 |
| 18 Hostmgr Commands | 387 |
| hostmgr add..... | 388 |
| hostmgr clear | 390 |
| hostmgr config | 391 |
| hostmgr delete..... | 392 |
| hostmgr flush..... | 393 |
| hostmgr list | 394 |
| 19 IDS Commands | 395 |
| ids clear | 396 |
| ids config..... | 397 |
| ids parser list..... | 398 |
| ids parser modify..... | 399 |
| ids pattern clear | 401 |
| ids pattern list | 402 |
| ids pattern stats | 403 |
| ids signature list | 404 |
| ids signature modify | 405 |
| ids threshold clear | 406 |
| ids threshold list | 407 |
| ids threshold modify | 408 |
| 20 IGMP Commands..... | 409 |
| igmp host config..... | 410 |
| igmp host flush..... | 411 |
| igmp host list | 412 |
| igmp host ifconfig | 413 |
| igmp host iflist | 414 |
| igmp host debug clear | 415 |
| igmp host debug stats | 416 |
| igmp proxy config | 417 |
| igmp proxy flush | 419 |
| igmp proxy grouplist..... | 420 |
| igmp proxy ifconfig | 421 |

| | |
|------------------------------------|------------|
| igmp proxy iflist..... | 422 |
| igmp proxy mbslist | 423 |
| igmp proxy debug clear..... | 424 |
| igmp proxy debug stats | 425 |
| igmp proxy debug traceconfig | 426 |
| 21 Interface Commands | 427 |
| interface list..... | 428 |
| 22 IP Commands | 431 |
| ip arpadd | 433 |
| ip arpdelete | 434 |
| ip arplist..... | 435 |
| ip config..... | 436 |
| ip flush..... | 438 |
| ip ifadd..... | 439 |
| ip ifattach..... | 440 |
| ip ifconfig | 441 |
| ip ifdelete..... | 443 |
| ip ifdetach..... | 444 |
| ip iflist | 445 |
| ip ifwait..... | 446 |
| ip ipadd..... | 447 |
| ip ipconfig | 448 |
| ip ipdelete..... | 449 |
| ip iplist | 450 |
| ip mcast rtadd | 451 |
| ip mcast rtdelete | 452 |
| ip mcast rtlist | 453 |
| ip mcast flush..... | 454 |
| ip rtadd | 455 |
| ip rtdelete | 457 |
| ip rtlist..... | 458 |
| ip auto flush | 459 |
| ip auto ifadd..... | 460 |
| ip auto ifattach | 461 |
| ip auto ifconfig..... | 462 |
| ip auto ifdelete | 464 |

| | |
|-----------------------------------|------------|
| ip auto ifdetach | 465 |
| ip auto iflist | 466 |
| ip debug httpprobe..... | 467 |
| ip debug sendto..... | 468 |
| ip debug stats | 470 |
| ip debug traceconfig | 471 |
| 23 IPQoS Commands..... | 473 |
| ipqos config | 474 |
| ipqos list..... | 477 |
| ipqos ef config | 478 |
| ipqos ef list..... | 479 |
| ipqos ef stats..... | 480 |
| ipqos queue clear | 481 |
| ipqos queue config..... | 482 |
| ipqos queue list | 484 |
| ipqos queue stats | 485 |
| 24 Label Commands..... | 487 |
| label add..... | 488 |
| label delete..... | 489 |
| label flush..... | 490 |
| label list | 491 |
| label modify | 492 |
| label chain add..... | 495 |
| label chain delete..... | 496 |
| label chain flush..... | 497 |
| label chain list..... | 498 |
| label rule add | 499 |
| label rule delete | 502 |
| label rule flush | 504 |
| label rule list..... | 505 |
| label rule modify..... | 507 |
| label rule debug clear..... | 508 |
| label rule debug stats..... | 510 |
| label rule debug traceconfig..... | 511 |
| 25 Language Commands | 513 |

| | |
|----------------------------------|------------|
| language config | 514 |
| language delete | 515 |
| language list..... | 516 |
| 26 MBUS Commands | 517 |
| mbus client config | 518 |
| mbus client exec | 519 |
| mbus client register..... | 521 |
| mbus debug stats | 522 |
| mbus debug clearstats | 523 |
| mbus debug traceconfig | 524 |
| mbus listobjects..... | 525 |
| mbus listtypes..... | 526 |
| mbus listenums | 527 |
| mbus listcontexts | 528 |
| mbus listsubscriptions | 529 |
| mbus debug loadobjects | 530 |
| mbus debug unloadobjects | 531 |
| mbus pluginevent..... | 532 |
| mbus unregister | 533 |
| mbus client unregister | 534 |
| 27 MEMM Commands..... | 535 |
| memm debug lock traceconfig..... | 536 |
| memm debug traceconfig | 537 |
| memm debug clearstats | 538 |
| memm debug lock stats..... | 539 |
| memm listobjects | 540 |
| memm stats | 541 |
| 28 MLP Commands | 543 |
| mlp flush | 544 |
| mlp import | 545 |
| mlp debug export | 546 |
| mlp debug stats | 547 |
| mlp debug traceconfig | 548 |
| mlp privilege add..... | 549 |
| mlp privilege addzone..... | 551 |

| | |
|--------------------------------|------------|
| mlp privilege config | 552 |
| mlp privilege delete..... | 553 |
| mlp privilege list | 555 |
| mlp privilege removezone | 557 |
| mlp role add..... | 558 |
| mlp role addpriv | 560 |
| mlp role config..... | 561 |
| mlp role delete | 562 |
| mlp role list | 563 |
| mlp role removepriv..... | 564 |
| 29 NAT Commands..... | 565 |
| nat config | 566 |
| nat flush..... | 567 |
| nat ifconfig | 568 |
| nat iflist | 569 |
| nat mapadd | 570 |
| nat mapdelete | 574 |
| nat maplist | 575 |
| nat tmpladd | 576 |
| nat tmpldelete..... | 580 |
| nat tmplist | 581 |
| nat tmplinst | 582 |
| 30 PPP Commands..... | 583 |
| ppp flush | 584 |
| ppp ifadd | 585 |
| ppp ifattach | 587 |
| ppp ifconfig | 589 |
| ppp ifdelete | 594 |
| ppp ifdetach | 596 |
| ppp iflist..... | 598 |
| ppp ifscan..... | 599 |
| ppp rtadd..... | 600 |
| ppp rtdelete | 602 |
| ppp relay flush | 604 |
| ppp relay ifadd..... | 605 |
| ppp relay ifconfig..... | 606 |

| | |
|---------------------------------|------------|
| ppp relay ifdelete | 607 |
| ppp relay iflist | 608 |
| ppp relay sesslist | 609 |
| 31 PPTP Commands | 611 |
| pptp ifadd | 612 |
| pptp flush | 613 |
| pptp list..... | 614 |
| pptp profadd | 615 |
| pptp profdelete | 617 |
| pptp proflist..... | 618 |
| 32 Script Commands | 619 |
| script add..... | 620 |
| script delete..... | 621 |
| script flush..... | 622 |
| script list..... | 623 |
| script run | 625 |
| 33 Service Commands..... | 627 |
| service host assign | 628 |
| service host config | 629 |
| service host add..... | 630 |
| service host delete..... | 631 |
| service host disable..... | 632 |
| service host flush..... | 633 |
| service host list..... | 634 |
| service host stats..... | 635 |
| service host triggerlist..... | 636 |
| service host rule add | 637 |
| service host rule delete | 638 |
| service system ifadd..... | 639 |
| service system ifdelete..... | 640 |
| service system ipadd..... | 641 |
| service system ipdelete..... | 642 |
| service system list | 643 |
| service system mapadd | 645 |
| service system mapdelete | 646 |

| | |
|-----------------------------------|------------|
| service system modify | 647 |
| 34 SNMP Commands | 649 |
| snmp config | 650 |
| snmp get | 651 |
| snmp getnext | 652 |
| snmp walk | 653 |
| snmp community add | 654 |
| snmp community delete | 655 |
| snmp community list | 656 |
| snmp community modify | 657 |
| snmp ifadd | 658 |
| snmp ifdelete | 659 |
| snmp ifattach | 660 |
| snmp ifdetach | 661 |
| snmp ifconfig | 662 |
| snmp iflist..... | 663 |
| 35 SNTP Commands..... | 665 |
| sntp add..... | 666 |
| sntp config | 667 |
| sntp delete..... | 668 |
| sntp flush..... | 669 |
| sntp list | 670 |
| 36 Software Commands | 671 |
| software upgrade | 672 |
| software version | 673 |
| 37 System Commands | 675 |
| system config..... | 676 |
| system flush | 678 |
| system locale | 679 |
| system reboot | 681 |
| system reset..... | 682 |
| system timedreboot | 684 |
| system debug autosave | 685 |
| system debug stats | 686 |

| | |
|-----------------------------------|------------|
| system ra config | 687 |
| system rtc synchronize | 688 |
| system rtc settime | 689 |
| 38 Systemlog Commands..... | 691 |
| systemlog flush | 692 |
| systemlog show..... | 693 |
| systemlog send..... | 695 |
| systemlog DBG dbg_syslog..... | 696 |
| systemlog DBG dbg_long_mess | 697 |
| systemlog DBG dbg_burst..... | 698 |
| systemlog DBG dbg_contents | 699 |
| 39 Upgrade Commands | 701 |
| upgrade config..... | 702 |
| upgrade start..... | 703 |
| upgrade debug traceconfig | 704 |
| upgrade debug sesslist | 705 |
| upgrade profile add..... | 706 |
| upgrade profile modify | 707 |
| upgrade profile delete | 708 |
| upgrade profile list | 709 |
| upgrade ifadd..... | 710 |
| upgrade ifattach..... | 711 |
| upgrade ifconfig | 712 |
| upgrade ifdelete..... | 713 |
| upgrade ifdetach..... | 714 |
| upgrade iflist..... | 715 |
| 40 UPnP Commands..... | 717 |
| upnp config | 718 |
| upnp flush | 719 |
| upnp list..... | 720 |
| 41 User Commands | 721 |
| user add..... | 722 |
| user config | 724 |
| user delete..... | 726 |

| | |
|---|------------|
| user flush..... | 727 |
| user list..... | 728 |
| user rights | 730 |
| 42 Abbreviations..... | 731 |
| 43 System Logging Messages..... | 735 |
| Auto-PVC Module | 736 |
| Configuration Module | 736 |
| DHCP Client Module..... | 736 |
| DHCP Relay Module | 737 |
| DHCP Server Module | 737 |
| Dyndns Module | 738 |
| Firewall Module | 738 |
| LOGIN Module | 739 |
| Kernel Module | 739 |
| Linestate Module..... | 739 |
| NAPT Module..... | 739 |
| PPP Module..... | 740 |
| PPTP Module..... | 740 |
| RIP Module..... | 741 |
| Routing Module | 742 |
| Session Module | 742 |
| SNTP Module..... | 742 |
| Software Module | 743 |
| UPnP Module | 743 |
| | 743 |
| 44 Supported Key Names | 745 |
| Supported IP Protocols | 746 |
| Supported TCP/UDP Port Names | 747 |
| Supported ICMP Type Names | 750 |
| Supported Facilities..... | 751 |
| Supported Severities..... | 752 |
| IP Precedence..... | 752 |
| Differentiated Services Code Point (DSCP) | 753 |

About this CLI Reference Guide

Used Symbols



A **note** provides additional information about a topic.



A **caution** warns you about potential problems or specific precautions that need to be taken.

Terminology

Generally, the Thomson ST516/536/546 will be referred to as Thomson ST in this CLI Reference Guide.

Typographical Conventions

Following typographical convention is used throughout this manual:

- > **Sample text** indicates a hyperlink to a Web site.
Example: For more information, visit us at www.thomson-broadband.com.
- > **Sample text** indicates an internal cross-reference.
Example: If you want to know more about guide, see "1 Introduction" on page 7".
- > **Sample text** indicates an important content-related word.
Example: To enter the network, you **must** authenticate yourself.
- > **Sample text** indicates a CLI command to be input after the CLI prompt.
Example: To obtain a list of all available command groups, type **help** at the top level.
- > **Sample text** indicates input in the CLI interface.
- > *Sample text* indicates comment explaining output in the CLI interface.

Documentation and software updates

THOMSON continuously develops new solutions, but is also committed to improving its existing products.

For suggestions regarding this document, please contact documentation.speedtouch@thomson.net.

For more information on THOMSON's latest technological innovations, documents and software releases, visit us at <http://www.thomson-broadband.com>.

1 Root Commands

From the root prompt, you can choose one of the following commands:

| Command | Description |
|------------|---|
| help | Displays the help information. |
| ? | |
| menu | Displays the menu. |
| exit | Exits the shell. |
| .. | Exits group selection. |
| saveall | Saves current configuration. |
| ping | Send ICMP ECHO_REQUEST packets. |
| traceroute | Send ICMP/UDP packets to trace the ip path. |



To obtain help on a specific command group:

- > type **help**, followed by the name of the command group, and then press ENTER, or
- > type the name of the command group, press ENTER, and then type **help**.

EXAMPLE:

```
<Administrator>=>help firewall
Following commands are available :

config      : Display/Modify firewall configuration.
list        : Display firewall configuration.
clear       : Clear firewall configuration.

Following command groups are available :

chain      debug      level      rule

<Administrator>=>
```

ping

Send ICMP ECHO_REQUEST packets.

SYNTAX:

```
ping      proto = <{ip|atm}>
          addr = <ip-address>
          dest = <string>
          [count = <number{0-1000000}>]
          [size = <number{28-20028}>]
          [interval(ms) = <number{100-1000000}>]
          [DF-bit = <{disabled|enabled}>] [srcaddr = <ip-address>]
```

where:

| | | |
|----------|--|----------|
| proto | The interface type to be used. Choose between: > ip > atm | REQUIRED |
| addr | The destination IP address. | REQUIRED |
| dest | The destination address for the request. | REQUIRED |
| count | A number between 1 and 1000000. Represents the number of pings to send. The default is 5 . | OPTIONAL |
| size | A number between 0 and 20000. Represents the size of the ping payload(s). | OPTIONAL |
| interval | A number between 100 and 1000000. Represents the interval in milliseconds between packets. The default is 100 . | OPTIONAL |
| DF-bit | Set the Don't Fragment bit (or leave unset) in the IP header of ping. The default is disabled . | OPTIONAL |
| srcaddr | The IP source address to use. | OPTIONAL |

EXAMPLE:

```
=>:ping proto=ip addr=192.168.1.70
Legend : Ping successful(!)
       Ping Timeout(.)
       Hit ctrl-g to abort...
!!!!
--- ping statistics ---
5 packet(s) transmitted, 5 successful, 0% loss
rtt min/avg/max = 1 / 2 / 4 ms
=>
```

traceroute

Send ICMP/UDP packets to trace the IP path.

SYNTAX:

```
traceroute  addr = <ip-address>
            [count = <number{1-10}>]
            [size = <number{1-20000}>]
            [interval = <number{1000-60000}>]
            [maxhops = <number{1-255}>]
            [dstport = <number{1-65535}>]
            [maxfail = <number{0-255}>]
            [type = <{icmp | udp}>]
            [utime = <{disabled | enabled}>]
```

where:

| | | |
|----------|--|----------|
| addr | The destination IP address. | REQUIRED |
| count | A number between 1 and 10. Represents the number of times to reissue a traceroute request with the same TTL. The default is 3 . | OPTIONAL |
| size | A number between 1 and 20000 (bytes). Represents the size of the traceroute packet(s). The default is 1 . | OPTIONAL |
| interval | A number between 1000 and 60000 (milliseconds). Represents the intermediate interval between two packets. The default is 1000 . | OPTIONAL |
| maxhops | A number between 1 and 255. Represents the maximum number of routers through which a packet can pass. The default is 30 . | OPTIONAL |
| dstport | A number between 1 and 65535. Represents the UDP destination port number to send to. | OPTIONAL |
| maxfail | A number between 0 and 255. Represents the maximum number of consecutive timeouts allowed before terminating a traceroute request. The default is 5 . | OPTIONAL |
| type | The type of traceroute packet(s). Choose between: > icmp > udp . The default is icmp . | OPTIONAL |
| utime | Display time in useconds (enabled) or not (disabled). The default is enabled . | OPTIONAL |

EXAMPLE:

```
=>traceroute addr = 192.193.195.250 count=3 size=1 interval=1000 maxhops=30 dstport=33433
    maxfail=5 type=icmp utime=yes
:traceroute addr=192.193.195.250
ttl=1  192.193.195.250 676 us  1351 us 648 us

=>
```

2 ADSL Commands

Introduction

This chapter describes the commands of the **adsl** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------------------|--|----|
| adsl config | Show/set the Asymmetric Digital Subscriber Line (ADSL) configuration. | 8 |
| adsl info | Display the ADSL statistics and information about the DSL line status. | 9 |
| adsl debug bitloadinginfo | Displays the number of bits per tone. | 11 |
| adsl debug deltcfg | Enable/disable the Dual Ended Line Testing Interface (DELT) | 12 |
| adsl debug deltinfor | Display Dual Ended Line Testing Interface (DELT) results | 12 |
| adsl debug modemoptionsinfo | Displays the modem options bitmap | 14 |
| adsl debug modemoptions | Configure the modem options bitmap | 15 |
| adsl debug traceconfig | Configure the ADSL tracelevel. | 16 |

adsl config

Show/set the Asymmetric Digital Subscriber Line (ADSL) configuration.

SYNTAX:

```
adsl config      [opermode = <{multimode | multi_adsl2 | multi_reads12
                  | multi_adsl2plus}>]
                  [trace = <{disabled | enabled}>]
```

where:

| | | |
|----------|---|----------|
| opermode | The operational mode of the Thomson ST. Choose between: > multimode > multi_adsl2 > multi_reads12 > multi_adsl2plus The default is multi_adsl2plus . | OPTIONAL |
| trace | Enable or disable ADSL tracing. The default is enabled . | OPTIONAL |

EXAMPLE:

The example below shows the default configuration for a Thomson ST ADSL/POTS variant:

```
=>adsl config
ADSL configuration:
    opermode = multi_adsl2plus
    trace = on
    modemoption = 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
=>
```

adsl info

Display the ADSL statistics and information about the DSL line status.

Although the same command is used for both Thomson ST ADSL/POTS and Thomson ST ADSL/ISDN variants, the command features specific output parameters and counters per variant.

SYNTAX:

```
adsl info
```

EXAMPLE (for a Thomson ST ADSL/POTS variant):

```

=>adsl info
Modemstate      : up
Operation Mode  : G.992.1 Annex A
Channel Mode    : interleaved
Number of resets : 1

Vendor          Local          Remote
Country        :              Of          00
Vendor         :              TMMB
VendorSpecific :              0000          0000
StandardRevisionNr :          00          00

Margin [dB]     :              Downstream  Upstream
Attenuation [dB] :              26.0       18.0
OutputPower [dBm] :             0.0        2.0
                                   4.0       11.5

Available Bandwidth      Cells/s      Kbit/s
Downstream               :             14490  6144
Upstream                 :             1509   640

Transfer statistics
Errors
Received FEC           :              0
Received CRC           :              0
Received HEC           :              0
Transmitted FEC        :              0
Transmitted CRC        :              0
Tranmsitted HEC       :              0

Near end failures since reset
Loss of frame:         0 failures
Loss of signal:        0 failures
Loss of power:         0 failures
Errored seconds:       0 seconds
Near end failures last 15 minutes
Loss of frame:         0 seconds
Loss of signal:        0 seconds
Loss of power:         0 seconds
Errored seconds:       0 seconds
Near end failures current day
Errored seconds:       0 seconds
Near end failures previous day
Errored seconds:       0 seconds
=>

```


adsl debug bitloadinginfo

Displays the number of bits per tone.

Syntax

```
adsl debug bitloadinginfo
```

adsl debug deltconfig

Enable/disable the Dual Ended Line Testing Interface (DELT)

Syntax

```
adsl debug deltconfig [state = <{disabled|enabled}>]
```

where:

| | | |
|-------|------------------------|----------|
| state | enable or disable DELT | REQUIRED |
|-------|------------------------|----------|

adsl debug deltinfo

Display Dual Ended Line Testing Interface (DELT) results

Syntax

```
adsl debug deltinfo
```

adsl debug modemoptioninfo

Displays the modem options bitmap

Syntax

```
adsl debug modemoptioninfo
```

adsl debug modemooption

Configure the modem options bitmap

Syntax

```
adsl debug modemooption [config = <hexbitmap>]
```

where:

| | | |
|--------|--------------------------|----------|
| config | The modem options bitmap | REQUIRED |
|--------|--------------------------|----------|

adsl debug traceconfig

Configure the ADSL tracelevel.

Syntax

```
adsl debug traceconfig [level = <number{0-2}>]
```

where:

| level | Trace Level: | REQUIRED |
|-------|---------------------------------|----------|
| | > 0=disable tracing; | |
| | > 1=enable dsl manager tracing; | |
| | > 2=enable dsl driver tracing) | |

3 ATM Commands

Introduction

This chapter describes the commands of the **atm** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------|---|----|
| atm flush | Flush all Asynchronous Transfer Mode (ATM) interfaces. | 19 |
| atm ifadd | Create a new ATM interface. | 20 |
| atm ifattach | Attach a ATM interface. | 21 |
| atm ifconfig | Configure an ATM interface. | 22 |
| atm ifdelete | Delete an ATM interface. | 24 |
| atm ifdetach | Detach an ATM interface. | 25 |
| atm iflist | Display the ATM interfaces. | 26 |
| atm bundle add | Add a new bundle of interfaces. | 27 |
| atm bundle attach | Attach a bundle of interfaces. | 28 |
| atm bundle config | Modify a bundle of interfaces. | 29 |
| atm bundle clear | Clear the bundle statistics. | 30 |
| atm bundle delete | Delete a bundle of interfaces. | 31 |
| atm bundle detach | Detach a bundle of interfaces. | 32 |
| atm bundle flush | Flush all bundles. | 33 |
| atm bundle ifadd | Add an interface on a bundle. | 34 |
| atm bundle ifconfig | Configure an interface from a bundle. | 35 |
| atm bundle ifdelete | Remove an interface from a bundle. | 36 |
| atm bundle list | Display the current bundles. | 37 |
| atm cac config | Configure the ATM connection admission control. | 38 |
| atm cac list | Display all the CAC parameters. | 39 |
| atm cac overbooking | Configure ATM overbooking parameters. | 40 |
| atm debug aal5stats | Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics. | 41 |
| atm debug gstats | Display ATM global statistics. | 42 |
| atm debug portstats | Display port specific ATM statistics. | 43 |
| atm oam config | Modify the ATM Operation and Maintenance (OAM) settings. | 44 |
| atm oam list | Display the ATM OAM settings. | 45 |
| atm oam modify | Modify the ATM OAM data blocking mode. | 46 |
| atm oam ping | Send ATM loopback cells. | 48 |
| atm oam cc list | Display Continuity Check (CC) configuration. | 49 |
| atm oam cc modify | Modify CC on the connection. | 50 |
| atm oam cc send | Send CC activate/deactivate to connection. | 51 |

| | | |
|------------------------|--|----|
| atm oam vclb add | Create a loopback connection for VC. | 52 |
| atm oam vclb del | Delete a loopback connection for VC. | 53 |
| atm oam vclb list | List all VC loopback connections. | 54 |
| atm phonebook add | Add a new phonebook entry. | 55 |
| atm phonebook autolist | Show the auto PVCs. | 56 |
| atm phonebook delete | Delete an existing phonebook entry. | 57 |
| atm phonebook flush | Flush all the phonebook entries. | 58 |
| atm phonebook list | Display the current phonebook. | 59 |
| atm qosbook add | Add a new QoS book entry. | 60 |
| atm qosbook config | Modify the QoS book configuration. | 61 |
| atm qosbook ctddadd | Add a Connection Traffic Descriptor (CTD). | 62 |
| atm qosbook ctdddelete | Delete a CTD. | 64 |
| atm qosbook ctdlist | Display all CTDs. | 65 |
| atm qosbook delete | Delete a QoS book entry. | 66 |
| atm qosbook flush | Flush all the QoS book entries. | 67 |
| atm qosbook list | Display the QoS book. | 68 |

atm flush

Flush all Asynchronous Transfer Mode (ATM) interfaces.

SYNTAX:

```
atm flush
```

atm ifadd

Create a new ATM interface.

SYNTAX:

```
atm ifadd          intf = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name for the new ATM interface. | REQUIRED |
| | Note If not specified, the destination parameter must be specified. In this case the name of the destination will double as interface name. | |

EXAMPLE:

```
=>atm iflist
atm_0_35 : dest : atm_pvc_0_35
          Retry : 10 QoS : default Encaps : vcmux Fcs : disabled Ulp : mac
          Connection State : connected

=>
=>atm ifadd intf = RtPPPoA_atm
=>
=>atm iflist
atm_0_35 : dest : atm_pvc_0_35
          Retry : 10 QoS : default Encaps : vcmux Fcs : disabled Ulp : mac
          Connection State : connected

RtPPPoA_atm: dest : (none)
             Retry : 10 QoS : default Encaps : llc Fcs : disabled Ulp : ip
             Connection State : not-connected

=>
```

RELATED COMMANDS:

| | |
|--------------|-----------------------------|
| atm ifdelete | Delete an ATM interface. |
| atm iflist | Display the ATM interfaces. |

atm ifattach

Attach a ATM interface.

SYNTAX:

```
atm ifattach          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the ATM interface to be attached. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
           Connection State : not-connected

=>atm ifattach intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
           Connection State : connected

=>
```

RELATED COMMANDS:

atm ifdetach Detach an ATM interface.

atm ifconfig

Configure an ATM interface.



The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command **:atm ifdetach** before using the command **:atm ifconfig**.

SYNTAX:

```
atm ifconfig          intf = <string>
                    [dest = <string>]
                    [qos = <string>]
                    [clp = <{0|1|classification}>]
                    [clpthresh = <number{0-15}>]
                    [encaps = <{llc | vcmux}>]
                    [retry = <number{0-65535}>]
                    [fcs = <{disabled | enabled | auto}>]
                    [ulp = <{ip | mac | ppp}>]
```

where:

| | | |
|-----------|--|----------|
| intf | The name of the ATM interface to be configured. | REQUIRED |
| dest | The WAN destination for this ATM interface. Typically, an ATM phonebook entry. | OPTIONAL |
| qos | The name of the Quality of Service (QoS) book entry to apply on this ATM interface. The default is default . | OPTIONAL |
| clp | The mode used to determine the CLP bit value | OPTIONAL |
| clpthresh | Priority class threshold where CLP becomes 0 (for all classes >= threshold) | OPTIONAL |
| encaps | The type of encapsulation to be used for this ATM interface. Choose between: > llc : Logical Link Control (LLC) / Sub Network Access Protocol (SNAP) > vcmux : Virtual Channel MULTipleXing (VCMUX). The default is llc . | OPTIONAL |
| fcs | Enable or disable the inclusion of the Ethernet Frame Check Sequence (FCS) in the packet header on the WAN side (only used for llc encapsulation for mac). The default is disabled . Note This parameter is normally left disabled. | OPTIONAL |
| retry | A number between 0 and 65535. Represents the number of times the Thomson ST retries to set up a WAN connection before giving up. The default is 10 . | OPTIONAL |

ATM Commands

| | | |
|-----|---|----------|
| ulp | Select the Upper Layer Protocol (ULP) for this interface. Choose between: > ip (for a Routed IPoA interface). > mac (for a Bridged Ethernet, Routed ETHoA, Bridged PPP over Ethernet (PPPoE), Routed PPPoE or a PPPoE Relay interface). > ppp (for a Routed PPP over ATM (PPPoA) interface). The default is ip . | OPTIONAL |
|-----|---|----------|

EXAMPLE:

```
=>atm iflist
atm_0_35 : dest : atm_pvc_0_35
          Retry : 10 QoS : default Encaps : llc Fcs : disabled Ulp : mac
          Connection State : connected

atm_8_35 : dest : atm_pvc_8_35
          Retry : 10 QoS : default Encaps : llc Fcs : disabled Ulp : mac
          Connection State : not-connected

=>
=>atm ifconfig intf=atm_8_35 dest=atm_pvc_8_35 encaps=vcmux ulp=ppp
=>
=>atm iflist
atm_0_35 : dest : atm_pvc_0_35
          Retry : 10 QoS : default Encaps : llc Fcs : disabled Ulp : mac
          Connection State : connected

atm_8_35 : dest : RtPPPoA
          Retry : 10 QoS : default Encaps : vcmux Fcs : disabled Ulp : ppp
          Connection State : not-connected

=>
```

atm ifdelete

Delete an ATM interface.

SYNTAX:

```
atm ifdelete          intf = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name of the ATM interface to be deleted. | REQUIRED |
|------|--|----------|

EXAMPLE:

```
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
           Connection State : connected

=>
=>atm ifdelete intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

=>
```

RELATED COMMANDS:

| | |
|------------|-----------------------------|
| atm ifadd | Create a new ATM interface. |
| atm iflist | Display the ATM interfaces. |

atm ifdetach

Detach an ATM interface.

SYNTAX:

```
atm ifdetach          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the ATM interface to be detached. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
           Connection State : connected

=>
=>atm ifdetach intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
           Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
           Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
           Connection State : not-connected

=>
```

RELATED COMMANDS:

atm ifattach Attach a ATM interface.

atm iflist

Display the ATM interfaces.

SYNTAX:

```
atm iflist [intf = <string>]
```

where:

| | | |
|------|---|----------|
| intf | The name of the ATM interface to be shown. | OPTIONAL |
| | Note If not specified, all the ATM interfaces are shown. | |

EXAMPLE:

```
=>atm iflist
atm_0_35 : dest : atm_pvc_0_35
          Retry : 10 QoS : default Encaps : vcmux Fcs : off Ulp : mac
          Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
             Retry : 10 QoS : default Encaps : vcmux Fcs : off Ulp : ppp
             Connection State : connected

=>atm iflist intf=RtPPPoA_atm
RtPPPoA_atm: dest : RtPPPoA
             Retry : 10 QoS : default Encaps : vcmux Fcs : off Ulp : ppp
             Connection State : connected

=>
```

RELATED COMMANDS:

| | |
|--------------|-----------------------------|
| atm ifadd | Create a new ATM interface. |
| atm ifdelete | Delete an ATM interface. |

atm bundle add

Add a new bundle of interfaces.

SYNTAX:

```
atm bundle add          name = <string>
```

where:

| | | |
|-------------|-----------------------------|-----------------|
| name | The name of the new bundle. | REQUIRED |
|-------------|-----------------------------|-----------------|

EXAMPLE:

```
=>atm bundle add name=myBundle
=>atm bundle list
myBundle: Connection state : not-connected
          Retry: 10           Policy: priority Propagate: disabled
          TX requested bytes: 0      requested frames: 0
          TX bytes: 0           frames: 0
          RX bytes: 0           frames: 0
=>
```

RELATED COMMANDS:

atm bundle delete

Delete a bundle of interfaces.

atm bundle list

Display the current bundles.

atm bundle attach

Attach a bundle of interfaces.

SYNTAX:

```
atm bundle attach      name = <string>
```

where:

| | | |
|------|--|----------|
| name | The name of the bundle to be attached. | REQUIRED |
|------|--|----------|

EXAMPLE:

```
=>atm bundle attach name=myBundle
=>atm bundle list
myBundle: Connection state : connected
          Retry: 10                Policy: priority Propagate: disabled
          TX requested bytes: 0     requested frames: 0
          TX bytes: 0              frames: 0
          RX bytes: 0              frames: 0
=>
```

RELATED COMMANDS:

atm bundle detach Detach a bundle of interfaces.

atm bundle config

Modify a bundle of interfaces.



The bundle of interfaces to be configured must not be connected at the time of configuration. If this should be the case, use the command **:atm bundle detach** before using the command **:atm bundle config**.

SYNTAX:

```
atm bundle config      name = <string>
                        [policy = <{priority | connection}>]
                        [propagate = <{disabled | enabled}>]
                        [retry = <number{0-65535}>]
```

where:

| | | |
|-----------|---|----------|
| name | The name of the bundle to be configured. | REQUIRED |
| policy | The traffic handling policy of the bundle. Choose between: <ul style="list-style-type: none">> priority: lower layer ATM interfaces can be configured for a certain priority range, marked packets will be sent on the corresponding interface.> connection: all the packets of the same connection will be sent via the same interface. The default is priority . | OPTIONAL |
| propagate | Enable or disable propagation of packets. When propagation is enabled, packets are sent via the first interface configured for that traffic. If the interface goes down, the next interface in the bundle will be used. The default is disabled . | OPTIONAL |
| retry | A number between 0 and 65535. Represents the number of connection setup retries before giving up. The default is 10 . | OPTIONAL |

EXAMPLE:

```
=>atm bundle list
myBundle: Connection state : not-connected
      Retry: 10                Policy: priority  Propagate: disabled
      TX requested bytes: 0      requested frames: 0
      TX bytes: 0                frames: 0
      RX bytes: 0                frames: 0
=>atm bundle config name=myBundle policy=connection retry=15
=>atm bundle list
myBundle: Connection state : not-connected
      Retry: 15                Policy: connection Propagate: disabled
      TX requested bytes: 0      requested frames: 0
      TX bytes: 0                frames: 0
      RX bytes: 0                frames: 0
=>
```

atm bundle clear

Clear the bundle statistics.

SYNTAX:

```
atm bundle clear [name = <string>]
```

where:

| | | |
|------|---|----------|
| name | The name of the bundle for which the statistics must be cleared. | OPTIONAL |
| | Note If not specified, the statistics for all the bundles will be cleared. | |

atm bundle delete

Delete a bundle of interfaces.

SYNTAX:

```
atm bundle delete      name = <string>
```

where:

| | | |
|------|---------------------------------------|----------|
| name | The name of the bundle to be deleted. | REQUIRED |
|------|---------------------------------------|----------|

RELATED COMMANDS:

atm bundle add

Add a new bundle of interfaces.

atm bundle list

Display the current bundles.

atm bundle detach

Detach a bundle of interfaces.

SYNTAX:

```
atm bundle detach      intf = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name of the bundle to be detached. | REQUIRED |
|------|--|----------|

RELATED COMMANDS:

atm bundle attach

Attach a bundle of interfaces.

atm bundle flush

Flush all bundles.

SYNTAX:

```
atm bundle flush
```

atm bundle ifadd

Add an interface on a bundle.



Up to 8 interfaces or (sub-)bundles can be added to one bundle.

SYNTAX:

```
atm bundle ifadd      name = <string>
                    intf = <string>
                    [index = <number{0-6}>]
```

where:

| name | The name of the bundle to which an ATM interface must be added. | REQUIRED |
|-------|---|----------|
| intf | The name of the ATM interface to be added. | REQUIRED |
| index | A number between 0 and 6. Represents the index of the ATM interface. | OPTIONAL |

EXAMPLE:

```
=>atm bundle ifadd name=myBundle intf=myATMintf
=>atm bundle list
myBundle: Connection state : not-connected
    Retry: 15                               Policy: connection
    TX requested bytes: 0                    requested frames: 0
    TX bytes: 0                              frames: 0
    RX bytes: 0                              frames: 0
    Interface: myATMintf  State: enabled  Selector: 0-15
        TX bytes: 0                               frames: 0
        RX bytes: 0                               frames: 0
        RX discarded bytes: 0                     discarded frames: 0
        Disconnects: 0
=>
```

RELATED COMMANDS:

atm bundle ifdelete

Remove an interface from a bundle.

atm bundle ifconfig

Configure an interface from a bundle.



The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command `:atm bundle ifdetach` before using the command `:atm bundle ifconfig`.

SYNTAX:

```
atm bundle ifconfig    name = <string>
                      intf = <string>
                      [state = <{disabled | enabled}>]
                      [low = <number{0-15}>]
                      [high = <number{0-15}>]
```

where:

| | | |
|-------|--|----------|
| name | The name of the bundle from which an ATM interface must be configured. | REQUIRED |
| intf | The name of the ATM interface to be configured. | REQUIRED |
| state | Enable or disable the ATM interface. The default is <i>enabled</i> . | OPTIONAL |
| low | A number between 0 and 15. Represents the low selector value. Note This parameter must only be configured when the policy of the bundle is set to <i>priority</i> (see " atm bundle config" on page 29). | OPTIONAL |
| high | A number between 0 and 15. Represents the high selector value. Note This parameter must only be configured when the policy of the bundle is set to <i>priority</i> (see " atm bundle config" on page 29). | OPTIONAL |

atm bundle ifdelete

Remove an interface from a bundle.

SYNTAX:

```
atm bundle ifdelete    name = <string>
                      intf = <string>
```

where:

| | | |
|------|---|----------|
| name | The name of the bundle from which an ATM interface must be removed. | REQUIRED |
| intf | The name of the ATM interface to be removed. | REQUIRED |

EXAMPLE:

```
=>atm bundle iflist
Test      : dest : (none)
          Retry : 10  QoS : default  Encaps : llc Fcs : off Ulp : ip
          Connection State : not-connected

=>atm bundle ifdelete intf=Test
=>atm bundle iflist

=>
```

RELATED COMMANDS:

atm bundle ifadd Add an interface on a bundle.

atm bundle list

Display the current bundles.

SYNTAX:

```
atm bundle list
```

EXAMPLE:

```
=>atm bundle list
Test      : Connection state : not-connected
           Retry: 10          Policy: priority
           TX requested bytes: 0      requested frames: 0
           TX bytes: 0           frames: 0
           RX bytes: 0           frames: 0
           Interface: Test  State: enabled  Selector: 0-15
                   TX bytes: 0           frames: 0
                   RX bytes: 0           frames: 0
                   RX discarded bytes: 0   discarded frames: 0
                   Disconnects: 0

=>
```

RELATED COMMANDS:

atm bundle add

Add a new bundle of interfaces.

atm bundle delete

Delete a bundle of interfaces.

atm cac config

Configure the ATM connection admission control.

SYNTAX:

```
atm cac config          config port = <{ds10|ds11|atm2|atm3|aal5|atm5} or
                        number>
                        state = <{disabled|enabled}>
```

where:

| | | |
|-------------|---------------------------------------|----------|
| config port | The port for which CAC is configured. | REQUIRED |
| state | Enable/disable CAC for an ATM port. | REQUIRED |

EXAMPLE:

```
{Administrator}=>atm cac config
port = ds10
state = enabled
:atm cac config port=ds10 state=enabled
{Administrator}=>
```

RELATED COMMANDS:

| | |
|---------------------|---------------------------------------|
| atm cac list | Display all the CAC parameters. |
| atm cac overbooking | Configure ATM overbooking parameters. |

atm cac list

Display all the CAC parameters.

SYNTAX:

```
atm cac list
```

EXAMPLE:

```
{Administrator}[atm cac]=>list
CAC: port: ds10 state: enabled
CAC: port: ds11 state: enabled
CAC: port: atm2 state: enabled
CAC: port: aal5 state: disabled
CAC: port: atm5 state: disabled
Overbooking: realtime: 0% non-realtime: 0%.
{Administrator}[atm cac]=>
```

RELATED COMMANDS:

| | |
|---------------------|---|
| atm cac config | Configure the ATM connection admission control. |
| atm cac overbooking | Configure ATM overbooking parameters. |

atm cac overbooking

Configure ATM overbooking parameters.

SYNTAX:

```
atm cac overbooking    rt = <number{0-1000}>
                      nrt = <number{0-1000}>
```

where:

| | | |
|-----|--|----------|
| rt | A number between 0 and 1000. The realtime overbooking percentage. | REQUIRED |
| nrt | A number between 0 and 1000. The non-realtime overbooking percentage. | REQUIRED |

EXAMPLE:

```
{Administrator}[atm cac]=>overbooking rt 20 nrt 500
{Administrator}[atm cac]=>list
CAC: port: ds10 state: enabled
CAC: port: ds11 state: enabled
CAC: port: atm2 state: enabled
CAC: port: aal5 state: disabled
CAC: port: atm5 state: disabled
Overbooking: realtime: 20% non-realtime: 500%.
{Administrator}[atm cac]=>
```

RELATED COMMANDS:

| | |
|----------------|---|
| atm cac config | Configure the ATM connection admission control. |
| atm cac list | Display all the CAC parameters. |

atm debug aal5stats

Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics.

SYNTAX:

```
atm debug aal5stats    port = <{dsl0|dsl1|atm2|atm3|aal5|atm5} or number>
                      vpi = <number{0-15}>
                      [vci = <number{0-511}>]
                      [clear = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| port | The port number for which statistics will be retrieved. Choose between: <ul style="list-style-type: none">> DSL0> DSL1> ATM2> ATM3> AAL5> ATM5 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| vpi | A number between 0 and 15. Represents the Virtual Path Identifier (VPI) number for which statistics will be retrieved. | REQUIRED |
| vci | A number between 0 and 511. Represents the Virtual Channel Identifier (VCI) number for which statistics will be retrieved. | OPTIONAL |
| clear | Enable or disable clearing of the statistics after request. | OPTIONAL |

RELATED COMMANDS:

| | |
|---------------------|---------------------------------------|
| atm debug gstats | Display ATM global statistics. |
| atm debug portstats | Display port specific ATM statistics. |

atm debug gstats

Display ATM global statistics.

SYNTAX:

```
atm debug gstats [clear = <{disabled | enabled}>]
```

where:

| | | |
|-------|---|----------|
| clear | Enable or disable clearing of the statistics after request. | OPTIONAL |
|-------|---|----------|

EXAMPLE:

```
{admin}[atm debug]=>gstats
# of received octets = 1802.
# of transmitted octets = 4346.
# of received cells = 34.
# of transmitted cells = 82.
# of unknown cells = 0.
# of errors on the input = 0.
# of errors on output = 0.
{admin}[atm debug]=>
```

RELATED COMMANDS:

atm debug aal5stats
atm debug portstats

Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics.
Display port specific ATM statistics.

atm debug portstats

Display port specific ATM statistics.

SYNTAX:

```
atm debug portstats    port = <{dsl0} or number>
                      [clear = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| port | The port number for which statistics will be retrieved. Choose between: > DSL0 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| clear | Enable or disable clearing of the statistics after request. | OPTIONAL |

EXAMPLE:

```
=>atm debug portstats port=dsl0
    # of received octets = 1961.
    # of transmitted octets = 4717.
    # of received cells = 37.
    # of transmitted cells = 89.
    # of unknown cells = 0.
    # of errors on the input = 0.
    # of errors on output = 0.
=>
```

RELATED COMMANDS:

| | |
|---------------------|---|
| atm debug aal5stats | Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics. |
| atm debug gstats | Display ATM global statistics. |

atm oam config

Modify the ATM Operation and Maintenance (OAM) settings.

SYNTAX:

```
atm oam config          [clp = <number{0-1}>]
                        [loopbackid = <string>]
```

where:

| | | |
|------------|--|----------|
| clp | A number (0 or 1). Represents the Cell Loss Priority (CLP) bit value of the OAM cells. The default is 1 . | OPTIONAL |
| loopbackid | A hexadecimal string. Represents the loopback ID for processing of segment loopback cells. The default is 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a . | OPTIONAL |

RELATED COMMANDS:

| | |
|----------------|--|
| atm oam list | Display the ATM OAM settings. |
| atm oam modify | Modify the ATM OAM data blocking mode. |
| atm oam ping | Send ATM loopback cells. |

atm oam list

Display the ATM OAM settings.

SYNTAX:

```
atm oam list
```

EXAMPLE:

```
=>atm oam list
  OAM config dump
-----
      CLP bit value : 1
      Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a
-----
      OAM data blocking mode
-----
      Port dsl0: blocking
      Port dsl1: blocking
      Port atm2: blocking
      Port atm3: blocking
      Port aal5: blocking
      Port atm5: blocking
=>
```

RELATED COMMANDS:

atm oam config
atm oam modify
atm oam ping

Modify the ATM Operation and Maintenance (OAM) settings.
Modify the ATM OAM data blocking mode.
Send ATM loopback cells.

atm oam modify

Modify the ATM OAM data blocking mode.

SYNTAX:

```
atm oam modify      port = <{dsl0} or number>
                   blocking = <{disabled | enabled}>
```

where:

| | | |
|----------|---|----------|
| port | The port for which OAM blocking is configured. Choose between: > DSL0 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| blocking | Enable or disable the OAM data blocking mode on this port. The default is <i>enabled</i> . | REQUIRED |

ATM Commands

EXAMPLE:

```
=>atm oam list
OAM config dump
-----
CLP bit value : 1
Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a

OAM data blocking mode
-----
Port ds10: blocking
Port ds11: blocking
Port atm2: blocking
Port atm3: blocking
Port aal5: blocking
Port atm5: blocking
=>atm oam modify port=ds11 blocking=disabled
=>:atm oam list
OAM config dump
-----
CLP bit value : 1
Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a

OAM data blocking mode
-----
Port ds10: blocking
Port ds11: non blocking
Port atm2: blocking
Port atm3: blocking
Port aal5: blocking
Port atm5: blocking
=>
```

RELATED COMMANDS:

atm oam config

Modify the ATM Operation and Maintenance (OAM) settings.

atm oam list

Display the ATM OAM settings.

atm oam ping

Send ATM loopback cells.

atm oam ping

Send ATM loopback cells.

SYNTAX:

```
atm oam ping          dest = <string>
                      [count = <number{1-1000000}>]
                      [interval = <number{100-1000000}>]
```

where:

| | | |
|-----------------|--|-----------------|
| dest | The destination address for the request. This can be any ATM phonebook entry. | REQUIRED |
| count | A number between 1 and 1000000. Represents the number of pings to send. | OPTIONAL |
| interval | A number between 100 and 1000000 (milliseconds). Represents the interval between packets. | OPTIONAL |

EXAMPLE:

```
=>atm oam ping dest=atm_ph_8_35 count=10 interval=1000
loopback: successful, sequence: 1 time: 37890 usec
loopback: successful, sequence: 2 time: 39118 usec
loopback: successful, sequence: 3 time: 39116 usec
loopback: successful, sequence: 4 time: 39187 usec
loopback: successful, sequence: 5 time: 38605 usec
loopback: successful, sequence: 6 time: 38764 usec
loopback: successful, sequence: 7 time: 38752 usec
loopback: successful, sequence: 8 time: 38813 usec
loopback: successful, sequence: 9 time: 38848 usec
loopback: successful, sequence: 10 time: 38941 usec

--- loopback statistics ---
10 loopbacks transmitted, 10 successful, 0% loss, time 1390 ms
rtt min/avg/max = 37890/38803/39187
=>
```

RELATED COMMANDS:

| | |
|----------------|--|
| atm oam config | Modify the ATM Operation and Maintenance (OAM) settings. |
| atm oam list | Display the ATM OAM settings. |
| atm oam modify | Modify the ATM OAM data blocking mode. |

atm oam cc list

Display Continuity Check (CC) configuration.

SYNTAX:

```
atm oam cc list
```

EXAMPLE:

```
=>atm oam cclist  
PORT = 0 VPI = 15 VCI = 16 End2End Mode = Auto Segment Mode = Auto  
PORT = 0 VPI = 0 VCI = 35 End2End Mode = Auto Segment Mode = Auto  
PORT = 0 VPI = 8 VCI = 35 End2End Mode = Auto Segment Mode = Auto  
PORT = 0 VPI = 0 VCI = 16 End2End Mode = Auto Segment Mode = Auto  
=>
```

RELATED COMMANDS:

atm oam cc modify

Modify CC on the connection.

atm oam cc send

Send CC activate/deactivate to connection.

atm oam cc modify

Modify CC on the connection.

SYNTAX:

```
atm oam modify      port = <{dsl0|dsl1|atm2|atm3|aal5|atm5} or number>
                   vpi = <number{0-15}>
                   [vci = <number{0-511}>]
                   [transmit = <{disabled | enabled}>]
                   [receive = <{disabled | enabled}>]
                   [auto = <{disabled | enabled}>]
                   [span = <{segment | end2end}>]
```

where:

| | | |
|----------|--|----------|
| port | The ATM port number. Choose between: <ul style="list-style-type: none"> > DSL0 > DSL1 > ATM2 > ATM3 > AAL5 > ATM5 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| vpi | A number between 0 and 15. Represents the VPI. | REQUIRED |
| vci | A number between 0 and 511. Represents the VCI. Note For a Virtual Path (VP) cross-connection, use 0 or do not specify. | OPTIONAL |
| transmit | Enable or disable transmission of CC cells. | OPTIONAL |
| receive | Enable or disable loss of continuity. | OPTIONAL |
| auto | Enable or disable remote CC activation/deactivation. | OPTIONAL |
| span | Select the CC span. Choose between: <ul style="list-style-type: none"> > end2end: monitoring occurs on the entire VC between two ATM end stations. > segment: monitoring occurs on a VC segment between the Thomson ST and a first-hop ATM switch. | OPTIONAL |

RELATED COMMANDS:

atm oam cc list Display Continuity Check (CC) configuration.
 atm oam cc send Send CC activate/deactivate to connection.

atm oam cc send

Send CC activate/deactivate to connection.

SYNTAX:

```
atm oam cc send      port = <{dsl0} or number>
                    vpi = <number{0-15}>
                    [vci = <number{0-511}>]
                    [span = <{segment | end2end}>]
                    [action = <{activate | deactivate}>]
                    [direction = <{source | sink | both}>]
```

where:

| | | |
|-----------|--|----------|
| port | The ATM port number. Choose between: > DSL0. Or specify a port number (dsl0 has port number 0). | REQUIRED |
| vpi | A number between 0 and 15. Represents the VPI. | REQUIRED |
| vci | A number between 0 and 511. Represents the VCI. Note For a VP cross-connection, use 0 or do not specify. | OPTIONAL |
| span | Select the CC span. Choose between: > end2end : monitoring occurs on the entire VC between two ATM end stations. > segment : monitoring occurs on a VC segment between the Thomson ST and a first-hop ATM switch. | OPTIONAL |
| action | Activate or deactivate CC. The default is deactivate . | OPTIONAL |
| direction | Indicates the direction of CC activity. Choose between: > source > sink > both. The default is both . | OPTIONAL |

RELATED COMMANDS:

atm oam cc list Display Continuity Check (CC) configuration.
atm oam cc modify Modify CC on the connection.

atm oam vclb add

Create a loopback connection for VC.

SYNTAX:

```
atm oam vclb add      port = <{dsl0} or number>
                      vpi = <number{0-15}>
                      [vci = <number{0-511}>]
```

where:

| | | |
|------|---|----------|
| port | The ATM port number. Choose between: > DSL0 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| vpi | A number between 0 and 15. Represents the VPI. | REQUIRED |
| vci | A number between 0 and 511. Represents the VCI. Note For a VP cross-connection, use 0 or do not specify. | OPTIONAL |

EXAMPLE:

```
=>atm oam vclb add port=dsl0 vpi=0 vci=36
=>atm oam vclb list
PORT = 0 VPI = 0 VCI = 36
=>atm oam vclb add port=dsl1 vpi=0 vci=37
=>atm oam vclb list
PORT = 0 VPI = 0 VCI = 36
PORT = 1 VPI = 0 VCI = 37
=>
```

RELATED COMMANDS:

| | |
|-------------------|--------------------------------------|
| atm oam vclb del | Delete a loopback connection for VC. |
| atm oam vclb list | List all VC loopback connections. |

atm oam vclb del

Delete a loopback connection for VC.

SYNTAX:

```
atm oam vclb del      port = <{dsl0} or number>
                      vpi = <number{0-15}>
                      [vci = <number{0-511}>]
```

where:

| | | |
|------|---|----------|
| port | The ATM port number. Choose between: > DSL0 Or specify a port number (dsl0 has port number 0). | REQUIRED |
| vpi | A number between 0 and 15. Represents the VPI. | REQUIRED |
| vci | A number between 0 and 511. Represents the VCI. Note For a VP cross-connection, use 0 or do not specify. | OPTIONAL |

EXAMPLE:

```
=>atm oam vclb list
PORT = 0 VPI = 0 VCI = 36
PORT = 1 VPI = 0 VCI = 37
=>atm oam vclb del port=dsl1 vpi=0 vci=37
=>atm oam vclb list
PORT = 0 VPI = 0 VCI = 36
=>
```

RELATED COMMANDS:

| | |
|-------------------|--------------------------------------|
| atm oam vclb add | Create a loopback connection for VC. |
| atm oam vclb list | List all VC loopback connections. |

atm oam vclb list

List all VC loopback connections.

SYNTAX:

```
atm oam vclb list
```

EXAMPLE:

```
=>atm oam vclb list  
PORT = 0 VPI = 0 VCI = 36  
PORT = 1 VPI = 0 VCI = 37  
=>
```

RELATED COMMANDS:

atm oam vclb add

Create a loopback connection for VC.

atm oam vclb del

Delete a loopback connection for VC.

atm phonebook add

Add a new phonebook entry.

SYNTAX:

```
atm phonebook add      name = <string>
                       addr = <atmchannel : PVC syntax is [port.]vpi.vci
                             port=dsl0 | ...>
```

where:

| | | |
|-------------|---|-----------------|
| name | The name of the new phonebook entry. This name can be freely chosen, however two limitations apply: <ul style="list-style-type: none">> The name of a phonebook entry intended for the Relayed PPPoA (PPPoA-to-PPTP Relaying) packet service may not start with capital P or capital T> The name of a phonebook entry intended for the PPP-to-DHCP spoofing packet service must start with DHCP (for example DHCP_Spoof01). | REQUIRED |
| addr | The ATM address for this destination. It is composed of a VPI and a VCI identifying ATM virtual channels. In most cases the values are provided by the Service Provider. Accepted VPI: a number between 0 and 15. Accepted VCI: a number between 0 and 511. | REQUIRED |

EXAMPLE:

```
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
=>atm phonebook add name=RtPPPoA addr=8.35
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA   0    8.35
=>
```

RELATED COMMANDS:

| | |
|----------------------|-------------------------------------|
| atm phonebook delete | Delete an existing phonebook entry. |
| atm phonebook list | Display the current phonebook. |

atm phonebook autolist

Show the auto PVCs.



Auto PVCs are only shown if they are supported by the Central Office DSLAM.

SYNTAX:

```
atm phonebook autolist
```

EXAMPLE:

```
=>atm phonebook autolist  
8.35  
=>
```

RELATED COMMANDS:

atm phonebook list

Display the current phonebook.

atm phonebook delete

Delete an existing phonebook entry.



This command is only applicable for phonebook entries that are not used (in other words, not configured for any packet service).

SYNTAX:

```
atm phonebook delete    name = <string>
```

where:

| name | The name of the phonebook entry to be deleted. | REQUIRED |
|------|--|----------|
|------|--|----------|

Tip Use the command **:atm phonebook list** to check whether the entry is in use (*Use=1*) or not (*Use=0*).

EXAMPLE:

```
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA   0    8.35
=>atm phonebook delete name=RtPPPoA
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
=>
```

RELATED COMMANDS:

| | |
|--------------------|--------------------------------|
| atm phonebook add | Add a new phonebook entry. |
| atm phonebook list | Display the current phonebook. |

atm phonebook flush

Flush all the phonebook entries.



1. Phonebook entries that are in use, cannot be flushed.
2. This command does not impact previously saved configurations.

SYNTAX:

```
atm phonebook flush
```

EXAMPLE:

```
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA   0    8.35
=>
=>atm phonebook flush
Some phonebook entries are still in use. Entries that are in use cannot be deleted.
=>
=>atm phonebook list
Name      Use  Address
atm_pvc_0_35 1    0.35
=>
```


atm phonebook list

Display the current phonebook.

SYNTAX:

```
atm phonebook list
```

EXAMPLE:

```
=>atm phonebook list
Name          Use  Address
atm_pvc_0_35  1    0.35
RtPPPoA       0    8.35
=>
```

RELATED COMMANDS:

| | |
|------------------------|-------------------------------------|
| atm phonebook add | Add a new phonebook entry. |
| atm phonebook autolist | Show the auto PVCs. |
| atm phonebook delete | Delete an existing phonebook entry. |

atm qosbook add

Add a new QoS book entry.

SYNTAX:

```
atm qosbook add      name = <string>
                    [txctd = <string>]
                    [rxctd = <string>]
```

where:

| name | The name of the new QoS entry. | REQUIRED |
|-------|---|----------|
| txctd | The name of the Conformance Traffic Descriptor (CTD) for the transmit (upstream) direction. | OPTIONAL |
| rxctd | The name of the CTD for the receive (downstream) direction. | OPTIONAL |

EXAMPLE:

```
=>atm qosbook list
Name          Ref Tx CTD      Rx CTD
default       3   default      default
=>
```

RELATED COMMANDS:

| | |
|--------------------|--------------------------|
| atm qosbook delete | Delete a QoS book entry. |
| atm qosbook list | Display the QoS book. |

atm qosbook config

Modify the QoS book configuration.

SYNTAX:

```
atm qosbook config [format = <{bytes | cells}>]
```

where:

| | | |
|--------|--|----------|
| format | The input/output format of the QoS book. Choose between: > bytes : the output is shown in Kbits or bytes. > cells : the output is shown in cps or cells. The default is bytes . | OPTIONAL |
|--------|--|----------|

EXAMPLE:

```
=>atm qosbook ctdlist
Name      Ref Conf   Peak      Sust      Burst     Minrate   Frame     Cdvt     RT        FD
          (Kbits)   (Kbits)   (bytes)   (Kbits)   (bytes)
default 2  UBR       linerate  0          0          0          0          0          disabled  disab
led
=>atm qosbook config format=cells
=>atm qosbook ctdlist
Name      Ref Conf   Peak      Sust      Burst     Minrate   Frame     Cdvt     RT        FD
          (cps)     (cps)     (cells)   (cps)     (cells)
default 2  UBR       linerate  0          0          0          0          0          disabled  disab
led
=>
```

atm qosbook ctddadd

Add a Connection Traffic Descriptor (CTD).

SYNTAX:

```
atm qosbook ctddadd    name = <string>
                       conformance = <{UBR | CBR | VBR }>
                       [peakrate = <number{0-27786}>]
                       [sustrate = <number{0-27786}>]
                       [maxburst = <number{0-12240}>]
                       [realtime = <{enabled | disabled}>]
```

where:

| Parameter | Description | Requirement |
|-------------|--|-------------|
| name | The name of the new CTD. | REQUIRED |
| conformance | The ATM service conformance definition. | REQUIRED |
| peakrate | A number between 0 and 27786. Represents the peak rate (in kilobits per second). The default is 0 (indicates linerate for UBR). | OPTIONAL |
| sustrate | A number between 0 and 27786. Represents the sustainable rate (in kilobits per second) (VBR only). The default is 0 . | OPTIONAL |
| maxburst | A number between 48 and 12240. Represents the maximum burst size (in bytes) (VBR or GFR). The default is 0 . | OPTIONAL |
| realtime | Enable or disable realtime traffic (VBR only). The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>atm qosbook ctddadd name=High conformance=CBR peakrate=27786
=>atm qosbook ctddlist
Name      Ref Conf      Peak      Sust      Burst      Minrate      Frame      Cdvt      RT      FD
          (Kbits) (Kbits) (bytes) (Kbits) (bytes)
default 2  UBR      linerate 0          0          0          0          0          disabled  disab
led
High     0  CBR      27786    0          0          0          0          0          disabled  disab
led
=>
```

IMPORTANT NOTE:

The Thomson ST always rounds up specified burst sizes to a multiple of 48 bytes (a multiple of ATM cells).

Example:

In the example below a burst size of 100 bytes is specified (maxburst=100). The Thomson ST will round up the burst size to the closest matching multiple of 48 bytes, as can be seen when displaying the profile via the command **:atm qosbook ctdlist** (burst=144).

```
=>atm qosbook ctdadd name=Medium conformance=VBR peakrate=27786 sustrate=20000 maxburst=100
=>atm qosbook ctdlist
```

| Name | Ref | Conf | Peak (Kbits) | Sust (Kbits) | Burst (bytes) | Minrate (Kbits) | Frame (bytes) | Cdvt | RT | FD |
|---------|-----|------|-----------------|-----------------|------------------|--------------------|------------------|------|----------|----------|
| default | 2 | UBR | linerate | 0 | 0 | 0 | 0 | 0 | disabled | disabled |
| Medium | 0 | VBR | 27786 | 20000 | 144 | 0 | 0 | 0 | disabled | disabled |

```
=>
```

RELATED COMMANDS:

| | |
|----------------------|-------------------|
| atm qosbook ctdelete | Delete a CTD. |
| atm qosbook ctdlist | Display all CTDs. |

atm qosbook ctdelete

Delete a CTD.

SYNTAX:

```
atm qosbook ctdelete name = <string>
                    [force = <{disabled | enabled}>]
```

where:

| | | |
|-------|---|----------|
| name | The name of the CTD entry to be deleted. | REQUIRED |
| force | Enable or disable to force delete the entry even when it is still in use. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>atm qosbook ctclist
Name      Ref Conf      Peak      Sust      Burst      Minrate      Frame      Cdvt      RT      FD
          (Kbits)    (Kbits)    (bytes)    (Kbits)    (bytes)
default 2  UBR      linerate 0        0        0        0        0        disabled  disab
led
High     0  CBR      27786   0        0        0        0        0        disabled  disab
led
=>atm qosbook ctdelete name=High
=>atm qosbook ctclist
Name      Ref Conf      Peak      Sust      Burst      Minrate      Frame      Cdvt      RT      FD
          (Kbits)    (Kbits)    (bytes)    (Kbits)    (bytes)
default 2  UBR      linerate 0        0        0        0        0        disabled  disab
led
=>
```

RELATED COMMANDS:

| | |
|--------------------|--|
| atm qosbook ctadd | Add a Connection Traffic Descriptor (CTD). |
| atm qosbook ctlist | Display all CTDs. |

atm qosbook ctdlist

Display all CTDs.

SYNTAX:

```
atm qosbook ctdlist
```

EXAMPLE:

```
=>atm qosbook ctdlist
Name      Ref Conf      Peak      Sust      Burst      Minrate      Frame      Cdvt      RT      FD
          (Kbits) (Kbits) (bytes) (Kbits) (bytes)
default 2   UBR      linerate 0        0        0        0        0        disabled  disab
led
High     0   CBR      27786    0        0        0        0        0        disabled  disab
led
=>
```

RELATED COMMANDS:

| | |
|----------------------|--|
| atm qosbook ctdadd | Add a Connection Traffic Descriptor (CTD). |
| atm qosbook ctdelete | Delete a CTD. |

atm qosbook delete

Delete a QoS book entry.

SYNTAX:

```
atm qosbook delete      name = <string>
                        [force = <{disabled | enabled}>]
```

where:

| name | The name of the QoS book entry to be deleted. | REQUIRED |
|-------|---|----------|
| force | Enable or disable to force delete the entry even when it is still in use. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>atm qosbook list
Name      Ref Type      TX peak  sust      burst      RX peak  sust      burst      framediscard
      (Kbits) (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr      linerate 0         0         linerate 0         0         disabled
TestVBR 0   vbr-nrt 1500     1000     144       1500     1000     144       enabled
=>atm qosbook delete name=TestVBR
=>atm qosbook list
Name      Ref Type      TX peak  sust      burst      RX peak  sust      burst      framediscard
      (Kbits) (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr      linerate 0         0         linerate 0         0         disabled
=>
```

RELATED COMMANDS:

atm qosbook add

Add a new QoS book entry.

atm qosbook list

Display the QoS book.

atm qosbook flush

Flush all the QoS book entries.



The flush command does not impact previously saved configurations.

SYNTAX:

```
atm qosbook flush
```

atm qosbook list

Display the QoS book.

SYNTAX:

```
atm qosbook list
```

EXAMPLE:

```
=>atm qosbook list
Name      Ref Type      TX peak  sust      burst      RX peak  sust      burst      framediscard
          (Kbits) (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr      linerate 0         0         linerate 0         0         disabled
TestVBR 0   vbr-nrt 1500     1000     144       1500     1000     144       enabled
=>
```

RELATED COMMANDS:

atm qosbook add

Add a new QoS book entry.

atm qosbook delete

Delete a QoS book entry.

4 AutoPVC Commands

Introduction

This chapter describes the commands of the **autopvc** command group.

Contents

This chapter covers the following commands:

| | | |
|----------------|---------------------------------|----|
| autopvc config | Configure autopvc. | 70 |
| autopvc list | Show the retrieved information. | 72 |

autopvc config

Configure autopvc.

SYNTAX:

```
autopvc config [mode = <{pseudo | passive | active}>]
               [type = <{bridge | pppoerelay | ipoa | ethoa | pppoa | pppoe
               }>]
               [overwrite = <{disabled | enabled}>]
               [peakrate = <number{0-27786}>]
```

where:

| | | |
|-----------|---|----------|
| mode | Select the autopvc mode: <ul style="list-style-type: none"> > pseudo: only pseudo-ILMI (VP/VC 15/16) is enabled. When the connection parameters are written to the MIB, this information is displayed on CLI or web interface but these parameters are not used for configuration. > passive: both ILMI (VP/VC 0/16) and pseudo-ILMI (VP/VC 15/16) are enabled. When the connection parameters are written to the MIB, this information is displayed on CLI or web interface but these parameters are not used for configuration. > active: both ILMI (VP/VC 0/16) and pseudo-ILMI (VP/VC 15/16) are enabled. When the connection parameters are written to the MIB, these parameters are used to configure phonebook entries, qosbook profiles and bind bridge or PPPoE interfaces on top. The default is passive . | OPTIONAL |
| type | Select the type of autopvc. Choose between: <ul style="list-style-type: none"> > bridge > pppoerelay: an ETHoA interface will be created, will be bound to the ILMI Permanent Virtual Channel (PVC) and will be added to the PPPoE relay as relay port. > ipoa > ethoa > pppoa > pppoe. | OPTIONAL |
| overwrite | Enable or disable UBR peak rate overwrite. The default is disabled . | OPTIONAL |
| peakrate | A number between 0 and 27786. Represents the UBR peak rate (in kilobits per second). The default is 0 (indicates the linerate). | OPTIONAL |

AutoPVC Commands

EXAMPLE:

```
=>autopvc config
Autopvc mode      : passive
Autopvc type      :
Autopvc standard : unknown
Autopvc pseudo    : unknown
UBR overwrite     : disabled
UBR peak rate     : linerate
=>
```

autopvc list

Show the retrieved information.

SYNTAX:

```
autopvc list [table = <{Port | AtmLayer | Vpc | Vcc | Address
                | AddressRegistrationAdmin | AtmServiceType
                | AtmServiceConnectionInfo | AAL1Profile |
                | AAL34Profile | AAL5Profile | AAL2CommonProfile
                | AAL2TrunkingProfile | AAL2LESPProfile
                | AtmServiceConnInfoExtension |
                | AtmServiceTypeExtension |
                AAL5ProfileExtension}>]
```

where:

| table | Select the autopvc table for which the information must be shown. Choose between: | OPTIONAL |
|-------|--|----------|
| | > Port | |
| | > AtmLayer | |
| | > Vpc | |
| | > Vcc | |
| | > Address | |
| | > AddressRegistrationAdmin | |
| | > AtmServiceType | |
| | > AtmServiceConnectionInfo | |
| | > AAL1Profile | |
| | > AAL34Profile | |
| | > AAL5Profile | |
| | > AAL2CommonProfile | |
| | > AAL2TrunkingProfile | |
| | > AAL2LESPProfile | |
| | > AtmServiceConnInfoExtension | |
| | > AtmServiceTypeExtension | |
| | > AAL5ProfileExtension. | |

EXAMPLE:

```
=>autopvc list
Address Type      BestEff      Par1      Par2      Par3      Par4      Par5
8.35   ubr          Enabled Tx: 451    0         0         0         0
                                Rx: 7923  0         0         0         0
=>
```

5 Config Commands

Introduction

This chapter describes the commands of the **config** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------|---|----|
| config delete | Delete a user configuration file. | 74 |
| config dump | Show the saved configuration file. | 75 |
| config flush | Flush the loaded configuration. | 76 |
| config list | Show the current configuration set. | 77 |
| config load | Load complete saved (backup) or default configuration file. | 78 |
| config save | Store the current configuration in a backup file. | 80 |

config delete

Delete a user configuration file.

SYNTAX:

```
config delete [filename = <string>]
```

where:

| | | |
|----------|---|----------|
| filename | Name of the user configuration file to be deleted. | OPTIONAL |
| | Note If not specified, all the user configuration files that were saved in the Thomson ST permanent storage will be deleted. | |

RELATED COMMANDS:

config dump Show the saved configuration file.

config dump

Show the saved configuration file.

SYNTAX:

```
config dump [sections = <string>]
```

where:

| | | |
|----------|-----------------------|----------|
| sections | Sections to be dumped | OPTIONAL |
|----------|-----------------------|----------|

RELATED COMMANDS:

config delete Delete a user configuration file.

config flush

Flush the loaded configuration.



1. This flush command combines all the possible flush commands.
2. This command does not affect saved configurations.

SYNTAX:

```
config flush [flush_ip = <{enabled | disabled}>]
```

where:

| | | |
|----------|--|----------|
| flush_ip | Flush IP settings (enabled) or not (disabled). The default is enabled . | OPTIONAL |
| | Note Not keeping the IP settings could cause lost IP connectivity in the LAN. | |

config list

Show the current configuration set.

SYNTAX:

```
config list [templates = <{disabled | enabled}>]
```

where:

| | | |
|-----------|--|----------|
| templates | List the template files (disabled) or not (enabled). The default is <i>disabled</i> . | OPTIONAL |
|-----------|--|----------|

RELATED COMMANDS:

| | |
|-------------|---|
| config load | Load complete saved (backup) or default configuration file. |
| config save | Store the current configuration in a backup file. |

config load

Load complete saved (backup) or default configuration file.



Use the command **:config flush** before loading a configuration file.

SYNTAX:

```
config load      [load_ip = <{enabled | disabled}>]
                 [defaults = <{enabled | disabled}>]
                 [flush = <{enabled | disabled}>]
                 [echo = <{disabled | enabled}>]
                 [filename = <string>]
```

where:

| | | |
|----------|--|----------|
| load_ip | Load IP settings (enabled) or not (disabled). Note Not keeping the IP settings could cause lost IP connectivity in the LAN. | OPTIONAL |
| defaults | Load default configuration (enabled) or saved configuration (disabled). Note If not specified, the saved configuration will be loaded. | OPTIONAL |
| flush | Flush the current configuration before loading a new configuration (enabled) or not (disabled). | OPTIONAL |
| echo | Echo each command string when loaded (enabled) or not (disabled). | OPTIONAL |
| filename | Name of the configuration file to be loaded. | OPTIONAL |

Config Commands

EXAMPLE:

```
=>ip rtlist
  Destination      Source      Gateway      Intf      Mtrc
  10.0.0.0/24      10.0.0.0/24 10.0.0.140   eth0      0
  172.16.0.5/32    0.0.0.0/0   172.16.0.5   cip1      0
  10.0.0.140/32    0.0.0.0/0   10.0.0.140   eth0      0
  127.0.0.1/32     0.0.0.0/0   127.0.0.1    loop      0
  172.16.0.0/24    0.0.0.0/0   172.16.0.5   cip1      1
=>config load flush_ip=no
=>ip rtlist
  Destination      Source      Gateway      Intf      Mtrc
  10.0.0.0/24      10.0.0.0/24 10.0.0.140   eth0      0
  10.0.0.140/32    0.0.0.0/0   10.0.0.140   eth0      0
  127.0.0.1/32     0.0.0.0/0   127.0.0.1    loop      0
=>config load flush=yes
=>ip rtlist
  Destination      Source      Gateway      Intf      Mtrc
  10.0.0.0/24      10.0.0.0/24 10.0.0.140   eth0      0
  10.0.0.140/32    0.0.0.0/0   10.0.0.140   eth0      0
  172.16.0.5/32    0.0.0.0/0   172.16.0.5   cip1      0
  127.0.0.1/32     0.0.0.0/0   127.0.0.1    loop      0
  172.16.0.0/24    0.0.0.0/0   172.16.0.5   cip1      1
=>
```

RELATED COMMANDS:

config list

Show the current configuration set.

config save

Store the current configuration in a backup file.

config save

Store the current configuration in a backup file.

All the existing configurations and modifications entered by the user are saved.

The backup file is saved in the Thomson ST permanent storage. This file can be downloaded via the Thomson ST web pages or via an FTP session.

SYNTAX:

```
config save      filename = <string>
```

where:

| | | |
|----------|--|----------|
| filename | The filename for the backup file of the current configuration. | REQUIRED |
|----------|--|----------|

RELATED COMMANDS:

| | |
|-------------|---|
| config list | Show the current configuration set. |
| config load | Load complete saved (backup) or default configuration file. |

6 Connection Commands

Introduction

This chapter describes the commands of the **connection** command group.

Contents

This chapter covers the following commands:

| | | |
|------------------------|--|-----|
| connection appconfig | Configure the available CONN/NAT application helpers. | 82 |
| connection appinfo | Display CONN/NAT application specific info. | 84 |
| connection applist | List the available CONN/NAT application helpers. | 85 |
| connection bind | Create a new CONN/NAT application helper/port binding. | 86 |
| connection bindlist | List the current CONN/NAT application helper/port bindings. | 87 |
| connection clean | Clean the connection database by forcing timeouts. | 88 |
| connection clear | Kill all the connections. | 89 |
| connection config | Configure the connection handling. | 90 |
| connection debug | The connection debug commands | 91 |
| connection describe | Describe the streams of a connection. | 92 |
| connection flush | Flush the current connection configuration. | 93 |
| connection info | Show all the registered modules with some info. | 94 |
| connection list | Display the currently known connections. | 95 |
| connection refresh | Invalidate all the cached decisions. | 96 |
| connection stats | Display the connection and stream statistics. | 97 |
| connection timerclear | Clear the connection timeout to default. | 98 |
| connection timerconfig | Configure the connection timeout handling. | 99 |
| connection unbind | Delete an existing CONN/NAT application helper/port binding. | 100 |

connection appconfig

Configure the available CONN/NAT application helpers.

SYNTAX:

```
connection appconfig application = <string>
                    [trace = <{disabled | enabled}>]
                    [timeout = <number{0-32000}>]
                    [floating = <{disabled | enabled}>]
                    [childqos = <{DSCP|Interactive|
Management|Video|VoIP|default}>]
                    [tracelevel = <number{1-4}>]
                    [SIP_ALG = <{disabled|enabled}>]
                    [RTP_predict_for_term_SIP_ALG =
<{disabled|enabled}>]
```

where:

| | | |
|------------------------------|--|----------|
| application | The name of a CONN/NAT application helper. Tip Use the command :connection applist to obtain a list of CONN/NAT application helpers. | REQUIRED |
| trace | Enable or disable CONN/NAT application helper traces. The default is enabled . | OPTIONAL |
| timeout | A number between 0 and 32000 (seconds). Represents the maximum timeout to keep predicted child connections around. | OPTIONAL |
| floating | Enable / disabled floating port for IKE helper. | OPTIONAL |
| childqos | Used QOS label for the predicted child connections. | OPTIONAL |
| tracelevel | A number between 1 and 4. Represents the SIP trace level. Choose between: <ul style="list-style-type: none"> > 1: feature errors > 2: feature traces > 3: all errors > 4: all traces. The default is 1 . | OPTIONAL |
| SIP_ALG | SIP only: enable/disable traditional sip alg behaviour | OPTIONAL |
| RTP_predict_for_term_SIP_ALG | Enable/disable RTP connection prediction for terminated SIP | OPTIONAL |

Connection Commands

EXAMPLE:

```
=>connection applist
Application Proto DefaultPort Traces      Timeout
IP6TO4     6to4  0          enabled    unavailable
PPTP       tcp    1723       enabled    unavailable
ESP        esp    0          unavailable 15' 0"
IKE        udp    500        disabled   15' 0"      FLOATING
SIP        udp    5060       disabled   6 0"        trace level 1
...
LOOSE(UDP) udp    0          enabled    5' 0"
FTP        tcp    21         enabled    unavailable
=>connection appconfig application=SIP trace=enabled
=>connection applist
Application Proto DefaultPort Traces      Timeout
IP6TO4     6to4  0          enabled    unavailable
PPTP       tcp    1723       enabled    unavailable
ESP        esp    0          unavailable 15' 0"
IKE        udp    500        disabled   15' 0"      FLOATING
SIP        udp    5060       enabled    6 0"        trace level 1
...
LOOSE(UDP) udp    0          enabled    5' 0"
FTP        tcp    21         enabled    unavailable
=>
```

RELATED COMMANDS:

connection appinfo

Display CONN/NAT application specific info.

connection applist

List the available CONN/NAT application helpers.

connection appinfo

Display CONN/NAT application specific info.

SYNTAX:

```
connection appinfo    application = <{string}>
```

where:

| | | |
|-------------|---|----------|
| application | The name of a CONN/NAT application helper. | REQUIRED |
| | Tip Use the command :connection applist to obtain a list of CONN/NAT application helpers. | |

EXAMPLE:

```
=>connection appinfo application=SIP
SIP ALG session SIPALG: pool=138, in use=0, bottom=138

=>
```

RELATED COMMANDS:

| | |
|----------------------|---|
| connection appconfig | Configure the available CONN/NAT application helpers. |
| connection applist | List the available CONN/NAT application helpers. |

connection applist

List the available CONN/NAT application helpers.

SYNTAX:

```
connection applist
```

EXAMPLE:

```
=>connection applist
Application  Proto  DefaultPort  Traces      Timeout
IP6TO4      6to4   0             enabled     unavailable
PPTP        tcp     1723          enabled     unavailable
ESP          esp     0             unavailable 15' 0"
IKE          udp     500           disabled    15' 0"      FLOATING
SIP          udp     5060          disabled    6' 0"      trace level 1
JABBER       tcp     5222          disabled    2' 0"
CU/SeeMe    udp     7648          enabled     unavailable
RAUDIO(PNA) tcp     7070          enabled     unavailable
RTSP        tcp     554           enabled     unavailable
ILS         tcp     389           unavailable 5' 0"
H245        tcp     0             unavailable 5' 0"
H323        tcp     1720          enabled     unavailable
IRC          tcp     6667          enabled     5' 0"
LOOSE(UDP)  udp     0             enabled     5' 0"
FTP         tcp     21            enabled     unavailable
=>
```



For some CONN/NAT application helpers, either *traces* or *timeout* are unavailable.

RELATED COMMANDS:

connection appconfig

Configure the available CONN/NAT application helpers.

connection appinfo

Display CONN/NAT application specific info.

connection bind

Create a new CONN/NAT application helper/port binding.

SYNTAX:

```
connection bind      application = <string>
                    port = <port-range>
```

where:

| | | |
|--------------------|---|-----------------|
| application | The name of a CONN/NAT application helper. Tip Use the command :connection applist to obtain a list of CONN/NAT application helpers. | REQUIRED |
| port | The port number or port range this application handler should work on. | REQUIRED |

EXAMPLE:

```
=>connection bindlist
Application Proto Portrange  Flags
JABBER      tcp      15222
JABBER      tcp      5222
FTP         tcp      21
IRC         tcp      6660
...
IP6TO4      6to4    0
=>connection bind application = IRC port = 6750
=>connection bindlist
Application Proto Portrange
IRC         tcp      6750
JABBER      tcp      15222
JABBER      tcp      5222
FTP         tcp      21
IRC         tcp      6660
...
IP6TO4      6to4    0
=>
```

RELATED COMMANDS:

connection bindlist

List the current CONN/NAT application helper/port bindings.

connection unbind

Delete an existing CONN/NAT application helper/port binding.

connection bindlist

List the current CONN/NAT application helper/port bindings.

SYNTAX:

```
connection bindlist
```

EXAMPLE:

```
=>connection bindlist
Application Proto Portrange  Flags
LOOSE (UDP)  udp    67
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp    21
IRC          tcp  6660-6669
H323         tcp   1720
ILS          tcp   1002
ILS          tcp   389
RTSP         tcp   554
RAUDIO (PNA) tcp   7070
CU/SeeMe    udp   7648
SIP          udp   5060
IKE          udp   500
ESP          esp    0
PPTP        tcp   1723
IP6TO4      6to4  0
=>
```

RELATED COMMANDS:

connection bind

Create a new CONN/NAT application helper/port binding.

connection unbind

Delete an existing CONN/NAT application helper/port binding.

connection clean

Clean the connection database by forcing timeouts.

SYNTAX:

```
connection clean [level = <number{0-9}>]
```

where:

| level | A number between 0 and 9. Represents the desired scrubbing level. | OPTIONAL |
|-------|--|----------|
|-------|--|----------|

EXAMPLE:

```
=>connection list
ID  proto state      substate      flags  timeout
--  -
8   tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [.....] 15' 7"
  INIT: 16 192.168. 1. 64: 1377 192.168. 1.254: 23 [...] LocalNetwork 1390 tcp 0
  RESP: 17 192.168. 1.254: 23 192.168. 1. 64: 1377 [R..] loop 951 tcp 0
34  tcp   ACTIVE      [TCPS_CLOSE_WAIT-TCPS_FIN_WAIT_1] [I.....] 57' 16"
  INIT: 68 192.168. 1. 64: 1417 192.168. 1.254: 21 [...] LocalNetwork 11 tcp 0
  RESP: 69 192.168. 1.254: 21 192.168. 1. 64: 1417 [R..] loop 10 tcp 0
=>connection clean
=>connection list
ID  proto state      substate      flags  timeout
--  -
8   tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [.....] 14' 59"
  INIT: 16 192.168. 1. 64: 1377 192.168. 1.254: 23 [...] LocalNetwork 1417 tcp 0
  RESP: 17 192.168. 1.254: 23 192.168. 1. 64: 1377 [R..] loop 967 tcp 0
=>
```

connection clear

Kill all the connections.

SYNTAX:

```
connection clear
```

EXAMPLE:

```
=>connection clear
```

```
Connection to host lost.
```

connection config

Configure the connection handling.

SYNTAX:

```
connection config      [configchangemode = <{immediate | delayed}>]
                       [probes = <{disabled | enabled}>]
                       [udptrackmode = <{strict | loose}>]
```

where:

| | | |
|------------------|--|----------|
| configchangemode | Select how configuration changes are handled. Choose between: <ul style="list-style-type: none">> immediate> delayed. The default is immediate . | OPTIONAL |
| probes | Enable or disable live probes on idle connections. The default is disabled . | OPTIONAL |
| udptrackmode | Select the User Datagram Protocol (UDP) connection tracking mode. Choose between: <ul style="list-style-type: none">> strict: replies to a request from a client must be in a specific window to the client.> loose: inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtain peer-to-peer information from other clients of that same online game). The default is strict . | OPTIONAL |

EXAMPLE:

```
=>connection config
config change mode : immediate
alive probes       : disabled
udp tracking mode  : loose
=>
```


connection debug

The connection debug commands

SYNTAX:

```
connection debug      [trace = <{disabled|enabled}>]
```

where:

| | | |
|-------|---|----------|
| trace | Enable or disable traces. The default is <i>disabled</i> . | OPTIONAL |
|-------|---|----------|

EXAMPLE:

```
=>connection debug
connection traces  : disabled
=>
=>connection debug trace enabled
=>
=>connection debug
connection traces  : enabled
=>
```

connection describe

Describe the streams of a connection.

SYNTAX:

```
connection describe [id = <number{0-2048}>]
```

where:

| | | |
|----|---|----------|
| id | A number between 0 and 2048. Represents the ID of the connection to be described. Note If not specified, the connection with ID 0 will be described. Tip Use the command :connection list to obtain the IDs of the different connections. | OPTIONAL |
|----|---|----------|

EXAMPLE:

```
=>connection list
ID  proto state      substate      flags  timeout
--  -
62  tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [.....] 15' 8"
    INIT: 124 192.168. 1. 64: 1979 192.168. 1.254: 23 [...] LocalNetwork 548 tcp 0
    RESP: 125 192.168. 1.254: 23 192.168. 1. 64: 1979 [R..] loop 396 tcp 0
=>connection describe id=62
ID  proto state      substate      flags  timeout
--  -
62  tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [.....] 14' 59"
FW      : cache = valid; FP
IDS     : ...
NAT     : cache = valid; No translation
INIT: 124 192.168. 1. 64: 1979 192.168. 1.254: 23 [...] LocalNetwork 576 tcp 0
ROUTING : cache = valid; FP (gateway 127.0.0.1)
LABEL   : cache = valid; FP (no route label); FP (QoS label Interactive)
IPQOS   : cache = valid; FP (label <no meter>, intf <no meter>)
TRIGGER : cache = valid; FP (no trigger)
RESP: 125 192.168. 1.254: 23 192.168. 1. 64: 1979 [R..] loop 412 tcp 0
ROUTING : cache = valid; FP (gateway 192.168.1.254)
LABEL   : cache = valid; FP (no route label); FP (QoS label default)
IPQOS   : cache = valid; FP (label <no meter>, intf <no meter>)
TRIGGER : cache = valid; FP (no trigger)
=>
```

connection flush

Flush the current connection configuration.

SYNTAX:

```
connection flush
```

connection info

Show all the registered modules with some info.

SYNTAX:

```
connection info
```

EXAMPLE:

```
=>connection info
Registered connection modules :
- Module : FW, holds private data (F:10264 S:6592).
- Module : IDS, holds private data (F:0 S:0).
- Module : NAT, holds private data (F:0 S:0).
Registered stream modules :
- Module : ROUTING, holds private data (F:10199 S:6657).
- Module : LABEL, holds private data (F:22546 S:19870).
- Module : IPQOS, holds private data (F:10202 S:6653).
- Module : TRIGGER, holds private data (F:10202 S:6659).
=>
```

connection list

Display the currently known connections.

SYNTAX:

```
connection list      [nr = <number{1-2048}>][string = <string>]
                    [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| nr | A number between 1 and 2048. Represents the number of connections to be displayed. Note If not specified, all the connections will be displayed. | OPTIONAL |
| string | string matching condition | OPTIONAL |
| beginstring | beginstring matching condition | OPTIONAL |

EXAMPLE:

```
=>connection list
ID  proto state      substate      flags  timeout
--  -
58  tcp   ACTIVE    [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [.....] 15' 7"
INIT: 116  10.  0.  0.  1: 1106  10.  0.  0.138:  23 [.]  eth0  331 tcp  0
RESP: 117  10.  0.  0.138:  23 10.  0.  0.  1: 1106 [R]  loop  229 tcp  0
=>
```

connection refresh

Invalidate all the cached decisions.

SYNTAX:

```
connection refresh
```

connection stats

Display the connection and stream statistics.

SYNTAX:

```
connection stats
```

EXAMPLE:

```
=>connection stats
Connection statistics:
-----
Maximum number of connections          : 1024
Maximum number of halfopen connections : 1024
-----
Number of active connections           : 3
Number of halfopen connections         : 0
Number of expected connections         : 0
Number of closing connections          : 0
Number of idle connections             : 1
-----
Number of TCP connections               : 2
Number of UDP connections               : 1
Number of ICMP connections              : 0
Number of non TCP/UDP/ICMP connections : 0
-----
Number of TCP open connections          : 0
Number of TCP established connections   : 1
Number of TCP closing connections      : 1

Stream cache statistics:
-----
Maximum number of hash collisions       : 0
% of hash entries with collisions       : 0.00
% of hash entries unused                 : 0.00

CONN/NAT application helper statistics:
-----
Maximum number of helper bindings       : 24
Maximum number of connections with helper : 128
-----
Number of helper bindings               : 16
Number of connections with active helper : 0
=>
```

connection timerclear

Clear the connection timeout to default.

SYNTAX:

```
connection timerclear [timer = <{tcpidle|tcpneg|tcpkill|udpidle|udpkill|  
icmpkill|ipidle|ipkill}>]
```

where:

| | | |
|-------|---|----------|
| timer | The name of the connection idle timer to be reset. | REQUIRED |
| | Note If not specified, all the timers will be reset to their default values. | |

EXAMPLE:

```
=>connection timerconfig  
tcpidle      : 10' 30"  
tcpneg       : 3' 0"  
udp          : 1' 19"  
icmp         : 2' 0"  
ip           : 1' 0"  
=>connection timerclear  
=>connection timerconfig  
tcpidle      : 15' 0"  
tcpneg       : 2' 0"  
udp          : 1' 0"  
icmp         : 1' 0"  
ip           : 1' 0"  
=>
```

RELATED COMMANDS:

connection timerconfig Configure the connection timeout handling.

connection timerconfig

Configure the connection timeout handling.

SYNTAX:

```
connection timerconfig    [timer =  
                           <{tcpidle|tcpneg|tcpkill|udpidle|udpkill|  
                             icmpkill|ipidle|ipkill}>]  
                           [value = <number{0-86400}>]
```

where:

| | | |
|-------|--|----------|
| timer | The name of the connection idle timer to be configured. Choose between: > tcpidle > tcpneg > tcpkill > udpidle > udpkill > icmpkill > ipidle > ipkill | OPTIONAL |
| value | A number between 0 and 86400 (seconds). Represents the timer expire value. | OPTIONAL |

EXAMPLE:

```
=>connection timerconfig  
tcpidle      : 15' 0"  
tcpneg       : 2' 0"  
udp          : 1' 0"  
icmp         : 1' 0"  
ip           : 1' 0"  
=>connection timerconfig timer=tcpidle value=360  
=>connection timerconfig  
tcpidle      : 6' 0"  
tcpneg       : 2' 0"  
udp          : 1' 0"  
icmp         : 1' 0"  
ip           : 1' 0"  
=>
```

RELATED COMMANDS:

connection timerclear Clear the connection timeout to default.

connection unbind

Delete an existing CONN/NAT application helper/port binding.

SYNTAX:

```
connection unbind      application = <string>
                       port = <port-range>
```

where:

| | | |
|--------------------|---|-----------------|
| application | The name of a CONN/NAT application helper. Tip Use the command :connection applist to obtain a list of CONN/NAT application helpers. | REQUIRED |
| port | The port number or port range this application handler should work on. | REQUIRED |

EXAMPLE:

```
=>connection bindlist
Application Proto Portrange
IRC         tcp      6750
JABBER     tcp      15222
JABBER     tcp      5222
FTP        tcp      21
IRC        tcp      6660
...
IP6TO4     6to4    0
=>connection unbind application=IRC port=6750
=>connection bindlist
Application Proto Portrange
JABBER     tcp      15222
JABBER     tcp      5222
FTP        tcp      21
IRC        tcp      6660
...
IP6TO4     6to4    0
=>
```

RELATED COMMANDS:

connection bind

Create a new CONN/NAT application helper/port binding.

connection bindlist

List the current CONN/NAT application helper/port bindings.

7 CWMP Commands

Introduction

This chapter describes the commands of the **cwmp** (CPE WAN Management Protocol) command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------|---|-----|
| cwmp config | Configure the cwmpd as seen from the ACS. | 102 |
| cwmp server config | Configure the cwmpd towards the ACS. | 104 |

cwmp config

Configure the cwmpd as seen from the ACS.

SYNTAX:

```

cwmp config [state = <{disabled|enabled}>]
            [mode = <{readonly|full}>]
            [periodicInform = <{disabled|enabled}>]
            [periodicInfInt = <number>]
            [sessionTimeout = <number>]
            [noIpTimeout = <number>]
            [maxEnvelopes = <number>]
            [connectionRequest = <{disabled|enabled}>]
            [connectionReqPath = <string>]
            [connectionReqUserName = <string>]
            [connectionReqPsswd = <string>]
            [connectionReqAuth = <{none|basic|digest}>]
    
```

where:

| | | |
|----------------|---|----------|
| state | The state of the cwmp daemon. Choose between: > enabled > disabled. The default is disabled . | OPTIONAL |
| mode | Set the operation mode of the cwmp daemon. Choose between: > readonly > full. The default is readonly . | OPTIONAL |
| periodicInform | Set the periodicInform flag of the cwmp daemon. Choose between: > enabled > disabled. The default is enabled . | OPTIONAL |
| periodicInfInt | A number (of seconds). Represents the interval between two periodicInform messages. The default is 3600 . | OPTIONAL |
| sessionTimeout | Set HTTP session-timeout in seconds. The default is 60 . | OPTIONAL |
| noIpTimeout | Set time (in seconds) ip may be 0 after uploading new config file. The default is 10 . | OPTIONAL |
| maxEnvelopes | Set the maximum number of SOAP envelopes sent within one HTTP message. The default is 2 . | OPTIONAL |

CWMP Commands

| | | |
|-----------------------|--|----------|
| connectionRequest | Set the connection request flag of the cwmp daemon. Choose between: > enabled > disabled. The default is <i>enabled</i> . | OPTIONAL |
| connectionReqPath | Set the path where the cwmp daemon can be reached. | OPTIONAL |
| connectionReqUserName | Set the username the ACS must use to log in. | OPTIONAL |
| connectionReqPsswd | Set the password the ACS must use to log in. | OPTIONAL |
| connectionReqAuth | Set the digest authentication flag of the cwmp daemon. Choose between: > enabled > disabled. The default is <i>enabled</i> . | OPTIONAL |

EXAMPLE:

```
=>cwmp config
State                : disabled
Mode                 : readonly
Max Envelopes        : 2
Session Timeout      : 60
No Ip Timeout        : 10
Connection Request Port : 80
Periodic Inform      : enabled
Periodic Inform Interval : 20000 ms
Connection Request   : enabled
Connection Request UserName :
Connection Request Password :
Connection Request Path :
Connection Request Authentication : enabled
Qos class            : 12
Boot delay range between 0 and : 0s
=>
```

cwmp server config

Configure the cwmpd towards the ACS.

SYNTAX:

```
cwmp server config      [url = <string>]
                        [username = <string>]
                        [password = <string>]
```

where:

| | | |
|----------|--|----------|
| url | Set the HTTP URL used to contact the ACS server. | OPTIONAL |
| username | Set the username for ACS Digest Authentication. | OPTIONAL |
| password | Set the password for ACS Digest Authentication. | OPTIONAL |

EXAMPLE:

```
=>cwmp server config
ACS url      : 10.11.10.248
ACS username :
ACS password :
=>
```

8 Debug Commands

Introduction

This chapter describes the commands of the **debug** command group.

Contents

This chapter covers the following commands:

| | | |
|------------|------------------------------------|-----|
| debug exec | Execute a 'Trace & Debug' command. | 106 |
|------------|------------------------------------|-----|

debug exec

Execute a 'Trace & Debug' command.



This command is for qualified personnel only.

SYNTAX:

```
debug exec cmd = <quoted string>
```

where:

| | | |
|-----|--|----------|
| cmd | A quoted 'Trace & Debug' command string. | REQUIRED |
|-----|--|----------|

9 DHCP Commands

Introduction

This chapter describes the commands of the Dynamic Host Configuration Protocol (DHCP) command group.

Contents

This chapter covers the following commands:

| | | |
|----------------------------------|--|-----|
| dhcp client flush | Delete all the DHCP leases. | 109 |
| dhcp client ifadd | Create a DHCP client. | 110 |
| dhcp client ifattach | Activate a DHCP client. | 111 |
| dhcp client ifconfig | Configure a DHCP client. | 112 |
| dhcp client ifdelete | Delete a DHCP client. | 113 |
| dhcp client ifdetach | De-activate a DHCP client and releases its lease. | 114 |
| dhcp client iflist | List all the DHCP leases attached to dynamic interfaces. | 115 |
| dhcp client ifrenew | Renew the DHCP lease. | 117 |
| dhcp client debug clear | Clear the DHCP client statistics. | 119 |
| dhcp client debug stats | Print the DHCP client statistics. | 120 |
| dhcp client debug traceconfig | Modify the DHCP client trace configuration. | 121 |
| dhcp client roptions add | Add a DHCP Option Code to the Parameter Request List. | 122 |
| dhcp client roptions delete | Delete a DHCP Option Code from the Parameter Request List. | 123 |
| dhcp client roptions list | List all DHCP Option Codes in the Parameter Request List. | 124 |
| dhcp client roptions optionlist | List all DHCP Option Codes that can be used in the Parameter Request List. | 125 |
| dhcp client txoptions add | Add an option. | 126 |
| dhcp client txoptions delete | Delete an option. | 127 |
| dhcp client txoptions list | List all options. | 128 |
| dhcp client txoptions optionlist | Lists all DHCP Option Codes that can be used. | 129 |
| dhcp relay add | Add an entry to the DHCP forward list. | 130 |
| dhcp relay debug stats | Show the DHCP relay statistics. | 131 |
| dhcp relay debug traceconfig | Modify the DHCP relay trace configuration. | 132 |
| dhcp relay config | Set the DHCP relay configuration settings. | 133 |
| dhcp relay delete | Delete an entry from the DHCP forward list. | 134 |
| dhcp relay flush | Flush the DHCP relay settings. | 135 |
| dhcp relay ifconfig | Configure a DHCP relay interface. | 136 |
| dhcp relay iflist | Show the configuration of the relay interfaces. | 138 |
| dhcp relay list | List the DHCP forward list. | 139 |
| dhcp relay modify | Modify an entry from the DHCP forward list. | 140 |
| dhcp relay ruleadd | Add a selection rule to a DHCP forward entry. | 141 |

| | | |
|-------------------------------|---|-----|
| dhcp relay ruledetele | Delete a selection rule from a DHCP forward entry. | 142 |
| dhcp rule add | Add a rule for DHCP conditional selection. | 143 |
| dhcp rule debug traceconfig | Modify DHCP rule trace configuration. | 144 |
| dhcp rule delete | Delete a DHCP rule. | 145 |
| dhcp rule flush | Flush all DHCP rules. | 146 |
| dhcp rule list | List all DHCP rules. | 147 |
| dhcp server config | Print the DHCP server configuration settings. | 148 |
| dhcp server flush | Flush all DHCP server pool and lease entries. | 149 |
| dhcp server policy | Print the DHCP server policy settings. | 150 |
| dhcp server debug clear | Clear the DHCP server statistics. | 151 |
| dhcp server debug stats | Show the DHCP server statistics. | 152 |
| dhcp server debug traceconfig | Modify the DHCP server trace configuration. | 154 |
| dhcp server lease add | Add a DHCP server lease. | 155 |
| dhcp server lease delete | Delete a DHCP server lease. | 157 |
| dhcp server lease flush | Flush all the DHCP server leases. | 158 |
| dhcp server lease list | List all the DHCP server leases. | 159 |
| dhcp server option flush | Flush all DHCP server option templates and instances. | 160 |
| dhcp server option instadd | Add a DHCP server option instance. | 161 |
| dhcp server option instdelete | Delete a DHCP server option instance. | 163 |
| dhcp server option instlist | List all the DHCP server option instances. | 164 |
| dhcp server option tmpladd | Add a DHCP server option template. | 165 |
| dhcp server option tmpldelete | Delete a DHCP server option template. | 166 |
| dhcp server option tmplist | List all the DHCP server option templates. | 167 |
| dhcp server pool add | Add a DHCP server pool. | 168 |
| dhcp server pool config | Configure a DHCP server pool. | 170 |
| dhcp server pool delete | Delete a DHCP server pool. | 172 |
| dhcp server pool flush | Flush all DHCP server pools. | 173 |
| dhcp server pool list | List all DHCP server pools. | 174 |
| dhcp server pool optadd | Add an option instance to the DHCP server pool. | 175 |
| dhcp server pool optdelete | Delete an option instance from the DHCP server pool. | 176 |
| dhcp server pool rtadd | Add a route to the DHCP server pool. | 178 |
| dhcp server pool rtdelete | Delete a route from the DHCP server pool. | 179 |
| dhcp server pool ruleadd | Add a selection rule to the DHCP server pool. | 180 |
| dhcp server pool ruledetele | Delete a selection rule from the DHCP server pool. | 181 |

dhcp client flush

Delete all the DHCP leases.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp client flush
```

dhcp client ifadd

Create a DHCP client.

SYNTAX:

```
dhcp client ifadd                intf = <string>
                                [defrqoptions = <{disabled|enabled}>]
```

where:

| | | |
|--------------|---|----------|
| intf | The name of the dynamic interface for which a DHCP lease must be created. | REQUIRED |
| defrqoptions | Enable/Disable the creation of the default Parameter Request List. | OPTIONAL |

EXAMPLE:

```
=>dhcp client iflist
No dynamic interfaces defined.
=>dhcp client ifadd intf=myPPP_ppp
[dhcp client]=>iflist
DHCP Client Info :

      Interface           : myPPP_ppp
      DHCP Client State   : [INIT]
      HW address          : 00:0e:50:91:26:5a
      Client ID           :

      IP Address          : 0.0.0.0
      p-t-p IP            : 0.0.0.0
      Default Gateway     :

Number of leases: 1
Total size of table: 68, in use: 1, free: 98 %=>
```

RELATED COMMANDS:

| | |
|----------------------|--|
| dhcp client ifdelete | Delete a DHCP client. |
| dhcp client iflist | List all the DHCP leases attached to dynamic interfaces. |
| interface list | Display interfaces. |

dhcp client ifattach

Activate a DHCP client.

SYNTAX:

```
dhcp client ifattach          intf = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name of the dynamic interface for which a DHCP client was created. | REQUIRED |
|------|--|----------|

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
           flags = bc dns rt
           IP address : 0.0.0.0
           HW address [SpeedTouch] : 00
           DHCP server: 255.255.255.255
           metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>dhcp client ifattach intf=myPPP_ppp
=>dhcp client iflist
myPPP_ppp : [SELECTING]
           flags = bc dns rt
           IP address : 0.0.0.0
           HW address [SpeedTouch] : 00
           DHCP server: 255.255.255.255
           metric : rt = 1, DNS = 1
           trying to get a lease for 1 sec
           transmission of DISCOVER in 0 sec
           retransmission timeout: 4
           nbr of retransmissions: 2

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

RELATED COMMANDS:

| | |
|----------------------|---|
| dhcp client ifadd | Create a DHCP client. |
| dhcp client ifdetach | De-activate a DHCP client and releases its lease. |
| dhcp client ifrenew | Renew the DHCP lease. |
| interface list | Display interfaces. |

dhcp client ifconfig

Configure a DHCP client.



Use the command `:dhcp client ifrelease` before configuring the dhcp client.

SYNTAX:

```
dhcp client ifconfig          intf = <string>
                              [label = <label name>]
                              [metric = <number{0-255}>]
                              [dnsmetric = <number{0-100}>]
                              [broadcast = <{disabled|enabled}>]
                              [serverroute = <disabled|enabled>]
```

where:

| | | |
|-------------|--|----------|
| intf | The name of the dynamic interface to be configured. | REQUIRED |
| label | Label for default gateway and static routes. | OPTIONAL |
| metric | A number between 0 and 255. Represents the route metric for default gateway and static routes. The default is 1 . | OPTIONAL |
| dnsmetric | A number between 0 and 100. Represents the DNS route metric. The default is 1 . | OPTIONAL |
| broadcast | Operate client in unicast/broadcast mode. The default is enabled . | OPTIONAL |
| serverroute | Insert a route for the DHCP server IP. The default is enabled . | OPTIONAL |

RELATED COMMANDS

label add

Create a new label.

dhcp client ifdelete

Delete a DHCP client.

SYNTAX:

```
dhcp client ifdelete          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the dynamic interface for which the DHCP lease must be deleted. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
    flags = bc dns rt
    IP address : 10.0.0.1
    HW address [SpeedTouch] : 00:90:d0:01:47:f1
    DHCP server: 10.10.1.1
    hostname : myHostName
    client identifier : [00] myClientID
    user class identifier : myUserID
    metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>dhcp client ifdelete intf=myPPP_ppp
=>dhcp client iflist
No dynamic interfaces defined.
=>
```

RELATED COMMANDS:

dhcp client ifadd

Create a DHCP client.

dhcp client iflist

List all the DHCP leases attached to dynamic interfaces.

dhcp client ifdetach

De-activate a DHCP client and releases its lease.

SYNTAX:

```
ifdetach                intf = <string>
```

where:

| | | |
|------|------------------------------------|----------|
| intf | The name of the dynamic interface. | REQUIRED |
|------|------------------------------------|----------|

RELATED COMMANDS:

| | |
|----------------------|--|
| dhcp client ifattach | Activate a DHCP client. |
| dhcp client ifrenew | Renew the DHCP lease. |
| dhcp client iflist | List all the DHCP leases attached to dynamic interfaces. |

dhcp client iflist

List all the DHCP leases attached to dynamic interfaces.

SYNTAX:

```
dhcp client iflist          [intf = <string>]
                           [expand = <{disabled|enabled}>]
```

where:

| | | |
|--------|------------------------------------|----------|
| intf | The name of the dynamic interface. | OPTIONAL |
| expand | Expand enabled/disabled. | OPTIONAL |

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
  flags = bc dns rt
  IP address : 10.0.0.1
  HW address [SpeedTouch] : 00:90:d0:01:47:f1
  DHCP server: 10.10.1.1
  hostname : myHostName
  client identifier : [00] myClientID
  user class identifier : myUserID
  metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

EXAMPLE INPUT/OUTPUT IN A NETWORKED ENVIRONMENT:

The Thomson ST is configured as DHCP client disabled its Ethernet interface eth0.

```
=>dhcp client iflist
myPPP_ppp : [INIT]
  flags = bc dns rt
  IP address : 10.0.0.1
  HW address [SpeedTouch] : 00:90:d0:01:47:f1
  DHCP server: 10.10.1.1
  hostname : myHostName
  client identifier : [00] myClientID
  user class identifier : myUserID
  metric : rt = 1, DNS = 1
  lease renewal in      5 days, 1 h, 26 min, 45 sec
  lease rebinding in    8 days, 20 h, 34 min, 15 sec
  lease expires in     10 days, 2 h, 56 min, 45 sec

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

RELATED COMMANDS:

dhcp client ifadd

Create a DHCP client.

dhcp client ifdelete

Delete a DHCP client.

dhcp client ifrenew

Renew the DHCP lease.

SYNTAX:

```
dhcp client ifrenew          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the dynamic interface for which the DHCP lease must be renewed. | REQUIRED |
|------|---|----------|

EXAMPLE 1:

```
=>dhcp client iflist
NewETHoA    : [BOUND]
             flags= uc
             IP address   : 10.0.0.10
             HW address   : 00:90:d0:01:47:f1
             DHCP server  : 255.255.255.255
             hostname     : NewLease
             req.leasetime = 10800 s
             lease renewal in    5 days, 58 min, 48 sec
             lease rebinding in  8 days, 20 h, 6 min, 18 sec
             lease expires in   10 days, 2 h, 28 min, 48 sec
Number of leases: 1
Total size of table: 19, in use: 1, free: 94 %
=>dhcp client ifrenew intf=NewETHoA
=>dhcp client iflist
NewETHoA    : [SELECTING]
             flags= uc
             IP address   : 10.0.0.10
             HW address   : 00:90:d0:01:47:de
             DHCP server  : 255.255.255.255
             hostname     : NewLease
             req.leasetime = 10800 s
             trying to get a lease for 12 sec
             transmission of DISCOVER in 24 sec
             retransmission timeout: 64
             nbr of retransmissions: 11
Number of leases: 1
Total size of table: 19, in use: 1, free: 94 %
=>
```

EXAMPLE 2:

The Thomson ST is configured as DHCP client disabled its Ethernet interface eth0.

```

=>dhcp client stats
DHCP client statistics:
Corrupted packet recv      :          0
OFFERS      recv          :          0
ACKs       recv          :          0
NAKs       recv          :          0
Pure BOOTP REPLIES        :          0
Other message types       :          0
DISCOVERs sent            :          0
REQUESTs sent             :          0
DECLINEs sent             :          0
RELEASEs sent             :          1
INFORMs sent              :          0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 18,   in use: 1,   free: 94 %
=>dhcp client ifrenew intf=eth0
=>dhcp client stats
DHCP client statistics:
Corrupted packet recv      :          0
OFFERS      recv          :          1
ACKs       recv          :          1
NAKs       recv          :          0
Pure BOOTP REPLIES        :          0
Other message types       :          0
DISCOVERs sent            :          1
REQUESTs sent             :          1
DECLINEs sent             :          0
RELEASEs sent             :          1
INFORMs sent              :          0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 18,   in use: 1,   free: 94 %
=>(CTRL + Q)
.....
STATE IDLE !
STATE ACTIVATE !
dhcc: intf 1 renews lease 10.0.0.3.
dhcc: intf 1 requests 10.0.0.3 from 10.10.1.1
dhcc: 10.10.1.1 acks 10.0.0.3 to intf 1.
dhcc: lease 10.0.0.3 bound to intf 1.
STATE IDLE !
STATE ACTIVATE !
.....
=>(CTRL + S)

```

RELATED COMMANDS:

dhcp client ifattach

Activate a DHCP client.

dhcp client debug clear

Clear the DHCP client statistics.

SYNTAX:

```
dhcp client debug clear
```

EXAMPLE:

```
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv : 0
OFFERs    recv       : 0
ACKs     recv       : 0
NAKs     recv       : 0
Pure BOOTP REPLIES   : 0
Other message types  : 0
DISCOVERs sent       : 253
REQUESTs sent        : 9
DECLINEs sent        : 0
RELEASEs sent        : 0
INFORMs  sent        : 0
Number of dynamic interfaces: 1
Memory usage:
Table size of dyn leases: 19, in use: 1, free: 94 %
=>dhcp client debug clear
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv : 0
OFFERs    recv       : 0
ACKs     recv       : 0
NAKs     recv       : 0
Pure BOOTP REPLIES   : 0
Other message types  : 0
DISCOVERs sent       : 0
REQUESTs sent        : 0
DECLINEs sent        : 0
RELEASEs sent        : 0
INFORMs  sent        : 0
Number of dynamic interfaces: 1
Memory usage:
Table size of dyn leases: 19, in use: 1, free: 94 %
=>
```

RELATED COMMANDS:

dhcp client debug stats Print the DHCP client statistics.

dhcp client debug stats

Print the DHCP client statistics.

SYNTAX:

```
dhcp client debug stats
```

EXAMPLE:

```
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv      :          0
OFFERs      recv          :          1
ACKs      recv            :          1
NAKs      recv            :          0
Pure BOOTP REPLIES        :          0
Other message types        :          0
DISCOVERs sent             :         244
REQUESTs sent              :           9
DECLINEs sent              :           0
RELEASEs sent              :           1
INFORMs sent               :           0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,  in use: 1,  free: 94 %
=>
```

RELATED COMMANDS:

`dhcp client debug clear` Clear the DHCP client statistics.

dhcp client debug traceconfig

Modify the DHCP client trace configuration.

SYNTAX:

```
dhcp client debug traceconfig [state = <{disabled | enabled}>]
```

where:

| | | |
|--------------|--|----------|
| state | Enable or disable tracing. The default is <i>disabled</i> . | OPTIONAL |
|--------------|--|----------|

EXAMPLE:

```
=>dhcp client debug traceconfig
tracing: disabled
=>dhcp client debug traceconfig trace=enabled
=>dhcp client debug traceconfig
tracing: enabled
=>
```

dhcp client roptions add

Add a DHCP Option Code to the Parameter Request List.

SYNTAX:

```
dhcp client roptions add      intf = <string>
                              option = <string or number>
                              [index = <number{0-255}>]
```

where:

| | | |
|--------|------------------------------------|----------|
| intf | The name of the dynamic interface. | REQUIRED |
| option | The name or number of the option. | OPTIONAL |
| index | The index of the option. | OPTIONAL |

RELATED COMMANDS:

| | |
|---------------------------------|--|
| dhcp client iflist | List all the DHCP leases attached to dynamic interfaces. |
| dhcp client roptions optionlist | List all DHCP Option Codes that can be used in the Parameter Request List. |

dhcp client roptions delete

Delete a DHCP Option Code from the Parameter Request List.

SYNTAX:

```
dhcp client roptions delete    intf = <string>
                               option = <string or number>
```

where:

| | | |
|--------|------------------------------------|----------|
| intf | The name of the dynamic interface. | REQUIRED |
| option | The name or number of the option. | OPTIONAL |

RELATED COMMANDS:

dhcp client roptions list List all DHCP Option Codes in the Parameter Request List.

dhcp client roptions list

List all DHCP Option Codes in the Parameter Request List.

SYNTAX:

```
dhcp client roptions list [intf = <string>]
```

where:

| | | |
|------|------------------------------------|----------|
| intf | The name of the dynamic interface. | OPTIONAL |
|------|------------------------------------|----------|

RELATED COMMANDS:

dhcp client roptions
delete

Delete a DHCP Option Code from the Parameter Request List.

dhcp client roptions optionlist

List all DHCP Option Codes that can be used in the Parameter Request List.

SYNTAX:

```
dhcp client roptions optionlist
```

RELATED COMMANDS:

dhcp client roptions
add

Add a DHCP Option Code to the Parameter Request List.

dhcp client roptions
list

List all DHCP Option Codes in the Parameter Request List.

dhcp client txoptions add

Add an option.

SYNTAX:

```
dhcp client txoptions add      intf = <string>
                               option = <string or number>
                               value = <Value : (type)value; type being 8-
                                       bit,
                                       16-bit, 32-bit, addr, ascii,
                                       byte_array,
                                       clientid>
                               [index = <number{0-255}>]
```

where:

| Parameter | Description | Requirement |
|-----------|------------------------------------|-------------|
| intf | The name of the dynamic interface. | REQUIRED |
| option | The name or number of the option. | REQUIRED |
| value | The value of the option. | REQUIRED |
| index | The index of the option. | OPTIONAL |

EXAMPLE:

```
=>:dhcp client txoptions add intf=wan1 option=ien116-name-servers value=(8-bit)5
```

RELATED COMMANDS:

| | |
|----------------------------------|--|
| dhcp client iflist | List all the DHCP leases attached to dynamic interfaces. |
| dhcp client txoptions optionlist | Lists all DHCP Option Codes that can be used. |

dhcp client txoptions delete

Delete an option.

SYNTAX:

```
dhcp client txoptions delete    intf = <string>
                                option = <string or number>
```

where:

| | | |
|--------|------------------------------------|----------|
| intf | The name of the dynamic interface. | REQUIRED |
| option | The name or number of the option. | REQUIRED |

RELATED COMMANDS:

dhcp client txoptions list List all options.

dhcp client txoptions list

List all options.

SYNTAX:

```
dhcp client txoptions list
```

RELATED COMMANDS:

dhcp client txoptions
delete

Delete an option.

dhcp client txoptions optionlist

Lists all DHCP Option Codes that can be used.

SYNTAX:

```
dhcp client txoptions optionlist
```

RELATED COMMANDS:

| | |
|------------------------------|-------------------|
| dhcp client txoptions add | Add an option. |
| dhcp client txoptions list | List all options. |

dhcp relay add

Add an entry to the DHCP forward list.

SYNTAX:

```
dhcp relay add name = <string>
```

where:

| | | |
|------|-------------------------|----------|
| name | The forward entry name. | REQUIRED |
|------|-------------------------|----------|

RELATED COMMANDS:

| | |
|-------------------|---|
| dhcp relay delete | Delete an entry from the DHCP forward list. |
| dhcp relay list | List the DHCP forward list. |
| dhcp relay modify | Modify an entry from the DHCP forward list. |

dhcp relay debug stats

Show the DHCP relay statistics.

SYNTAX:

```
dhcp relay debug stats
```

EXAMPLE:

```
=>dhcp relay debug stats
  DHCP relay statistics
-----
Client packet relayed      :      64
Server packet relayed     :       0
Bogus relay agent        :       0
Bogus giaddr recv        :       0
Corrupt agent option      :       0
Missing agent option      :       0
Bad circuit id           :       0
Missing circuit id       :       0
=>
```

RELATED COMMANDS:

dhcp relay debug
traceconfig

Modify the DHCP relay trace configuration.

dhcp relay debug traceconfig

Modify the DHCP relay trace configuration.

SYNTAX:

```
dhcp relay debug traceconfig [state = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| state | Enable or disable tracing. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

EXAMPLE:

```
=>dhcp relay debug traceconfig
Tracing: disabled
=>
```

RELATED COMMANDS:

dhcp relay debug stats Show the DHCP relay statistics.

dhcp relay config

Set the DHCP relay configuration settings.

SYNTAX:

```
dhcp relay config [agentinfo = <{disabled | enabled}>]
                  [agentmismatch = <{disabled | enabled}>]
```

where:

| | | |
|---------------|--|----------|
| agentinfo | Set the relay agent info status (RFC3046) enabled or disabled. The default is <i>disabled</i> . | OPTIONAL |
| agentmismatch | Forward/drop DHCP reply packet when a relay agent info mismatch is detected (RFC3046) (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>dhcp relay config
Agent info status : disabled
Drop agent info mismatch status : disabled
=>dhcp relay config agentinfo=enabled
=>dhcp relay config
Agent info status : enabled
Drop agent info mismatch status : disabled
=>
```

dhcp relay delete

Delete an entry from the DHCP forward list.

SYNTAX:

```
dhcp relay delete          name = <string>
```

where:

| name | The forward entry name. | REQUIRED |
|------|-------------------------|----------|
|------|-------------------------|----------|

EXAMPLE:

```
=>dhcp relay delete
name = lan1_to_127.0.0.1
:dhcp relay delete name=lan1_to_127.0.0.1
=>
```

RELATED COMMANDS:

| | |
|-------------------|---|
| dhcp relay add | Add an entry to the DHCP forward list. |
| dhcp relay list | List the DHCP forward list. |
| dhcp relay modify | Modify an entry from the DHCP forward list. |

dhcp relay flush

Flush the DHCP relay settings.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp relay flush
```

EXAMPLE:

```
=>dhcp relay list
  DHCP server      Interface      giaddr
-----
  127.0.0.1       eth0          192.168.1.254
=>dhcp relay flush
=>dhcp relay list
No dynamic interfaces defined.
=>
```

dhcp relay ifconfig

Configure a DHCP relay interface.

SYNTAX:

```
dhcp relay ifconfig          intf = <string>
                             [relay = <{disabled | enabled}>]
                             [maxhops = <number{0-16}>]
                             [remoteid = <password>]
                             [trusted = <{disabled | enabled}>]
```

where:

| | | |
|----------|--|----------|
| intf | The name of the dynamic interface to be configured. | REQUIRED |
| relay | Set the relay status to enabled or disabled. The default is <i>disabled</i> . | OPTIONAL |
| maxhops | A number between 0 and 16. Represents the maximum number of hops allowed in the DHCP packet. The default is <i>4</i> . | OPTIONAL |
| remoteid | Set the remote ID as specified in RFC3046. | OPTIONAL |
| trusted | Drop/forward DHCP request packet when the DHCP Relay Agent Option is enabled (with the command :dhcp relay config agentinfo=enabled) and the giaddr field is 0 (RFC3046)) (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

DHCP Commands

EXAMPLE:

```
=>dhcp relay iflist
eth0 :
  admin state = up      oper state = up
  max hops = 4
  trusted = disabled    remote id =

Internet_trigger :
  admin state = down    oper state = down
  max hops = 4
  trusted = disabled    remote id =

Internet :
  admin state = down    oper state = down
  max hops = 4
  trusted = disabled    remote id =

=>dhcp relay ifconfig intf=Internet_trigger relay=enabled trusted=enabled
=>dhcp relay iflist
eth0 :
  admin state = up      oper state = up
  max hops = 4
  trusted = disabled    remote id =

Internet_trigger :
  admin state = up      oper state = up
  max hops = 4
  trusted = enabled      remote id =

Internet :
  admin state = down    oper state = down
  max hops = 4
  trusted = disabled    remote id =

=>
```

dhcp relay iflist

Show the configuration of the relay interfaces.

SYNTAX:

```
dhcp relay iflist [intf = <string>]
```

where:

| | | |
|------|---|----------|
| intf | The name of the dynamic interface to be listed. | OPTIONAL |
| | Note If not specified, all the relay interfaces will be shown. | |

EXAMPLE:

```
=>dhcp relay iflist
eth0 :
  admin state = up    oper state = up
  max hops = 4
  trusted = disabled  remote id =

Internet_trigger :
  admin state = up    oper state = up
  max hops = 4
  trusted = enabled   remote id =

Internet :
  admin state = down  oper state = down
  max hops = 4
  trusted = disabled  remote id =

=>
```


dhcp relay list

List the DHCP forward list.

SYNTAX:

```
dhcp relay list [name = <string>]
```

where:

| name | The forward entry name. | OPTIONAL |
|------|-------------------------|----------|
|------|-------------------------|----------|

EXAMPLE:

```
=>dhcp relay list
  DHCP server      Interface      giaddr
-----
  127.0.0.1        eth0          10.0.0.138
=>
```

RELATED COMMANDS:

| | |
|-------------------|---|
| dhcp relay add | Add an entry to the DHCP forward list. |
| dhcp relay delete | Delete an entry from the DHCP forward list. |
| dhcp relay modify | Modify an entry from the DHCP forward list. |

dhcp relay modify

Modify an entry from the DHCP forward list.

SYNTAX:

```
dhcp relay modify          name = <string>
                          [addr = <ip-address>]
                          [intf = <{None | guest1 | dmz1 | wan1 |
                          lan1 | Internet}>]
                          [giaddr = <ip-address>]
                          [script = <>]
```

where:

| | | |
|--------|---|----------|
| name | The forward entry name. | REQUIRED |
| addr | The DHCP server IP address. | OPTIONAL |
| intf | The name of the relay interface, 'None' to indicate no interface is specified. The standard is <i>None</i> . | OPTIONAL |
| giaddr | The giaddr field to be used in relayed DHCP packets. | OPTIONAL |
| script | Script to be run when the forward entry is hit. | OPTIONAL |

RELATED COMMANDS:

| | |
|-------------------|---|
| dhcp relay add | Add an entry to the DHCP forward list. |
| dhcp relay delete | Delete an entry from the DHCP forward list. |
| dhcp relay list | List the DHCP forward list. |

dhcp relay ruleadd

Add a selection rule to a DHCP forward entry.

SYNTAX:

```
dhcp relay ruleadd          name = <string>
                             [key = <{or | and}>]
                             rulename = <string>
```

where:

| | | |
|----------|--|----------|
| name | The name of the forward entry. | REQUIRED |
| key | The logical key of the selection rule. The default is or . | OPTIONAL |
| rulename | The name of the DHCP selection rule. | REQUIRED |

RELATED COMMANDS:

dhcp relay ruledelete Delete a selection rule from a DHCP forward entry.

dhcp relay ruledelete

Delete a selection rule from a DHCP forward entry.

SYNTAX:

```
dhcp relay ruledelete      name = <string>
                           rulename = <string>
```

where:

| | | |
|----------|--------------------------------------|----------|
| name | The name of the forward entry. | REQUIRED |
| rulename | The name of the DHCP selection rule. | REQUIRED |

RELATED COMMANDS:

dhcp relay ruleadd Add a selection rule to a DHCP forward entry.

dhcp rule add

Add a rule for DHCP conditional selection.

SYNTAX:

```
dhcp rule add                               name = <string>
                                             type = <{vci | uci | mac}>
                                             vci [!]= <quoted string>
                                             uci [!]= <quoted string>
                                             [match = <{exactly|as_substring}>]
                                             mac [!]= <hardware-address with wildcard
                                             | ex: '00:9f:aa:*:*:*'>
```



If a value is preceded by a “!”, it means NOT.
For example “mac=!00:9f:aa:bb:cc:dd” means “for MAC address different from 00:9f:aa:bb:cc:dd”.

where:

| | | |
|-------|---|----------|
| name | The name of the new DHCP rule. | REQUIRED |
| type | Specify the DHCP rule type. Choose between: > vci : vendor class identifier > uci : user class identifier > mac : MAC address. | REQUIRED |
| vci | The vendor class identifier string. Note Only required when type=vci. | REQUIRED |
| uci | The user class identifier string. Note Only required when type=uci. | REQUIRED |
| match | The vendor or user class identifier string matching. | OPTIONAL |
| mac | The MAC address. Note Only required when type=mac. | REQUIRED |

RELATED COMMANDS:

| | |
|------------------|-----------------------|
| dhcp rule delete | Delete a DHCP rule. |
| dhcp rule flush | Flush all DHCP rules. |
| dhcp rule list | List all DHCP rules. |

dhcp rule debug traceconfig

Modify DHCP rule trace configuration.

SYNTAX:

```
dhcp rule debug traceconfig [state = {disabled | enabled}]
```

where:

| | | |
|-------|---|----------|
| state | Set tracing to disabled or enabled. The default is <i>disabled</i> . | OPTIONAL |
|-------|---|----------|

dhcp rule delete

Delete a DHCP rule.

SYNTAX:

```
dhcp rule delete                name = <string>
```

where:

| name | The name of the DHCP rule. | REQUIRED |
|------|----------------------------|----------|
|------|----------------------------|----------|

EXAMPLE:

```
=>dhcp rule delete
name = new
:dhcp rule delete name=new
=>
```

RELATED COMMANDS:

| | |
|-----------------|--|
| dhcp rule add | Add a rule for DHCP conditional selection. |
| dhcp rule flush | Flush all DHCP rules. |
| dhcp rule list | List all DHCP rules. |

dhcp rule flush

Flush all DHCP rules.

SYNTAX:

```
dhcp rule flush
```

EXAMPLE:

```
=>dhcp rule list
Name                Use  Value
new                 0    vci=test
=>dhcp rule flush
=>dhcp rule list
Name                Use  Value
=>
```

RELATED COMMANDS:

| | |
|------------------|--|
| dhcp rule add | Add a rule for DHCP conditional selection. |
| dhcp rule delete | Delete a DHCP rule. |
| dhcp rule list | List all DHCP rules. |

dhcp rule list

List all DHCP rules.

SYNTAX:

```
dhcp rule list
```

EXAMPLE:

```
=>dhcp rule list
Name          Use  Value
new           0    vci=test
=>
```

RELATED COMMANDS:

| | |
|------------------|--|
| dhcp rule add | Add a rule for DHCP conditional selection. |
| dhcp rule delete | Delete a DHCP rule. |
| dhcp rule flush | Flush all DHCP rules. |

dhcp server config

Print the DHCP server configuration settings.

SYNTAX:

```
dhcp server config [state = <{disabled | enabled}>]
```

where:

dhcp server flush

Flush all DHCP server pool and lease entries.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server flush
```

dhcp server policy

Print the DHCP server policy settings.

SYNTAX:

```
dhcp server policy          [verifyfirst = <disabled|enabled>]
                             [trustclient = <disabled|enabled>]
                             [rtbehaviour = <msft|standard|traditional>]
```

where:

dhcp server debug clear

Clear the DHCP server statistics.

SYNTAX:

```
dhcp server debug clear
```

EXAMPLE:

```
=>dhcp server debug stats
DHCP server state: Running
DHCP server statistics:
Corrupted packet recv      :      0
DISCOVER                   :    2451
REQUEST                    :      28
DECLINE                    :      0
RELEASE                     :      22
INFORM                     :       1
Pure BOOTP REQUESTS       :       2
Other message types       :       0
OFFERs sent                :    2451
ACKs sent                  :      19
NAKs sent                  :       0
Relay agent options dropped :       0
Lease table got full      : no
Ping table got full      : no
Second dhcp server seen : no
Total size of lease table: 32, in use: 0 free: 100 %
=>dhcp server debug clear
=>dhcp server debug stats
DHCP server state: Running
DHCP server statistics:
Corrupted packet recv      :      0
DISCOVER                   :      0
REQUEST                    :      0
DECLINE                    :      0
RELEASE                     :      0
INFORM                     :      0
Pure BOOTP REQUESTS       :      0
Other message types       :      0
OFFERs sent                :      0
ACKs sent                  :      0
NAKs sent                  :      0
Relay agent options dropped :      0
Lease table got full      : no
Ping table got full      : no
Second dhcp server seen : no
Total size of lease table: 32, in use: 0 free: 100 %
=>
```

RELATED COMMANDS:

dhcp server debug stats Show the DHCP server statistics.

dhcp server debug stats

Show the DHCP server statistics.

SYNTAX:

```
dhcp server debug stats
```

EXAMPLE:

```
=>dhcp server stats
DHCP Server State:  Stopped
DHCP server statistics:
Corrupted packet recv      :      0
DISCOVER                   :    2451
REQUEST                   :      28
DECLINE                    :      0
RELEASE                    :     22
INFORM                     :       1
Pure BOOTP REQUESTS       :       2
Other message types       :       0
OFFERs sent                :    2451
ACKs sent                  :      19
NAKs sent                  :       0
Relay agent options dropped :       0
Lease table got full      : no
Ping table got full       : no
Second dhcp server seen  : no
Total size of lease table: 32, in use: 16, free: 50 %
=>
```

DESCRIPTION:

- > **DHCP server state:** the state of the DHCP server.
- > **Corrupted packet recv:** the number of corrupted packets (not complaint to RFC2131) received from the LAN.
- > **DISCOVER:** the number of DHCP server discovery packets received from the LAN. These broadcasts are sent by potential DHCP clients to locate available DHCP servers.
- > **REQUEST:** the number of DHCP address lease requests received from the Local Area Network (LAN).
- > **DECLINE:** the number of DHCP address lease requests declined.
- > **RELEASE:** the number of DHCP address release requests received from DHCP clients.
- > **INFORM:** the number of information requests received from DHCP clients.
- > **Pure BOOTP requests:** the number of BOOTP requests received from the LAN.
- > **Other message types:** the number of other messages received from the LAN.
- > **OFFERs sent:** the number of IP address offers sent in reply to DHCP requests.
- > **ACKs sent:** the number of ACKnowledgement replies sent to successfully configured DHCP clients.
- > **NAKs sent:** the number of Not-AcKnowledge replies sent to wrongly configured DHCP clients.
- > **Relay agent options dropped**
- > **Lease table got full:** whether the maximum number of DHCP leases is reached or not.

DHCP Commands

- > **Ping table got full:** whether the history list of IP address pings got full or not. These pings are sent by the DHCP server to verify whether the IP address is already in use disabled the LAN or not (:dhcp server policy verifyfirst=yes).
- > **Second DHCP server seen:** whether a concurrent DHCP server was found disabled the LAN or not.

RELATED COMMANDS:

dhcp server debug clear Clear the DHCP server statistics.

dhcp server debug traceconfig

Modify the DHCP server trace configuration.

SYNTAX:

```
dhcp server debug traceconfig [state = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| state | Enable or disable tracing. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

EXAMPLE:

```
=>dhcp server debug traceconfig
Tracing: disabled
=>
```


dhcp server lease add

Add a DHCP server lease.

SYNTAX:

```
dhcp server lease add      clientid = <client-id>
                           pool = <string>
                           [addr = <ip-address>]
                           [offset = <number>]
                           [leasetime = <number>]
                           [expirytime = <number>]
                           [gateway = <ip-address>]
                           [macaddr = <hardware-address>]
```

where:

| | | |
|------------|---|----------|
| clientid | The DHCP client identification string of the booting host. | REQUIRED |
| pool | The name of the DHCP server pool from which the DHCP lease should be taken. Tip Use the command <code>:dhcp server pool list</code> to obtain a list of available DHCP server pools. | REQUIRED |
| addr | The favoured IP address for this DHCP host. This IP address, if specified, must be in the range of the specified DHCP server pool. | OPTIONAL |
| offset | A number between 0 and the integer number defined by the number of available IP addresses in the DHCP server pool. Represents the IP address offset in the DHCP server pool preserved for this host. Note Not specifying this parameter does not preserve an IP address for the host. | OPTIONAL |
| leasetime | A number (of seconds). Represents the time the host is allowed to use this address. Note 0 means infinite leasetime. | OPTIONAL |
| expirytime | The time in seconds the DHCP server keeps the lease reserved Tip 0 means infinite expirytime. | OPTIONAL |
| gateway | The IP address of the default router for this client. | OPTIONAL |
| macaddr | The MAC address of the host. | OPTIONAL |

EXAMPLE:

```
=>dhcp server lease list
Lease      Pool          TTL           State         Clientid
0 0.0.0.0    dhcp_pool_1  00:26:40     FREE          00:90:D0:12:34:56
=>dhcp server lease add clientid=01:23:55:67:89:ab pool=Local_pool leasetime=3600
=>dhcp server lease list
Lease      Pool          TTL           State         Clientid
0 0.0.0.0    dhcp_pool_1  00:26:40     FREE          00:90:D0:12:34:56
1 10.0.0.1   local_pool    00:59:22     USED          01:23:45:67:89:AB
=>
```

RELATED COMMANDS:

| | |
|--------------------------|----------------------------------|
| dhcp server lease delete | Delete a DHCP server lease. |
| dhcp server lease list | List all the DHCP server leases. |

dhcp server lease delete

Delete a DHCP server lease.

SYNTAX:

```
dhcp server lease delete      [clientid = <clientid | none>]
                              [index = <number>]
```

where:

| | | |
|----------|---|----------|
| clientid | The DHCP client identification string of the DHCP lease. Note If not specified, all DHCP clients are deleted. | OPTIONAL |
| index | The DHCP server lease table index. Tip Use the command :dhcp server lease list to obtain a list of the index numbers of all current DHCP leases. | OPTIONAL |

EXAMPLE:

```
=>dhcp server lease list
Lease      Pool      TTL      State      Clientid
0  0.0.0.0  dhcp_pool_1  00:26:40  FREE      00:90:D0:12:34:56
1  10.0.0.1  local_pool  00:59:22  USED      01:23:45:67:89:AB
=>dhcp server lease delete index=0
=>dhcp server lease list
Lease      Pool      TTL      State      Clientid
1  10.0.0.1  local_pool  00:59:22  USED      01:23:45:67:89:AB
=>
```

RELATED COMMANDS:

dhcp server lease add Add a DHCP server lease.
dhcp server lease list List all the DHCP server leases.

dhcp server lease flush

Flush all the DHCP server leases.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server lease flush [pool = <string>]
```

where:

| | | |
|------|--|----------|
| pool | The name of the DHCP server pool to be flushed. Only the leases belonging to this pool will be deleted. | OPTIONAL |
| | Note If not specified, all the DHCP server leases will be flushed. | |

EXAMPLE:

```
=>dhcp server lease list
Lease      Pool      TTL      State      Clientid
0  0.0.0.0  dhcp_pool_1  00:26:40  FREE      00:90:D0:12:34:56
1  10.0.0.1  local_pool  00:59:22  USED      01:23:45:67:89:AB
2  10.0.0.101 local_pool  00:21:01  USED      01:23:89:AB:80:CD
3  10.0.0.132 local_pool  00:45:37  USED      09:D0:25:CE:F1:31
5  10.0.0.5  local_pool  00:21:11  USED      AB:33:A1:7C:89:DD
4  10.0.0.6  local_pool  00:59:01  USED      E3:81:9F:11:11:11
8  10.0.0.8  local_pool  00:01:00  USED      08:80:09:90:AB:DC
9  10.0.0.15 local_pool  00:00:23  USED      08:93:DA:AE:01:AF
=>dhcp server lease flush
=>dhcp server lease list
=>
```

dhcp server lease list

List all the DHCP server leases.

SYNTAX:

```
dhcp server lease list          [clientid = <clientid | none>]
                                [index = <number>]
```

where:

| | | |
|----------|---|----------|
| clientid | The DHCP client identification string of the DHCP lease. Note If not specified, the DHCP server leases for all the DHCP clients are listed. | OPTIONAL |
| index | The DHCP server lease table index. Note If not specified, the complete DHCP server lease table will be shown. | OPTIONAL |

EXAMPLE:

```
=>dhcp server lease list
Lease      Pool      TTL      State      Clientid
0  0.0.0.0  dhcp_pool_1  00:26:40  FREE      00:90:D0:12:34:56
1  10.0.0.1  local_pool  00:59:22  USED      01:23:45:67:89:AB
2  10.0.0.101 local_pool  00:21:01  USED      01:23:89:AB:80:CD
3  10.0.0.132 local_pool  00:45:37  USED      09:D0:25:CE:F1:31
5  10.0.0.5  local_pool  00:21:11  USED      AB:33:A1:7C:89:DD
4  10.0.0.6  local_pool  00:59:01  USED      E3:81:9F:11:11:11
8  10.0.0.8  local_pool  00:01:00  USED      08:80:09:90:AB:DC
9  10.0.0.15 local_pool  00:00:23  USED      08:93:DA:AE:01:AF
=>
```

RELATED COMMANDS:

dhcp server lease add Add a DHCP server lease.
dhcp server lease delete Delete a DHCP server lease.

dhcp server option flush

Flush all DHCP server option templates and instances.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server option flush
```

dhcp server option instadd

Add a DHCP server option instance.

SYNTAX:

```
dhcp server option instadd      name = <string>
                                tmplname = <string>
                                value = <Value : (type)value; type being 8-
                                        bit,
                                        16-bit, 32-bit, addr, ascii,
                                        byte_array>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server option instance. | REQUIRED |
| tmplname | The name of the DHCP server option template. Tip Use the command :dhcp server option tmplist to obtain a list of DHCP server option templates. | REQUIRED |
| value | The value of the DHCP server option instance. Format is (type)value where type is 8-bit, 16-bit, 32-bit, addr, ascii or byte_array. Note The type must be identical to the type of the DHCP server option template. Use the command :dhcp server option tmplist to obtain a list of DHCP server option templates. | REQUIRED |

EXAMPLE:

```
=>dhcp server option instlist
myInstance
    Tmpl name : myTmpl           (1)
    Use       : 0
    Value     : (32-bit) 64

=>dhcp server option instadd name=yourInstance tmplname=yourTmpl value=(ascii)&#33
{root}[dhcp server option]=>instlist
yourInstance
    Tmpl name : yourTmpl         (2)
    Use       : 0
    Value     : (ascii)&#33

myInstance
    Tmpl name : myTmpl           (1)
    Use       : 0
    Value     : (32-bit) 64

=>
```

RELATED COMMANDS:

dhcp server option
instdelete

Delete a DHCP server option instance.

dhcp server option
instlist

List all the DHCP server option instances.

dhcp server option instdelete

Delete a DHCP server option instance.

SYNTAX:

```
dhcp server option instdelete name = <string>
```

where:

| name | The name of the DHCP server option instance to be deleted. | REQUIRED |
|------|--|----------|
|------|--|----------|

EXAMPLE:

```
=>dhcp server option instlist
yourInstance
    Tmpl name : yourTmpl           (2)
    Use       : 0
    Value     : (ascii)&#33

myInstance
    Tmpl name : myTmpl             (1)
    Use       : 0
    Value     : (32-bit)64

=>dhcp server option instdelete name=yourInstance
=>dhcp server option instlist
myInstance
    Tmpl name : myTmpl             (1)
    Use       : 0
    Value     : (32-bit)64

=>
```

RELATED COMMANDS:

| | |
|-----------------------------|--|
| dhcp server option instadd | Add a DHCP server option instance. |
| dhcp server option instlist | List all the DHCP server option instances. |

dhcp server option instlist

List all the DHCP server option instances.

SYNTAX:

```
dhcp server option instlist
```

EXAMPLE:

```
=>dhcp server option instlist
yourInstance
    Tmpl name : yourTmpl           (2)
    Use       : 0
    Value     : (ascii)&#33

myInstance
    Tmpl name : myTmpl           (1)
    Use       : 0
    Value     : (32-bit)64

=>
```

RELATED COMMANDS:

dhcp server option
instadd

Add a DHCP server option instance.

dhcp server option
instdelete

Delete a DHCP server option instance.

dhcp server option tmpladd

Add a DHCP server option template.

SYNTAX:

```
dhcp server option tmpladd      name = <string>
                                optionid = <number{1-254}>
                                type = <{8-bit | 16-bit | 32-bit | addr |
                                ascii | byte_array}>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server option template. | REQUIRED |
| optionid | A number between 1 and 254. Specifies the DHCP server option code. | REQUIRED |
| type | Specifies the DHCP server option type. Choose between: <ul style="list-style-type: none">> 8-bit> 16-bit> 32-bit> addr> ascii> byte_array. | REQUIRED |

EXAMPLE:

```
=>dhcp server option tmplist
Name      Option  Type      Use
myTmpl    1       32-bit    0
=>dhcp server option tmpladd name=yourTmpl optionid=2 type=ascii
=>dhcp server option tmplist
Name      Option  Type      Use
yourTmpl  2       ascii     0
myTmpl    1       32-bit    0
=>
```

RELATED COMMANDS:

dhcp server option
tmpldelete

Delete a DHCP server option template.

dhcp server option
tmplist

List all the DHCP server option templates.

dhcp server option tmpldelete

Delete a DHCP server option template.

SYNTAX:

```
dhcp server option tmpldelete name = <string>
```

where:

| name | The name of the DHCP server option template to be deleted. | REQUIRED |
|------|--|----------|
|------|--|----------|

EXAMPLE:

```
=>dhcp server option tmplist
Name          Option  Type      Use
yourTpl       2       ascii     0
myTpl         1       32-bit    0
=>dhcp server option tmpldelete name=yourTpl
=>dhcp server option tmplist
Name          Option  Type      Use
myTpl         1       32-bit    0
=>
```

RELATED COMMANDS:

dhcp server option
tmpladd

Add a DHCP server option template.

dhcp server option
tmplist

List all the DHCP server option templates.

dhcp server option tmplist

List all the DHCP server option templates.

SYNTAX:

```
dhcp server option tmplist
```

EXAMPLE:

```
=>dhcp server option tmplist
Name      Option  Type      Use
yourTmpl  2       ascii     0
myTmpl    1       32-bit    0
=>
```

RELATED COMMANDS:

dhcp server option
tmpladd

Add a DHCP server option template.

dhcp server option
tmpldelete

Delete a DHCP server option template.

dhcp server pool add

Add a DHCP server pool.

SYNTAX:

```
dhcp server pool add          name = <string>
                              [index = <number>]
```

where:

| | | |
|-------|--|----------|
| name | The name of the DHCP server pool. Note If not specified, the name is "dhcp_pool_x", where x is a subsequent number. | REQUIRED |
| index | The number of the pool before which you want the new pool to be added. Note If not specified, the DHCP server pool will be added at the bottom of the DHCP server lease table. | OPTIONAL |

DHCP Commands

EXAMPLE:

```
=>dhcp server pool list
Pool      Start      End      State      PPP
0 dhcp_pool_1  0.0.0.0  0.0.0.0  FREE
1 My_LAN_Pool 10.0.0.1  10.0.0.254 USED
2 dhcp_pool_2  0.0.0.0  0.0.0.0  FREE
=>dhcp server pool add
=>dhcp server pool list
Pool      Start      End      State      PPP
0 dhcp_pool_1  0.0.0.0  0.0.0.0  FREE
1 My_LAN_Pool 10.0.0.1  10.0.0.254 USED
2 dhcp_pool_2  0.0.0.0  0.0.0.0  FREE
3 dhcp_pool_3  0.0.0.0  0.0.0.0  FREE
=>dhcp server pool add name=POOL_EXTRA1
=>dhcp server pool list
Pool      Start      End      State      PPP
0 dhcp_pool_1  0.0.0.0  0.0.0.0  FREE
1 My_LAN_Pool 10.0.0.1  10.0.0.254 USED
2 dhcp_pool_2  0.0.0.0  0.0.0.0  FREE
3 dhcp_pool_3  0.0.0.0  0.0.0.0  FREE
4 POOL_EXTRA1 0.0.0.0  0.0.0.0  FREE
=>ppp ifconfig name=PPP_Test pool=POOL_EXTRA1
=>dhcp server pool list
Pool      Start      End      State      PPP
0 dhcp_pool_1  0.0.0.0  0.0.0.0  FREE
1 My_LAN_Pool 10.0.0.1  10.0.0.254 USED
2 dhcp_pool_2  0.0.0.0  0.0.0.0  FREE
3 dhcp_pool_3  0.0.0.0  0.0.0.0  FREE
4 POOL_EXTRA1 0.0.0.0  0.0.0.0  FREE      PPP_Test
=>
```

RELATED COMMANDS:

dhcp server pool delete Delete a DHCP server pool.
dhcp server pool list List all DHCP server pools.

dhcp server pool config

Configure a DHCP server pool.

SYNTAX:

```
dhcp server pool config      name = <string>
                             intf = <string>
                             [index = <number>]
                             [poolstart = <ip-address>]
                             [poolend = <ip-address>]
                             [netmask = <ip-mask(dotted or cidr)>]
                             [gateway = <ipaddress | 0>]
                             [server = <ipaddress | 0>]
                             [primdns = <ipaddress | 0>]
                             [secdns = <ipaddress | 0>]
                             [dnsmetric = <number{0-100}>]
                             [primwins = <ipaddress | 0>]
                             [secwins = <ipaddress | 0>]
                             [leasetime = <number>]
                             [unnumbered = <{disabled | enabled}>]
                             [localgw = <{disabled | enabled}>]
```

where:

| | | |
|-----------|---|----------|
| name | The name of the DHCP server pool to configure. | REQUIRED |
| intf | The interface for which the pool is allowed to lease IP addresses. | REQUIRED |
| index | A number between 0 (highest priority) and the highest number (lowest priority) found in the list of existing DHCP server pools. Represents a (higher) priority for the DHCP server pool. Tip Use the command <code>:dhcp server pool list</code> to obtain a list of the index numbers of all current DHCP server pools. | OPTIONAL |
| poolstart | The lowest IP address in the DHCP address range to use for leasing. The default value of this parameter is 0.0.0.0 (not specified), which means that the lowest IP address of the pool will be defined by the remote server via Internet Protocol Control Protocol (IPCP) as soon as the Point-to-Point Protocol (PPP) IPCP subnetmasking connection is established. | OPTIONAL |
| poolend | The highest IP address in the DHCP address range to use for leasing. The default value of this parameter is 0.0.0.0 (not specified), which means that the highest IP address of the pool will be defined by the remote server via IPCP as soon as the PPP IPCP subnetmasking connection is established. | OPTIONAL |
| netmask | The applicable netmask for the DHCP leases. | OPTIONAL |

DHCP Commands

| | | |
|------------|--|----------|
| gateway | The IP address of the default gateway for the DHCP clients. The default value of this parameter is 0 (not specified), which means that the gateway IP address will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established or that the Thomson ST acts as the LAN default gateway. | OPTIONAL |
| server | The IP address of the DHCP server for DHCP clients. | OPTIONAL |
| primdns | The IP address of the primary DNS server for the DHCP clients. The default value of this parameter is 0 (not specified), which means that the IP address of the DNS server will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established or that the Thomson ST acts as the LAN DNS server. | OPTIONAL |
| secdns | The IP address of the optional secondary DNS server for DHCP clients. The default value of this parameter is 0 (not specified), which means that the gateway IP address will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established. | OPTIONAL |
| dnsmetric | The DHCP server pool DNS route metric. | OPTIONAL |
| primwins | The IP address of the primary Windows Internet Naming Service (WINS) server for DHCP clients. | OPTIONAL |
| secwins | The IP address of the secondary WINS server for DHCP clients. | OPTIONAL |
| leasetime | A number (of seconds). Represents the time in seconds a client is allowed to use an address. Note Specifying 0 makes the lease permanent. | OPTIONAL |
| unnumbered | Assign an IP address from this pool to the DHCP server (enabled) or not (disabled). Note For dynamic pools only. | OPTIONAL |
| localgw | Proxy for a virtual default gateway residing in same subnet of DHCP client instead of the remote peer address. | OPTIONAL |

EXAMPLE:

```
=>dhcp server pool list
Pool      Start      End        Intf       State
0 LAN_Private 10.0.0.1   10.0.0.254 eth0       USED
=>dhcp server pool config name=My_Pool poolstart=192.6.11.101
| poolend=192.6.11.254 netmask=255.255.255 gateway=192.6.11.100 leasetime=21600
=>dhcp server pool list
Pool      Start      End        Intf       State
0 LAN_Private 10.0.0.1   10.0.0.254 eth0       USED
1 My_Pool   192.6.11.101 192.6.11.254 eth0       USED
=>
```

dhcp server pool delete

Delete a DHCP server pool.

SYNTAX:

```
dhcp server pool delete          name = <string>
```

where:

| name | The name of the DHCP server pool to be deleted. | REQUIRED |
|------|---|----------|
| | Tip Use the command :dhcp server pool list to obtain a list of all current DHCP leases. | |

EXAMPLE:

```
=>dhcp server pool list
Pool      Start      End      Intf      State
0 LAN_Private 10.0.0.1 10.0.0.254 eth0      USED
1 My_Pool   192.6.11.101 192.6.11.254 eth0      USED
=>dhcp server pool delete name=My_Pool
=>dhcp server pool list
Pool      Start      End      Intf      State
0 LAN_Private 10.0.0.1 10.0.0.254 eth0      USED
=>
```

RELATED COMMANDS:

| | |
|-----------------------|-----------------------------|
| dhcp server pool add | Add a DHCP server pool. |
| dhcp server pool list | List all DHCP server pools. |

dhcp server pool flush

Flush all DHCP server pools.



The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server pool flush
```

EXAMPLE:

```
=>dhcp server pool list
Pool          Start          End            Intf          State
0 LAN_Private 10.0.0.1       10.0.0.254    eth0          USED
1 My_Pool     192.6.11.101  192.6.11.254  eth0          USED
=>dhcp server pool flush
=>dhcp server pool list
=>
```

dhcp server pool list

List all DHCP server pools.

SYNTAX:

```
dhcp server pool list [name = <string>]
```

where:

| name | The name of the DHCP server pool to be shown. | OPTIONAL |
|------|--|----------|
| | Note If not specified, all the DHCP server pools are shown. | |

EXAMPLE:

```
=>dhcp server pool list
Pool      Start      End      Intf      State
0 LAN_Private  10.0.0.1  10.0.0.254  eth0      USED
1 My_Pool    192.6.11.101  192.6.11.254  eth0      USED
=>
```

RELATED COMMANDS:

| | |
|-------------------------|----------------------------|
| dhcp server pool add | Add a DHCP server pool. |
| dhcp server pool delete | Delete a DHCP server pool. |

dhcp server pool optadd

Add an option instance to the DHCP server pool.

SYNTAX:

```
dhcp server pool optadd          name = <string>
                                instname = <string>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server pool to which an option instance must be added. | REQUIRED |
| instname | The name of the DHCP server option instance. | REQUIRED |

Tip Use the command **:dhcp server option instlist** to obtain a list of DHCP server option instances.

EXAMPLE:

```
=>dhcp server pool optadd name=dhcp_pool_1 instname=yourInstance
=>dhcp server pool list name=dhcp_pool_1
Pool      Start      End          Intf        State
1  dhcp_pool_1  0.0.0.0     0.0.0.0    lan1       FREE

DHCP server  = 0.0.0.0 [unnumbered]
Netmask     = 0.0.0.0
Leasetime   = infinite
Gateway     = 0.0.0.0
DNS domain  = lan
DNS metric  = 0

DNS address list:
0.0.0.0 (local DNS)

Option instance list:
Name      Option
yourInstance  2  (yourTpl)
=>
```

RELATED COMMANDS:

dhcp server pool optdelete Delete an option instance from the DHCP server pool.

dhcp server pool optdelete

Delete an option instance from the DHCP server pool.

SYNTAX:

```
dhcp server pool optdelete      name = <string>
                                instname = <string>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server pool from which an option instance must be deleted. | REQUIRED |
| instname | The name of the DHCP server option instance to be deleted. | REQUIRED |

Tip Use the command **:dhcp server option list** to obtain a list of DHCP server option instances.

DHCP Commands

EXAMPLE:

```
=>dhcp server pool list name=dhcp_pool_1
Pool      Start      End          Intf      State
1  dhcp_pool_1  0.0.0.0     0.0.0.0   lan1     FREE

DHCP server  = 0.0.0.0 [unnumbered]
Netmask      = 0.0.0.0
Leasetime    = infinite
Gateway      = 0.0.0.0
DNS domain   = lan
DNS metric   = 0

DNS address list:
0.0.0.0 (local DNS)

Option instance list:
Name          Option
yourInstance  2   (yourTpl)
=>dhcp server pool optdelete name=dhcp_pool_1 instname=yourInstance
=>dhcp server pool list name=dhcp_pool_1
Pool      Start      End          Intf      State
1  dhcp_pool_1  0.0.0.0     0.0.0.0   lan1     FREE

DHCP server  = 0.0.0.0 [unnumbered]
Netmask      = 0.0.0.0
Leasetime    = infinite
Gateway      = 0.0.0.0
DNS domain   = lan
DNS metric   = 0

DNS address list:
0.0.0.0 (local DNS)
=>
```

RELATED COMMANDS:

dhcp server pool optadd Add an option instance to the DHCP server pool.

dhcp server pool rtadd

Add a route to the DHCP server pool.

SYNTAX:

```
dhcp server pool rtadd      name = <string>
                           dst = <ip-address>
                           [dstmsk = <ip-mask(dotted or cidr)>]
                           [gateway = <ipaddress | 0>]
```

where:

| Parameter | Description | Requirement |
|-----------|---|-------------|
| name | The name of the DHCP server pool to which a route must be added. | REQUIRED |
| dst | The IP destination address of the route for DHCP clients. | REQUIRED |
| dstmsk | The destination IP address mask. | OPTIONAL |
| gateway | The IP address of the next hop. Must be directly connected to the DHCP client | OPTIONAL |

RELATED COMMANDS:

dhcp server pool rtdelete

Delete a route from the DHCP server pool.

dhcp server pool rtdelete

Delete a route from the DHCP server pool.

SYNTAX:

```
dhcp server pool rtdelete      name = <string>
                               dst = <ip-address>
                               [dstmsk = <ip-mask(dotted or cidr)>]
                               [gateway = <ipaddress | 0>]
```

where:

| | | |
|---------|---|----------|
| name | The name of the DHCP server pool from which a route must be deleted. | REQUIRED |
| dst | The IP destination address of the route for DHCP clients. | REQUIRED |
| dstmsk | The destination IP address mask. | OPTIONAL |
| gateway | The IP address of the next hop. Must be directly connected to the DHCP client | OPTIONAL |

RELATED COMMANDS:

dhcp server pool rtadd Add a route to the DHCP server pool.

dhcp server pool ruleadd

Add a selection rule to the DHCP server pool.

SYNTAX:

```
dhcp server pool ruleadd      name = <string>
                               [key = {or | and}]
                               rulename = <string>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server pool to which a selection rule must be added. | REQUIRED |
| key | The logical key of the selection rule. The default is <i>or</i> . | OPTIONAL |
| rulename | The name of the DHCP selection rule. Tip Use the command <code>:dhcp server rule list</code> to obtain a list of DHCP server rules. | REQUIRED |

RELATED COMMANDS:

dhcp server pool ruledelete

Delete a selection rule from the DHCP server pool.

dhcp server pool ruledelete

Delete a selection rule from the DHCP server pool.

SYNTAX:

```
dhcp server pool ruleadd      name = <string>
                               rulename = <string>
```

where:

| | | |
|----------|---|----------|
| name | The name of the DHCP server pool from which a selection rule must be deleted. | REQUIRED |
| rulename | The name of the DHCP selection rule to be deleted. Tip Use the command :dhcp server rule list to obtain a list of DHCP server rules. | REQUIRED |

RELATED COMMANDS:

dhcp server pool
ruleadd

Add a selection rule to the DHCP server pool.

10 DNS Commands

Introduction

This chapter describes the commands of the **dns** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------------------------|---|-----|
| dns client config | Modify the Domain Name System (DNS) resolver configuration. | 184 |
| dns client dnsadd | Add a DNS server. | 185 |
| dns client dnsdelete | Delete a DNS server. | 186 |
| dns client dnslist | List all DNS servers. | 187 |
| dns client flush | Remove all DNS servers. | 188 |
| dns client nslookup | DNS lookup for a domain name or an address. | 189 |
| dns server config | Modify the DNS resolver configuration. | 190 |
| dns server flush | Flush all local DNS hosts and routes. | 191 |
| dns server debug clear | Clear the DNS server/forwarder statistics. | 192 |
| dns server debug stats | Print the DNS server/forwarder statistics. | 193 |
| dns server debug spoof clear | Clear the intercept cache table | 194 |
| dns server debug spoof getaddress | Get the real ip for the given spoofed ip | 195 |
| dns server debug spoof getflags | Get the error flags for the given spoofed ip | 196 |
| dns server debug spoof list | List the intercept cache table. | 197 |
| dns server debug spoof update | Update the intercept cache table. | 198 |
| dns server host add | Add a local DNS host. | 199 |
| dns server host delete | Delete a local DNS host. | 200 |
| dns server host flush | Flush all the local DNS hosts. | 201 |
| dns server host list | List all the local DNS hosts. | 202 |
| dns server route add | Creates a DNS forwarding entry or template. | 203 |
| dns server route delete | Deletes a DNS forwarding entry or template | 205 |
| dns server route flush | Removes all DNS forwarding entries and templates. | 206 |
| dns server route list | List all the DNS forwarding entries or templates. | 207 |

dns client config

Modify the Domain Name System (DNS) resolver configuration.

SYNTAX:

```
dns client config      [timeout = <number{1-900}>]
                      [retry = <number{0-10}>]
                      [search = <{disabled | enabled}>]
                      [list = <string>]
                      [trace = <{disabled | enabled}>]
```

where:

| | | |
|---------|---|----------|
| timeout | A number between 1 and 900 (seconds). Represents the query timeout. The default is 5 . | OPTIONAL |
| retry | A number between 0 and 10. Represents the number of query retries before giving up. The default is 3 . | OPTIONAL |
| search | Use the search list to construct fully qualified domain names. The default is disabled . | OPTIONAL |
| list | Specify a search list. This is a slash separated list of domain name suffixes. | OPTIONAL |
| trace | Enable or disable verbose logging. The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>dns client config
timeout : 5s
retry   : 3
search  : on
srchlist : <empty>
trace   : off
=>
```

dns client dnsadd

Add a DNS server.

SYNTAX:

```
dns client dnsadd      addr = <string>
                       [port = <number>]
```

where:

| addr | The IP address of the DNS server to be added. | REQUIRED |
|------|---|----------|
| port | The DNS server port number. The default is 53 . | OPTIONAL |

EXAMPLE:

```
=>dns client dnsadd addr=150.150.150.150
=>dns client dnslist

Entry   State      Family  Server
  1     CONNECTED   IP      [port] 53 - [addr] 127.0.0.1
  2     CONNECTED   IP      [port] 53 - [addr] 150.150.150.150

=>
```

RELATED COMMANDS:

dns client dnsdelete

Delete a DNS server.

dns client dnslist

List all DNS servers.

dns client dnsdelete

Delete a DNS server.

SYNTAX:

```
dns client dnsdelete      index = <number{1-99}>
```

where:

| | | |
|-------|--|----------|
| index | A number between 1 and 99. Represents the index number of the DNS server to be deleted. | REQUIRED |
| | Tip Use the command :dns client dnslist to obtain a list of DNS servers. | |

EXAMPLE:

```
=>dns client dnslist

Entry   State      Family   Server
  1     CONNECTED   IP       [port] 53 - [addr] 127.0.0.1
  2     CONNECTED   IP       [port] 53 - [addr] 150.150.150.150

=>dns client dnsdelete index=2
=>dns client dnslist

Entry   State      Family   Server
  1     CONNECTED   IP       [port] 53 - [addr] 127.0.0.1

=>
```

RELATED COMMANDS:

| | |
|--------------------|-----------------------|
| dns client dnsadd | Add a DNS server. |
| dns client dnslist | List all DNS servers. |

dns client dnslist

List all DNS servers.

SYNTAX:

```
dns client dnslist
```

EXAMPLE:

```
=>dns client dnslist

Entry      State      Family    Server
  1    CONNECTED    IP        [port] 53 - [addr] 127.0.0.1
  2    CONNECTED    IP        [port] 53 - [addr] 150.150.150.150

=>
```

RELATED COMMANDS:

dns client dnsadd

Add a DNS server.

dns client dnsdelete

Delete a DNS server.

dns client flush

Remove all DNS servers.

SYNTAX:

```
dns client flush
```

dns client nslookup

DNS lookup for a domain name or an address.

SYNTAX:

```
dns client nslookup      host = <string>
```

where:

| | | |
|------|--|----------|
| host | The DNS domain name string for which to query. | REQUIRED |
|------|--|----------|

dns server config

Modify the DNS resolver configuration.

SYNTAX:

```
dns server config      [domain = <string>]
                      [timeout = <number{0-2147483647}>]
                      [suppress = <number>]
                      [state = <{disabled | enabled}>]
                      [trace = <{disabled | enabled}>]
                      [WANDownSpoofing = <{disabled | enabled}>]
                      [WDSpoofedIP = <ip-address>]
```

where:

| | | |
|-----------------|---|----------|
| domain | The DNS server domain name. | OPTIONAL |
| timeout | A number between 0 and 2147483647 (seconds). Represents the forwarded DNS query timeout. The default is 15 . | OPTIONAL |
| suppress | Suppress not more than the specified amount of remote DNS server errors. The default is 0 . | OPTIONAL |
| state | Enable or disable the local DNS server/forwarder. The default is enabled . | OPTIONAL |
| trace | Enable or disable verbose logging. The default is disabled . | OPTIONAL |
| WANDownSpoofing | Enable or disable DNS spoofing when no applicable forwarding route present. The default is disabled . | OPTIONAL |
| WDSpoofedIP | The IP address to be used for spoofing when WANDownSpoofing is enabled. | OPTIONAL |

EXAMPLE:

```
=>dns server config
domain   : lan
timeout  : 15s
suppress : 0
state    : enabled
trace    : off
spoofing : off
spoofer  : 0.0.0.0
=>
```

dns server flush

Flush all local DNS hosts and routes.

SYNTAX:

```
dns server flush
```

dns server debug clear

Clear the DNS server/forwarder statistics.

SYNTAX:

```
dns server debug clear
```

EXAMPLE:

```
=>dns server debug stats
Corrupted packets received      :      100
Local questions resolved        :         3
Local negative answers sent     :         1
Total DNS packets forwarded     :         0
External answers received       :         0
Spoofed responses               :         0
Forward table full, discard     :         0
Spurious answers               :         0
Unknown query types            :         0
=>dns server debug clear
=>dns server debug stats
Corrupted packets received      :         0
Local questions resolved        :         0
Local negative answers sent     :         0
Total DNS packets forwarded     :         0
External answers received       :         0
Spoofed responses               :         0
Forward table full, discard     :         0
Spurious answers               :         0
Unknown query types            :         0
=>
```

RELATED COMMANDS:

dns server debug stats

Print the DNS server/forwarder statistics.

dns server debug stats

Print the DNS server/forwarder statistics.

SYNTAX:

```
dns server debug stats
```

EXAMPLE:

```
=>dns server debug stats
Corrupted packets received      :      100
Local questions resolved        :         3
Local negative answers sent     :         1
Total DNS packets forwarded     :         0
External answers received       :         0
Spoofed responses               :         0
Forward table full, discard     :         0
Spurious answers                :         0
Unknown query types            :         0
=>
```

RELATED COMMANDS:

dns server debug clear

Clear the DNS server/forwarder statistics.

dns server debug spoof clear

Clear the intercept cache table

SYNTAX:

```
dns server debug spoof clear
```

RELATED COMMANDS:

| | |
|-----------------------------------|--|
| dns server debug spoof getaddress | Get the real ip for the given spoofed ip |
| dns server debug spoof getflags | Get the error flags for the given spoofed ip |
| dns server debug spoof list | List the intercept cache table. |
| dns server debug spoof update | Update the intercept cache table. |

dns server debug spoof getaddress

Get the real ip for the given spoofed ip

SYNTAX:

```
dns server debug spoof getaddress  addr = <ip-address>
```

where:

| | | |
|-------------|---------------------------------------|-----------------|
| addr | The IP address of the spoofed server. | REQUIRED |
|-------------|---------------------------------------|-----------------|

EXAMPLE:

```
{Administrator}=>dns server debug spoof getaddress addr=198.18.1.1
:dns server debug spoof getaddress addr=198.18.1.1
Resolved ip = 0.0.0.0.
{Administrator}=>
```

RELATED COMMANDS:

| | |
|---------------------------------|--|
| dns server debug spoof clear | Clear the intercept cache table |
| dns server debug spoof getflags | Get the error flags for the given spoofed ip |
| dns server debug spoof list | List the intercept cache table. |
| dns server debug spoof update | Update the intercept cache table. |

dns server debug spoof getflags

Get the error flags for the given spoofed ip

SYNTAX:

```
dns server debug spoof getflags    addr = <ip-address>
```

where:

| addr | The IP address of the spoofed server. | REQUIRED |
|------|---------------------------------------|----------|
|------|---------------------------------------|----------|

EXAMPLE:

```
{Administrator}[dns server debug spoof]=>:dns server debug spoof getflags
addr = 192.168.1.254
:dns server debug spoof getflags addr=192.168.1.254
Invalid spoofed ip.
{Administrator}[dns server debug spoof]=>
```

RELATED COMMANDS:

| | |
|-----------------------------------|--|
| dns server debug spoof clear | Clear the intercept cache table |
| dns server debug spoof getaddress | Get the real ip for the given spoofed ip |
| dns server debug spoof list | List the intercept cache table. |
| dns server debug spoof update | Update the intercept cache table. |

dns server debug spoof list

List the intercept cache table.

SYNTAX:

```
dsn server debug spoof list
```

EXAMPLE:

```
{Administrator}[dns server debug spoof]=>list
Spoof IP      FQDN                Real IP      Flags
198.18.1.1    eu.thmulti.com      0.0.0.0     Not resolved
198.18.1.2    thmulti.com         0.0.0.0     Not resolved
198.18.1.3    com                 0.0.0.0     Not resolved
198.18.1.4    edgmd588.eu.thmulti.com 0.0.0.0     Not resolved
198.18.1.5    edgmssus01.eu.thmulti.com 0.0.0.0     Not resolved
198.18.1.6    BOULSDCEU02.eu.thmulti.com 0.0.0.0     Not resolved
198.18.1.7    juleke.nit         0.0.0.0     Not resolved
```

RELATED COMMANDS:

dns server debug spoof clear

Clear the intercept cache table

dns server debug spoof getaddress

Get the real ip for the given spoofed ip

dns server debug spoof getflags

Get the error flags for the given spoofed ip

dns server debug spoof update

Update the intercept cache table.

dns server debug spoof update

Update the intercept cache table.

SYNTAX:

```
dns server debug spoof update
```

EXAMPLE:

```
{Administrator}>dns server debug spoof update  
{Administrator}>
```

RELATED COMMANDS:

| | |
|-----------------------------------|--|
| dns server debug spoof clear | Clear the intercept cache table |
| dns server debug spoof getaddress | Get the real ip for the given spoofed ip |
| dns server debug spoof getflags | Get the error flags for the given spoofed ip |
| dns server debug spoof list | List the intercept cache table. |

dns server host add

Add a local DNS host.

SYNTAX:

```
dns server host add      name = <string>
                        [addr = <ip-address>]
                        [ttl = <number{0-2147483647}>]
```

where:

| name | The name of the IP host to be added. | REQUIRED |
|------|---|----------|
| addr | The IP address of the host. | OPTIONAL |
| ttl | A number between 0 and 2147483647 (seconds). Represents the lifetime of the host. The default is 0 (in other words, no limit on the lifetime). | OPTIONAL |

EXAMPLE:

```
=>dns server host add name=myDNS addr=150.150.150.150 ttl=3600
=>dns server host list
Address      Hostname      TTL (s)
150.150.150.150 myDNS        3600
<local>     speedtouch    0
<local>     dsldevice     0
=>
```

RELATED COMMANDS:

dns server host delete

Delete a local DNS host.

dns server host list

List all the local DNS hosts.

dns server host delete

Delete a local DNS host.

SYNTAX:

```
dns server host delete      name = <string>
```

where:

| name | The name of the DNS host to be deleted. | REQUIRED |
|------|---|----------|
|------|---|----------|

EXAMPLE:

```
=>dns server host list
Address      Hostname      TTL (s)
150.150.150.150  myDNS        3600
<local>      speedtouch    0
<local>      dsldevice     0
=>dns server host delete name=myDNS
=>dns server host list
Address      Hostname      TTL (s)
<local>      speedtouch    0
<local>      dsldevice     0
=>
```

RELATED COMMANDS:

dns server host add

Add a local DNS host.

dns server host list

List all the local DNS hosts.

dns server host flush

Flush all the local DNS hosts.

SYNTAX:

```
dns server host flush
```

EXAMPLE:

```
=>dns server host list
Address      Hostname      TTL (s)
192.168.1.64 * Unknown-00-10-a4-ad-32-cf 60
<local>     dsldevice    1200
<local>     speedtouch   1200
=>dns server host flush
=>dns server host list
=>
```

dns server host list

List all the local DNS hosts.

SYNTAX:

```
dns server host list
```

EXAMPLE:

```
=>dns server host list
Address      Hostname      TTL (s)
192.168.1.64 * Unknown-00-10-a4-ad-32-cf 60
<local>     dsldevice     1200
<local>     speedtouch    1200
=>
```

RELATED COMMANDS:

dns server host add

Add a local DNS host.

dns server host delete

Delete a local DNS host.

dns server route add

Creates a DNS forwarding entry or template.

SYNTAX:

```
dns server route add      dns = <ip-address>
                          [src = <ip-address>]
                          [srcmask = <ip-mask(dotted or cidr)>]
                          [domain = <string>]
                          [metric = <number{0-100}>]
                          [intf = <string>]
```

where:

| | | |
|---------|---|----------|
| dns | The IP address of a DNS server. If 0.0.0.0 is used, the entry becomes a DNS-Template which is instantiated if DNS Server IPs are configured on an IP interface. | REQUIRED |
| src | The source IP address(es) using this remote DNS server. If specified, only DNS queries from machines of which the source IP address matches the source prefix of the DNS entry will be forwarded to the corresponding DNS server. Note Supports IP/mask notation. | OPTIONAL |
| srcmask | The source IP address mask. | OPTIONAL |
| domain | The DNS Domain matching string. If configured, only those DNS queries of which the domain name in the query matches with the string configured for the entry will be forwarded to the corresponding DNS Server. Maximum string length: 62 characters. | OPTIONAL |
| metric | A number between 0 and 100. Represents the metric (weight factor) for this DNS route. The DNS Entry List is sorted on DNS Metric: the lower the metric, the higher the priority of the entry. | OPTIONAL |
| intf | An interface name. The interface associated with the DNS entry or DNS Template. DNS queries will only be forwarded on the specified interface. Note In no interface is specified, DNS queries will be forwarded on all interfaces. | OPTIONAL |

EXAMPLE:

```
=>dns server route add dns=150.150.150.150 src=10.0.0.0/8 domain=myDNS intf=eth0
=>dns server route list
DNS Server      Source          Domain          Metric  Intf   State
150.150.150.150 10.0.0.0/8     myDNS           0      eth0   UP
=>
```

RELATED COMMANDS:

dns server route delete

Delete a DNS forwarding route.

dns server route list

List all the DNS forwarding routes.

dns server route delete

Deletes a DNS forwarding entry or template

SYNTAX:

```
dns server route delete    dns = <ip-address>
                           [domain = <string>]
                           [intf = <{loop|Internet|LocalNetwork}>]
```

where:

| | | |
|--------|--|----------|
| dns | The IP address of the DNS server for which the forwarding route must be deleted. | REQUIRED |
| domain | The DNS domain string. | OPTIONAL |
| intf | The interface associated with the DNS entry or DNS Template. | OPTIONAL |

EXAMPLE:

```
=>dns server route list
DNS Server      Source      Domain      Metric  Intf      State
150.150.150.150 10.0.0.0/8  myDNS       0       eth0      UP
=>dns server route delete dns=150.150.150.150
=>dns server route list
=>
```

RELATED COMMANDS:

dns server route add

Adds a DNS forwarding route.

dns server route list

List all the DNS forwarding routes.

dns server route flush

Removes all DNS forwarding entries and templates.

SYNTAX:

```
dns server route flush
```

EXAMPLE:

```
=>dns server route list
DNS Server      Source          Domain          Metric  Intf   State
150.150.150.150 10.0.0.0/8     myDNS           0      eth0   UP
=>dns server route flush
=>dns server route list
=>
```

dns server route list

List all the DNS forwarding entries or templates.

SYNTAX:

```
dns server route list
```

EXAMPLE:

```
=>dns server route list
DNS Server      Source          Domain          Metric  Intf    State
150.150.150.150 10.0.0.0/8     myDNS           0      eth0   UP
=>
```

RELATED COMMANDS:

dns server route add

Adds a DNS forwarding route.

dns server route delete

Delete a DNS forwarding route.

11 DSD Commands

Introduction

This chapter describes the commands of the **dsd** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------------|--|-----|
| dsd config | Display/modify the Differentiated Service Delivery (DSD) framework configuration. | 210 |
| dsd debug config | Display/modify DSD debug settings | 211 |
| dsd debug connection list | Display the internal connection pool usage. | 212 |
| dsd debug proxy | Display/modify the HyperText Transfer Protocol (HTTP) Intercept fixed proxy configuration. | 213 |
| dsd debug recycling | Display/modify HTTPPI recycling settings | 214 |
| dsd debug stats | Display/clear DSD framework and module statistics | 215 |
| dsd intercept config | Display/modify the HTTP Intercept configuration. | 216 |
| dsd syslog config | Display/modify the HTTP Intercept logging configuration. | 217 |
| dsd syslog list | Display the HTTP Intercept log file. | 218 |
| dsd urlfilter config | Display/modify the URL filtering configuration. | 219 |
| dsd urlfilter rule add | Add a rule. | 220 |
| dsd urlfilter rule delete | Delete a rule. | 221 |
| dsd urlfilter rule flush | Remove all current rules. | 222 |
| dsd urlfilter rule list | Display the list of current rules. | 223 |
| dsd urlfilter rule modify | Modify an existing rule. | 224 |

dsd config

Display/modify the Differentiated Service Delivery (DSD) framework configuration.

SYNTAX:

```
dsd config [state = <{disabled | enabled | automatic}>]
```

where:

| state | Choose between: | OPTIONAL |
|-------|--|----------|
| | <ul style="list-style-type: none"> > automatic (default): By default (DSD config state is automatic), the DSD framework is not active, for example no URL filtering or web site filtering is applied. Only in case the state of the default WAN IP interface goes down, DSD framework will be activated, for example in case the PPP link goes down (implying HTTP intercept active). > enabled: If DSD config state is enabled the DSD framework is always active. > disabled | |



If you do not provide any parameters, the current configuration will be shown.

EXAMPLE:

```
=>dsd config
State   : automatic
=>
```


dsd debug config

Display/modify DSD debug settings

SYNTAX:

```
config [turbomode = <{disabled|enabled}>]
```

where:

| | | |
|-----------|--------------------------|----------|
| turbomode | Enable/disable turbomode | OPTIONAL |
|-----------|--------------------------|----------|

dsd debug connection list

Display the internal connection pool usage.

SYNTAX:

```
dsd debug connection list [expand = <{disabled|enabled}>]
```

where:

| | | |
|--------|---|----------|
| expand | Enable or disable the expanded listing. The default is <i>disabled</i> . | optional |
|--------|---|----------|

dsd debug proxy

Display/modify the HyperText Transfer Protocol (HTTP) Intercept fixed proxy configuration.

SYNTAX:

```
dsd debug proxy      [state = <{disabled | enabled}>]
                    [dest = <ip-address>]
                    [port = <{supported TCP/UDP port} or number>]
```

where:

| | | |
|-------|--|----------|
| state | Enable or disable fixed proxy redirecting. The default is <i>disabled</i> . | OPTIONAL |
| dest | The destination IP address to which requests will be forwarded. | OPTIONAL |
| port | The port to be used for connecting to proxy. Select one of the supported Transmission Control Protocol (TCP)/UDP port names (see " Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | OPTIONAL |

EXAMPLE:

```
=>dsd debug proxy
State   : off
Dest.IP : 0.0.0.0
Port    : 0
=>
```

dsd debug recycling

Display/modify HTTP/1.1 recycling settings

SYNTAX:

```
dsd debug recycling      state = <disabled>|<enabled>
                          interval = <number>
                          httpidle = <number>
                          otheridle = <number>
```

where:

| | | |
|-----------|--|----------|
| state | Enable/disable stream recycling | OPTIONAL |
| interval | Time between successive activity checks | OPTIONAL |
| httpidle | Minimal idle count for recycling (filtered) http streams | OPTIONAL |
| otheridle | Minimal idle count for recycling other streams | OPTIONAL |

dsd debug stats

Display/clear DSD framework and module statistics

SYNTAX:

```
dsd debug stats      name = <{intercept|urlfilter|recycling|syslog|all}  
                    clear = <{no|yes}>
```

where:

| | | |
|-------|--------------------------------|----------|
| name | Specify the name of a module | REQUIRED |
| clear | Clear the specified statistics | REQUIRED |

dsd intercept config

Display/modify the HTTP Intercept configuration.

SYNTAX:

```
dsd intercept config      [WDSpoofedIP = <ip-address>]
                          [servertimeout = <number>]
                          [servererrorurl = <string>]
                          [categoryerrorurl = <string>]
                          [monitorintercepturl = <string>]
                          [urlblockedurl = <string>]
                          [imageredirect = <{disabled | enabled}>]
                          [imageredirecturl = <string>]
                          [alwaysuseip = <{disabled | enabled}>]
```

where:

| | | |
|----------------------|--|----------|
| WDSpoofedIP | The IP address indicating unavailable WAN connection. The default is 198.18.1.1 . | OPTIONAL |
| servertimeout | A number of seconds. Represents the server timeout for redirect action. The default is 10 . | OPTIONAL |
| servererrorurl | The destination URL when the connection to the server failed. | OPTIONAL |
| categoryerrorurl | The destination URL when the connection to the category server failed. | OPTIONAL |
| monitorintercept url | The destination URL when the request is intercepted by the monitor thread. | OPTIONAL |
| urlblockedurl | The destination URL when the requested URL is blocked. | OPTIONAL |
| imageredirect | Enable or disable substitution of blocked images. The default is enabled . | OPTIONAL |
| imageredirecturl | The URL of the image used when substituting blocked images. | OPTIONAL |
| alwaysuseip | Always use IP address when redirecting to a local page (enabled) or not (disabled). The default is enabled . | OPTIONAL |

EXAMPLE:

```
=>dsd intercept config
WAN down spoofed IP   : 198.18.1.1
Servertimeout        : 10 sec
Connection failure    : /cgi/b/ic/connect/
Category server error : /cgi/b/ic/connect/
Monitor intercept     : /cgi/b/ic/connect/
Unauthorized request  : /cgi/b/sfltr/blocked/
Image redirecting     : enabled
Image redirect url    : /images/spacer.gif
Always use IP         : enabled
=>
```

dsd syslog config

Display/modify the HTTP Intercept logging configuration.

SYNTAX:

```
dsd syslog config      [syslog = <{none | unauthorized | errors | inter-
                        cepted | all}>]
```

where:

| | | |
|--------|--|----------|
| syslog | Define the type of events to log. Choose between: <ul style="list-style-type: none">> none: nothing is logged to syslog.> unauthorized: only the HTTP requests that are blocked because of a LocalRule, BlockCategory, BlockIPAddress or BlockObscure event, are logged.> errors: only the HTTP requests that are blocked because of Server errors, Category errors, Monitor intercept, loop detection, bad requests or redirects by local policy rules.> intercepted: only the HTTP requests that are blocked because of URLBlocked, Server errors, Category errors, Monitor intercept, loop detection, bad requests or redirects by local policy rules.> all: every received request is logged to syslog. The default is intercepted . | OPTIONAL |
|--------|--|----------|

EXAMPLE:

```
=>dsd syslog config
syslog      : errors
=>
```

RELATED COMMANDS:

dsd syslog list Display the HTTP Intercept log file.

dsd syslog list

Display the HTTP Intercept log file.

SYNTAX:

```
dsd syslog list
```

EXAMPLE:

```
=>dsd syslog list
<86> SysUpTime: 00:22:37 [HTTPI] src=10.0.0.1 src_port=1965 dst=141.11.196.35 dst_port=80 eve
nt=ServerConnect dst_name=aWebsite.com/icons/Button_Document.gif
<86> SysUpTime: 00:22:59 [HTTPI] src=10.0.0.1 src_port=1968 dst=141.11.234.60 dst_port=80 eve
nt=ServerConnect dst_name=anotherWebsite.com/rawgen.asp
=>
```

RELATED COMMANDS:

dsd syslog config

Display/modify the HTTP Intercept logging configuration.

dsd urlfilter config

Display/modify the URL filtering configuration.

SYNTAX:

```
dsd urlfilter config    [state = <{disabled | enabled}>]
                        [blockproxy = <{disabled | enabled}>]
                        [blockipaddress = <{disabled | enabled}>]
                        [blockobscuredip = <{disabled | enabled}>]
                        [defaultaction = <{block | accept}>]
```

where:

| | | |
|-----------------|--|----------|
| state | Enable or disable URL filtering. The default is enabled . | OPTIONAL |
| blockproxy | Enable or disable blocking of HTTP requests via a proxy server. The default is disabled . | OPTIONAL |
| blockipaddress | Enable or disable blocking of HTTP requests if host name is IP address. The default is disabled . | OPTIONAL |
| blockobscuredip | Enable or disable blocking of HTTP requests if host name is believed to be an IP address. The default is disabled . | OPTIONAL |
| defaultaction | Select the action to be performed when no filter is applicable. Choose between: > block > accept. The default is accept . | OPTIONAL |

EXAMPLE:

```
=>dsd urlfilter config
Filter state           : enabled
Block proxy traffic   : disabled
Block IP addr         : disabled
Block obscured IP addr : disabled
Default action        : accept
=>
```

dsd urlfilter rule add

Add a rule.

SYNTAX:

```
dsd urlfilter rule add url = <string>
                        action = <{block | accept | redirect}>
                        redirect = <string>
```

where:

| | | |
|----------|---|----------|
| url | Definition of the URL filter. | REQUIRED |
| action | The action to perform when URL matches URL. Choose between: <ul style="list-style-type: none"> > block > accept > redirect. | REQUIRED |
| redirect | The redirection URL. Note This parameter is only required when the action is <i>redirect</i> . | REQUIRED |

EXAMPLE:

```
=>dsd urlfilter rule add url=www.speedtouch.com action=redirect redirect=www.speedtouch.be
=>dsd urlfilter rule list
Index  Action      Url                      Redirect
-----  -
0      redirect    www.speedtouch.com      www.speedtouch.be

Rule list statistics : 1 present, 128 total (0.0% used)
=>
```

RELATED COMMANDS:

dsd urlfilter rule delete Delete a rule.
 dsd urlfilter rule list Display the list of current rules.

dsd urlfilter rule delete

Delete a rule.

SYNTAX:

```
dsd urlfilter rule delete  index = <number>
                           [url = <string>]
```

where:

| | | |
|-------|---|----------|
| index | Insertion position in the list. Tip Use the command :dsd urlfilter rule list to obtain the index number of the rule to be deleted. | REQUIRED |
| url | Definition of the URL filter. | OPTIONAL |

EXAMPLE:

```
=>dsd urlfilter rule list
Index  Action  Url                               Redirect
-----  -----  ---                               -
0      redirect www.speedtouch.com              www.speedtouch.be
1      accept   www.baen.com

Rule list statistics : 2 present, 128 total (0.0% used)
=>dsd urlfilter rule delete index=1
=>dsd urlfilter rule list
Index  Action  Url                               Redirect
-----  -----  ---                               -
0      redirect www.speedtouch.com              www.speedtouch.be

Rule list statistics : 1 present, 128 total (0.0% used)
=>
```

RELATED COMMANDS:

dsd urlfilter rule add Add a rule.
dsd urlfilter rule list Display the list of current rules.

dsd urlfilter rule flush

Remove all current rules.

SYNTAX:

```
dsd urlfilter rule flush
```

EXAMPLE:

```
=>dsd urlfilter rule list
Index  Action  Url                Redirect
-----  -----  ---                -
0      redirect www.speedtouch.com www.speedtouch.be
1      accept   www.baen.com

Rule list statistics : 2 present, 128 total (0.0% used)
=>dsd urlfilter rule flush
=>dsd urlfilter rule list
Index  Action  Url                Redirect
-----  -----  ---                -

Rule list statistics : 0 present, 128 total (0.0% used)
=>
```

dsd urlfilter rule list

Display the list of current rules.

SYNTAX:

```
dsd urlfilter rule list
```

EXAMPLE:

```
=>dsd urlfilter rule list
Index  Action      Url                      Redirect
-----  -
0      redirect    www.speedtouch.com      www.speedtouch.be
1      accept      www.baen.com

Rule list statistics : 2 present, 128 total (0.0% used)
=>
```

RELATED COMMANDS:

| | |
|---------------------------|----------------|
| dsd urlfilter rule add | Add a rule. |
| dsd urlfilter rule delete | Delete a rule. |

dsd urlfilter rule modify

Modify an existing rule.

SYNTAX:

```
dsd urlfilter rule modify  index = <number>
                           [newurl = <string>]
                           action = <{block | accept | redirect}>
                           redirect = <string>
```

where:

| | | |
|----------|---|----------|
| index | Insertion position in the list. | REQUIRED |
| newurl | Definition of the new URL filter. | OPTIONAL |
| action | Action to perform when URL matches URL. Choose between: <ul style="list-style-type: none"> > block > accept > redirect. | REQUIRED |
| redirect | The redirection URL. Note This parameter is only required when the action is <i>redirect</i> . | REQUIRED |

DSD Commands

EXAMPLE:

```
=>dsd urlfilter rule list
Index  Action  Url                                Redirect
-----  -----  ---                                -
0      redirect www.speedtouch.com                www.speedtouch.be
1      accept   www.baen.com

Rule list statistics : 2 present, 128 total (0.0% used)
=>dsd urlfilter rule modify index=0 newurl=www.speed*.* action=redirect redirect=www.speedtou
ch.be
=>dsd urlfilter rule list
Index  Action  Url                                Redirect
-----  -----  ---                                -
0      redirect www.speed*.*                      www.speedtouch.be
1      accept   www.baen.com

Rule list statistics : 2 present, 128 total (0.0% used)
=>
```

RELATED COMMANDS:

| | |
|---------------------------|------------------------------------|
| dsd urlfilter rule add | Add a rule. |
| dsd urlfilter rule delete | Delete a rule. |
| dsd urlfilter rule list | Display the list of current rules. |

12 DynDNS Commands

Introduction

Dynamic DNS is a service that allows to bind a host name to an IP address. In contrast to classical DNS, this service allows regular updates of the IP address related to a host name. In this way, hosts of which the IP address regularly changes (for example due to a limited DHCP lease time) can be identified by a static host name that is unique throughout the Internet.

This chapter describes the commands of the **dyndns** commnd group.

Contents

This chapter covers the following commands:

| | | |
|-----------------------|---|-----|
| dyndns add | Add a dynamic DNS client. | 228 |
| dyndns delete | Delete a dynamic DNS client. | 229 |
| dyndns flush | Delete all the dynamic DNS clients. | 230 |
| dyndns list | List all the dynamic DNS clients. | 231 |
| dyndns modify | Modify a dynamic DNS client. | 232 |
| dyndns host add | Add a fully qualified host name. | 234 |
| dyndns host delete | Delete a host name. | 235 |
| dyndns host flush | Delete all hosts. | 236 |
| dyndns host list | List all host names. | 237 |
| dyndns service list | List all dynamic DNS services. | 238 |
| dyndns service modify | Modify specific dynamic DNS service settings. | 240 |

dyndns add

Add a dynamic DNS client.

SYNTAX:

```
dyndns add name = <string>
```

where:

| | | |
|------|---|----------|
| name | The name of the new dynamic DNS client. | REQUIRED |
| | Note A maximum of 5 clients can be configured. | |

EXAMPLE:

```
=>dyndns add name=WAN
=>dyndns list
WAN      : [INIT]

        user = password =
        addr = 0.0.0.0

=>
```

RELATED COMMANDS:

| | |
|---------------|-------------------------------|
| dyndns delete | Delete a dynamic DNS client. |
| dyndns list | List all dynamic DNS clients. |

dyndns delete

Delete a dynamic DNS client.

SYNTAX:

```
dyndns delete          name = <string>
```

where:

| | | |
|------|---|----------|
| name | The name of the dynamic DNS client to be deleted. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>dyndns list
WAN      : [INIT]

        user = password =
        addr = 0.0.0.0

=>dyndns delete name=WAN
=>dyndns list
=>
```

RELATED COMMANDS:

| | |
|-------------|-------------------------------|
| dyndns add | Add a dynamic DNS client. |
| dyndns list | List all dynamic DNS clients. |

dyndns flush

Delete all the dynamic DNS clients.

SYNTAX:

```
dyndns flush
```

dyndns list

List all the dynamic DNS clients.

SYNTAX:

```
dyndns list
```

EXAMPLE:

```
=>dyndns list
WAN      : [INIT]

      user = password =
      addr = 0.0.0.0

=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| dyndns add | Add a dynamic DNS client. |
| dyndns delete | Delete a dynamic DNS client. |

dyndns modify

Modify a dynamic DNS client.

SYNTAX:

```
dyndns modify      name = <string>
                   [intf = <string>]
                   [user = <string>]
                   [password = <password>]
                   [group = <string>]
                   [mx = <string>]
                   [backmx = <{disabled | enabled}>]
                   [wildcard = <{disabled | enabled}>]
                   [offline = <{disabled | enabled}>]
                   [service = <{dyndns | statdns | custom | No-IP |
DtDNS
                   | gnudip}>]
                   [status = <{disabled | enabled}>]
                   [trace = <{disabled | enabled}>]
```

where:

| | | |
|----------|--|----------|
| name | The name of the dynamic DNS client to be modified. | REQUIRED |
| intf | The dynamic DNS client interface. Note This parameter must be defined to enable the dynamic DNS client. | OPTIONAL |
| user | The username for dynamic DNS authentication. | OPTIONAL |
| password | The password for dynamic DNS authentication. | OPTIONAL |
| group | The dynamic DNS host group. | OPTIONAL |
| mx | The mail exchanger. | OPTIONAL |
| backmx | Set up the mail exchanger as a backup mail exchanger (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| wildcard | Allow the use of hostname wildcards (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| offline | Set the host to offline mode (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| service | The dynamic DNS service. Choose between: <ul style="list-style-type: none"> > dyndns > statdns > custom > No-IP > DtDNS > gnudip. | OPTIONAL |

DynDNS Commands

| | | |
|---------------|---|----------|
| status | Enable or disable the dynamic DNS client. The default is <i>disabled</i> . | OPTIONAL |
| trace | Enable or disable the verbose console logging for the dynamic DNS client. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>dyndns list
WAN      : [INIT]

      user =      password =
      addr = 0.0.0.0

=>dyndns modify name=WAN intf=RtPPPoE user=DNSuser password=_DEV_BA8C0C963BD84130 service=gnu
dip
=>dyndns list
WAN      : RtPPPoE_ppp [INIT]
      options = gnudip
      user = my_DNS_user password = *****
      addr = 0.0.0.0

=>
```

dyndns host add

Add a fully qualified host name.

SYNTAX:

```
dyndns host add      group = <string>
                    name = <string>
```

where:

| | | |
|-------|--|----------|
| group | The dynamic DNS host group. Note A maximum of 4 different groups can be created. | REQUIRED |
| name | The name of an IP host to add. Note A maximum of 20 hosts can be configured. | REQUIRED |

EXAMPLE:

```
=>dyndns host add group=local name=localhost.com
=>dyndns host list
local :
  [ ] localhost.com

legend :
  [ ] not initialised      [o] update in progress
  [v] update successful    [x] error
=>
```

RELATED COMMANDS:

dyndns host delete Delete a host name.
dyndns host list List all host names.

dyndns host delete

Delete a host name.

SYNTAX:

```
dyndns host delete      name = <string>
```

where:

| | | |
|-------------|--|-----------------|
| name | The name of the IP host to be deleted. | REQUIRED |
|-------------|--|-----------------|

EXAMPLE:

```
=>dyndns host list
local :
  [ ] localhost.com

public :
  [ ] publichost.com

legend :
  [ ] not initialised          [o] update in progress
  [v] update successful       [x] error
=>dyndns host delete name=publichost.com
=>dyndns host list
local :
  [ ] localhost.com

legend :
  [ ] not initialised          [o] update in progress
  [v] update successful       [x] error
=>
```

RELATED COMMANDS:

| | |
|------------------|----------------------------------|
| dyndns host add | Add a fully qualified host name. |
| dyndns host list | List all host names. |

dyndns host flush

Delete all hosts.



The hosts cannot be flushed, if there is still a group referenced to the hosts.

SYNTAX:

```
dyndns host flush
```

dyndns host list

List all host names.

SYNTAX:

```
dyndns host list
```

EXAMPLE:

```
=>dyndns host list
local :
  [ ] localhost.com

public :
  [ ] publichost.com

legend :
  [ ] not initialised          [o] update in progress
  [v] update successful       [x] error
=>
```

RELATED COMMANDS:

dyndns host add

Add a fully qualified host name.

dyndns host delete

Delete a host name.

dyndns service list

List all dynamic DNS services.

SYNTAX:

```
dyndns service list
```

EXAMPLE:

```
=>dyndns service list
dyndns  :
  server      = members.dyndns.org
  port        = 80
  request     = /nic/update
  update interval = 2097120
  retry interval = 30
  max retry   = 3

statdns  :
  server      = members.dyndns.org
  port        = 80
  request     = /nic/update
  update interval = 0
  retry interval = 30
  max retry   = 3

custom   :
  server      = members.dyndns.org
  port        = 80
  request     = /nic/update
  update interval = 0
  retry interval = 30
  max retry   = 3

No-IP    :
  server      = dynupdate.no-ip.com
  port        = 80
  request     = /ducupdate.php
  update interval = 86400
  retry interval = 30
  max retry   = 3

DtDNS    :
  server      = dtdns.com
  port        = 80
  request     = /api/autodns.cfm
  update interval = 86400
  retry interval = 30
  max retry   = 3
=>
```

DynDNS Commands

RELATED COMMANDS:

`dyndns service modify` **Modify specific dynamic DNS service settings.**

dyndns service modify

Modify specific dynamic DNS service settings.

SYNTAX:

```
dyndns service modify name = <string>
                        [server = <string>]
                        [port = <{supported TCP/UDP port name} or number>]
                        [request = <string>]
                        [updateinterval = <number{0-2097120}>]
                        [retryinterval = <number{0-600}>]
                        [max_retry = <number{1-5}>]
```

where:

| | | |
|----------------|---|----------|
| name | The name of the dynamic DNS service. Choose between: <ul style="list-style-type: none"> > dyndns > statdns > custom > No-IP > DtDNS > gnudip. | REQUIRED |
| server | The hostname of the dynamic DNS server. | OPTIONAL |
| port | The port of the dynamic DNS server. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | OPTIONAL |
| request | The dynamic DNS request string. | OPTIONAL |
| updateinterval | A number between 0 and 2097120 (seconds). Represents the time interval before a dynamic update is sent to the dynamic DNS server. Note The value 0 means disabled. | OPTIONAL |
| retryinterval | A number between 0 and 600 (seconds). Represents the interval between retries if communication with the dynamic DNS server fails. The default is 30 . Note The value 0 means disabled. | OPTIONAL |
| max_retry | A number between 1 and 5. Represents the maximum number of retries if communication with the dynamic DNS server fails. The default is 3 . | OPTIONAL |

DynDNS Commands

EXAMPLE:

```
=>dyndns service modify name=custom server=mydyndns.org port=www-http request=hereiam
| updateinterval=2000000 retryinterval=15 max_retry=5
=>dyndns service list
dyndns :
server      = members.dyndns.org
port        = 80
request     = /nic/update
update interval = 2097120
retry interval = 30
max retry   = 3

statdns :
server      = members.dyndns.org
port        = 80
request     = /nic/update
update interval = 0
retry interval = 30
max retry   = 3

custom :
server      = mydyndns.org
port        = 80
request     = hereiam
update interval = 2000000
retry interval = 15
max retry   = 5

No-IP :
server      = dynupdate.no-ip.com
port        = 80
request     = /ducupdate.php
update interval = 86400
retry interval = 30
max retry   = 3

DtDNS :
server      = dtdns.com
port        = 80
request     = /api/autodns.cfm
update interval = 86400
retry interval = 30
max retry   = 3

=>
```

RELATED COMMANDS:

dyndns service list

List all dynamic DNS services.

13 Env Commands

Introduction

This chapter describes the commands of the **env** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------|---|-----|
| env flush | Flush all the non-system environment variables. | 244 |
| env get | Get the current value of an environment variable. | 245 |
| env list | Show all the currently available environment variables. | 246 |
| env set | Set an environment variable. | 247 |
| env unset | Delete a environment variable. | 248 |

env flush

Flush all the non-system environment variables.

SYNTAX:

```
env flush
```

env get

Get the current value of an environment variable.

SYNTAX:

```
env get      var = <string>
```

where:

| | | |
|-----|--|----------|
| var | The name of the environment variable. | REQUIRED |
| | Tip Use the command :env list to obtain a list of all environment variables. | |

RELATED COMMANDS:

env list List all current environment variables.

env list

Show all the currently available environment variables.

SYNTAX:

```
env list
```

RELATED COMMANDS:

env get

Get the current value of an environment variable.

env set

Set an environment variable.

SYNTAX:

```
env set      var = <string>
             value = <translated string>
```

where:

| | | |
|-------|--|----------|
| var | The name of the environment variable. Tip When creating an environment variable, any name is allowed. However spaces are NOT allowed and the name may NOT start with: <ul style="list-style-type: none">> "CONF"> "HOST"> an underscore "_"> the dollar sign "\$". | REQUIRED |
| value | A quoted translated string which defines the value of the environment variable. Note The value of system variables (built-in variables with names starting with an underscore "_", "CONF" or "HOST") cannot be changed. | REQUIRED |

EXAMPLE:

For infinite TELNET time out, set the value of the variable **SESSIONTIMEOUT** to "0":

```
=>env set var=SESSIONTIMEOUT value=0
=>
```

RELATED COMMANDS:

env unset Delete a non-system environment variable.

env unset

Delete a environment variable.

SYNTAX:

```
env unset      var = <string>
```

where:

| | | |
|-----|---|----------|
| var | The name of the environment variable to be deleted. | REQUIRED |
| | Note System variables (built-in variables with names starting with an underscore "_", "CONF" or "HOST") cannot be unset, changed or deleted. | |

EXAMPLE:

```
=>env list
_COMPANY_NAME=THOMSON multimedia
_COMPANY_URL=http://www.speedtouch.com
_PROD_NAME=SpeedTouch
.....
CONF_DATE=March 2004
CONF_REGION=World
HOST_SETUP=user
=>env unset var=CONF_REGION
=>env list
_COMPANY_NAME=THOMSON multimedia
_COMPANY_URL=http://www.speedtouch.com
_PROD_NAME=SpeedTouch
.....
CONF_DATE=March 2004
HOST_SETUP=user
=>
```

RELATED COMMANDS:

env set Create and set a non-system environment variable.

14 Eth Commands

Introduction

This chapter describes the commands of the **eth** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------------------|---|-----|
| eth ifadd | Create a new ETH interface. | 252 |
| eth ifattach | Attach an ETH interface. | 253 |
| eth ifconfig | Modify an ETH interface. | 254 |
| eth ifdelete | Delete an ETH interface. | 255 |
| eth ifdetach | Detach an ETH interface. | 256 |
| eth iflist | Display the ETH interfaces. | 257 |
| eth flush | Flush all the ETH interfaces. | 258 |
| eth bridge clear | Clear the bridge statistics. | 259 |
| eth bridge list | Display the current bridge instances. | 260 |
| eth bridge add | Add a new bridge instance. | 261 |
| eth bridge delete | Delete a bridge instance. | 262 |
| eth bridge select | Select the default bridge to configure interfaces . | 263 |
| eth bridge config | Modify/display the bridge configuration settings. | 264 |
| eth bridge dynvlan actlist | Display the active MAC entries for the dynamic VLAN membership. | 265 |
| eth bridge dynvlan add | Add a dynamic VLAN membership entry. | 266 |
| eth bridge dynvlan config | Modify the dynamic VLAN membership configuration. | 267 |
| eth bridge dynvlan delete | Delete a dynamic VLAN membership entry. | 268 |
| eth bridge dynvlan flush | Flush all dynamic VLAN membership entries. | 269 |
| eth bridge dynvlan list | Delete a dynamic VLAN membership entry. | 268 |
| eth bridge flush | Flush bridge interfaces and parameters. | 271 |
| eth bridge ifadd | Add a new bridge interface. | 272 |
| eth bridge ifattach | Attach a bridge interface. | 273 |
| eth bridge ifconfig | Modify a bridge interface configuration. | 274 |
| eth bridge ifdelete | Delete a bridge interface. | 276 |
| eth bridge ifdetach | Detach a bridge interface. | 277 |
| eth bridge iflist | Display the current bridge interfaces. | 278 |
| eth bridge ifflush | Flush the bridge interfaces | 279 |
| eth bridge igmpsnooping config | Configure the bridge instance's IGMP Snooping flags | 280 |
| eth bridge igmpsnooping list | Display a bridge instance's snooped groups | 281 |

| | | |
|----------------------------------|---|-----|
| eth bridge igmpsnooping ifconfig | Configure the bridge interface's IGMP snooping flags and mode | 282 |
| eth bridge igmpsnooping iflist | Display a bridge interface's IGMP status | 283 |
| eth bridge igmpsnooping clear | Clear the snooping statistics | 284 |
| eth bridge macadd | Add a static MAC address to a bridge interface. | 285 |
| eth bridge macdelete | Remove a MAC address from the filtering database. | 287 |
| eth bridge maclist | Display the MAC address database. | 289 |
| eth bridge rule add | Add a new constraint to the VLAN learning system. | 293 |
| eth bridge rule delete | Delete a constraint from the VLAN learning system. | 294 |
| eth bridge rule flush | Flush all constraints from the VLAN learning system. | 295 |
| eth bridge rule list | Display all constraints from the VLAN learning system. | 296 |
| eth bridge vlan ifadd | Add a bridge interface to a VLAN. | 297 |
| eth bridge vlan ifconfig | Modify a bridge interface from a VLAN. | 298 |
| eth bridge vlan ifdelete | Delete a bridge interface from a VLAN. | 299 |
| eth bridge vlan iflist | Display all VLANs. | 300 |
| eth device ifconfig | Configure an Ethernet interface. | 301 |
| eth device iflist | Show status of Ethernet interfaces. | 303 |
| eth switch group flush | Set all the ports to the default settings. | 304 |
| eth switch group list | List all the configured switch groups. | 305 |
| eth switch group move | Move a specified port to a specified switch group. | 306 |
| eth switch mirror capture | Define the specified port to be the Mirror Capture Port. | 307 |
| eth switch mirror egress | Enable or disable the specified port to be the Mirror Egress Port. | 308 |
| eth switch mirror ingress | Enable or disable the specified port to be the Mirror Ingress Port. | 309 |
| eth switch share add | Add a port to be shared. | 310 |
| eth switch share delete | Delete a shared port. | 311 |
| eth switch share list | Display shared ports. | 312 |
| eth switch info | Display switch capabilities. | 313 |
| eth switch qos config | Configure common qos parameters. | 314 |
| eth switch qos ifconfig | Configure per port QoS parameters. | 315 |
| eth switch qos list | Display QoS configuration. | 316 |
| eth switch qos weights | Configure the queue weights. | 317 |
| eth switch shaper config | Configure common ingress shaper parameters. | 318 |
| eth switch shaper ifconfig | Configure per port shaper parameters. | 319 |
| eth switch shaper iflist | Display shaper configuration per port. | 320 |
| eth switch storm ifconfig | Configure per port storm control parameters. | 321 |
| eth switch storm iflist | Display storm control configuration per port. | 322 |
| eth vlan add | Add a new VLAN. | 323 |
| eth vlan delete | Delete a VLAN. | 324 |

Eth Commands

| | | |
|----------------|--------------------|-----|
| eth vlan flush | Flush all VLANs. | 325 |
| eth vlan list | Display all VLANs. | 326 |

eth ifadd

Create a new ETH interface.

SYNTAX:

```
eth ifadd                               intf = <string>
```

where:

| | | |
|------|------------------------------------|----------|
| intf | The name of the new ETH interface. | REQUIRED |
|------|------------------------------------|----------|

RELATED COMMANDS:

eth ifdelete

Delete an ETH interface.

eth iflist

Display the ETH interfaces.

eth ifattach

Attach an ETH interface.

SYNTAX:

```
eth ifattach          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the ETH interface to be attached. | REQUIRED |
|------|---|----------|

RELATED COMMANDS:

eth ifdetach

Detach an ETH interface.

eth ifconfig

Modify an ETH interface.

SYNTAX:

```
eth ifconfig                intf = <string>
                             [dest = <string>]
                             [retry = <number{0-65535}>]
                             [vlan = <string>]
```

where:

| | | |
|-------|---|----------|
| intf | The name of the ETH interface to be configured. | REQUIRED |
| dest | The destination interface for this ETH interface. | OPTIONAL |
| retry | A number between 0 and 65535. Represents the number of times the ETH connection setup should retry before giving up. The default is 10 . | OPTIONAL |
| vlan | The Virtual Local Area Network (VLAN) for this ETH interface. | OPTIONAL |

eth ifdelete

Delete an ETH interface.

SYNTAX:

```
eth ifdelete          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the ETH interface name to be deleted. | REQUIRED |
|------|---|----------|

RELATED COMMANDS:

eth ifadd

Create a new ETH interface.

eth iflist

Display the ETH interfaces.

eth ifdetach

Detach an ETH interface.

SYNTAX:

```
eth ifdetach          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the ETH interface to be detached. | REQUIRED |
|------|---|----------|

RELATED COMMANDS:

eth ifattach

Attach an ETH interface.

eth iflist

Display the ETH interfaces.

SYNTAX:

```
eth iflist [intf = <string>]
           [string = <string>]
           [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| intf | The name of the ETH interface to be displayed. Note If not specified, all the ETH interfaces will be displayed. | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

RELATED COMMANDS:

eth ifadd Create a new ETH interface.
eth ifdelete Delete an ETH interface.

eth flush

Flush all the ETH interfaces.



The flush command does not impact previously saved configurations.

SYNTAX:

```
eth flush
```


eth bridge clear

Clear the bridge statistics.

SYNTAX:

```
eth bridge clear
```

eth bridge list

Display the current bridge instances

Syntax

```
eth bridge list [brname = <{bridge}>]
                [string = <string>]
                [beginstring = <string>]
```

where

| | | |
|--------------------|--------------------------------|----------|
| brname | The name of a bridge instance | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

eth bridge add

Add a new bridge instance

Syntax

```
eth bridge add brname=<string>
```

where

| | | |
|---------------|-------------------------------------|-----------------|
| brname | The name of the new bridge instance | REQUIRED |
|---------------|-------------------------------------|-----------------|

eth bridge delete

Delete a bridge instance

Syntax

```
eth bridge delete          brname = <{bridge}>
```

where

| | | |
|--------|---|----------|
| brname | The name of the bridge instance to be deleted | REQUIRED |
|--------|---|----------|

eth bridge select

Select the default bridge to configure interfaces (when not setting a bridge name, for legacy purposes).

Syntax

```
eth bridge select          brname = <{bridge}>
```

where

| | | |
|--------|-------------------------------|----------|
| brname | The name of a bridge instance | REQUIRED |
|--------|-------------------------------|----------|

eth bridge config

Modify/display the bridge configuration settings.

SYNTAX:

```
eth bridge config          [brname = <{bridge}>]
                           [age = <number{10-100000}>]
                           [filter = <{no_WAN_broadcast | none}>]
                           [vlan = <{disabled | enabled}>]
                           [precedencemap = <string>]
```

where:

| | | |
|---------------|--|----------|
| brname | The name of a bridge instance | |
| age | A number between 10 and 100000 (seconds). Represents the lifetime of a dynamically learned Medium Access Control (MAC) address. The default is 300 . | OPTIONAL |
| filter | The bridge filter to be applied for all Wide Area Network (WAN) bridge ports. Choose between: <ul style="list-style-type: none"> > no_WAN_broadcast: broadcasts from the Thomson ST itself to the WAN are filtered out, broadcasts from the LAN to the WAN are still passed through > none: no broadcasts are filtered out. The default is no_WAN_broadcast . | OPTIONAL |
| vlan | Enable or disable the use of the VLAN ID of the received VLAN packets. The default is enabled . | OPTIONAL |
| precedencemap | The IP QoS precedence mapping table | OPTIONAL |

eth bridge dynvlan actlist

Display the active MAC entries for the dynamic VLAN membership.

SYNTAX:

```
eth bridge dynvlan actlist
```

RELATED COMMANDS:

eth bridge dynvlan add

Add a dynamic VLAN membership entry.

eth bridge dynvlan config

Modify the dynamic VLAN membership configuration.

eth bridge dynvlan delete

Delete a dynamic VLAN membership entry.

eth bridge dynvlan list

Display a dynamic VLAN membership entry.

eth bridge dynvlan add

Add a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan add          [id = <number{0-100000}>]
                                hwaddr = <masked-hardware-address>
                                vlan = <string>
                                [remvlan = <{default}>]
```

where:

| | | |
|---------|---|----------|
| id | A number between 0 and 100000. Represents the id of the dynamic VLAN membership entry. | OPTIONAL |
| hwaddr | The (masked) ethernet MAC address of the dynamic VLAN membership entry. | REQUIRED |
| vlan | The VLAN for the dynamic VLAN membership entry. | REQUIRED |
| remvlan | The VLAN that will be removed from the bridge interface. | OPTIONAL |

RELATED COMMANDS:

| | |
|----------------------------|---|
| eth bridge dynvlan actlist | Display the active MAC entries for the dynamic VLAN membership. |
| eth bridge dynvlan config | Modify the dynamic VLAN membership configuration. |
| eth bridge dynvlan delete | Delete a dynamic VLAN membership entry. |
| eth bridge dynvlan list | Display a dynamic VLAN membership entry. |

eth bridge dynvlan config

Modify the dynamic VLAN membership configuration.

SYNTAX:

```
eth bridge dynvlan config [timeout = <number{0-100000}>]
```

where:

| | | |
|---------|---|----------|
| timeout | A number between 0 and 100000 (seconds). Represents timeout for the dynamic entries. | OPTIONAL |
|---------|---|----------|

RELATED COMMANDS:

| | |
|----------------------------|---|
| eth bridge dynvlan actlist | Display the active MAC entries for the dynamic VLAN membership. |
| eth bridge dynvlan add | Add a dynamic VLAN membership entry. |
| eth bridge dynvlan delete | Delete a dynamic VLAN membership entry. |
| eth bridge dynvlan list | Display a dynamic VLAN membership entry. |

eth bridge dynvlan delete

Delete a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan delete      id = <number{0-100000}>
```

where:

| | | |
|----|---|----------|
| id | A number between 0 and 100000. Represents the id of a dynamic VLAN membership. | REQUIRED |
|----|---|----------|

RELATED COMMANDS:

| | |
|----------------------------|---|
| eth bridge dynvlan actlist | Display the active MAC entries for the dynamic VLAN membership. |
| eth bridge dynvlan add | Add a dynamic VLAN membership entry. |
| eth bridge dynvlan config | Modify the dynamic VLAN membership configuration. |
| eth bridge dynvlan list | Display a dynamic VLAN membership entry. |

eth bridge dynvlan flush

Flush all dynamic VLAN membership entries.

SYNTAX:

```
eth bridge dynvlan flush
```

eth bridge dynvlan list

Display a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan list
```

RELATED COMMANDS:

eth bridge dynvlan actlist

Display the active MAC entries for the dynamic VLAN membership.

eth bridge dynvlan add

Add a dynamic VLAN membership entry.

eth bridge dynvlan config

Modify the dynamic VLAN membership configuration.

eth bridge dynvlan delete

Delete a dynamic VLAN membership entry.

eth bridge flush

Flush bridge interfaces and parameters.



The flush command does not impact previously saved configurations.

SYNTAX:

```
eth bridge flush
```

eth bridge ifadd

Add a new bridge interface.

SYNTAX:

```
eth bridge ifadd [brname = <{bridge}>] intf = <string>
```

where:

| | | |
|--------|---------------------------------------|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the new bridge interface. | REQUIRED |

RELATED COMMANDS:

eth bridge ifdelete

Delete a bridge interface.

eth bridge iflist

Display the current bridge interfaces.

eth bridge ifattach

Attach a bridge interface.

SYNTAX:

```
eth bridge ifattach [brname = <{bridge}>] intf = <string>
```

where:

| | | |
|--------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface to be attached. | REQUIRED |

RELATED COMMANDS:

eth bridge ifdetach

Detach a bridge interface.

eth bridge ifconfig

Modify a bridge interface configuration.

SYNTAX:

```
eth bridge ifconfig      [brname = <{bridge}>]
                        intf = <string>
                        [dest = <string>]
                        [portstate = <{disabled | learning |
                        forwarding}>]
                        [retry = <number{0-65535}>]
                        [prioconfig = <{disabled|over-
                        write|increase}>]
                        [vlan = <string>]
                        [ipprec = <{disabled|precedence|dscp}>]
                        [priority = <number{0-7}>]
                        [regenprio = <string>]
                        [ingressfiltering = <{disabled |
                        enabled}>]
                        [acceptvlanonly = <{disabled | enabled}>]
                        [mcastfilter = <{disabled|enabled}>]
                        [dynvlan = <{disabled|enabled}>]
                        [igmpsnooping = <{disabled|enabled}>]
```

where:

| | | |
|------------|---|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface to be configured. | REQUIRED |
| dest | The destination for this interface. Typically an ATM or a physical interface name. | OPTIONAL |
| portstate | The bridge portstate for this interface. Choose between: > disabled > learning > forwarding. The default is forwarding . | OPTIONAL |
| retry | A number between 0 and 65535. Represents the number of times the Thomson ST retries to set up a WAN connection before giving up. The default is 10 . | OPTIONAL |
| vlan | Select the default VLAN. | OPTIONAL |
| prioconfig | The priority configuration for this interface. | OPTIONAL |

Eth Commands

| | | |
|------------------|---|----------|
| ipprec | The IP precedence for this interface. Choose between: > disabled > precedence > dscp. The default is disabled . | OPTIONAL |
| priority | A number between 0 and 7. Represents the default priority for tagging egress packets. The default is 0 . | OPTIONAL |
| regenprio | The priority regeneration table for tagged ingress packets. The default is 01234567 . | OPTIONAL |
| ingressfiltering | Enable/disable discard of tagged ingress packets if the interface is not part of the VLAN. The default is disabled . | OPTIONAL |
| acceptvlanonly | Enable or disable receipt of tagged ingress packets. The default is disabled . | OPTIONAL |
| mcastfilter | Enable or disable the discard of multicast packets on this port The default is disabled . | OPTIONAL |
| dynvlan | Enable or disable dynamic VLAN membership checking for this interface. The default is disabled . | OPTIONAL |
| igmpsnooping | Enable or disable IGMP snooping for this interface. The default is disabled . | OPTIONAL |

eth bridge ifdelete

Delete a bridge interface.

SYNTAX:

```
eth bridge ifdelete [brname = <{bridge}>] intf = <string>
```

where:

| | | |
|--------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface name to be deleted. | REQUIRED |

RELATED COMMANDS:

eth bridge ifadd

Add a new bridge interface.

eth bridge iflist

Display the current bridge interfaces.

eth bridge ifdetach

Detach a bridge interface.

SYNTAX:

```
eth bridge ifdetach          [brname = <{bridge}>]
                             intf = <string>
```

where:

| | | |
|--------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface to be detached. | REQUIRED |

RELATED COMMANDS:

eth bridge ifattach

Attach a bridge interface.

eth bridge iflist

Display the current bridge interfaces.

SYNTAX:

```
eth bridge iflist          [brname = <{bridge}>]
                           [intf = <string>]
                           [string = <string>]
                           [beginstring = <string>]
```

where:

| | | |
|-------------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface to be displayed. | OPTIONAL |
| | Note If not specified, all bridge interfaces are shown. | |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

RELATED COMMANDS:

| | |
|---------------------|-----------------------------|
| eth bridge ifadd | Add a new bridge interface. |
| eth bridge ifdelete | Delete a bridge interface. |

eth bridge ifflush

Flush the bridge interfaces: detach/delete all interfaces.

SYNTAX:

```
eth bridge ifflush [brname = <{bridge}>]
```

where:

| | | |
|--------|--------------------------------|----------|
| brname | The name of a bridge instance. | OPTIONAL |
|--------|--------------------------------|----------|

eth bridge igmpsnooping config

Configure the bridge instance's IGMP Snooping flags

Syntax

```
eth bridge igmpsnooping config [brname = <{bridge}>]
                                [state = <{enabled|disabled}>]
                                [floodrp = <{disabled|enabled}>]
                                [floodmcast = <{disabled|enabled}>]
```

where:

| | | |
|------------|---|----------|
| brname | The name of a bridge instance | OPTIONAL |
| state | Enable/Disable the IGMP Snooping The default is enabled | OPTIONAL |
| floodrp | Enable/Disable flooding reports to all ports The default is disabled | OPTIONAL |
| floodmcast | Enable/Disable flooding unregistered multicasts The default is disabled | OPTIONAL |

eth bridge igmpsnooping list

Display a bridge instance's snooped groups.

Syntax

```
eth bridge igmpsnooping list [brname = <{bridge}>]
```

where:

| | | |
|---------------|-------------------------------|----------|
| brname | The name of a bridge instance | OPTIONAL |
|---------------|-------------------------------|----------|

eth bridge igmpsnooping ifconfig

Configure the bridge interface's IGMP snooping flags and mode.

Syntax

```
eth bridge igmpsnooping ifconfig      [brname = <{bridge}>]
                                       intf = <{interface}>
                                       [portmode = <{Host|Router|Auto}>]
                                       [fastleave = <{disabled|enabled}>]
                                       [exptrack = <{disabled|enabled}>]
                                       [mrdp = <{disabled|enabled}>]
                                       [rgmp = <{disabled|enabled}>]
```

where:

| | | |
|-----------|---|----------|
| brname | The bridge instance currently to be configured | OPTIONAL |
| intf | The bridge interface currently to be configured | REQUIRED |
| portmode | Mode of the bridge port | OPTIONAL |
| fastleave | Enable/Disable Fast Immediate Leave | OPTIONAL |
| exptrack | Enable/Disable Explicit Host Tracking | OPTIONAL |
| mrdp | Enable/Disable MRDP support | OPTIONAL |
| rgmp | Enable/Disable RGMP support | OPTIONAL |

eth bridge igmpsnooping iflist

Display a bridge interface's IGMP status

Syntax

```
Display bridge interface IGMP status          [brname = <{bridge}>]
                                              [intf = <{interface}>]
```

where:

| | | |
|---------------|----------------------------------|----------|
| brname | The name of a bridge instance | OPTIONAL |
| intf | The name of the bridge interface | OPTIONAL |

eth bridge igmpsnooping clear

Clear the snooping statistics.

Syntax

```
eth bridge igmpsnooping clear    [brname = <{bridge}>]  
                                  [intf = <{interface}>]
```

where:

| | | |
|--------|----------------------------------|----------|
| brname | The name of a bridge instance | OPTIONAL |
| intf | The name of the bridge interface | OPTIONAL |

eth bridge macadd

Add a static MAC address to a bridge interface.

This command allows to manually add static MAC addresses, which should normally be dynamically discovered by the bridge itself.

SYNTAX:

```
eth bridge macadd          [brname = <{bridge}>]
                           intf = <string>
                           hwaddr = <hardware-address>
                           [vlan = <string>]
```

where:

| | | |
|--------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| intf | The name of the bridge interface to which the MAC address must be added. | REQUIRED |
| hwaddr | The Ethernet MAC address of the new entry. | REQUIRED |
| vlan | The VLAN. | OPTIONAL |

EXAMPLE:

```
=>eth bridge maclist
00:10:a4:ad:32:cf -- dynamic, ethport1, 300 seconds
00:90:d0:8b:fc:2c -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
...
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>eth bridge macadd intf=ethport2 hwaddr=00:80:9f:01:23:45
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1, 300 seconds
00:80:9f:01:23:45 -- static
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macdelete

Remove a MAC address from the filtering database.

eth bridge maclist

Display the MAC address database.

eth bridge macdelete

Remove a MAC address from the filtering database.

SYNTAX:

```
eth bridge macdelete          [brname = <{bridge}>]
                               hwaddr = <hardware-address>
                               [vlan = <string>]
```

where:

| Parameter | Description | Requirement |
|-----------|--|-------------|
| brname | The name of a bridge instance. | OPTIONAL |
| hwaddr | The Ethernet MAC address of the entry to be deleted. | REQUIRED |
| vlan | The VLAN. | OPTIONAL |

EXAMPLE:

```
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1
00:80:9f:01:23:45 -- static
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
...
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>eth bridge macdelete hwaddr=00:80:9f:01:23:45
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macadd
eth bridge maclist

Add a static MAC address to a bridge interface.
Display the MAC address database.

eth bridge maclist

Display the MAC address database.

SYNTAX:

```
eth bridge maclist [brname = <{bridge}>]
```

where:

| | | |
|--------|--------------------------------|----------|
| brname | The name of a bridge instance. | OPTIONAL |
|--------|--------------------------------|----------|

EXAMPLE:

```
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1, 300 seconds
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:04 -- permanent
01:80:c2:00:00:05 -- permanent
01:80:c2:00:00:06 -- permanent
01:80:c2:00:00:07 -- permanent
01:80:c2:00:00:08 -- permanent
01:80:c2:00:00:09 -- permanent
01:80:c2:00:00:0a -- permanent
01:80:c2:00:00:0b -- permanent
01:80:c2:00:00:0c -- permanent
01:80:c2:00:00:0d -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macadd

Add a static MAC address to a bridge interface.

eth bridge macdelete

Remove a MAC address from the filtering database.

eth bridge mcdadd

Add a multicast group to be dropped to the database.

SYNTAX:

```
eth bridge mcdadd          [brname = <{bridge}>]
                           srcintfs = <string or combination of
                           strings separated by           '+'>
                           dstintfs = <string or combination of
                           strings separated by           '+'>
```

where:

| | | |
|----------|--|----------|
| brname | The name of a bridge instance. | OPTIONAL |
| srcports | The source bridge interfaces from which multicast packets must be dropped. | REQUIRED |
| dstports | The destination bridge interfaces for which the multicast packets must be dropped. | REQUIRED |

RELATED COMMANDS:

eth bridge mcddelete

Delete a multicast group to be dropped from the database.

eth bridge mcclist

Display the multicast group to be dropped from the database.

eth bridge mcddelete

Delete a multicast group to be dropped from the database.

SYNTAX:

```
eth bridge mcddelete          [brname = <{bridge}>]
```

where:

| | | |
|--------|--------------------------------|----------|
| brname | The name of a bridge instance. | OPTIONAL |
|--------|--------------------------------|----------|

RELATED COMMANDS:

eth bridge mcdadd

Add a multicast group to be dropped to the database.

eth bridge mcdlist

Display the multicast group to be dropped from the database.

eth bridge mcdlist

Display the multicast group to be dropped from the database.

SYNTAX:

```
eth bridge mcdlist
```

RELATED COMMANDS:

eth bridge mcdadd

Add a multicast group to be dropped to the database.

eth bridge mcddelete

Delete a multicast group to be dropped from the database.

eth bridge rule add

Add a new constraint to the VLAN learning system.

SYNTAX:

```
eth bridge rule add          type = <{shared | independent}>
                             vlan = <string>
                             [vlan2 = <string>]
                             [isi = <number{0-32}>]
```

where:

| | | |
|-------|--|----------|
| type | Type of constraint. Choose between: > shared > independent. | REQUIRED |
| vlan | The VLAN to which the constraint belongs. | REQUIRED |
| vlan2 | The second VLAN for a shared constraint. Note This parameter is required when type is <i>shared</i> . | OPTIONAL |
| isi | A number between 0 and 32. Represents the Independent Set ID (ISI) for an independent constraint. Note This parameter is required when type is <i>independent</i> . | OPTIONAL |

EXAMPLE:

```
=>eth bridge rule add type=independant vlan=default isi=1
=>eth bridge rule list
Index   Type       VLAN       Parameter
-----
1       independant default     Independent set identifier: 1
=>
```

RELATED COMMANDS:

eth bridge rule delete

Delete a constraint from the VLAN learning system.

eth bridge rule list

Display all constraints from the VLAN learning system.

eth bridge rule delete

Delete a constraint from the VLAN learning system.

SYNTAX:

```
eth bridge rule delete          index = <number{0-32}>
```

where:

| index | Index of the constraint to be deleted. | REQUIRED |
|-------|---|----------|
| | Tip Use the command :eth bridge rule list to obtain a list of the indexes of the constraints. | |

EXAMPLE:

```
=>eth bridge rule list
Index   Type      VLAN      Parameter
-----  ----      ----      -
1       independant default    Independent set identifier: 1
=>eth bridge rule delete index=1
=>eth bridge rule list
Index   Type      VLAN      Parameter
-----  ----      ----      -
=>
```

RELATED COMMANDS:

eth bridge rule add

Add a new constraint to the VLAN learning system.

eth bridge rule list

Display all constraints from the VLAN learning system.

eth bridge rule flush

Flush all constraints from the VLAN learning system.

SYNTAX:

```
eth bridge rule flush
```

eth bridge rule list

Display all constraints from the VLAN learning system.

SYNTAX:

```
eth bridge rule list
```

EXAMPLE:

```
=>eth bridge rule list
Index      Type      VLAN      Parameter
-----
1          independant default    Independent set identifier: 1
=>
```

RELATED COMMANDS:

eth bridge rule add

Add a new constraint to the VLAN learning system.

eth bridge rule delete

Delete a constraint from the VLAN learning system.

eth bridge vlan ifadd

Add a bridge interface to a VLAN.

SYNTAX:

```
eth bridge vlan ifadd          name = <string>
                               intf = <string>
                               [untagged = <{disabled | enabled}>]
```

where:

| | | |
|----------|--|----------|
| name | The VLAN name to which a bridge interface must be added. | REQUIRED |
| intf | The name of the bridge interface to be added to the VLAN. | REQUIRED |
| untagged | Enable or disable the interface as untagged for this VLAN. The default is <i>disabled</i> . | OPTIONAL |

RELATED COMMANDS:

| | |
|--------------------------|--|
| eth bridge vlan ifconfig | Modify a bridge interface from a VLAN. |
| eth bridge vlan ifdelete | Delete a bridge interface from a VLAN. |
| eth bridge vlan iflist | Display all VLANs. |

eth bridge vlan ifconfig

Modify a bridge interface from a VLAN.

SYNTAX:

```
eth bridge vlan ifconfig      name = <string>
                              intf = <string>
                              untagged = <{disabled | enabled}>
```

where:

| | | |
|----------|--|----------|
| name | The VLAN name for which a bridge interface must be modified. | REQUIRED |
| intf | The name of the bridge interface to be modified. | REQUIRED |
| untagged | Enable or disable the interface as untagged for this VLAN. | REQUIRED |

RELATED COMMANDS:

| | |
|--------------------------|--|
| eth bridge vlan ifadd | Add a bridge interface to a VLAN. |
| eth bridge vlan ifdelete | Delete a bridge interface from a VLAN. |
| eth bridge vlan iflist | Display all VLANs. |

eth bridge vlan ifdelete

Delete a bridge interface from a VLAN.

SYNTAX:

```
eth bridge vlan ifdelete      name = <string>
                               intf = <string>
```

where:

| | | |
|------|---|----------|
| name | The VLAN name for which a bridge interface must be deleted. | REQUIRED |
| intf | The name of the bridge interface to be deleted. | REQUIRED |

RELATED COMMANDS:

| | |
|--------------------------|--|
| eth bridge vlan ifadd | Add a bridge interface to a VLAN. |
| eth bridge vlan ifconfig | Modify a bridge interface from a VLAN. |
| eth bridge vlan iflist | Display all VLANs. |

eth bridge vlan iflist

Display all VLANs.

SYNTAX:

```
eth bridge vlan iflist
```

RELATED COMMANDS:

eth bridge vlan ifadd

Add a bridge interface to a VLAN.

eth bridge vlan ifconfig

Modify a bridge interface from a VLAN.

eth bridge vlan ifdelete

Delete a bridge interface from a VLAN.

eth device ifconfig

Configure an Ethernet interface.

SYNTAX:

```
eth device ifconfig          intf = <string>
                             [type = <{auto | 10BaseTHD | 10BaseTFD |
                             100BaseTHD| 100BaseTFD} or number>]
                             [state = <{enabled | disabled}>]
```

where:

| | | |
|-------|---|----------|
| intf | The name of a physical interface. | REQUIRED |
| type | The Ethernet type. Select either: <ul style="list-style-type: none">> auto: Auto negotiation of Ethernet communication speed (10Mb/s or 100Mb/s) and Duplex mode (half duplex or full duplex).> 10BaseTHD: 10Mb/s communication speed in half duplex mode.> 10BaseTFD: 10Mb/s communication speed in full duplex mode.> 100BaseTHD: 100Mb/s communication speed in half duplex mode.> 100BaseTFD: 100Mb/s communication speed in full duplex mode. or enter a number between 0 (auto) and 5 (100BaseTFD). The default is auto . Note This value should never be changed, except in case of communication problems. | OPTIONAL |
| state | Enable or disable the interface. The default is enabled . | OPTIONAL |

EXAMPLE:

```
=>eth device iflist
Interface      Type      Result      State
ethif1         auto      100BaseTFD  UP [forwarding]
ethif2         auto      100BaseTFD  UP [forwarding]
ethif3         auto      100BaseTFD  UP [forwarding]
ethif4         auto      100BaseTFD  UP [forwarding]
usbif1         auto      100BaseTFD  UP [forwarding]
=>eth device ifconfig intf=ethif4 state=disabled
=>eth device iflist
Interface      Type      Result      State
ethif1         auto      100BaseTFD  UP [forwarding]
ethif2         auto      100BaseTFD  UP [forwarding]
ethif3         auto      100BaseTFD  UP [forwarding]
ethif4         auto      100BaseTFD  DOWN [disabled]
usbif1         auto      100BaseTFD  UP [forwarding]
=>
```

RELATED COMMANDS:

eth device iflist

Show status of Ethernet interfaces.

eth device iflist

Show status of Ethernet interfaces.

SYNTAX:

```
eth device iflist
```

EXAMPLE:

```
=>eth device iflist
Interface      Type      Result      State
ethif1         auto      100BaseTFD  UP [forwarding]
ethif2         auto      100BaseTFD  UP [forwarding]
ethif3         auto      100BaseTFD  UP [forwarding]
ethif4         auto      100BaseTFD  UP [forwarding]
usbif1         auto      100BaseTFD  UP [forwarding]
wlif1          auto      100BaseTFD  UP [forwarding]
wlif2          auto      100BaseTFD  UP [forwarding]
wlif3          auto      100BaseTFD  UP [forwarding]
wlif4          auto      100BaseTFD  UP [forwarding]
wlif5          auto      100BaseTFD  UP [forwarding]
=>
```

DESCRIPTION:

- > **Type**: Indicates the configured Ethernet communication speed and duplex mode.
- > **Result**: Indicates the effective operating status if Type equals "auto". In other cases, when the Ethernet types do NOT match, Result Type will equal "unknown" and no Ethernet connectivity will exist.

RELATED COMMANDS:

eth device ifconfig

Configure an Ethernet interface.

eth switch group flush

Set all the ports to the default settings.
All the ports are placed in group 0.

SYNTAX:

```
eth switch group flush
```

EXAMPLE:

```
=>eth switch group list
Group 0 Ports: 4
Group 1 Ports: 1
Group 2 Ports: 2 3
=>eth switch group flush
=>eth switch group list
Group 0 Ports: 1 2 3 4
=>
```

RELATED COMMANDS:

eth switch group list

List all the configured switch groups.

eth switch group move

Move a specified port to a specified switch group.

eth switch group list

List all the configured switch groups.

SYNTAX:

```
eth switch group list
```

EXAMPLE:

```
=>eth switch group list
Group 0 Ports: 4
Group 1 Ports: 1
Group 2 Ports: 2 3
=>
```

RELATED COMMANDS:

eth switch group flush
eth switch group move

Set all the ports to the default settings.
Move a specified port to a specified switch group.

eth switch group move

Move a specified port to a specified switch group.

SYNTAX:

```
eth switch group move          group = <number{0-3}>
                               port = <number{1-4}>
```

where:

| | | |
|-------|---|----------|
| group | A number between 0 and 4. Represents the group ID to which the port must be moved. | REQUIRED |
| port | A number between 01 and 4. Represents the port to be moved. | REQUIRED |

EXAMPLE:

```
=>eth switch group list
Group 0 Ports: 1 2 3 4
=>eth switch group move group=3 port=1
=>eth switch group list
Group 0 Ports: 2 3 4
Group 3 Ports: 1
=>
```

RELATED COMMANDS:

| | |
|------------------------|--|
| eth switch group flush | Set all the ports to the default settings. |
| eth switch group list | List all the configured switch groups. |

eth switch mirror capture

Define the specified port to be the Mirror Capture Port.



Only one port can be the Mirror Capture Port at any one time.

SYNTAX:

```
eth switch mirror capture      port = <number{1-4}>
```

where:

| | | |
|------|---|----------|
| port | The port to be the Mirror Capture Port. | REQUIRED |
| | Note If no port number is specified, then the port number of the Mirror Capture Port is shown. | |

EXAMPLE:

```
=>eth switch mirror capture port=2
=>eth switch mirror capture
Mirror capture port = 2
=>
```

RELATED COMMANDS:

eth switch mirror egress

Enable or disable the specified port to be the Mirror Egress Port.

eth switch mirror ingress

Enable or disable the specified port to be the Mirror Ingress Port.

eth switch mirror egress

Enable or disable the specified port to be the Mirror Egress Port.



Only one port can be the Mirror Egress Port at any one time.
But a port can be the Mirror Egress Port and the Mirror Ingress Port at the same time.

SYNTAX:

```
eth switch mirror egress      port = <number{1-4}>
                               [state = <{enabled | disabled}>]
```

where:

| | | |
|-------|--|----------|
| port | The port to be the Mirror Egress Port. Note If no port number is specified, then the port number of the current Mirror Egress Port is shown. | REQUIRED |
| state | Enable or disable the port as Mirror Egress Port. The default is <i>enabled</i> . | OPTIONAL |

EXAMPLE:

Here port 1 is enabled as Mirror Egress Port

```
=>eth switch mirror egress port=1
=>eth switch mirror egress
Egress mirror port = 1
=>
```

Here port 1 is disabled as Mirror Egress Port

```
=>eth switch mirror egress
Egress mirror port = 1
=>eth switch mirror egress port=1 state=disabled
=>eth switch mirror egress
=>
```

RELATED COMMANDS:

eth switch mirror capture

Define the specified port to be the Mirror Capture Port.

eth switch mirror ingress

Enable or disable the specified port to be the Mirror Ingress Port.

eth switch mirror ingress

Enable or disable the specified port to be the Mirror Ingress Port.



Only one port can be the Mirror Ingress Port at any one time.
But a port can be the Mirror Egress Port and the Mirror Ingress Port at the same time.

SYNTAX:

```
eth switch mirror ingress      port = <number{1-4}>
                               [state = <{enabled | disabled}>]
```

where:

| | | |
|-------|--|----------|
| port | The port to be the Mirror Ingress Port. Note If no port number is specified, then the port number of the current Mirror Ingress Port is shown. | REQUIRED |
| state | Enable or disable the port as Mirror Ingress Port. The default is <i>enabled</i> . | OPTIONAL |

EXAMPLE:

Here port 2 is enabled as Mirror Ingress Port

```
=>eth switch mirror ingress port=2
=>eth switch mirror ingress
Ingress mirror port = 2
=>
```

Here port 2 is disabled as Mirror Ingress Port

```
=>eth switch mirror ingress
Ingress mirror port = 2
=>eth switch mirror ingress port=2 state=disabled
=>eth switch mirror ingress
=>
```

RELATED COMMANDS:

eth switch mirror capture

Define the specified port to be the Mirror Capture Port.

eth switch mirror egress

Enable or disable the specified port to be the Mirror Egress Port.

eth switch share add

Add a port to be shared.

SYNTAX:

```
eth switch share add          port = <number{1-4}>
                              shared = <number{1-4}>
```

where:

| | | |
|--------|--|----------|
| port | A number between 1 and 4. Represents the port. | REQUIRED |
| shared | A number between 1 and 4. Represents the shared port. | REQUIRED |

RELATED COMMANDS:

eth switch share delete

Delete a shared port.

eth switch share list

Display shared ports.

eth switch share delete

Delete a shared port.

SYNTAX:

```
eth switch share delete      port = <number{1-4}>
                             shared = <number{1-4}>
```

where:

| | | |
|--------|--|----------|
| port | A number between 1 and 4. Represents the port. | REQUIRED |
| shared | A number between 1 and 4. Represents the shared port. | REQUIRED |

RELATED COMMANDS:

eth switch share add

Add a port to be shared.

eth switch share list

Display shared ports.

eth switch share list

Display shared ports.

SYNTAX:

```
eth switch share list
```

RELATED COMMANDS:

eth switch share add

Add a port to be shared.

eth switch share delete

Delete a shared port.

eth switch info

Display switch capabilities.

SYNTAX:

```
eth switch info
```

RELATED COMMANDS:

Not applicable

eth switch qos config

Configure common qos parameters.

SYNTAX:

```
eth switch qos config          state = <disabled|enabled>
                               [nbrOfQueues = <number{0-4}>]
                               [realtime = <disabled|enabled>]
```

where:

| Parameter | Description | Requirement |
|-------------|-----------------------------|-------------|
| state | Enable or disable QoS | REQUIRED |
| nbrOfQueues | Number of QoS queues | OPTIONAL |
| realtime | Enable or disable real time | OPTIONAL |

RELATED COMMANDS:

| | |
|-------------------------|------------------------------------|
| eth switch qos ifconfig | Configure per port QoS parameters. |
| eth switch qos list | Display QoS configuration. |
| eth switch qos weights | Configure the queue weights. |

eth switch qos ifconfig

Configure per port QoS parameters.

SYNTAX:

```
eth switch qos ifconfig          port = <number{1-4}>
                                  mode = <802.1p|diffserv|high|none|tos>
                                  [flowcontrol = <disabled|enabled>]
```

where:

| Port | Port to be configured | REQUIRED |
|------------|--------------------------------|----------|
| Mode | QoS Classifier for the port | REQUIRED |
| Fowcontrol | Enable or disable flow control | OPTIONAL |

RELATED COMMANDS:

| | |
|------------------------|----------------------------------|
| eth switch qos config | Configure common qos parameters. |
| eth switch qos list | Display QoS configuration. |
| eth switch qos weights | Configure the queue weights. |

eth switch qos list

Display QoS configuration.

SYNTAX:

```
eth switch qos list
```

RELATED COMMANDS:

eth switch qos config

Configure common qos parameters.

eth switch qos ifconfig

Configure per port QoS parameters.

eth switch qos weights

Configure the queue weights.

eth switch qos weights

Configure the queue weights.

SYNTAX:

```
eth switch qos weights      queue0 = <number{0-100}>
                             queue1 = <number{0-100}>
                             queue2 = <number{0-100}>
                             queue3 = <number{0-100}>
```

where:

| QueueX | The weight of queue X in WFQ (percentage) X=1 through 4 | REQUIRED |
|--------|--|----------|
|--------|--|----------|

RELATED COMMANDS:

| | |
|-------------------------|------------------------------------|
| eth switch qos config | Configure common qos parameters. |
| eth switch qos ifconfig | Configure per port QoS parameters. |
| eth switch qos list | Display QoS configuration. |

eth switch shaper config

Configure common ingress shaper parameters.

SYNTAX:

```
eth switch shaper config      shaper = <number{0-1}>
                               [unicast = <disabled|enabled>]
                               [multicast = <disabled|enabled>]
                               [broadcast = <disabled|enabled>]
                               [control = <disabled|enabled>]
                               [unknown = <disabled|enabled>]
                               [discard = <disabled|enabled>]
```

where:

| | | |
|-----------|---|----------|
| shaper | The shaper instance | REQUIRED |
| unicast | Shape unicast traffic. | OPTIONAL |
| multicast | Shape multicast traffic. | OPTIONAL |
| broadcast | Shape broadcast traffic. | OPTIONAL |
| control | Shape MAC control traffic. | OPTIONAL |
| unknown | Shape traffic with unknown destination address. | OPTIONAL |
| discard | Discard frame at overflow (else attempt for flow control) | OPTIONAL |

RELATED COMMANDS:

eth switch shaper ifconfig Configure per port shaper parameters.
eth switch shaper iflist Display shaper configuration per port.

eth switch shaper ifconfig

Configure per port shaper parameters.

SYNTAX:

```
eth switch shaper ifconfig      port = <number{1-4}>
                                ingress = <disabled|enabled>
                                shaper = <number{0-1}>
                                [state = <disabled|enabled>]
                                [speed = <number{64000-100000000}>]
                                [burstsize = <number{6-126}>]
```

where:

| | | |
|-----------|--|----------|
| port | Port number | REQUIRED |
| ingress | Enabled: port is ingress port Disabled: port is egress port | REQUIRED |
| shaper | Shaper instance | REQUIRED |
| state | Enable/disable shaping | OPTIONAL |
| speed | Speed in bits/sec. | OPTIONAL |
| burstsize | Burst size in KBytes | OPTIONAL |

RELATED COMMANDS:

eth switch shaper config

Configure common ingress shaper parameters.

eth switch shaper iflist

Display shaper configuration per port.

eth switch shaper iflist

Display shaper configuration per port.

SYNTAX:

```
eth switch shaper iflist
```

RELATED COMMANDS:

eth switch shaper config

Configure common ingress shaper parameters.

eth switch shaper ifconfig

Configure per port shaper parameters.

eth switch storm ifconfig

Configure per port storm control parameters.

SYNTAX:

```
eth switch storm ifconfig      port = <number{1-4}>
                                [state = <disabled|enabled>]
                                [rate = <{33|50|100|200}>]
                                [burstsize = <number{2-8}>]
                                [broadcast = <disabled|enabled>]
                                [multicast = <disabled|enabled>]
                                [unknown = <disabled|enabled>]
```

where:

| parameter | Description | Requirement |
|-----------|--|-------------|
| port | Port number | REQUIRED |
| state | Enable/disable storm control | OPTIONAL |
| rate | Rate in 10ths of percent | OPTIONAL |
| burstsize | Burst size in KBytes | OPTIONAL |
| broadcast | Storm control for broadcast traffic | OPTIONAL |
| multicast | Storm control for multicast traffic | OPTIONAL |
| unknown | Storm control for traffic with unknown destination address | OPTIONAL |

RELATED COMMANDS:

eth switch storm iflist

Display storm control configuration per port.

eth switch storm iflist

Display storm control configuration per port.

SYNTAX:

```
eth switch storm iflist
```

RELATED COMMANDS:

eth switch storm ifconfig

Configure per port storm control parameters.

eth vlan add

Add a new VLAN.

SYNTAX:

```
eth vlan add                name = <string>
                             vid = <number{2-4094}>
                             [addrule = <{disabled | enabled}>]
```

where:

| | | |
|---------|---|----------|
| name | The new VLAN name. | REQUIRED |
| vid | A number representing the new VLAN ID. Note The ID 1 is reserved for the default VLAN. | REQUIRED |
| addrule | Add (enabled) the default bridge constraint or not (disabled). The default is enabled . | OPTIONAL |

EXAMPLE:

```
=>eth vlan list
Vid      Name
---      ---
1        default
=>eth vlan add name=myVLAN vid=2
=>eth vlan list
Vid      Name
---      ---
1        default
2        myVLAN
=>
```

RELATED COMMANDS:

eth vlan delete

Delete a VLAN.

eth vlan list

Display all VLANs.

eth vlan delete

Delete a VLAN.

SYNTAX:

```
eth vlan delete                name = <string>
```

where:

| name | The name of the VLAN to be deleted. | REQUIRED |
|------|-------------------------------------|----------|
|------|-------------------------------------|----------|

EXAMPLE:

```
=>eth vlan list
Vid      Name
---      ----
1        default
2        myVLAN
=>eth vlan delete name=myVLAN vid=2
=>eth vlan list
Vid      Name
---      ----
1        default
=>
```

RELATED COMMANDS:

| | |
|---------------|--------------------|
| eth vlan add | Add a new VLAN. |
| eth vlan list | Display all VLANs. |

eth vlan flush

Flush all VLANs.



All the VLANs, except the default VLAN will be flushed.

SYNTAX:

```
eth vlan flush
```

EXAMPLE:

```
=>eth vlan list
Vid      Name
---      ---
1         default
2         myVLAN
3         yourVLAN
=>eth vlan flush
=>eth vlan list
Vid      Name
---      ---
1         default
=>
```

eth vlan list

Display all VLANs.

SYNTAX:

```
eth vlan list
```

EXAMPLE:

```
=>eth vlan list
Vid      Name
---      ----
1         default
2         myVLAN
=>
```

RELATED COMMANDS:

eth vlan add

Add a new VLAN.

eth vlan delete

Delete a VLAN.

15 Expr Commands

Introduction

This chapter describes the commands of the **expr** command group.

Contents

This chapter covers the following commands:

| | | |
|-------------|---------------------------------------|-----|
| expr add | Add a subexpression to an expression. | 328 |
| expr delete | Delete an expression. | 332 |
| expr flush | Flush all the expressions. | 334 |
| expr list | List the expressions. | 335 |
| expr modify | Modify an expression. | 339 |

expr add

Add a subexpression to an expression.

SYNTAX:

```

expr add    name = <string>
            type = <{intf | ip | serv}>
            addr [!]= <ip-range>
            [intf [!]= <string>]
            [intfgroup [!]= <{wan|local|lan|tunnel|dmz|guest} or number>]
            [tos [!]= <number{0-255}>]
            [precedence [!]= <IP precedence type> or <number>]
            [dscp [!]= <DSCP name> or <number>]
            [proto = <supported IP protocol name> or <number>]
            [srcport [!]= <supported TCP/UDP port name> or <number>]
            [srcportend = <supported TCP/UDP port name> or <number>]
            [dstport [!]= <supported TCP/UDP port name> or <number>]
            [dstportend = <supported TCP/UDP port name> or <number>]
            [icmptype [!]= <supported ICMP type name> or <number>]
            [icmpcode [!]= <number{0-15}>]
            [icmpcodeend = <number{0-15}>]

```



If a value is preceded by a “!”, it means NOT.
For example “intfgroup=!wan” means “if the interface group is different from WAN”.

where:

| | | |
|------|--|----------|
| name | The name of an existing expression. | REQUIRED |
| type | The expression type. Choose between: <ul style="list-style-type: none"> > intf > ip > serv. | REQUIRED |
| addr | The IP address (or range). Supports ip/mask notation. Note Only for expression type <i>ip</i> . | REQUIRED |
| intf | The IP interface name. Note Only for expression type <i>intf</i> . | OPTIONAL |

Expr Commands

| | | |
|------------|---|----------|
| intfgroup | <p>The IP interface group. Choose between:</p> <ul style="list-style-type: none">> wan> local> lan> tunnel> dmz> guest. <p>Note Only for expression type <i>intf</i>.</p> | OPTIONAL |
| tos | <p>A number between 0 and 255. Represents the Type of Service (ToS) specification in the IP packet.</p> <p>Note The parameters <i>tos</i>, <i>precedence</i> and <i>dscp</i> are mutually exclusive.</p> | OPTIONAL |
| precedence | <p>The precedence in the IP packet (part of tos). Select an IP precedence (see "IP Precedence" on page 752) or, alternatively, specify the number.</p> <p>Note The parameters <i>tos</i>, <i>precedence</i> and <i>dscp</i> are mutually exclusive.</p> | OPTIONAL |
| dscp | <p>The Differentiated Services Code Point (DSCP) in the IP packet (part of tos). Select a DSCP (see "Differentiated Services Code Point (DSCP)" on page 753) or, alternatively, specify the number.</p> <p>Note The parameters <i>tos</i>, <i>precedence</i> and <i>dscp</i> are mutually exclusive.</p> | OPTIONAL |
| proto | <p>The protocol (name or number) expected in the IP packet. Select one of the following protocols: <i>icmp</i>, <i>igmp</i>, <i>ipinip</i>, <i>tcp</i>, <i>udp</i>, <i>ah</i>, <i>esp</i>, <i>ipcomp</i> or, alternatively, specify the protocol number.</p> | OPTIONAL |
| srcport | <p>The TCP/UDP port (or beginning of range) the packet is coming from. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number.</p> | OPTIONAL |
| srcportend | <p>The source TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number.</p> | OPTIONAL |
| dstport | <p>The TCP/UDP port (or beginning of range) the packet is going to. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number.</p> | OPTIONAL |
| dstportend | <p>The destination TCP/UDP port range end. (inclusive). Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number.</p> | OPTIONAL |
| icmptype | <p>The Internet Control Message Protocol (ICMP) type (name or number) of the packet. Select one of the supported ICMP types (see "Supported ICMP Type Names" on page 750) or, alternatively, specify the type number.</p> | OPTIONAL |

| | | |
|-------------|---|----------|
| icmpcode | A number between 0 and 15. Represents the ICMP code (or beginning of range) of the packet. | OPTIONAL |
| icmpcodeend | A number between 0 and 15. Represents the ICMP code range end (inclusive). | OPTIONAL |

Expr Commands

EXAMPLE:

```
=>expr list
name                type      use flags expression
-----
_myPPP_ppp          intf     0 D    1. intf=myPPP_ppp
_eth0               intf     0 D    1. intf=eth0
wan                 intf     0      1. intfgroup=0
lan                 intf     28    1. intfgroup=2
local               intf     0      1. intfgroup=1
notwan              intf     1      1. intfgroup=2
                   intf     1      2. intfgroup=1
_10.0.0.138         ip       0 D    1. addr=10.0.0.138
_192.168.1.254     ip       0 D    1. addr=192.168.1.254
...
DiffServ            serv     0      1. dscp=!0
sip                 serv     1      1. proto=17 dst-prt=5060
                   serv     1      2. proto=6  dst-prt=5060
h323                 serv     1      1. proto=6  dst-prt=1720
                   serv     1      2. proto=17 dst-prt=1718
                   serv     1      3. proto=17 dst-prt=1719

=>expr add name=myEXPR type=intf intf=Internet intfgroup=lan
=>expr list
name                type      use flags expression
-----
_myPPP_ppp          intf     0 D    1. intf=myPPP_ppp
_eth0               intf     0 D    1. intf=eth0
wan                 intf     0      1. intfgroup=0
lan                 intf     28    1. intfgroup=2
local               intf     0      1. intfgroup=1
notwan              intf     1      1. intfgroup=2
                   intf     1      2. intfgroup=1
myEXPR              intf     0      1. intf=Internet intfgroup=2
_10.0.0.138         ip       0 D    1. addr=10.0.0.138
_192.168.1.254     ip       0 D    1. addr=192.168.1.254
...
DiffServ            serv     0      1. dscp=!0
sip                 serv     1      1. proto=17 dst-prt=5060
                   serv     1      2. proto=6  dst-prt=5060
h323                 serv     1      1. proto=6  dst-prt=1720
                   serv     1      2. proto=17 dst-prt=1718
                   serv     1      3. proto=17 dst-prt=1719

=>
```

RELATED COMMANDS:

| | |
|-------------|-----------------------|
| expr delete | Delete an expression. |
| expr list | List the expressions. |

expr delete

Delete an expression.

SYNTAX:

```
expr delete    name = <string>
               [index = <number>]
```

where:

| | | |
|---|---|----------|
| name | The name of the expression to be deleted. | REQUIRED |
| index | The index of the subexpression to be deleted. | OPTIONAL |
| Note If not specified, all the subexpressions will be deleted. | | |

Expr Commands

EXAMPLE:

```
=>expr list
name                type      use flags expression
-----
_myPPP_ppp         intf     0 D    1. intf=myPPP_ppp
_eth0              intf     0 D    1. intf=eth0
wan                intf     0      1. intfgroup=0
lan                intf     28     1. intfgroup=2
local              intf     0      1. intfgroup=1
notwan             intf     1      1. intfgroup=2
                  2. intfgroup=1
myEXPR             intf     0      1. intf=Internet intfgroup=2
_10.0.0.138        ip       0 D    1. addr=10.0.0.138
_192.168.1.254     ip       0 D    1. addr=192.168.1.254
...
DiffServ           serv     0      1. dscp=!0
sip                serv     1      1. proto=17 dst-prt=5060
                  2. proto=6 dst-prt=5060
h323               serv     1      1. proto=6 dst-prt=1720
                  2. proto=17 dst-prt=1718
                  3. proto=17 dst-prt=1719

=>expr delete name=myEXPR
=>expr list
name                type      use flags expression
-----
_myPPP_ppp         intf     0 D    1. intf=myPPP_ppp
_eth0              intf     0 D    1. intf=eth0
wan                intf     0      1. intfgroup=0
lan                intf     28     1. intfgroup=2
local              intf     0      1. intfgroup=1
notwan             intf     1      1. intfgroup=2
                  2. intfgroup=1
_10.0.0.138        ip       0 D    1. addr=10.0.0.138
_192.168.1.254     ip       0 D    1. addr=192.168.1.254
...
DiffServ           serv     0      1. dscp=!0
sip                serv     1      1. proto=17 dst-prt=5060
                  2. proto=6 dst-prt=5060
h323               serv     1      1. proto=6 dst-prt=1720
                  2. proto=17 dst-prt=1718
                  3. proto=17 dst-prt=1719

=>
```

RELATED COMMANDS:

expr add

Add a subexpression to an expression.

expr list

List the expressions.

expr flush

Flush all the expressions.

SYNTAX:

```
expr flush
```

expr list

List the expressions.

SYNTAX:

```
expr list      [name = <string>]
               [type = <{intf | ip | serv}>]
               [format = <{pretty | cli}>]
               [string = <string>]
               [beginstring = <string>]
```

where:

| | | |
|-------------|--|----------|
| name | The name of an existing expression. Note If not specified, all the expressions will be listed. | OPTIONAL |
| type | The expression type. Choose between: > intf > ip > serv. Note If not specified, the expressions of all types will be shown. | OPTIONAL |
| format | Select the output format of the list. Choose between: > pretty : the expressions are shown as intuitive output in clear text. > cli : the expressions are shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

EXAMPLE 1:

```

=>expr list
name                               type    use flags expression
-----
_Internet                           intf    0 D    1. intf=Internet
_LocalNetwork                       intf    0 D    1. intf=LocalNetwork
HTTP_i_if_0                         intf    1 D    1. intf=LocalNetwork
                                     2. intf=LocalNetwork
                                     3. intf=LocalNetwork
HTTP_if_0                           intf    1 D    1. intfgroup=2
HTTPs_if_0                          intf    1 D    1. intfgroup=2
FTP_if_0                             intf    1 D    1. intfgroup=2
TELNET_if_0                         intf    1 D    1. intfgroup=2
DNS-S_if_0                          intf    1 D    1. intfgroup=2
SNMP_AGENT_if_0                    intf    1 D    1. intfgroup=2
PING_RESPONDER_if_0               intf    1 D    1. intfgroup=2
wan                                 intf    1      1. intfgroup=0
lan                                 intf    2      1. intfgroup=2
local                               intf    0      1. intfgroup=1
_10.0.0.138                         ip      0 D    1. addr=10.0.0.138
_192.168.1.254                     ip      0 D    1. addr=192.168.1.254
private                             ip      0      1. addr=10.0.0.0/8
                                     2. addr=172.[16-31].*.*
                                     3. addr=192.168.1.0/24
ssdp_ip                             ip      1      1. addr=239.255.255.250
mdap_ip                             ip      1      1. addr=224.0.0.103
HTTP_sv_0                           serv    1 D    1. proto=6 dst-prt=80
HTTPs_sv_0                          serv    1 D    1. proto=6 dst-prt=443
FTP_sv_0                             serv    1 D    1. proto=6 dst-prt=21
TELNET_sv_0                         serv    1 D    1. proto=6 dst-prt=23
RIP_sv_0                             serv    1 D    1. proto=17 src-prt=520 dst-prt=520
RIP-Query_sv_0                     serv    1 D    1. proto=17 dst-prt=520
DNS-S_sv_0                          serv    1 D    1. proto=17 dst-prt=53
SNMP_AGENT_sv_0                    serv    1 D    1. proto=17 dst-prt=161
RAS_sv_0                             serv    1 D    1. proto=6 dst-prt=80
SRAS_sv_0                           serv    1 D    1. proto=6 dst-prt=443
ICMP_LISTEN_sv_0                   serv    1 D    1. proto=1
SENDTO_LISTEN_sv_0                 serv    1 D    1. proto=17
PING_RESPONDER_sv_0                serv    1 D    1. proto=1 icmp-type=8
HTTP_i_sv_0                         serv    1 D    1. proto=6 dst-prt=8080
icmp                                 serv    1      1. proto=1
igmp                                 serv    2      1. proto=2
ftp                                  serv    0      1. proto=6 dst-prt=21
telnet                              serv    1      1. proto=6 dst-prt=23
http                                 serv    1      1. proto=6 dst-prt=80
httpproxy                          serv    1      1. proto=6 dst-prt=8080
https                               serv    1      1. proto=6 dst-prt=443
RPC                                  serv    0      1. proto=6 dst-prt=135
NBT                                  serv    0      1. proto=17 dst-prt=137
                                     2. proto=17 dst-prt=138
                                     3. proto=6 dst-prt=139
SMB                                  serv    0      1. proto=6 dst-prt=445
imap                                 serv    1      1. proto=6 dst-prt=143
imap3                                serv    1      1. proto=6 dst-prt=220
imap4-ssl                           serv    1      1. proto=6 dst-prt=585
imaps                                serv    1      1. proto=6 dst-prt=993
pop2                                 serv    1      1. proto=6 dst-prt=109
pop3                                 serv    1      1. proto=6 dst-prt=110
pop3s                               serv    1      1. proto=6 dst-prt=995
smtp                                 serv    1      1. proto=6 dst-prt=25
ssh                                  serv    0      1. proto=6 dst-prt=22
dns                                  serv    1      1. proto=6 dst-prt=53
                                     2. proto=17 dst-prt=53
nntp                                 serv    0      1. proto=6 dst-prt=119
ipsec                                serv    0      1. proto=51
                                     2. proto=50
                                     3. proto=17 src-prt=500 dst-prt=500
esp                                  serv    1      1. proto=50
ah                                   serv    1      1. proto=51
ike                                  serv    1      1. proto=17 dst-prt=500
DiffServ                            serv    0      1. dscp=!0
sip                                  serv    1      1. proto=17 dst-prt=5060
                                     2. proto=6 dst-prt=5060
h323                                 serv    1      1. proto=6 dst-prt=1720
                                     2. proto=17 dst-prt=1718
                                     3. proto=17 dst-prt=1719
dhcp                                 serv    1      1. proto=17 dst-prt=68
                                     2. proto=17 dst-prt=67
rtsp                                 serv    1      1. proto=17 dst-prt=554
                                     2. proto=6 dst-prt=554
ssdp_serv                           serv    1      1. proto=17 dst-prt=1900
mdap_serv                           serv    1      1. proto=17 dst-prt=3235
=>

```

EXAMPLE 2:

```
=>expr list format=cli
:expr add name=_Internet type=intf intf=Internet
:expr add name=_LocalNetwork type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTP_if_0 type=intf intfgroup=lan
:expr add name=HTTPS_if_0 type=intf intfgroup=lan
:expr add name=FTP_if_0 type=intf intfgroup=lan
:expr add name=TELNET_if_0 type=intf intfgroup=lan
:expr add name=DNS-S_if_0 type=intf intfgroup=lan
:expr add name=SNMP_AGENT_if_0 type=intf intfgroup=lan
:expr add name=PING_RESPONDER_if_0 type=intf intfgroup=lan
:expr add name=wan type=intf intfgroup=wan
:expr add name=lan type=intf intfgroup=lan
:expr add name=local type=intf intfgroup=local
:expr add name=_10.0.0.138 type=ip addr=10.0.0.138
:expr add name=_192.168.1.254 type=ip addr=192.168.1.254
:expr add name=private type=ip addr=10.0.0.0/8
:expr add name=private type=ip addr=172.[16-31].*.
:expr add name=private type=ip addr=192.168.1.0/24
:expr add name=ssdp_ip type=ip addr=239.255.255.250
:expr add name=mdap_ip type=ip addr=224.0.0.103
:expr add name=HTTP_sv_0 type=serv proto=tcp dstport=www-http
:expr add name=HTTPs_sv_0 type=serv proto=tcp dstport=443
:expr add name=FTP_sv_0 type=serv proto=tcp dstport=ftp
:expr add name=TELNET_sv_0 type=serv proto=tcp dstport=telnet
:expr add name=RIP_sv_0 type=serv proto=udp srcport=rip dstport=rip
:expr add name=RIP-Query_sv_0 type=serv proto=udp dstport=rip
:expr add name=DNS-S_sv_0 type=serv proto=udp dstport=dns
:expr add name=SNMP_AGENT_sv_0 type=serv proto=udp dstport=snmp
:expr add name=RAS_sv_0 type=serv proto=tcp dstport=www-http
:expr add name=SRAS_sv_0 type=serv proto=tcp dstport=443
:expr add name=ICMP_LISTEN_sv_0 type=serv proto=icmp
:expr add name=SENDTO_LISTEN_sv_0 type=serv proto=udp
:expr add name=PING_RESPONDER_sv_0 type=serv proto=icmp icmptype=echo-request
:expr add name=HTTPI_sv_0 type=serv proto=tcp dstport=httpproxy
:expr add name=icmp type=serv proto=icmp
:expr add name=igmp type=serv proto=igmp
:expr add name=ftp type=serv proto=tcp dstport=ftp
:expr add name=telnet type=serv proto=tcp dstport=telnet
:expr add name=http type=serv proto=tcp dstport=www-http
:expr add name=httpproxy type=serv proto=tcp dstport=httpproxy
:expr add name=https type=serv proto=tcp dstport=443
:expr add name=RPC type=serv proto=tcp dstport=135
:expr add name=NBT type=serv proto=udp dstport=netbios-ns
:expr add name=NBT type=serv proto=udp dstport=netbios-dgm
:expr add name=NBT type=serv proto=tcp dstport=netbios-ssn
:expr add name=SMB type=serv proto=tcp dstport=445
:expr add name=imap type=serv proto=tcp dstport=imap2
:expr add name=imap3 type=serv proto=tcp dstport=imap3
:expr add name=imap4-ssl type=serv proto=tcp dstport=585
:expr add name=imaps type=serv proto=tcp dstport=993
:expr add name=pop2 type=serv proto=tcp dstport=pop2
:expr add name=pop3 type=serv proto=tcp dstport=pop3
:expr add name=pop3s type=serv proto=tcp dstport=995
:expr add name=smtp type=serv proto=tcp dstport=smtp
:expr add name=ssh type=serv proto=tcp dstport=22
:expr add name=dns type=serv proto=tcp dstport=dns
:expr add name=dns type=serv proto=udp dstport=dns
:expr add name=nntp type=serv proto=tcp dstport=nntp
:expr add name=ipsec type=serv proto=ah
:expr add name=ipsec type=serv proto=esp
:expr add name=ipsec type=serv proto=udp srcport=ike dstport=ike
:expr add name=esp type=serv proto=esp
:expr add name=ah type=serv proto=ah
:expr add name=ike type=serv proto=udp dstport=ike
:expr add name=DiffServ type=serv dscp=!cs0
:expr add name=sip type=serv proto=udp dstport=sip
:expr add name=sip type=serv proto=tcp dstport=sip
:expr add name=h323 type=serv proto=tcp dstport=h323
:expr add name=h323 type=serv proto=udp dstport=1718
:expr add name=h323 type=serv proto=udp dstport=1719
:expr add name=dhcp type=serv proto=udp dstport=bootpc
:expr add name=dhcp type=serv proto=udp dstport=bootps
:expr add name=rtsp type=serv proto=udp dstport=rtsp
:expr add name=rtsp type=serv proto=tcp dstport=rtsp
:expr add name=ssdp_serv type=serv proto=udp dstport=1900
:expr add name=mdap_serv type=serv proto=udp dstport=3235=>
```

RELATED COMMANDS:

expr add

Add a subexpression to an expression.

expr delete

Delete an expression.

expr modify

Modify an expression.

SYNTAX:

```
expr modify      name = <string>
                  type = <{intf | ip | serv}>
                  index = <number>
                  addr [!]= <ip-range>
                  [intf [!]= <string>]
                  [intfgroup [!]= <{wan|local|lan|tunnel|dmz|guest} or
number>]
                  [bridgeport [!]= <number>]
                  [tos [!]= <number{0-255}>]
                  [precedence [!]= <IP precedence type> or <number>]
                  [dscp [!]= <DSCP name> or <number>]
                  [proto = <supported IP protocol name> or <number>]
                  [srcport [!]= <supported TCP/UDP port name> or <number>]
                  [srcportend = <supported TCP/UDP port name> or <number>]
                  [dstport [!]= <supported TCP/UDP port name> or <number>]
                  [dstportend = <supported TCP/UDP port name> or <number>]
                  [icmpstype [!]= <supported ICMP type name> or <number>]
                  [icmpcode [!]= <number{0-15}>]
                  [icmpcodeend = <number{0-15}>]
```



If a value is preceded by a “!”, it means NOT.
For example “intfgroup=!wan” means “if the interface group is different from WAN”.

where:

| | | |
|--------|---|----------|
| name | The name of the expression to be modified. | REQUIRED |
| type | The expression type. Choose between: > intf > ip > serv. | REQUIRED |
| number | The index of the subexpression to be modified. Tip Use the command :expr list to obtain the indexes of the subexpressions. | REQUIRED |
| addr | The IP address (or range). Supports ip/mask notation. Note Only for expression type <i>ip</i> . | REQUIRED |
| intf | The IP interface name. Note Only for expression type <i>intf</i> . | OPTIONAL |

| | | |
|------------|---|----------|
| intfgroup | The IP interface group. Choose between: <ul style="list-style-type: none"> > wan > local > lan > tunnel > dmz > guest. Note Only for expression type <i>intf</i> . | OPTIONAL |
| bridgeport | The bridge port number. Note Only for expression type <i>intf</i> . | OPTIONAL |
| tos | A number between 0 and 255. Represents the ToS specification in the IP packet. Note The parameters <i>tos</i> , <i>precedence</i> and <i>dscp</i> are mutually exclusive. | OPTIONAL |
| precedence | The precedence in the IP packet (part of tos). Select an IP precedence (see "IP Precedence" on page 752) or, alternatively, specify the number. Note The parameters <i>tos</i> , <i>precedence</i> and <i>dscp</i> are mutually exclusive. | OPTIONAL |
| dscp | The DSCP in the IP packet (part of tos). Select a DSCP (see "Differentiated Services Code Point (DSCP)" on page 753). Note The parameters <i>tos</i> , <i>precedence</i> and <i>dscp</i> are mutually exclusive. | OPTIONAL |
| proto | The protocol (name or number) expected in the IP packet. Select one of the following protocols: <i>icmp</i> , <i>igmp</i> , <i>ipinip</i> , <i>tcp</i> , <i>udp</i> , <i>ah</i> , <i>esp</i> , <i>ipcomp</i> or, alternatively, specify the protocol number. | OPTIONAL |
| srcport | The TCP/UDP port (or beginning of range) the packet is coming from. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the protocol number. | OPTIONAL |
| srcportend | The source TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the protocol number. | OPTIONAL |
| dstport | The TCP/UDP port (or beginning of range) the packet is going to. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the protocol number. | OPTIONAL |
| dstportend | The destination TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the protocol number. | OPTIONAL |
| icmptype | The ICMP type (name or number) of the packet. Select one of the supported ICMP types (see "Supported ICMP Type Names" on page 750) or, alternatively, specify the type number. | OPTIONAL |

Expr Commands

| | | |
|-------------|---|----------|
| icmpcode | A number between 0 and 15. Represents the ICMP code (or beginning of range) of the packet. | OPTIONAL |
| icmpcodeend | A number between 0 and 15. Represents the ICMP code range end (inclusive). | OPTIONAL |

16 Firewall Commands

Introduction

This chapter describes the commands of the **firewall** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------------------|---|-----|
| firewall config | Configure the firewall options. | 344 |
| firewall clear | Flush the firewall configuration. | 346 |
| firewall list | List the firewall configuration. | 347 |
| firewall chain add | Add a chain. | 349 |
| firewall chain delete | Delete a chain. | 351 |
| firewall chain flush | Flush all chains. | 353 |
| firewall chain list | List all chains. | 354 |
| firewall debug clear | Clear the firewall statistics. | 355 |
| firewall debug stats | Display the firewall statistics. | 356 |
| firewall debug traceconfig | Configure the firewall trace options. | 357 |
| firewall level add | Add a security level. | 358 |
| firewall level delete | Delete a security level. | 359 |
| firewall level flush | Flush the security level configuration. | 360 |
| firewall level list | List all the security levels. | 361 |
| firewall level modify | Configure a security level. | 362 |
| firewall level set | Set the security level or display the current security level. | 363 |
| firewall rule add | Add a firewall rule. | 364 |
| firewall rule delete | Delete a firewall rule. | 365 |
| firewall rule flush | Flush all firewall rules. | 366 |
| firewall rule list | Show a list of the firewall rules in a chain. | 367 |
| firewall rule modify | Modify a firewall rule. | 369 |
| firewall rule debug clear | Clear the firewall rule statistics. | 370 |
| firewall rule debug stats | Show the firewall rule statistics. | 372 |
| firewall rule debug traceconfig | Display or modify the rule trace configuration. | 374 |

firewall config

Configure the firewall options.

SYNTAX:

```
firewall config [state = <{disabled | enabled}>]
                [keep = <{disabled | enabled}>]
                [tcpchecks = <{none | fast | exact}>]
                [udpchecks = <{disabled|enabled}>]
                [icmpchecks = <{disabled | enabled}>]
                [logdefault = <{disabled | enabled}>]
                [logthreshold = <{disabled | enabled}>]
                [tcpwindow = <number{0-1073725440}>]
```

where:

| | | |
|------------|--|----------|
| state | Enable or disable the firewall. The default is enabled . | OPTIONAL |
| keep | The firewall keeps active connections (enabled) or not (disabled) when the firewall rules change. The default is disabled . | OPTIONAL |
| tcpchecks | Select the level of TCP sequence number checks. Choose between: <ul style="list-style-type: none"> > none: no TCP checks are done. > fast: check all the combinations of flag and disallow all the possible illegal combinations shown below: <ul style="list-style-type: none"> ■ SYN PSH (SYN PSH URG,...) ■ SYN FIN (SYN FIN PSH, SYN FIN RST PSH,...) ■ FIN flag set without ACK ■ All flags set ■ No flags set. > exact: check and permit only combinations of flag with the TCP state of a connection: <ul style="list-style-type: none"> ■ SYN: request to open connection ■ SYN ACK: agree to open connection ■ A, PA, AU, PAU: acknowledgement of receipt ■ FA, FAP, FAU, FAP, FAPU, FAU, FPAU: request to close connection ■ R, RA, RP, RU, RPA, RPU, RAU, RPAU: tear down connection. <p>The default is none.</p> | OPTIONAL |
| udpchecks | Disable or enable keeping UDP checks. The default is enabled . | OPTIONAL |
| icmpchecks | Disable or enable keeping ICMP checks. The default is enabled . | OPTIONAL |

Firewall Commands

| | | |
|--------------|---|----------|
| logdefault | Disable or enable logging of default firewall rule. The default is disabled . | OPTIONAL |
| logthreshold | Disable or enable log thresholding. The default is enabled . | OPTIONAL |
| tcpwindow | A number between 0 and 1073725440. This parameter permits to modify the TCP window for fast TCP checks. The default is 65536 . | OPTIONAL |

EXAMPLE:

```
=>firewall config
:firewall config state=enabled keep=disabled tcpchecks=none udpchecks=enabled
icmpchecks=enabled logdefault=disabled logthreshold=enabled tcpwindow=65536
=>
```

firewall clear

Flush the firewall configuration.

SYNTAX:

```
firewall clear
```


firewall list

List the firewall configuration.

SYNTAX:

```
firewall list [format = <{pretty | cli}>]
```

where:

| | | |
|--------|--|----------|
| format | Select the output format in which the configuration must be shown. Choose between: <ul style="list-style-type: none">> pretty: the configuration is shown as intuitive output in clear text.> cli: the configuration is shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
|--------|--|----------|

EXAMPLE of output in text mode:

```
=>firewall list

Config
=====
State           : enabled
Keep            : disabled
TcpChecks       : exact
TcpWindow       : 65536
IcmpChecks      : enabled
LogDefault      : disabled
LogThreshold    : enabled

Modules
=====
Module          State      Text                                     Hooks
-----
fire            enabled   Firewall Administration Module         sink, forward, source
host_service    enabled   Firewall Host Service Module          forward
level          enabled   Firewall Level Module                 forward
system_service enabled   Firewall System Service Module        sink
=>
```

EXAMPLE of output in CLI mode:

```
=>firewall list format=cli
:firewall config state=enabled keep=disabled tcpchecks=exact icmpchecks=enabled logdefault=disabled
| logthreshold=enabled tcpwindow=65536
:firewall debug traceconfig tcpchecks=disabled icmpchecks=disabled sink=none forward=none
| source=none
=>
```

firewall chain add

Add a chain.

SYNTAX:

```
firewall chain add          chain = <string>
```

where:

| | | |
|-------|------------------------------------|----------|
| chain | The name of the chain to be added. | REQUIRED |
|-------|------------------------------------|----------|

EXAMPLE:

```
=>firewall chain list

Chains
=====
Name                               Description
-----
sink                                system
forward                             system
source                              system
sink_fire                           system
forward_fire                        system
source_fire                         system
forward_host_service               system
forward_level                      system
sink_system_service               system
forward_level_BlockAll             system
forward_level_Standard             system
forward_level_Disabled            system
=>firewall chain add chain=myCHAIN
=>firewall chain list

Chains
=====
Name                               Description
-----
sink                                system
forward                             system
source                              system
sink_fire                           system
forward_fire                        system
source_fire                         system
forward_host_service               system
forward_level                      system
sink_system_service               system
forward_level_BlockAll             system
forward_level_Standard             system
forward_level_Disabled            system
myCHAIN                            user
=>
```

RELATED COMMANDS:

- firewall chain delete **Delete a chain.**
- firewall chain list **List all chains.**

firewall chain delete

Delete a chain.

SYNTAX:

```
firewall chain delete      chain = <string>
```

where:

| | | |
|-------|--------------------------------------|----------|
| chain | The name of the chain to be deleted. | REQUIRED |
|-------|--------------------------------------|----------|

EXAMPLE:

```
=>firewall chain list

Chains
=====
Name                               Description
-----
sink                                 system
forward                             system
source                              system
sink_fire                           system
forward_fire                        system
source_fire                         system
forward_host_service               system
forward_level                      system
sink_system_service               system
forward_level_BlockAll            system
forward_level_Standard            system
forward_level_Disabled            system
myCHAIN                             user
=>firewall chain delete chain=myCHAIN
=>firewall chain list

Chains
=====
Name                               Description
-----
sink                                 system
forward                             system
source                              system
sink_fire                           system
forward_fire                        system
source_fire                         system
forward_host_service               system
forward_level                      system
sink_system_service               system
forward_level_BlockAll            system
forward_level_Standard            system
forward_level_Disabled            system
=>
```

RELATED COMMANDS:

- firewall chain add Add a chain.
- firewall chain list List all chains.

firewall chain flush

Flush all chains.

SYNTAX:

```
firewall chain flush
```

firewall chain list

List all chains.

SYNTAX:

```
firewall chain list [format = <{pretty | cli}>]
```

where:

| | | |
|--------|---|----------|
| format | Select the output format in which the chains must be shown. Choose between: <ul style="list-style-type: none"> > pretty: the chains are shown as intuitive output in clear text. > cli: the chains are shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
|--------|---|----------|

EXAMPLE:

```
=>firewall chain list

Chains
=====
Name                                     Description
-----
sink                                     system
forward                                  system
source                                    system
sink_fire                                 system
forward_fire                              system
source_fire                               system
forward_host_service                      system
forward_level                             system
sink_system_service                       system
forward_level_BlockAll                    system
forward_level_Standard                    system
forward_level_Disabled                    system
=>
```

RELATED COMMANDS:

- firewall chain add Add a chain.
- firewall chain delete Delete a chain.

firewall debug clear

Clear the firewall statistics.

SYNTAX:

```
firewall debug clear
```

EXAMPLE:

```
=>firewall debug stats

Statistics
=====
Used rule contexts           : 0
Total rule contexts         : 256
Total packets parsed        : 2554
Packets parsed in hook sink : 1461
Packets parsed in hook forward : 12
Packets parsed in hook source : 1041
Packets dropped in hook sink : 0
Packets dropped in hook forward : 0
Packets dropped in hook source : 0
TCP flag errors detected    : 14
TCP seq/ack/win errors detected : 5
ICMP errors with partial info : 0
ICMP errors without cause   : 0
ICMP replies without request : 0
Packet replay errors       : 0
=>firewall debug clear
=>firewall debug stats

Statistics
=====
Used rule contexts           : 0
Total rule contexts         : 256
Total packets parsed        : 26
Packets parsed in hook sink : 16
Packets parsed in hook forward : 0
Packets parsed in hook source : 10
Packets dropped in hook sink : 0
Packets dropped in hook forward : 0
Packets dropped in hook source : 0
TCP flag errors detected    : 0
TCP seq/ack/win errors detected : 0
ICMP errors with partial info : 0
ICMP errors without cause   : 0
ICMP replies without request : 0
Packet replay errors       : 0
=>
```

RELATED COMMANDS:

firewall debug stats Display the firewall statistics.

firewall debug stats

Display the firewall statistics.

SYNTAX:

```
firewall debug stats
```

EXAMPLE:

```
=>firewall debug stats

Statistics
=====
Used rule contexts           : 0
Total rule contexts         : 256
Total packets parsed        : 2554
Packets parsed in hook sink : 1461
Packets parsed in hook forward : 12
Packets parsed in hook source : 1041
Packets dropped in hook sink : 0
Packets dropped in hook forward : 0
Packets dropped in hook source : 0
TCP flag errors detected    : 14
TCP seq/ack/win errors detected : 5
ICMP errors with partial info : 0
ICMP errors without cause   : 0
ICMP replies without request : 0
Packet replay errors        : 0

=>
```

RELATED COMMANDS:

firewall debug clear Clear the firewall statistics.

firewall debug traceconfig

Configure the firewall trace options.

SYNTAX:

```
firewall debug traceconfig [tcpchecks = <{disabled | enabled}>]
                             [udpchecks = <{disabled|enabled}>]
                             [icmpchecks = <{disabled | enabled}>]
                             [sink = <{none | all | accept | deny | drop
                                     | reset} or number>]
                             [forward = <{none | all | accept | deny | drop
                                     reset} or number>]
                             [source = <{none | all | accept | deny | drop
                                     | reset} or number>]
```

where:

| | | |
|------------|--|----------|
| tcpchecks | Disable or enable tcpchecks traces. The default is disabled . | OPTIONAL |
| udpchecks | Disable or enable udpchecks traces. The default is disabled . | OPTIONAL |
| icmpchecks | Disable or enable icmpchecks traces. The default is disabled . | OPTIONAL |
| sink | Specify the action traced by the firewall for sink traffic. The default is none . | OPTIONAL |
| forward | Specify the action traced by the firewall for forward traffic. The default is none . | OPTIONAL |
| source | Specify the action traced by the firewall for source traffic. The default is none . | OPTIONAL |

EXAMPLE:

```
=>firewall debug traceconfig

Trace Config
=====
tcpchecks      : disabled
icmpchecks     : disabled
sink           : none
forward        : none
source         : none
=>
```

firewall level add

Add a security level.

SYNTAX:

```
firewall level add      name = <string>
                        [index = <number>]
                        [readonly = <{disabled | enabled}>]
                        [udptrackmode = <{strict | loose}>]
                        [service = <{disabled | enabled}>]
                        [proxy = <{disabled|enabled}>]
                        [text = <quoted string>]
```

where:

| | | |
|--------------|--|----------|
| name | The name of the security level to be added. | REQUIRED |
| index | The index of the security level. Tip Use the command <code>:firewall level list</code> to obtain a list of indexes. Note If not specified, the new security level will be added at the bottom of the list. | OPTIONAL |
| readonly | Select whether the security level is readonly (enabled) or not (disabled). The default is enabled . | OPTIONAL |
| udptrackmode | Select the UDP connection tracking mode. Choose between: > strict : replies to a request from a client must be in a specific window to the client. > loose : inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtain peer-to-peer information from other clients of that same online game). The default is strict . | OPTIONAL |
| proxy | Enable or disable proxy system services for this security level. | OPTIONAL |
| service | Disable or enable host service definitions. The default is disabled . | OPTIONAL |
| text | Description of the security level. Note The maximum length is 39 characters. | OPTIONAL |

RELATED COMMANDS:

| | |
|-----------------------|-------------------------------|
| firewall level delete | Delete a security level. |
| firewall level list | List all the security levels. |

firewall level delete

Delete a security level.

SYNTAX:

```
firewall level delete      name = <string>
```

where:

| | | |
|------|---|----------|
| name | The name of the security level to be deleted. | REQUIRED |
|------|---|----------|

RELATED COMMANDS:

| | |
|---------------------|-------------------------------|
| firewall level add | Add a security level. |
| firewall level list | List all the security levels. |

firewall level flush

Flush the security level configuration.

SYNTAX:

```
firewall level flush
```

firewall level list

List all the security levels.

SYNTAX:

```
firewall level list      [format = <{pretty | cli}>]
                        [string = <string>]
                        [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| format | Select the output format in which the security levels must be shown. Choose between: <ul style="list-style-type: none">> pretty: the security levels are shown as intuitive output in clear text.> cli: the security levels are shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

RELATED COMMANDS:

| | |
|-----------------------|--------------------------|
| firewall level add | Add a security level. |
| firewall level delete | Delete a security level. |

firewall level modify

Configure a security level.

SYNTAX:

```
firewall level modify    name = <string>
                        [index = <number>]
                        [readonly = <{disabled | enabled}>]
                        [udptrackmode = <{strict | loose}>]
                        [service = <{disabled | enabled}>]
                        [proxy = <{disabled|enabled}>]
                        [text = <quoted string>]
```

where:

| | | |
|--------------|---|----------|
| name | The name of the security level to be added. | REQUIRED |
| index | The index of the security level. Tip Use the command <code>:firewall level list</code> to obtain a list of indexes. | OPTIONAL |
| readonly | Select whether the security level is readonly (enabled) or not (disabled). | OPTIONAL |
| udptrackmode | Select the UDP connection tracking mode. Choose between: <ul style="list-style-type: none"> > strict: replies to a request from a client must be in a specific window to the client. > loose: inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtain peer-to-peer information from other clients of that same online game). The default is strict . | OPTIONAL |
| proxy | Enable or disable proxy system services for this security level. | OPTIONAL |
| service | Disable or enable service definitions for this security level. | OPTIONAL |
| text | Description of the security level. Note The maximum length is 39 characters. | OPTIONAL |

firewall level set

Set the security level or display the current security level.

SYNTAX:

```
firewall level set [name = <string>]
```

where:

| | | |
|------|--|----------|
| name | The name of the security level to be set. | OPTIONAL |
| | Note If no security level is specified, the current security level will be shown. | |

firewall rule add

Add a firewall rule.

SYNTAX:

```
firewall rule add          chain = <chain name>
                           [index = <number>]
                           [name = <string>]
                           [clink = <chain name>]
                           [srcintf [!]= <string>]
                           [srcip [!]= <string>]
                           [dstip [!]= <string>]
                           [serv [!]= <string>]
                           [log = <{disabled | enabled}>]
                           [state = <{disabled | enabled}>]
                           action = <{accept|deny|drop|reset|count|link}>
```



If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if the source interface is different from WAN”.

where:

| | | |
|---------|--|----------|
| chain | The name of the chain which contains the rule. | REQUIRED |
| index | The number of the rule in the chain. | OPTIONAL |
| name | The name of the new rule. | OPTIONAL |
| clink | The name of the chain to be parsed when this rule applies. | OPTIONAL |
| srcintf | The name of the source interface expression. | OPTIONAL |
| srcip | The name of the source IP expression. | OPTIONAL |
| dstintf | The name of the destination interface expression. | OPTIONAL |
| dstip | The name of the destination IP expression. | OPTIONAL |
| serv | The name of the service expression. | OPTIONAL |
| log | Disable or enable logging is done when this rule applies. | OPTIONAL |
| state | Enable or disable this rule. | OPTIONAL |
| action | The action to be taken when this rule applies ('link' when clink is used). | REQUIRED |

RELATED COMMANDS:

firewall rule delete Delete a firewall rule.
expr list List the expressions.

firewall rule delete

Delete a firewall rule.

SYNTAX:

```
firewall rule delete      chain = <string>
                          index = <number>
```

where:

| | | |
|-------|--|----------|
| chain | The name of the chain in which a rule must be deleted. | REQUIRED |
| index | The number of the rule in the chain. | REQUIRED |

RELATED COMMANDS:

firewall rule add Add a firewall rule.

firewall rule flush

Flush all firewall rules.

SYNTAX:

```
firewall rule flush [chain = <string>]
```

where:

| | | |
|-------|--|----------|
| chain | The name of the chain for which the rules must be flushed. | OPTIONAL |
| | Note If not specified, the rules of all the chains will be flushed. | |

firewall rule list

Show a list of the firewall rules in a chain.

SYNTAX:

```
firewall rule list      [chain = <string>]
                        [format = <{pretty | cli}>]
                        [string = <string>]
                        [beginstring = <string>]
```

where:

| | | |
|-------------|--|----------|
| chain | The name of the chain for which the rules must be listed. Note If not specified, the rules of all the chains are shown. | OPTIONAL |
| format | Select the output format in which the list must be shown. Choose between: > pretty : the list is shown as intuitive output in clear text. > cli : the list is shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

EXAMPLE:

```
=>firewall rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                Nr.  Flags  Rule
-----
sink                 1    CDE
                    2    CDE      : link    sink_fire
sink_fire            1    CE     SSDP      : accept  ssdp_serv lan.* > *.ssdp_ip
sink_system_service 1    CDE     HTTPPI    : accept  HTTPPI_sv_0 HTTPPI_if_0.* > *.*
DER_                 2    DE     PING_RESPONDER : accept  PING_RESPONDER_sv_0 PING_RESPON
                    if_0.* > *.*
                    3    CD     SENDTO_LISTEN : accept  SENDTO_LISTEN_sv_0 *.* > *.*
                    4    D      ICMP_LISTEN   : accept  ICMP_LISTEN_sv_0 *.* > *.*
                    5    CD     SRAS          : accept  SRAS_sv_0 *.* > *.*
                    6    CD     RAS           : accept  RAS_sv_0 *.* > *.*
                    7    CDE    MDAP         : accept  MDAP_sv_0 *.* > *.*
                    8    CDE    SNMP_AGENT   : accept  SNMP_AGENT_sv_0 SNMP_AGENT_
                    if_0.* > *.*
                    9    CD     DHCP-S       : accept  DHCP-S_sv_0 *.* > *.*
                   10    CDE    DHCP-R       : accept  DHCP-R_sv_0 DHCP-R_if_0.* > *.*
                   11    CDE    DNS-S       : accept  DNS-S_sv_0 DNS-S_if_0.* > *.*
                   12    CD     RIP-Query    : accept  RIP-Query_sv_0 *.* > *.*
                   13    CDE    RIP         : accept  RIP_sv_0 *.* > *.*
                   14    CDE    TELNET      : accept  TELNET_sv_0 TELNET_if_0.* > *.*
                   15    CDE    FTP         : accept  FTP_sv_0 FTP_if_0.* > *.*
                   16    CDE    HTTPs      : accept  HTTPs_sv_0 HTTPs_if_0.* > *.*
                   17    CDE    HTTP       : accept  HTTP_sv_0 HTTP_if_0.* > *.*
forward              1    CDE      : link    forward_fire
                    2    CDE      : link    forward_host_service
                    3    CDE      : link    forward_level
forward_level         1    CDE      : link    forward_level_Disabled
forward_level_Disabled 1    CE     AnyTraffic : accept  *.* > *.*
source                1    CDE      : link    source_fire
source_fire           1    CE     AnyTraffic : accept  *.* > *.*

=>
=>firewall rule list format=cli
:firewall rule add chain=sink_fire index=1 name=SSDP srcintf=lan dstip=ssdp_ip serv=ssdp_serv

| log=disabled state=enabled action=accept
:firewall rule add chain=source_fire index=1 name=AnyTraffic log=disabled state=enabled
| action=accept
:firewall rule add chain=forward_level_BlockAll index=1 name=AnyTraffic log=disabled state=en
abled
| action=drop
:firewall rule add chain=forward_level_Standard index=1 name=FromLAN srcintf=lan log=disabled

| state=enabled action=accept
:firewall rule add chain=forward_level_Disabled index=1 name=AnyTraffic log=disabled state=en
abled
| action=accept
=>
```

firewall rule modify

Modify a firewall rule.

SYNTAX:

```
firewall rule modify      chain = <string>
                          index = <number>
                          [newindex = <number>]
                          [name = <string>]
                          [clink = <chain name>]
                          [srcintf [!]= <string>]
                          [srcip [!]= <string>]
                          [dstintf [!]= <string>]
                          [dstip [!]= <string>]
                          [serv [!]= <string>]
                          [log = <{disabled | enabled}>]
                          [state = <{disabled | enabled}>]
                          [action = <action>]
```



If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if the source interface is different from WAN”.

where:

| | | |
|----------|--|----------|
| chain | The name of the chain which contains the rule. | REQUIRED |
| index | The number of the rule in the chain. | REQUIRED |
| newindex | The number of the rule in the chain. | OPTIONAL |
| name | The name of the new rule. | OPTIONAL |
| clink | The name of the chain to be parsed when this rule applies. | OPTIONAL |
| srcintf | The name of the source interface expression. | OPTIONAL |
| srcip | The name of the source IP expression. | OPTIONAL |
| dstintf | The name of the destination interface expression. | OPTIONAL |
| dstip | The name of the destination IP expression. | OPTIONAL |
| serv | The name of the service expression. | OPTIONAL |
| log | Disable or enable logging when this rule applies. | OPTIONAL |
| state | Disable or enable this rule. | OPTIONAL |
| action | The action to be taken when this rule applies ('link' when clink is used). | OPTIONAL |

RELATED COMMANDS:

firewall rule delete Delete a firewall rule.
expr list List the expressions.

firewall rule debug clear

Clear the firewall rule statistics.

SYNTAX:

```
firewall rule debug clear    [chain = <string>]
                             [index = <number>]
```

where:

| | | |
|-------|--|----------|
| chain | The name of the chain which contains the rule. | OPTIONAL |
| index | The number of the rule in the chain. | OPTIONAL |

Note If not specified, the statistics for all the rules in the chain will be cleared.

Firewall Commands

EXAMPLE:

```
=>firewall rule debug stats
chain                index  packets  bytes
-----
sink                 1      0        0
                   2      4       192
forward              1      0        0
                   2      0        0
                   3     10       480
source               1      0        0
sink_fire            1      0        0
source_fire          1      0        0
forward_level        1     10       480
sink_system_service  1      1        48
                   2      0        0
                   ...
                   16     0        0
                   17     2        96
forward_level_BlockAll 1      0        0
forward_level_Standard 1      0        0
forward_level_Disabled 1     10       480
=>firewall rule debug clear
=>firewall rule debug stats
chain                index  packets  bytes
-----
sink                 1      0        0
                   2      0        0
forward              1      0        0
                   2      0        0
                   3      0        0
source               1      0        0
sink_fire            1      0        0
source_fire          1      0        0
forward_level        1      0        0
sink_system_service  1      0        0
                   2      0        0
                   ...
                   16     0        0
                   17     0        0
forward_level_BlockAll 1      0        0
forward_level_Standard 1      0        0
forward_level_Disabled 1      0        0
=>
```

RELATED COMMANDS:

firewall rule debug
stats

Show the firewall rule statistics.

firewall rule debug stats

Show the firewall rule statistics.

SYNTAX:

```
firewall rule debug stats    [chain = <chain name>]
                             [index = <number>]
```

where:

| | | |
|-------|---|----------|
| chain | The name of the chain for which the statistics must be shown. Note If not specified, the statistics for all the chains will be shown. | OPTIONAL |
| index | The number of the rule in the chain. Note If not specified, the statistics for all the rules in the chain are shown. | OPTIONAL |

Firewall Commands

EXAMPLE:

```
=>firewall rule debug stats
```

| chain | index | packets | bytes |
|------------------------|-------|---------|-------|
| sink | 1 | 0 | 0 |
| | 2 | 4 | 192 |
| forward | 1 | 0 | 0 |
| | 2 | 0 | 0 |
| | 3 | 10 | 480 |
| source | 1 | 0 | 0 |
| sink_fire | 1 | 0 | 0 |
| source_fire | 1 | 0 | 0 |
| forward_level | 1 | 10 | 480 |
| sink_system_service | 1 | 1 | 48 |
| | 2 | 0 | 0 |
| | 3 | 0 | 0 |
| | 4 | 0 | 0 |
| | 5 | 0 | 0 |
| | 6 | 0 | 0 |
| | 7 | 0 | 0 |
| | 8 | 0 | 0 |
| | 9 | 0 | 0 |
| | 10 | 0 | 0 |
| | 11 | 0 | 0 |
| | 12 | 0 | 0 |
| | 13 | 0 | 0 |
| | 14 | 1 | 48 |
| | 15 | 0 | 0 |
| | 16 | 0 | 0 |
| | 17 | 2 | 96 |
| forward_level_BlockAll | 1 | 0 | 0 |
| forward_level_Standard | 1 | 0 | 0 |
| forward_level_Disabled | 1 | 10 | 480 |

```
=>
```

RELATED COMMANDS:

firewall rule debug clear

Clear the firewall rule statistics.

firewall rule debug traceconfig

Display or modify the rule trace configuration.

SYNTAX:

```
firewall rule debug traceconfig [trace = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| trace | Enable or disable rule traces. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

EXAMPLE:

```
=>firewall rule debug traceconfig  
:firewall rule debug traceconfig state=disabled  
=>
```

17 GRP Commands

Introduction

This chapter describes the commands of the **grp** command group.

Contents

This chapter covers the following commands:

| | | |
|------------------|--|-----|
| grp config | Set the Generic Routing Protocol (GRP) configuration settings. | 376 |
| grp flush | Flush the GRP interface settings and parameters. | 377 |
| grp rtlist | Show the current routes in the GRP interfaces routing table. | 378 |
| grp rip config | Configure the RIP settings. | 379 |
| grp rip flush | Flush the RIP interface settings and global parameters. | 382 |
| grp rip ifconfig | Configure a RIP interface. | 383 |
| grp rip show | Show the RIP settings and the routes in the RIP database. | 385 |

grp config

Set the Generic Routing Protocol (GRP) configuration settings.

SYNTAX:

```
grp config      [cdistance = <number{0-255}>]
                [kdistance = <number{0-255}>]
                [rdistance = <number{0-255}>]
                [trace = <{disabled | enabled}>]
```

where:

| | | |
|-----------|--|----------|
| cdistance | A number between 0 and 255. Sets the distance of the connected route type. The default is 0 . | OPTIONAL |
| kdistance | A number between 0 and 255. Sets the distance of the kernel route type. The default is 1 . | OPTIONAL |
| rdistance | A number between 0 and 255. Sets the distance of the RIP route type. The default is 120 . | OPTIONAL |
| trace | Enable or disable verbose console messaging. The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>grp config
Distance of the connected route type : 0
Distance of the kernel route type : 1
Distance of the RIP route type : 120
Tracing : disabled
=>
```

grp flush

Flush the GRP interface settings and parameters.

SYNTAX:

```
grp flush
```

grp rtlist

Show the current routes in the GRP interfaces routing table.

SYNTAX:

```
grp rtlist          [dst = <ip-address>]
                   [dstmask = <ip-mask (dotted or cidr)>]
```

where:

| | | |
|----------------|--|----------|
| dst | The destination IP address of the route. Supports IP/mask notation. Note If no destination IP address is specified, all the current routes will be shown. | OPTIONAL |
| dstmask | The destination IP address mask, either in dotted or in numerical cidr notation. | OPTIONAL |

EXAMPLE:

```
=>grp rtlist
Codes : K - kernel, C - connected, S - static, R - rip, * - FIB route

destination : 10.0.0.0/24 *
Route type : "C"
distance : 0
Nextthop : LocalNetwork

destination : 10.0.0.0/24
Route type : "K"
distance : 1
Nextthop : 10.0.0.138

destination : 127.0.0.0/8 *
Route type : "C"
distance : 0
Nextthop : loop

destination : 192.168.1.0/24 *
Route type : "C"
distance : 0
Nextthop : LocalNetwork

destination : 192.168.1.0/24
Route type : "K"
distance : 1
Nextthop : 192.168.1.254

destination : 255.255.255.255/32 *
Route type : "K"
distance : 1
Nextthop : 127.0.0.1

=>
```


grp rip config

Configure the RIP settings.

SYNTAX:

```
grp rip config    state = <{disabled | enabled}>
                  [version = <{rip_unspec | rip_v1 | rip_v2}>]
                  [defmetric = <number{1-16}>]
                  [updatetime = <number{1-3600}>]
                  [timeouttime = <number{1-3600}>]
                  [garbagetime = <number{1-3600}>]
                  [impcrt = <{disabled | enabled}>]
                  [impkrt = <{disabled | enabled}>]
                  [impsrt = <{disabled | enabled}>]
                  [impdefkrt = <{disabled | enabled}>]
                  [impdefsrt = <{disabled | enabled}>]
                  [exprt = <{disabled | enabled}>]
                  [expdefrt = <{disabled | enabled}>]
                  [txdefrt = <{disabled | enabled}>]
                  [trace = <{disabled | enabled}>]
```

where:

| | | |
|-------------|--|----------|
| state | Enable or disable the RIP daemon. The default is enabled . | REQUIRED |
| version | Configure the RIP version to be applied. Choose between: <ul style="list-style-type: none">> rip_unspec: No RIP version is specified as such. The actual RIP version to be used is negotiated with the remote side.> rip_v1: RIP version 1 is used.> rip_v2: RIP version 2 is used. The default is rip_v2 . | OPTIONAL |
| defmetric | A number between 1 and 16 (hops). Represents the default RIP metric for imported routes. The default is 1 . | OPTIONAL |
| updatetime | A number between 1 and 3600 (seconds). Represents the update timer value of the RIP routing table. The default is 30 . | OPTIONAL |
| timeouttime | A number between 1 and 3600 (seconds). Represents the timeout timer value of the RIP routing info. The default is 180 . | OPTIONAL |
| garbagetime | A number between 1 and 3600 (seconds). Represents the garbage collection timer value. The default is 120 . | OPTIONAL |
| impcrt | Enable or disable the import of connected routes. The default is enabled . | OPTIONAL |
| impkrt | Enable or disable the import of kernel routes. The default is enabled . | OPTIONAL |

| | | |
|------------|--|----------|
| impsrt | Enable or disable the import of static routes. The default is enabled . | OPTIONAL |
| impdefkrt | Enable or disable the import of the default kernel route. The default is enabled . | OPTIONAL |
| impdefsrtr | Enable or disable the import of the default static route. The default is enabled . | OPTIONAL |
| exprt | Enable or disable the export of received RIP routes. The default is enabled . | OPTIONAL |
| expdefrt | Enable or disable the export of the received RIP default route. The default is enabled . | OPTIONAL |
| txrt | Enable or disable the transmission of the RIP default route. The default is enabled . | OPTIONAL |
| trace | Enable or disable verbose console messaging. The default is disabled . | OPTIONAL |

GRP Commands

EXAMPLE:

```
=>grp rip show
RIP routing protocol config dump
-----
RIP daemon is enabled
Global RIP queries received : 0
Global RIP route changes : 0
Default version : send rip_v2, receive rip_v2
Default redistribution metric is 1
Sending routing table updates every 30 seconds with +/-5%
Route timeout after 180 seconds
Route garbage collect after 120 seconds
Import of connected routes is enabled
Import of kernel routes is enabled
Import of static routes is enabled
Import of default kernel route is enabled
Import of default static route is enabled
Export of RIP routes is enabled
Export of default RIP route is enabled
Transmission of default RIP route is enabled

Interface      Send          Recv          AuthMode      Passive  SplitHorizon  BadPackets
BadRoutes      SentUpdates
-----
lan1           rip_unspec   rip_unspec   none          enabled  enabled       0          0
0
Internet      rip_unspec   rip_unspec   none          enabled  enabled       0          0
0

RIP routing table dump
-----
Codes : K - Kernel, C - connected, S - Static, R - RIP, * - FIB route
Network      Next Hop      Metric From      Flags
-----
C 10.0.0.0/24          1             <> *
C 192.168.1.0/24     1             <> *
=>
```

RELATED COMMANDS:

grp rip show

Show the RIP settings and the routes in the RIP database.

grp rip flush

Flush the RIP interface settings and global parameters.

SYNTAX:

```
grp rip flush
```

grp rip ifconfig

Configure a RIP interface.

SYNTAX:

```
grp rip ifconfig  intf = <string>
                  [rip = <{disabled | enabled}>]
                  [rxversion = <{rip_unspec | rip_v1 | rip_v2 | rip_v1-2}>]
                  [authmode = <{none | cleartext}>]
                  [authstring = <quoted string>]
                  [splithorizon = <{disable | enable}>]
```

where:

| | | |
|--------------|--|----------|
| intf | The name of the RIP interface to be configured. Tip Use the command :grp iflist to obtain a list of available interfaces. | REQUIRED |
| rip | Enabled or disabled RIP on this interface. The default is disabled . | OPTIONAL |
| rxversion | Configure the RIP receive version to be applied. Choose between: <ul style="list-style-type: none">> rip_unspec: No RIP version is specified as such. The actual RIP version to be used is negotiated with the remote side.> rip_v1: RIP version 1 is used.> rip_v2: RIP version 2 is used.> rip_v1-2: RIP version 1 and RIP version 2 are used. The default is rip_unspec . | OPTIONAL |
| authmode | Configure the RIP authentication mode. Enter the mode in cleartext or specify none in case no authentication mode is required. The default is none . | OPTIONAL |
| authstring | Configure the authentication string for the RIP authentication password. Note Leave authstring unspecified in case authmode is none . | OPTIONAL |
| splithorizon | Enable or disable the split horizon status for this interface. The default is enabled . | OPTIONAL |

EXAMPLE:

```
=>grp rip ifconfig
intf = myPPP_ppp
[rip] = disabled
[rxversion] = rip_unspec
[authmode] = none
[authstr] =
[passive] = disabled
[splithorizon] = enabled
:grp rip ifconfig intf=myPPP_ppp
=>
```

grp rip show

Show the RIP settings and the routes in the RIP database.

SYNTAX:

```
grp rip show
```

EXAMPLE:

```
=>grp rip show
RIP routing protocol config dump
-----
RIP daemon is enabled
Global RIP queries received : 0
Global RIP route changes : 3
Default version : send rip_v2, receive rip_v2
Default redistribution metric is 1
Sending routing table updates every 30 seconds with +/-5%
Route timeout after 180 seconds
Route garbage collect after 120 seconds
Import of connected routes is enabled
Import of kernel routes is enabled
Import of static routes is enabled
Import of default kernel route is enabled
Import of default static route is enabled
Export of RIP routes is enabled
Export of default RIP route is enabled
Transmission of default RIP route is enabled

  Intf      Send      Recv      AuthMode Passive  SplitHorizon BadPackets BadRoutes SentUpd
ates
-----
----
eth0      rip_unspec rip_unspec none      off      on          0          58
62

RIP route table dump
-----
Codes : K - Kernel, C - connected, S - Static, R - RIP, * - FIB route
Network      Next Hop      Metric      From          Flags
-----
R 0.0.0.0/0      192.6.11.150  3           192.6.11.150  <> *
C 10.0.0.0/8      1           <> *
K 129.132.2.21/32 138.203.7.146 1           <> *
C 138.203.4.0/22 1           <> *
C 172.16.1.0/24  1           <> *
=>
```


18 Hostmgr Commands

Introduction

This chapter describes the commands of the **hostmgr** command group.

Contents

This chapter covers the following commands:

| | | |
|----------------|--|-----|
| hostmgr add | Add host device info to the host manager. | 388 |
| hostmgr clear | Remove all the hosts from the list. | 390 |
| hostmgr config | Configure the host manager parameters. | 391 |
| hostmgr delete | Delete the host device info from the host manager. | 392 |
| hostmgr flush | Flush the host manager configuration. | 393 |
| hostmgr list | List all the host devices. | 394 |

hostmgr add

Add host device info to the host manager.

SYNTAX:

```
hostmgr add      mac_addr = <hardware-address>
                  [ip_addr = <ip-address>]
                  [name = <string>]
                  [type=<{generic_device|desktop_computer|laptop_computer|
set_top_box|pda|gaming_console|phone|mobile_phone|
printer|mass_storage_device}>]
                  [ipintf = <string>]
                  [ethintf = <string>]
                  [physintf = <string>]
```

where:

| | | |
|----------|---|----------|
| mac_addr | The MAC address of the host to be added. | REQUIRED |
| ip_addr | The host IP address. | OPTIONAL |
| name | The host name. | OPTIONAL |
| type | The host type. Choose between: <ul style="list-style-type: none"> > generic_device > desktop_computer > laptop_computer > set_top_box > pda > gaming_console > phone > mobile_phone > printer > mass_storage_device The default is Generic Device . | OPTIONAL |
| ipintf | The IP interface name. | OPTIONAL |
| ethintf | The Ethernet interface name. | OPTIONAL |
| physintf | The physical interface name. | OPTIONAL |

Hostmgr Commands

EXAMPLE:

```
=>hostmgr list
MAC-address      IP-address      Flags Type          Intf          Hw Intf      Hostname
-----
00:10:a4:ad:32:cf 192.168.1.64    C      Generic Device  LocalNetwork  ethif4       MyComputer

=>hostmgr add mac_addr=00:10:a4:33:56:53 name=Play type=Playstation
=>hostmgr list
MAC-address      IP-address      Flags Type          Intf          Hw Intf      Hostname
-----
00:10:a4:33:56:53 0.0.0.0        Playstation  ethif1        ethif1        Play
00:10:a4:ad:32:cf 192.168.1.64    C      Generic Device  LocalNetwork  ethif4       MyComputer

=>
```

RELATED COMMANDS:

hostmgr delete

Delete the host device info from the host manager.

hostmgr list

List all the host devices.

hostmgr clear

Remove all the hosts from the list.

SYNTAX:

```
hostmgr clear
```

EXAMPLE:

```
=>hostmgr list
MAC-address      IP-address      Flags  Type           Intf           Hw Intf      Hostname
-----
00:10:a4:33:56:53 0.0.0.0         Playstation ethif1          ethif1        Play
00:10:a4:ad:32:cf 192.168.1.64   C      Generic Device LocalNetwork   ethif4        MyComput
er

=>hostmgr clear
=>hostmgr list
No hosts found.

=>
```

RELATED COMMANDS:

hostmgr delete

Delete the host device info from the host manager.

hostmgr config

Configure the host manager parameters.

SYNTAX:

```
hostmgr config [state = <{disabled | enabled}>]
               [scantime = <number{10-600}>]
               [autosave = <{disabled | enabled}>]
               [trace = <{disabled | enabled}>]
```

where:

| | | |
|----------|---|----------|
| state | Enable or disable the host manager daemon. The default is <i>enabled</i> . | OPTIONAL |
| scantime | A number between 10 and 600 (seconds). Represents the time between two scans. The default is <i>30</i> (seconds). | OPTIONAL |
| autosave | Enable or disable automatic saves to flash memory. The default is <i>enabled</i> . | OPTIONAL |
| trace | Enable or disable the host manager traces. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>hostmgr config
  state      : enabled
  scantime   : 30 sec.
  autosave   : enabled
  trace      : disabled

=>
```

hostmgr delete

Delete the host device info from the host manager.

SYNTAX:

```
hostmgr delete mac_addr = <hardware-address>
```

where:

| | | |
|-----------------|--|-----------------|
| mac_addr | The MAC address of the host to be removed. | REQUIRED |
|-----------------|--|-----------------|

EXAMPLE:

```
=>hostmgr list
MAC-address      IP-address      Flags  Type           Intf           Hw Intf      Hostname
-----
00:10:a4:33:56:53 0.0.0.0         C      Playstation    ethif1         ethif1       Play
00:10:a4:ad:32:cf 192.168.1.64   C      Generic Device LocalNetwork    ethif4       MyComput
er

=>hostmgr delete mac_addr=00:10:a4:fa:33:56
=>hostmgr list
MAC-address      IP-address      Flags  Type           Intf           Hw Intf      Hostname
-----
00:10:a4:ad:32:cf 192.168.1.64   C      Generic Device LocalNetwork    ethif4       MyComput
er

=>
```

RELATED COMMANDS:

| | |
|---------------|---|
| hostmgr add | Add host device info to the host manager. |
| hostmgr clear | Remove all the hosts from the list. |
| hostmgr list | List all the host devices. |

hostmgr flush

Flush the host manager configuration.

The host manager configuration is cleaned and returned to default values.

SYNTAX:

```
hostmgr flush
```

hostmgr list

List all the host devices.

SYNTAX:

```
hostmgr list
```

EXAMPLE:

```
=>hostmgr list
MAC-address      IP-address      Flags  Type           Intf           Hw Intf      Hostname
-----
00:10:a4:33:56:53 0.0.0.0         Playstation ethif1         ethif1        Play
00:10:a4:ad:32:cf 192.168.1.64    C      Generic Device LocalNetwork   ethif4        MyComput
er
=>
```

RELATED COMMANDS:

hostmgr add

Add host device info to the host manager.

hostmgr delete

Delete the host device info from the host manager.

19 IDS Commands

Introduction

This chapter describes the commands of the **ids** command group.

Contents

This chapter covers the following commands:

| | | |
|----------------------|--|-----|
| ids clear | Reset the IDS statistics. | 396 |
| ids config | Display/modify the Intrusion Detection System (IDS) configuration. | 397 |
| ids parser list | Display the IDS parser configuration. | 398 |
| ids parser modify | Modify the IDS parser configuration. | 399 |
| ids pattern clear | Reset the pattern tracker. | 401 |
| ids pattern list | Display the patterns in the pattern tracker. | 402 |
| ids pattern stats | Display the pattern tracker statistics. | 403 |
| ids signature list | Displays the ids signature configuration | 404 |
| ids signature modify | Modify the states of the signatures. | 405 |
| ids threshold clear | Reset the IDS thresholds to their default values. | 406 |
| ids threshold list | Display the IDS thresholds. | 407 |
| ids threshold modify | Modify the IDS thresholds. | 408 |

ids clear

Reset the IDS statistics.

SYNTAX:

```
ids clear
```

RELATED COMMANDS:

ids parser list

Display the IDS parser configuration.

ids config

Display/modify the Intrusion Detection System (IDS) configuration.

SYNTAX:

```
ids config [state = <{disabled | enabled}>]
           [trace = <{disabled|enabled}>]
```

where:

| | | |
|-------|--|----------|
| state | Enable or disable IDS checks. The default is enabled . | OPTIONAL |
| trace | Enable or disable tracing. The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>ids config
IDS configuration:
=====
state  : enabled
traces ::disabled
=>
```

ids parser list

Display the IDS parser configuration.

SYNTAX:

```
ids parser list          [parser = <parser>]
```

where:

| parser | The name of the parser | REQUIRED |
|--------|------------------------|----------|
|--------|------------------------|----------|

EXAMPLE:

```
=>ids parser list
parser                               state
-----
fragment                             enabled
scan                                  enabled
dos                                   enabled
proto                                 enabled
rate                                  enabled
=>
```

ids parser modify

Modify the IDS parser configuration.

SYNTAX:

```
ids parser modify      parser = <string>
                       state = <{disabled | enabled}>
```

where:

| | | |
|--------|---|----------|
| parser | The name of the IDS parser of which the configuration must be modified. | REQUIRED |
| state | Disable or enable the parser. | REQUIRED |

EXAMPLE:

```
=>ids list
Resources:
=====
resource          total  maximum
-----
parsers           5      10
signatures        38     50

Signatures:
=====
parser  signature                                hits action          state
-----
fragment  fragment sweep                            0 log, drop        enabled
fragment  zero-length fragment size                0 log, drop        enabled
fragment  small fragment size                      0 log, drop        enabled
fragment  fragment size overrun                    0 log, drop        enabled
fragment  fragment overlap                          0 log, drop        enabled
fragment  fragment out-of-order                     0 log               enabled
...

=>ids parser modify parser=fragment state=disabled
=>ids list
Resources:
=====
resource          total  maximum
-----
parsers           5      10
signatures        38     50

Signatures:
=====
parser  signature                                hits action          state
-----
fragment  fragment sweep                            0 log, drop        disabled
fragment  zero-length fragment size                0 log, drop        disabled
fragment  small fragment size                      0 log, drop        disabled
fragment  fragment size overrun                    0 log, drop        disabled
fragment  fragment overlap                          0 log, drop        disabled
fragment  fragment out-of-order                     0 log               disabled
...

=>
```

ids pattern clear

Reset the pattern tracker.

SYNTAX:

```
ids pattern clear
```

EXAMPLE:

```
=>ids pattern stats
Pattern tracker statistics:
-----
memory                : 32768 bytes
maximum number of patterns : 512
number of active patterns  : 8
number of recycled patterns : 0
number of pattern searches : 9
number of new patterns     : 8
maximum number of hash collisions : 1
% of hash entries with collisions : 0.09
% of hash entries unused    : 99.31
=>ids pattern clear
=>ids pattern stats
Pattern tracker statistics:
-----
memory                : 32768 bytes
maximum number of patterns : 512
number of active patterns  : 0
number of recycled patterns : 0
number of pattern searches : 0
number of new patterns     : 0
maximum number of hash collisions : 0
% of hash entries with collisions : 0.00
% of hash entries unused    : 100.00
=>
```

RELATED COMMANDS:

| | |
|-------------------|--|
| ids pattern list | Display the patterns in the pattern tracker. |
| ids pattern stats | Display the pattern tracker statistics. |

ids pattern list

Display the patterns in the pattern tracker.

SYNTAX:

```
ids pattern list [size = <{10 | 100 | full} or number>]
```

where:

| | | |
|-------------|--|-----------------|
| size | The size of the IDS pattern list that will be shown. Choose between: <ul style="list-style-type: none"> > 10 > 100 > full or, alternatively, specify a number. The default is full . | OPTIONAL |
|-------------|--|-----------------|

EXAMPLE:

```
=>ids pattern list
 1. # 40002# UDP          *.*.*.*:*  ->      *.*.*.*:*  count:1
period: [00001564..00001565]
 2. # 30002# UDP          *.*.*.*:*  -> 255.255.255.255:67 count:1
period: [00001564..00001566]
 3. # 5000a# UDP          *.*.*.*:*  -> 255.255.255.255:*  count:1
period: [00001411..00001425]
=>
```

RELATED COMMANDS:

| | |
|-------------------|---|
| ids pattern clear | Reset the pattern tracker. |
| ids pattern stats | Display the pattern tracker statistics. |

ids pattern stats

Display the pattern tracker statistics.

SYNTAX:

```
ids pattern stats
```

EXAMPLE:

```
=>ids pattern stats
Pattern tracker statistics:
-----
memory                : 32768 bytes
maximum number of patterns : 512
number of active patterns : 8
number of recycled patterns : 0
number of pattern searches : 9
number of new patterns    : 8
maximum number of hash collisions : 1
% of hash entries with collisions : 0.09
% of hash entries unused    : 99.31
=>
```

RELATED COMMANDS:

ids pattern clear

Reset the pattern tracker.

ids pattern list

Display the patterns in the pattern tracker.

ids signature list

Displays the ids signature configuration

SYNTAX

```
ids signature list      [signature = <fragment_sweep|zero-
                        length_fragment_size|
                        small_fragment_size|fragment_size_ove
                        rrun|
                        fragment_overlap|fragment_out-
                        of-order|
                        ip_protocol_scan|tcp_port_scan|tcp_sy
                        n_scan|
                        stealth_tcp_null_scan|stealth_tcp_fin
                        _scan|
                        stealth_tcp_xmas_scan|
                        stealth_tcp_full_xmas_scan|
                        stealth_tcp_vecna_scan|
                        stealth_tcp_syn-fin_scan|
                        udp_port_scan|ping_sweep_scan|tcp_syn
                        _flood|
                        udp_flood|ping_flood|icmp_unreachable
                        _storm|
                        smurf_broadcast_attack|smurf_storm_at
                        tack|
                        fraggle_broadcast_attack|
                        fraggle_storm_attack|land_attack]>]
```

where

| signature | The name of the signature | OPTIONAL |
|-----------|---------------------------|----------|
|-----------|---------------------------|----------|

EXAMPLE:

```
=>ids signature list signature fragment_sweep
signature                parser                hits action                state
-----
fragment_sweep          fragment                0 log                enabled
=>
```

ids signature modify

Modify the states of the signatures.

SYNTAX

```
ids signature modify      [signature = <fragment_sweep|
                           zero-length_fragment_size|
                           small_fragment_size|
                           fragment_size_overrun|
                           fragment_overlap|
                           fragment_out-of-order|
                           ip_protocol_scan|
                           tcp_port_scan|tcp_syn_scan|
                           stealth_tcp_null_scan|
                           stealth_tcp_fin_scan|
                           stealth_tcp_xmas_scan|
                           stealth_tcp_full_xmas_scan|
                           stealth_tcp_vecna_scan|
                           stealth_tcp_syn-fin_scan|
                           udp_port_scan|ping_sweep_scan|
                           tcp_syn_flood|udp_flood|ping_flood|
                           icmp_unreachable_storm|
                           smurf_broadcast_attack|
                           smurf_storm_attack|
                           fraggle_broadcast_attack|
                           fraggle_storm_attack|land_attack]>]
                           state = <{disabled|enabled}>
```

where

| | | |
|------------------|-------------------------------------|-----------------|
| signature | The name of the signature | REQUIRED |
| state | The desired state of the signature. | REQUIRED |

EXAMPLE:

```
=>ids signature modify
[signature] = ip_protocol_scan
state = disabled
:ids signature modify signature=ip_protocol_scan state=disabled
=>
```

ids threshold clear

Reset the IDS thresholds to their default values.

SYNTAX:

```
ids threshold clear
```

EXAMPLE:

```
=>ids threshold list
index  name                window      limit  scaling
-----
  1.  ids scan             20          20    enabled
  2.  ids flood           2           100   disabled
  3.  ids tcp rate        10          300   enabled
  4.  ids udp rate        1           200   disabled
  5.  ids icmp rate       1           200   disabled
  6.  ids ip rate         1           200   disable
=>ids threshold clear
=>ids threshold list
index  name                window      limit  scaling
-----
  1.  ids scan             20          20    enabled
  2.  ids flood           2           100   disabled
  3.  ids tcp rate        1           200   disabled
  4.  ids udp rate        1           200   disabled
  5.  ids icmp rate       1           200   disabled
  6.  ids ip rate         1           200   disabled
=>
```

RELATED COMMANDS:

| | |
|----------------------|-----------------------------|
| ids threshold list | Display the IDS thresholds. |
| ids threshold modify | Modify the IDS thresholds. |

ids threshold list

Display the IDS thresholds.

SYNTAX:

```
ids threshold list
```

EXAMPLE:

```
=>ids threshold list
index  name                window    limit  scaling
-----
  1.  ids scan              20        20    enabled
  2.  ids flood             2         100   disabled
  3.  ids tcp rate         1         200   disabled
  4.  ids udp rate         1         200   disabled
  5.  ids icmp rate        1         200   disabled
  6.  ids ip rate          1         200   disabled
=>
```

RELATED COMMANDS:

ids threshold clear

Reset the IDS thresholds to their default values.

ids threshold modify

Modify the IDS thresholds.

ids threshold modify

Modify the IDS thresholds.

SYNTAX:

```
ids threshold modify    index = <number>
                        [window = <number>]
                        [limit = <number>]
                        [scaling = <{disabled | enabled}>]
```

where:

| | | |
|---------|--|----------|
| index | The index of the IDS threshold to be modified. Tip Use the command :ids threshold list to obtain the indexes. | REQUIRED |
| window | A number (of seconds). Represents the time window of the threshold. | OPTIONAL |
| limit | A number. Represents the limit of the threshold. | OPTIONAL |
| scaling | Enable or disable scaling of the threshold window. | OPTIONAL |

EXAMPLE:

```
=>ids threshold list
index  name                window    limit  scaling
-----
  1.  ids scan           20        20    enabled
  2.  ids flood         2         100   disabled
  3.  ids tcp rate     1         200   disabled
  4.  ids udp rate     1         200   disabled
  5.  ids icmp rate    1         200   disabled
  6.  ids ip rate      1         200   disabled
=>ids threshold modify index=3 window=10 limit=300 scaling=enabled
=>ids threshold list
index  name                window    limit  scaling
-----
  1.  ids scan           20        20    enabled
  2.  ids flood         2         100   disabled
  3.  ids tcp rate     10        300   enabled
  4.  ids udp rate     1         200   disabled
  5.  ids icmp rate    1         200   disabled
  6.  ids ip rate      1         200   disable
=>
```

RELATED COMMANDS:

| | |
|---------------------|---|
| ids threshold clear | Reset the IDS thresholds to their default values. |
| ids threshold list | Display the IDS thresholds. |

20 IGMP Commands

Introduction

This chapter describes the commands of the **IGMP** command group.

Contents

This chapter covers the following commands:

| | | |
|------------------------------|--|-----|
| igmp host config | Display or modify global IGMP configuration. | 410 |
| igmp host flush | Flush the IGMP settings. | 411 |
| igmp host list | Show the IGMP groups. | 412 |
| igmp host debug clear | Show the IGMP groups. | 412 |
| igmp host ifconfig | Configure an IGMP interface. | 413 |
| igmp host iflist | Show the configuration of the IGMP interfaces. | 414 |
| igmp host debug clear | Clear IGMP statistics. | 415 |
| igmp host debug stats | Print IGMP statistics. | 416 |
| igmp proxy config | Configure the IGMP proxy. | 417 |
| igmp proxy flush | Flush all IGMP proxy settings and learned groups. | 419 |
| igmp proxy grouplist | Show the learned groups on an IGMP proxy interface. | 420 |
| igmp proxy ifconfig | Configure an IGMP proxy interface. | 421 |
| igmp proxy iflist | Show the configuration of an IGMP proxy interface. | 422 |
| igmp proxy mbplist | Show the IGMP proxy membership database (merge of all learned groups). | 423 |
| igmp proxy config | Clear IGMP proxy statistics. | 424 |
| igmp proxy debug stats | Print IGMP proxy statistics. | 425 |
| igmp proxy debug traceconfig | Modify IGMP proxy trace configuration. | 426 |

igmp host config

Display or modify global IGMP configuration.

SYNTAX:

```
igmp host config [requireira = <{disabled | enabled}>]
```

where:

| | | |
|------------|---|----------|
| requireira | Enable or disable the router alert IP option check. The default is <i>disabled</i> . | OPTIONAL |
|------------|---|----------|

EXAMPLE:

```
=>igmp host confighostmgr list
Router alert IP option check : disabled
=>
```

RELATED COMMANDS:

| | |
|-----------------|-----------------------|
| igmp host debug | Show the IGMP groups. |
| clear | |

igmp host flush

Flush the IGMP settings.

SYNTAX:

```
igmp host flush
```

igmp host list

Show the IGMP groups.

SYNTAX:

```
igmp host list [intf = <string>]
               [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|--|----------|
| intf | The IP interface name. | OPTIONAL |
| expand | Enable or disable expanded listing of IGMP groups. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>igmp host list
Interface      Group          Filter-Mode  Source
4   lan1        224.0.0.103   EXCLUDE     none
4   lan1        239.255.255.250 EXCLUDE     none
=>
```

igmp host ifconfig

Configure an IGMP interface.

SYNTAX:

```
igmp host ifconfig      intf = <string>
                        version = <{none |IGMPv1 |IGMPv2 |IGMPv3}>
```

where:

| | | |
|---------|--|----------|
| intf | The IP interface name. | REQUIRED |
| version | The IGMP version of the IP interface. Choose between: > IGMPv1 > IGMPv2 > IGMPv3 > none | REQUIRED |

EXAMPLE:

```
=>igmp host ifconfig
intf = lan1
version = IGMPv1
:igmp host ifconfig intf=lan1 version=IGMPv1
=>
```

RELATED COMMANDS:

igmp proxy iflist

Show the configuration of the IGMP interfaces.

igmp host iflist

Show the configuration of the IGMP interfaces.

SYNTAX:

```
igmp host iflist [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|--|----------|
| expand | Enable or disable expanded listing of IGMP interfaces configuration. The default is <i>disabled</i> . | OPTIONAL |
|--------|--|----------|

EXAMPLE:

```
=>igmp host iflist
Interface          Version
0  loop             IGMPv3
1  Internet         IGMPv3
2  ISDN_backup      IGMPv3
3  ISDN_backup_trigger IGMPv3
4  lan1             IGMPv3
5  wan1             IGMPv3
6  dmz1             IGMPv3
7  guest1          IGMPv3
=>
```

RELATED COMMANDS:

igmp proxy ifconfig Configure an IGMP interface.

igmp host debug clear

Clear IGMP statistics.

SYNTAX:

```
igmp host debug clear
```

RELATED COMMANDS:

igmp host debug
stats

Print IGMP statistics.

igmp host debug stats

Print IGMP statistics.

SYNTAX:

```
igmp host debug stats
```

EXAMPLE:

```
=>igmp host debug stats
Total IGMP messages received           : 0
Too small IGMP messages received       : 0
Too long IGMP messages received        : 0
IGMP messages with bad checksum received : 0
IGMP messages with bad TTL received    : 0
IGMP messages with no router alert IP option received : 0
IGMPv1 membership queries received     : 0
IGMPv2 membership queries received     : 0
IGMPv3 membership queries received     : 0
IGMP bad queries received              : 0
IGMP failing membership queries        : 0
IGMPv1/v2 membership reports received  : 0
IGMPv1/v2 invalid membership reports received : 0
IGMPv1/v2 membership reports received for our groups : 0
IGMPv1/v2 membership reports transmitted : 0
IGMPv3 membership reports transmitted  : 0
=>
```

RELATED COMMANDS:

`igmp host debug clear` Clear IGMP statistics.

igmp proxy config

Configure the IGMP proxy.

SYNTAX:

```
igmp proxy config      [state = <{disabled | enabled}>]
                       [qi = <number{1-86400}>]
                       [qri = <number{1-86400}>]
                       [lmqi = <number{1-86400}>]
                       [rv = <number{2-10}>]
                       [requirera = <{disabled | enabled}>]
                       [localgroup = <{disabled | enabled}>]
```

where:

| | | |
|------------|---|----------|
| state | Enable or disable the IGMP proxy. The default is enabled . | OPTIONAL |
| qi | A number between 1 and 86400. Represents the interval in seconds between general queries sent by the querier. | OPTIONAL |
| qri | A number between 1 and 86400. Represents the maximum response time in seconds for an IGMP client in reply to general queries. | OPTIONAL |
| lmqi | A number between 1 and 86400. Represents the maximum response time in seconds for an IGMP client in reply to group specific queries. | OPTIONAL |
| rv | A number between 2 and 10. Represents the robustness variable, which allows tuning for expected IGMP packet loss. | OPTIONAL |
| requirera | Enable or disable the router alert IP option check. The default is disabled . | OPTIONAL |
| localgroup | Enable or disable the processing of a local multicast group in an IGMP packet. The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>igmp proxy config
IGMP proxy state           : disabled
Query Interval             : 0 days, 0:02:05
Query Response Interval    : 0 days, 0:00:10
Last Member Query Interval : 0 days, 0:00:01
Robustness variable        : 2
Router alert IP option check : disabled
Process local multicast group : disabled
=>
```

RELATED COMMANDS:

`igmp proxy grouplist` Show the learned groups on an IGMP proxy interface.

igmp proxy flush

Flush all IGMP proxy settings and learned groups.

SYNTAX:

```
igmp proxy flush
```

igmp proxy grouplist

Show the learned groups on an IGMP proxy interface.

SYNTAX:

```
igmp proxy grouplist      [intf = <string>]
                          [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|--|----------|
| intf | The name of the IGMP proxy interface to be listed. | OPTIONAL |
| expand | Enable or disable expanded listing of the learned groups on an IGMP proxy interface. The default is <i>disabled</i> . | OPTIONAL |

RELATED COMMANDS:

igmp proxy config Configure the IGMP proxy.

igmp proxy ifconfig

Configure an IGMP proxy interface.

SYNTAX:

```
igmp proxy ifconfig      intf = <string>
                          [state = <{inactive | downstream | upstream}>]
                          [version = <{IGMPv1 | IGMPv2 | IGMPv3}>]
                          [fastleave = <{disabled | enabled}>]
```

where:

| | | |
|-----------|--|----------|
| intf | The name of the IGMP proxy interface to be configured. | REQUIRED |
| state | The state of the IGMP proxy interface. Choose between: > inactive > downstream > upstream | OPTIONAL |
| version | The IGMP version of the IGMP proxy interface. Choose between: > IGMPv1 > IGMPv2 > IGMPv3 > none | OPTIONAL |
| fastleave | Enable or disable the immediate deletion of a group when a leave is received. The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>igmp proxy ifconfig
intf = lan1
[state] = downstream
[version] = IGMPv3
[fastleave] = disabled
=>
```

RELATED COMMANDS:

igmp proxy iflist

Show the configuration of an IGMP proxy interface.

igmp proxy iflist

Show the configuration of an IGMP proxy interface.

SYNTAX:

```
igmp proxy iflist [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|---|----------|
| expand | Enable or disable expanded listing of IGMP proxy interface configuration. The default is <i>disabled</i> . | OPTIONAL |
|--------|---|----------|

EXAMPLE:

```
=>igmp proxy iflist
Interface          State      Version  Querier
7  guest1          inactive  -        -
6  dmz1            inactive  -        -
5  wan1            inactive  -        -
4  lan1            downstream -        -
3  ISDN_backup_trigger inactive  -        -
2  ISDN_backup     inactive  -        -
1  Internet        inactive  -        -
=>
```

RELATED COMMANDS:

igmp proxy ifconfig Configure an IGMP proxy interface.

igmp proxy mbslist

Show the IGMP proxy membership database (merge of all learned groups).

SYNTAX:

```
igmp proxy mbslist
```

igmp proxy debug clear

Clear IGMP proxy statistics.

SYNTAX:

```
igmp proxy debug clear
```

RELATED COMMANDS:

igmp proxy debug stats

Print IGMP proxy statistics.

igmp proxy debug traceconfig

Modify IGMP proxy trace configuration.

igmp proxy debug stats

Print IGMP proxy statistics.

SYNTAX:

```
igmp proxy debug stats
```

EXAMPLE:

```
=>igmp proxy debug stats
IGMP proxy statistics:
  Total IGMP packets recv           : 0
  Too short IGMP packets recv       : 0
  IGMP packets with bad checksum recv : 0
  IGMP packets with bad ttl recv    : 0
  IGMP packets with no route alert option recv : 0
  IGMPv1 queries recv               : 0
  IGMPv2 queries recv               : 0
  IGMPv3 queries recv               : 0
  IGMP bad queries recv             : 0
  IGMP queries fail                 : 0
  IGMPv1 reports recv               : 0
  IGMPv2 reports recv               : 0
  IGMPv3 reports recv               : 0
  IGMP bad reports recv             : 0
  IGMP leave reports recv           : 0
  IGMP bad leave reports recv       : 0
  IGMPv1 queries sent               : 0
  IGMPv2 queries sent               : 0
  IGMPv3 queries sent               : 0
  IGMP query election switch        : 0
=>
```

RELATED COMMANDS:

igmp proxy debug
clear

Clear IGMP proxy statistics.

igmp proxy debug
traceconfig

Modify IGMP proxy trace configuration.

igmp proxy debug traceconfig

Modify IGMP proxy trace configuration.

SYNTAX:

```
igmp proxy debug traceconfig [state = <{disabled | enabled}>]
```

where:

| | | |
|-------|--|----------|
| state | Enable or disable tracing. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

RELATED COMMANDS:

| | |
|------------------------|------------------------------|
| igmp proxy debug clear | Clear IGMP proxy statistics. |
| igmp proxy debug stats | Print IGMP proxy statistics. |

21 Interface Commands

Introduction

This chapter describes the commands of the **interface** command group.

Contents

This chapter covers the following commands:

| | | |
|----------------|---------------------|-----|
| interface list | Display interfaces. | 428 |
|----------------|---------------------|-----|

interface list

Display interfaces.

SYNTAX:

```
interface list          [expand = <{disabled | enabled}>]
                        [reverse = <{disabled | enabled}>]
```

where:

| | | |
|---------|---|----------|
| expand | Enable or disable expanded listing of interfaces. The default is <i>disabled</i> . | OPTIONAL |
| reverse | Enable or disable reverse listing (lower layer first instead of upper layer first). The default is <i>disabled</i> . | OPTIONAL |

Interface Commands

EXAMPLE:

```
=>interface list
Name      Type      State      Use  UL Interfaces
ethif1    physical  connected  1    bridge
ethif4    physical  connected  1    bridge
usbif1    physical  connected  1    bridge
RELAY     eth       connected  1    Internet_ppp
bridge    eth       connected  1    eth0
atm_0_35  atm       connected  1    ethoa_0_35
atm_8_35  atm       connected  1    ethoa_8_35
ethoa_0_35 eth       connected  0
ethoa_8_35 eth       connected  0
Internet_ppp ppp      not-connected  1    Internet
Internet  ip       not-connected  0
eth0      ip       connected  0
=>

=>interface list expand=enabled
Name      Type      State      Use  UL Interfaces
ethif1    physical  connected  1    bridge
Flags....: INTERNAL
Phys.....: intf: 0 type eth speed: 100 Mbps
ethif4    physical  connected  1    bridge
Flags....: INTERNAL
Phys.....: intf: 3 type eth speed: 100 Mbps
usbif1    physical  connected  1    bridge
Flags....: INTERNAL
Phys.....: intf: 4 type usb speed: 12 Mbps
RELAY     eth       connected  1    Internet_ppp
Flags....: INTERNAL DYNAMIC RELAY
Eth.....: port: 65535 ip_cid: 200 arp_cid: 0
bridge    eth       connected  1    eth0
Flags....: DYNAMIC
Eth.....: port: 0 ip_cid: 16385 arp_cid: 16386
atm_0_35  atm       connected  1    ethoa_0_35
Flags....:
Atm.....: cid: 8196 atm_cid: 8196 llc_cid: 0 ppp_cid: 0
atm_8_35  atm       connected  1    ethoa_8_35
Flags....:
Atm.....: cid: 8198 atm_cid: 8198 llc_cid: 0 ppp_cid: 0
ethoa_0_35 eth       connected  0
Flags....:
Eth.....: port: 1 ip_cid: 16387 arp_cid: 16388
ethoa_8_35 eth       connected  0
Flags....:
Eth.....: port: 2 ip_cid: 16389 arp_cid: 16390
Internet_ppp ppp      not-connected  1    Internet
Flags....:
Ppp.....: cid: 0 ip_cid: 0
Internet  ip       not-connected  0
Flags....: DYNAMIC
Ip.....: dest: Internet_ppp
eth0      ip       connected  0
Flags....:
Ip.....: dest: bridge
=>
```


22 IP Commands

Introduction

This chapter describes the commands of the **ip** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------|--|-----|
| ip arpadd | Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface. | 433 |
| ip arpdelete | Delete an entry from the ARP cache. | 434 |
| ip arplist | Display the ARP cache. | 435 |
| ip config | Show/set global IP stack configuration options. | 436 |
| ip flush | Flush all the static IP parameters. | 438 |
| ip ifadd | Create an IP interface. | 439 |
| ip ifattach | Attach an IP interface. | 440 |
| ip ifconfig | Configure the parameters of an IP interface. | 441 |
| ip ifdelete | Delete an IP interface. | 443 |
| ip ifdetach | Detach an IP interface. | 444 |
| ip iflist | Display all the IP interfaces. | 445 |
| ip ifwait | Wait for a status change of an IP interface. | 446 |
| ip ipadd | Assign an IP address to an IP interface. | 447 |
| ip ipconfig | Modify an IP address configuration. | 448 |
| ip ipdelete | Remove an IP address from an IP interface. | 449 |
| ip iplist | Display all the configured IP addresses. | 450 |
| ip mcast rtadd | Add a multicast route to the multicast routing table. | 451 |
| ip mcast rtdelete | Delete a multicast route from the multicast routing table. | 452 |
| ip mcast rtlist | Display the multicast routing table. | 453 |
| ip mcast flush | Flush the multicast routing table. | 454 |
| ip rtadd | Add a route to the routing table. | 455 |
| ip rtdelete | Delete a route from the routing table. | 457 |
| ip rtlist | Display the routing table. | 458 |
| ip auto flush | Flush the autoIP interfaces. | 459 |
| ip auto ifadd | Create an autoIP interface. | 460 |
| ip auto ifattach | Select and assign a link-local address to an autoIP interface. | 461 |
| ip auto ifconfig | Configure an autoIP interface. | 462 |
| ip auto ifdelete | Delete an existing autoIP interface. | 464 |
| ip auto ifdetach | Release the link-local address for the given autoIP interface. | 465 |
| ip auto iflist | Display the autoIP interfaces. | 466 |
| ip debug httpprobe | Send a HTTP probe. | 467 |

| | | |
|----------------------|--|-----|
| ip debug sendto | Send UDP packets. | 468 |
| ip debug stats | Display IP statistics. | 470 |
| ip debug traceconfig | Display/modify the IP stack trace configuration. | 471 |

ip arpadd

Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.

SYNTAX:

```
ip arpadd          intf = <string>
                   ip = <ip-range>
                   [hwaddr = <hardware-address>]
```

where:

| | | |
|--------|--|----------|
| intf | The IP interface name. | REQUIRED |
| ip | The IP address (or range) of the entry to be added to the Address Resolution Protocol (ARP) cache. | REQUIRED |
| hwaddr | The hardware address (for example the Ethernet MAC address) of the entry to be added. | OPTIONAL |

EXAMPLE:

```
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
=>ip arpadd intf=eth0 ip=10.0.0.2
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
2 eth0         10.0.0.2        00:00:00:00:00:00 DYNAMIC
=>ip arpadd intf=eth0 ip=10.0.0.3 hwaddr=00:a0:24:ae:66:e1
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
2 eth0         10.0.0.2        00:00:00:00:00:00 DYNAMIC
2 eth0         10.0.0.3        00:a0:24:ae:66:e1 STATIC
=>
```

RELATED COMMANDS:

ip arpdelete Delete an entry from the ARP cache.
ip arplist Display the ARP cache.

ip arpdelete

Delete an entry from the ARP cache.

SYNTAX:

```
ip arpdelete          intf = <string>
                    ip = <ip-range>
                    [hwaddr = <hardware-address>]
```

where:

| Parameter | Description | Requirement |
|-----------|---|-------------|
| intf | The IP interface name. | REQUIRED |
| ip | The IP address (or range) of the entry to be deleted. | REQUIRED |
| hwaddr | The hardware address (for example the Ethernet MAC address) of the entry to be deleted. | OPTIONAL |

EXAMPLE:

```
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
2 eth0         10.0.0.2        00:00:00:00:00:00 DYNAMIC
2 eth0         10.0.0.3        00:a0:24:ae:66:e1 STATIC
=>ip arpdelete intf=eth0 ip=10.0.0.3 hwaddr=00:a0:24:ae:66:e1
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
2 eth0         10.0.0.2        00:00:00:00:00:00 DYNAMIC
=>
```

RELATED COMMANDS:

- ip arppadd Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.
- ip arplist Display the ARP cache.

ip arplist

Display the ARP cache.

SYNTAX:

```
ip arplist
```

EXAMPLE:

```
=>ip arplist
Interface      IP-address      HW-address      Type
2 eth0         10.0.0.1        00:10:a4:ad:32:cf STATIC
2 eth0         10.0.0.2        00:00:00:00:00:00 DYNAMIC
2 eth0         10.0.0.3        00:a0:24:ae:66:e1 STATIC
=>
```

RELATED COMMANDS:

ip arppadd

Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.

ip arpdelete

Delete an entry from the ARP cache.

ip config

Show/set global IP stack configuration options.

SYNTAX:

```
ip config          [forwarding = <{disabled | enabled}>]
                  [redirects = <{disabled | enabled}>]
                  [checkoptions = <{disabled|enabled|transparent}>]
                  [netbroadcasts = <{disabled | enabled}>]
                  [ttl = <number{0-255}>]
                  [defragmode = <{disabled | enabled}>]
                  [addrcheck = <{off | own | static | dynamic}>]
                  [mssclamping = <{disabled | enabled}>]
                  [natloopback = <{disabled|enabled}>]
                  [loadbalancing = <{disabled|roundrobin}>]
                  [bitrate-window(sec) = <number{10-3600}>]
                  [acceleration = <{disabled|enabled}>]
```

where:

| | | |
|---------------|--|----------|
| forwarding | Disable or enable the IP routing functionality. The default is enabled . | OPTIONAL |
| redirects | Disable or enable the sending of ICMP redirect messages. A router can send a redirect message in case a shorter path than the path followed is discovered. The default is enabled (for security reasons). | OPTIONAL |
| checkoptions | Disallow/Allow packets with IP options. The default is enabled . | OPTIONAL |
| netbroadcasts | Disable or enable net directed broadcasts. The default is disabled . In case netbroadcasts are allowed, no traces of netbroadcasts are generated. | OPTIONAL |
| ttl | A number between 0 and 255. Represents the default Time To Live (TTL) for locally generated IP packets. This parameter determines the number of hop counts the IP packet may pass before it is dropped. By limiting the TTL, continuous circulation of IP packets on the network without ever reaching a destination is avoided. The default is 64 . | OPTIONAL |
| defragmode | Disallow (disabled) or allow (enabled) defragmenting IP fragments. The default is enabled . | OPTIONAL |

IP Commands

| | | |
|---------------------|---|----------|
| addrcheck | Set the level of IP address checks. Choose between: <ul style="list-style-type: none">> off: No address checking is performed. For advanced users only; in normal circumstances there should always be some kind of address checking.> own: Minimum level of checking. Only the address configuration on the Thomson ST is checked.> static: Checking of the address configuration of the Thomson ST and also of traffic: addresses of incoming packets; this checking is related to constants (for example an address may not be entirely composed of one's or zero's).> dynamic: Besides the address configuration of the Thomson ST itself, and besides the checking of traffic on a constants level, additional checking is performed on the IP addresses that are determined by the configuration, more specifically by the network. The default is dynamic . | OPTIONAL |
| mssclamping | Disable or enable mss clamping for low MTU interfaces. Enabling mss clamping assures that the size of a TCP packet never exceeds the available Maximum Transmission Unit (MTU) of the outgoing interface. The default is on . Note It is recommended not to disable this parameter. | OPTIONAL |
| natloopback | Disable/Enable NAT loopback. The default is enabled . | OPTIONAL |
| loadbalancing | Select loadbalancing mechanism | OPTIONAL |
| bitrate-window(sec) | A number between 10 and 3600. Set the window to calculate the bitrate (multiple of 10). The default is 30 . | OPTIONAL |
| acceleration | Disable/Enable IP acceleration | OPTIONAL |

EXAMPLE:

```
=>ip config
Forwarding enabled
Sendredirects enabled
IP options enabled
NetBroadcasts disabled
Default TTL 64
Fraglimit 64 fragments
Fragcount currently 0 fragments
Defragment mode : enabled
Address checks : dynamic
Mss Clamping : enabled
NAT Loopback : enabled
Bitrate window (sec), multiple of 10 : 30
=>
```

ip flush

Flush all the static IP parameters.

Dynamic configurations (for example from PPP or CIP links) remain.



The flush command does not impact previously saved configurations.



The command **:ip flush** deletes all local IP connectivity. Do not use this command during an IP based local connection, for example a Telnet CLI session, or web based CLI access.

SYNTAX:

```
ip flush
```

ip ifadd

Create an IP interface.

SYNTAX:

```
ip ifadd          intf = <string>
                  dest = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the IP interface to be created. | REQUIRED |
| dest | An network interface name. | REQUIRED |

EXAMPLE:

```
=>ip iflist
Interface      Group  MTU   RX      TX      TX-Drop  Status HW-address
0  loop        local  65535  122062  72987    0        [UP]   00:0e:50:0f:fc:2c
1  Internet    wan    1500   0        0        0        DOWN
2  RtPPPoE_ppp  wan    1500   0        0        0        DOWN
3  LocalNetwork lan    1500   84105   123358   0        [UP]   00:0e:50:0f:fc:2c
=>ip ifadd intf=myIPintf dest=RtPPPoE_eth
=>ip iflist
Interface      Group  MTU   RX      TX      TX-Drop  Status HW-address
0  loop        local  65535  123966  75177    0        [UP]   00:0e:50:0f:fc:2c
1  Internet    wan    1500   0        0        0        DOWN
2  RtPPPoE_ppp  wan    1500   0        0        0        DOWN
3  LocalNetwork lan    1500   86589   125262   0        [UP]   00:0e:50:0f:fc:2c
4  myIPintf    wan    1500   0        0        0        DOWN   00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| ip ifdelete | Delete an IP interface. |
| ip iflist | Display all the IP interfaces. |
| ip ifwait | Wait for a status change of an IP interface. |

ip ifattach

Attach an IP interface.

SYNTAX:

```
ip ifattach          intf = <string>
```

where:

| | | |
|-------------|---|-----------------|
| intf | The name of the IP interface to be attached. | REQUIRED |
|-------------|---|-----------------|

EXAMPLE:

```
=>ip iflist
Interface          Group MTU  RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 123966  75177    0        [UP]  00:0e:50:0f:fc:2c
1  Internet         wan   1500  0        0        0        DOWN
2  RtPPPoE_ppp     wan   1500  0        0        0        DOWN
3  LocalNetwork    lan   1500  86589  125262  0        [UP]  00:0e:50:0f:fc:2c
4  myIPintf        wan   1500  0        0        0        DOWN  00:0e:50:0f:fc:2c
=>ip ifattach intf=myIPintf
=>ip iflist
Interface          Group MTU  RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 123966  75177    0        [UP]  00:0e:50:0f:fc:2c
1  Internet         wan   1500  0        0        0        DOWN
2  RtPPPoE_ppp     wan   1500  0        0        0        DOWN
3  LocalNetwork    lan   1500  86589  125262  0        [UP]  00:0e:50:0f:fc:2c
4  myIPintf        wan   1500  0        0        0        [UP]  00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

`ip ifdetach` Detach an IP interface.

ip ifconfig

Configure the parameters of an IP interface.

SYNTAX:

```
ip ifconfig          intf = <string>
                    [mtu = <number{68-65535}>]
                    [status = <{down | up}>]
                    [hwaddr = <hardware-address>]
                    [group = <string> or number]
                    [linksensing = <{disabled | enabled}>]
                    [primary = <{disabled | enabled}>]
                    [mcastpromisc = <{disabled|enabled}>]
```

where:

| | | |
|--------------|---|----------|
| intf | The name of the IP interface to be configured. | REQUIRED |
| mtu | A number between 68 and 65535. Represents the MTU (the maximum packet size (including IP header)) to be used on this interface. Note The default value depends on the connection and packet service for which the interface was created. | OPTIONAL |
| status | The administrative state of the interface. Choose between: > down > up . | OPTIONAL |
| hwaddr | The hardware address (for example the Ethernet MAC address) of this IP interface. | OPTIONAL |
| group | The group to which this interface belongs. Can be used for firewalling, for example. | OPTIONAL |
| linksensing | The IP interface's awareness of link state transitions. The default is enabled . | OPTIONAL |
| primary | Make the IP interface the primary interface (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| mcastpromisc | Make the IP interface multicast promiscuous. Choose between: > disabled > enabled The default is disabled . | OPTIONAL |

EXAMPLE:

```

=>ip iflist
Interface          Group MTU   RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 123966  75177   0        [UP]  00:0e:50:0f:fc:2c
1  Internet         wan   1500  0        0        0        DOWN
2  RtPPPoE_ppp     wan   1500  0        0        0        DOWN
3  LocalNetwork    lan   1500  86589  125262  0        [UP]  00:0e:50:0f:fc:2c
4  myIPintf        wan   1500  0        0        0        DOWN  00:0e:50:0f:fc:2c
=>ip ifconfig
intf = myIPintf
[mtu] = 1500
[status] = up
[hwaddr] = 00:0e:50:0f:fc:2c
[group] = wan
[linksensing] = enabled
[primary] = enabled
:ip ifconfig intf=myIPintf
=>ip iflist
Interface          Group MTU   RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 123966  75177   0        [UP]  00:0e:50:0f:fc:2c
1  Internet         wan   1500  0        0        0        DOWN
2  RtPPPoE_ppp     wan   1500  0        0        0        DOWN
3  LocalNetwork    lan   1500  86589  125262  0        [UP]  00:0e:50:0f:fc:2c
4  myIPintf        wan   1500  0        0        0        [UP]  00:0e:50:0f:fc:2c
=>

```



If the STATUS is shown between square brackets, then **linksensing** is disabled for that particular interface.

ip ifdelete

Delete an IP interface.

SYNTAX:

```
ip ifdelete          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the IP interface to be deleted. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>ip iflist
Interface          Group  MTU   RX      TX      TX-Drop  Status HW-address
0   loop            local  65535 123966  75177    0        [UP]  00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589   125262   0        [UP]  00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        [UP]  00:0e:50:0f:fc:2c
=>ip ifdelete intf=myIPintf
=>ip iflist
Interface          Group  MTU   RX      TX      TX-Drop  Status HW-address
0   loop            local  65535 123966  75177    0        [UP]  00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589   125262   0        [UP]  00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

| | |
|-----------|--|
| ip ifadd | Create an IP interface. |
| ip iflist | Display all the IP interfaces. |
| ip ifwait | Wait for a status change of an IP interface. |

ip ifdetach

Detach an IP interface.

SYNTAX:

```
ip ifdetach          intf = <string>
```

where:

| intf | The name of the IP interface to be detached. | REQUIRED |
|------|--|----------|
|------|--|----------|

EXAMPLE:

```
=>ip iflist expand=enabled
Interface          Group MTU   RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 130597  82240    0        [UP]  00:0e:50:0f:fc:2c
  BRHW-address    : ff:ff:ff:ff:ff:ff
  RX unicastpkts: 1304   brcastpkts : 0
  TX unicastpkts: 1994   brcastpkts : 0      droppkts:0
  Oper state      : UP     Admin State: UP
  Flags           : ARP BROADCAST ARPTABLE LOOP MULTICAST INTERNAL
...
4  myIPintf         wan   1500   0        0        0        DOWN  00:0e:50:0f:fc:2c
  BRHW-address    : ff:ff:ff:ff:ff:ff
  RX unicastpkts: 0       brcastpkts : 0
  TX unicastpkts: 0       brcastpkts : 0      droppkts:0
  Oper state      : DOWN   Admin State: UP
  Flags           : PRIMARY ARP BROADCAST BOUND ARPTABLE MULTICAST LINKSENSING STATIC
=>ip ifdetach intf=myIPintf
=>ip iflist expand=enabled
Interface          Group MTU   RX      TX      TX-Drop  Status HW-address
0  loop             local 65535 133683  83949    0        [UP]  00:0e:50:0f:fc:2c
  BRHW-address    : ff:ff:ff:ff:ff:ff
  RX unicastpkts: 1332   brcastpkts : 0
  TX unicastpkts: 2036   brcastpkts : 0      droppkts:0
  Oper state      : UP     Admin State: UP
  Flags           : ARP BROADCAST ARPTABLE LOOP MULTICAST INTERNAL
...
4  myIPintf         wan   1500   0        0        0        DOWN  00:0e:50:0f:fc:2c
  BRHW-address    : ff:ff:ff:ff:ff:ff
  RX unicastpkts: 0       brcastpkts : 0
  TX unicastpkts: 0       brcastpkts : 0      droppkts:0
  Oper state      : DOWN   Admin State: DOWN
  Flags           : PRIMARY ARP BROADCAST ARPTABLE MULTICAST LINKSENSING STATIC
=>
```

RELATED COMMANDS:

`ip ifattach` **Attach an IP interface.**

ip iflist

Display all the IP interfaces.

SYNTAX:

```
ip iflist [expand = <{disabled | enabled}>]
          [string = <string>]
          [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| expand | Enable or disable expanded listing. The default is disabled . | OPTIONAL |
| string | String matching conditions | OPTIONAL |
| beginstring | Bginstring matching conditions | OPTIONAL |

EXAMPLE:

```
=>ip iflist
Interface      Group  MTU  RX      TX      TX-Drop  Status  HW-address
0  loop         local 65535 123966 75177    0        [UP]    00:0e:50:0f:fc:2c
1  Internet     wan   1500   0        0        0        DOWN
2  RtPPPoE_ppp wan   1500   0        0        0        DOWN
3  LocalNetwork lan   1500  86589  125262  0        [UP]    00:0e:50:0f:fc:2c
4  myIPintf     wan   1500   0        0        0        [UP]    00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| ip ifadd | Create an IP interface. |
| ip ifdelete | Delete an IP interface. |
| ip ifwait | Wait for a status change of an IP interface. |

ip ifwait

Wait for a status change of an IP interface.

SYNTAX:

```
ip ifwait          intf = <string>
                  [timeout = <number{1-600000}>]
                  [adminstatus = <{down | up}>]
                  [operstatus = <{down | up}>]
                  [linkstatus = <{down | up}>]
```

where:

| | | |
|-------------|---|----------|
| intf | The IP interface name. | REQUIRED |
| timeout | A number between 1 and 600000 (seconds). Represents the timeout. | OPTIONAL |
| adminstatus | The administrative state of the interface. Choose between: > down > up . | OPTIONAL |
| operstatus | The operational state of the interface. Choose between: > down > up . | OPTIONAL |
| linkstatus | The link state of the interface. Choose between: > down > up . | OPTIONAL |

RELATED COMMANDS:

| | |
|-------------|--------------------------------|
| ip ifadd | Create an IP interface. |
| ip ifdelete | Delete an IP interface. |
| ip iflist | Display all the IP interfaces. |

ip ipadd

Assign an IP address to an IP interface.

SYNTAX:

```
ip ipadd          intf = <string>
                  addr = <ip-address>
                  [netmask = <ip-mask(dotted or cidr)>]
                  [pointopoint = <ip-address>]
                  [addroute = <{disabled | enabled}>]
```

where:

| Parameter | Description | Requirement |
|-------------|---|-------------|
| intf | The IP interface name. | REQUIRED |
| addr | The new IP address to be added. | REQUIRED |
| netmask | The subnetmask associated with this address. | OPTIONAL |
| pointopoint | The remote IP address in case of a dedicated point-to-point link. | OPTIONAL |
| addroute | Add typical net/subnet routes automatically according to the default (or specified) subnet mask (enabled) or not (disabled). The default is disabled . | OPTIONAL |

EXAMPLE:

```
=>ip iplist
Interface      Type          IP-address    Point-to-point/Mask
1 eth0         Ethernet     10.0.0.138    255.255.255.0
1 eth0         Ethernet     169.254.141.11 255.255.0.0
0 loop         Ethernet     127.0.0.1     255.0.0.0

=>ip ipadd intf=eth0 addr=10.0.0.2/24 addroute=enabled
=>ip iplist
Interface      Type          IP-address    Point-to-point/Mask
1 eth0         Ethernet     10.0.0.2      255.255.255.0
1 eth0         Ethernet     10.0.0.138    255.255.255.0
1 eth0         Ethernet     169.254.141.11 255.255.0.0
0 loop         Ethernet     127.0.0.1     255.0.0.0
=>
```

RELATED COMMANDS:

- ip ipdelete Remove an IP address from an IP interface.
- ip iplist Display all the configured IP addresses.

ip ipconfig

Modify an IP address configuration.

SYNTAX:

```
ip ipconfig          addr = <ip-address>
                    [preferred = <{disabled | enabled}>]
                    [primary = <{disabled | enabled}>]
```

where:

| | | |
|-----------|---|----------|
| addr | The IP address to be configured. | REQUIRED |
| preferred | Make this IP address the preferred address for that subnet (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |
| primary | Make this IP address the primary address for the interface (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>ip ipconfig
Interface          Type          IP-address      Point-to-point/Mask
1 eth0             Ethernet      10.0.0.138      255.255.255.0
1 eth0             Ethernet      169.254.141.11  255.255.0.0
0 loop             Ethernet      127.0.0.1       255.0.0.0
=>ip ipconfig addr=169.254.141.11 preferred=enabled primary=enabled
=>ip ipconfig
Interface          Type          IP-address      Point-to-point/Mask
1 eth0             Ethernet      10.0.0.138      255.255.255.0
1 eth0             Ethernet      *169.254.141.11 255.255.0.0
0 loop             Ethernet      127.0.0.1       255.0.0.0
=>
```



The primary IP address is marked with "*" in the list.

ip ipdelete

Remove an IP address from an IP interface.

SYNTAX:

```
ip ipdelete          addr = <ip-address>
```

where:

| | | |
|------|-------------------------------|----------|
| addr | The IP address to be deleted. | REQUIRED |
|------|-------------------------------|----------|

EXAMPLE:

```
=>ip iplist
Interface      Type          IP-address    Point-to-point/Mask
1 eth0         Ethernet     10.0.0.2      255.255.255.0
1 eth0         Ethernet     10.0.0.138    255.255.255.0
1 eth0         Ethernet     169.254.141.11 255.255.0.0
0 loop         Ethernet     127.0.0.1     255.0.0.0

=>ip ipdelete addr=10.0.0.2
=>ip iplist
Interface      Type          IP-address    Point-to-point/Mask
1 eth0         Ethernet     10.0.0.138    255.255.255.0
1 eth0         Ethernet     169.254.141.11 255.255.0.0
0 loop         Ethernet     127.0.0.1     255.0.0.0

=>
```

RELATED COMMANDS:

| | |
|-----------|--|
| ip ipadd | Assign an IP address to an IP interface. |
| ip iplist | Display all the configured IP addresses. |

ip iplist

Display all the configured IP addresses.

SYNTAX:

```
ip iplist
```

EXAMPLE:

```
=>ip iplist
Interface      Type      IP-address      Point-to-point/Mask
2   LocalNetwork  Ethernet      10.0.0.138      255.255.255.0
2   LocalNetwork  Ethernet      *192.168.1.254  255.255.255.0
0   loop          Ethernet      127.0.0.1       255.255.255.255
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| ip ipadd | Assign an IP address to an IP interface. |
| ip ipdelete | Remove an IP address from an IP interface. |

ip mcast rtadd

Add a multicast route to the multicast routing table.

SYNTAX:

```
ip mcast rtadd      srcintf = <string>
                    [src = <ip-address>]
                    grp = <ip-address>
                    dstintf = <string>
                    [ttl = <number{1-255}>]
                    [ttlincr = {disabled | enabled}]
```

where:

| | | |
|---------|---|----------|
| srcintf | The source IP interface. | REQUIRED |
| src | The source IP address. | OPTIONAL |
| grp | The multicast group IP address. | REQUIRED |
| dstintf | The destination IP interface. | REQUIRED |
| ttl | The time-to-live for that destination IP interface. | OPTIONAL |
| ttlincr | Increment TTL before packet is send. | OPTIONAL |

RELATED COMMANDS:

| | |
|-------------------|--|
| ip mcast rtdelete | Delete a multicast route from the multicast routing table. |
| ip mcast rtlist | Display the multicast routing table. |
| ip mcast flush | Flush the multicast routing table. |

ip mcast rtdelete

Delete a multicast route from the multicast routing table.

SYNTAX:

```
ip mcast rtdelete    srcintf = <string>
                    [src = <ip-address>]
                    grp = <ip-address>
                    dstintf = <string>
```

where:

| | | |
|---------|---------------------------------|----------|
| srcintf | The source IP interface. | REQUIRED |
| src | The source IP address. | OPTIONAL |
| grp | The multicast group IP address. | REQUIRED |
| dstintf | The destination IP interface. | REQUIRED |

RELATED COMMANDS:

| | |
|-----------------|---|
| ip mcast rtadd | Add a multicast route to the multicast routing table. |
| ip mcast rtlist | Display the multicast routing table. |
| ip mcast flush | Flush the multicast routing table. |

ip mcast rtlist

Display the multicast routing table.

SYNTAX:

```
ip mcast rtlist [expand = <{disabled | enabled}>}]
```

where:

| | | |
|--------|---|----------|
| expand | Enable or disable expanded listing. The default is <i>disabled</i> . | OPTIONAL |
|--------|---|----------|

RELATED COMMANDS:

| | |
|-------------------|--|
| ip mcast rtadd | Add a multicast route to the multicast routing table. |
| ip mcast rtdelete | Delete a multicast route from the multicast routing table. |
| ip mcast flush | Flush the multicast routing table. |

ip mcast flush

Flush the multicast routing table.

SYNTAX:

```
ip mcast flush
```

RELATED COMMANDS:

| | |
|-------------------|--|
| ip mcast rtadd | Add a multicast route to the multicast routing table. |
| ip mcast rtdelete | Delete a multicast route from the multicast routing table. |
| ip mcast rtlist | Display the multicast routing table. |

ip rtadd

Add a route to the routing table.

SYNTAX:

```
ip rtadd          dst = <ip-address>
                  [dstmsk = <ip-mask(dotted or cidr)>]
                  [label = <string>]
                  [gateway = <ip-address>]
                  [intf = <string>]
                  [srcintf = <string>]
                  [metric = <number{0-255}>]
```

where:

| | | |
|---------|---|----------|
| dst | The destination IP address(es) for this route. Note Supports ip/mask notation. | REQUIRED |
| dstmsk | The destination IP address mask. | OPTIONAL |
| label | The name of the label. | OPTIONAL |
| gateway | The IP address of the next hop (direct connected gateway or extended route). Note The parameters <i>gateway</i> and <i>intf</i> are mutually exclusive. | OPTIONAL |
| intf | Only for special interface routes: the outgoing IP interface name. Note The parameters <i>gateway</i> and <i>intf</i> are mutually exclusive. | OPTIONAL |
| srcintf | Use this interface for source address selection. | OPTIONAL |
| metric | The metric for this route (weight factor). The lower the metric, the higher the weight. The default is 0 . | OPTIONAL |

EXAMPLE:

```
=>ip rtlist
      Destination Label          Gateway      Intf Mtrc Status
      10.0.0.0/24                10.0.0.140   eth0  0  [UP]
      10.0.0.140/32              10.0.0.140   eth0  0  [UP]
      127.0.0.1/32               127.0.0.1    loop  0  [UP]
=>ip rtadd dst=10.10.0.0/24 label=Interactive gateway=10.0.0.140
=>ip rtlist
      Destination Label          Gateway      Intf Mtrc Status
      10.0.0.0/24                10.0.0.140   eth0  0  [UP]
      10.10.0.0/24 Interactive  10.0.0.140   eth0  0  [UP]
      10.0.0.140/32              10.0.0.140   eth0  0  [UP]
      127.0.0.1/32               127.0.0.1    loop  0  [UP]
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| ip rtdelete | Delete a route from the routing table. |
| ip rtlist | Display the routing table. |

ip rtdelete

Delete a route from the routing table.

SYNTAX:

```
ip rtdelete          dst = <ip-address>
                    [dstmsk = <ip-mask(dotted or cidr)>]
                    [label = <string>]
                    [gateway = <ip-address>]
                    [intf = <string>]
```

where:

| | | |
|---------|---|----------|
| dst | The destination IP address(es) for this route. Note Supports cidr notation. | REQUIRED |
| dstmsk | The destination IP address mask. | OPTIONAL |
| label | The name of the label. | OPTIONAL |
| gateway | The IP address of the next hop. The next hop must be directly connected. Note The parameters <i>gateway</i> and <i>intf</i> are mutually exclusive. | OPTIONAL |
| intf | Only for special interface routes: the outgoing IP interface name. Note The parameters <i>gateway</i> and <i>intf</i> are mutually exclusive. | OPTIONAL |

EXAMPLE:

```
=>ip rtlist
  Destination Label          Gateway      Intf Mtrc Status
  10.0.0.0/24                10.0.0.140  eth0  0  [UP]
  10.10.0.0/24 Interactive  10.0.0.140  eth0  0  [UP]
  10.0.0.140/32              10.0.0.140  eth0  0  [UP]
  127.0.0.1/32              127.0.0.1   loop  0  [UP]
=>ip rtdelete dst=10.10.0.0/24 label=Interactive gateway=10.0.0.140
=>ip rtlist
  Destination Label          Gateway      Intf Mtrc Status
  10.0.0.0/24                10.0.0.140  eth0  0  [UP]
  10.0.0.140/32              10.0.0.140  eth0  0  [UP]
  127.0.0.1/32              127.0.0.1   loop  0  [UP]
=>
```

RELATED COMMANDS:

ip rtadd Add a route to the routing table.
ip rtlist Display the routing table.

ip rtlist

Display the routing table.

SYNTAX:

```
ip rtlist [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|---|----------|
| expand | Enable or disable expanded listing. The default is <i>disabled</i> . | OPTIONAL |
|--------|---|----------|

EXAMPLE:

```
=>ip rtlist
  Destination Label          Gateway Interface Metric Status
  10.0.0.138/32              127.0.0.1 loop      0      [UP]
  127.0.0.1/32              127.0.0.1 loop      0      [UP]
  10.0.0.0/24                10.0.0.138 eth0      0      [UP]
=>ip rtlist expand=enabled
  Destination Label          Gateway Interface Metric Status Source-selection
  10.0.0.138/
32      127.0.0.1/32          127.0.0.1 loop      0      [UP] default 127.0.0.1
32      127.0.0.1/32          127.0.0.1 loop      0      [UP] default 127.0.0.1
24      10.0.0.0/24          10.0.0.138 eth0      0      [UP] default 10.0.0.138
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| ip rtadd | Add a route to the routing table. |
| ip rtdelete | Delete a route from the routing table. |

ip auto flush

Flush the autoIP interfaces.

SYNTAX:

```
ip auto flush
```

ip auto ifadd

Create an autoIP interface.

SYNTAX:

```
ip auto ifadd          intf = <string>
                       [addr = <ip-address>]
```

where:

| | | |
|------|--|----------|
| intf | The name of the IP interface for which a link-local address has to be allocated. | REQUIRED |
| dest | The preferred link-local IP address. | OPTIONAL |

EXAMPLE:

```
=>ip auto ifadd intf=eth0
=> ip auto iflist
eth0      : [INIT] 0.0.0.0
           poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
           claim : 10  defence : 5  probe : 4  interval : 2 (sec)
           probes sent = 0
           collisions = 0

=>
```

RELATED COMMANDS:

| | |
|------------------|--------------------------------------|
| ip auto ifdelete | Delete an existing autoIP interface. |
| ip auto iflist | Display the autoIP interfaces. |

ip auto ifattach

Select and assign a link-local address to an autoIP interface.

SYNTAX:

```
ip auto ifattach      intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the autoIP interface for which a link-local address has to be attached. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=> ip auto iflist
ipsec0      : [INIT] 0.0.0.0
              poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
              claim : 10  defence : 5  probe : 4  interval : 2 (sec)
              probes sent = 0
              collisions = 0

=>ip auto ifattach intf=ipsec0
=> ip auto iflist
ipsec0      : [SELECTING] 169.254.80.236
              poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
              claim : 10  defence : 5  probe : 4  interval : 2 (sec)
              probes sent = 2
              collisions = 0

=>
```

RELATED COMMANDS:

ip auto ifdetach Release the link-local address for the given autoIP interface.

ip auto ifconfig

Configure an autoIP interface.

SYNTAX:

```
ip auto ifconfig      intf = <string>
                      [addr = <ip-address>]
                      [poolstart = <ip-address>]
                      [poolend = <ip-address>]
                      [netmask = <ip-mask(dotted or cidr)>]
                      [claim = <number{0-65535}>]
                      [defence = <number{0-65535}>]
                      [probe = <number{0-65535}>]
                      [interval = <number{1-65535}>]
```

where:

| | | |
|-----------|---|----------|
| intf | The name of the autoIP interface to be configured. | REQUIRED |
| addr | The preferred link-local IP address. | OPTIONAL |
| poolstart | The start IP address of the link-local address pool. The default is 169.254.1.1 . | OPTIONAL |
| poolend | The end IP address of the link-local address pool. The default is 169.254.254.254 . | OPTIONAL |
| netmask | The netmask of the link-local IP address pool. The default is 16 . | OPTIONAL |
| claim | A number between 0 and 65535. Represents the number of link-local address selection retries before giving up. The default is 10 . | OPTIONAL |
| defence | A number between 0 and 65535. Represents the number of times the link-local address is defended before releasing the address. The default is 5 . | OPTIONAL |
| probe | A number between 0 and 65535. Represents the number of ARP probes to be sent before accepting a link-local address. The default is 4 . | OPTIONAL |
| interval | A number between 1 and 65535 (seconds). Represents the time interval between two ARP probe transmissions. The default is 2 . | OPTIONAL |

EXAMPLE:

```
=> ip auto iflist
eth0      : [INIT] 0.0.0.0
           poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
           claim : 10  defence : 5  probe : 4  interval : 2 (sec)
           probes sent = 0
           collisions = 0

=>ip auto ifconfig intf=ipsec0 claim=5 probe=5
=> ip auto iflist
ipsec0    : [INIT] 0.0.0.0
           poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
           claim : 5  defence : 5  probe : 5  interval : 2 (sec)
           probes sent = 0
           collisions = 0

=>
```

ip auto ifdelete

Delete an existing autoIP interface.

SYNTAX:

```
ip auto ifdelete      intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the IP interface to be deleted. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>ip auto iflist
ipsec0      : [SELECTING] 169.254.80.236
              poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
              claim : 10  defence : 5  probe : 4  interval : 2 (sec)
              probes sent = 2
              collisions = 0

=>ip auto ifdelete intf=ipsec0
=>ip auto iflist
=>
```

RELATED COMMANDS:

| | |
|----------------|--------------------------------|
| ip auto ifadd | Create an autoIP interface. |
| ip auto iflist | Display the autoIP interfaces. |

ip auto ifdetach

Release the link-local address for the given autoIP interface.

SYNTAX:

```
ip auto ifdetach      intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the autoIP interface for which a link-local address has to be detached. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>ip auto iflist
ipsec0      : [SELECTING] 169.254.80.236
              poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
              claim : 10  defence : 5  probe : 4  interval : 2 (sec)
              probes sent = 2
              collisions = 0

=>ip auto ifdetach intf=ipsec0
=>ip auto iflist
ipsec0      : [INIT] 169.254.80.236
              poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
              claim : 10  defence : 5  probe : 4  interval : 2 (sec)
              probes sent = 0
              collisions = 0

=>
```

RELATED COMMANDS:

ip auto ifattach Select and assign a link-local address to an autoIP interface.

ip auto iflist

Display the autoIP interfaces.

SYNTAX:

```
ip auto iflist [intf = <string>]
```

where:

| | | |
|------|--|----------|
| intf | The name of the autoIP interface to be listed. | OPTIONAL |
| | Note If not specified, all the autoIP interfaces are shown. | |

EXAMPLE:

```
=>ip auto iflist
eth0      : [CLAIMED] 169.254.138.1
           poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
           claim : 10  defence : 5  probe : 4  interval : 2 (sec)
           probes sent = 2
           collisions = 0

=>
```

RELATED COMMANDS:

| | |
|------------------|--------------------------------------|
| ip auto ifadd | Create an autoIP interface. |
| ip auto ifdelete | Delete an existing autoIP interface. |

ip debug httpprobe

Send a HTTP probe.

This HTTP probe will measure the Round Trip Time (RTT) taken to connect and access data from a HTTP server.

SYNTAX:

```
ip debug httpprobe    url = <string>
                    [version = <{1.0 | 1.1}>]
```

where:

| | | |
|---------|---|----------|
| url | The Uniform Resource Locator (URL) identifying the HTTP server. | REQUIRED |
| version | The version of the HTTP server. The default is 1.0 . | OPTIONAL |

EXAMPLE:

The first example shows the measured time for a file that was downloaded:

```
=>ip httpprobe url=http://download.winzip.com/wzipse22.exe
DNS Lookup-RTT      = 19 ms
TCP Connect-RTT    = 20 ms
HTTP transaction-RTT = 18772 ms
Total RTT          = 18811 ms
PageSize           = 385712 Bytes
Download speed     = 20.54 KByte/s
=>
```

If the URL of a normal HTML page is used the figures are not so relevant, as shown in the example below:

```
=>ip httpprobe url=http://www.google.be
DNS Lookup-RTT      = 19 ms
TCP Connect-RTT    = 75 ms
HTTP transaction-RTT = 401 ms
Total RTT          = 495 ms
PageSize           = 3448 Bytes
=>
```

DESCRIPTION:

- > RTT taken to perform domain name lookup.
- > RTT taken to perform a TCP connect to the HTTP Server.
- > RTT taken to send a request and get a response back from the HTTP Server (the probe retrieves the base HTML page only as body, and does not request hyperlinks within this page).

The SpeedTouch will send the HTTP request, receive the reply, and report the RTT statistics (including the size of the page returned).

ip debug sendto

Send UDP packets.

SYNTAX:

```
ip debug sendto      addr = <ip-address>
                    [count = <number{1-1000000}>]
                    [size = <number{0-20000}>]
                    [interval = <number{1-1000000}>]
                    [listen = <{disabled | enabled}>]
                    [dffield = <{disabled | enabled}>]
                    [srcaddr = <ip-address>]
                    [srcport = <number{1-65535}>]
                    dstport = <number{1-65535}>
                    [dstintf = <string>]
```

where:

| | | |
|----------|---|----------|
| addr | The destination IP address. | REQUIRED |
| count | A number between 1 and 1000000. Represents the number of UDP packets to send. The default is 1 . | OPTIONAL |
| size | A number between 0 and 20000 (bytes). Represents the size of the ping packet(s). The default is 1 . | OPTIONAL |
| interval | A number between 1 and 10000000 (milliseconds). Represents the intermediate interval between two sent UDP packets. The default is 100 . | OPTIONAL |
| listen | Listen for incoming ICMP packets (enabled) or only send ICMP packets (disabled). The default is disabled . | OPTIONAL |
| dffield | Enable or disable setting of the don't fragment flag in the IP headers of the ping. | OPTIONAL |
| srcaddr | The IP source address to use. | OPTIONAL |
| srcport | The UDP source port number to use. | OPTIONAL |
| dstport | The UDP destination port number to send to. | REQUIRED |
| dstintf | The IP interface name. By specifying the destination interface with the dstintf parameter, a direct send is performed instead of a routed send. This means that the statefull firewall will be bypassed for the outbound packet. As a result, the returning icmp packet can not be associated with an existing udp connection (because there isn't any) and is legally dropped by the firewall. To prevent this packet from being dropped, disable the ICMPchecks and UDPchecks in the firewall configuration. | OPTIONAL |

EXAMPLE:

```
=>ip debug sendto addr=10.0.0.148 listen=on srcport=19 dstport=1025
=>ip debug sendto addr=10.0.0.148 listen=on srcport=19 dstport=1025
1 bytes from 10.0.0.148:1025
41                               A
=>ip debug sendto addr=10.0.0.148 count=3 listen=on srcport=19 dstport=1025
1 bytes from 10.0.0.148:1025
41                               A
1 bytes from 10.0.0.148:1025
41                               A
1 bytes from 10.0.0.148:1025
41                               A
=>
```

ip debug stats

Display IP statistics.

SYNTAX:

```
ip debug stats
```

EXAMPLE:

```
=>ip debug stats
Total datagrams received           : 8599
IP header errors                   : 0
Datagrams forwarded                : 23
Datagram forwarding errors         : 3
Datagram forwarding resource errors : 0
Total Fragments received           : 0
Fragments dropped due to resources or timeouts : 0
Datagrams reassembled              : 0
Datagrams fragmented successfully  : 0
Datagram fragmentation errors      : 0
Total Datagram fragments created successfully : 0
=>
```

ip debug traceconfig

Display/modify the IP stack trace configuration.

SYNTAX:

```
ip debug traceconfig [input = <{none | label | -telnet | -host |  
                    -broadcast | all}>]  
                    [forward = <{none | label | -telnet | -host |  
                    -broadcast | all}>]  
                    [output = <{none | label | -telnet | -host |  
                    -broadcast | all}>]  
                    [drop = <{none | label | -telnet | -host |  
                    -broadcast | all}>]  
                    [path = <{none | label | -telnet | -host |  
                    -broadcast | all}>]  
                    [mode = <{line | dump}>]  
                    [arp = <{none | all}>]
```

where:

| | | |
|---------|---|----------|
| input | Define the input packets that will be traced. The default is none . | OPTIONAL |
| forward | Define the forward packets that will be traced. The default is none . | OPTIONAL |
| output | Define the output packets that will be traced. The default is none . | OPTIONAL |
| drop | Define the packet drops that will be traced. The default is all . | OPTIONAL |
| path | Define the packet that will be path-traced. The default is none . | OPTIONAL |
| mode | Select the packet dump method. Choose between: > line : > dump : . The default is line . | OPTIONAL |
| arp | Define the ARP packets that will be traced. The default is none . | OPTIONAL |

EXAMPLE:

```
=>ip debug traceconfig
Input traces   : none
Forward traces : none
Output traces  : none
Drop traces    : all
Path traces    : none
Trace mode     : line
ARP traces     : none
=>
```

EXAMPLE:

```
=>ip debug traceroute addr = 192.193.195.250 count=3 size=1 interval=1000 maxhops=30 dstport=
33433
    maxfail=5 type=icmp utime=yes
:ip debug traceroute addr=192.193.195.250
ttl=1  192.193.195.250 676 us  1351 us 648 us
=>
```

23 IPQoS Commands

Introduction

This chapter describes the commands of the **ipqos** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------|---|-----|
| ipqos config | Configure IPQoS for a given destination interface for the IPQoS queues instantiation. | 474 |
| ipqos list | Display the IPQoS configuration. | 477 |
| ipqos ef config | Configure the IPQoS Expedited Forwarding (EF) timer for an interface. | 478 |
| ipqos ef list | Display the IPQoS EF timers. | 479 |
| ipqos ef stats | Display the IPQoS EF timer statistics. | 480 |
| ipqos queue clear | Clear the IPQoS statistics. | 481 |
| ipqos queue config | Modify the IPQoS subqueue configuration. | 482 |
| ipqos queue list | Display the IPQoS subqueue configuration. | 484 |
| ipqos queue stats | Show the IPQoS subqueue statistics. | 485 |

ipqos config

Configure IPQoS for a given destination interface for the IPQoS queues instantiation.



When enabling or disabling IPQoS, take the following into account:

- > if the WAN interface (for example PPPoA, IP oA,...) is detached at the time of enabling/disabling IPQoS, then the WAN interface has to be attached in order for the enabling/disabling of IPQoS to take effect.
- > if the WAN interface is attached at the time of enabling/disabling IPQoS, then the WAN interface has to be detached and then re-attached in order for the enabling/disabling of IPQoS to take effect.

SYNTAX:

```
ipqos config          dest = <string>
                      [state = <{disabled | enabled}>]
                      [discard = <{tail | early}>]
                      [priority = <{wfq | strict | wrr}>]
                      [realtimerate = <number{1-100}>]
                      [burstsize = <number{1-128}>]
                      [weight1 = <number{1-97}>]
                      [weight2 = <number{1-97}>]
                      [weight3 = <number{1-97}>]
                      [weight4 = <number{1-97}>]
                      [maxpackets = <number{0-100}>]
                      [maxbytes = <number{0-128}>]
```

where:

| | | |
|---------|--|----------|
| dest | The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry. | REQUIRED |
| state | Disable or enable IPQoS for the interface. The default is disabled . | OPTIONAL |
| discard | Determines the packet discard strategy in case of congestion. Choose between: <ul style="list-style-type: none"> > tail: Tail Drop: arriving packets will be dropped as soon as the destination queue is in an overflow state. > early: Early Packet discard: arriving packets will be dropped early according to the BLUE active queue management algorithm. The default is early . | OPTIONAL |

| | | |
|--------------|--|----------|
| priority | <p>Select the subqueue priority algorithm. Choose between:</p> <ul style="list-style-type: none"> > wfq: Weighted Fair Queuing (WFQ) is used for the four AF queues. The realtime queue has priority over the WFQ queues, which have priority over the best-effort queue. > strict: Priority queuing is used. Strict Priority scheduling is used between all queues. The higher the queue number, the higher the priority. > wrr: Weighted Round Robin (WRR) is used for the four AF queues. Each queue is scheduled in turn, with a circular "round" wrapping. <p>The default is wfq.</p> | OPTIONAL |
| realtimerate | <p>A number between 1 and 100. Represents a percentage of the interface bandwidth for rate-limiting of the Real Time queue. In case of congestion, the Real Time queue will only use this percentage of the interface bandwidth when there is also traffic on the other queues. The default is 80.</p> | OPTIONAL |
| burstsize | <p>A number between 1 and 64. Represents the Real Time queue burstsize (in kilobytes) for rate limiting. The default is 2.</p> | OPTIONAL |
| weight1 | <p>A number between 1 and 97. Represents the weight of queue 1 used for WFQ or WRR. The default is 25 (%).</p> | OPTIONAL |
| weight2 | <p>A number between 1 and 97. Represents the weight of queue 2 used for WFQ or WRR. The default is 25 (%).</p> | OPTIONAL |
| weight3 | <p>A number between 1 and 97. Represents the weight of queue 3 used for WFQ or WRR. The default is 25 (%).</p> | OPTIONAL |
| weight4 | <p>A number between 1 and 97. Represents the weight of queue 4 used for WFQ or WRR. The default is 25 (%).</p> | OPTIONAL |
| maxpackets | <p>A number between 0 and 250. Represents the maximum number of packets in all IPQoS queues instantiated for one interface. The default is 250.</p> | OPTIONAL |
| maxbytes | <p>A number between 0 and 128. Represents the maximum size in kilobytes in all IPQoS queues instantiated for one interface. The default is 56.</p> | OPTIONAL |

EXAMPLE:

```
=>ipqos config dest=atm_pvc_8_35 state=enabled
=>ipqos list
Name          State      Discard  Priority  Size      Size      Rate  Burst  Weights
              (Packets) (KBytes)  (%)    (KBytes)  Weights
atm_pvc_0_35  disabled  early   wfq      250       56       80%   2      25% 25% 25% 25%
atm_pvc_8_35  enabled   early   wfq      250       56       80%   2      25% 25% 25% 25%
=>
```

RELATED COMMANDS:

ipqos list

Display the IPQoS configuration.

ipqos list

Display the IPQoS configuration.

SYNTAX:

```
ipqos list
```

EXAMPLE:

```
=>ipqos list
Name          State      Discard  Priority  Size      Size      Rate  Burst  Weights
              (Packets) (KBytes)  (%)    (KBytes)  Weights
atm_pvc_0_35  disabled  early    wfq       250       56       80%   2      25% 25% 25% 25
%
atm_pvc_8_35  enabled   early    wfq       250       56       80%   2      25% 25% 25% 25
%
=>
```

RELATED COMMANDS:

ipqos config

Configure IPQoS for a given destination interface for the IPQoS queues instantiation.

ipqos ef config

Configure the IPQoS Expedited Forwarding (EF) timer for an interface.

SYNTAX:

```
ipqos ef config      intf = <string>
                    [state = <{disabled | enabled}>]
                    [timeout = <number{100-10000}>]
                    [mtu = <number{68-65535}>]
```

where:

| Parameter | Description | Requirement |
|-----------|--|-------------|
| intf | The name of the IP interface. | REQUIRED |
| state | Enable or disable the IPQoS EF timer for the interface. The default is disabled . | OPTIONAL |
| timeout | A number between 100 and 10000 milliseconds. Represents the timeout. The default is 1000 . | OPTIONAL |
| mtu | A number between 68 and 65535. Represents the MTU of the IP interface in case of EF data. The default is 1500 . | OPTIONAL |

EXAMPLE:

The example below shows the default configuration:

```
=>ipqos ef list
Interface  State      Timeout    MTU
           (ms)      (bytes)
loop      disabled  1000      65535
Rt_PPpA2  disabled  1000      1500
eth0      disabled  1000      1500
=>ipqos ef config intf=Rt_PPpA2 state=enabled
=>ipqos ef list
Interface  State      Timeout    MTU
           (ms)      (bytes)
loop      disabled  1000      65535
Rt_PPpA2  enabled   1000      1500
eth0      disabled  1000      1500
=>
```

RELATED COMMANDS:

- ipqos ef list Display the IPQoS EF timers.
- ipqos ef stats Display the IPQoS EF timer statistics.

ipqos ef list

Display the IPQoS EF timers.

SYNTAX:

```
ipqos ef list
```

EXAMPLE:

```
=>ipqos ef list
Interface  State      Timeout   MTU
           (ms)      (bytes)
loop       disabled  1000      65535
Rt_PPpOA2  enabled   1000      1500
eth0       disabled  1000      1500
=>
```

RELATED COMMANDS:

ipqos ef config

Configure the IPQoS Expedited Forwarding (EF) timer for an interface.

ipqos ef stats

Display the IPQoS EF timer statistics.

ipqos ef stats

Display the IPQoS EF timer statistics.

SYNTAX:

```
ipqos ef stats
```

EXAMPLE:

```
=>ipqos ef stats
Interface  State      Remain
           (ms)
loop       active    900
Rt_PPpA2   active    900
eth0       disabled  0
=>
```

RELATED COMMANDS:

ipqos ef config

Configure the IPQoS Expedited Forwarding (EF) timer for an interface.

ipqos ef list

Display the IPQoS EF timers.

ipqos queue clear

Clear the IPQoS statistics.

SYNTAX:

```
ipqos queue clear
```

EXAMPLE:

```
=>ipqos queue stats
Name Queue      # packets # packets # packets # packets # packets Marking
      added    marked   removed  dropped   replaced
PVC_1 0          1240     0         1240     0         0       0
      1           0         0          0         0         0       0
      2           0         0          0         0         0       0
      3          234     0         234     0         0       0
      4           0         0          0         0         0       0
      5         1345     0         1345     0         0       0
=>ipqos queue clear
=>ipqos queue stats
Name Queue      # packets # packets # packets # packets # packets Marking
      added    marked   removed  dropped   replaced
PVC_1 0           0         0          0         0         0       0
      1           0         0          0         0         0       0
      2           0         0          0         0         0       0
      3           0         0          0         0         0       0
      4           0         0          0         0         0       0
      5           0         0          0         0         0       0
=>
```

RELATED COMMANDS:

ipqos queue stats

Show the IPQoS subqueue statistics.

ipqos queue config

Modify the IPQoS subqueue configuration.

SYNTAX:

```
ipqos queue config    dest = <string>
                    queue = <number{0-5}>
                    [propagate = <{disabled | enabled}>]
                    [ecnmarking = <{disabled | enabled}>]
                    [ackfiltering = <{disabled | enabled}>]
                    [maxpackets = <number{0-250}>]
                    [maxbytes = <number{0-128}>]
                    [respackets = <number{0-250}>]
                    [resbytes = <number{0-128}>]
                    [hold = <number>]
                    [markprob = <number{1-1000}>]
```

where:

| | | |
|--------------|---|----------|
| dest | The destination interface for the IPQoS queues instantiation. Typically, an ATM phonebook entry. | REQUIRED |
| queue | A number between 0 and 5. Represents the number of the queue, where: <ul style="list-style-type: none"> > 5 is the Real time queue > 4 is the Assured Forwarding (AF) queue 4 > 3 is the AF queue 3 > 2 is the AF queue 2 > 1 is the AF queue 1 > 0 is the Best Effort queue. | OPTIONAL |
| propagate | Higher priority packets will be queued in a lower priority queue, instead of being dropped, as soon as the destination queue is in overflow state. The packet will be put in a lower priority queue only once. Choose between disabled or enabled. The default is disabled . Note The propagate flag for the lowest priority subqueue (the Best Effort queue) has no meaning. | OPTIONAL |
| ecnmarking | Enable Explicit Congestion Notification (ECN) for IP packets in this subqueue (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| ackfiltering | Enable filtering of TCP ACK packets (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| maxpackets | A number between 0 and 250. Represents the maximum number of packets in this queue. The default is 0 for the Real time queue and 100 for the other queues. Note 0 means that a maximum size is not enforced. | OPTIONAL |

IPQoS Commands

| | | |
|------------|---|----------|
| maxbytes | A number between 0 and 128. Represents the maximum size in kilobytes of this queue. The default is 0 for the Real time queue and 20 for the other queues. Note 0 means that a maximum size is not enforced. | OPTIONAL |
| respackets | A number between 0 and 250. Represents the reserved number of packets in this queue. The default is 30 for the Real time queue and 13 for the other queues. | OPTIONAL |
| resbytes | A number between 0 and 128 Represents the reserved size in kilobytes of this queue. The default is 12 for the Real time queue and 4 for the other queues. | OPTIONAL |
| hold | A number (of microseconds). Represents the hold time in microseconds for early discard strategy. The default is 50000 . | OPTIONAL |
| markprob | A number between 1 and 1000. Represents the maximum packet marking probability in parts per mille for early discard strategy. The default is 1000 . | OPTIONAL |

EXAMPLE:

```
=>ipqos queue list
Name          Queue      Propagate ECN      AckFilter Size      Size      Reserved  Reserved
Holdtime      Markprob
              (usecs)
              (Packets) (KBytes)  (Packets) (KBytes)
atm_pvc_0_35  0          disabled disabled 100      20       13       4
50000         1000
1             disabled disabled disabled 100      20       13       4
50000         1000
2             disabled disabled disabled 100      20       13       4
50000         1000
3             disabled disabled disabled 100      20       13       4
50000         1000
4             disabled disabled disabled 100      20       13       4
50000         1000
5             disabled disabled disabled 0         0        30       12
50000         1000
atm_pvc_8_35  0          disabled disabled 100      20       13       4
50000         1000
1             disabled disabled disabled 100      20       13       4
50000         1000
2             disabled disabled disabled 100      20       13       4
50000         1000
3             disabled disabled disabled 100      20       13       4
50000         1000
4             disabled disabled disabled 100      20       13       4
50000         1000
5             disabled disabled disabled 0         0        30       12
50000         1000
=>
```

RELATED COMMANDS:

ipqos queue list

Display the IPQoS subqueue configuration.

ipqos queue list

Display the IPQoS subqueue configuration.

SYNTAX:

```
ipqos queue list [dest = <string>]>
```

where:

| | | |
|-------------|--|-----------------|
| dest | The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry. | OPTIONAL |
| | Note If not specified, the IPQoS subqueue configuration for all the interfaces will be shown. | |

EXAMPLE:

```
=>ipqos queue list
Name      Queue  Propagate ECN      AckFilter Size      Size      Reserved  Reserved  Hold
time  Markprob
                                     (Packets) (KBytes)  (Packets) (KBytes)  (use
cs)
atm_pvc_0_35 0
0      1000
                                     disabled disabled disabled 100      20      13      4      5000
0      1000      1      disabled disabled disabled 100      20      13      4      5000
0      1000      2      disabled disabled disabled 100      20      13      4      5000
0      1000      3      disabled disabled disabled 100      20      13      4      5000
0      1000      4      disabled disabled disabled 100      20      13      4      5000
0      1000      5      disabled disabled disabled 0        0        30      12      5000
atm_pvc_8_35 0
0      1000
                                     disabled disabled disabled 100      20      13      4      5000
0      1000      1      disabled disabled disabled 100      20      13      4      5000
0      1000      2      disabled disabled disabled 100      20      13      4      5000
0      1000      3      disabled disabled disabled 100      20      13      4      5000
0      1000      4      disabled disabled disabled 100      20      13      4      5000
0      1000      5      disabled disabled disabled 0        0        30      12      5000
0      1000
=>
```

RELATED COMMANDS:

`ipqos queue config` **Modify the IPQoS subqueue configuration.**

ipqos queue stats

Show the IPQoS subqueue statistics.

SYNTAX:

```
ipqos queue stats [dest = <string>>]
```

where:

| | | |
|-------------|---|-----------------|
| dest | The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry. | OPTIONAL |
| | Note If not specified, the IPQoS subqueue statistics for all the interfaces will be shown. | |

EXAMPLE:

```
=>ipqos queue stats
Name Queue      # packets # packets # packets # packets # packets Marking
      added    marked   removed  dropped   replaced
PVC_1 0          1240      0         1240      0         0       0%
      1           0         0          0          0         0       0%
      2           0         0          0          0         0       0%
      3          234      0         234      0         0       0%
      4           0         0          0          0         0       0%
      5          145      0         145      0         0       0%
=>
```

RELATED COMMANDS:

ipqos queue clear Clear the IPQoS statistics.

24 Label Commands

Introduction

This chapter describes the commands of the **Label** command group.

Contents

This chapter covers the following commands:

| | | |
|------------------------------|---|-----|
| label add | Create a new label. | 488 |
| label delete | Delete a label. | 489 |
| label flush | Flush all labels. | 490 |
| label list | Display the labels. | 491 |
| label modify | Modify a label configuration. | 492 |
| label chain add | Add a new label chain. | 495 |
| label chain delete | Delete a label chain. | 496 |
| label chain flush | Flush all label chains. | 497 |
| label chain list | Display a list of chains. | 498 |
| label rule add | Add a label rule. | 499 |
| label rule delete | Delete a label rule. | 502 |
| label rule flush | Flush all label rules. | 504 |
| label rule list | Display a list of label rules. | 505 |
| label rule modify | Modify a label rule. | 507 |
| label rule debug clear | Clear the label rule statistics. | 508 |
| label rule debug stats | Display the label rule statistics. | 510 |
| label rule debug traceconfig | Display or modify the rule trace configuration. | 511 |

label add

Create a new label.

SYNTAX:

```
label add name = <string>
```

where:

| | | |
|-------------|------------------------------------|-----------------|
| name | The name of the label to be added. | REQUIRED |
|-------------|------------------------------------|-----------------|

EXAMPLE:

```
=>label list
Name      Class      Def      Ack      Bidirect  Inherit  Tosmark  Type  Value  Ttlover  Ttl  Use  Trace
DSCP      overwrite  dscp     defclass disabled disabled disabled tos  0      disabled 0    0    disabled
Interactive increase  8         8         disabled disabled disabled tos  0      disabled 0    0    disabled
Management increase  12        12        disabled disabled disabled tos  0      disabled 0    0    disabled
Video     increase  10        10        disabled disabled disabled tos  0      disabled 0    0    disabled
VoIP      overwrite  14        14        enabled  enabled  disabled tos  0      disabled 0    0    disabled
default   increase  default   prioritize disabled disabled disabled tos  0      disabled 0    0    disabled
=>label add name=myLABEL
=>label list
Name      Class      Def      Ack      Bidirect  Inherit  Tosmark  Type  Value  Ttlover  Ttl  Use  Trace
DSCP      overwrite  dscp     defclass disabled disabled disabled tos  0      disabled 0    0    disabled
Interactive increase  8         8         disabled disabled disabled tos  0      disabled 0    0    disabled
Management increase  12        12        disabled disabled disabled tos  0      disabled 0    0    disabled
Video     increase  10        10        disabled disabled disabled tos  0      disabled 0    0    disabled
VoIP      overwrite  14        14        enabled  enabled  disabled tos  0      disabled 0    0    disabled
default   increase  default   prioritize disabled disabled disabled tos  0      disabled 0    0    disabled
myLABEL   ignore     0         0         disabled disabled disabled tos  0      disabled 0    0    disabled
=>
```

RELATED COMMANDS:

- label delete Delete a label.
- label list Display the labels.

label delete

Delete a label.

SYNTAX:

```
label delete          name = <string>
                    [force = <{disabled | enabled}>]
```

where:

| name | The name of the label to be deleted. | REQUIRED |
|-------|--|----------|
| force | Force delete and cleanup references even when the label is still in use (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>label list
Name      Class      Def      Ack      Bidirect  Inherit  Tosmark  Type  Value  Ttlover  Ttl  Use  Trace
DSCP      overwrite  dscp     defclass disabled disabled disabled tos    0      disabled 0    0    disabled
Interactive increase  8        8        disabled disabled disabled tos    0      disabled 0    0    disabled
Management increase  12       12       disabled disabled disabled tos    0      disabled 0    0    disabled
Video     increase  10       10       disabled disabled disabled tos    0      disabled 0    0    disabled
VoIP      overwrite  14       14       enabled  enabled  disabled tos    0      disabled 0    0    disabled
default   increase  default  prioritize disabled disabled disabled tos    0      disabled 0    0    disabled
myLABEL   ignore    0        0        disabled disabled disabled tos    0      disabled 0    0    disabled
=>label delete name=myLABEL force=yes
=>label list
Name      Class      Def      Ack      Bidirect  Inherit  Tosmark  Type  Value  Ttlover  Ttl  Use  Trace
DSCP      overwrite  dscp     defclass disabled disabled disabled tos    0      disabled 0    0    disabled
Interactive increase  8        8        disabled disabled disabled tos    0      disabled 0    0    disabled
Management increase  12       12       disabled disabled disabled tos    0      disabled 0    0    disabled
Video     increase  10       10       disabled disabled disabled tos    0      disabled 0    0    disabled
VoIP      overwrite  14       14       enabled  enabled  disabled tos    0      disabled 0    0    disabled
default   increase  default  prioritize disabled disabled disabled tos    0      disabled 0    0    disabled
=>
```

RELATED COMMANDS:

- label add Create a new label.
- label list Display the labels.

label flush

Flush all labels.



The flush command does not impact previously saved configurations.

SYNTAX:

```
label flush
```


label list

Display the labels.

SYNTAX:

```
label list [name = <string>]
```

where:

| | | |
|------|---|----------|
| name | The name of the label to be displayed. | OPTIONAL |
| | Note If not specified, all the labels will be displayed. | |

EXAMPLE:

```
=>label list
Name      Class      Def      Ack      Bidirect Inherit  Tosmark  Type  Value Ttlover  Ttl  Use  Trace
DSCP      overwrite  dscp     defclass disabled disabled disabled tos    0      disabled 0    0    disabled
Interactive increase  8        8        disabled disabled disabled tos    0      disabled 0    0    disabled
Management increase  12       12       disabled disabled disabled tos    0      disabled 0    0    disabled
Video     increase  10       10       disabled disabled disabled tos    0      disabled 0    0    disabled
VoIP      overwrite  14       14       enabled  enabled  disabled tos    0      disabled 0    0    disabled
default   increase  default  prioritize disabled disabled disabled tos    0      disabled 0    0    disabled
=>
=>label list name=Interactive
Name      Class      Def      Ack      Bidirect Inherit  Tosmark  Type  Value Ttlover  Ttl  Use  Trace
Interactive increase  8        8        disabled disabled disabled tos    0      disabled 0    0    disabled
=>
```

RELATED COMMANDS:

| | |
|--------------|---------------------|
| label add | Create a new label. |
| label delete | Delete a label. |

label modify

Modify a label configuration.

SYNTAX:

```
label modify      name = <string>
                  [classification = <{ignore | overwrite | increase}>]
                  [defclass = <number{0-15} | dscp | default>]
                  [ackclass = <number{0-15} | defclass | prioritize>]
                  [bidirectional = <{disabled | enabled}>]
                  [inheritance = <{disabled | enabled}>]
                  [tosmarking = <{disabled | enabled}>]
                  [tos = <number{0-255}>]
                  [dscp = <{DSCP name} | <number>}]
                  [precedence = <{IP precedence type} | <number>}]
                  [trace = <{disabled | enabled}>]
```

where:

| name | The name of the label to be configured. | REQUIRED |
|----------------|--|----------|
| classification | <p>Select the method of classification, in other words, determine what the Layer 3 class assignment must do with the priority of the data packet (as set by Layer 2).</p> <p>Choose between:</p> <ul style="list-style-type: none"> > ignore: Ignore the class parameters defclass and ackclass, but use the class as set by Layer 2 (VLAN user priority, ATM QoS). > overwrite: Change the class to defclass and ackclass, overwriting the value set by Layer 2 (VLAN user priority, ATM QoS). > increase: Change the class according to defclass and ackclass, but only if the defclass value is higher than the class value already set by Layer 2. <p>The default is ignore.</p> <p>Note The class as set by Layer 2 is derived from:</p> <ul style="list-style-type: none"> > the VLAN user priority (in case of VLAN or priority tagged frames) > the ATM PVC QoS class (in case the packet is received from an ATM PVC). <p>For non-VLAN frames or non-PVC received data, Layer 2 sets the internal class (priority) to 4 by default.</p> | OPTIONAL |
| defclass | <p>The default priority class of the assigned connection.</p> <p>Choose between:</p> <ul style="list-style-type: none"> > A number between 0 and 15 > dscp > default. <p>The default is 0.</p> | OPTIONAL |

Label Commands

| | | |
|---------------|---|----------|
| ackclass | <p>The priority class of the ACK segments of the TCP connection. Choose between:</p> <ul style="list-style-type: none">> A number between 0 and 15> prioritize> declass. <p>The default is 0.</p> | OPTIONAL |
| bidirectional | <p>The label applies to the initiator stream, the returning stream (the current connection) as well as to the child connections (enabled) or not (disabled). The default is disabled.</p> | OPTIONAL |
| inheritance | <p>The label will be copied to all child connection streams in the same direction (enabled) or not (disabled). The default is disabled.</p> | OPTIONAL |
| tosmarking | <p>Enable or disable tos marking. The default is disabled.</p> | OPTIONAL |
| tos | <p>A number between 0 and 255. Represents the ToS specification in the IP packet (used for tosmarking). The default is 0.</p> <p>Note The parameters tos, precedence and dscp are mutually exclusive.</p> | OPTIONAL |
| dscp | <p>The DSCP in the IP packet (part of tos). Select a DSCP (see " Differentiated Services Code Point (DSCP)" on page 753) or, alternatively, specify the number.</p> <p>Note The parameters tos, precedence and dscp are mutually exclusive.</p> | OPTIONAL |
| precedence | <p>The precedence in the IP packet (part of tos). Select an IP precedence (see " IP Precedence" on page 752) or, alternatively, specify the number.</p> <p>Note The parameters tos, precedence and dscp are mutually exclusive.</p> | OPTIONAL |
| trace | <p>Enable or disable IP tracing for this label. The default is disabled.</p> | OPTIONAL |

EXAMPLE:

```

=>label list
Name      Class  Def    Ack    Bidirect Inherit  Tosmark Type  Value  Use  Trace
DSCP      overwrite dscp   defclass disabled disabled disabled tos  0      0  0  disabled
Interactive increase  8      8      disabled disabled disabled tos  0      0  0  disabled
Management increase 12     12     disabled disabled disabled tos  0      0  0  disabled
Video     increase 10     10     disabled disabled disabled tos  0      0  0  disabled
VoIP      overwrite 14     14     enabled  enabled  disabled tos  0      0  0  disabled
default   increase default prioritize disabled disabled disabled tos  0      0  0  disabled
myLABEL   ignore    0      0      disabled disabled disabled tos  0      0  0  disabled
=>label modify name=myLABEL classification=increase defclass=7 ackclass=7 bidirectional=enabled
inheritance=enabled tosmarking=enabled tos=234 trace=enabled
=>label list
Name      Class  Def    Ack    Bidirect Inherit  Tosmark Type  Value  Use  Trace
DSCP      overwrite dscp   defclass disabled disabled disabled tos  0      0  0  disabled
Interactive increase  8      8      disabled disabled disabled tos  0      0  0  disabled
Management increase 12     12     disabled disabled disabled tos  0      0  0  disabled
Video     increase 10     10     disabled disabled disabled tos  0      0  0  disabled
VoIP      overwrite 14     14     enabled  enabled  disabled tos  0      0  0  disabled
default   increase default prioritize disabled disabled disabled tos  0      0  0  disabled
myLABEL   increase  7      7      enabled  enabled  enabled tos  234    0  0  enabled
=>

```

label chain add

Add a new label chain.

SYNTAX:

```
label chain add          chain = <string>
```

where:

| chain | The name of the chain to be added. | REQUIRED |
|-------|------------------------------------|----------|
|-------|------------------------------------|----------|

EXAMPLE:

```
=>label chain list

Chains
=====
Name                               Description
-----
routing_labels                      system
rt_user_labels                      user
rt_default_labels                  user
qos_labels                          system
qos_user_labels                    user
qos_default_labels                  user
=>label chain add chain=myChain
=>label chain list

Chains
=====
Name                               Description
-----
routing_labels                      system
rt_user_labels                      user
rt_default_labels                  user
qos_labels                          system
qos_user_labels                    user
qos_default_labels                  user
myChain                             user
=>
```

RELATED COMMANDS:

label chain delete

Delete a label chain.

label chain list

Display a list of chains.

label chain delete

Delete a label chain.

SYNTAX:

```
label chain delete      chain = <string>
```

where:

| chain | The name of the chain to be deleted. | REQUIRED |
|-------|--------------------------------------|----------|
|-------|--------------------------------------|----------|

EXAMPLE:

```
=>label chain list

Chains
=====
Name                               Description
-----
routing_labels                     system
rt_user_labels                     user
rt_default_labels                  user
qos_labels                          system
qos_user_labels                    user
qos_default_labels                 user
myChain                             user
=>label chain delete chain=myChain
=>label chain list

Chains
=====
Name                               Description
-----

routing_labels                     system
rt_user_labels                     user
rt_default_labels                  user
qos_labels                          system
qos_user_labels                    user
qos_default_labels                 user
=>
```

RELATED COMMANDS:

| | |
|------------------|---------------------------|
| label chain add | Add a new label chain. |
| label chain list | Display a list of chains. |

label chain flush

Flush all label chains.

SYNTAX:

```
label chain flush
```

label chain list

Display a list of chains.

SYNTAX:

```
label chain list [format = <{pretty | cli}>]
```

where:

| | | |
|--------|--|----------|
| format | Select the output format of the list. Choose between: <ul style="list-style-type: none"> > pretty: the configuration is shown as intuitive output in clear text. > cli: the configuration is shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
|--------|--|----------|

EXAMPLE:

```
=>label chain list

Chains
=====
Name                               Description
-----
routing_labels                      system
rt_user_labels                       user
rt_default_labels                    user
qos_labels                           system
qos_user_labels                      user
qos_default_labels                   user

=>label chain list format=cli

:label chain add chain=rt_user_labels
:label chain add chain=rt_default_labels
:label chain add chain=qos_user_labels
:label chain add chain=qos_default_labels
=>
```

RELATED COMMANDS:

| | |
|--------------------|------------------------|
| label chain add | Add a new label chain. |
| label chain delete | Delete a label chain. |

label rule add

Add a label rule.

SYNTAX:

```
label rule add          chain = <chain name>
                        [index = <number>]
                        [name = <string>]
                        [clink = <chain name>]
                        [srcintf [!]= <string>]
                        [srcip [!]= <{ip address | private}>]
                        [dstip [!]= <{ip address | private}>]
                        [serv [!]= <{service name}>]
                        [log = <{disabled | enabled}>]
                        [state = <{disabled | enabled}>]
                        label = <string>
```



If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if srcintf is different from WAN”.

where:

| | | |
|---------|--|----------|
| chain | The name of the chain in which the rule must be inserted. | REQUIRED |
| index | The index number of the rule before which the new rule must be added. Tip Use the command :label rule list to obtain the index number of the applicable rule. | OPTIONAL |
| name | The name of the new rule. | OPTIONAL |
| clink | The name of the chain to be parsed when this rule applies. | OPTIONAL |
| srcintf | The name of the source interface expression. | OPTIONAL |
| srcip | The name of the source IP expression. | OPTIONAL |
| dstip | The name of the destination IP expression. | OPTIONAL |
| serv | The name of the service expression. | OPTIONAL |
| log | Disable or enable logging when this rule applies. The default is disabled . | OPTIONAL |
| state | Disable or enable this rule. The default is enabled . | OPTIONAL |
| label | Choose between: > None > link (when clink is used) > label name. | REQUIRED |

EXAMPLE:

```
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                               Nr.  Flags  Rule
-----
routing_labels                       1    CDE
                                     2    CDE
qos_labels                           1    CDE
                                     2    CDE
qos_default_labels                   1    C E
                                     2    C E
                                     3    C E
                                     4    C E
                                     5    C E
                                     6    C E
                                     7    C E
                                     8    C E
                                     9    C E
                                    10   C E
                                    11   C E
                                    12   C E
                                    13   C E
                                    14   C E
                                    15   C E
                                    16   C E
                                    17   C E
                                    18   C E
                                    19    E
                                    20   C E
                                    21   C E
                                    22   C E
                                     default
                                     : link
                                     : link
                                     : link
                                     : link
                                     : VoIP
                                     : VoIP
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Management
                                     : Management
                                     : Management
                                     : Video
                                     : Video
                                     : default
                                     : rt_user_labels
                                     : rt_default_labels
                                     : qos_user_labels
                                     : qos_default_labels
                                     sip *.* > *.*
                                     h323 *.* > *.*
                                     telnet *.* > *.*
                                     smtp *.* > *.*
                                     imap4-ssl *.* > *.*
                                     imap3 *.* > *.*
                                     imap *.* > *.*
                                     imaps *.* > *.*
                                     pop3s *.* > *.*
                                     pop3 *.* > *.*
                                     pop2 *.* > *.*
                                     httpproxy *.* > *.*
                                     http *.* > *.*
                                     https *.* > *.*
                                     esp *.* > *.*
                                     ah *.* > *.*
                                     dns *.* > *.*
                                     ike *.* > *.*
                                     icmp *.* > *.*
                                     rtsp *.* > *.*
                                     igmp *.* > *.*
                                     !wan.* > *.*

=>label rule add chain=myChain name=myRule dstip=150.150.150.150 serv=DiffServ log=enabled state=enabled
| label=myLABEL
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                               Nr.  Flags  Rule
-----
routing_labels                       1    CDE
                                     2    CDE
qos_labels                           1    CDE
                                     2    CDE
qos_default_labels                   1    C E
                                     2    C E
                                     3    C E
                                     4    C E
                                     5    C E
                                     6    C E
                                     7    C E
                                     8    C E
                                     9    C E
                                    10   C E
                                    11   C E
                                    12   C E
                                    13   C E
                                    14   C E
                                    15   C E
                                    16   C E
                                    17   C E
                                    18   C E
                                    19    E
                                    20   C E
                                    21   C E
                                    22   C E
                                     default
                                     : link
                                     : link
                                     : link
                                     : link
                                     : VoIP
                                     : VoIP
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Interactive
                                     : Management
                                     : Management
                                     : Management
                                     : Video
                                     : Video
                                     : default
                                     : rt_user_labels
                                     : rt_default_labels
                                     : qos_user_labels
                                     : qos_default_labels
                                     sip *.* > *.*
                                     h323 *.* > *.*
                                     telnet *.* > *.*
                                     smtp *.* > *.*
                                     imap4-ssl *.* > *.*
                                     imap3 *.* > *.*
                                     imap *.* > *.*
                                     imaps *.* > *.*
                                     pop3s *.* > *.*
                                     pop3 *.* > *.*
                                     pop2 *.* > *.*
                                     httpproxy *.* > *.*
                                     http *.* > *.*
                                     https *.* > *.*
                                     esp *.* > *.*
                                     ah *.* > *.*
                                     dns *.* > *.*
                                     ike *.* > *.*
                                     icmp *.* > *.*
                                     rtsp *.* > *.*
                                     igmp *.* > *.*
                                     !wan.* > *.*

myChain                              1    C EL  myRule      : myLABEL DiffServ *.* > *.150.150.150.150
=>
```

RELATED COMMANDS:

label rule delete

Delete a label rule.

Label Commands

label rule list

Display a list of label rules.

label rule delete

Delete a label rule.

SYNTAX:

```
label rule delete      chain = <string>
                      index = <number>
```

where:

| chain | The name of the chain in which a rule must be deleted. | REQUIRED |
|-------|--|----------|
| index | The index number of the rule in the chain. | REQUIRED |

Tip Use the command **:label rule list** to obtain the index number of the applicable rule.

EXAMPLE:

```
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                Nr.  Flags  Rule
-----
routing_labels       1    CDE           : link          rt_user_labels
                    2    CDE           : link          rt_default_labels
qos_labels            1    CDE           : link          qos_user_labels
                    2    CDE           : link          qos_default_labels
qos_default_labels   1    C E          : VoIP          sip *.* > *.*
                    2    C E          : VoIP          h323 *.* > *.*
                    3    C E          : Interactive    telnet *.* > *.*
...
                    19   E            : Management     icmp *.* > *.*
                    20   C E          : Video          rtsp *.* > *.*
                    21   C E          : Video          igmp *.* > *.*
                    22   C E          : default        !wan.* > *.*
myChain               1    C EL  myRule      : myLABEL DiffServ *.* > *.150.150.150.150
=>label rule delete chain=myChain index=1
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                Nr.  Flags  Rule
-----
routing_labels       1    CDE           : link          rt_user_labels
                    2    CDE           : link          rt_default_labels
qos_labels            1    CDE           : link          qos_user_labels
                    2    CDE           : link          qos_default_labels
qos_default_labels   1    C E          : VoIP          sip *.* > *.*
                    2    C E          : VoIP          h323 *.* > *.*
                    3    C E          : Interactive    telnet *.* > *.*
...
                    19   E            : Management     icmp *.* > *.*
                    20   C E          : Video          rtsp *.* > *.*
                    21   C E          : Video          igmp *.* > *.*
                    22   C E          : default        !wan.* > *.*
=>
```

Label Commands

RELATED COMMANDS:

label rule add

Add a label rule.

label rule list

Display a list of label rules.

label rule flush

Flush all label rules.

The chains themselves are not removed.



The flush command does not impact previously saved configurations.

SYNTAX:

```
label rule flush          [chain = <string>]
```

where:

| | | |
|---|--------------------------------------|----------|
| chain | The name of the chain to be flushed. | OPTIONAL |
| Note If not specified, all the rules for all the chains are flushed. | | |

label rule list

Display a list of label rules.

SYNTAX:

```
label rule list      [chain = <string>]
                    [format = <{pretty | cli}>]
                    [string = <string>]
                    [beginstring = <string>]
```

where:

| | | |
|-------------|--|----------|
| chain | The name of the chain for which the rules must be listed. Note If not specified, all rules for all chains are shown. | OPTIONAL |
| format | Select the output format of the list. Choose between: <ul style="list-style-type: none">> pretty: the configuration is shown as intuitive output in clear text.> cli: the configuration is shown via the CLI commands configuration. The default is pretty . | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

EXAMPLE:

```
=>label rule list format=cli
:label rule add chain=qos_default_labels index=1 serv=sip log=disabled state=enabled
label=VoIP
:label rule add chain=qos_default_labels index=2 serv=h323 log=disabled state=enabled
label=VoIP
:label rule add chain=qos_default_labels index=3 serv=telnet log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=4 serv=smtp log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=5 serv=imap4-ssl log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=6 serv=imap3 log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=7 serv=imap log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=8 serv=imaps log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=9 serv=pop3s log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=10 serv=pop3 log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=11 serv=pop2 log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=12 serv=httpproxy log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=13 serv=http log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=14 serv=https log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=15 serv=esp log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=16 serv=ah log=disabled state=enabled
label=Interactive
:label rule add chain=qos_default_labels index=17 serv=dns log=disabled state=enabled
label=Management
:label rule add chain=qos_default_labels index=18 serv=ike log=disabled state=enabled
label=Management
:label rule add chain=qos_default_labels index=19 serv=icmp log=disabled state=enabled
label=Management
:label rule add chain=qos_default_labels index=20 serv=rtsp log=disabled state=enabled
label=Video
:label rule add chain=qos_default_labels index=21 serv=igmp log=disabled state=enabled
label=Video
:label rule add chain=qos_default_labels index=22 name=default srcintf=!wan log=disabled
state=enabled
| label=default
=>
```

RELATED COMMANDS:

| | |
|-------------------|----------------------|
| label rule add | Add a label rule. |
| label rule delete | Delete a label rule. |

label rule modify

Modify a label rule.

SYNTAX:

```
label rule modify      chain = <chain name>
                      index = <number>
                      [newindex = <number>]
                      [name = <string>]
                      [clink = <chain name>]
                      [srcintf [!]= <string>]
                      [srcip [!]= <{ip address | private}>]
                      [dstip [!]= <{ip address | private}>]
                      [serv [!]= <{service name}>]
                      [log = <{disabled | enabled}>]
                      [state = <{disabled | enabled}>]
                      [label = <string>]
```



If a value is preceded by a “!”, it means “NOT”.
For example “srcintf=!wan” means “if srcintf is different from WAN”.

where:

| | | |
|----------|---|----------|
| chain | The name of the chain which contains the rule. | REQUIRED |
| index | The number of the rule in the chain. | REQUIRED |
| newindex | The new number of the rule in the chain. | OPTIONAL |
| name | The name of the new rule. | OPTIONAL |
| clink | The name of the chain to be parsed when this rule applies. | OPTIONAL |
| srcintf | The name of the source interface expression. | OPTIONAL |
| srcip | The name of the source IP expression. | OPTIONAL |
| dstip | The name of the destination IP expression. | OPTIONAL |
| serv | The name of the device expression. | OPTIONAL |
| log | Disable or enable logging when this rule applies. | OPTIONAL |
| state | Disable or enable this rule. | OPTIONAL |
| label | Choose between: <ul style="list-style-type: none">> None> link (when clink is used)> label name. | OPTIONAL |

label rule debug clear

Clear the label rule statistics.

SYNTAX:

```
label rule debug clear [chain = <string>]
                      [index = <number>]
```

where:

| | | |
|-------|---|----------|
| chain | The name of the chain in which the rule is to be found. Note If not specified, the statistics for all the rules in all chains will be cleared. | OPTIONAL |
| index | The index number (determined by the position) of the rule in the chain. Note If not specified, the statistics for all the rules in a chain will be cleared. | OPTIONAL |

Label Commands

EXAMPLE:

```
=>label rule debug stats chain=qos_labels
chain          index  packets  bytes
-----
qos_labels     1         0         0
               2        203       19146
=>label rule debug clear chain=qos_labels
=>label rule debug stats
chain          index  packets  bytes
-----
routing_labels 1         0         0
               2         0         0
qos_labels     1         0         0
               2         0         0
qos_default_labels 1         0         0
               2         0         0
               3         4         168
               4         0         0
               5         0         0
               6         0         0
               7         0         0
               8         0         0
               9         0         0
              10         0         0
              11         0         0
              12         0         0
              13        10         480
              14         3         144
              15         0         0
              16         0         0
              17         5         329
              18         0         0
              19         4         452
              20        177       17573
=>
```

RELATED COMMANDS:

label rule debug stats

Display the label rule statistics.

label rule debug stats

Display the label rule statistics.

SYNTAX:

```
label rule debug stat  [chain = <string>]
s                    [index = <number>]
```

where:

| | | |
|-------|--|----------|
| chain | The name of the chain for which the statistics must be shown. Note If not specified, the statistics for the rules applicable to all chains are shown. | OPTIONAL |
| index | The index number of the rule for which the statistics must be shown. Tip Use the command <code>:label rule list</code> to obtain the index number of the applicable rule. Note If not specified, the statistics for all rules applicable to the specified chain are shown. | OPTIONAL |

EXAMPLE:

```
=>label rule debug stats chain=qos_labels
chain          index  packets  bytes
-----
qos_labels          1         0         0
                   2        167       15690
=>
=>label rule debug stats chain=qos_default_labels index=20
chain          index  packets  bytes
-----
qos_default_labels  19        165       16421
=>
```

RELATED COMMANDS:

label rule debug clear Clear the label rule statistics.

label rule debug traceconfig

Display or modify the rule trace configuration.

SYNTAX:

```
label rule debug trac  [trace = <{disabled | enabled}>]  
econfig
```

where:

| | | |
|-------|--|----------|
| trace | Disable or enable rule traces. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

EXAMPLE:

```
=>label rule debug traceconfig  
:label rule debug traceconfig state=disabled  
=>
```


25 Language Commands

Introduction

This chapter describes the commands of the **language** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------|---------------------------------------|-----|
| language config | Select a language. | 514 |
| language delete | Delete one or all language archives. | 515 |
| language list | List the available language archives. | 516 |

language config

Select a language.

SYNTAX:

```
language config          [language = <string>]
                        [complete = <{yes | no}>]
```

where:

| | | |
|----------|---|----------|
| language | Language code: OSI language code (2 chars) for language. Example: en for english. | OPTIONAL |
| complete | Enable translation for expert pages. The default is yes . | OPTIONAL |

EXAMPLE:

```
=>language config
language      : en
complete     : no
=>
```

RELATED COMMANDS:

language delete
language list

Delete one or all language archives.
List the available language archives.

language delete

Delete one or all language archives.

SYNTAX:

```
language delete      [file = <string>]
                    [all = <{yes | no}>]
```

where:

| | | |
|------|--|----------|
| file | The filename of the language archive to be removed. | OPTIONAL |
| all | Remove all languages archives (yes) or not (no). The default is <i>no</i> . | OPTIONAL |

RELATED COMMANDS:

language config

Select a language.

language list

List the available language archives.

language list

List the available language archives.

SYNTAX:

```
language list
```

EXAMPLE:

```
=>language list
CODE LANGUAGE          VERSION  FILENAME
en* English           5.3.0.10.0  <system>
=>
```



The currently selected language is indicated by a "*" next to the OSI language code.

RELATED COMMANDS:

language config

Select a language.

language delete

Delete one or all language archives.

26 MBUS Commands

Introduction

This chapter describes the commands of the **mbus** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------------|--|-----|
| mbus client config | Modify client parameters. | 518 |
| mbus client exec | Execute mbus command. | 519 |
| mbus client register | Register cli client to mbus. | 521 |
| mbus debug stats | Display mbus statistics. | 522 |
| mbus debug clearstats | Reset MBUS statistics . | 523 |
| mbus debug traceconfig | Modify mbus trace settings. | 524 |
| mbus listobjects | Display the object instances. | 525 |
| mbus listtypes | Display the registered objecttypes. | 526 |
| mbus listenums | Display the registered enumtypes. | 527 |
| mbus listcontexts | Display the context instances . | 528 |
| mbus listsubscriptions | Display the subscription instances . | 529 |
| mbus debug loadobjects | Load object instances of registered objecttypes. | 530 |
| mbus debug unloadobjects | Unload object instances. | 531 |
| mbus pluginevent | Simulate event from plugin . | 532 |
| mbus unregister | Unregister a client/plugin context . | 533 |
| mbus client unregister | Unregister cli client from mbus . | 534 |

mbus client config

Modify client parameters.

SYNTAX:

```
mbus client config [writelock = <{enabled | disabled}>]
                  [wlgettimeout = <number>]
                  [wlidletimeout = <number>]
                  [path = <quoted string>]
                  [type = <idpath | keypath>]
```

where:

| | | |
|---------------|--|----------|
| writelock | Enable or disable mbus writelock. The default is <i>enabled</i> . | OPTIONAL |
| wlgettimeout | Writelock get timeout in seconds. <forever=-1, *default=nowait=0> | OPTIONAL |
| wlidletimeout | Writelock idle timeout in seconds. <forever=-1, *default=nowait=30> | OPTIONAL |
| path | Fully qualified mbus path. | OPTIONAL |
| type | Path type. The default is <i>idpath</i> . | OPTIONAL |

RELATED COMMANDS:

| | |
|----------------------|------------------------------|
| mbus client exec | Execute mbus command. |
| mbus client register | Register cli client to mbus. |
| mbus debug stats | Display mbus statistics. |

mbus client exec

Execute mbus command.

SYNTAX:

```
mbus client exec cmd = <{addobject | deleteobject | getparamattributes | getparamcount | getparamnames | getparamvalues | getpath | setparamvalue}> [param = <quoted string>] [value = <quoted string>] [gettype = <{object | parameter | path}>] [depth = <number>] [processcmd = <{disabled | enabled}>] [readcommitted = <{disabled | enabled}>] [onerrorrollback = <{disabled | enabled}>]
```

where:

| | | |
|-----------------|---|----------|
| cmd | Mbus command name. Choose between: <ul style="list-style-type: none">> addobject> deleteobject> getparamattributes> getparamcount> getparamnames> getparamvalues> getpath> setparamvalue | REQUIRED |
| param | Parameter name. | OPTIONAL |
| value | Parameter value to set. | OPTIONAL |
| gettype | Get type elements. Choose between: <ul style="list-style-type: none">> object> parameter> path The default is parameter . | OPTIONAL |
| depth | Number of levels to recurse, default=-1 (all). | OPTIONAL |
| processcmd | Enable or disable the process SET_PARAMVALUE command flag. The default is enabled . | OPTIONAL |
| readcommitted | Enable or disable the read committed data only (MBUS_CMD_GET_PARAMVALUES) flag. The default is enabled . | OPTIONAL |
| onerrorrollback | Enable or disable the on error rollback flag. The default is enabled . | OPTIONAL |

RELATED COMMANDS:

mbus client config

Modify client parameters.

mbus client register

Register cli client to mbus.

mbus debug stats

Display mbus statistics.

mbus client register

Register cli client to mbus.

SYNTAX:

```
mbus client register
```

RELATED COMMANDS:

| | |
|--------------------|---------------------------|
| mbus client config | Modify client parameters. |
| mbus client exec | Execute mbus command. |
| mbus debug stats | Display mbus statistics. |

mbus debug stats

Display mbus statistics.

SYNTAX:

```
mbus debug stats
```

RELATED COMMANDS:

mbus debug
traceconfig

Modify mbus trace settings.

mbus debug clearstats

Reset MBUS statistics .

SYNTAX:

```
mbus debug clearstats
```

RELATED COMMANDS:

mbus debug stats

Display mbus statistics.

mbus debug traceconfig

Modify mbus trace settings.

mbus debug traceconfig

Modify mbus trace settings.

SYNTAX:

```
mbus debug traceconfig [level = <number{0-4}>]
```

where:

| | | |
|-------|---|----------|
| level | A number between 0 and 4. Represents the mbus trace level. | OPTIONAL |
|-------|---|----------|

RELATED COMMANDS:

mbus debug stats Display mbus statistics.

mbus listobjects

Display the object instances.

SYNTAX:

```
mbus listobjects    [path = <quoted string>]
                   [type = <{idpath | keypath}>]
                   [output = <{list | tree}>]
                   [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|--|----------|
| path | Fully qualified mbus path to list. | OPTIONAL |
| type | Path type. Choose between: > <i>idpath</i> > <i>keypath</i> . The default is <i>idpath</i> . | OPTIONAL |
| output | List output type. Choose between: > <i>list</i> > <i>tree</i> . The default is <i>tree</i> . | OPTIONAL |
| expand | Enable or disable details. The default is <i>disabled</i> . | OPTIONAL |

RELATED COMMANDS:

mbus listtypes Display the registered objecttypes.
mbus listenums Display the registered enumtypes.

mbus listtypes

Display the registered objecttypes.

SYNTAX:

```
mbus listtypes      [path = <quoted string>]
                   [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|--|----------|
| path | Fully qualified mbus path to list. | OPTIONAL |
| expand | Enable or disable details. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>mbus listtypes
- root
  + InternetGatewayDevice
    * DeviceInfo
    * Layer3Forwarding
    * LANDevice
      - WLANConfiguration
        + WEPKey
        + PreSharedKey
      -
    * WANDevice
      - WANCommonInterfaceConfig
      - WANDSLInterfaceConfig
      - WANConnectionDevice
        + WANDSLLinkConfig
        + WANIPConnection
          * PortMapping
        + WANPPPConnection
          * PortMapping
    * Services
    * ManagementServer
=>
```

RELATED COMMANDS:

mbus listobjects Display the object instances.
mbus listenums Display the registered enumtypes.

mbus listenums

Display the registered enumtypes.

SYNTAX:

```
mbus listenumss      [dmtree = <{igd|atomic|system}>]
                    [name = <quoted string>]
                    [expand = <{disabled|enabled}>]
```

where:

| | | |
|--------|--|----------|
| dmtree | Select mbusd datamodel tree. | OPTIONAL |
| name | Filter enumtypes by (part of) the name | OPTIONAL |
| expand | Enable or disable details. The default is <i>disabled</i> . | OPTIONAL |

EXAMPLE:

```
=>mbus listtypes
- root
+ InternetGatewayDevice
* DeviceInfo
* Layer3Forwarding
* LANDevice
- WLANConfiguration
+ WEPKey
+ PreSharedKey
-
* WANDevice
- WANCommonInterfaceConfig
- WANDSLInterfaceConfig
- WANConnectionDevice
+ WANDSLLinkConfig
+ WANIPConnection
* PortMapping
+ WANPPPConnection
* PortMapping
* Services
* ManagementServer
=>
```

RELATED COMMANDS:

mbus listobjects Display the object instances.

mbus listtypes Display the registered objecttypes.

mbus listcontexts Display the context instances .

mbus listcontexts

Display the context instances .

SYNTAX:

```
listcontexts [dmtree = <{igd|atomic|system}>]
```

where:

| | | |
|--------|------------------------------|----------|
| dmtree | Select mbusd datamodel tree. | OPTIONAL |
|--------|------------------------------|----------|

RELATED COMMANDS:

| | |
|------------------------|--------------------------------------|
| mbus listobjects | Display the object instances. |
| mbus listtypes | Display the registered objecttypes. |
| mbus listenums | Display the registered enumtypes. |
| mbus listsubscriptions | Display the subscription instances . |

mbus listsubscriptions

Display the subscription instances .

SYNTAX:

```
listsubscriptions [dmtree = <{igd|atomic|system}>]
```

where:

| | | |
|--------|------------------------------|----------|
| dmtree | Select mbusd datamodel tree. | OPTIONAL |
|--------|------------------------------|----------|

RELATED COMMANDS:

| | |
|-------------------|-------------------------------------|
| mbus listobjects | Display the object instances. |
| mbus listtypes | Display the registered objecttypes. |
| mbus listenums | Display the registered enumtypes. |
| mbus listcontexts | Display the context instances . |

mbus debug loadobjects

Load object instances of registered objecttypes.

SYNTAX:

```
mbus debug loadobjects [dmtree = <{igd|atomic|system}>]
                        [path = <quoted string>]
                        [type = <{indexpath|objidpath|keystpath}>]
                        [flush = <{disabled|enabled}>]
```

where:

| | | |
|--------|---|----------|
| dmtree | mbus data model tree | OPTIONAL |
| path | Fully qualified mbus path. | OPTIONAL |
| type | Path type. The default is <i>indexpath</i> . | OPTIONAL |
| flush | Flush objects before load The default is <i>disabled</i> | OPTIONAL |

RELATED COMMANDS:

mbus debug unloadobjects

Unload object instances.

mbus debug unloadobjects

Unload object instances.

SYNTAX:

```
mbus unloadobjects [path = <quoted string>]
                  [type = <{idpath | keypath}>]
```

where:

| | | |
|------|--|----------|
| path | Fully qualified mbus path. | OPTIONAL |
| type | Path type. Choose between: > <i>idpath</i> > <i>keypath</i> . The default is <i>idpath</i> . | OPTIONAL |

RELATED COMMANDS:

mbus debug loadobjects Load object instances of registered objecttypes.

mbus pluginevent

Simulate event from plugin .

SYNTAX:

```
mbus pluginevent    ctxid = <number{0--2}>
                    type = <{addobj|delobj|updoobj}>
                    path = <quoted string>
                    [name = <quoted string>]
                    [value = <quoted string>]
                    [orivalue = <quoted string>]
```

where:

| | |
|----------|-----------------------|
| ctxid | Plugin context id |
| type | Event type |
| path | Plugin event subpath |
| name | Plugin event name |
| value | Plugin event value |
| orivalue | Plugin event orivalue |

mbus unregister

Unregister a client/plugin context .

SYNTAX:

```
unregister          id = <number>
```

where:

| | |
|----|---|
| id | message-based client/plugin context id. |
|----|---|

mbus client unregister

Unregister cli client from mbus .

SYNTAX:

```
unregister
```

27 MEMM Commands

Introduction

This chapter describes the commands of the **memm** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------------------|-----------------------------|-----|
| memm debug lock traceconfig | Modify lock trace settings. | 536 |
| memm debug traceconfig | Modify memm trace settings. | 537 |
| memm debug clearstats | Display memm statistics. | 541 |
| memm debug lock stats | Display memm statistics. | 541 |
| memm listobjects | Display objects. | 540 |
| memm stats | Display memm statistics. | 541 |

memm debug lock traceconfig

Modify lock trace settings.

SYNTAX:

```
memm debug lock traceconfig      [level = <number{0-4}>]  
                                  [name = <string>]
```

where:

| | | |
|-------|---|----------|
| level | A number between 0 and 4. Represents the memm trace level. | OPTIONAL |
| name | Application name filter for lock traces (empty displays all lock traces). | OPTIONAL |

memm debug traceconfig

Modify memm trace settings.

SYNTAX:

```
memm debug traceconfig [level = <number{0-4}>]
```

where:

| | | |
|-------|---|----------|
| level | A number between 0 and 4. Represents the memm trace level. | OPTIONAL |
|-------|---|----------|

memm debug clearstats

Clear time statistics

SYNTAX:

```
memm debug clearstats
```


memm debug lock stats

Display lock statistics

SYNTAX:

```
memm debug lock stats
```

memm listobjects

Display objects.

SYNTAX:

```
memm listobjects [name = <quoted string>]
```

where:

| | | |
|------|---|----------|
| name | Select typename(s) to list (supports partial typename). | OPTIONAL |
|------|---|----------|

MEMM Commands

memm stats

Display memm statistics.

SYNTAX:

```
memm stats [name = <quoted string>]
```

where:

| name | Select typename(s) to list (supports partial typename). | OPTIONAL |
|------|---|----------|
|------|---|----------|

EXAMPLE:

```
=>memm stats
pool name
-----
memm_pooldesc      1196, 1196, 1300 (92%)    23, 23, 25    obj: 0, 255
dynstr_pool        72, 72, 120 (60%)       3, 3, 5      0, 0, -
mbus_llist         2904, 2904, 4920 (59%)  242, 242, 410 0, 0, -
mbus_dynstr        2928, 2964, 4920 (60%)  244, 247, 410 0, 0, -
- strings buffer   3545, 3563, 8192 (43%)
mbus_client        12, 12, 120 (10%)       1, 1, 10     0, 0, -
mbus_cmddata       0, 88, 3520 ( 2%)       0, 2, 80     0, 0, -
mbus_objecttype    744, 744, 960 (77%)     31, 31, 40   0, 0, -
mbus_paramtype     5908, 5908, 7000 (84%)  211, 211, 250 0, 0, -
mbus_object        28, 28, 1960 ( 1%)      1, 1, 70     0, 0, -
mbus_objectindex   0, 0, 840 ( 0%)         0, 0, 70     0, 0, -
upnp_dynstr        36, 60, 600 (10%)       3, 5, 50     0, 0, -
-strings buffer    138, 151, 2048 ( 7%)
upnp_handles       332, 332, 996 (33%)     1, 1, 3       0, 0, -
upnp_devices       816, 816, 8160 (10%)    3, 3, 30     0, 0, -
upnp_services      2560, 2560, 19200 (13%) 4, 4, 30     0, 0, -
upnp_subscriptions 0, 0, 30400 ( 0%)       0, 0, 50     0, 0, -
upnp_firstdeviceevents 0, 0, 4000 ( 0%)       0, 0, 50     0, 0, -
mbus_cliclient     0, 0, 240 ( 0%)         0, 0, 5       0, 0, -
cwmp_elem_pool     0, 0, 560 ( 0%)         0, 0, 20     0, 0, -
cwmp_attr_pool     0, 0, 400 ( 0%)         0, 0, 20     0, 0, -
cwmp_llist_pool    0, 24, 480 ( 5%)        0, 2, 40     0, 0, -
cwmp_dynstr_pool   0, 0, 240 ( 0%)         0, 0, 20     0, 0, -
-strings buffer    0, 0, 8192 ( 0%)
cwmp_event_pool    0, 0, 64 ( 0%)          0, 0, 4       0, 0, -
cwmp_cmddata_pool  0, 0, 1320 ( 0%)        0, 0, 30     0, 0, -
-----
Total usage        21219, 21422, 110752 (19%)
=>
```

EXAMPLE:

```

=>memm stats
pool name          bytes cur,max,avail (max.%)  count cur,max,avail  ref
cur,max,avail
-----
memm_pooldesc     1196,  1196,  1300 ( 92%)      23,   23,   25   ob
j: 0, 255
dynstr_pool       72,    72,    120 ( 60%)       3,    3,    5
0, 0, -
mbus_llist        2460,  2532,  4920 ( 51%)      205,  211,  410
0, 0, -
mbus_dynstr       2316,  2424,  4920 ( 49%)      193,  202,  410
0, 0, -
- strings buffer
mbus_client       2761,  2839,  8192 ( 34%)       12,   12,   120 ( 10%)    1,    1,   10
0, 0, -
mbus_cmddata      0,     88,   3520 (  2%)       0,    2,   80
0, 0, -
mbus_objecttype   480,   480,   960 ( 50%)       20,   20,   40
0, 0, -
mbus_paramtype    3976,  3976,  7000 ( 56%)      142,  142,  250
0, 0, -
mbus_object       840,   840,  1960 ( 42%)       30,   30,   70
0, 0, -
mbus_objectindex  168,   168,   840 ( 20%)       14,   14,   70
0, 0, -
upnp_dynstr       36,    72,   600 ( 12%)       3,    6,   50
0, 0, -
- strings buffer
upnp_handles      132,   152,  2048 (  7%)      14,   14,   70
0, 0, -
upnp_devices      332,   332,   996 ( 33%)       1,    1,    3
0, 0, -
upnp_services     816,   816,  8160 ( 10%)       3,    3,   30
0, 0, -
upnp_services     2560,  2560, 19200 ( 13%)      4,    4,   30
0, 0, -
upnp_subscriptions 1216,  2432, 30400 (  8%)      2,    4,   50
0, 0, -
upnp_firstdeviceevents 0,    320,  4000 (  8%)      0,    4,   50
0, 0, -
mbus_cliclient    0,     0,   240 (  0%)       0,    0,    5
0, 0, -
cwmmp_elem_pool   0,     0,   560 (  0%)       0,    0,   20
0, 0, -
cwmmp_attr_pool   0,     0,   400 (  0%)       0,    0,   20
0, 0, -
cwmmp_llist_pool  0,    24,   480 (  5%)       0,    2,   40
0, 0, -
cwmmp_dynstr_pool 0,     0,   240 (  0%)       0,    0,   20
0, 0, -
- strings buffer
cwmmp_event_pool  0,     0,    64 (  0%)       0,    0,    4
0, 0, -
cwmmp_cmddata_pool 0,     0, 13202 (  0%)      0,    0,   30
0, 0, -
-----
Total usage       19373, 21335,110752 ( 19%)
=>

```

28 MLP Commands

Introduction

This chapter describes the commands of the `mlp` command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------------------------|---|-----|
| <code>mlp flush</code> | Flush all the Multi-Level access Policies (MLP) structures. | 544 |
| <code>mlp import</code> | Import all the scores. | 545 |
| <code>mlp debug export</code> | Export all the scores. | 546 |
| <code>mlp debug stats</code> | Display MLP statistics. | 547 |
| <code>mlp debug traceconfig</code> | Modify the MLP trace settings. | 548 |
| <code>mlp privilege add</code> | Add a privilege. | 549 |
| <code>mlp privilege addzone</code> | Add a zone to a privilege. | 551 |
| <code>mlp privilege config</code> | Modify a privilege. | 552 |
| <code>mlp privilege delete</code> | Delete a privilege. | 553 |
| <code>mlp privilege list</code> | Display the privileges. | 555 |
| <code>mlp privilege removezone</code> | Remove a zone from a privilege. | 557 |
| <code>mlp role add</code> | Add a role. | 558 |
| <code>mlp role addpriv</code> | Add a privilege to a role. | 560 |
| <code>mlp role config</code> | Modify the role. | 561 |
| <code>mlp role delete</code> | Delete a role. | 562 |
| <code>mlp role list</code> | Display the roles. | 563 |
| <code>mlp role removepriv</code> | Remove a privilege from a role. | 564 |

mlp flush

Flush all the Multi-Level access Policies (MLP) structures.

SYNTAX:

```
mlp flush
```

mlp import

Import all the scores.

SYNTAX:

```
mlp import [trace = <{disabled | enabled | full}>]
```

where:

| | | |
|-------|---|----------|
| trace | Select the import trace level. Choose between: > disabled > enabled > full. The default is <i>disabled</i> . | OPTIONAL |
|-------|---|----------|

RELATED COMMANDS:

mlp debug export Export all the scores.

mlp debug export

Export all the scores.

SYNTAX:

```
mlp debug export
```

RELATED COMMANDS:

mlp import

Import all the scores.

mlp debug stats

Display MLP statistics.

SYNTAX:

```
mlp debug stats
```

EXAMPLE:

```
=>mlp debug stats
Roles (cur/free/max)      : 8/7/15
Privileges (cur/free/max) : 35/25/60
ListItems (cur/free/max)  : 31/119/150

=>
```

mlp debug traceconfig

Modify the MLP trace settings.

SYNTAX:

```
mlp debug traceconfig [trace = <{disabled | enabled | full}>]
```

where:

| | | |
|-------|--|----------|
| trace | Select the trace level. Choose between: <ul style="list-style-type: none">> disabled> enabled> full. The default is <i>disabled</i> . | OPTIONAL |
|-------|--|----------|

EXAMPLE:

```
=>mlp debug traceconfig  
mlp trace: disabled  
=>
```

mlp privilege add

Add a privilege.

SYNTAX:

```
mlp privilege add      name = <quoted string>
                       type = <{access | service}>
                       [descr = <quoted string>]
```

where:

| | | |
|-------|--|----------|
| name | The name of the new privilege. Note The maximum number of privileges is 60. | REQUIRED |
| type | Select the privilege type. Choose between: > access: the privilege is an access privilege. > service: the privilege is a service privilege. | REQUIRED |
| descr | A description of the privilege. Note The maximum length is 63 characters. | OPTIONAL |

EXAMPLE:

```
=>mlp privilege list type=access
Privilege (type) Description
-----
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files
...

AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPS

=>mlp privilege add name=myPrivilege type=access descr="My access privilege"
=>mlp privilege list type=access
Privilege (type) Description
-----
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files
...

AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPS
myPrivilege (access) My access privilege

=>
```

RELATED COMMANDS:

| | |
|----------------------|-------------------------|
| mlp privilege delete | Delete a privilege. |
| mlp privilege list | Display the privileges. |

mlp privilege addzone

Add a zone to a privilege.



Only one zone can be added at a time to a privilege. If multiple zones need to be added, the command **:mlp privilege addzone** must be executed for each zone to be added.

SYNTAX:

```
mlp privilege addzone      name = <string>
                           zone = <string>
```

where:

| | | |
|------|--|----------|
| name | The name of the privilege in which a zone must be added. | REQUIRED |
| zone | The name of the new zone. | REQUIRED |

EXAMPLE:

```
=>mlp privilege list type=access name=myPrivilege verbose=all
myPrivilege (access) My access privilege

=>mlp privilege addzone name=myPrivilege zone=channel_http
=>mlp privilege list type=access name=myPrivilege verbose=all
myPrivilege (access) My access privilege
    channel_http

=>
```

RELATED COMMANDS:

mlp privilege
removezone

Remove a zone from a privilege.

mlp privilege config

Modify a privilege.

SYNTAX:

```
mlp privilege config      name = <string>
                          [descr = <quoted string>]
                          [score = <{hex-word}[:{hex-word}] ex:
                          'a12:c30f'>]
```

where:

| | | |
|-------|---|----------|
| name | The name of the privilege to be modified. | REQUIRED |
| descr | Set the privilege description. Note The maximum length is 63 characters. | OPTIONAL |
| score | Set the score of the privilege. Note This is a hexadecimal value, for example "a12:c30f". | OPTIONAL |

EXAMPLE:

```
=>mlp privilege config name=myPrivilege descr="My test privilege" score=a12:def4
=>mlp privilege list verbose=all
anyaccess (access) All access privileges granted
  unsecure_connection, channel_ftp, channel_telnet, channel_http,
  channel_mdap, channel_serial, origin_lan, origin_wan, origin_local

anyservice (service) All service privileges granted
...

AP15 (access) WAN from all channels
  unsecure_connection, channel_ftp, channel_telnet, channel_http,
  channel_mdap, channel_serial, origin_wan

AP16 (access) LAN from HTTP/HTTPs
  unsecure_connection, channel_http, origin_lan

myPrivilege (service) My test privilege
  r_lan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_frwl, r_ipsec_norm,
  r_ipsec_adv, r_certificates, r_local, r_qos, and_lan, and_local, cli,
  ftp
=>
```

mlp privilege delete

Delete a privilege.

SYNTAX:

```
mlp privilege delete      name = <string>
```

where:

| name | The name of the privilege to be deleted. | REQUIRED |
|------|--|----------|
|------|--|----------|

EXAMPLE:

```
=>mlp privilege list type=access
Privilege (type) Description
-----
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files
AP4 (access) LAN_Local with all secured channels & access to sensitive files
AP5 (access) WAN from a secure HTTP
AP6 (access) WAN from a secure HTTP & access to sensitive files
AP7 (access) LAN from all channels except telnet
AP8 (access) LAN from all secured channels except telnet
AP9 (access) LAN from all channels except telnet & access to sensitive file
AP10 (access) LAN access to sensitive file & secured channels except telnet
AP11 (access) All origins_noHTTP
AP12 (access) All origins_from all secured channels no http
AP13 (access) All origins_noHTTP & access to sensitive files
AP14 (access) All origins_secured channels &access to sensitive files no http
AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTps
myPrivilege (access) My access privilege

=>mlp privilege delete name=myPrivilege
=>mlp privilege list type=access
Privilege (type) Description
-----
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files
...
AP13 (access) All origins_noHTTP & access to sensitive files
AP14 (access) All origins_secured channels &access to sensitive files no http
AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTps

=>
```

RELATED COMMANDS:

mlp privilege delete

Add a privilege.

mlp privilege list

Display the privileges.

mlp privilege list

Display the privileges.

SYNTAX:

```
mlp privilege list      [name = <string>]
                        [type = <{access | service}>]
                        [verbose = <{minimal | medium | all}>]
```

where:

| | | |
|---------|---|----------|
| name | The name of the privilege to be listed. Note If not specified, all the privileges will be shown. | OPTIONAL |
| type | Select the privilege type to be shown. Choose between: > access : only the access privileges will be shown > service : only the service privileges will be shown. Note If not specified, all the privilege types will be shown. | OPTIONAL |
| verbose | Limit the output list. Choose between: > minimal > medium > all. The default is minimal . | OPTIONAL |

EXAMPLE:

```

=>mlp privilege list type=service
Privilege (type) Description
-----
anyservice (service) All service privileges granted
SP1 (service) Limited_Read
SP2 (service) detailed_Read
SP3 (service) Write_to_LAN
SP4 (service) Write_FWD_RT_normal_FW_cfgs
SP5 (service) cooperative_cfgs
SP6 (service) Remote Configurations
SP7 (service) Advanced sink & source FW
SP8 (service) Write_to_U_Connection
SP9 (service) Write_to_Local
SP10 (service) Simple_network_debugging
SP11 (service) Advance_Network_debugging
SP12 (service) User_admin
SP13 (service) MLP_Admin
SP14 (service) Backup & Restore
SP15 (service) CLI mngt Interface only
SP16 (service) CGI mngt Interface only
SP17 (service) FTP mngt Interface only
=>mlp privilege list name=SP5 verbose=all
SP5 (service) cooperative_cfgs
    r_ipsec_norm, r_ipsec_adv, r_certificates, w_frwl_norm, w_frwl_adv,
    w_ipsec, w_certificates
=>

```

RELATED COMMANDS:

| | |
|----------------------|---------------------|
| mlp privilege delete | Add a privilege. |
| mlp privilege delete | Delete a privilege. |

mlp privilege removezone

Remove a zone from a privilege.



Only one zone can be removed at a time from a privilege. If multiple zones need to be removed, the command **:mlp privilege removezone** must be executed for each zone to be removed.

SYNTAX:

```
mlp privilege removezone  name = <string>
                           zone = <string>
```

where:

| | | |
|------|--|----------|
| name | The name of the privilege in which a zone must be removed. | REQUIRED |
| zone | The name of the zone to be removed. | REQUIRED |

EXAMPLE:

```
=>mlp privilege list name=myPrivilege verbose=all
myPrivilege (access) My access privilege
  channel_http, channel_serial

=>mlp privilege removezone name=myPrivilege zone=channel_serial
=>mlp privilege list name=myPrivilege verbose=all
myPrivilege (access) My access privilege
  channel_http

=>
```

RELATED COMMANDS:

mlp privilege addzone Add a zone to a privilege.

mlp role add

Add a role.

SYNTAX:

```
mlp role add          name = <quoted string>
                    parent = <string>
                    [descr = <quoted string>]
```

where:

| | | |
|--------|---|----------|
| name | The name of the new role. Note The maximum number of roles is 15. | REQUIRED |
| parent | The name of the parent role. | REQUIRED |
| descr | The role description. Note The maximum length is 63 characters. | OPTIONAL |

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-----
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin

=>mlp role create name=myRole parent=User descr="My user access"
=>mlp role list
Role (parent) Description
-----
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (User) My user access

=>
```

RELATED COMMANDS:

mlp role delete

Delete a role.

MLP Commands

mlp role list

Display the roles.

mlp role addpriv

Add a privilege to a role.

SYNTAX:

```
mlp role addpriv      name = <string>
                      access = <string>
                      service = <string>
```

where:

| parameter | description | required |
|-----------|--|----------|
| name | The name of the role. | REQUIRED |
| access | The name of the access privilege to be added. | REQUIRED |
| service | The name of the service privilege to be added. | REQUIRED |

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (User) My user access

=>mlp role addpriv name=myRole access=myPrivilege service=SP7
=>mlp role list name=myRole verbose=all
myRole (User) My user access
    myPrivilege & SP7

=>
```

RELATED COMMANDS:

`mlp role removepriv` Remove a privilege from a role.

mlp role config

Modify the role.

SYNTAX:

```
mlp role config          name = <string>
                        [parent = <string>]
                        [descr = <quoted string>]
```

where:

| | | |
|--------|--|----------|
| name | The name of the role to be configured. | REQUIRED |
| parent | The name of the parent role. | OPTIONAL |
| descr | The role description. | OPTIONAL |

Note The maximum length is 63 characters.

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (User) My user access
  myPrivilege & SP7

=>mlp role config name=myRole parent=Guest descr="My user access"
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access
  myPrivilege & SP7

=>
```

mlp role delete

Delete a role.

SYNTAX:

```
mlp role delete          name = <string>
```

where:

| name | The name of the role to be deleted. | REQUIRED |
|------|-------------------------------------|----------|
|------|-------------------------------------|----------|

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-----
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI (Service/overview page) via http/https from LAN origin
User (PowerUser) GUI (Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (Guest) My user access

=>mlp role delete name=myRole
=>mlp role list
Role (parent) Description
-----
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI (Service/overview page) via http/https from LAN origin
User (PowerUser) GUI (Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin

=>
```

RELATED COMMANDS:

| | |
|-----------------|--------------------|
| mlp role delete | Add a role. |
| mlp role list | Display the roles. |

mlp role list

Display the roles.

SYNTAX:

```
mlp role list [name = <string>]
              [verbose = <{minimal | medium | all}>]
```

where:

| | | |
|---------|---|----------|
| name | The name of the role to be listed. Note If not specified, all the roles will be listed. | OPTIONAL |
| verbose | Limit the output list. Choose between: > minimal > medium > all. The default is <i>minimal</i> . | OPTIONAL |

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-----
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI (Service/overview page) via http/https from LAN origin
User (PowerUser) GUI (Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (Guest) My user access

=>mlp role list name=PowerUser verbose=all
PowerUser (Administrator) GUI (Service/overview page) via http/https from LAN origin
  AP16 & SP1
  AP16 & SP2
  AP16 & SP10
  AP16 & SP16
  AP16 & SP8
=>
```

RELATED COMMANDS:

mlp role delete Add a role.
mlp role delete Delete a role.

mlp role removepriv

Remove a privilege from a role.

SYNTAX:

```
mlp role removepriv      name = <string>
                          access = <string>
                          [service = <string>]
```

where:

| name | The name of the role. | REQUIRED |
|---------|--|----------|
| access | The name of the access privilege to be deleted. | REQUIRED |
| service | The name of the service privilege to be deleted. | OPTIONAL |

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access
  myPrivilege & SP7

=>mlp role removepriv name=myRole access=myPrivilege
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access

=>
```

RELATED COMMANDS:

`mlp role addpriv` Add a privilege to a role.

29 NAT Commands

Introduction

This chapter describes the commands of the **nat** command group.

Contents

This chapter covers the following commands:

| | | |
|----------------|--|-----|
| nat config | Display/modify global NAT configuration options. | 566 |
| nat flush | Flush the current NAT configuration. | 567 |
| nat ifconfig | Modify address translation on an IP interface. | 568 |
| nat iflist | Display the address translation configuration on all the interfaces. | 569 |
| nat mapadd | Add an address mapping to a Network Address Translation (NAT) enabled interface. | 570 |
| nat mapdelete | Delete an address mapping from a NAT enabled interface. | 574 |
| nat maplist | Display the address mapping for a NAT enabled interface. | 575 |
| nat tmpladd | Add an address mapping template. | 576 |
| nat tmpldelete | Delete an address mapping template. | 580 |
| nat tmplist | Display the address mapping templates. | 581 |
| nat tmplinst | Instantiate address mapping templates for a given dynamic address. | 582 |

nat config

Display/modify global NAT configuration options.

SYNTAX:

```
nat config [trace = <{disabled | enabled}>]
```

where:

| | | |
|-------|---|----------|
| trace | Enable or disable traces. The default is <i>disabled</i> . | REQUIRED |
|-------|---|----------|

EXAMPLE:

```
=>nat config
NAT traces : disabled
=>nat config trace=enabled
=>nat config
NAT traces : enabled
=>
```

nat flush

Flush the current NAT configuration.

SYNTAX:

```
nat flush
```

nat ifconfig

Modify address translation on an IP interface.

SYNTAX:

```
nat ifconfig          intf = <string>
                    translation = <{disabled | enabled | trans-
                    parent}>
```

where:

| intf | The IP interface name. | REQUIRED |
|-------------|---|----------|
| translation | Enable or disable address translation. Choose between: <ul style="list-style-type: none"> > disabled: Address translation is disabled. > enabled: Address translation is enabled. > transparent: An inside address is translated into the same outside IP address. In fact, no translation happens and the IP packets passing through the Thomson ST remain untouched. The default is disabled . | REQUIRED |

EXAMPLE:

```
=>nat iflist
Interface      NAT
loop           disabled
myPPP_ppp     disabled
eth0          transparent
=>nat ifconfig intf=myPPP_ppp translation=enabled
=>nat iflist
Interface      NAT
loop           disabled
myPPP_ppp     enabled
eth0          transparent
=>
```

RELATED COMMANDS:

nat iflist

Display the address translation configuration on all the interfaces.

nat iflist

Display the address translation configuration on all the interfaces.

SYNTAX:

```
nat iflist
```

EXAMPLE:

```
=>nat iflist
Interface      NAT
loop           disabled
Internet       enabled
RtPPPoE_ppp    enabled
LocalNetwork   transparent
=>
```

RELATED COMMANDS:

nat ifconfig

Modify address translation on an IP interface.

nat mapadd

Add an address mapping to a Network Address Translation (NAT) enabled interface.

SYNTAX:

```

nat mapadd                               intf = <string>
                                          [type = <{napt | nat}>]
                                          [outside_addr = <ip-range>]
                                          [inside_addr = <ip-range>]
                                          [access_list = <ip-range>]
                                          [foreign_addr = <ip-range>]
                                          [protocol = <{supported IP protocol} or number>]
                                          [outside_port = <port-range>]
                                          [inside_port = <port-range>]
                                          [mode = <{auto | inbound | outbound}>]
    
```

where:

| | | |
|--------------|--|--|
| intf | The IP interface name. Note The specified interface must be an existing NAT enabled interface. | REQUIRED |
| type | The type of NAT map to be used. Choose between: <ul style="list-style-type: none"> > napt: The map is a Network Address Port Translation (NAPT) map or a port-shifting NAT map. > nat: The map is a basic NAT map or a two-way NAT map. | OPTIONAL |
| outside_addr | The outside (typically public) IP address. <ul style="list-style-type: none"> > Inbound: This map will only apply if the destination IP address is part of the outside address(es). > Outbound: Represents the address(es) to be used as source address after translation. Allowed values are: <ul style="list-style-type: none"> > An IP address (A.B.C.D or A.D, meaning A.0.0.D). > A range of IP addresses (A.B.C.[D-E]) (only for NAT). > An IP subnet (A.B.C.D/M) (only for NAT). | REQUIRED for NAT maps and NAPT maps. OPTIONAL for port-shifting maps. |

NAT Commands

| | | |
|--------------|--|--|
| inside_addr | <p>The inside (typically private) IP address.</p> <ul style="list-style-type: none">> Inbound: Represents the address(es) to be used as destination address after translation.> Outbound: This map will only apply if the source IP address is part of the inside address(es). <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]) (only for NAT).> An IP subnet (A.B.C.D/M) (only for NAT). <p>The default is "" (unmapped).</p> <p>Note If specified, the number of inside addresses must be equal to the number of outside addresses.</p> | <p>OPTIONAL for NAT maps and NAPT maps.</p> <p>REQUIRED for port- shifting maps.</p> |
| access_list | <p>The range of inside addresses to which the mapping is restricted. This parameter is used for outbound traffic only. Represents the list of inside IP addresses (LAN devices) allowed to make use of this map.</p> <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]).> An IP subnet (A.B.C.D/M).> * (all addresses). <p>The default is the inside_addr.</p> | OPTIONAL |
| foreign_addr | <p>The range of destination addresses to which the mapping is restricted. This parameter is used as filter for inbound/outbound traffic.</p> <ul style="list-style-type: none">> Inbound: This map only applies if the source IP address is part of the foreign address(es).> Outbound: This map only applies if the destination IP address is part of the foreign address(es). <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]).> An IP subnet (A.B.C.D/M).> * (all addresses). <p>The default is * (meaning all addresses).</p> | OPTIONAL |
| protocol | <p>The IP protocol to be used as filter for inbound/outbound traffic. The NAT map only applies if the protocol of the IP packet matches the map protocol.</p> <p>Select an IP protocol (see " Supported IP Protocols" on page 746) or, alternatively, type the protocol number.</p> <p>The default is 0 (meaning any protocol).</p> | OPTIONAL |

| | | |
|--------------|--|--|
| outside_port | <p>The outside port number or range (only for maps of type <i>napt</i>).</p> <ul style="list-style-type: none"> > For a NAPT map: Represents the range of TCP/UDP ports to be used as dynamic port range during the NAPT process. > For a port-shifting map: Represents the source port(s) to be translated (shifted) into <i>inside_port</i>. <p>Allowed values are:</p> <ul style="list-style-type: none"> > TCP/UDP port range [P-Q] (with Q > P) > TCP/UDP port number (only for port-shifting maps). | <p>OPTIONAL for NAPT map.</p> <p>REQUIRED for port-shifting map.</p> |
| inside_port | <p>The inside port number or range (only for maps of type <i>napt</i>). If this parameter is specified for a map of type <i>napt</i>, then this map is a port-shifting map. Represents the target TCP/UDP ports to which the traffic has to be shifted.</p> <p>Allowed values are:</p> <ul style="list-style-type: none"> > TCP/UDP port range [P-Q] (with Q > P) > TCP/UDP port number (only for port-shifting maps). <p>Note The size of <i>inside_port</i> must be identical to the size of <i>outside_port</i>.</p> | <p>REQUIRED for port-shifting map</p> |
| mode | <p>The mode to create the portmap. Choose between:</p> <ul style="list-style-type: none"> > auto > inbound > outbound. <p>The standard is <i>auto</i>.</p> | <p>OPTIONAL</p> |

NAT Commands

EXAMPLE:

```
=>nat maplist
Idx Type Interface      Outside Address      Inside Address      Use
  1  NAPT eth0          any:80               127.0.0.1:8080    0
  2  NAPT eth0          any:1080             127.0.0.1:8080    0
  3  NAPT eth0          any:8080             127.0.0.1:8080    0
=>nat mapadd intf=myPPP_ppp type=napt outside_addr=100.100.100.1 access_list=10.0.0.0/24
=>nat maplist
Idx Type Interface      Outside Address      Inside Address      Use
  1  NAPT myPPP_ppp     100.100.100.1       unmapped            0
  1  NAPT eth0          any:80               127.0.0.1:8080    0
  2  NAPT eth0          any:1080             127.0.0.1:8080    0
  3  NAPT eth0          any:8080             127.0.0.1:8080    0
=>maplist intf=myPPP_ppp expand=enabled
Idx Type Interface      Outside Address      Inside Address      Use
  1  NAPT myPPP_ppp     100.100.100.1       unmapped            0
Access List..... 10.0.0.0/24
Foreign Address..... any
Protocol..... any
Flags..... Static
Description..... Outbound NAPT without defserver
=>
```

RELATED COMMANDS:

nat mapdelete

Delete an address mapping from a NAT enabled interface.

nat maplist

Display the address mapping for a NAT enabled interface.

nat mapdelete

Delete an address mapping from a NAT enabled interface.

SYNTAX:

```
nat mapdelete          intf = <string>
                      index = <number>
```

where:

| intf | The IP interface name. | REQUIRED |
|-------|------------------------|----------|
| index | The map index. | REQUIRED |

Tip Use the command `:nat maplist` to obtain a list of the mapindexes.

EXAMPLE:

```
=>nat maplist
Idx Type Interface      Outside Address      Inside Address      Use
 1 NAPT myPPP_ppp      100.100.100.1      unmapped            0
 1 NAPT eth0           any:80              127.0.0.1:8080     0
 2 NAPT eth0           any:1080            127.0.0.1:8080     0
 3 NAPT eth0           any:8080            127.0.0.1:8080     0
=>nat mapdelete intf=myPPP_ppp index=1
=>nat maplist
Idx Type Interface      Outside Address      Inside Address      Use
 1 NAPT eth0           any:80              127.0.0.1:8080     0
 2 NAPT eth0           any:1080            127.0.0.1:8080     0
 3 NAPT eth0           any:8080            127.0.0.1:8080     0
=>
```

RELATED COMMANDS:

- `nat mapadd` Add an address mapping to a Network Address Translation (NAT) enabled interface.
- `nat maplist` Display the address mapping for a NAT enabled interface.

nat maplist

Display the address mapping for a NAT enabled interface.

SYNTAX:

```
nat maplist [intf = <string>]
            [expand = <{disabled | enabled}>]
            [string = <string>]
            [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| intf | The IP interface name. Note If not specified, the address mapping for all the NAT enabled interfaces will be shown. | OPTIONAL |
| expand | Enable or disable expanded listing. The default is <i>disabled</i> . | OPTIONAL |
| string | string matching condition | OPTIONAL |
| beginstring | beginstring matching condition | OPTIONAL |

EXAMPLE:

```
=>nat maplist
Idx Type Interface      Outside Address      Inside Address      Use
  1  NAPT myPPP_ppp      100.100.100.1        unmapped            0
  1  NAPT eth0           any:80               127.0.0.1:8080     0
  2  NAPT eth0           any:1080             127.0.0.1:8080     0
  3  NAPT eth0           any:8080             127.0.0.1:8080     0
=>maplist intf=myPPP_ppp expand=enabled
Idx Type Interface      Outside Address      Inside Address      Use
  1  NAPT myPPP_ppp      100.100.100.1        unmapped            0
                               Access List..... 10.0.0.0/24
                               Foreign Address..... any
                               Protocol..... any
                               Flags..... Static
                               Description..... Outbound NAPT without defserver
=>
```

RELATED COMMANDS:

- nat mapadd Add an address mapping to a Network Address Translation (NAT) enabled interface.
- nat mapdelete Delete an address mapping from a NAT enabled interface.

nat tmpladd

Add an address mapping template.

SYNTAX:

```

nat tmpladd                [intf = <string>]
                           [group = <{wan|local|lan|tunnel|dmz|guest} or
                           number>]
                           [timeout = <number{0-65535}>]
                           [type = <{napt | nat}>]
                           outside_addr = <ip-range>
                           [inside_addr = <ip-range>]
                           [access_list = <ip-range>]
                           [foreign_addr = <ip-range>]
                           [protocol = <{supported IP protocol} or number>]
                           [outside_port = <port-range>]
                           [inside_port = <port-range>]
                           [mode = <{auto | inbound | outbound}>]

```

where:

| | | |
|---------|---|----------|
| intf | The IP interface name. | OPTIONAL |
| group | The IP interface group scope for this template. Choose between: <ul style="list-style-type: none"> > wan > local > lan > tunnel > dmz > guest. <p>Note If an interface has been defined with the parameter <i>intf</i>, then the setting for this parameter is ignored.</p> | OPTIONAL |
| timeout | A number between 0 and 6553 (seconds). Represents the lifetime for this template. | OPTIONAL |
| type | The type of NAT map to be used. Choose between: <ul style="list-style-type: none"> > napt: The map is a NAPT map or a port-shifting NAT map. > nat: The map is a basic NAT map or a two-way NAT map. | OPTIONAL |

NAT Commands

| | | |
|--------------|--|---|
| outside_addr | <p>The outside (typically public) IP address.</p> <ul style="list-style-type: none">> Inbound: This map will only apply if the destination IP address is part of the outside address(es).> Outbound: Represents the address(es) to be used as source address after translation. <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]) (only for NAT).> An IP subnet (A.B.C.D/M) (only for NAT). | <p>REQUIRED for NAT maps and NAPT maps.</p> <p>OPTIONAL for port-shifting maps.</p> |
| inside_addr | <p>The inside (typically private) IP address.</p> <ul style="list-style-type: none">> Inbound: Represents the address(es) to be used as destination address after translation.> Outbound: This map will only apply if the source IP address is part of the inside address(es). <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]) (only for NAT).> An IP subnet (A.B.C.D/M (only for NAT)). <p>Default value is "" (meaning unmapped).</p> <p>Note If specified, the number of inside addresses must be equal to the number of outside addresses.</p> | <p>OPTIONAL for NAT maps and NAPT maps.</p> <p>REQUIRED for port-shifting maps.</p> |
| access_list | <p>The range of inside addresses to which the mapping is restricted. This parameter is used for outbound traffic only. Represents the list of inside IP addresses (LAN devices) allowed to make use of this map.</p> <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]).> An IP subnet (A.B.C.D/M).> * (all addresses). <p>The default is the inside_addr.</p> | <p>OPTIONAL</p> |
| foreign_addr | <p>The range of destination addresses to which the mapping is restricted. This parameter is used as filter for inbound/outbound traffic.</p> <ul style="list-style-type: none">> Inbound: This map only applies if the source IP address is part of the foreign address(es).> Outbound: This map only applies if the destination IP address is part of the foreign address(es). <p>Allowed values are:</p> <ul style="list-style-type: none">> An IP address (A.B.C.D or A.D, meaning A.0.0.D).> A range of IP addresses (A.B.C.[D-E]).> An IP subnet (A.B.C.D/M).> * (all addresses). <p>The default is * (meaning all addresses).</p> | <p>OPTIONAL</p> |

| | | |
|--------------|--|--|
| protocol | <p>The IP protocol to be used as filter for inbound/outbound traffic. The NAT map only applies if the protocol of the IP packet matches the map protocol.</p> <p>Select an IP protocol (see “ Supported IP Protocols” on page 746) or, alternatively, type the protocol number.</p> <p>The default is 0 (meaning any protocol).</p> | OPTIONAL |
| outside_port | <p>The outside port number or range (only for maps of type napt).</p> <ul style="list-style-type: none"> > For a NAPT map: <p>Represents the range of TCP/UDP ports to be used as dynamic port range during the NAPT process.</p> > For a port-shifting map: <p>Represents the source port(s) to be translated (shifted) into inside_port.</p> <p>Allowed values are:</p> <ul style="list-style-type: none"> > TCP/UDP port range [P-Q] (with Q > P) > TCP/UDP port number (only for port-shifting maps). | <p>OPTIONAL for NAPT map.</p> <p>REQUIRED for port-shifting map.</p> |
| inside_port | <p>The inside port number or range (only for maps of type napt). If this parameter is specified for a map of type napt, then this map is a port-shifting map.</p> <p>Represents the target TCP/UDP ports to which the traffic has to be shifted.</p> <p>Allowed values are:</p> <ul style="list-style-type: none"> > TCP/UDP port range [P-Q] (with Q > P) > TCP/UDP port number (only for port-shifting maps). <p>Note The size of inside_port must be identical to the size of outside_port.</p> | REQUIRED for port-shifting map |
| mode | <p>The mode to create the portmap.</p> <p>Choose between:</p> <ul style="list-style-type: none"> > auto > inbound > outbound. <p>The standard is auto.</p> | OPTIONAL |

NAT Commands

EXAMPLE:

```
=>nat tmlpladd intf=myPPP_ppp type=napt outside_addr=100.100.100.1
=>nat tmplist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
  Use
  1 NAPT myPPP_ppp      any      100.100.100.1        unmapped
  0
=>nat tmlpladd group=lan type=napt outside_addr=100.200.100.1
=>nat tmplist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
  Use
  1 NAPT any             lan      100.200.100.1        unmapped
  0
  2 NAPT myPPP_ppp      any      100.100.100.1        unmapped
  0
=>
```

RELATED COMMANDS:

- | | |
|---------------|--|
| nat tmldelete | Delete an address mapping template. |
| nat tmplist | Display the address mapping templates. |
| nat tmplinst | Instantiate address mapping templates for a given dynamic address. |

nat tmpldelete

Delete an address mapping template.

SYNTAX:

```
nat tmpldelete          index = <number>
```

where:

| | | |
|-------|---|----------|
| index | The index of the address mapping template to be deleted. | REQUIRED |
| | Tip Use the command :nat tmplist to view the address mapping templates. | |

EXAMPLE:

```
=>nat tmplist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
Use
 1 NAPT any             lan      100.200.100.1        unmapped
 0
 2 NAPT myPPP_ppp      any      100.100.100.1        unmapped
 0
=>nat tmpldelete index=1
=>nat tmplist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
Use
 1 NAPT myPPP_ppp      any      100.100.100.1        unmapped
 0
=>
```

RELATED COMMANDS:

| | |
|--------------|--|
| nat tmpladd | Add an address mapping template. |
| nat tmplist | Display the address mapping templates. |
| nat tmplinst | Instantiate address mapping templates for a given dynamic address. |

nat tmplist

Display the address mapping templates.

SYNTAX:

```
nat tmplist [expand = <{disabled | enabled}>]
```

where:

| | | |
|--------|---|----------|
| expand | Enable or disable expanded listing. The default is <i>disabled</i> . | OPTIONAL |
|--------|---|----------|

EXAMPLE:

```
=>nat tmplist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
Use
 1  NATP any            lan      100.200.100.1        unmapped
 0
 2  NATP myPPP_ppp     any      100.100.100.1        unmapped
 0
=>
```

RELATED COMMANDS:

| | |
|----------------|--|
| nat tmpladd | Add an address mapping template. |
| nat tmpldelete | Delete an address mapping template. |
| nat tmplinst | Instantiate address mapping templates for a given dynamic address. |

nat tmplinst

Instantiate address mapping templates for a given dynamic address.

SYNTAX:

```
nat tmplinst          intf = <string>
                    addr_index = <ip-address>
                    dynamic_addr = <ip-address>
```

where:

| intf | The IP interface name. | REQUIRED |
|--------------|---|----------|
| addr_index | The outside IP address index/key to instantiate for. | REQUIRED |
| dynamic_addr | The dynamic address to substitute the index/key with. | REQUIRED |

EXAMPLE:

```
=>nat tmplinst intf=myPPP_ppp addr_index=100.100.100.1 dynamic_addr=200.200.200.1
=>nat tmpllist
Idx Type Interface      Ifgroup  Outside Address      Inside Address
Use
  1 NATF myPPP_ppp      any      100.100.100.1        unmapped
  1
=>
```

RELATED COMMANDS:

| | |
|----------------|--|
| nat tmpladd | Add an address mapping template. |
| nat tmpldelete | Delete an address mapping template. |
| nat tmpllist | Display the address mapping templates. |

30 PPP Commands

Introduction

This chapter describes the commands of the **ppp** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------|--|-----|
| ppp flush | Flush all PPP interfaces. | 584 |
| ppp ifadd | Create a new PPP interface. | 585 |
| ppp ifattach | Attach a PPP interface. | 587 |
| ppp ifconfig | Configure a PPP interface. | 589 |
| ppp ifdelete | Delete a PPP interface. | 594 |
| ppp ifdetach | Detach a PPP interface. | 596 |
| ppp iflist | Display the PPP interfaces. | 598 |
| ppp ifscan | Scan a PPPoE interface for available Access Concentrator and Service names. | 599 |
| ppp rtadd | Add a route to the routing table when the PPP link comes up. | 600 |
| ppp rtdelete | Delete the route for a PPP link. | 602 |
| ppp relay flush | Remove all Ethernet interfaces from the PPP relay agent list and terminate all sessions. | 604 |
| ppp relay ifadd | Add an Ethernet interface to the PPP relay list. | 605 |
| ppp relay ifconfig | Modify an ethernet interface from the PPP relay agent list. | 606 |
| ppp relay ifdelete | Delete an Ethernet interface from the PPP relay agent list. | 607 |
| ppp relay iflist | Display all Ethernet interfaces added to the PPP relay agent list. | 608 |
| ppp relay sesslist | Add an Ethernet interface to the PPP relay list. | 609 |

ppp flush

Flush all PPP interfaces.



The flush command does not impact previously saved configurations.

SYNTAX:

```
ppp flush
```

ppp ifadd

Create a new PPP interface.

SYNTAX:

```
ppp ifadd                intf = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name for the new PPP interface. | REQUIRED |
| | Note If not specified, the destination parameter must be specified. In this case the name of the destination will double as interface name. | |

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

=>ppp ifadd intf=Rt_PPpOA
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPpOA: dest :          [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0 mru = 1500
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>
```

RELATED COMMANDS:

ppp ifdelete

Delete a PPP interface.

ppp iflist

Display the PPP interfaces.

ppp ifattach

Attach a PPP interface.

SYNTAX:

```
ppp ifattach          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The name of the PPP interface to be attached. | REQUIRED |
|------|---|----------|

EXAMPLE:

```

=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>ppp ifattach intf=Rt_PPPOA
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = up oper state = down link state = connected
  LCP : state = reqsent retransm = 1 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>

```

RELATED COMMANDS:

ppp ifdetach

Detach a PPP interface.

ppp ifconfig

Configure a PPP interface.



The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command `:ppp ifdetach` before using the command `:ppp ifconfig`.

SYNTAX:

```
ppp ifconfig          intf = <string>
                    [dest = <string>]
                    [user = <string>]
                    [password = <password>]
                    [acname = <quoted string>]
                    [servicename = <quoted string>]
                    [pcomp = <{disabled | enabled}>]
                    [accomp = <{enabled | disabled | negotiate}>]
                    [trace = <{disabled | enabled}>]
                    [concentrator = <{disabled | enabled}>]
                    [auth = <{pap | chap | auto}>]
                    [restart = <{disabled | enabled}>]
                    [retryinterval = <number{0-65535}>]
                    [passive = <{disabled | enabled}>]
                    [silent = <{disabled | enabled}>]
                    [echo = <{disabled | enabled}>]
                    [mru = <number{293-8192}>]
                    [laddr = <ip-address>]
                    [raddr = <ip-address>]
                    [netmask = <ip-mask(dotted or cidr)>]
                    [format = <{cidr | dotted | none}>]
                    [pool = <none>]
                    [savepwd = <{disabled | enabled}>]
                    [demanddial = <{disabled | enabled}>]
                    [doddelay = <number{0-3600}>]
                    [primdns = <ip-address>]
                    [secdns = <ip-address>]
                    [dnsmetric = <number{0-100}>]
                    [idletime = <number{0-1000000}>]
                    [idletrigger = <{RxTx | Rx | Tx}>]
                    [unnumbered = <{disabled | enabled}>]
```

where:

| Option | Description | Requirement |
|-------------------|---|-------------|
| <code>intf</code> | The name of the PPP interface to be configured. | REQUIRED |
| <code>dest</code> | The destination for this PPP interface. Typically, a phonebook entry. If an Ethernet interface is given as destination, then the connection will be a PPPoE connection. If an ATM interface is given as destination, then the connection will be a PPPoA connection. | OPTIONAL |
| <code>user</code> | The user name for remote PAP/CHAP authentication. | OPTIONAL |

| | | |
|---------------|---|----------|
| password | The password for remote PAP/CHAP authentication. | OPTIONAL |
| acname | The Access Concentrator name for a PPPoE session. Tip Use the command :ppp ifscan to obtain the names of available access concentrators, if any. | OPTIONAL |
| servicename | The Service Name for a PPPoE session. Tip Use the command :ppp ifscan to obtain the available service names, if any. | OPTIONAL |
| pcomp | Try (enabled) or do not try (disabled) to negotiate PPP protocol compression (LCP PCOMP). The default is disabled . | OPTIONAL |
| accomp | Try (enabled), do never try (disabled) or negotiate (negotiate) to negotiate PPP address & control field compression (LCP ACCOMP). In most cases, LCP ACCOMP should not be disabled nor negotiated, in other words, the address field FF-03 should not be sent over ATM. The default is enabled . Note If the accomp parameter is set to "negotiate", the local side of the PPP connection demands to do ACCOMP and adapts itself to the result of this negotiation. | OPTIONAL |
| trace | Enable or disable verbose console logging. The default is disabled . | OPTIONAL |
| concentrator | The access concentrator is on this side of the PPPoE connection. Choose between: > enabled: the PPP connection is terminated on the Access Concentrator (here the Thomson ST itself) > disabled: the Thomson ST is PPP client. The default is disabled . | OPTIONAL |
| auth | Select the authentication protocol. Choose between: > pap: Password Authentication Protocol (PAP) authentication will be forced. > chap: Challenge Handshake Authentication Protocol (CHAP) authentication will be forced. > auto: CHAP authentication will be used. If CHAP authentication is not successful, PAP authentication will be used instead. The default is auto . | OPTIONAL |
| restart | Automatically restart the connection when Link Control Protocol (LCP) link goes down (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| retryinterval | A number between 0 and 65535 (seconds). Represents the intermediate interval between two retries to establish the connection on ATM level. The default is 10 . | OPTIONAL |
| passive | Put the link in listening state in case LCP times out (enabled) or not (disabled). This parameter allows to determine whether the link should be left open to wait for incoming messages from the remote side after 10 unsuccessful tries to establish the connection or not. The default is disabled . | OPTIONAL |

PPP Commands

| | | |
|------------|--|----------|
| silent | Do not send anything at startup and just listen for incoming LCP messages (enabled) or retry up to 10 times to establish the connection (disabled). The default is disabled . | OPTIONAL |
| echo | Send LCP echo requests at regular intervals (enabled) or not (disabled). The default is disabled . | OPTIONAL |
| mru | A number between 293 and 8192. Represents the maximum packet size the Thomson ST should negotiate to be able to receive. The default is 1492 . | OPTIONAL |
| laddr | The local IP address of the peer-to-peer connection. Specifying a local IP address forces the remote side of the PPP link (if it allows to) to accept this IP address as the Thomson ST PPP session IP address. If not specified, the Thomson ST will accept any IP address. Typically the local IP address parameter is not specified. | OPTIONAL |
| raddr | The remote IP address of the peer-to-peer connection. Specifying a remote IP address forces the remote side of the PPP link (if it allows to) to accept this IP address as its PPP session IP address. If not specified, the Thomson ST will accept any IP address. Typically the remote IP address parameter is not specified. | OPTIONAL |
| netmask | The subnetmask associated with this address. Specifying a subnetmask forces the remote side (if it allows to) to accept this subnetmask as the PPP session subnetmask. If not specified, the Thomson ST will accept any subnetmask. The Thomson ST will only request/accept a subnetmask if a DHCP server pool is associated, in other words, if the [pool] parameter is specified. | OPTIONAL |
| format | The negotiated subnetmask specified in the netmask parameter is specified in the dotted format (dotted) or in Classless Inter Domain Routing (CIDR) format (cidr). The default is cidr . | OPTIONAL |
| pool | The name of the free DHCP server pool to which the acquired IP subnet must be assigned. | OPTIONAL |
| savepwd | Save password (enabled), if supplied, or do not save the password (disabled). The default is disabled . | OPTIONAL |
| demanddial | Enable or disable the dial-on-demand feature. The default is disabled . | OPTIONAL |
| doddelay | A number between 0 and 3600 (seconds). During this initial interval, packets do not trigger the PPP interface. | OPTIONAL |
| primdns | The IP address of the primary DNS server. In case a primary DNS server is specified, the Thomson ST will negotiate this IP address with the remote side. Note If not specified, the Thomson ST will accept any IP address. | OPTIONAL |
| secdns | The IP address of the (optional) secondary DNS server. In case a secondary DNS server is specified, the Thomson ST will negotiate this IP address with the remote side. Note If not specified, the Thomson ST will accept any IP address. | OPTIONAL |

| | | |
|-------------|--|----------|
| dnsmetric | A number between 1 and 100. Represents the DNS route metric to be used for the negotiated DNS servers. The default is 1 . | OPTIONAL |
| idletime | A number between 0 and 1000000 (seconds). Represents the maximum time the link may be idle. The default is 0 . | OPTIONAL |
| idletrigger | Consider the link being idle if no traffic is sent and/or received during the idle time. Choose between: <ul style="list-style-type: none"> > RxTx: The idle time period restarts when a packet is transmitted or received. > Rx: The idle time period restarts when a packet is received. Transmitted packets are ignored. > Tx: The idle time period restarts when a packet is transmitted. Received packets are ignored. The default is RxTx . | OPTIONAL |
| unnumbered | Takes the local IP address from the <i>laddr</i> field and remote IP address from the IP address pool assigned to the incoming PPP link. In case the unnumbered parameter is disabled, the same IP address is used for each connection on the server side, thus reducing the number of used IP addresses. | OPTIONAL |

PPP Commands

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest :          [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0 mru = 1500
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=> ppp ifconfig intf=Rt_PPPOA dest=RtPPPoA_atm user=johndoe@ISP password=johndoe
[ppp]>=iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0 mru = 1500
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>
```

ppp ifdelete

Delete a PPP interface.

SYNTAX:

```
ppp ifdelete          intf = <intfname>
```

where:

| intf | The name of the PPP interface to be deleted. | REQUIRED |
|------|--|----------|
|------|--|----------|

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
  auth = auto  user =      password =
  admin state = down  oper state = down  link state = not-connected
  LCP : state = initial  retransm = 10  term. reason =
  IPCP: state = initial  retransm = 0   term. reason =
  acname : ---  service : ---

Rt_PPPOA: dest : RtPPPoA_atm [local disconnect]  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0  mru = 1500
  auth = auto  user = johndoe@ISP  password = *****
  admin state = down  oper state = down  link state = not-connected
  LCP : state = initial  retransm = 9   term. reason = User kill
  IPCP: state = initial  retransm = 0   term. reason =

=>ppp ifdelete intf=Rt_PPPOA
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
  auth = auto  user =      password =
  admin state = down  oper state = down  link state = not-connected
  LCP : state = initial  retransm = 10  term. reason =
  IPCP: state = initial  retransm = 0   term. reason =
  acname : ---  service : ---

=>
```


PPP Commands

RELATED COMMANDS:

ppp ifadd

Create a new PPP interface.

ppp iflist

Display the PPP interfaces.

ppp ifdetach

Detach a PPP interface.

SYNTAX:

```
ppp ifdetach          intf = <intfname>
```

where:

| | | |
|------|---|----------|
| intf | The name of the PPP interface to be detached. | REQUIRED |
|------|---|----------|

PPP Commands

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = up oper state = down link state = connected
  LCP : state = reqsent retransm = 5 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>ppp ppp ifdetach intf=Rt_PPPOA
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm [local disconnect] [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 9 term. reason = User kill
  IPCP: state = initial retransm = 0 term. reason =

=>
```

RELATED COMMANDS:

ppp ifattach

Attach a PPP interface.

ppp iflist

Display the PPP interfaces.

SYNTAX:

```
ppp iflist          [intf = <intfname>]
                   [string = <string>]
                   [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| intf | The name of the PPP interface. Note If not specified, all PPP interfaces are shown. | OPTIONAL |
| string | string matching condition | OPTIONAL |
| beginstring | beginstring matching condition | OPTIONAL |

EXAMPLE INPUT/OUTPUT :

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = up oper state = down link state = connected
  LCP : state = reqsent retransm = 1 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>
```

RELATED COMMANDS:

| | |
|--------------|-----------------------------|
| ppp ifadd | Create a new PPP interface. |
| ppp ifdelete | Delete a PPP interface. |

ppp ifscan

Scan a PPPoE interface for available Access Concentrator and Service names.



Use the command **:ppp ifdetach** for this interface before performing a scan on it.

SYNTAX:

```
ppp ifscan          intf = <string>
                   [time = <number{0-36000}>]
```

where:

| intf | The name of the PPPoE interface to be scanned. | REQUIRED |
|------|--|----------|
| time | A number between 0 and 36000 (seconds). Represents the time to scan for services. | OPTIONAL |

EXAMPLE:

```
=>ppp iflist
myRtPPPoE: dest : RtPPPoE_eth   [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0  mru = 1492
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto  user = johndoe@ISP  password = *****
  admin state = down  oper state = down  link state = not-connected
  LCP : state = initial  retransm = 9  term. reason =
  IPCP: state = initial  retransm = 0  term. reason =
  acname : ---  service : ---
=>ppp ifscan intf=myRtPPPoE time=45
      Service Name                Access Concentrator

Done !
=>
```

ppp rtadd

Add a route to the routing table when the PPP link comes up.

This route configuration will determine which local hosts are allowed to use this link and/or which remote destinations should be or should not be reachable.



The interface must not be connected when a route configuration is added. If this should be the case, use the command **:ppp ifdetach** for this interface prior to configuring routes.

SYNTAX:

```
ppp rtadd          intf = <intfname>
                   dst = <ip-address>
                   [dstmsk = <ip-mask(dotted or cidr)>]
                   [label = <string>]
                   [src = <ip-address>]
                   [srcmsk = <ip-mask(dotted or cidr)>]
                   [metric = <number{0-100}>]
```

where:

| | | |
|--------|--|----------|
| intf | The name of the PPP interface. | REQUIRED |
| dst | The IP destination address specification for the route to be added when the link comes up. | REQUIRED |
| dstmsk | The destination IP mask. Depending on the destination netmask: <ul style="list-style-type: none"> > Any remote destination is reachable, in other words, the PPP connection acts as default route (<i>dstmsk=0</i>) > Only the remote (sub)net is reachable (<i>dstmsk=1</i>) > The actual destination mask will be the default netmask applicable for destination IP address > Only the single remote host is reachable (<i>dstmsk=32</i>) > Any valid (contiguous) netmask in case of Variable Length Subnet Masking (VLSM). | OPTIONAL |
| label | The name of the label. | OPTIONAL |
| src | The IP source address specification for the route (in other words, who can use this link). | OPTIONAL |
| srcmsk | The source IP mask. Depending on the source netmask: <ul style="list-style-type: none"> > Everybody is allowed to use this PPP connection (<i>dstmsk=0</i>) > Only members of the same subnet as the host which opened the PPP connection are allowed to use the PPP connection (<i>dstmsk=1</i>) > The actual destination mask will be the netmask applicable for the IP address of the host which opened the PPP connection > Only the host which opened the PPP connection is allowed to use the PPP connection (<i>dstmsk=32</i>) > Any valid (contiguous) netmask in case of VLSM. | OPTIONAL |

PPP Commands

| | | |
|--------|--|----------|
| metric | The route metric, in other words, the cost factor of the route. Practically, the cost is determined by the hop count. | OPTIONAL |
|--------|--|----------|

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPpOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0 mru = 1500
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>ppp rtadd intf=Rt_PPpOA dst=0.0.0.0/0 src=10.0.0.0/1
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPpOA: dest : RtPPPoA_atm  [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =

=>
```

RELATED COMMANDS:

ppp rtdelete Delete the route for a PPP link.

ppp rtdelete

Delete the route for a PPP link.



The interface must not be connected when a route configuration must be deleted. If the interface is connected, use the command **:ppp ifdetach** for this interface.

SYNTAX:

```
ppp rtdelete          intf = <intfname>
```

where:

| | | |
|------|--|----------|
| intf | The PPP interface name for which to delete the route settings. | REQUIRED |
|------|--|----------|

PPP Commands

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm [local disconnect] [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr route savepwd
  dns metric = 0 mru = 1500
  route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 9 term. reason = User kill
  IPCP: state = initial retransm = 0 term. reason =

=>ppp ppp rtdelete intf=Rt_PPPOA
=>ppp iflist
Internet: dest : RELAY      [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd demanddial
  dns metric = 0 mru = 1492 Tx inactivity = 1200s left = 0s
  auth = auto user = password =
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 10 term. reason =
  IPCP: state = initial retransm = 0 term. reason =
  acname : --- service : ---

Rt_PPPOA: dest : RtPPPoA_atm [local disconnect] [00:00:00]
  Retry : 10
  mode = IP routing
  flags = echo magic accomp restart mru addr savepwd
  dns metric = 0 mru = 1500
  auth = auto user = johndoe@ISP password = *****
  admin state = down oper state = down link state = not-connected
  LCP : state = initial retransm = 9 term. reason = User kill
  IPCP: state = initial retransm = 0 term. reason =

=>
```

RELATED COMMANDS:

ppp rtadd

Add a route to the routing table when the PPP link comes up.

ppp relay flush

Remove all Ethernet interfaces from the PPP relay agent list and terminate all sessions.



The flush command does not impact previously saved configurations.

SYNTAX:

```
ppp relay flush
```

ppp relay ifadd

Add an Ethernet interface to the PPP relay list.

SYNTAX:

```
ppp relay ifadd      intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The Ethernet interface to be added to the PPP relay agent list. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>ppp relay iflist
# Interface      HWaddr          Status
1 ethoa_0_35     00-0e-50-0f-fc-2d connected
=>ppp relay ifadd intf=ethoa_8_35
=>ppp relay iflist
# Interface      HWaddr          Status
1 ethoa_0_35     00-0e-50-0f-fc-2d connected
2 ethoa_8_35     00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifdelete

Delete an Ethernet interface from the PPP relay agent list.

ppp relay iflist

Display all Ethernet interfaces added to the PPP relay agent list.

ppp relay ifconfig

Modify an ethernet interface from the PPP relay agent list.

SYNTAX:

```
ppp relay ifconfig      intf = <string>
                        hwaddr = <hardware-address>
```

where:

| | | |
|--------|---|----------|
| intf | The ethernet intf to be added to the PPP relay agent list. | REQUIRED |
| hwaddr | The hardware address (e.g. Ethernet MAC address) of this interface. | REQUIRED |

ppp relay ifdelete

Delete an Ethernet interface from the PPP relay agent list.

SYNTAX:

```
ppp relay ifdelete      intf = <string>
```

where:

| intf | The Ethernet interface to be deleted from the PPP relay agent list. | REQUIRED |
|------|---|----------|
|------|---|----------|

EXAMPLE:

```
=>ppp relay iflist
# Interface      HWaddr          Status
1 ethoa_0_35     00-0e-50-0f-fc-2d connected
2 ethoa_8_35     00-0e-50-0f-fc-2d connected
=>ppp relay ifdelete intf=ethoa_8_35
=>ppp relay iflist
# Interface      HWaddr          Status
1 ethoa_0_35     00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifadd

Add an Ethernet interface to the PPP relay list.

ppp relay iflist

Display all Ethernet interfaces added to the PPP relay agent list.

ppp relay iflist

Display all Ethernet interfaces added to the PPP relay agent list.

SYNTAX:

```
ppp relay iflist
```

where:

| | | |
|------|---|----------|
| intf | The Ethernet interface to be added to the PPP relay agent list. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>ppp relay iflist
#  Interface      HWaddr          Status
1  ethoa_0_35     00-0e-50-0f-fc-2d connected
2  ethoa_8_35     00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifadd

Add an Ethernet interface to the PPP relay list.

ppp relay ifdelete

Delete an Ethernet interface from the PPP relay agent list.

ppp relay sesslist

Add an Ethernet interface to the PPP relay list.

SYNTAX:

```
ppp relay ifadd          intf = <string>
```

where:

| | | |
|------|---|----------|
| intf | The Ethernet interface to be added to the PPP relay agent list. | REQUIRED |
|------|---|----------|

31 PPTP Commands

Introduction

This chapter describes the commands of the **pptp** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------|---|-----|
| pptp ifadd | Add a Point-to-Point Tunneling Protocol (PPTP) profile. | 612 |
| pptp flush | Flush the complete PPTP configuration. | 613 |
| pptp list | Show the current PPTP configuration. | 614 |
| pptp profadd | Define a new PPTP profile. | 615 |
| pptp profdelete | Delete a PPTP profile. | 617 |
| pptp proflist | Display all the current PPTP profiles. | 618 |

pptp ifadd

Add a Point-to-Point Tunneling Protocol (PPTP) profile.



Backwards compatible with previous release, use profiles instead.

SYNTAX:

```
pptp ifadd          dest = <string>
                    [rate = <number{10-10000}>]
                    [encaps = <{vcmux | nlpid}>]
                    [ac = <{never | always | keep}>]
```

where:

| | | |
|--------|--|----------|
| dest | The WAN destination for this PPTP tunnel. Typically a phonebook entry. | REQUIRED |
| rate | A number between 10 and 10000. Represents the transmission speed (in bits/s) for the WAN link. | OPTIONAL |
| encaps | The type of WAN encapsulation to be used with this PPTP profile. Choose between: <ul style="list-style-type: none"> > VC_MUX > Network Layer Protocol IDentifiers (NLPID). The default is vcmux . | OPTIONAL |
| ac | The High-level Data Link Control (HDLC) framing option applicable to PPTP interfaces using this PPTP profile. Choose between: <ul style="list-style-type: none"> > always: Before relaying the encapsulated PPP frames over the PPPoA link, make sure that the address and control field (0xFF03) is always in front of the frames. > never: Before relaying the encapsulated PPP frames over the PPPoA link, make sure the address and control field will never be found in front of the frames. > keep: Do not change the frames arriving via the PPTP tunnel. The default is never . <p>Note The default setting is compliant to RFC2364, therefore it is recommended to keep this setting.</p> | OPTIONAL |

pptp flush

Flush the complete PPTP configuration.



The flush command does not impact previously saved configurations.

SYNTAX:

```
pptp flush
```

pptp list

Show the current PPTP configuration.

SYNTAX:

```
pptp list
```

EXAMPLE:

```
=>pptp list
Dialstr      Destination  QoS      Encaps  AC      State      User
              DIALUP_PPP3 default  vcmux   never    CONNECTED  (10.0.0.2)
=>
```

pptp profadd

Define a new PPTP profile.

SYNTAX:

```
pptp profadd      name = <string>
                  [qos = <string>]
                  [encaps = <{vcmux | nlpid}>]
                  [ac = <{never | always | keep}>]
```

where:

| | | |
|--------|---|----------|
| name | The name of the new PPTP profile. | REQUIRED |
| qos | The name of the qosbook entry, containing the settings for this profile. Note This parameter never needs to be specified. | OPTIONAL |
| encaps | The type of WAN protocol encapsulation to be used with this PPTP profile. Choose between: > VC-MUX > NLPID. The default is vcmux . | OPTIONAL |
| ac | The HDLC framing option applicable to PPTP interfaces using this PPTP profile. Choose between: > always : Before relaying the encapsulated PPP frames over the PPPoA link, make sure that the address and control field (0xFF03) is always in front of the frames. > never : Before relaying the encapsulated PPP frames over the PPPoA link, make sure the address and control field will never be found in front of the frames. > keep : Do not change the frames arriving via the PPTP tunnel. The default is never . Note The default setting is compliant to RFC2364, therefore it is recommended to keep this setting. | OPTIONAL |

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1  default  nlpid      always
=>pptp profadd name=PPTPLink encaps=vcmux ac=never
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1  default  nlpid      always
PPTPLink    default  vcmux      never
=>
```

RELATED COMMANDS:

pptp profdelete

Define a new PPTP profile.

pptp proflist

Display all the current PPTP profiles.

pptp profdelete

Delete a PPTP profile.

SYNTAX:

```
pptp profdelete    name <string>
```

where:

| | | |
|------|---|----------|
| name | The name of the PPTP profile to be deleted. | REQUIRED |
|------|---|----------|

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1  default  nlpid       always
PPTPLink     default  vcmux       never
=>pptp profdelete name=PPTPLink
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1  default  nlpid       always
=>
```

RELATED COMMANDS:

pptp profadd

Define a new PPTP profile.

pptp proflist

Display all the current PPTP profiles.

pptp proflist

Display all the current PPTP profiles.

SYNTAX:

```
pptp proflist
```

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1  default  nlpid       always
PPTPLink    default  vcmux       never
=>
```

RELATED COMMANDS:

| | |
|-----------------|----------------------------|
| pptp profadd | Define a new PPTP profile. |
| pptp profdelete | Delete a PPTP profile. |

32 Script Commands

Introduction

This chapter describes the commands of the **script** command group.

Scripting is not a general purpose mechanism but is only used in the autoPVC/ILMI mechanism.



It is recommended not to change the default scripts.

Contents

This chapter covers the following commands:

| | | |
|---------------|---|-----|
| script add | Add a line to a script. | 620 |
| script delete | Delete a complete script or a line from a script. | 621 |
| script flush | Flush all scripts. | 622 |
| script list | Display a script or all scripts. | 623 |
| script run | Run a script. | 625 |

script add

Add a line to a script.

SYNTAX:

```
script add      name = <string>
                [index = <number>]
                command = <quoted string>
```

where:

| | | |
|---------|---|----------|
| name | Name of the script in which a line must be added. | REQUIRED |
| index | Line number Note Use 0 to add a line. | OPTIONAL |
| command | Command. | REQUIRED |

RELATED COMMANDS:

script delete

Delete a complete script or a line from a script.

script list

Display a script or all scripts.

script delete

Delete a complete script or a line from a script.

SYNTAX:

```
script delete    name = <string>
                 [index = <number>]
```

where:

| | | |
|-------|-----------------------------------|----------|
| name | Name of the script to be deleted. | REQUIRED |
| index | Line number to be deleted. | OPTIONAL |

Tip Use the command **:script list** to view the line numbers.

Note If not specified, the complete script will be deleted.

RELATED COMMANDS:

| | |
|-------------|----------------------------------|
| script add | Add a line to a script. |
| script list | Display a script or all scripts. |

script flush

Flush all scripts.



The flush command does not impact previously saved configurations.

SYNTAX:

```
script flush
```

Script Commands

script list

Display a script or all scripts.

SYNTAX:

```
script list [name = <string>]
```

where:

| | | |
|------|--|----------|
| name | Name of the script to be listed. | OPTIONAL |
| | Note If not specified, all the scripts are displayed. | |

EXAMPLE

Some of the default scripts are shown below:

```
=>script list
Script: autopvc_add_qos
  0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $
  6
    rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes
...
Script: autopvc_add_bridge
  0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $
  6
    rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes
  1: phonebook add name _auto_$1_$2 addr $1.$2 type any dynamic yes
  2: bridge ifadd intf _auto_$1_$2 dest _auto_$1_$2
  3: bridge ifconfig intf _auto_$1_$2 qos _auto_$1_$2
  4: bridge ifattach intf _auto_$1_$2
Script: autopvc_delete_bridge
  0: bridge ifdetach intf _auto_$1_$2
  1: bridge ifdelete intf _auto_$1_$2
  2: phonebook delete name _auto_$1_$2
  3: qosbook delete name _auto_$1_$2
Script: autopvc_add_pppoerelay
  0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $
  6
    rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes
  1: phonebook add name _auto_$1_$2 addr $1.$2 type any dynamic yes
  2: ethoa ifadd intf _auto_$1_$2 dest _auto_$1_$2
  3: ethoa ifconfig intf _auto_$1_$2 qos _auto_$1_$2
  4: ethoa ifattach intf _auto_$1_$2
  5: ip ifwait intf _auto_$1_$2 timeout 15 adminstatus up
  6: pppoe relay add port _auto_$1_$2
```

RELATED COMMANDS:

script add

Add a line to a script.

script delete

Delete a complete script or a line from a script.

Script Commands

script run

Run a script.

SYNTAX:

```
script run      name = <string>
                pars = <string>
```

where:

| | | |
|------|---|----------|
| name | Name of the script to be run. Tip Use the command :script list to obtain the names of the different scripts. | REQUIRED |
| pars | Parameters separated with comma. For example a,b,c. | REQUIRED |

33 Service Commands

Introduction

This chapter describes the commands of the **service** command group.

Contents

This chapter covers the following commands:

| | | |
|--------------------------|---|-----|
| service host assign | Assign a service to a host device. | 628 |
| service host config | Modify and/or display global service configuration options. | 629 |
| service host add | Add a host service. | 630 |
| service host delete | Delete a host service. | 631 |
| service host disable | Disable a host service. | 632 |
| service host flush | Flush all host services. | 633 |
| service host list | Display a list of host services. | 634 |
| service host stats | Show the host service statistics. | 635 |
| service host triggerlist | List all triggers. | 636 |
| service host rule add | Create/define a host service portmap. | 637 |
| service host rule delete | Delete a host service portmap. | 638 |
| service system ifadd | Add an interface group to the access list. | 639 |
| service system ifdelete | Delete an interface group from the access list. | 640 |
| service system ipadd | Add an IP address (range) to the access list. | 641 |
| service system ipdelete | Delete an IP address (range) from the access list. | 642 |
| service system list | Display the system services. | 643 |
| service system mapadd | Add a port map for a system service. | 645 |
| service system mapdelete | Delete a port map for a system service. | 646 |
| service system modify | Modify a system service. | 647 |

service host assign

Assign a service to a host device.

SYNTAX:

```
service host assign      name = <quoted string>
                        [host = <ip-address>]
                        [log = <{disabled|enabled}>]
```

where:

| name | The name of an existing host service. | REQUIRED |
|------|---------------------------------------|----------|
| host | The IP address of the host. | OPTIONAL |
| log | Enable or disable logging. | OPTIONAL |

EXAMPLE:

```
=>service host assign name="MSN Messenger" host=192.168.1.64
=>service host list
Service Name                Host                User-Defined Mode
-----
Age of Empires              unassigned         server
AIM Talk                    unassigned         client
Aliens vs. Predator         unassigned         server
..
MSN Messenger               192.168.1.64      server
...
=>
```

RELATED COMMANDS:

service host disable Disable a host service.

service host config

Modify and/or display global service configuration options.

SYNTAX:

```
service host config [trace = <{disabled | enabled}>]
```

where:

| | | |
|-------|---|----------|
| trace | Enable or disable traces. The default is <i>disabled</i> . | REQUIRED |
|-------|---|----------|

EXAMPLE:

```
=>service host config
Service traces : disabled
l=>
```

service host add

Add a host service.

SYNTAX:

```
service host add          name = <quoted string>
                        [mode = <{server | client | custom}>]
```

where:

| name | The name of the new host service. | REQUIRED |
|------|---|----------|
| mode | The service mode. Choose between: <ul style="list-style-type: none"> > server: The service is defined for server purposes. > client: The service is defined for client purposes. > custom: The service is a user created service (in other words, a customized service). The default is custom . | OPTIONAL |

EXAMPLE:

```
=>service host list
Service Name          Host          User-Defined Mode
-----
Age of Empires        unassigned   server
AIM Talk              unassigned   client
...
MSN Messenger         unassigned   server
=>service host add name=myService
=>service host list
Service Name          Host          User-Defined Mode
-----
Age of Empires        unassigned   server
AIM Talk              unassigned   client
...
MSN Messenger         unassigned   server
myService             unassigned   yes
=>
```

RELATED COMMANDS:

- service host delete Delete a host service.
- service host list Display a list of host services.

service host delete

Delete a host service.

SYNTAX:

```
service host delete      name = <quoted string>
```

where:

| name | The name of the host service to be deleted. | REQUIRED |
|------|---|----------|
|------|---|----------|

EXAMPLE:

```
=>service host list
Service Name                Host                User-Defined Mode
-----
Age of Empires              unassigned          server
AIM Talk                    unassigned          client
...
MSN Messenger               unassigned          server
myService                   unassigned          yes
=>service host delete name=myService
=>service host list
Service Name                Host                User-Defined Mode
-----
Age of Empires              unassigned          server
AIM Talk                    unassigned          client
...
MSN Messenger               unassigned          server
=>
```

RELATED COMMANDS:

| | |
|-------------------|----------------------------------|
| service host add | Add a host service. |
| service host list | Display a list of host services. |

service host disable

Disable a host service.

SYNTAX:

```
service host disable [name = <quoted string>]
```

where:

| | | |
|-------------|---|-----------------|
| name | The name of the host service to be disabled. | OPTIONAL |
| | Note If not specified, all the host services will be disabled. | |

EXAMPLE:

```
=>service host list
Service Name                Host                User-Defined Mode
-----
Age of Empires              unassigned         server
AIM Talk                    unassigned         client
Aliens vs. Predator        unassigned         server
..
MSN Messenger               192.168.1.64      server
...
=>service host disable name="MSN Messenger"
=>service host list
Service Name                Host                User-Defined Mode
-----
Age of Empires              unassigned         server
AIM Talk                    unassigned         client
Aliens vs. Predator        unassigned         server
..
MSN Messenger               unassigned         server
...
=>
```

RELATED COMMANDS:

service host assign Assign a service to a host device.

service host flush

Flush all host services.

SYNTAX:

```
service host flush
```

service host list

Display a list of host services.

SYNTAX:

```
service host list      [name = <quoted string>]
                      [string = <string>]
                      [beginstring = <string>]
```

where:

| name | The name of the host service to be listed. | REQUIRED |
|-------------|---|----------|
| | Note If not specified, all the host services will be listed. | |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

EXAMPLE:

```
=>service host list
Service Name                Host                User-Defined Mode
-----
Aliens vs. Predator        unassigned         server
Asheron's Call             unassigned         client
Battlecom                  unassigned         server
Black and White            unassigned         server
Buddy Phone                unassigned         client
Bungie.net                 unassigned         server
Citrix Metaframe           unassigned         client
CU-SeeMe                  unassigned         client
Dark Reign 2               unassigned         server
...
Westwood Online            unassigned         client
Yahoo Messenger Chat       unassigned         server
=>

=>service host list name="MSN Messenger"
Service Name:"MSN Messenger" Host:unassigned User-Defined:no Mode:server
-----
Port 1863 for protocol tcp will be forwarded to host port 1863
Portrange 6891 - 6900 for protocol tcp will be forwarded to host portrange 6891 - 6900
Port 6901 for protocol tcp or udp will be forwarded to host port 6901
=>
```

RELATED COMMANDS:

service host add Add a host service.
 service host delete Delete a host service.

service host stats

Show the host service statistics.

SYNTAX:

```
service host stats
```

EXAMPLE:

```
=>service host stats
Services      : 113 of 150 in use.
Service maps : 225 of 300 in use.
Trigger ports: 0 of 25 in use.
=>
```

service host triggerlist

List all triggers.

SYNTAX:

```
service host triggerlist
```

EXAMPLE:

```
=>service triggerlist
Ip          Triggerport      Portrange      Timeout
--          -
=>
```

service host rule add

Create/define a host service portmap.

SYNTAX:

```
service host rule add    name = <quoted string>
                        [protocol = <{any|tcp|udp} or number>]
                        [baseport = <supported UDP port | number>]
                        portrange = <port-range>
                        [triggerport = <supported UDP port | number>]
                        [triggerprotocol = <{any|tcp|udp} or number>]
```

where:

| | | |
|-----------------|---|----------|
| name | The name of the host service. | REQUIRED |
| protocol | The IP protocol type. Choose between: <ul style="list-style-type: none">> any> tcp> udp> a number. | OPTIONAL |
| baseport | The inbound base port. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. Note If not specified, <i>baseport</i> is equal to the first port of <i>portrange</i> . | OPTIONAL |
| portrange | The outbound port range. | REQUIRED |
| triggerport | The outbound trigger port. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | OPTIONAL |
| triggerprotocol | Protocol of the trigger port. Choose between: <ul style="list-style-type: none">> any> tcp> udp> a number. Note If not specified, <i>triggerprotocol</i> is equal to <i>protocol</i> . | OPTIONAL |

RELATED COMMANDS:

service host rule delete Delete a host service portmap.

service host rule delete

Delete a host service portmap.

SYNTAX:

```
service host rule delete name = <quoted string>
                        [protocol = <{any|tcp|udp} or number>]
                        [baseport = <supported UDP port | number>]
                        portrange = <port-range>
                        [triggerport = <supported UDP port | number>]
                        [triggerprotocol = <{any|tcp|udp} or number>]
```

where:

| | | |
|-----------------|---|----------|
| name | The name of the host service. | REQUIRED |
| protocol | The IP protocol type. Choose between: <ul style="list-style-type: none"> > any > tcp > udp > a number. | OPTIONAL |
| baseport | The inbound base port. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. Note If not specified, <i>baseport</i> is equal to the first port of <i>portrange</i> . | OPTIONAL |
| portrange | The outbound port range. | REQUIRED |
| triggerport | The outbound trigger port. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | OPTIONAL |
| triggerprotocol | Protocol of the trigger port. Choose between: <ul style="list-style-type: none"> > any > tcp > udp > a number. Note If not specified, <i>triggerprotocol</i> is equal to <i>protocol</i> . | OPTIONAL |

RELATED COMMANDS:

service host rule add Create/define a host service portmap.

service system ifadd

Add an interface group to the access list.

SYNTAX:

```
service system ifadd      name = <string>
                          group = <{wan|local|lan|tunnel|dmz|guest} or
                          number>
```

where:

| name | The name of the system service for this access list. | REQUIRED |
|-------|--|----------|
| group | The interface group for this access list. | REQUIRED |

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060              disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... any
  NAT Port List..... 5060
=>service system ifadd name=SIPPBX group=lan
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060              disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... lan
  Ip Access List..... any
  NAT Port List..... 5060
=>
```

RELATED COMMANDS:

service system ifdelete Delete an interface group from the access list.

service system ifdelete

Delete an interface group from the access list.

SYNTAX:

```
service system ifdelete    name = <string>
                           group = <{wan|local|lan|tunnel|dmz|guest} or
                           number>
```

where:

| name | The name of the system service for this access list. | REQUIRED |
|-------|--|----------|
| group | The interface group for this access list. | REQUIRED |

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp           5060     SIP PBX, registrar and proxy
  Description.....
  Properties.....  server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... lan
  Ip Access List..... any
  NAT Port List..... 5060
=>service system ifdelete name=SIPPBX group=lan
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp           5060     SIP PBX, registrar and proxy
  Description.....
  Properties.....  server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... any
  NAT Port List..... 5060
=>
```

RELATED COMMANDS:

service system ifadd Add an interface group to the access list.

service system ipadd

Add an IP address (range) to the access list.

SYNTAX:

```
service system ipadd      name = <string>
                          ip = <ip-range>
```

where:

| name | The name of the system service for this access list. | REQUIRED |
|------|--|----------|
| ip | The IP address (range) for this access list. | REQUIRED |

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060              disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... any
  NAT Port List..... 5060
=>service system ipadd name=SIPPBX ip=192.168.1.64
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060              disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... 192.168.1.64
  NAT Port List..... 5060
=>
```

RELATED COMMANDS:

service system ipdelete Delete an IP address (range) from the access list.

service system ipdelete

Delete an IP address (range) from the access list.

SYNTAX:

```
service system ipdelete    name = <string>
                           ip = <ip-range>
```

where:

| name | The name of the system service for this access list. | REQUIRED |
|------|--|----------|
| ip | The IP address (range) for this access list. | REQUIRED |

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060                disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... 192.168.1.64
  NAT Port List..... 5060
=>service system ipdelete name=SIPPBX ip=192.168.1.64
=>service system list name=SIPPBX expand=enabled
Idx Name      Protocol      SrcPort  DstPort  Group      State
-----
  1 SIPPBX      udp              5060                disabled
  Description..... SIP PBX, registrar and proxy
  Properties..... server
  Managed parameters..... state port acl map log
  Source Ip Selection..... auto
  Interface Access List..... any
  Ip Access List..... any
  NAT Port List..... 5060
=>
```

RELATED COMMANDS:

service system ipadd Add an IP address (range) to the access list.

service system list

Display the system services.

SYNTAX:

```
service system list      [name = <string>]
                        [expand = <{disabled | enabled}>]
                        [dynamics = <{disabled | enabled}>]
                        [members = <{disabled | enabled}>]
                        [string = <string>]
                        [beginstring = <string>]
```

where:

| | | |
|-------------|---|----------|
| name | The name of the system service to be displayed. Note If not specified, all the system services will be displayed. | OPTIONAL |
| expand | Enable or disable expanded listing. The default is <i>disabled</i> . | OPTIONAL |
| dynamics | Display dynamic services. The default is <i>disabled</i> . | OPTIONAL |
| members | Display service group members. The default is <i>disabled</i> . | OPTIONAL |
| string | String matching condition | OPTIONAL |
| beginstring | Beginstring matching condition | OPTIONAL |

EXAMPLE:

```

=>service system list
Idx Name          Protocol          SrcPort  DstPort  Group          State
-----
 1 DNS-C           udp              53
 2 SNTP           udp             123      123
 3 SLA_ICMP_PING  icmp            8
 4 SLA_UDP_PING   udp             7
 5 SLA_ICMP_TRRT  icmp            8
 6 SLA_UDP_TRRT   udp            33434
 7 SYSLOG         udp            514
 8 HTTP           tcp            80
 9 HTTPs          tcp            443
10 HTTPi          tcp            8080
11 FTP            tcp            21
12 TELNET         tcp            23
13 RIP            udp            520      520
14 RIP-Query      udp            520
15 DNS-S          udp            53
16 Dynamic DNS
17 DHCP-S         udp            49152
18 SNMP_AGENT     udp            161
19 SNMP_TRAPS     udp
20 MDAP           udp            3235
21 SIPPBX         udp            5060
22 IKE            udp            500
23 IP_COMMANDS
24 PING_RESPONDER icmp            8
=>
=>service system list name=SIPPBX expand=enabled
Idx Name          Protocol          SrcPort  DstPort  Group          State
-----
 1 SIPPBX         udp              5060
   Description..... SIP PBX, registrar and proxy
   Properties..... server
   Managed parameters..... state port acl map log
   Source Ip Selection..... auto
   Interface Access List..... any
   Ip Access List..... any
   NAT Port List..... 5060
=>

```

RELATED COMMANDS:

service system modify **Modify a system service.**

service system mapadd

Add a port map for a system service.

SYNTAX:

```
service system mapadd      name = <{string}>
                           intf = <{auto|loop|Internet|LocalNetwork}>
                           port = <supported port or number>
```

where:

| | | |
|------|--|----------|
| name | The name of the system service for this map. | REQUIRED |
| intf | The interface for this map. | REQUIRED |
| port | The port for this map. Select one of the supported TCP/UDP port names (see " Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | REQUIRED |

RELATED COMMANDS:

service system
mapdelete

Delete a port map for a system service.

service system mapdelete

Delete a port map for a system service.

SYNTAX:

```
service system mapdelete  name = <string>
                           intf = <{auto|loop|Internet|LocalNetwork}>
                           port = <supported port or number>
```

where:

| | | |
|------|--|----------|
| name | The name of the system service for this map. | REQUIRED |
| intf | The interface for this map. | REQUIRED |
| port | The port for this map. Select one of the supported TCP/UDP port names (see " Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | REQUIRED |

RELATED COMMANDS:

service system mapadd Add a port map for a system service.

service system modify

Modify a system service.

SYNTAX:

```
service system modify    name = <string>
                        [state = <{disabled | enabled}>]
                        [port = <supported port or number>]
                        [srcintf = <string>]
                        [log = <{disabled|enabled}>]
                        [qoslabel = <{None|DSCP|Interactive|
Management|Video|VoIP|default}>]
                        [routelabel = <{None|DSCP|Interactive|
Management|Video|VoIP|default}>]
                        [natpmweight = <number{0-255}>]
                        [forward = <{disabled|enabled}>]
```

where:

| | | |
|-------------|---|----------|
| name | The name of the system service for this map. | REQUIRED |
| state | Disable or enable this system service. | OPTIONAL |
| port | The port for this map. Select one of the supported TCP/UDP port names (see "Supported TCP/UDP Port Names" on page 747) or, alternatively, specify the port number. | OPTIONAL |
| srcintf | The primary IP interface for this system service. | OPTIONAL |
| log | Disable or enable service logging | OPTIONAL |
| qoslabel | QoS label for service data | OPTIONAL |
| routelabel | Route label for service data | OPTIONAL |
| natpmweight | NAT portmap weight for this service | OPTIONAL |
| forward | Disable or enable service forwarding | OPTIONAL |

RELATED COMMANDS:

service system list Display the system services.

34 SNMP Commands

Introduction

This chapter describes the commands of the **snmp** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------------|---|-----|
| snmp config | Show/set global Simple Network Management Protocol (SNMP) parameters. | 650 |
| snmp get | Get from the supplied SNMP Object Identifier (OID). | 651 |
| snmp getnext | GetNext from the supplied SNMP OID. | 652 |
| snmp walk | Walk from the supplied SNMP OID. | 653 |
| snmp community add | Configure an SNMP community string to allow SNMP access over IP. | 654 |
| snmp community delete | Delete an SNMP community string to prevent SNMP access over IP. | 655 |
| snmp community list | List all SNMP community strings in use for SNMP access over IP. | 656 |
| snmp community modify | Modify an SNMP community string to allow SNMP access over IP. | 657 |
| snmp ifadd | Create a new SNMP interface. | 658 |
| snmp ifdelete | Delete an SNMP interface. | 659 |
| snmp ifattach | Attach an SNMP interface. | 660 |
| snmp ifdetach | Detach an SNMP interface. | 661 |
| snmp ifconfig | Modify an SNMP interface. | 662 |
| snmp iflist | Display the SNMP interfaces. | 663 |

snmp config

Show/set global Simple Network Management Protocol (SNMP) parameters.

SYNTAX:

```
snmp config          [sysContact = <quoted string>]
                    [sysName = <quoted string>]
                    [sysLocation = <quoted string>]
```

where:

| | | |
|-------------|--|----------|
| sysContact | The SNMP system contact. The default is Service Provider . | OPTIONAL |
| sysName | The SNMP system name. | OPTIONAL |
| sysLocation | The SNMP system location. The default is Customer Premises . | OPTIONAL |

EXAMPLE:

```
=>snmp config
SNMP System Contact      : Service Provider
SNMP System Name        : SpeedTouch 620
SNMP System Location     : Customer Premises
All SNMP traps          : ENABLED
Delay, in secs before first trap is sent      : 90
=>
```


snmp get

Get from the supplied SNMP Object Identifier (OID).

For example: get ObjectID=.1.3.6.1.2.1.1.1.0.

SYNTAX:

```
snmp get [ObjectID = <string>]
```

where:

| | | |
|----------|--|----------|
| ObjectID | The Object Identifier. Object ID to get from ... must include the instance which is 0 for scalar objects, for example .1.3.6.1.2.1.1.1.0 sysDescription. | OPTIONAL |
| | Note If not specified, the sysDescription OID .1.3.6.1.2.1.1.1.0 is assumed. Its value is Thomson ST. | |

EXAMPLE:

```
=>snmp get
VB_octetStr .1.3.6.1.2.1.1.1.0 Thomson ST 620
=>
```

RELATED COMMANDS:

snmp getnext

GetNext from the supplied SNMP OID.

snmp walk

Walk from the supplied SNMP OID.

snmp getnext

GetNext from the supplied SNMP OID.

SYNTAX:

```
snmp getnext [ObjectId = <string>]
```

where:

| | | |
|----------|--|----------|
| ObjectId | The Object Identifier. Object ID to getnext from for example .1.3.6.1.2.1.1 system returns sysDescription. | OPTIONAL |
|----------|--|----------|

EXAMPLE:

```
=>snmp getnext ObjectId=.1.3.6.1.2.1.1.4.0
VB_octetStr .1.3.6.1.2.1.1.5.0 Sascha
=>
```

RELATED COMMANDS:

| | |
|-----------|---|
| snmp get | Get from the supplied SNMP Object Identifier (OID). |
| snmp walk | Walk from the supplied SNMP OID. |

snmp walk

Walk from the supplied SNMP OID.

SYNTAX:

```
snmp walk [ObjectId = <string>]
```

where:

| | | |
|----------|--|----------|
| ObjectID | The Object Identifier. Object ID to walk from for example .1.3.6.1.2.1.1 system walks the system group. | OPTIONAL |
|----------|--|----------|

EXAMPLE:

```
=>snmp walk ObjectId=.1.3.6.1.2.1.1
VB_octetStr .1.3.6.1.2.1.1.1.0 Thomson ST 620
VB_objId .1.3.6.1.2.1.1.2.0 .1.3.6.1.4.1.637.61.2
VB_timeTicks .1.3.6.1.2.1.1.3.0 2927636
VB_octetStr .1.3.6.1.2.1.1.4.0 Service Provider
VB_octetStr .1.3.6.1.2.1.1.5.0 Sascha
VB_octetStr .1.3.6.1.2.1.1.6.0 Customer Premises
VB_integer .1.3.6.1.2.1.1.7.0 72
=>
```

RELATED COMMANDS:

| | |
|--------------|---|
| snmp get | Get from the supplied SNMP Object Identifier (OID). |
| snmp getnext | GetNext from the supplied SNMP OID. |

snmp community add

Configure an SNMP community string to allow SNMP access over IP.

SYNTAX:

```
snmp community add      securityname = <{RWCommunity | ROCommunity}>
                        communityname = <password>
```

where:

| | | |
|---------------|---|----------|
| securityname | Configure access rights/restrictions control for the community name. Choose between: > RWCommunity : read/write access rights > ROCommunity : read only access rights. | REQUIRED |
| communityname | Configure the SNMP community name. | REQUIRED |

EXAMPLE:

```
=>snmp community add
securityname = RWCommunity
communityname = *****
Please retype communityname for verification.
communityname = *****
:snmp community add securityname=RWCommunity communityname=_DEV_2C6A78E1C41E7B01
=>snmp community add
securityname = ROCommunity
communityname = *****
Please retype communityname for verification.
communityname = *****
:snmp community add securityname=ROCommunity communityname=_DEV_184B05F89719A74E
=>
```

RELATED COMMANDS:

| | |
|-----------------------|---|
| snmp community delete | Delete an SNMP community string to prevent SNMP access over IP. |
| snmp community list | List all SNMP community strings in use for SNMP access over IP. |

snmp community delete

Delete an SNMP community string to prevent SNMP access over IP.

SYNTAX:

```
snmp community delete securityname = <{RWCommunity | ROCommunity}>
```

where:

| | | |
|--------------|--|----------|
| securityname | Select the access rights/restrictions control for the community name to be deleted. Choose between: > RWCommunity : read/write access rights > ROCommunity : read only access rights. | REQUIRED |
|--------------|--|----------|

EXAMPLE:

```
=>snmp community list

Read-write SNMP community name : *****
Read-only SNMP community name  : *****
=>snmp community delete securityname=ROCommunity
=>snmp community list

Read-write SNMP community name : *****
Read-only SNMP community name  : not specified
=>
```

RELATED COMMANDS:

snmp community add

Configure an SNMP community string to allow SNMP access over IP.

snmp community list

List all SNMP community strings in use for SNMP access over IP.

snmp community list

List all SNMP community strings in use for SNMP access over IP.

SYNTAX:

```
snmp community list
```

EXAMPLE:

```
=>snmp community list  
  
Read-write SNMP community name : *****  
Read-only  SNMP community name : *****  
=>
```

RELATED COMMANDS:

snmp community add

Configure an SNMP community string to allow SNMP access over IP.

snmp community delete

Delete an SNMP community string to prevent SNMP access over IP.

snmp community modify

Modify an SNMP community string to allow SNMP access over IP.

SYNTAX:

```
snmp community modify    securityname = <{RWCommunity | ROCommunity}>
                           communityname = <password>
```

where:

| | | |
|---------------|---|----------|
| securityname | Configure access rights/restrictions control for the community name. Choose between: > RWCommunity : read/write access rights > ROCommunity : read only access rights. | REQUIRED |
| communityname | Configure the SNMP community name. | REQUIRED |

snmp ifadd

Create a new SNMP interface.

SYNTAX:

```
snmp ifadd          intf = <string>
                   dest = <string>
```

where:

| | | |
|------|--|----------|
| intf | The name for the new SNMP interface. | REQUIRED |
| dest | The destination interface for this SNMP interface. | REQUIRED |

EXAMPLE:

```
=>snmp ifadd
intf = new
dest = Internet
:snmp ifadd intf=new dest=Internet
=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| snmp ifdelete | Delete an SNMP interface. |
| snmp ifattach | Attach an SNMP interface. |
| snmp ifdetach | Detach an SNMP interface. |
| snmp ifconfig | Modify an SNMP interface. |
| snmp iflist | Display the SNMP interfaces. |

snmp ifdelete

Delete an SNMP interface.

SYNTAX:

```
snmp ifdelete          intf = <string>
```

where:

| | | |
|------|---------------------------------|----------|
| intf | The name of the SNMP interface. | REQUIRED |
|------|---------------------------------|----------|

EXAMPLE:

```
=>snmp ifdelete
intf = new
:snmp ifdelete intf=new
=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| snmp ifadd | Create a new SNMP interface. |
| snmp ifattach | Attach an SNMP interface. |
| snmp ifdetach | Detach an SNMP interface. |
| snmp ifconfig | Modify an SNMP interface. |
| snmp iflist | Display the SNMP interfaces. |

snmp ifattach

Attach an SNMP interface.

SYNTAX:

```
snmp ifattach          intf = <string>
```

where:

| | | |
|------|---------------------------------|----------|
| intf | The name of the SNMP interface. | REQUIRED |
|------|---------------------------------|----------|

EXAMPLE:

```
=>snmp ifattach
intf = Internet
:snmp ifattach intf=Internet
=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| snmp ifadd | Create a new SNMP interface. |
| snmp ifdelete | Delete an SNMP interface. |
| snmp ifdetach | Detach an SNMP interface. |
| snmp ifconfig | Modify an SNMP interface. |
| snmp iflist | Display the SNMP interfaces. |

snmp ifdetach

Detach an SNMP interface.

SYNTAX:

```
snmp ifdetach          intf = <string>
```

where:

| | | |
|------|---------------------------------|----------|
| intf | The name of the SNMP interface. | REQUIRED |
|------|---------------------------------|----------|

EXAMPLE:

```
=>snmp ifdetach
intf = Internet
:snmp ifdetach intf=Internet
=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| snmp ifadd | Create a new SNMP interface. |
| snmp ifdelete | Delete an SNMP interface. |
| snmp ifattach | Attach an SNMP interface. |
| snmp ifconfig | Modify an SNMP interface. |
| snmp iflist | Display the SNMP interfaces. |

snmp ifconfig

Modify an SNMP interface.

SYNTAX:

```
snmp ifconfig          intf = <string>
                        [securityname = <{RWCommunity | ROCommunity}>]
                        [communityname = <password>]
```

where:

| | | |
|---------------|---|----------|
| intf | The name of the SNMP interface to configure. | REQUIRED |
| securityname | Configure access rights/restrictions control for the community name. Choose between: > RWCommunity > ROCommunity. The default is RWCommunity . | OPTIONAL |
| communityname | Configure SNMP community name. | OPTIONAL |

EXAMPLE:

```
=>snmp ifconfig
intf = Internet
[securityname] =
[communityname] =
:snmp ifconfig intf=Internet
=>
```

RELATED COMMANDS:

| | |
|---------------|------------------------------|
| snmp ifadd | Create a new SNMP interface. |
| snmp ifdelete | Delete an SNMP interface. |
| snmp ifattach | Attach an SNMP interface. |
| snmp ifdetach | Detach an SNMP interface. |
| snmp iflist | Display the SNMP interfaces. |

snmp iflist

Display the SNMP interfaces.

SYNTAX:

```
snmp iflist [intf = <string>]
```

where:

| | | |
|------|---|----------|
| intf | The name of an SNMP interface to configure. | OPTIONAL |
|------|---|----------|

35 SNTP Commands

Introduction

This chapter describes the commands of the Simple Network Time Protocol (SNTP) command group.

Contents

This chapter covers the following commands:

| | | |
|-------------|--|-----|
| sntp add | Add a Network Time Protocol (NTP) server to the NTP server list. | 666 |
| sntp config | Modify/display the SNTP client configuration. | 667 |
| sntp delete | Delete an NTP server from the NTP server list. | 668 |
| sntp flush | Flush the NTP server list and the SNTP client configuration. | 669 |
| sntp list | List the NTP servers. | 670 |

sntp add

Add a Network Time Protocol (NTP) server to the NTP server list.

The internal Thomson ST real time clock (SNTP client) will be synchronized with the NTP server.

SYNTAX:

```
sntp add          [addr = <ip-address>]
                  [name = <string>]
                  [version = <number{1-4}>]
```

where:

| | | |
|---------|---|----------|
| addr | The IP address of the NTP server to add to the list. Note This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified. | OPTIONAL |
| name | The DNS name of NTP server to be added to list. If both the IP address and the DNS name are provided, the IP address is ignored. Note This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified | OPTIONAL |
| version | The SNTP version of the NTP server. Select either 1, 2, 3, or 4 following NTP server supported versions. The default is 4 . | OPTIONAL |

EXAMPLE:

```
=>sntp list
IP Address      Version  Status
100.101.110.113  4       Synchronized
=>sntp add addr=100.101.110.111
=>sntp list
IP Address      Version  Status
100.101.110.111  4       contacting ...
100.101.110.113  4       Synchronized
=>
```

RELATED COMMANDS:

| | |
|-------------|--|
| sntp delete | Delete an NTP server from the NTP server list. |
| sntp list | List the NTP servers. |

sntp config

Modify/display the SNTP client configuration.

SYNTAX:

```
sntp config          [state = <{enabled | disabled}>]
                    [poll = <number{1-60}>]
                    [pollpresync = <number{1-60}>]
```

where:

| | | |
|-------------|---|----------|
| state | Enable or disable the Thomson ST SNTP client. The default is enabled . | OPTIONAL |
| poll | A number between 1 and 60 (minutes). Represents the time interval for the SNTP client to poll the configured NTP server and, if needed, (re-)synchronize its internal clock. The default is 60 . | OPTIONAL |
| pollpresync | polling interval before first sync (1 min, ... ,60min) | OPTIONAL |

EXAMPLE:

```
=>sntp config
SNTP configuration:
    state = enabled
    poll interval = 60 minute(s)
    poll interval (before first sync) = 60 minute(s)
=>
```

sntp delete

Delete an NTP server from the NTP server list.

SYNTAX:

```
sntp delete          [addr = <ip-address>]
                   [name = <string>]
```

where:

| | | |
|------|---|----------|
| addr | The IP address of the NTP server to be removed from the list. Note This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified. | OPTIONAL |
| name | The DNS name of the NTP server to be removed to the list. Note This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified. | OPTIONAL |

EXAMPLE:

```
=>sntp list
IP Address      Version  Status
100.101.110.111  4       contacting ...
100.101.110.113  4       Synchronized
=>sntp del addr=100.101.110.111
=>sntp list
IP Address      Version  Status
100.101.110.113  4       Synchronized
=>
```

RELATED COMMANDS:

sntp add Add a Network Time Protocol (NTP) server to the NTP server list.
sntp list List the NTP servers.

sntp flush

Flush the NTP server list and the SNTP client configuration.

SYNTAX:

```
sntp flush
```

sntp list

List the NTP servers.

SYNTAX:

```
sntp list
```

EXAMPLE:

```
=>sntp list
IP Address      Version  Status      Name
100.101.110.111  4       contacting ...
100.101.110.112  4       Unable to contact
100.101.110.113  4       Synchronized
=>
```

DESCRIPTION:

The status of an NTP server can be:

- > **Not used:** The Thomson ST SNTP client is disabled. As a consequence, none of the NTP servers are used.
- > **Contacting...:** The Thomson ST SNTP client is trying to contact this NTP server.
- > **Unable to contact:** The Thomson ST SNTP client is unable to contact this NTP server. It may be down, or no end-to-end connectivity exists (no connection, no DSL,...).
- > **Synchronized:** The Thomson ST SNTP client was able to contact this NTP server. If required the internal clock has been synchronized with this NTP server.

RELATED COMMANDS:

| | |
|-------------|--|
| sntp add | Add a Network Time Protocol (NTP) server to the NTP server list. |
| sntp delete | Delete an NTP server from the NTP server list. |

36 Software Commands

Introduction

This chapter describes the commands of the **software** command group.

Contents

This chapter covers the following commands:

| | | |
|------------------|--|-----|
| software upgrade | Reboot the modem to initiate the SW upgrade. | 672 |
| software version | Display the software version. | 673 |

software upgrade

Reboot the modem to initiate the SW upgrade.

New software available on a remote LAN host will be uploaded to the modem.

SYNTAX:

```
software upgrade
```

software version

Display the software version.

SYNTAX:

```
software version
```


37 System Commands

Introduction

This chapter describes the commands of the **system** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------------|--|-----|
| system config | Set/change the system configuration parameters. | 676 |
| system flush | Flush the current system configuration. | 678 |
| system locale | Set/get the regional settings. | 679 |
| system reboot | Reboot the Thomson ST. | 681 |
| system reset | Reset the Thomson ST to its factory or ISP defaults and reboot the device. | 682 |
| system timedreboot | Set or change a timed reboot for the Thomson ST. | 684 |
| system debug autosave | Autosave debugging commands | 685 |
| system debug stats | Show the Thomson ST CPU and memory statistics. | 686 |
| system ra config | Configure Remote management access parameters. | 687 |
| system rtc synchronize | Do a SNTP update and synchronize the realtime clock. | 688 |
| system rtc settime | Set/get date, time, timezone, daylight savings time, uptime. | 689 |

system config

Set/change the system configuration parameters.



For a good operation of UPnP and the discovery mechanism, it is highly recommended not to change the system configuration settings.

SYNTAX:

```
system config      [upnp = <{disabled | enabled}>]
                  [tr64 = <{disabled | enabled}>]
                  [mdap = <{disabled | enabled}>]
                  [drst = <{disabled | enabled}>]
                  [led = <{green | red | orange | flash | off}>]
                  [resetbutton = <{disabled | enabled}>]
                  [digestauth = <{disabled | enabled}>]
                  [defaultconnection = <string>]
                  [rtc = <{disabled|enabled}>]
                  [autosave = <{disabled | enabled}>]
                  [autosavedelay = <number{0-600}>]
```

where:

| | | |
|-------------------|--|----------|
| upnp | Enable or disable UPnP discovery. The default is enabled . | OPTIONAL |
| tr64 | Enable or disable TR-64 discovery. The default is disabled . | OPTIONAL |
| mdap | Enable or disable proprietary discovery protocol. The default is enabled . | OPTIONAL |
| drst | Enable or disable DrSpeedTouch access. The default is disabled . | OPTIONAL |
| led | Set the system LED colour. Choose between: <ul style="list-style-type: none"> > green: solid green > red: solid red > orange: solid orange > flash: toggle between green and orange > off: LED is off. The default is green . | OPTIONAL |
| resetbutton | Enable or disable reset-to-factory-defaults pushbutton. The default is enabled . | OPTIONAL |
| digestauth | Enable or disable HTTP digest authentication. The default is enabled . | OPTIONAL |
| defaultconnection | The name of the default internet connection. | OPTIONAL |
| rtc | Enable or disable RTC. The default is disabled | OPTIONAL |
| autosave | Enable or disable autosaves. The default is enabled . | OPTIONAL |

System Commands

| | | |
|----------------------------|---|----------|
| <code>autosavedelay</code> | A number between 0 and 600. Represents the autosave delay in seconds (0 for immediate save). | OPTIONAL |
|----------------------------|---|----------|

EXAMPLE:

```
=>system config
upnp discovery      : enabled
TR-64 discovery    : disabled
mdap discovery      : enabled
drst support        : disabled
reset button        : enabled
digest authentication : enabled
rtc                 : enabled
defaultconnection   : Internet
autosave            : enabled
autosave delay      : 10s
=>
```

system flush

Flush the current system configuration.

The system password and the system config settings (dcache excluded) are flushed.



The flush command does not impact previously saved configurations.

SYNTAX:

```
system flush
```

EXAMPLE:

```
=>system flush  
Security notification: Password changed, use 'saveall' to make it permanent.  
=>
```

system locale

Set/get the regional settings.

SYNTAX:

```
system locale      [dec_symbol = <{, | .}>]
                  [group_symbol = <{. | ,}>]
                  [date_separator = <{/ | - | .}>]
                  [date_format = <{iso | ddmmyyyy | ddmmyy | mmdyyy |
mmdyy}>]
                  [time_format = <{iso | h:mm:ss}>]
                  [datetime_format = <{iso | date+time | time+date}>]
                  [duration_format = <{dh:mm:ss | h:mm:ss}>]
```

where:

| | | |
|----------------|---|----------|
| dec_symbol | Set the decimal symbol. Choose between: <ul style="list-style-type: none">> .> , The default is ".". | OPTIONAL |
| group_symbol | Set the group symbol. Choose between: <ul style="list-style-type: none">> .> , The default is ".". | OPTIONAL |
| date_separator | Set the date separator. Choose between: <ul style="list-style-type: none">> /> -> . The default is "-". | OPTIONAL |
| date_format | Set the date format. Choose between: <ul style="list-style-type: none">> iso> ddmmyyyy> ddmmyy> mmdyyy> mmdyy The default is ddmmyyyy . Note dd = day; mm = month; yyyy or yy = year. | OPTIONAL |

| | | |
|-----------------|--|----------|
| time_format | Set the time format. Choose between: <ul style="list-style-type: none">> iso> hmmmss. The default is <i>iso</i> . Note h = hours; mm = minutes; ss = seconds. | OPTIONAL |
| datetime_format | Set the date-time format. Choose between: <ul style="list-style-type: none">> iso> date+time> time+date. The default is <i>date+time</i> . | OPTIONAL |
| duration_format | Set the duration format. Choose between: <ul style="list-style-type: none">> dhmmss> hmmmss. The default is <i>dhmmss</i> . Note d = days; h = hours; mm = minutes; ss = seconds. | OPTIONAL |

EXAMPLE:

```
=>system locale
Decimal symbol      = ,
Digit grouping symbol = .
Date separator      = -
Date format         = ddmmyyyy
Time format         = iso
Date-time format    = date+time
Duration format     = dhmmss
=>
```

system reboot

Reboot the Thomson ST.



Non-saved configuration settings will be lost after reboot.

SYNTAX:

```
system reboot
```

EXAMPLE:

```
=>system reboot
.....
(lost session connectivity due to reboot)
.....
```

RELATED COMMANDS:

system timedreboot

Set or change a timed reboot for the Thomson ST..

system reset

Reset the Thomson ST to its factory or ISP defaults and reboot the device.



All user specific settings and all saved configuration changes are lost after reboot.

SYNTAX:

```
system reset          factory yes/no = <{yes | no}>
                    proceed no/yes = <{no | yes}>
```

where:

| | | |
|----------------|---|----------|
| factory yes/no | Choose between: <ul style="list-style-type: none"> > yes: delete user and ISP specific settings. > no: delete user specific settings only. | REQUIRED |
| proceed no/yes | Confirmation for resetting the modem. If no confirmation is given, the Thomson ST will not be reset. | REQUIRED |

EXAMPLE:

```
=>system reset
-----
!! WARNING !!
-----
The modem will be reset to (factory) defaults clearing all user (and ISP) settings.
Specifying <factory=yes> deletes user and ISP specific settings.
                                Connectivity with the ISP network might be lost.
                                <factory=no> deletes user specific settings only.
factory yes/no = no
proceed no/yes = no
:system reset factory yes/no=no proceed no/yes=no
=>
=>system reset
-----
!! WARNING !!
-----
The modem will be reset to (factory) defaults clearing all user (and ISP) settings.
Specifying <factory=yes> deletes user and ISP specific settings.
                                Connectivity with the ISP network might be lost.
                                <factory=no> deletes user specific settings only.
factory yes/no = yes
proceed no/yes = yes
:system reset factory yes/no=yes proceed no/yes=yes

.....
(lost session connectivity due to reboot)
.....
```


RELATED COMMANDS:

sntp config

Modify/display the SNTP client configuration.

system timedreboot

Set or change a timed reboot for the Thomson ST.

SYNTAX

```
timedreboot      [state = <{disabled|enabled}>]
                  [time = <number{0-16384}>]
                  [date = <string>]
```

where:

| | | |
|-------|---|----------|
| state | Enable/Disable timed reboot. The default is <i>disabled</i> . | OPTIONAL |
| time | Change default countdown time (Min). A number between 0 and 16384. The default is <i>60</i> . | OPTIONAL |
| date | Set date/time to reboot (DD/MM/YYYY/HH:MM). The default is the current day and time | OPTIONAL |

EXAMPLE:

```
=>:system timedreboot state=enabled time=60
input timeout (min): 60
=>
```

RELATED COMMANDS:

system reboot

Reboot the Thomson ST.

system debug autosave

Autosave debugging commands

SYNTAX:

```
system debug      [trace = <{disabled|enabled}>]
autosave
```

where:

| | | |
|-------|-----------------------------------|----------|
| trace | Enable or disable autosave traces | OPTIONAL |
|-------|-----------------------------------|----------|

system debug stats

Show the Thomson ST CPU and memory statistics.

SYNTAX:

```
system debug stats [reset = <{disabled | enabled}>]
```

where:

| | | |
|-------|---|----------|
| reset | Reset the CPU statistics. The default is <i>disabled</i> . | OPTIONAL |
|-------|---|----------|

DESCRIPTION:

- > **CHIP memory:** Memory used by the CPU (first MB from the RAM) – not cached since it has to be realtime.
- > **Application memory:** Memory used by the applications.
- > **min:** The least amount of free memory detected during the uptime of the Thomson ST.

system ra config

Configure Remote management access parameters.

SYNTAX:

```
system ra config    [secure = <{disabled | enabled}>]
                   [port = <number>]
                   [timeout = <number>]
```

where:

| | | |
|---------|--|----------|
| secure | Enable or disable https. The default is enabled . | OPTIONAL |
| port | Set the destination port for remote access. The default is 51003 . | OPTIONAL |
| timeout | Set the connection timeout in minutes. | OPTIONAL |

EXAMPLE:

```
=>system ra config
Remote management access configuration

Remote access port   : 51003
Secure remote access : enabled
=>
```

system rtc synchronize

Do a SNTP update and synchronize the realtime clock.

SYNTAX:

```
system rtc synchro-  
nize
```

system rtc settime

Set/get date, time, timezone, daylight savings time, uptime.

When synchronization with an external NTP server via the Thomson ST SNTP client fails, this command allows to manually configure its internal clock.



In cases without regular synchronization, accurate realtime clock settings can not be guaranteed.

SYNTAX:

```
system rtc settime [date = <dd/mm/yyyy>]
                  [time = <hh:mm:ss>]
                  [timezone = <( + or -)hh:mm>]
                  [daylightsaving = <{disabled | enabled}>]
```

where:

| | | |
|----------------|--|----------|
| date | The system date formatted as dd/mm/yyyy. Note If not specified, the current date is preserved. | OPTIONAL |
| time | The system time formatted as hh:mm:ss. Note If not specified, the current time is preserved. | OPTIONAL |
| timezone | The system timezone formatted as (+ or -)hh:mm. Valid timezones are possible from -12:00 to +14:00 with a resolution of 15 minutes. Note If not specified, the current timezone is preserved. | OPTIONAL |
| daylightsaving | Enable or disable daylight saving. The default is <i>disabled</i> . Note If not specified, the current daylight saving setting is preserved. | OPTIONAL |

EXAMPLE:

```
=>system settime
date = 31/01/2005
time = 18:05:16
timezone = +00:00
daylightsaving = off
=>
```


38 Systemlog Commands

Introduction

This chapter describes the commands of the **systemlog** command group.

Contents

This chapter covers the following commands:

| | | |
|-----------------|--|-----|
| systemlog flush | Flush all messages in the internal Syslog message buffer. | 692 |
| systemlog show | Show messages in the internal Syslog message buffer. | 693 |
| systemlog send | Send messages from the internal Syslog message buffer to a specified local or remote syslog server host. | 695 |

systemlog flush

Flush all messages in the internal Syslog message buffer.

SYNTAX:

```
systemlog flush
```

systemlog show

Show messages in the internal Syslog message buffer.

SYNTAX:

```
systemlog show          [fac = <supported facility name>]
                        [sev = <supported severity name>]
                        [hist = <{disabled | enabled}>]
```

where:

| | | |
|------|--|----------|
| fac | Specify the facility name of the syslog messages to be shown. Use one of the supported facility names (see " Supported Facilities" on page 751). Note If not specified, the messages of all the facilities will be shown. | OPTIONAL |
| sev | Specify the lowest priority severity of the syslog messages to be shown. All the syslog messages with severity as specified or higher will be shown. Use one of the supported severity names (see " Supported Severities" on page 752). Note If not specified, the messages of all the severities will be shown. | OPTIONAL |
| hist | Show messages over several Thomson ST reboots (enabled) or show only messages since latest startup (disabled). Note If not specified, only the recent messages will be shown. | OPTIONAL |

EXAMPLE:

```
=>syslog msgbuf show fac=kern sev=emerg hist=enabled
<0> SysUpTime: 14:45:43 KERNEL Controlled restart (after internal error or explicit system re
boot)
<0> SysUpTime: 02:58:18 KERNEL Controlled restart (after internal error or explicit system re
boot)
<0> SysUpTime: 04 days 04:52:37 KERNEL Controlled restart (after internal error or explicit s
ystem reboot)
<0> SysUpTime: 00:00:41 KERNEL Controlled restart (after internal error or explicit system re
boot)

=>syslog msgbuf show fac=kern sev=warning hist=enabled
<4> SysUpTime: 00:00:00 KERNEL Cold restart
<0> SysUpTime: 14:45:43 KERNEL Controlled restart (after internal error or explicit system re
boot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 02:58:18 KERNEL Controlled restart (after internal error or explicit system re
boot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 04 days 04:52:37 KERNEL Controlled restart (after internal error or explicit s
ystem reboot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 00:00:41 KERNEL Controlled restart (after internal error or explicit system re
boot)
=>
```

systemlog send

Send messages from the internal Syslog message buffer to a specified local or remote syslog server host.



There will be no notification on whether the host has received the messages or not.

SYNTAX:

```
systemlog send      [fac = <supported facility name>]
                   [sev = <supported severity name>]
                   [hist = <{disabled | enabled}>]
                   dest = <ip-address>
```

where:

| | | |
|------|---|----------|
| fac | Specify the facility name of the syslog messages to show. Use one of the supported facility names (see "Supported Facilities" on page 751). Note If not specified, the messages of all the facilities will be shown. | OPTIONAL |
| sev | Specify the lowest priority severity of the syslog messages to be shown. All the syslog messages with severity as specified or higher will be shown. Use one of the supported severity names (see "Supported Severities" on page 752). Note If not specified, the messages of all the severities will be shown. | OPTIONAL |
| hist | Show messages over several Thomson ST reboots (disabled) or show only messages since latest startup (enabled). Note If not specified, only the recent messages will be shown. | OPTIONAL |
| dest | The IP address of the remote host on the local or remote network, in other words, the collector's IP address, to send the syslog messages to. | REQUIRED |

systemlog DBG dbg_syslog

Perform a syslog call.

SYNTAX:

```
systemlog DBG dbg_syslog  priority = <number{0-191}>  
                           msgstring = <string>
```

where:

| | |
|-----------|-----------------|
| priority | priority number |
| msgstring | message content |

systemlog DBG dbg_long_mess

Generate a long syslog message call.

SYNTAX:

```
systemlog DBG dbg_long_mess
```

systemlog DBG dbg_burst

Perform a syslog message burst.

SYNTAX:

```
systemlog DBG dbg_burst
```


systemlog DBG dbg_contents

Show the contents of the message buffer.

SYNTAX:

```
systemlog DBG dbg_contents
```


39 Upgrade Commands

Introduction

This chapter describes the commands of the **upgrade** command group.

Contents

This chapter covers the following commands:

| | | |
|---------------------------|--|-----|
| upgrade config | Change the upgrade daemon configuration. | 702 |
| upgrade start | Start a new upgrade. | 703 |
| upgrade debug traceconfig | Enable/disable upgrade daemon tracing. | 704 |
| upgrade debug sesslist | Display the list of sessions. | 705 |
| upgrade profile add | Add a new file profile description. | 706 |
| upgrade profile modify | Modify a file profile description. | 707 |
| upgrade profile delete | Delete a file profile description. | 708 |
| upgrade profile list | Display a list of the file profile descriptions. | 708 |

upgrade config

Change the upgrade daemon configuration.

SYNTAX:

```
upgrade config [state = <{disabled|enabled}>]
               [protocol = <{tftp|ftp|http|https}>]
```

where:

| | | |
|----------|--|----------|
| state | Set the upgrade daemon state to enabled or disabled. The default is <i>disabled</i> . | OPTIONAL |
| protocol | The transfer protocol to be used for file download. Choose between: > tftp > ftp > http > https The default is <i>tftp</i> . | OPTIONAL |

EXAMPLE:

```
=>:upgrade config
Upgrade daemon state: disabled
Upgrade daemon transfer protocol: tftp
Upgrade daemon option 66:
Upgrade daemon option 67:
=>
```

upgrade start

Start a new upgrade.

SYNTAX:

```
upgrade start      protocol = <{tftp|ftp|http|https}>
                   [server = <string>]
                   [filename = <string>]
```

where:

| | | |
|----------|--|----------|
| protocol | The protocol to be used for the download. Choose between: > tftp > ftp > http > https The default is <i>disabled</i> . | REQUIRED |
| server | The server name or IP address | OPTIONAL |
| filename | The file to be downloaded | OPTIONAL |

upgrade debug traceconfig

Enable/disable upgrade daemon tracing.

SYNTAX:

```
upgrade debug traceconfig state = <{disabled|enabled}>
```

where:

| | | |
|--------------|---|-----------------|
| state | Set the upgared daemon state to enabled or disabled. | REQUIRED |
|--------------|---|-----------------|

upgrade debug sesslist

Display the list of sessions.

SYNTAX:

```
upgrade debug sesslist
```

EXAMPLE:

```
=>:upgrade debug sesslist
Session 0:
-----
SessionId : 0x80c25850
State     : IDLE
Protocol  : TFTP
ServerName:
FileName  :
DestFile  :
ServerIP  : 0.0.0.0
Error     :

Session 1:
-----
SessionId : 0x80c25c20
State     : IDLE
Protocol  : TFTP
ServerName:
FileName  :
DestFile  :
ServerIP  : 0.0.0.0
Error     :
=>
```

upgrade profile add

Add a new file profile description.

SYNTAX:

```
upgrade profile add    extension = <{sts|ini}>
                      [maxsize(KBytes) = <number>]
                      action = <{none|config_load|script_load|reboot}>
```

where:

| | | |
|-----------|--|----------|
| extension | The extension of the new file profile. Choose between: > sts > ini | REQUIRED |
| maxsize | The maximum filesize (in KBytes) allowed for files with the extension of this profile. The default is 100 . | OPTIONAL |
| action | The action to be done when the file with the extension of this profile is downloaded. Choose between: > none > config_load > script_load > reboot | REQUIRED |

RELATED COMMANDS:

| | |
|------------------------|--|
| upgrade profile delete | Delete a file profile description. |
| upgrade profile list | Display a list of the file profile descriptions. |

upgrade profile modify

Modify a file profile description.

SYNTAX:

```
upgrade profile modify extension = <{sts|ini}>
                        [maxsize(KBytes) = <number>]
                        action = <{none|config_load|script_load|reboot}>
```

where:

| | | |
|-----------|--|----------|
| extension | The extension of the new file profile. Choose between: > sts > ini | REQUIRED |
| maxsize | The maximum filesize (in KBytes) allowed for files with the extension of this profile. The default is 100 . | OPTIONAL |
| action | The action to be done when the file with the extension of this profile is downloaded. Choose between: > none > config_load > script_load > reboot | REQUIRED |

RELATED COMMANDS:

| | |
|------------------------|--|
| upgrade profile delete | Delete a file profile description. |
| upgrade profile list | Display a list of the file profile descriptions. |

upgrade profile delete

Delete a file profile description.

SYNTAX:

```
upgrade profile delete extension = <{sts|ini}>
```

where:

| | | |
|-----------|--|----------|
| extension | The extension of the profile to be deleted. Choose between: > sts > ini | REQUIRED |
|-----------|--|----------|

RELATED COMMANDS:

| | |
|----------------------|--|
| upgrade profile add | Add a new file profile description. |
| upgrade profile list | Display a list of the file profile descriptions. |

upgrade profile list

Display a list of the file profile descriptions.

SYNTAX:

```
upgrade profile list
```

RELATED COMMANDS:

upgrade profile delete

Delete a file profile description.

upgrade profile modify

Modify a file profile description.

upgrade ifadd

Add a download interface.

SYNTAX:

```
upgrade ifadd          intf = <string>
```

where:

| | | |
|------|----------------------|----------|
| intf | A download interface | REQUIRED |
|------|----------------------|----------|

RELATED COMMANDS:

upgrade ifattach

Attach a download interface.

SYNTAX:

```
upgrade ifattach      intf = <string>
```

where:

| | | |
|------|----------------------|----------|
| intf | A download interface | REQUIRED |
|------|----------------------|----------|

RELATED COMMANDS:

upgrade ifconfig

Configure a download interface.

SYNTAX:

```
upgrade ifconfig intf = <string>
                  [protocol = <{tftp|ftp|http|https}>]
                  [dest = <{loop|Internet|ISDN_backup| ISDN_backup_trigger|
lan1|wan1|dmz1|guest1}>]
                  [server = <string>]
                  [file = <string>]
                  [time = <number>]
```

where:

| | | |
|----------|--|----------|
| Intf | A download interface | REQUIRED |
| protocol | The transfer protocol | OPTIONAL |
| dest | The destination network interface name | OPTIONAL |
| server | The server name | OPTIONAL |
| file | The file name | OPTIONAL |
| time | download cycle time in s | OPTIONAL |

RELATED COMMANDS:

upgrade ifdelete

Delete a download interface.

SYNTAX:

```
upgrade ifdelete      intf = <string>
```

where:

| | | |
|------|----------------------|----------|
| intf | A download interface | REQUIRED |
|------|----------------------|----------|

RELATED COMMANDS:

upgrade ifdetach

Detach a download interface.

SYNTAX:

```
upgrade ifdetach      intf = <string>
```

where:

| | | |
|------|----------------------|----------|
| intf | A download interface | REQUIRED |
|------|----------------------|----------|

RELATED COMMANDS:

upgrade iflist

List all download interfaces.

SYNTAX:

```
upgrade iflist
```

RELATED COMMANDS:

40 UPnP Commands

Introduction

This chapter describes the commands of the **upnp** command group.

Contents

This chapter covers the following commands:

| | | |
|-------------|---|-----|
| upnp config | Configure the UPnP™ parameter(s). | 718 |
| upnp flush | Flush the UPnP™ configuration. The UPnP configuration will be reset to the default configuration. | 719 |
| upnp list | List all registered devices. | 720 |

upnp config

Configure the UPnP™ parameter(s).

SYNTAX:

```
upnp config      [maxage = <number{60-999999}>]
                  [writemode = <{full | natonly | readonly}>]
                  [safenat = <{disabled | enabled}>]
                  [preferredaddress = <ip-address>]
                  [httpport = <number{1-65535}>]
```

where:

| | | |
|------------------|--|----------|
| maxage | <p>A number between 60 and 999999. This parameter allows to configure how often the Thomson ST sends a notification message to advertise its presence as an Internet Gateway Device (IGD) on the network. The default is 1800.</p> <p>Note Setting this parameter to a low value will increase the number of packets sent over time on the network, but will make the state of the device more up to date.</p> | OPTIONAL |
| writemode | <p>Choose the set of rules to limit remote access from UPnP. Choose between:</p> <ul style="list-style-type: none"> > full: the host will accept all the UPnP SET and GET actions. > natonly: GET and NAT related SET actions will be accepted, all other actions will be ignored. > readonly: the UPnP control point will only be able to retrieve information, all the SET actions are ignored. <p>The default is natonly.</p> | OPTIONAL |
| safenat | <p>Enable or disable check on safe NAT entries. If this check is enabled, all NAT create/delete requests for a LAN side IP address different from the source IP address of the UPnP message will be discarded. The default is enabled.</p> | OPTIONAL |
| preferredaddress | <p>CSV list of preferred IP address for UPnP advertisements (1 per LAN IP interface).</p> <p>Note Enter "0.0.0.0" for none.</p> | OPTIONAL |
| httpport | <p>A number between 1 and 65535. Represents the web server port. The default is 80.</p> | OPTIONAL |

upnp flush

Flush the UPnP™ configuration. The UPnP configuration will be reset to the default configuration.

SYNTAX:

```
upnp flush
```

upnp list

List all registered devices.



Use this command to check whether a PPP connection is properly configured and thus advertised as a PPP service.

SYNTAX:

```
upnp list [verbose = <number{0-2}>]
```

where:

| | | |
|---------|---|----------|
| verbose | Verbose level. The default is 1 . | OPTIONAL |
|---------|---|----------|

EXAMPLE:

```
=>upnp list
----- device: IGD.xml -----
Advertised on: LocalNetwork (10.0.0.138)
----- devices/services -----
++ Root Device: urn:schemas-upnp-org:device:InternetGatewayDevice:1
-- Service 1: urn:upnp-org:serviceId:layer3f
-- Service 2: urn:upnp-org:serviceId:lanhcm
-- Service 3: urn:upnp-org:serviceId:wancic
-- Service 4: urn:upnp-org:serviceId:wandsllc:RELAY
-- Service 5: urn:upnp-org:serviceId:wanpppc:Internet
----- end -----
=>
```

41 User Commands

Introduction

This chapter describes the commands of the **user** command group.

Contents

This chapter covers the following commands:

| | | |
|-------------|-----------------------------|-----|
| user add | Add a user. | 722 |
| user config | Modify a user. | 724 |
| user delete | Delete a user. | 726 |
| user flush | Flush the users. | 727 |
| user list | Display the users. | 728 |
| user rights | Display the session rights. | 730 |

user add

Add a user.



You can only add a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user add  name = <quoted string>
          password = <password>
          role = <string>
          [hash2 = <string>]
          [descr = <quoted string>]
          [defuser = <{disabled | enabled}>]
          [defremadmin = <{disabled | enabled}>]
          [deflocadmin = <{disabled | enabled}>]
```

where:

| | | |
|-------------|--|----------|
| name | The new user name. Note 1. The maximum number of users is 10. 2. The maximum length is 32 characters. | REQUIRED |
| password | The password. Note The maximum length is 32 characters. | REQUIRED |
| role | The role name. Tip Use the command <code>:mlp role list</code> to obtain the role name (see “ mlp role list” on page 563 for more information). | REQUIRED |
| hash2 | The MD5 hash. Note The maximum length is 32 characters. | OPTIONAL |
| descr | A user description. Note The maximum length is 63 characters. | OPTIONAL |
| defuser | Set this user as the default user (enabled) or not (disabled). Note When the Web interface is accessed, the account of this user will be used by default. The user will not need to authenticate himself with user name or password. The default is <i>disabled</i> . | OPTIONAL |
| defremadmin | Set this user as the default remote administrator (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |
| deflocadmin | Set this user as the default local administrator (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

User Commands

EXAMPLE:

In the example below, the user Administrator creates a new user JohnDoe. This user has lower access rights than the user "Poweruser".

```
{Administrator}=>user list
User                               Flags Role
----                               -
Administrator                       U   Administrator
tech                                 R   TechnicalSupport
{Administrator}[user]=>add
name = JohnDoe
password = ****
Please retype password for verification.
password = ****
role = Administrator
[hash2] =
[descr] =
[defuser] =
[defremadmin] =
:user add name=JohnDoe password=_CYP_x90/lhXuRyMME role=Administrator
{Administrator}=>user list
User                               Flags Role
----                               -
Administrator                       U   Administrator
tech                                 R   TechnicalSupport
JohnDoe                               Administrator
{Administrator}=>
```

DESCRIPTION:

- > **U**: indicates the default user.
- > **R**: indicates the default remote administrator.

RELATED COMMANDS:

| | |
|-------------|--------------------|
| user delete | Delete a user. |
| user list | Display the users. |

user config

Modify a user.



You can only modify a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user config name = <string>
            [password = <password>]
            [role = <string>]
            [descr = <quoted string>]
            [defuser = <{disabled | enabled}>]
            [defremadmin = <{disabled | enabled}>]
            [deflocadmin = <{disabled | enabled}>]
```

where:

| | | |
|-------------|--|----------|
| name | The user name. | REQUIRED |
| password | The password. Note The maximum length is 32 characters. | OPTIONAL |
| role | The role name. Tip Use the command <code>:mlp role list</code> to obtain the role names (see “ mlp role list” on page 563 for more information). | OPTIONAL |
| descr | A user description. Note The maximum length is 63 characters. | OPTIONAL |
| defuser | Set this user as the default user (enabled) or not (disabled). Note When the Web interface is accessed, the account of this user will be used by default. The user will not need to authenticate himself with user name or password. The default is <i>disabled</i> . | OPTIONAL |
| defremadmin | Set this user as the default remote administrator (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |
| deflocadmin | Set this user as the default local administrator (enabled) or not (disabled). The default is <i>disabled</i> . | OPTIONAL |

User Commands

EXAMPLE:

```
{Superuser}=>user list
      User           Role
      ====          =====
      Superuser      root
      aPoweruser     Poweruser

{Superuser}=>user config name=aPoweruser role=LAN_admin
{Superuser}=>user list
      User           Role
      ====          =====
      Superuser      root
      aPoweruser     LAN_admin

{Superuser}=>
```

user delete

Delete a user.



You can only delete a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user delete      name = <string>
```

where:

| name | The name of the user to be deleted. | REQUIRED |
|------|-------------------------------------|----------|
|------|-------------------------------------|----------|

EXAMPLE:

```
{Administrator}>user list
User                               Flags Role
----                               -
Administrator                       U   Administrator
tech                                  R   TechnicalSupport
JohnDoe                               Administrator

{Administrator}>user delete name = JohnDoe
{Administrator}>user list
User                               Flags Role
----                               -
Administrator                       U   Administrator
tech                                  R   TechnicalSupport

{Administrator}>
```

RELATED COMMANDS:

| | |
|-----------|--------------------|
| user add | Add a user. |
| user list | Display the users. |

user list

Display the users.

SYNTAX:

```
user list [name = <string>]
          [channel = <{ftp | telnet | http | mdap | serial}>]
          [origin = <{lan | wan | local}>]
          [secure = <{disabled | enabled}>]
```

where:

| | | |
|---------|--|----------|
| name | The user name. Note If not specified, all the users will be listed. | OPTIONAL |
| channel | The selected channel. Choose between: <ul style="list-style-type: none"> > ftp > telnet > http > mdap > serial. Note If not specified, all the channels will be listed. | OPTIONAL |
| origin | The selected origin. Choose between: <ul style="list-style-type: none"> > lan > wan > local. Note If not specified, all the origins will be listed. | OPTIONAL |
| secure | The selected security level. Choose between: <ul style="list-style-type: none"> > disabled > enabled. Note If not specified, all the security levels will be listed. | OPTIONAL |

User Commands

EXAMPLE:

```
{Administrator}=>user list
User                               Flags Role
----                               -
Administrator                       U     Administrator
tech                                 R     TechnicalSupport

{Administrator}=>user list name=tech channel=http origin=wan
service(s): r_lan, r_wan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_nat, r_frwl,
r_ipsec_norm, r_ipsec_adv, r_certificates, r_remote_mgnt, r_local, r_qos,
w_lan, w_wan, w_fs_passive, w_rtg, w_fwdg, w_nat, w_frwl_norm, w_frwl_adv,
w_frwe_mgnt, w_ipsec, w_certificates, w_remote_mgnt, w_local, w_qos,
snd_lan, snd_wan, snd_local, and_lan, and_wan, and_frwl, and_local,
user_admin, mlp_admin, secure_ipsec_term, secure_br, cli, cgi, ftp, mdap,
zone_45, zone_46, zone_47, zone_48, zone_49, zone_50, zone_51, zone_52,
zone_53, zone_54, zone_55, zone_56, zone_57, zone_58, zone_59, zone_60,
zone_61, zone_62, swk_activation, sensitve_file, zone_71, zone_72, zone_73,
zone_74, zone_75, zone_76, zone_77, zone_78, zone_79, zone_83, zone_84,
zone_85, zone_86, zone_87, zone_88, zone_89, zone_90, zone_91, zone_92,
traces

{Administrator}=>
```

RELATED COMMANDS:

| | |
|-------------|----------------|
| user add | Add a user. |
| user delete | Delete a user. |

user rights

Display the session rights.



The user rights of the currently logged-in user are shown.

SYNTAX:

```
user rights
```

EXAMPLE:

```
{Administrator}=>user rights
Current session info:
user:      name='Administrator', role='Administrator'
access:    lan (origin_lan), telnet (channel_telnet), unsecure (unsecure_connection)
service(s): r_lan, r_wan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_nat, r_frwl,
            r_ipsec_norm, r_ipsec_adv, r_certificates, r_remote_mgnt, r_local, r_qos,
            w_lan, w_wan, w_fs_passive, w_rtg, w_fwdg, w_nat, w_frwl_norm, w_frwl_adv,
            w_frwe_mgnt, w_ipsec, w_certificates, w_remote_mgnt, w_local, w_qos,
            snd_lan, snd_wan, snd_local, and_lan, and_wan, and_frwl, and_local,
            user_admin, mlp_admin, secure_ipsec_term, secure_br, cli, cgi, ftp, mdap,
            zone_45, zone_46, zone_47, zone_48, zone_49, zone_50, zone_51, zone_52,
            zone_53, zone_54, zone_55, zone_56, zone_57, zone_58, zone_59, zone_60,
            zone_61, zone_62, swk_activation, sensitive_file, zone_71, zone_72, zone_73,
            zone_74, zone_75, zone_76, zone_77, zone_78, zone_79, zone_83, zone_84,
            zone_85, zone_86, zone_87, zone_88, zone_89, zone_90, zone_91, zone_92,
            traces

{Administrator}=>
```


42 Abbreviations

The table below lists all the abbreviations used in the CLI Reference Guide.

| | |
|--------------|---|
| AAL5 | ATM Adaption Layer 5 |
| ACL | Access Control List |
| ADSL | Asymmetric Digital Subscriber Line |
| AES | Advanced Encryption System |
| AF | Assured Forwarding |
| AP | Access Point |
| ARP | Address Resolution Protocol |
| ATM | Asynchronous Transfer Mode |
| BSSID | Base Service Set IDentifier |
| CA | Certificate Authority |
| CAPI | Common ISDN Application Interface |
| CC | Continuity Check |
| CEP | Certificate Enrollment Protocol |
| CHAP | Challenge Handshake Authentication Protocol |
| CIDR | Classless Inter Domain Routing |
| CLI | Command Line Interface |
| CLP | Cell Loss Priority |
| CO | Central Office |
| CPE | Customer Premises Equipment |
| CRL | Certificate Revocation List |
| CTD | Conformance Traffic Descriptor |
| CWMP | CPE WAN Management Protocol |
| DHCP | Dynamic Host Configuration Protocol |
| DN | Distinguished Name |
| DNS | Domain Name System |
| DPD | Dead Peer Detection |
| DSCP | Differentiated Services Code Point |
| DSD | Differentiated Service Delivery |
| DSL | Digital Subscriber Line |
| ECN | Explicit Congestion Notification |
| EF | Expedited Forwarding |
| FCS | Frame Check Sequence |
| FTP | File Transfer Protocol |
| GRE | General Routing Encapsulation |
| GRP | Gateway Routing Protocol |
| HDLC | High-level Data Link Control |

| | |
|--------------|--|
| HTTP | HyperText Transfer Protocol |
| ICMP | Internet Control Message Protocol |
| IDS | Intrusion Detection System |
| IGD | Internet Gateway Device |
| IGMP | Internet Group Management Protocol |
| IKE | Internet Key Exchange |
| IP | Internet Protocol |
| IP oA | IP over ATM |
| IPCP | Internet Protocol Control Protocol |
| IPSec | IP Security |
| ISDN | Integrated Services Digital Network |
| ISI | Independent Set ID |
| KB | Kilobytes |
| Kbps | Kilobits per second |
| LAN | Local Area Network |
| LCP | Link Control Protocol |
| LDAP | Light-weight Directory Access Protocol |
| LLC | Logical Link Control |
| MAC | Medium Access Control |
| MC | MultiCast |
| MD5 | Message Digest 5 |
| MGCP | Media Gateway Control Protocol |
| MLP | Multi-Level access Policy |
| MPLS | Multiprotocol Label Switching |
| MTU | Maximum Transmission Unit |
| NAPT | Network Address and Port Translation |
| NAT | Network Address Translation |
| NLPID | Network Layer Protocol IDentifiers |
| NTP | Network Time Protocol |
| OAM | Operation and Maintenance |
| OBC | On Board Controller |
| OID | Object IDentifier |
| PAP | Password Authentication Protocol |
| PBX | Private Branch Exchange |
| PFS | Perfect Forward Secrecy |
| PKCS | Public Key Cryptography Standard |
| PKI | Public Key Infrastructure |
| POTS | Plain Old Telephone Service |
| PPP | Point-to-Point Protocol |

Abbreviations

| | |
|--------------|--|
| PPPoA | PPP over ATM |
| PPPoE | PPP over Ethernet |
| PPTP | Point-to-Point Tunneling Protocol |
| PSD | Power Spectral Density |
| PSK | Pre-Shared Key |
| PVC | Permanent Virtual Channel |
| QoS | Quality of Service |
| RIP | Routing Information Protocol |
| RTC | Real Time Clock |
| RTT | Round Trip Time |
| SAs | Security Associations |
| SFTP | Secure File Transfer Protocol |
| SHDSL | Single Pair High-speed Digital Subscriber Line |
| SIP | Session Initiation Protocol |
| SLA | Service Level Agreement |
| SMTP | Simple Mail Transfer Protocol |
| SNAP | Sub Network Access Protocol |
| SNMP | Simple Network Management Protocol |
| SNR | Signal-to-Noise Ratio |
| SNTP | Simple Network Time Protocol |
| SSH | Secure SHell |
| SSID | Service Set IDentifier |
| TCP | Transmission Control Protocol |
| TFTP | Trivial File Transfer Protocol |
| TKIP | Temporal Key Integrity Protocol |
| ToS | Type of Service |
| TTL | Time To Live |
| UA | User Agent |
| UDP | User Datagram Protocol |
| ULP | Upper Layer Protocol |
| UPnP | Universal Plug and Play |
| URI | Uniform Resource Identifier |
| URL | Uniform Resource Locator |
| USB | Universal Serial Bus |
| VC | Virtual Channel |
| VCI | Virtual Channel Identifier |
| VCMUX | Virtual Channel MULTipleXing |
| VDSL | Very high speed Digital Subscriber Line |
| VLAN | Virtual Local Area Network |

| | |
|-------------|---------------------------------|
| VLSM | Variable Length Subnet Masking |
| VP | Virtual Path |
| VPI | Virtual Path Identifier |
| VPN | Virtual Private Networking |
| WAN | Wide Area Network |
| WDS | Wireless Distribution System |
| WEP | Wired Equivalent Privacy |
| WFQ | Weighted Fair Queueing |
| WINS | Windows Internet Naming Service |
| WLAN | Wireless LAN |
| WPA | Wi-Fi Protected Access |
| WRR | Weighted Round Robin |

43 System Logging Messages

Introduction

This chapter lists the different System Logging messages.

Contents

This chapter lists the different System Logging messages of the following modules:

| | |
|----------------------|-----|
| Auto-PVC Module | 736 |
| Configuration Module | 736 |
| DHCP Client Module | 736 |
| DHCP Relay Module | 737 |
| DHCP Server Module | 737 |
| Dyndns Module | 738 |
| Firewall Module | 738 |
| LOGIN Module | 739 |
| Kernel Module | 739 |
| Linestate Module | 739 |
| NAPT Module | 739 |
| PPP Module | 740 |
| PPTP Module | 740 |
| RIP Module | 741 |
| Routing Module | 742 |
| Session Module | 742 |
| SNTP Module | 742 |
| Software Module | 743 |
| UPnP Module | 743 |

Auto-PVC Module

| Facility | Severity | Contents |
|----------|----------|--|
| LOCAL5 | WARNING | AUTOPVC script <script_name> failed |
| LOCAL5 | WARNING | AUTOPVC script <script_name> failed |
| LOCAL5 | WARNING | AUTOPVC script <script_name> (name1, qosb_name) failed |
| LOCAL5 | WARNING | AUTOPVC script <script_name> (name1, qosb_name, name2) failed |
| LOCAL5 | WARNING | AUTOPVC script 'autopvc_change_qos (itable[i].intf, name1, qosb_name) failed |
| LOCAL5 | WARNING | AUTOPVC script <script_name> (name1, name2) failed |

Configuration Module

| Facility | Severity | Contents |
|----------|----------|---|
| USER | INFO | CONFIGURATION saved after running Embedded Setup Wizard |
| USER | INFO | CONFIGURATION saved by user <user_id> |
| USER | INFO | CONFIGURATION backup by user to file <filename> |
| USER | INFO | CONFIGURATION <conf_version> upgraded to version <version> |
| KERN | INFO | SYSTEM reset by user <user_id> to factory defaults: user settings deleted |

DHCP Client Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL2 | WARNING | DHCC lease ip-address <ip-address> bound to intf <intf_id> |
| LOCAL2 | WARNING | DHCC intf <intf_id> renews lease ip-address <ip-address> |
| LOCAL2 | WARNING | DHCC intf <intf_id> rebinds lease ip-address <ip-address> from server-<paratext><Default ¶¶ Font><ip-address> |
| LOCAL2 | WARNING | DHCC offer received from <ip-address> (can be relay agent) for intf <intf_id> |
| LOCAL2 | WARNING | DHCC server (<ip-address>) offers <ip-address> to intf <intf_id> |
| LOCAL2 | WARNING | DHCC unable to configure ip address: <ip-address> (bootp-reply) |
| LOCAL2 | WARNING | DHCC bootp lease ip-address <ip-address> bound to intf <intf_id> from server (<ip-address>) |
| LOCAL2 | WARNING | DHCC <ip-address> already configured on intf <intf_id>: failure |
| LOCAL2 | WARNING | DHCC <ip-address> (<ip-address>) set on intf <intf_id>: {faillurellok} |
| LOCAL2 | WARNING | DHCC <ip-address> deleted: {faillurellok} |

DHCP Relay Module

| Facility | Severity | Contents |
|----------|----------|--|
| LOCAL2 | WARNING | DHCR relay: Dropping boot rqs on interface <intf_id> due to invalid giaddr for server (<ip-address>) |
| LOCAL2 | WARNING | DHCR relay: Dropping boot reply with invalid relay agent option from <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request containing the relay agent option from <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot reply to unknown interface from <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot reply to inactive interface <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot reply to inactive interface <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request packet with spoofed giaddr field from <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request received on unknown interface from <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request on inactive interface <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request with invalid hops field on interface <intf_id> |
| LOCAL2 | WARNING | DHCR relay: Dropping boot request with invalid giaddr on interface <intf_id> |

DHCP Server Module

| Facility | Severity | Contents |
|----------|----------|--|
| LOCAL2 | WARNING | DHCS server: <DHCP Offer DHCP ACK> cannot be send due to invalid server identifier |
| LOCAL2 | WARNING | DHCS server: DHCPACK cannot be send due to invalid server identifier |
| LOCAL2 | WARNING | DHCS server: DHCPNAK cannot be send due to invalid server identifier |
| LOCAL2 | WARNING | DHCS server up |
| LOCAL2 | WARNING | DHCS server went down |

Dyndns Module

| Facility | Severity | Contents |
|----------|----------|--|
| DYNDNS | WARNING | <DYNDNS_STR_ID> Connection failed to <dyndns_service> for client <dyndns_client> |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Failed to resolve host name <dyndns_service> for client <dyndns_client> |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Server Timeout(<dyndns_service>) for client <dyndns_client> |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Update failed to server <dyndns_service> for client <dyndns_client> |
| DYNDNS | NOTICE | <DYNDNS_STR_ID> client <dyndns_client> <"started" "stopped"> |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Update failed for client <dyndns_client>, incomplete configuration |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Update failed for client <dyndns_client> (<message>), host <hostname> has not been updated |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Update failed for client <dyndns_client> |
| DYNDNS | NOTICE | <DYNDNS_STR_ID> Host <hostname> has been updated successfully by <dyndns_service> |
| DYNDNS | WARNING | <DYNDNS_STR_ID> Authentication failed to server <dyndns_service> |

Firewall Module

| Facility | Severity | Contents |
|----------|----------|--|
| AUTH | WARNING | FIREWALL Hook: <hookname> Rule ID:<rule_id> Protocol: ICMP Src_ip: <ip_address> Dst_ip: <ip_address> ICMP message type: <message_type_name message_type_id > Action: <action> |
| AUTH | WARNING | FIREWALL Hook: <hookname> Rule ID:<rule_id> Protocol: <protocol_name> Src_ip_port: <ip-address:ip_port> Dst_ip_port: <ip-address:ip_port> Action: <action> |

LOGIN Module

| Facility | Severity | Contents |
|----------|----------|--|
| AUTH | NOTICE | LOGOUT User <user_id> logged out on <connection_type> (<ip-address>) |
| AUTH | NOTICE | LOGOUT User <user_id> logged out on <connection_type> |
| AUTH | NOTICE | LOGOUT <session_name> session of user <user_id> killed (<ip-address>) |
| AUTH | NOTICE | LOGOUT <session_name> session of user <user_id> killed |
| AUTH | NOTICE | LOGIN User <user_id> tried to login on <connection_type> (from <ip-address>) |
| AUTH | NOTICE | LOGIN User <user_id> logged in on <connection_type> (from <ip-address>) |
| AUTH | NOTICE | LOGIN User logged in on <connection_type> (<ip-address>) |
| AUTH | NOTICE | LOGIN User <user_id> tried to log in on <connection_type> |

Kernel Module

| Facility | Severity | Contents |
|----------|----------|--|
| KERN | WARNING | KERNEL cold reset |
| KERN | WARNING | KERNEL warm reset |
| KERN | EMERG | KERNEL Controlled restart (after internal error or explicit system reboot) |

Linestate Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL5 | NOTICE | xDSL linestate up (downstream: <bitrate_in> kbit/s, upstream: <bitrate_out> kbit/s) |
| LOCAL5 | NOTICE | xDSL linestate up (downstream: <bitrate_in> kbit/s, upstream: <bitrate_out> kbit/s; output Power Down: <outputPowerDn> dBm, Up: <outputPowerUp> dBm; line Attenuation Down: <lineAttenuationDn> dB, Up: <lineAttenuationUp> dB; snr Margin Down: <snrMarginDn> dB, Up: <snrMarginUp> dB)" |

NAPT Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL4 | INFO | NAPT Protocol: <TCP UDP ICMP> Open port: <port> Helper: <app_name> => <"failed" "ok"> |

PPP Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL0 | WARNING | PPP Link up (<intf name>) |
| LOCAL0 | WARNING | PPP Link down (<intf name>) |
| AUTH | ERROR | PPP PAP authentication failed (<intf name>) [protocol reject] |
| AUTH | INFO | PPP PAP on intf <intf_id> no response to authenticate-request |
| AUTH | NOTICE | PPP PAP remote user <remote_user_name> successful authenticated |
| AUTH | ERROR | PPP PAP authentication for remote user <remote_user> failed |
| AUTH | INFO | PPP PAP Authenticate Ack received |
| AUTH | INFO | PPP PAP Authenticate Nack received |
| AUTH | INFO | PPP PAP Authenticate Request sent |
| AUTH | ERROR | PPP PAP authentication failed (<intf name>) |
| AUTH | ERROR | PPP CHAP authentication failed (<intf name>) |
| AUTH | INFO | PPP CHAP authentication failed [protocol reject(server)] |
| AUTH | INFO | PPP CHAP authentication failed [protocol reject(client)] |
| AUTH | DEBUG | PPP CHAP Receive challenge (rhost = <hostname>) |
| AUTH | INFO | PPP CHAP Chap receive success : authentication ok |
| AUTH | DEBUG | PPP CHAP Challenge Send (Id = <challenge_id>) |
| AUTH | DEBUG | PPP CHAP Send status response: {ack nack} |
| LOCAL0 | ERROR | PPP IPCP cannot determine remote IP address (<intf name>) |
| LOCAL0 | ERROR | PPP IPCP cannot determine locale IP address (<intf name>) |

PPTP Module

| Facility | Severity | Contents |
|----------|----------|---------------------------------------|
| LOCAL0 | WARNING | PPTP tunnel (<Pbname>) up:<ip addr> |
| LOCAL0 | WARNING | PPTP tunnel (<Pbname>) down:<ip addr> |

RIP Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL1 | INFO | RIP Packet received from unknown interface |
| LOCAL1 | INFO | RIP Packet size is smaller than minimum size |
| LOCAL1 | INFO | RIP Packet size is greater than maximum size |
| LOCAL1 | INFO | RIP Wrong RIP packet alignment |
| LOCAL1 | INFO | RIP RIP version 0 with command <command-name> received |
| LOCAL1 | INFO | RIP Reserved field not zero in RIP header |
| LOCAL1 | INFO | RIP RIP is not enabled for network address <ip-address> |
| LOCAL1 | INFO | RIP Packet's v<version_nr> does not match to RIP v<version_nr> |
| LOCAL1 | INFO | RIP Packet's v<version_nr> does not match to RIP v<version_nr> on interface <intf-name> |
| LOCAL1 | INFO | RIP Packet v<version_nr> is dropped because authentication is disabled on interface <intf-name> |
| LOCAL1 | INFO | RIP Simple password authentication failed on interface<intf-name> |
| LOCAL1 | INFO | RIP No authentication in RIP packet |
| LOCAL1 | INFO | RIP Obsolete command <command-name> received |
| LOCAL1 | INFO | RIP Unknown RIP command received |
| LOCAL1 | INFO | RIP Response does not come from default RIP port |
| LOCAL1 | INFO | RIP Datagram doesn't come from a valid neighbor: <ip-address> |
| LOCAL1 | INFO | RIP Unsupported family from <ip-address> |
| LOCAL1 | INFO | RIP Network is net 127, class D or class E network |
| LOCAL1 | INFO | RIP Address <ip-address> is my own address, net 0 or not unicast |
| LOCAL1 | INFO | RIP RIPv1 packet with incorrect must be zero fields |
| LOCAL1 | INFO | RIP Route metric is not in the 1-16 range |
| LOCAL1 | INFO | RIP Nexthop address is not directly reachable <ip-address> |
| LOCAL1 | INFO | RIP RIPv2 address <ip-address> is not correct mask /<mask> applied |
| LOCAL1 | INFO | RIP Not configured for sending RIPv1 packet on interface <intf-name> |
| LOCAL1 | INFO | RIP RIP routing table is full |
| LOCAL1 | INFO | RIP Neighbor <ip-address> is not connected to direct network |
| LOCAL1 | INFO | RIP Interface <intf-name> has not any valid local IP address for sending RIPv2 packets |
| LOCAL1 | INFO | RIP Interface <intf-name> has not any valid %s address for sending RIPv<version_nr> packets |

| Facility | Severity | Contents |
|----------|----------|--|
| LOCAL1 | INFO | RIP IP Address <ip-address> not found in RIP table |

Routing Module

| Facility | Severity | Contents |
|----------|----------|---|
| LOCAL1 | INFO | GRP Default destination is routed via gateway <ip_address> |
| LOCAL1 | INFO | GRP Default destination is not routed anymore via gateway <ip_address> |
| SECURITY | INFO | LABEL Rule Id:<rule_id> Protocol: ICMP Src_ip: <ip_address> Dst_ip: <ip_address> ICMP message type: <message_type_name message_type_id > Label: <label_name> |
| SECURITY | INFO | LABEL Rule Id:<rule_id> Protocol: <protocol_name> Src_ip: <ip_address> Dst_ip: <ip_address> Label: <label_name> |

Session Module

| Facility | Severity | Contents |
|----------|----------|--|
| AUTH | NOTICE | SESSION TIMEOUT Timeout! (after <seconds> sec) |

SNTP Module

| Facility | Severity | Contents |
|----------|----------|--|
| NTP | WARNING | SNTP Unable to contact server: <SNTP server ip> |
| NTP | WARNING | SNTP Server not synchronized: <SNTP server ip> |
| NTP | WARNING | SNTP Invalid response from server: <SNTP server ip> |
| NTP | INFO | SNTP Synchronized to server: <SNTP server ip> |
| NTP | INFO | SNTP Synchronized again to server: <SNTP server ip> |
| NTP | WARNING | SNTP Roundtrip exceeds limits |
| NTP | ERROR | SNTP No server(s) configured, check configuration |
| NTP | ERROR | SNTP Systemtime update: time setting <systemtime> > new time setting: <new time> |

Software Module

| Facility | Severity | Contents |
|----------|----------|---|
| KERN | INFO | SOFTWARE File <Filename> <receive transmit> initiated |
| KERN | INFO | SOFTWARE File <Filename> <receive transmit><" " not> successful terminated" |

UPnP Module

| Facility | Severity | Contents |
|----------|----------|--|
| WARNING | SECURITY | UPnP<ActionName> refused for ip=<ip_address> |
| NOTICE | SECURITY | UPnP <ActionName> (<Error_string>) for ip=<ip_address> |
| NOTICE | SECURITY | UPnP action <ActionName> from ip=<ip_address> (<Error_string>) |

44 Supported Key Names

Contents

This chapter lists all the key names supported by the Thomson ST, that can be used for completing CLI command parameters:

| | |
|---|-----|
| Supported IP Protocols | 746 |
| Supported TCP/UDP Port Names | 747 |
| Supported ICMP Type Names | 750 |
| Supported Facilities | 751 |
| Supported Severities | 752 |
| IP Precedence | 752 |
| Differentiated Services Code Point (DSCP) | 753 |

Supported IP Protocols

For more information on the listed IP protocols, see RFC1340 or www.iana.org.

| Protocol name | Number | Description |
|---------------|--------|---|
| ah | 51 | Authentication Header (AH) |
| egp | 8 | Exterior Gateway Protocol (EGP) |
| esp | 50 | Encapsulating Security Payload (ESP) |
| ggp | 3 | Gateway Gateway Protocol (GGP) |
| gre | 47 | General Routing Encapsulation (GRE) |
| hmp | 20 | Host Monitoring Protocol (HMP) |
| icmp | 1 | Internet Control Message Protocol (ICMP) |
| igmp | 2 | Internet Group Management Protocol (IGMP) |
| pup | 12 | PUP Protocol |
| rdp | 27 | Reliable Data Protocol (RDP) |
| rsvp | 46 | Resource Reservation Protocol (RSVP) |
| tcp | 6 | Transmission Control Protocol (TCP) |
| udp | 17 | User Datagram Protocol (UDP) |
| vines | 83 | Vines |
| xns-idp | 22 | Xerox NS IDP |
| 6to4 | | |

Supported TCP/UDP Port Names

For more information on the listed TCP/UDP port assignments, see RFC1340 or www.iana.org.

| Port name | Number | TCP | UDP | Description |
|-----------|--------|-----|-----|--|
| echo | 7 | Y | Y | Echo |
| discard | 9 | Y | Y | Discard |
| systat | 11 | Y | Y | Active Users |
| daytime | 13 | Y | Y | Daytime |
| qotd | 17 | Y | Y | Quote of the Day |
| chargen | 19 | Y | Y | Character Generator |
| ftp-data | 20 | Y | Y | File Transfer (Default data) |
| ftp | 21 | Y | Y | File Transfer (Control) |
| telnet | 23 | Y | Y | Telnet |
| smtp | 25 | Y | Y | Simple Mail Transfer Protocol (SMTP) |
| time | 37 | Y | Y | Time |
| nicname | 43 | Y | Y | Who Is |
| dns | 53 | Y | Y | Domain Name System (DNS) |
| domain | 53 | Y | Y | Domain Name System (DNS) |
| sql*net | 66 | Y | Y | Oracle SQL*NET |
| bootps | 67 | Y | Y | Bootstrap Protocol Server |
| bootpc | 68 | Y | Y | Bootstrap Protocol Client |
| tftp | 69 | Y | Y | Trivial File Transfer Protocol (TFTP) |
| gopher | 70 | Y | Y | Gopher |
| finger | 79 | Y | Y | Finger |
| www-http | 80 | Y | Y | World Wide Web (WWW) HTTP |
| kerberos | 88 | Y | Y | Kerberos |
| rtelnet | 107 | Y | Y | Remote Telnet Service |
| pop2 | 109 | Y | Y | Post Office Protocol (POP) - Version 2 |
| pop3 | 110 | Y | Y | Post Office Protocol (POP) - Version 3 |
| sunrpc | 111 | Y | Y | SUN Remote Procedure Call |
| auth | 113 | Y | Y | Authentication Service |
| sqlserver | 118 | Y | Y | SQL Services |
| nnntp | 119 | Y | Y | Network News Transfer Protocol (NNTP) |
| ntp | 123 | Y | Y | Network Time Protocol (NTP) |

| Port name | Number | TCP | UDP | Description |
|-------------|--------|-----|-----|---|
| sntp | 123 | Y | Y | Simple Network Time Protocol (SNTP) |
| ingres-net | 134 | Y | Y | INGRES-NET Service |
| netbios-ns | 137 | Y | Y | NETBIOS Naming System |
| netbios-dgm | 138 | Y | Y | NETBIOS Datagram Service |
| netbios-ssn | 139 | Y | Y | NETBIOS Session Service |
| imap2 | 143 | Y | Y | Internet Message Access Protocol (IMAP) v2 |
| sql-net | 150 | Y | Y | SQL-NET |
| pcmail-srv | 158 | Y | Y | PCMail Server |
| snmp | 161 | Y | Y | Simple Network Management Protocol (SNMP) |
| snmptrap | 162 | Y | Y | SNMP Trap |
| bgp | 179 | Y | Y | Border Gateway Protocol (BGP) |
| irc-o | 194 | Y | Y | Internet Relay Chat (IRC) - o |
| at-rtmp | 201 | Y | Y | AppleTalk RouTing Maintenance Protocol (RTMP) |
| at-nbp | 202 | Y | Y | AppleTalk Name Binding Protocol (NBP) |
| at-echo | 204 | Y | Y | AppleTalk Echo |
| at-zis | 206 | Y | Y | AppleTalk Zone Information System (ZIS) |
| ipx | 213 | Y | Y | Novell |
| imap3 | 220 | Y | Y | Internet Message Access Protocol (IMAP) v3 |
| clearcase | 371 | Y | Y | ClearCase |
| ulistserv | 372 | Y | Y | UNIX Listserv |
| ldap | 389 | Y | Y | Lightweight Directory Access Protocol (LDAP) |
| netware-ip | 396 | Y | Y | Novell Netware over IP |
| snpp | 444 | Y | Y | Simple Network Paging Protocol (SNPP) |
| ike | 500 | Y | Y | ISAKMP |
| biff | 512 | - | Y | Used by mail system to notify users of new mail received |
| exec | 512 | Y | - | Remote process execution |
| login | 513 | Y | - | Remote login a la telnet |
| who | 513 | - | Y | Maintains data bases showing who's logged in to machines on a local net and the load average of the machine |
| syslog | 514 | - | Y | Syslog |
| printer | 515 | Y | Y | Spooler |
| talk | 517 | Y | Y | Like Tenex link, but across machine |

| Port name | Number | TCP | UDP | Description |
|-------------|--------|-----|-----|--|
| ntalk | 518 | Y | Y | NTalk |
| utime | 519 | Y | Y | UNIX Time |
| rip | 520 | - | Y | Local routing process (on site); uses variant of Xerox NS Routing Information Protocol (RIP) |
| timed | 525 | Y | Y | Timeserver |
| netwall | 533 | Y | Y | For emergency broadcasts |
| new-rwho | 540 | Y | Y | uucpd remote who is |
| uucp | 540 | Y | Y | uucpd |
| uucp-rlogin | 540 | Y | Y | uucpd remote login |
| rtsp | 554 | Y | Y | Real Time Streaming Protocol (RTSP) |
| whoami | 565 | Y | Y | whoami |
| ipcserver | 600 | Y | Y | SUN IPC Server |
| doom | 666 | Y | Y | Doom ID Software |
| ils | 1002 | Y | Y | Internet Locator Service (ILS) |
| h323 | 1720 | Y | Y | H323 Host Call Secure |
| nfsd | 2049 | Y | Y | NFS daemon |
| sip | 5060 | Y | Y | Session Initiation Protocol (SIP) |
| xwindows | 6000 | Y | Y | X windows |
| irc-u | 6667 | Y | Y | Internet Relay Chat (IRC) Protocol |
| realaudio | 7070 | Y | Y | realaudio |
| httpproxy | 8080 | Y | Y | HTTP Proxy |

Supported ICMP Type Names

For more information on the listed ICMP type names, see RFC1340 or www.iana.org.

| ICMP Type name | Number | Description |
|-------------------------|--------|-------------------------|
| echo-reply | 0 | Echo Reply |
| destination-unreachable | 3 | Destination Unreachable |
| source-quench | 4 | Source Quench |
| redirect | 5 | Redirect |
| echo-request | 8 | Echo |
| router-advertisement | 9 | Router Advertisement |
| router-solicitation | 10 | Router Solicitation |
| time-exceeded | 11 | Time Exceeded |
| parameter-problems | 12 | Parameter problems |
| timestamp-request | 13 | Timestamp |
| timestamp-reply | 14 | Timestamp Reply |
| information-request | 15 | Information Request |
| information-reply | 16 | Information Reply |
| address-mask-request | 17 | Address Mask Request |
| address-mask-reply | 18 | Address Mask Reply |

Supported Facilities

For more information on the listed facilities, see RFC3164.

| Facility Name | Hierarchy Code | Syslog facility (listed according descending importance) |
|--|--|--|
| kern | 0 | Kernel messages |
| user | 8 | User-level messages |
| mail | 16 | Mail system |
| daemon | 24 | System daemons |
| auth | 32 | Authorization messages |
| syslog | 40 | Syslog daemon messages |
| lpr | 48 | Line printer subsystem |
| news | 56 | Network news subsystem |
| uucp | 64 | UUCP subsystem |
| cron | 72 | Clock daemon |
| security | 80 | Security messages |
| ftp | 88 | FTP daemon |
| ntp | 96 | NTP subsystem |
| audit | 104 | Log audit |
| logalert | 112 | Log alert |
| clock | 120 | Clock daemon |
| local0 local1 local2 local3 local4 local5 local6 local7 | 128 136 144 152 160 168 176 184 | Local use messages |
| all | - | All facilities (Thomson ST specific facility parameter value.) |

Supported Severities

For more information on the listed severities, see RFC3164.

| Severity Name | Hierarchy Code | Syslog severity (listed according descending importance) |
|---------------|----------------|--|
| emerg | 0 | Emergency conditions, system unusable |
| alert | 1 | Alert conditions, immediate action is required |
| crit | 2 | Critical conditions |
| err | 3 | Error conditions |
| warning | 4 | Warning conditions |
| notice | 5 | Normal but significant conditions |
| info | 6 | Informational messages |
| debug | 7 | Debug-level messages |

IP Precedence

| Precedence | Number |
|----------------------|--------|
| Routine | 0 |
| Priority | 1 |
| Immediate | 2 |
| Flash | 3 |
| Flash-Override | 4 |
| CRITIC-ECP | 5 |
| Internetwork-Control | 6 |
| Network-Control | 7 |

Differentiated Services Code Point (DSCP)

For more information on DSCP, see RFC3260.

| PHB | PHB Name | Binary value |
|------|-----------------------|--------------|
| ef | Expedited Forwarding | 101110 |
| af41 | Assured Forwarding 41 | 100110 |
| af42 | Assured Forwarding 42 | 100100 |
| af43 | Assured Forwarding 43 | 100010 |
| af31 | Assured Forwarding 31 | 011110 |
| af32 | Assured Forwarding 32 | 011100 |
| af33 | Assured Forwarding 33 | 011010 |
| af21 | Assured Forwarding 21 | 010110 |
| af22 | Assured Forwarding 22 | 010110 |
| af23 | Assured Forwarding 23 | 010010 |
| af11 | Assured Forwarding 11 | 001110 |
| af12 | Assured Forwarding 12 | 001100 |
| af13 | Assured Forwarding 13 | 001010 |
| cs7 | Class Selector 7 | 111000 |
| cs6 | Class Selector 6 | 110000 |
| cs5 | Class Selector 5 | 101000 |
| cs4 | Class Selector 4 | 100000 |
| cs3 | Class Selector 3 | 011000 |
| cs2 | Class Selector 2 | 010000 |
| cs1 | Class Selector 1 | 001000 |
| cs0 | Class Selector 0 | 000000 |

A

- aal5stats
 - atm debug aal5stats 41
- actlist
 - eth bridge dynvlan actlist 265
- add
 - atm bundle add 27
 - atm oam vclb add 52
 - atm phonebook add 55
 - atm qosbook add 60
 - dhcp client roptions add 122
 - dhcp client txoptions add 126
 - dhcp relay add 130
 - dhcp rule add 143
 - dhcp server lease add 155
 - dhcp server pool add 168
 - dns server host add 199
 - dns server route add 203
 - dsd urlfilter rule add 220
 - dyndns add 228
 - dyndns host add 234
 - eth bridge add 261
 - eth bridge dynvlan add 266
 - eth bridge rule add 293
 - eth switch share add 310
 - eth vlan add 323
 - expr add 328
 - firewall chain add 349
 - firewall level add 358
 - firewall rule add 364
 - hostmgr add 388
 - label add 488
 - label chain add 495
 - label rule add 499
 - mlp privilege add 549
 - mlp role add 558
 - script add 620
 - service host add 630
 - service host rule add 637
 - snmp community add 654
 - sntp add 666
 - upgrade profile add 706
 - user add 722
- addpriv
 - mlp role addpriv 560
- addzone
 - mlp privilege addzone 551
- adsl
 - config 8
 - info 9
- appconfig
 - connection appconfig 82
- appinfo
 - connection appinfo 84
- applist
 - connection applist 85
- arpadd
 - ip arpadd 433
- arpdelete
 - ip arpdelete 434
- arplist
 - ip arplist 435
- assign
 - service host assign 628
- atm
 - bundle
 - add 27
 - attach 28
 - clear 30
 - config 29
 - delete 31
 - detach 32
 - flush 33
 - ifadd 34
 - ifconfig 35
 - ifdelete 36
 - list 37
 - cac
 - config 38
 - list 39
 - overbooking 40
 - debug
 - aal5stats 41
 - gstats 42
 - portstats 43
 - flush 19
 - ifadd 20
 - ifattach 21
 - ifconfig 22
 - ifdelete 24
 - ifdetach 25
 - iflist 26
 - oam
 - cc
 - list 49
 - modify 50
 - send 51
 - config 44
 - list 45
 - modify 46
 - ping 48
 - vclb
 - add 52
 - del 53
 - list 54
 - phonebook

- add 55
- autolist 56
- delete 57
- flush 58
- list 59
- qosbook
 - add 60
 - config 61
 - ctdadd 62
 - ctddelete 64
 - ctdlist 65
 - delete 66
 - flush 67
 - list 68
- attach
 - atm bundle attach 28
- autolist
 - atm phonebook autolist 56
- autopvc
 - config 70
 - info 72
- autosave
 - system debug autosave 685

B

- bind
 - connection bind 86
- bindlist
 - connection bindlist 87

C

- capture
 - eth switch mirror capture 307
- clean
 - connection clean 88
- clear
 - atm bundle clear 30
 - connection clear 89
 - dhcp client debug clear 119
 - dhcp server debug clear 151
 - dns server debug clear 192
 - dns server debug spoof clear 194
 - eth bridge clear 259
 - eth bridge igmpsnooping clear 284

- firewall debug clear 355
- firewall rule debug clear 370
- hostmgr clear 390
- ids clear 396
- ids pattern clear 401
- ids threshold clear 406
- igmp host debug clear 415
- igmp proxy debug clear 424
- ipqos queue clear 481
- label rule debug clear 508
- config
 - adsl config 8
 - atm bundle config 29
 - atm cac config 38
 - atm oam config 44
 - atm qosbook config 61
 - autopvc config 70
 - connection config 90
 - cwmp config 102
 - cwmp server config 104
 - delete 74
 - dhcp relay config 133
 - dhcp server config 148
 - dhcp server pool config 170
 - dns client config 184
 - dns server config 190
 - dsd config 210
 - dsd intercept config 216
 - dsd syslog config 217
 - dsd urlfilter config 219
 - dump 75
 - eth bridge config 264
 - eth bridge dynvlan config 267
 - eth bridge igmpsnooping config 280
 - eth switch qos config 314
 - eth switch qos weights 317
 - eth switch shaper config 318
 - firewall config 344
 - flush 76
 - grp config 376
 - grp rip config 379
 - hostmgr config 391
 - ids config 397
 - ids parser config 399
 - igmp host config 410
 - igmp proxy config 417
 - ip config 436
 - ipqos config 474
 - ipqos ef config 478
 - ipqos queue config 482
 - language config 514
 - list 77
 - load 78
 - mbus client config 518
 - mlp privilege config 552
 - mlp role config 561
 - nat config 566
 - save 80

- service host config 629
- snmp config 650
- sntp config 667
- system config 676
- system ra config 687
- upgrade
 - config 702
- upnp config 718
- user config 724
- connection
 - appconfig 82
 - appinfo 84
 - applist 85
 - bind 86
 - bindlist 87
 - clean 88
 - clear 89
 - config 90
 - debug 91
 - describe 92
 - flush 93
 - info 94
 - list 95
 - refresh 96
 - stats 97
 - timerclear 98
 - timerconfig 99
 - unbind 100
- ctdadd
 - atm qosbook ctdadd 62
- ctddelete
 - atm qosbook ctddelete 64
- ctdlist
 - atm qosbook ctdlist 65
- cwmp
 - config 102
 - server
 - config 104

D

- debug
 - connection debug 91
 - exec 106
- del
 - atm oam vclb del 53
- delete
 - atm bundle delete 31
 - atm phonebook delete 57
 - atm qosbook delete 66

- config delete 74
- dhcp client roptions delete 123
- dhcp client txoptions delete 127
- dhcp relay delete 134
- dhcp rule delete 145
- dhcp server lease delete 157
- dhcp server pool delete 172
- dns server host delete 200
- dns server route delete 205
- dsd urlfilter rule delete 221
- dyndns delete 229
- dyndns host delete 235
- eth bridge delete 262
- eth bridge dynvlan delete 268
- eth bridge rule delete 294
- eth switch share delete 311
- eth vlan delete 324
- expr delete 332
- firewall chain delete 351
- firewall level delete 359
- firewall rule delete 365
- hostmgr delete 392
- label chain delete 496
- label delete 489
- label rule delete 502
- language delete 515
- mlp privilege delete 553
- mlp role delete 562
- script delete 621
- service host delete 631
- service host rule delete 638
- snmp community delete 655
- sntp delete 668
- upgrade profile delete 708
- user delete 726
- describe
 - connection describe 92
- detach
 - atm bundle detach 32
- dhcp
 - client
 - debug
 - clear 119
 - stats 120
 - traceconfig 121
 - flush 109
 - ifadd 110
 - ifattach 111
 - ifconfig 112
 - ifdelete 113
 - ifdetach 114
 - iflist 115
 - ifrenew 117
 - roptions
 - add 122
 - delete 123
 - list 124

- optionlist 125
 - txoptions
 - add 126
 - delete 127
 - list 128
- relay
 - add 130
 - config 133
 - debug
 - stats 131
 - traceconfig 132
 - delete 134
 - flush 135
 - ifconfig 136
 - iflist 138
 - list 139
 - modify 140
 - ruleadd 141
 - ruledelete 142
- rule
 - add 143
 - debug
 - traceconfig 144
 - delete 145
 - flush 146
 - list 147
- server
 - config 148
 - debug
 - clear 151
 - stats 152
 - traceconfig 154
 - flush 149
 - lease
 - add 155
 - delete 157
 - flush 158
 - list 159
 - option
 - flush 160
 - instadd 161
 - instdelete 163
 - instlist 164
 - tmpladd 165
 - tmpldelete 166
 - tmplist 167
 - policy 150
 - pool
 - add 168
 - config 170
 - delete 172
 - flush 173
 - list 174
 - optadd 175
 - optdelete 176
 - rtadd 178
 - rtdelete 179
 - ruleadd 180
 - ruledelete 181
- disable
 - service host disable 632
- dns
 - client
 - config 184
 - dnsadd 185
 - dnsdelete 186
 - dnslist 187
 - flush 188
 - nslookup 189
 - server
 - config 190
 - debug
 - clear 192
 - spoofer
 - clear 194
 - getaddress 195
 - getflags 196
 - list 197
 - update 198
 - stats 193
 - flush 191
 - host
 - add 199
 - delete 200
 - flush 201
 - list 202
 - route
 - add 203
 - delete 205
 - flush 206
 - list 207
- dnsadd
 - dns client dnsadd 185
- dnsdelete
 - dns client dnsdelete 186
- dnslist
 - dns client dnslist 187
- dsd
 - config 210
 - debug
 - connection
 - list 212
 - proxy 213
 - recycling 214
 - stats 215
 - intercept
 - config 216
 - syslog
 - config 217
 - list 218
 - urlfilter
 - config 219
 - rule
 - add 220

- delete 221
 - flush 222
 - list 223
 - modify 224
- dump
- config dump 75
- dyndns
- add 228
 - delete 229
 - flush 230
 - host
 - add 234
 - delete 235
 - flush 236
 - list 237
 - list 231
 - modify 232
 - service
 - list 238
 - modify 240
- ## E
- egress
- eth switch mirror egress 308
- env
- flush 244
 - get 245
 - list 246
 - set 247
 - unset 248
- eth
- bridge
 - add 261
 - clear 259
 - config 264
 - delete 262
 - dynvlan
 - actlist 265
 - add 266
 - config 267
 - delete 268
 - flush 269
 - list 270
 - flush 271
 - ifadd 272
 - ifattach 273
 - ifconfig 274
 - ifdelete 276
 - ifdetach 277
 - ifflush 279
 - iflist 278
 - igmpsnooping
 - clear 284
 - config 280
 - ifconfig 282
 - iflist 283
 - list 281
 - list 260
 - macadd 285
 - macdelete 287
 - maclist 289
 - mcdadd 290
 - mcdelete 291
 - mcdlist 292
 - rule
 - add 293
 - delete 294
 - flush 295
 - list 296
 - select 263
 - vlan
 - ifadd 297
 - ifconfig 298
 - ifdelete 299
 - iflist 300
- device
- ifconfig 301
 - iflist 303
- flush 258
- ifadd 252
- ifattach 253
- ifconfig 254
- ifdelete 255
- ifdetach 256
- iflist 257
- switch
- group
 - flush 304
 - list 305
 - move 306
 - info 313
 - mirror
 - capture 307
 - egress 308
 - ingress 309
 - qos
 - config 314
 - ifconfig 315
 - list 316
 - weights 317
 - shaper
 - config 318
 - ifconfig 319
 - iflist 320
 - share
 - add 310
 - delete 311
 - list 312
 - storm
 - ifconfig 321

- iflist 322
- vlan
 - add 323
 - delete 324
 - flush 325
 - list 326
- exec
 - debug exec 106
 - mbus client exec 519
- export
 - mlp debug export 546
- expr
 - add 328
 - delete 332
 - flush 334
 - list 335
 - modify 339

F

- firewall
 - chain
 - add 349
 - delete 351
 - flush 353
 - list 354
 - config 344
 - debug
 - clear 355
 - stats 356
 - traceconfig 357
 - flush 346
 - level
 - add 358
 - delete 359
 - flush 360
 - list 361
 - modify 362
 - set 363
 - list 347
 - rule
 - add 364
 - debug
 - clear 370
 - stats 372
 - traceconfig 374
 - delete 365
 - flush 366
 - list 367
 - modify 369

- flush
 - atm bundle flush 33
 - atm flush 19
 - atm phonebook flush 58
 - atm qosbook flush 67
 - config flush 76
 - connection flush 93
 - dhcp client flush 109
 - dhcp relay flush 135
 - dhcp rule flush 146
 - dhcp server flush 149
 - dhcp server lease flush 158
 - dhcp server option flush 160
 - dhcp server pool flush 173
 - dns client flush 188
 - dns server flush 191
 - dns server host flush 201
 - dns server route flush 206
 - dsd urlfilter rule flush 222
 - dyndns flush 230
 - dyndns host flush 236
 - env flush 244
 - eth bridge dynvlan flush 269
 - eth bridge flush 271
 - eth bridge rule flush 295
 - eth flush 258
 - eth switch group flush 304
 - eth vlan flush 325
 - expr flush 334
 - firewall chain flush 353
 - firewall flush 346
 - firewall level flush 360
 - firewall rule flush 366
 - grp flush 377
 - grp rip flush 382
 - hostmgr flush 393
 - igmp host flush 411
 - igmp proxy flush 419
 - ip auto flush 459
 - ip flush 438
 - ip mcast flush 454
 - label chain flush 497
 - label flush 490
 - label rule flush 504
 - mlp flush 544
 - nat flush 567
 - ppp flush 584
 - ppp relay flush 604
 - pptp flush 613
 - script flush 622
 - service host flush 633
 - sntp flush 669
 - system flush 678
 - systemlog flush 692
 - upnp flush 719
 - user flush 727

G

get
 env get 245
 snmp get 651
 snmp getnext 652

getaddress
 dns server debug spoof getaddress 195

getflags
 dns server debug spoof getflags 196

grouplist
 igmp proxy grouplist 420

grp
 config 376
 flush 377
 rip
 config 379
 flush 382
 ifconfig 383
 show 385
 rtlist 378

gstats
 atm debug gstats 42

H

hostmgr
 add 388
 clear 390
 config 391
 delete 392
 flush 393
 list 394

httpprobe
 ip debug httpprobe 467

I

ids
 clear 396
 config 397
 list 398
 parser
 config 399
 pattern
 clear 401

 list 402
 stats 403

signature
 list 404
 modify 405

threshold
 clear 406
 list 407
 modify 408

ifadd
 atm bundle ifadd 34
 atm ifadd 20
 dhcp client ifadd 110
 eth bridge ifadd 272
 eth bridge vlan ifadd 297
 eth ifadd 252
 ip auto ifadd 460
 ip ifadd 439
 ppp ifadd 585
 ppp relay ifadd 605
 pptp ifadd 612
 service system ifadd 639
 snmp ifadd 658

ifattach
 atm ifattach 21
 dhcp client ifattach 111
 eth bridge ifattach 273
 eth ifattach 253
 ip auto ifattach 461
 ip ifattach 440
 ppp ifattach 587
 snmp ifattach 660

ifconfig
 atm bundle ifconfig 35
 atm ifconfig 22
 dhcp client ifconfig 112
 dhcp relay ifconfig 136
 eth bridge ifconfig 274
 eth bridge igmpsnooping ifconfig 282
 eth bridge vlan ifconfig 298
 eth device ifconfig 301
 eth ifconfig 254
 eth switch qos ifconfig 315
 eth switch shaper ifconfig 319
 eth switch storm ifconfig 321
 grp rip ifconfig 383
 igmp host ifconfig 413
 igmp proxy ifconfig 421
 ip auto ifconfig 462
 ip ifconfig 441
 nat ifconfig 568
 ppp ifconfig 589
 ppp relay ifconfig 606
 snmp ifconfig 662

ifdelete
 atm bundle ifdelete 36

- atm ifdelete 24
- dhcp client ifdelete 113
- eth bridge ifdelete 276
- eth bridge vlan ifdelete 299
- eth ifdelete 255
- ip auto ifdelete 464
- ip ifdelete 443
- ppp ifdelete 594
- ppp relay ifdelete 607
- service system ifdelete 640
- snmp ifdelete 659
- ifdetach
 - atm ifdetach 25
 - dhcp client ifdetach 114
 - eth bridge ifdetach 277
 - eth ifdetach 256
 - ip auto ifdetach 465
 - ip ifdetach 444
 - ppp ifdetach 596
 - snmp ifdetach 661
- ifflush
 - eth bridge ifflush 279
- iflist
 - atm iflist 26
 - dhcp client iflist 115
 - dhcp relay iflist 138
 - eth bridge iflist 278
 - eth bridge igmpsnooping iflist 283
 - eth bridge vlan iflist 300
 - eth device iflist 303
 - eth iflist 257
 - eth switch shaper iflist 320
 - eth switch storm iflist 322
 - igmp host iflist 414
 - igmp proxy iflist 422
 - ip auto iflist 466
 - ip iflist 445
 - nat iflist 569
 - ppp iflist 598
 - ppp relay iflist 608
 - snmp iflist 663
- ifrenew
 - dhcp client ifrenew 117
- ifscan
 - ppp ifscan 599
- ifwait
 - ip ifwait 446
- igmp
 - host
 - config 410
 - debug
 - clear 415
 - stats 416
 - flush 411
 - ifconfig 413
 - iflist 414
 - list 412
 - proxy
 - config 417
 - debug
 - clear 424
 - flush 419
 - grouplist 420
 - ifconfig 421
 - iflist 422
 - mbslist 423
- import
 - mlp import 545
- info
 - adsl info 9
 - autopvc info 72
 - connection info 94
 - eth switch info 313
- ingress
 - eth switch mirror ingress 309
- instadd
 - dhcp server option instadd 161
- instdelete
 - dhcp server option instdelete 163
- instlist
 - dhcp server option instlist 164
- interface
 - list 428
- ip
 - arpadd 433
 - arpdelete 434
 - arplist 435
 - auto
 - flush 459
 - ifadd 460
 - ifattach 461
 - ifconfig 462
 - ifdelete 464
 - ifdetach 465
 - iflist 466
 - config 436
 - debug
 - httpprobe 467
 - sendto 468
 - stats 470
 - traceconfig 471
 - flush 438
 - ifadd 439
 - ifattach 440
 - ifconfig 441
 - ifdelete 443
 - ifdetach 444

- iflist 445
- ifwait 446
- ipadd 447
- ipconfig 448
- ipdelete 449
- iplist 450
- mcast
 - flush 454
 - rtadd 451
 - rtdelete 452
 - rtlist 453
- rtadd 455
- rtdelete 457
- rtlist 458

ipadd

- ip ipadd 447
- service system ipadd 641

ipconfig

- ip ipconfig 448

ipdelete

- ip ipdelete 449
- service system ipdelete 642

iplist

- ip iplist 450

ipqos

- config 474
- ef
 - config 478
 - list 479
 - stats 480
- list 477
- queue
 - clear 481
 - config 482
 - list 484
 - stats 485

K

Key names

- DSCP 753
- ICMP type 750
- IP precedence 752
- IP protocols 746
- Syslog facilities 751
- Syslog severities 752
- TCP/UDP port 747

L

label

- add 488
- chain
 - add 495
 - delete 496
 - flush 497
 - list 498
- delete 489
- flush 490
- list 491
- modify 492
- rule
 - add 499
 - debug
 - clear 508
 - stats 510
 - traceconfig 511
 - delete 502
 - flush 504
 - list 505
 - modify 507

language

- config 514
- delete 515
- list 516

list

- atm bundle list 37
- atm cac list 39
- atm oam cc config 49
- atm oam list 45
- atm oam vclb list 54
- atm phonebook list 59
- atm qosbook list 68
- config list 77
- connection list 95
- dhcp client roptions list 124
- dhcp client txoptions list 128
- dhcp relay list 139
- dhcp rule list 147
- dhcp server lease list 159
- dhcp server pool list 174
- dns server debug spoof list 197
- dns server host list 202
- dns server route list 207
- dsd syslog list 218
- dsd urlfilter rule list 223
- dyndns host list 237
- dyndns list 231
- dyndns service list 238
- env list 246
- eth bridge dynvlan list 270
- eth bridge igmpsnooping list 281
- eth bridge list 260
- eth bridge rule list 296
- eth switch group list 305

- eth switch qos list 316
 - eth switch share list 312
 - eth vlan list 326
 - expr list 335
 - firewall chain list 354
 - firewall level list 361
 - firewall list 347
 - firewall rule list 367
 - hostmgr list 394
 - ids list 398
 - ids pattern list 402
 - ids signature list 404
 - ids threshold list 407
 - igmp host list 412
 - interface list 428
 - ipqos ef list 479
 - ipqos list 477
 - ipqos queue list 484
 - label chain list 498
 - label list 491
 - label rule list 505
 - language list 516
 - mlp privilege list 555
 - mlp role list 563
 - pptp list 614
 - script list 623
 - service host list 634
 - service system list 643
 - snmp community list 656
 - sntp list 670
 - upnp list 720
 - user list 728
- list dsd debug connection list 212
 - listobjects
 - mbus listobjects 525
 - memm listobjects 540
 - listtypes
 - mbus listtypes 526
 - load
 - config load 78
 - loadobjects
 - mbus loadobjects 530
 - locale
 - system locale 679
- ## M
- macadd
 - eth bridge macadd 285
 - macdelete
 - eth bridge macdelete 287
 - maclist
 - eth bridge maclist 289
 - mapadd
 - nat mapadd 570
 - service system mapadd 645
 - mapdelete
 - nat mapdelete 574
 - service system mapdelete 646
 - maplist
 - nat maplist 575
 - mbslist
 - igmp proxy mbslist 423
 - mbus
 - client
 - config 518
 - exec 519
 - register 521
 - debug
 - stats 522
 - traceconfig 524
 - listobjects 525
 - listtypes 526
 - loadobjects 530
 - unloadobjects 531
 - mcdadd
 - eth bridge mcdadd 290
 - mcddelete
 - eth bridge mcddelete 291
 - mcdlist
 - eth bridge mcdlist 292
 - memm
 - debug
 - lock
 - traceconfig 536
 - traceconfig 537
 - listobjects 540
 - stats 541
 - mlp
 - debug
 - export 546
 - stats 547
 - traceconfig 548
 - flush 544
 - import 545
 - privilege
 - add 549
 - addzone 551
 - config 552
 - delete 553

- list 555
- removezone 557
- role
 - add 558
 - addpriv 560
 - config 561
 - delete 562
 - list 563
 - removepriv 564
- modify
 - atm oam cc modify 50
 - atm oam modify 46
 - dhcp relay modify 140
 - dsd urlfilter rule modify 224
 - dyndns modify 232
 - dyndns service modify 240
 - expr modify 339
 - firewall level modify 362
 - firewall rule modify 369
 - ids signature modify 405
 - ids threshold modify 408
 - label modify 492
 - label rule modify 507
 - service system modify 647
 - snmp community modify 657
 - upgrade profile modify 707

- move
 - eth switch group move 306

N

- nat
 - config 566
 - flush 567
 - ifconfig 568
 - iflist 569
 - mapadd 570
 - mapdelete 574
 - maplist 575
 - tmpladd 576
 - tmpldelete 580
 - tmplinst 582
 - tmplist 581
- nslookup
 - dns client nslookup 189

O

- optadd
 - dhcp server pool optadd 175
- optdelete
 - dhcp server pool optdelete 176
- optionlist
 - dhcp client roptions optionlist 125
- overbooking
 - atm cac overbooking 40

P

- ping
 - atm oam ping 48
- ping root command 4
- policy
 - dhcp server policy 150
- portstats
 - atm debug portstats 43
- ppp
 - flush 584
 - ifadd 585
 - ifattach 587
 - ifconfig 589
 - ifdelete 594
 - ifdetach 596
 - iflist 598
 - ifscan 599
 - relay
 - flush 604
 - ifadd 605
 - ifconfig 606
 - ifdelete 607
 - iflist 608
 - sesslist 609
 - rtadd 600
 - rtdelete 602
- pptp
 - flush 613
 - ifadd 612
 - list 614
 - profadd 615
 - profdelete 617
 - proflist 618
- profadd
 - pptp profadd 615

profdelete
 pptp profdelete 617
 proflist
 pptp proflist 618
 proxy
 dsd debug proxy 213

R

reboot
 system reboot 681
 recycling
 dsd debug recycling 214
 refresh
 connection refresh 96
 register
 mbus client register 521
 removepriv
 mlp role removepriv 564
 removezone
 mlp privilege removezone 557
 reset
 system reset 682
 rights
 user rights 730
 root commands
 ping 4
 traceroute 5
 rtadd
 dhcp server pool rtadd 178
 ip mcast rtadd 451
 ip rtadd 455
 ppp rtadd 600
 rtdelete
 dhcp server pool rtdelete 179
 ip mcast rtdelete 452
 ip rtdelete 457
 ppp rtdelete 602
 rtlist
 grp rtlist 378
 ip mcast rtlist 453
 ip rtlist 458
 ruleadd
 dhcp relay ruleadd 141
 dhcp server pool ruleadd 180

ruledelete
 dhcp relay ruledelete 142
 dhcp server pool ruledelete 181
 run
 script run 625

S

save
 config save 80
 script
 add 620
 delete 621
 flush 622
 list 623
 run 625
 select
 eth bridge select 263
 send
 atm oam cc send 51
 systemlog send 695
 sendto
 ip debug sendto 468
 service
 host
 add 630
 assign 628
 config 629
 delete 631
 disable 632
 flush 633
 list 634
 rule
 add 637
 delete 638
 stats 635
 triggerlist 636
 system
 ifadd 639
 ifdelete 640
 ipadd 641
 ipdelete 642
 list 643
 mapadd 645
 mapdelete 646
 modify 647
 sesslist
 ppp relay sesslist 609
 upgrade debug sesslist 705

- set
 - env set 247
 - firewall level set 363
 - settime
 - system rtc settime 689
 - show
 - grp rip show 385
 - systemlog show 693
 - snmp
 - community
 - add 654
 - delete 655
 - list 656
 - modify 657
 - config 650
 - get 651
 - getnext 652
 - ifadd 658
 - ifattach 660
 - ifconfig 662
 - ifdelete 659
 - ifdetach 661
 - iflist 663
 - walk 653
 - sntp
 - add 666
 - config 667
 - delete 668
 - flush 669
 - list 670
 - software
 - upgrade 672
 - version 673
 - start
 - upgrade start 703
 - stats
 - connection stats 97
 - dhcp client debug stats 120
 - dhcp relay debug stats 131
 - dhcp server debug stats 152
 - dns server debug stats 193
 - dsd debug stats 215
 - firewall debug stats 356
 - firewall rule debug stats 372
 - ids pattern stats 403
 - igmp host debug stats 416
 - ip debug stats 470
 - ipqos ef stats 480
 - ipqos queue stats 485
 - label rule debug stats 510
 - mbus debug stats 522
 - memm stats 541
 - mlp debug stats 547
 - service host stats 635
 - system debug stats 686
 - synchronize
 - system rtc synchronize 688
 - Syslog messages
 - Auto-PVC 736
 - Configuration 736
 - DHCP client 736
 - DHCP relay 737
 - DHCP server 737
 - Dyndns 738
 - Firewall 738
 - Kernel 739
 - Linestate 739
 - LOGIN 739
 - NAPT 739
 - PPP 740
 - PPTP 740
 - RIP 741
 - Routing 742
 - Session 742
 - SNTP 742
 - Software 743
 - UPnP 743
 - system
 - config 676
 - debug
 - autosave 685
 - stats 686
 - flush 678
 - locale 679
 - ra
 - config 687
 - reboot 681
 - reset 682
 - rtc
 - settime 689
 - synchronize 688
 - systemlog
 - flush 692
 - send 695
 - show 693
- ## T
- timerclear
 - connection timerclear 98
 - timerconfig
 - connection timerconfig 99
 - tpladd
 - dhcp server option tpladd 165

- nat tmlpadd 576
- tmpldelete
 - dhcp server option tmpldelete 166
 - nat tmpldelete 580
- tmplinst
 - nat tmplinst 582
- tmpllist
 - dhcp server option tmpllist 167
 - nat tmpllist 581
- traceconfig
 - dhcp client debug traceconfig 121
 - dhcp relay debug traceconfig 132
 - dhcp rule debug traceconfig 144
 - dhcp server debug traceconfig 154
 - firewall debug traceconfig 357
 - firewall rule debug traceconfig 374
 - ip debug traceconfig 471
 - label rule debug traceconfig 511
 - mbus debug traceconfig 524
 - memm debug lock traceconfig 536
 - memm debug traceconfig 537
 - mlp debug traceconfig 548
 - upgrade debug traceconfig 704
- traceroute
 - traceroute root command 5
- triggerlist
 - service host triggerlist 636

U

- unbind
 - connection unbind 100
- unloadobjects
 - mbus unloadobjects 531
- unset
 - env unset 248

- update
 - dns server debug spoof update 198
- upgrade
 - config 702
 - debug
 - sesslist 705
 - traceconfig 704
 - profile
 - add 706
 - delete 708
 - modify 707
 - software upgrade 672
 - start 703
- upnp
 - config 718
 - flush 719
 - list 720
- user
 - add 722
 - config 724
 - delete 726
 - flush 727
 - list 728
 - rights 730

V

- version
 - software version 673

W

- walk
 - snmp walk 653



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