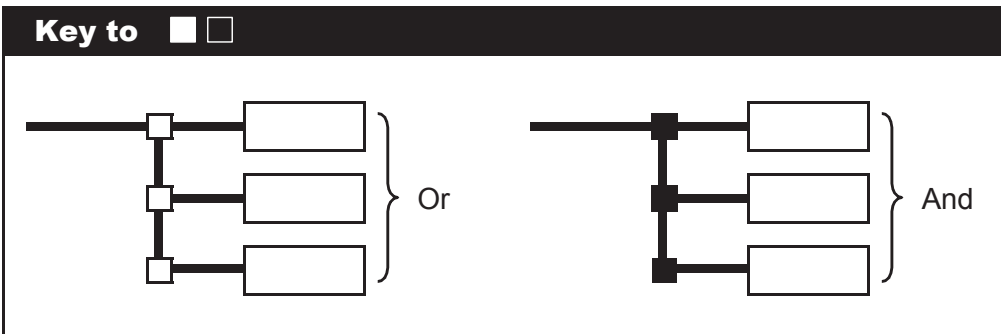


PRIMERGY®

PRIMERGY N800 Datacenter Server System Configuration Guide (Ver.2) (Jul / 2001)

PRIMERGY N800	2
Configuration of Clustering	8
Rackmount	9

Index	
The numbers on the left hand side of each page correspond to the various options available with PRIMERGY as follows	
1	CPU slot
2	RAM module slot
3	3.5 inch HDD Bay
4	5 inch Bay
5	RS-232C
6	PCI slot
7	ISA slot
8	Redundant PSU
9	Others



NOTES

PRIMERGY N800 (Windows®2000 Datacenter Server)

Features of Windows2000 Datacenter Server

The technical features of Windows2000 Datacenter Server include:

- Support for up to 64GB of real main memory
- 4nodes clustering
- Load distribution services (NLB Network Load Balancing Service)
- Efficient communication between systems (WSDP Windows Socket Direct Path)
- Process control
- Support for up to 32way SMP (Symmetric Multi Processing) systems

The table below shows a comparison of Windows2000 Server products:

Function	Windows2000 Server	Windows2000 Advanced Server	Windows2000 Datacenter Server
Processor limit	4	8	32
Memory extension	4GB	8GB	64GB
Network Load Balancing	No	Yes	Yes
Server Clustering	No	Yes (Max. 2nodes)	Yes (Max. 4nodes)
Job Object	Job Object API	Job Object API	Process Control Tool
Winsock Direct	No	No	Yes

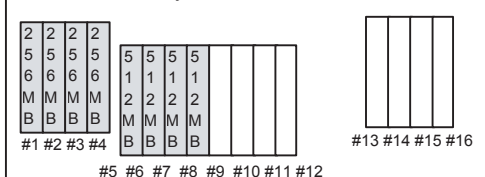
Specification of PRIMERGY N800

Type	Rackmount	
Product ID	PGTN8BHRD2	PGTN8BGRD2
CPU	Processor	Pentium® III Xeon™
	Frequency	700MHz
	Secondary cache	2MB
	Number of CPUs	2 (up to 8)
Memory available with	Standard	1GB (256MB x 4)
	Maximum	32GB (1GB x 32)
Internal Bays 5-inch		Two (one occupied by DVD-ROM)
	CD-ROM/DVD-ROM	8/24X DVD-ROM (IDE)
	HDD bay	1inch x4/Hotplug
	Available HDD	9.1GB(10000rpm)/18.2GB(10000/15000rpm)/36.4GB(10000rpm)
	Maximum	145.6GB (36.4GB x 4)
Expansion slot	PCI64bit 66MHz x4, PCI64bit 33MHz x 6	
SCSI Interface	Internal: Ultra2 Wide SCSI x 1, External: Ultra2 Wide SCSI x 1	
RAID controller	2 x Ultra160 (occupying one 64bit/33MHz PCI slot)	
Network	LAN(10/100 base TX) x 1 (occupying one 64bit/33MHz PCI slot)	
Dimension (mm)	445(W)x712(D)x312(H) Rackmount7U	
Weight	60kg (max.)	
Power consumption	710W (max.)	
Power supply	Three standard units (the third unit is for redundant)	
Operating System	Windows2000® Datacenter Server Operating System is bundled	

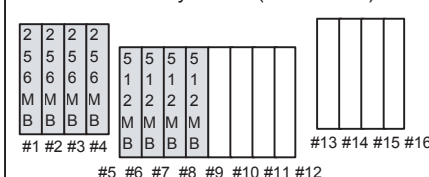
Mounting Additional Memory

A memory board with 16slots is standard equipment and up to 16GB memory can be mounted. When you add more than 16GB, an additional Memory Board (PG-RB103/PGBRB103) is required. When using two memory boards in N800, the same memory size must be mounted on each board.

Standard Memory Board



Additional Memory Board (PG-RB103)



● PCI resource area

A part of address area as below is assigned for PCI resource, cannot be used.

Operating System	Mounted Memory Size	The area for PCI resource
Windows®2000 Datacenter Server [Maximum Memory Size:32GB*]	~3.8GB	No area for PCI resource
	3.8GB ~4.0GB	3.8GB ~4.0GB
	4.0GB ~32.0GB	3.8GB ~4.0GB

*Up to 32GB Memory can be mounted in one N800.

NOTES

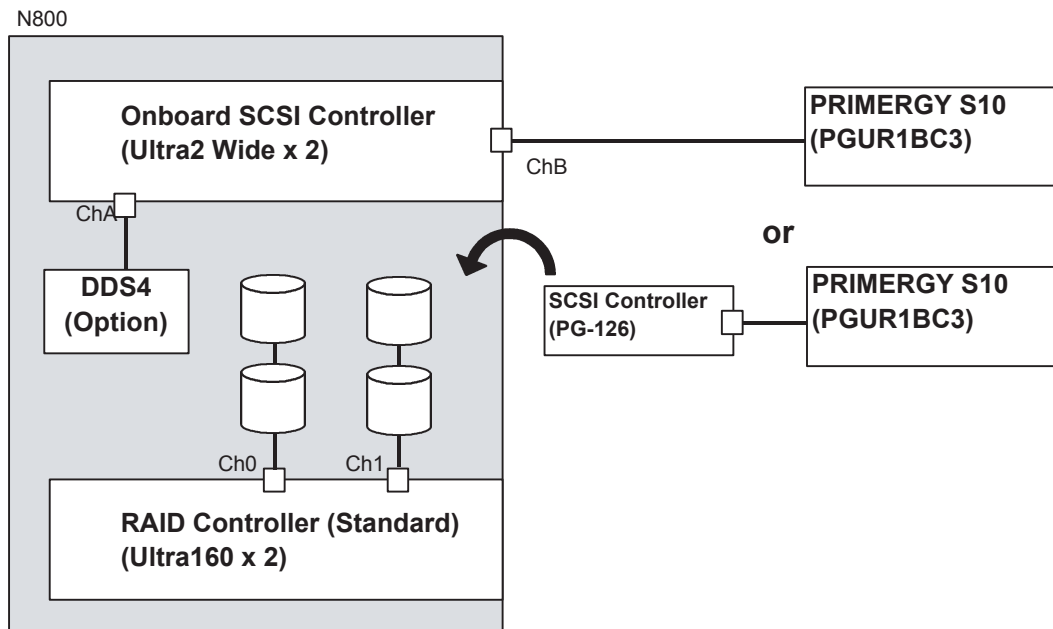
● Install Operating System

- Boot disk can be an external disk. In this case, the disk must be connected to PG-142B RAID Controller.
- Basically, installation should be done by "**Installation and Startup Service**". So please contact with your local sales representative.

Mounting devices

- In N800, there are four internal HDD bays (2bays/1ch x 2)
- N800 has one internal 5" bay in chassis for DDS4 (In case of SCSI connection, the DDS4 is available for daisy-chain connection with HDD)
- PRIMERGY S10 (Backup Cabinet) is available if "more then two backup devices" or "backup devices except for DDS4" are installed.

● Configuration Chart



NOTES

● Connection Matrix

PRIMERGY N800

Connection of internal HDD and internal backup devices

Standard RAID Controller	Channel 0	■	For Internal HDD/PRIMERGYS30
	Channel 1	■	For Internal HDD/PRIMERGYS30
Onboard SCSI	Ultra2 Wide A	■	For Internal Backup device/Internal HDD
	Ultra2 Wide B	■	For PRIMERGY S10/Internal HDD

Internal HDD				Backup device					
Configuration	SCSI Interface	Connection Pattern			One device is connected		Two devices are connected		
		Host	Cable	Internal HDD	In case that DDS4 is connected	Except for DDS4	Narrow device x 2	Wide device x 2	Narrow device and Wide device
Array Configuration	Ultra160	Standard RAID Controller (Ch0/1)	Cable(X2) (Standard equipment)	Up to four HDDs can be installed 1) 9GB, 10,000rpm 2) 18GB, 10,000rpm 3) 18GB, 15,000rpm 4) 36GB, 10,000rpm	Onboard SCSI (Ach)		Onboard SCSI (Ultra2 Wide Bch) PRIMERGY S10 (PGUR1BC3) SCSI Cable (PG-CBLS007/008/009) or SCSI Controller (PG-126) PRIMERGY S10 (PGUR1BC3) SCSI Cable (PG-CBLS001/002/003)		

- In case of SCSI configuration (Up to four HDDs can be mounted), internal DDS4 can be connected to ChA of Onboard SCSI by daisy chain.
- when connecting RAID Controller with PRIMERGY S30, or SCSI Controller with Internal HDD, both SCSI Channel of Onboard SCSI Controller must be connected to Internal HDD.

Mountable I/O options

N800

Cards	Product ID	Bus	Maximum number of cards mounted	Total	REMARKS
SCSI Controller (Ultra Wide Diff)	PG-123	PCI64	4	4	For external disk array
SCSI Controller (Ultra2 Wide LVD)	PG-126	PCI64	2		
Fibre Channel Controller	PG-FC102	PCI64	4		
RAID Controller (Ultra160 LVD)	Standard Equipment	PCI64	1	5	Mounted in PCI slot1
RAID Controller (Ultra160 LVD)	PG-142B/C	PCI64	4		
EthernetController (1000Base-SX)	PG-188	PCI64	2	4	Mounted in PCI slot3
EthernetController (100Base-TX)	Standard Equipment	PCI64	1		
EthernetController (100Base-TX)	PG-185	PCI64	2		
Remote Service Board	PGURSB101	PCI64	1		For Remote Management

System Configuration

Connection Table

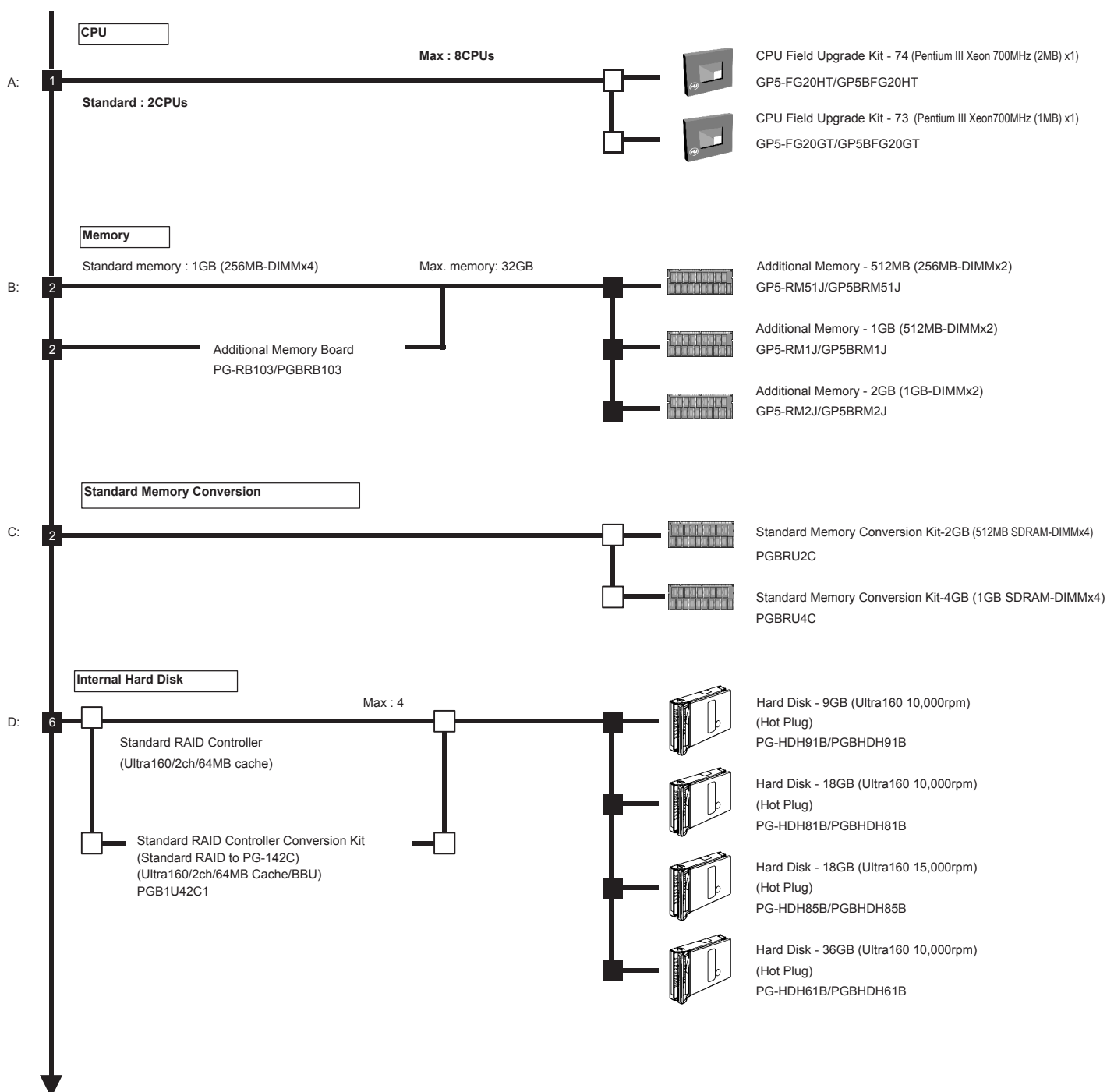


Rackmount Type

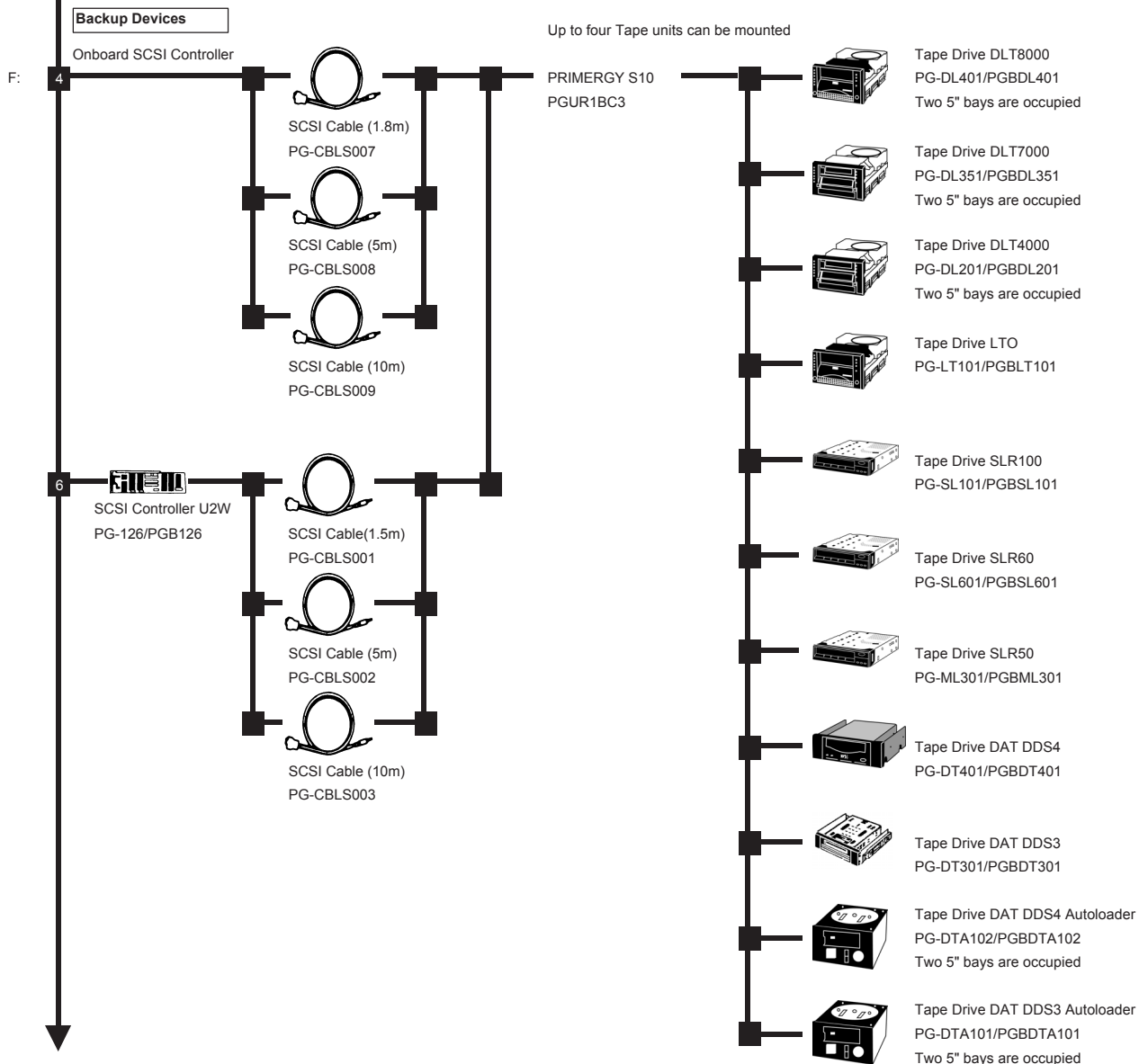
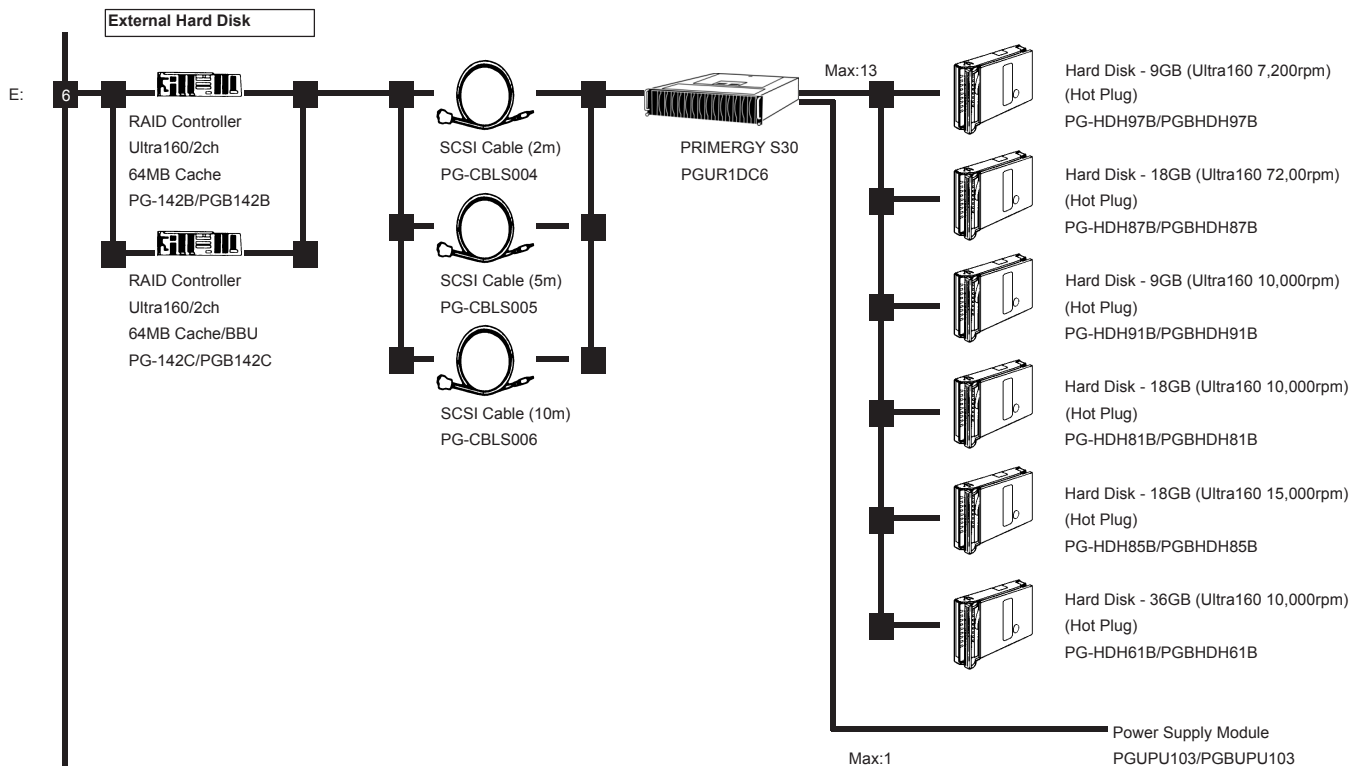
PGTN8BHRD2	Rackmount Type	2 x Pentium® III Xeon™ 700MHz(2MB), Memory:1GB(ECC), HDD:Option
PGTN8BGRD2	Rackmount Type	2 x Pentium® III Xeon™ 700MHz(1MB), Memory:1GB(ECC), HDD:Option

<Items>

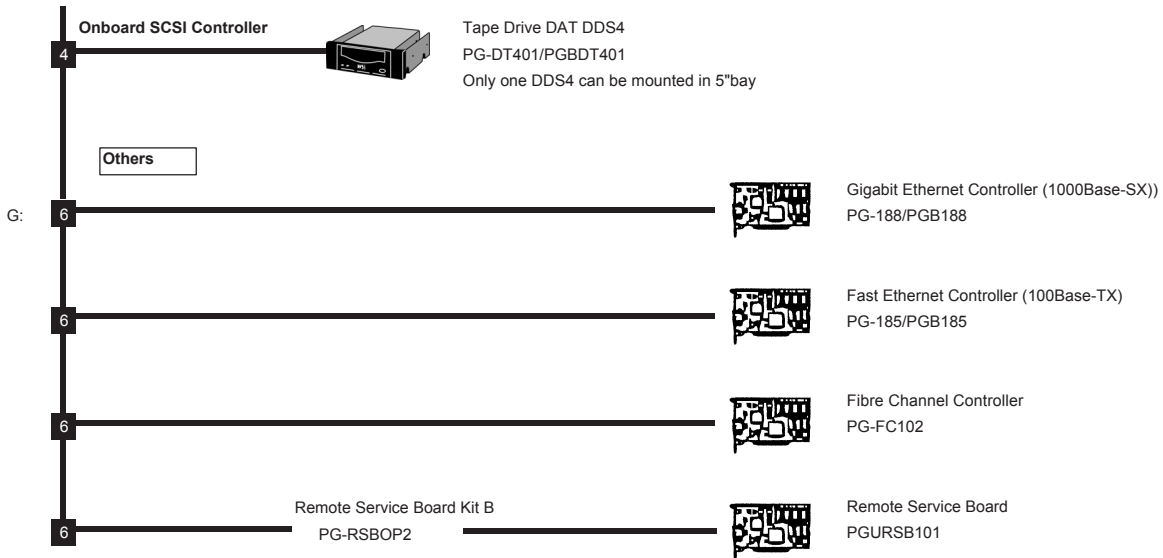
CPU Field Upgrade :	Go to A
Memory addition :	Go to B
Standard Memory Conversion :	Go to C
Internal Hard Disk Drive connection	Go to D
External Hard Disk Drive connection	Go to E
Backup devices	Go to F
Others (NIC etc.)	Go to G



System Configuration



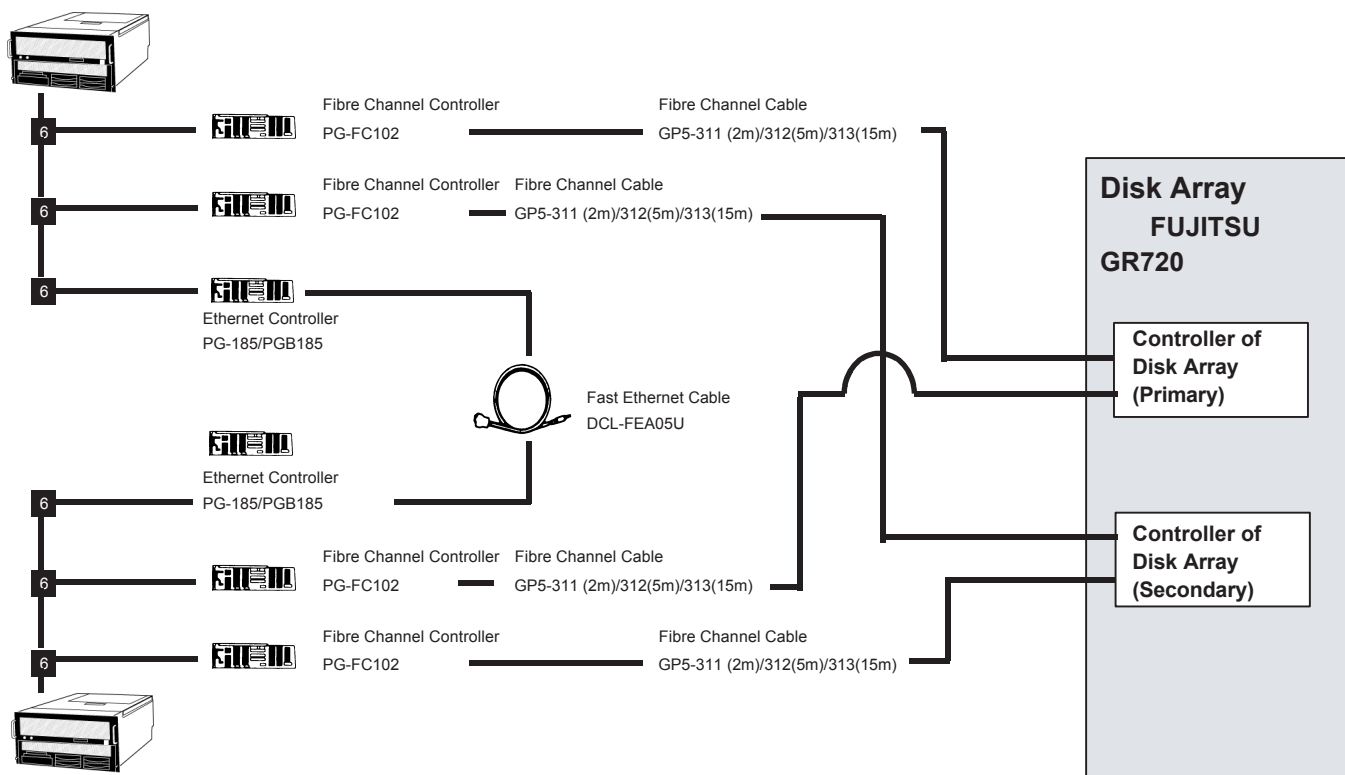
System Configuration



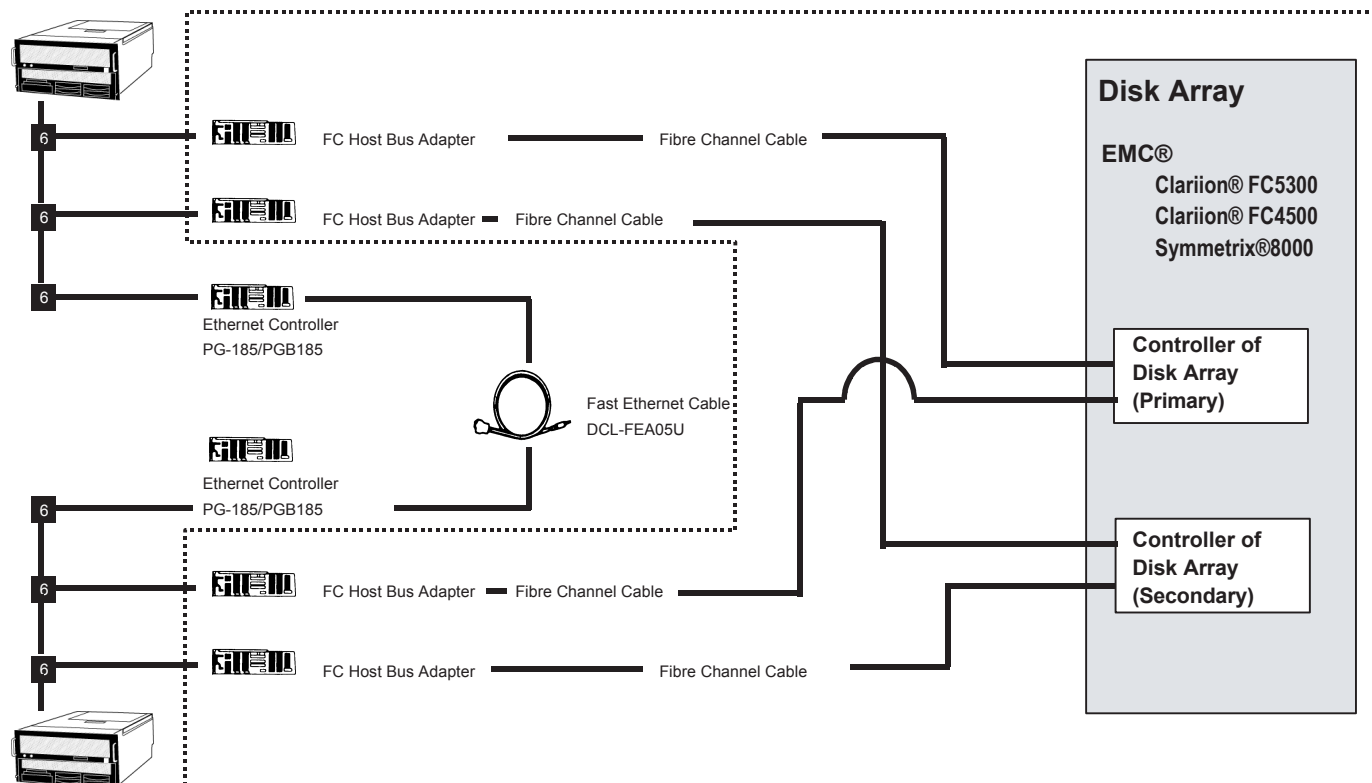
System Configuration

Configuration of Microsoft® Clustering

<PRIMERGY N800 - FUJITSU GR720>



<PRIMERGY N800 - EMC® Clariion®/Symmetrix®>



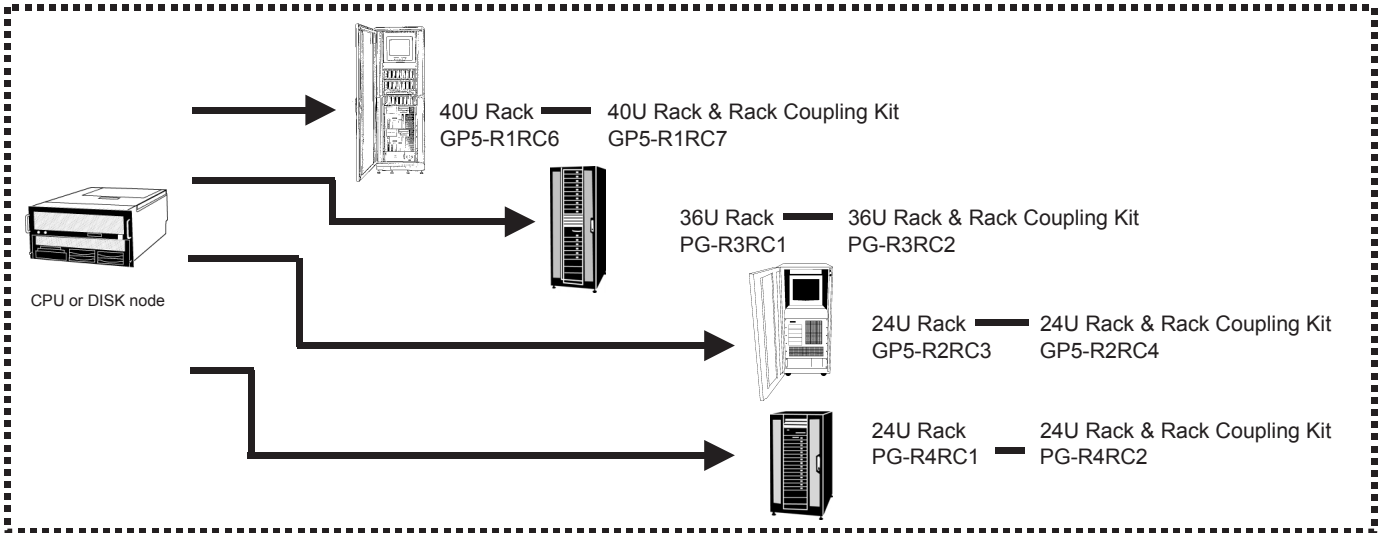
Please contact your local FUJITSU sales representative in the case as follows:

- In case of connecting with EMC disk array, each component surrounded by: ("Fibre Channel Adapter with driver SW", "Fibre Channel Cable", "Fibre Channel HUB") should be EMC's.
- As for the certified configuration of Windows2000 Datacenter Server.
- Four nodes Clustering.

System Configuration

Rackmount

Rack and Rack Options



Quake Proof Stabilizer: PG-R3ST1(For PG-R3RCx/PG-R4RCx)
 Quake Proof Stabilizer: PG-R1ST1(For GP5-R1RCx/GP5-R2RCx)

Component Shelf
 GP5-R1TB7

Keyboard/Monitor Shelf Ki
 GP5-R1TB6

(Up to 8 servers connection)

Keyboard/Monitor Cable
 GP5-418(5.0m)

Keyboard/Monitor Cable
 GP5-414(1.8m)

Keyboard/Monitor Enhanced Switch
 GP5-SB102

Flat Display
 GP5UR1DP11

(Up to 4 servers connection)

Keyboard/Monitor Cable
 GP5-411 (3.0m)

Keyboard/Monitor Enhanced Switch
 GP5-SB101

Enhanced Keyboard
 GP5-R1KB2

Up to eight servers can be connected to one GP5-SB102, and up to 64 servers can be connected with nine GP5-SB102 in cascade connection (Keyboard Monitor Cable: GP5-414 is required)

* In case of Cascade connection, AC adapter is required.



Hardware

Hardware List

Product	Product ID	Remarks
CPU Field Upgrade Kit-74	GP5-FG20HT GP5BFG20HT [CTO option]	PentiumIII Xeon(700MHz)/32KB+2MBcachex1,Placed on motherboard Includes one CPU
CPU Field Upgrade Kit-73	GP5-FG20GT GP5BFG20GT [CTO option]	PentiumIII Xeon(700MHz)/32KB+1MBcachex1,Placed on motherboard Includes one CPU
Additional Memory 2GB	GP5-RM2J GP5BRM2J [CTO option]	SDRAM-DIMM (100MHz) 1024MBx2 (Buffered CL/2)
Additional Memory 1GB	GP5-RM1J GP5BRM1J [CTO option]	SDRAM-DIMM (100MHz) 512MBx2 (Buffered CL/2)
Additional Memory 512MB	GP5-RM51J GP5BRM51J [CTO option]	SDRAM-DIMM (100MHz) 256MBx2 (Buffered CL/2)
Standard Memory Conversion Kit-4GB	PGBRU4C [CTO option]	Standard Memory conversion 1GB to 4GB
Standard Memory Conversion Kit-2GB	PGBRU2C [CTO option]	Standard Memory conversion 1GB to 2GB
Additional Memory Board	PG-RB103 PGBRB103 [CTO option]	Additional memory board for mounting more than 16 DIMMs
Hard Disk Drive-36GB	PG-HDH61B PGBHDH61B [CTO option]	36.4GB Ultra160 Hotplug HDD <10000rpm> 1"height <N800, N400 and S30>
Hard Disk Drive-18GB	PG-HDH85B PGBHDH85B [CTO option]	18.2GB Ultra160 Hotplug HDD <15000rpm>1"height <N800, N400 and S30>
Hard Disk Drive-18GB	PG-HDH81B PGBHDH81B	18.2GB Ultra160 Hotplug HDD <10000rpm>1"height <N800, N400 and S30> available with PRIMERGY as follows
Hard Disk Drive-9GB	PG-HDH91B PGBHDH91B [CTO option]	9.1GB Ultra160 Hotplug HDD <10000rpm> 1"height <N800, N400 and S30>
PRIMERGY S30 (Storage Subsystem)	PGUR1DC6	Rackmount(3U) Hard Disk Node Ultra160 / 14 Hotplug HDD bays (1"x14 HDD/2ch) / Maximum capacity is 509.6GB (36.4GB x14) Redundant&Hotplug FAN(Std.)/PSU(Opt.) 1. PG-142B/PG-142C/PG-143B - PG-CBLS004/PG-CBLS005/PG-CBLS006 2. GP5-150/1501- PG-CBLS004/PG-CBLS005/PG-CBLS006 <Available HDD> PG-HDH61B/PG-HDH85B/PG-HDH81B/PG-HDH91B/PG-HDH87B/PG-HDH97B Only for Array configuration, CTO is available
Tape Drive DAT DDS4 (DAT Unit)	PG-DT401 PGBDT401 [CTO option]	Internal DAT unit (DDS-4:20GB-40GB)
Tape Drive DAT DDS3 (DAT Unit)	PG-DT301 PGBDT301 [CTO option]	Internal DAT unit (DDS-3:12-24GB) *1 PRIMERGY S10 is required to mount
Tape Drive DAT DDS4 Autoloader (DAT Autoloader)	PG-DTA102 PGBDTA102 [CTO option]	Internal DAT autoloader (DDS-4: 20GB-40GB) 6cassetes Two 5" bays are occupied *1 PRIMERGY S10 is required to mount
Tape Drive DAT DDS3 Autoloader (DAT Autoloader)	PG-DTA101 PGBDTA101 [CTO option]	Internal DAT autoloader (DDS-3: 12GB-24GB) 6cassetes Two 5" bays are occupied *1 PRIMERGY S10 is required to mount
Tape Drive DLT4000 (DLT Unit)	PG-DL201 PGBDL201 [CTO option]	Internal DLT unit (DLT4000: 20GB-40GB) Two 5" bays are occupied *1 PRIMERGY S10 is required to mount
Tape Drive DLT7000 (DLT Unit)	PG-DL351 PGBDL351 [CTO option]	Internal DLT unit(DLT7000: 35-70GB) Two 5"bays are required and occupied *1 PRIMERGY S10 is required to mount
Tape Drive DLT8000 (DLT Unit)	PG-DL401 PGBDL401 [CTO option]	Internal DLT unit(DLT8000: 40-80GB) Two 5"bays are required and occupied *1 PRIMERGY S10 is required to mount
Tape Drive LTO (LTO Unit)	PG-LT101 PGBLT101 [CTO option]	Internal LTO unit (LTO: 100-200GB) *1 PRIMERGY S10 is required to mount

Hardware

Hardware List

Product	Product ID	Remarks
Tape Drive SLR50 (Tape Unit)	PG-ML301 PGBML301 [CTO option]	Internal Tape unit (SLR50: 25-50GB) *1 PRIMERGY S10 is required to mount
Tape Drive SLR60 (Tape Unit)	PG-SL601 PGBSL601 [CTO option]	Internal Tape unit (SLR60: 30-60GB) *1 PRIMERGY S10 is required to mount
Tape Drive SLR100 (Tape Unit)	PG-SL101 PGBSL101 [CTO option]	Internal Tape unit (SLR100: 50-100GB) *1 PRIMERGY S10 is required to mount
PRIMERGY S10 (Backup Cabinet)	PGUR1BC3	Rackmount 3U 5" bay node for N800/N400/H200 Up to four Tape units can be mounted <Available Backup devices> Occupy two bays : PG-DL201/PG-DL351/PG-DL401/PG-DTA101/PG-DTA102 Occupy one bay: PG-SL101/PG-SL601/PG-ML301/PG-DT401/PG-DT301 *CTO is available
Power Supply Module	PGUPU103 PGBUPU103 [CTO option]	Redundant PSU (500W) *Power Code is required <PRIMERGY S30> *1 S30 is available on N800/N400/MS610/H200
Power Supply Module	PG-PU102 PGBPU102 [CTO option]	Redundant PSU (500W) *Power Code is required <PRIMERGY N400/S10> *1 S10 is available on N800/N400/H200
40U Rack	GP5-R1RC6	19" 40U Locker , Front door,rear door,side panel,earthquake proof board ,blank panel is attached. Size(WxDxH)mm:600x900x2000 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
40U Rack&Rack Coupling Kit	GP5-R1RC7	19"40U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black
36U Rack	PG-R3RC1	19" 36U Locker , Front door,rear door,side panel,earthquake proof board ,blank panel is attached. Size(WxDxH)mm:700x950x1800 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
36U Rack&Rack Coupling Kit	PG-R3RC2	19"36U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black
24U Rack	GP5-R2RC3	19" 24U Locker , Front door,rear door,side panel,earthquake proof board ,blank panel is attached. Size(WxDxH)mm:700x950x1267 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
24U Rack&Rack Coupling Kit	GP5-R2RC4	19"24U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black

Hardware

Hardware List

Product	Product ID	Remarks
24U Rack	PG-R4RC1	19" 24U Locker , Front door,rear door,side panel,earthquake proof board, blank panel is attached. Size(WxDxH)mm:600x900x1200 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
24U Rack&Rack Coupling Kit	PG-R4RC2	19"24U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black
Component Shelf	GP5-R1TB7	Shelf to fit peripheral device into 40U Rack, Table size:400(W)x500(D) Color: Black
Keyboard/Monitor Shelf Kit	GP5-R1TB6	Used to store display unit (CRT), a keyboard (KB), and a mouse on a rack. Color: Black
Keyboard/Monitor Enhanced Switch	GP5-SB101	Switch enables sharing of a set of CRT,keyboard,and mouse by two or more servers (up to four servers).
Keyboard/Monitor Enhanced Switch	GP5-SB102	Switch enables sharing of a set of CRT,keyboard,and mouse by two or more servers (up to eight servers). Shared up to 64 servers in cascade connection.* AC adapter is required for cascade connection (Procured locally)
Keyboard/Monitor Cable	GP5-418	For connection with switch (For connection GP5-SB102) (5.0m)
Keyboard/Monitor Cable	GP5-414	For cascade connection between GP5-SB102 (1.8m)
Keyboard/Monitor Extension Cables	GP5-411	CRT/KB cable for connection Server with GP5-SB101, CRT cabledx1,KB/Mouse cabledx1 is attached
Enhanced Keyboard	GP5-R1KB2	87Key keyboard for Rackmountable type
Flat Display	GP5UR1DP11	Rackmountable LCD display with Keyboard, 2U height <GP5UR1DP1 + GP5-R1KB2>
SCSI Controller UW (SCSI Card)	PG-123 PGB123 [CTO option]	Ultra Wide HVD (High Voltage Differential)/1ch/SMART HDD is not supported/ Up to 40MB/s of synchronous transfer support <Connector> - 68-pin connector for external SCSI - 68-pin connector for internal SCSI - 50-pin connector for internal SCSI <Use> For connection with external Disk Array * SCSI cable is required.
SCSI Controller U2W (SCSI Card)	PG-126 PGB126 [CTO option]	Ultra2 Wide(LVD)/1ch/SMART HDD/Up to 80MB/s transfer speed <Connector> - 68-pin connector for external SCSI (Ultra2 Wide) - 68-pin connector for internal SCSI (Ultra2 Wide) - 68-pin connector for internal SCSI (Ultra Wide) - 50-pin connector for internal SCSI (Ultra Wide) <Use> For connection internal backup device/PRIMERGY S10
RAID Controller U160 2Channels (RAID Card)	PG-142B PGB142B [CTO option]	RAID Controller, Ultra160/2ch/64MB cache/RAID level 0,1,5,6 (0+1)are supported For internal/external array configuration
RAID Controller U160 2Channels (RAID Card)	PG-142C PGB142C [CTO option]	RAID Controller, Ultra160/2ch/64MB cache/Battery Backup/ RAID level 0,1,5,6(0+1) are supported For internal/external array configuration
Standard RAID Controller Conversion Kit	PGB1U42C1 [CTO option]	Convert Standard RAID Controller to PG-142C <N800>
SCSI Cable	PG-CBLS001	External SCSI Cable [HDCl-HDCI] (1.5m) <Connection> - SCSI Controller and S10/External SCSI devices
SCSI Cable	PG-CBLS002	External SCSI Cable [HDCl-HDCI] (5m) <Connection> - SCSI Controller and S10/External SCSI devices
SCSI Cable	PG-CBLS003	External SCSI Cable [HDCl-HDCI] (10m) <Connection> - SCSI Controller and S10/External SCSI devices

Hardware

Hardware List

Product	Product ID	Remarks
SCSI Cable	PG-CBLS004	External SCSI Cable [VHDCI-VHDCI] (2m) <Connection> - RAID Controller and S30
SCSI Cable	PG-CBLS005	External SCSI Cable [VHDCI-VHDCI] (5m) <Connection> - RAID Controller and S30
SCSI Cable	PG-CBLS006	External SCSI Cable [VHDCI-VHDCI] (10m) <Connection> - RAID Controller and S30
SCSI Cable	PG-CBLS007	External SCSI Cable [VHDCI-HDCI] (1.8m) <N800/400> <Connection> - N800: Onboard SCSI Controller to S10/External SCSI devices - N400: PGBCBLS011 to S10/External SCSI devices
SCSI Cable	PG-CBLS008	External SCSI Cable [VHDCI-HDCI] (5m) <N800/400> <Connection> - N800: Onboard SCSI Controller to S10/External SCSI devices - N400: PGBCBLS011 to S10/External SCSI devices
SCSI Cable	PG-CBLS009	External SCSI Cable [VHDCI-HDCI] (10m) <N800/400> <Connection> - N800: Onboard SCSI Controller to S10/External SCSI devices - N400: PGBCBLS011 to S10/External SCSI devices
Fast Ethernet Cable	DCL-FEA05U	Fast Ethernet Cable for node-node connection in Clustering configuration (5m)
Fibre Channel Cable	GP5-311	Fibre Channel Cable (2m)
Fibre Channel Cable	GP5-312	Fibre Channel Cable (5m)
Fibre Channel Cable	GP5-313	Fibre Channel Cable (15m)
Gigabit Ethernet Controller (Fibre)	PG-188 PGB188 [CTO option]	1000BASE-SX/PCI64bit-66MHz/Driver is included *Fibre Channel cable is required : GP5-311/2m, GP5-312/5m, GP5-313/15m
Fast Ethernet Controller	PG-185 PGB185 [CTO option]	100BASE-TX/10BASE-T/PCI64bit/Driver is included *Twisted pair cable (category5:100BASE-TX/category3:10BASE-T) is required
Fibre Channel Controller	PG-FC102	1GB Optical, FC-AL/FC-Fabric, Duplex SC port for external device
Remote Service Board	PGURSB101	Optional remote server management board (PCI) CPU, External Interface (10BASE-T/RS232C), External PowerSupply (AC adapter - Option) are on the board
Remote Service Board Kit B	PG-RSBOP2	Optional Kit for mounting RSB ServerView for RSB CD-ROM, Connector, Power Code are included

Specifications are subject to change without notice. For the latest detailed information, contact your local representative.

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