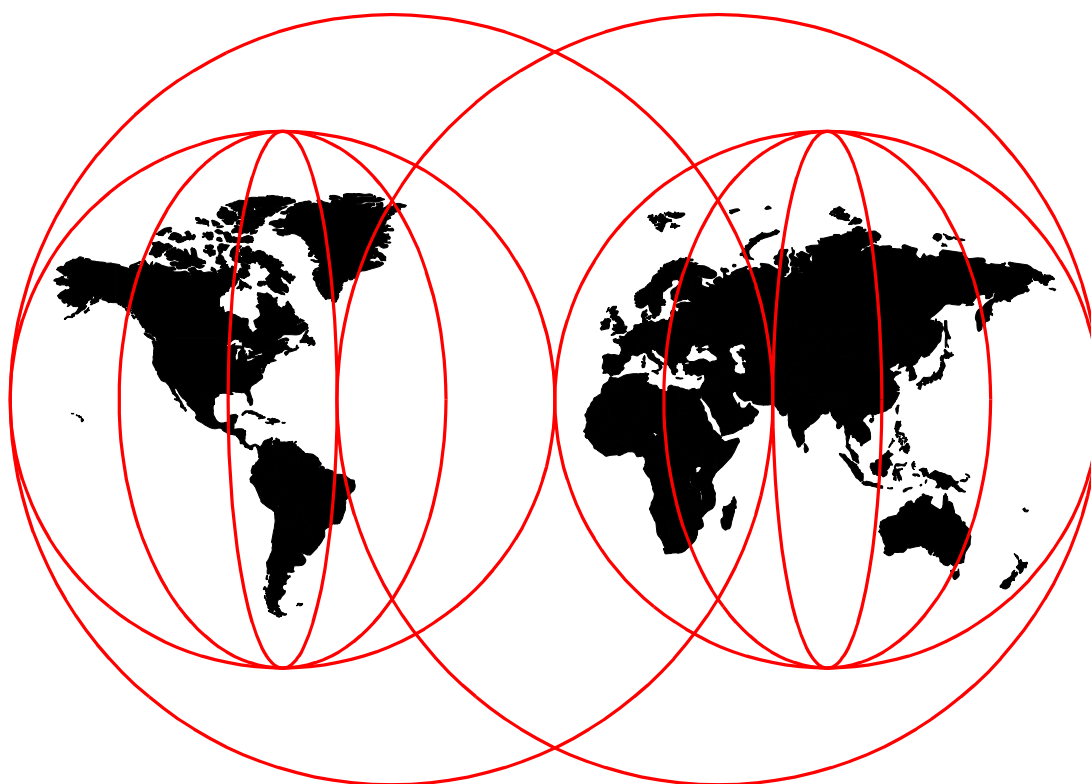


J.D. Edwards' OneWorld B73.3 and Windows Terminal Server for IBM Netfinity

Rufus Credle, Bryan Nguyen, Craig Parks, Miguel Angel Rubio



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**J.D. Edwards' OneWorld B73.3 and
Windows Terminal Server for IBM Netfinity**

July 1999

Take Note!

Before using this information and the product it supports, be sure to read the general information in Appendix B, "Special Notices" on page 323.

First Edition (July 1999)

This edition applies to J.D. Edwards' OneWorld B73.3, Oracle8 for NT 8.0.5, Microsoft SQL Server 7.0, Windows NT Server 4.0 Terminal Server Edition, Network Station Manager 3.04, Citrix MetaFrame 1.0, Lotus Domino Go WebServer 4.6.2.2, Microsoft Visual C++ 5.0, Microsoft Internet Information Server 3.0, and Microsoft Access 7.0 running on IBM Netfinity.

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Preface

This redbook describes how to implement the Enterprise Resource Planning (ERP) and thin client solutions, J.D. Edwards' OneWorld B73.3, and Microsoft Windows NT Server 4.0, Terminal Server Edition on IBM Netfinity servers. In particular, it covers the planning and installation of OneWorld B73.3 using Oracle8 Enterprise Edition for Windows NT and Microsoft SQL Server 7.0. In addition, it covers the planning and installation of Microsoft Windows NT Server 4.0, Terminal Server Edition using Citrix MetaFrame to connect to multiple IBM Network Stations, and the latest IBM Netfinity family of servers that includes the new Pentium III Xeon technology and other IBM features.

This redbook is designed to provide you with an easy understanding of the implementation process, the installation, and the environments of OneWorld optimized for the IBM Netfinity system. We've included an introduction to J.D. Edwards' OneWorld, its architecture and business solutions; the roles and advantages of the Windows NT Terminal Server and IBM Network Stations, the Netfinity sizing and implementation process for optimizing and configuring OneWorld for Windows NT and hardware and software considerations information to help in your decision making.

Also shared in this redbook are instructions on the use of IBM's latest ServerGuide that is used to set up the Netfinity hardware and prepare your system for Windows NT Server, and the Netfinity Manager, a systems management solution to monitor and manage the Deployment and Enterprise server and OneWorld workstation clients.

In our example of the sizing and implementation process, we provide a scenario on how you would prepare and configure the IBM Netfinity server for OneWorld's Pristine, Production, Development, and Conference Room Pilot environment using Oracle8 for NT and Microsoft SQL Server 7.0 relational databases.

This redbook is not designed to replace the J.D. Edwards' *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*. This book is designed to help you quickly set up and run the OneWorld solution in an organization or corporate environment.

It is assumed that the reader of this redbook has had some education and work experience in using Oracle8 Enterprise Edition for NT, Microsoft SQL Server 7.0, Microsoft Windows NT Server 4.0, and J.D. Edwards' OneWorld.

The Team That Wrote This Redbook

This redbook was produced by a team of specialists from around the world working at the International Technical Support Organization, Raleigh Center.



Figure 1. The Team (left to right), Credle, Parks, Rubio, Nguyen

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Comments Welcome

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Chapter 1. Introduction

When a company talks about Enterprise Resource Planning (ERP), it's talking about a top-to-bottom transformation of the way it operates, does business and faces the future. Changes are set in motion regarding how the company is managed, how it serves customers, and how it reacts to the marketplace. Such a transformation will ultimately affect the fundamental ingredients of success that are directly involved: greater customer satisfaction, reduced cycle time, increased productivity.

In this wide perspective, a new information technology infrastructure is part of a large moving picture that can involve reengineering business processes, overhauling the roles, responsibilities and daily routines of personnel and implementing application software. However, this does not happen overnight and as companies are realizing all over the world, help is needed. From the time that an ERP requirement is identified through implementation and beyond to operations, IBM and J.D. Edwards will help you enhance your business processes.

A company's decision to implement the enterprise software and modules of J.D. Edwards' SCOREx (supply chain optimization and real-time extended execution) is predicated on the desire to reduce the incremental cost of adding new business and provide its customers with superior service and extended business processes throughout the supply chain. When it comes to running J.D. Edwards' applications, IBM has the leading technology and the depth and breadth of experience to provide your customer with a total solution. The customer's business needs may dictate a stand-alone configuration or a mix and match of AS/400 models, Netfinity servers, RS/6000 servers and IBM Network Stations. When it comes to quality and choice, IBM is the only alliance partner for J.D. Edwards that can fulfill UNIX, Windows NT, and OS/400 platforms.

ERP solutions from J.D. Edwards have helped thousands of businesses across the world translate good ideas into good business practices. Today, a great idea is J.D. Edwards' OneWorld and IBM Netfinity systems. Both offer you the fully integrated, rich business functionality J.D. Edwards is known for, matched with the scalability, the power, and performance of IBM Netfinity running Windows NT Server.

It's been two decades since IBM and J.D. Edwards teamed up to deliver flexible ERP solutions that dramatically improve the management of factories, inventories, people, and equipment. With J.D. Edwards' OneWorld and IBM Netfinity systems, you will leverage the mutual strengths of two industry leaders to streamline the flow of information among your employees, customers, suppliers, and partners. IBM and J.D. Edwards have managed operation offerings, and IBM's service organization installs J.D. Edwards' software.

The reasons why more and more organizations continue to acquire the J.D. Edwards solution are based upon the flexibility, the simplicity, and the adaptability of the company's products unmatched by any of its competitors. The solutions listed below provide direct benefits to the customer:

- Integrated Solutions

J.D. Edwards' software helps streamline customers' businesses by providing the capability to implement and view real-time information updates across the organization. This allows customers to access and utilize consistent and current information, and keep up with the speed of change.

- Network-Centric Computing

When change in an organization's operation is necessary, J.D. Edwards' network-centric architecture allows customers to write the change once and safely deploy the change across their entire organization. With this kind of flexibility and adaptability, customers can maximize performance.

- Tools

With tools such as ActivEra, you remain in control of your business and your system remains the solution. With the ability to modify your system on the fly, both during and after implementation, your organization can respond to market changes and put ideas into action with the greatest of ease.

ActivEra's tools and technologies extend the capabilities of all J.D. Edwards' software. Business activators allow your business professionals to put new ideas into practice without programmer involvement. And technology activators enable your technical professionals to streamline management of your system's infrastructure. With ActivEra, everyone in your organization can turn ideas into action.

- J.D. Edwards' JDExpert and OnTrack

To help simplify and expedite your implementation process, J.D. Edwards offers JDExpert, a service and implementation partner program supported by OnTrack, its new implementation approach and toolset. Providing a vast array of professional expertise, the JDExpert program has grown to include more than 5,750 certified consultants facilitating rapid implementations and services for more than half of J.D. Edwards' new customers.

JDExpert currently comprises more than 200 business partners, including Big Six firms, channel partners, and over 100 service partners, who are positioned to successfully implement J.D. Edwards solutions while maintaining their established high customer satisfaction levels. Their relationships with such a broad range of partners allow you to leverage the latest technology and follow the industry-practice models appropriate for your business.

Backing JDExpert is OnTrack, a set of configuration tools and methods designed to simplify and accelerate your implementation. This new six-step approach includes accelerated tools to provide the framework, custom-built documentation to offer the blueprint, and classroom training to enable ongoing mentoring. Within OnTrack is an interactive business process configuration tool (Composer is the configuration tool; OnTrack, the methodology) called Composer, which gives you two options for configuring your solution by process or application. Both configuration options integrate with your current J.D. Edwards applications and provide a graphical display of business choices.

OnTrack is so flexible that it even lets you modify your software after the implementation is complete to incorporate subsequent changes in your operations. With JDExpert and OnTrack guiding your enterprise software implementation, life doesn't have to be so complicated after all.

- J.D. Edwards' SCOREx

Supply chain operation is a huge market focus. J.D. Edwards' SCOREx (supply chain optimization and real-time extended execution) is designed to integrate and extend a company's business life cycle and execute tailored supply chain for individual customers. SCOREx offers an integrated solution with functionality that ranges from advanced planning and scheduling, order management, and warehouse management to transportation management and cost management. SCOREx provides a dynamic, comprehensive information backbone for managing processes and enterprise data between supplier's suppliers and customers' customers.

- J.D. Edwards/IBM Alliance

By marrying IBM platforms with J.D. Edwards solutions, customers benefit from an industry-leading partnership. And when they're ready to expand to Windows NT or UNIX for full utilization of supply chain, IBM's solutions complement J.D. Edwards' flexibility.

Recently added to the J.D. Edwards' OneWorld and IBM Netfinity solution is the IBM Network Station. Windows NT Server 4.0, Terminal Server Edition provides an excellent solution for OneWorld in a LAN/WAN environment and is complemented by the services of the IBM Network Station. More information on the IBM Network Station is in 3.1, "IBM Network Stations" on page 15.

1.1 The ITSO J.D. Edwards' OneWorld and IBM Netfinity Lab Environment

To help you envision our lab environment as you prepare to explore the planning and installation procedures in this redbook, the following has been provided:

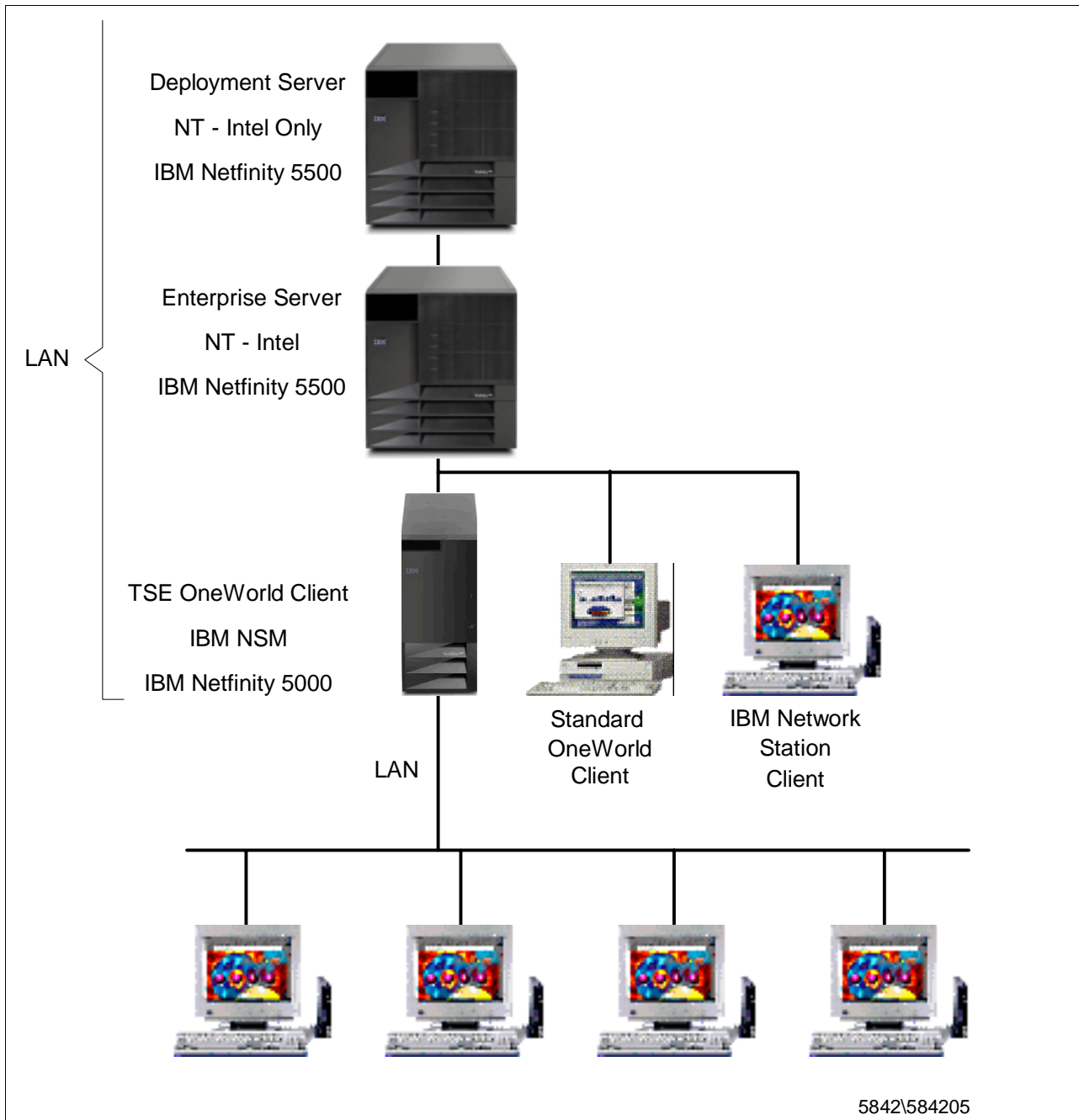


Figure 2. The ITSO J.D. Edwards' OneWorld and IBM Netfinity Lab Environment

Chapter 2. J.D. Edwards' OneWorld B73.3

J.D. Edwards' OneWorld is a network-centric, object-oriented, multinational ERP software package that provides customers with the flexibility to quickly adapt business processes to meet market demands, and the ability to capitalize on the latest functionality and lower costs offered by emerging technologies. As databases and operating systems began to change more quickly, companies required an open architecture that provided progressive platform flexibility.

J.D. Edwards responded by delivering OneWorld, an integrated suite of client-server applications based on the company's Configurable Network Computing (CNC) architecture.

OneWorld offers a complete, integrated suite of ERP applications for today's commercial organizations. From traditional ERP modules to industry-specific functionality, OneWorld addresses the critical business requirements of the fast-moving, resourceful ventures that compete and succeed in today's global economy.

- Financial Applications

General accounting, accounts payable, accounts receivable, financial modeling and budgeting, financial reporting, fixed assets, cash-basis accounting. Full concurrent-use international capabilities including roughly 23 languages (including double-byte Janji,) and numerous currencies along with specialized taxation, tariff accounting and regulatory management modules to accommodate local requirements in each location. OneWorld is also designed to accommodate and comply with new and changing currencies as they evolve. For example, OneWorld is well-positioned to respond to the proposed single European currency requirements; existing functionality enables multicurrency processing, including pricing, dual currency general ledger restatement and flexible fixed asset rules.

- Manufacturing Capabilities

Shop floor management, product data management, forecasting, scheduling, capacity planning, change management, work order management, facilities planning, procurement, maintenance management, configuration management, environmental management. Single Pass planning capabilities centralize multiple locations and mixed-mode production processes under one worldwide Requirements Planning umbrella. Specialized manufacturing capabilities include process, discrete, mixed mode and repetitive modes of manufacturing.

- Distribution/Logistics

Inventory management, stock valuation and management, warehouse management, transportation management, load and delivery management, labor management, and electronic commerce.

- Human Resources

Payroll, time accounting, benefits administration, Human Resources budgeting, position control, turnover analysis, organizational development, recruiting management, multiskill search, job posting, salary and wage administration, and ad hoc reporting.

- Vertical Solutions

Architecture, engineering, construction, mining, real estate, energy/chemical, utilities, and public services.

OneWorld, introduced in 1996, provides a true distributed object architecture and an advanced business rules engine that transcend traditional client/server technology.

Its unique network-centric architecture separates business functionality from the underlying operating systems, communications, and database technologies, enabling organizations to embrace new technologies without rethinking or reengineering existing information flow. OneWorld's architectural foundation, advanced graphical user interface, integrated toolset, and platform neutrality deliver the stability and flexibility necessary to deal with ever-changing business needs.

OneWorld combines mission-critical enterprise applications with extensive offerings specific to the rapidly changing needs of business today. OneWorld is an evolution of the J.D. Edwards' popular WorldSoftware and WorldVision products and provides a bridge between traditional enterprise resource planning (ERP) functions and customer interaction programs such as customer support, direct marketing and sales force automation, creating dynamic, customer-centric supply chains.

OneWorld is designed from the ground up to interface with legacy business management applications, PC-based functions, best-of-breed niche solutions, reporting tools and other functions used by an organization. J.D. Edwards utilizes advanced application programming interfaces (APIs) to provide OneWorld with the flexibility to integrate with applications using a wide variety of databases, communication protocols, programming languages, standards and operating systems offering you a wide degree of freedom and flexibility to tailor the IT function and infrastructure to best suit your customer needs.

To maintain a competitive edge, your organization faces both business and technology challenges. J.D. Edwards addresses these challenges with multinational, multicurrency, global business solutions on an application architecture that masks complexity, leverages technology, and paves the way to the future.

Today, J.D. Edwards' OneWorld and IBM Netfinity systems offer you the fully integrated, rich business functionality J.D. Edwards is known for, matched with the scalability, power, and performance of IBM Netfinity running Windows NT.

OneWorld's Configurable Network Computer (CNC) is a type of software architecture that allows you to distribute application components to run on a variety of platforms without the need of a specific platform on which the database is run. This also allows the user to change technologies without rewriting applications. The OneWorld physical configuration include:

The **Deployment Server** - is the central point of the OneWorld installation process from which the Deployment Server distributes the OneWorld software to one or more enterprise servers and client workstations. Also, this allows the Deployment Server to define new types of servers. With this release of OneWorld B73.3, it is possible to set up Java application servers (JAS), a

Windows Terminal Server (TSE), and data servers. During the installation process you can add other Deployment Servers (multitier deployment).

The **Enterprise Server** - is one or more servers that operates as the data storage and can run the centralized logic. OneWorld Enterprise Server is currently supporting the following database management systems:

- IBM DB2 on AS/400 hardware platform
- Oracle Database Management System on both UNIX and Windows NT platforms
- MS SQL server DBMS on Windows NT platforms.

The IBM hardware platforms currently supporting OneWorld Enterprise Server are:

- IBM - AS/400 using the OS/400 operating system
- IBM - RS/6000 using the UNIX operating system
- IBM - Netfinity using Microsoft NT operating system

Workstations - are PCs that have OneWorld client software installed and provide the interface between the user and data. The Workstation works two ways:

Direct Connect Processing - allows a user to distribute data and logic while connected to the Enterprise Server by TCP/IP protocol.

Store and Forward Processing - allows a user to work on a workstation that is disconnected from a server.

These components can exist within a single computer or across several different computers. The single computer environment is recommended only for training and demonstrations (Demo Junior).

The actual install process consists of six general steps:

1. Installing the basic software requirements for the Deployment Server and the Enterprise Server, such as Windows NT Server 4 and Service Packs, Microsoft Internet Services, Microsoft Access, Visual C++, SQL Server or Oracle for Windows NT. For specific versions see 5.4, "Hardware and Software Requirements for J.D. Edwards' OneWorld" on page 51.
2. Installing the basic software requirements for the workstations, such as Windows 95, Windows 98 or Windows NT Workstation, Microsoft Access, Visual C++ (only required for programming), SQL Server Client or Oracle Client.
3. Installing OneWorld on the deployment server from the CD-ROM:
 - CD1 - copies the path codes for the environment you want to install
 - CD2 - copies the component you need for building your database
4. Setting up the installation plans for the enterprise server by running the Installation Planner. OneWorld Installation Planner provides different environments for different purposes:
 - PRT733 - Pristine Environment
Contains pristine objects that cannot be modified but are used for comparison with other environment. This is used for disaster recovery and response line problem solving.

- CRP733 - Conference Room Pilot Environment

This environment is used in an initial phase of implementation. During this phase the CRP is used for converting non-JDE tables and creating UDCs and menus. This is used to load data into the different system tables (general accounting, accounts payable, accounts receivable, etc). It's used too for future upgrades.

- TST733 - Test Environment

This environment is used to run test modifications before the PRD733 environment is run.

- DEV733 - Development Environment

It's used for custom development and shares test data with TST733.

- PRD733 - Production Environment

After the completion of CRP, the contents of CRP733 are copied here. This is an environment for production end users.

These environments can be defined as a Typical Installation Plan or a Custom Installation Plan. These concepts are discussed in detail in Chapter 7, "Implementing Oracle8 and J.D. Edwards' OneWorld" on page 89 and Chapter 8, "Implementing Microsoft SQL Server 7.0 and OneWorld" on page 167.

5. Installing OneWorld software on the Enterprise server by running Installation Workbench.

6. Installing OneWorld software on the client workstations.

The OneWorld network-centric software architecture comprises the following components:

- Design Tools
- Applications
- OneWorld Foundation Code
- OneWorld Middleware

These above components are discussed in detail in 2.1, "Configurable Network Computing" on page 9.

Customers using OneWorld are not required to reengineer their organizations. Users can initially leverage the competitive benefits of OneWorld to support current operations without changing existing processes. At any time, customers are free to evolve business processes at their own pace using J.D. Edwards' "Best Business Practice" templates or the product's extensive, easy-to-use customization options.

2.1 Configurable Network Computing

OneWorld is built on a distributed-object, network-centric architecture called Configurable Network Computing (CNC). J.D. Edwards describes Configurable Network Computing as "an application architecture that allows interactive and batch applications, composed of *a single code base*, to run across a TCP/IP network of multiple server platforms and SQL databases (Oracle, DB2, SQL Server). The applications consist of reusable business functions and associated data that can be configured across the network dynamically. The overall objective for businesses is to provide a future-proof environment that enables them to change organizational structures, business processes, and technologies independently of each other."

The CNC architecture provides greater flexibility, scalability, and systems management ease by focusing on networks, rather than individual machines. With it, you'll be able to change your network configuration at *run time* to support changing processes, organizational structures, and technology choices.

OneWorld comprises the following components:

- Design Tools

OneWorld provides a unified set of tools to create all interactive applications, batch applications, and reports.

- Applications

OneWorld provides the interactive and batch applications that perform your business needs. For example, Purchase Order Entry and General Ledger Post are applications.

- OneWorld Foundation Code

OneWorld provides underlying core processing that both interactive and batch applications depend on to run. The Configurable Processing Engine processes batch applications in OneWorld.

- OneWorld Middleware

OneWorld provides middleware that insulates your applications from the underlying database, operating system, hardware, messaging systems, and telecommunications protocols. This insulates your business solution from the platform technology.

2.2 The Advantages of Configurable Network Computing

The advantages of CNC include:

- Network-centric software

Network-centric software provides immediate availability of enhancements to business objects, business rules, modes of processing, hardware, and databases to all supported applications.

OneWorld's middleware is comprised of a common set of APIs that integrate multivendor, multiprotocol differences to insulate developers from the need to program to a specific platform.

- Flexible, leveraged technology

OneWorld tools conceal the code to allow you to create applications without having to master a programming language. Developers can reuse objects between applications or different purposes to provide consistency throughout all OneWorld applications. OneWorld also provides a common interface between applications, so when you move from form to form, you see the same general setup.

- Supports worldwide business requirements

OneWorld provides support for mixed currency and languages. It also provides the ability to run OneWorld on platforms from servers to laptops. This allows traveling consultants to enter records in OneWorld on their laptop, then send these updated records over the Internet to keep records as updated as possible.

- Custom solutions without consequences

You can make custom solutions to business applications with little or no consequences when you upgrade to a new release of OneWorld. This allows you to maintain consistency, retain flexibility, and minimize the time required to implement upgrades.

2.3 Recommendations for Configurable Network Computing

J.D. Edwards provides the following recommendations for Configurable Network Computing:

- Fewer is better

More computers mean more administration. It might be necessary at times to add computers to your network, but try to use as few as possible.

- Homogeneity

Try to have one type of server hardware, one operating system, and one workstation operating system if possible. OneWorld supports a heterogeneous network, but avoid this unless it is absolutely necessary.

- Batch processing has advantages

Batch processing is more efficient than interactive or real-time processing. Electronic commerce or electronic data interchange (EDI) is an excellent way to process transactions. Store and forward processing is another form of batch processing that allows the advantages of real-time editing and quick response time at workstations.

- Data warehousing

Offloading most report writing to a secondary computer or computers not only relieves the processor load from the main server, it also increases the response time of the interactive users. Fifty to seventy percent of computer processing cycles are used for reporting and data analysis. Offloading this processing to a separate data warehouse provides a substantial opportunity to ensure satisfactory performance for both the interactive and batch users. It also allows you to use analysis tools such as OLAP to analyze the data.

- Processing mode

The type of processing mode you are using should depend on the volume of data entry. Real-time processing can be used for low-volume data entry, while store and forward processing should be used for high-volume data entry. You

can use the batch of one concept as a compromise between real-time and store and forward processing.

- Multitiered networks

The database management systems consume a great deal of computer resources. Separating the J.D. Edwards' applications from the database management systems allows optimum computing power for both needs. This creates a three-tiered network that consists of PC's that connect to application servers, that connect to database servers. A fourth tier would be created if data warehousing was brought into play. Multitiered networks complicate matters, but also improve performance and scalability.

- Multiple servers by vertical

OneWorld can work with mixed databases concurrently across multiple machines. Objects and data can be accessed from several mixed databases including Microsoft Access, Oracle, SQL Server, and AS/400. You can also have separate servers for different applications. For example, you can have a separate server for accounts receivable, and a separate server for manufacturing. You do not need a single, central server. This concept of multiple servers working together is central to the concept of CNC.

- Data replication

Several facilities for data replication are provided by J.D. Edwards, including OneWorld application for data replication that allows for just-in-time replication, pull replication, push replication, and non-mode replication; and the table conversion utility that is a batch replication process. OneWorld can also utilize several open system tools that support the replication of data.

- Departmental and application work groups

To keep data replication simple, it is often preferable to replicate data to an application server in a single group that performs the same business functions. In a departmental work group, workstations would have no replicated data. Only business objects would be replicated and maintained on the department's application server. This setup decreases the amount of data replication by minimizing the data transfer between the workstations and the application servers.

Chapter 3. Windows NT Server 4.0, Terminal Server Edition

Windows NT Server 4.0, Terminal Server Edition (TSE or WTS) is a multiuser extension of the Microsoft Windows NT family of operating families. The TSE environment is considered a thin-client architecture where all application processing occurs centrally on the server. Because TSE clients will be available for many different desktop platforms, TSE provides access to 32-bit Windows-based applications from virtually any desktop and provides the technology for organizations seeking to move into a pure 32-bit desktop environment.

In the early 1990s, client/server technology emerged combining the flexibility of the PC (client) with the power of mini and midrange computers known as servers. The early incarnations of client/server involved "fat clients" in which application logic and user interface run on each workstation (client). Data management functions execute on the server. This scenario is effective when client and server reside on the same LAN (local area network), but the generated network traffic can lead to performance issues when considering WAN (wide area network) connections between the client and the server. Although client/server still proves to be a compelling computing architecture for many enterprises, a growing number of businesses are now looking for "thin clients" alternatives that provide for better WAN or dial-up connection performance.

The Microsoft solution to this challenge is the introduction of Windows TSE. TSE extends the reach of corporate networks by providing for LAN-like performance over WAN and dial connections. TSE allows multiple users to run an application located on a terminal server as if that application were running locally on the user's machine. The terminal server is located on the same LAN as the enterprise server, while the end-user workstations can be connected to the terminal server over a WAN or dial-up connection. By sending only the information necessary to paint the screen and convey mouse and keyboard events, performance over WAN and dial-up connections rivals that of normal client/server applications over a LAN. Administering a single copy of an application on the terminal server greatly reduces the total cost of ownership for that application.

There are three advantages of Windows Terminal Server:

- WAN Traffic Reduction
- Central Administration
- Desktop Administration

WAN traffic is greatly reduced using TSE because the architecture is built for efficient usage of bandwidth-intensive programs. All of the processing of an application takes place on the server, while only the mouse, video, and keyboard traffic are being passed across the network. Also, the administration portion of all the desktops are done from one central location and that is on the server. All updates are done on the server saving administration time. The administrator no longer has to visit each client to make any changes greatly reducing administration costs. Remote users also gain from this; they no longer have to worry about having the latest updates.

Citrix and Its Relationship to TSE

Microsoft and Citrix agreed to provide Windows-based terminal support for the Windows NT environment. Since Windows NT 3.51, Citrix has developed a multiuser technology called Winframe. Winframe is a technology based on a presentation protocol called *Independent Computing Architecture* (ICA). Microsoft's TSE runs on its own presentation protocol called *Remote Desktop Protocol* (RDP).

Citrix now provides ICA support for Terminal Server Edition through a product they named *MetaFrame*. MetaFrame replaces the older Winframe. MetaFrame expands the client platform options. Where TSE client software supports Win16 and Win32 machines and some RDP-equipped Windows terminals, MetaFrame supports client software using DOS, Win16, Win32, X-Term, Macintosh, Solaris, Windows CE, and also ICA equipped network computers. Citrix Metaframe is an add-on software for Terminal Server Edition.

Advantages of Utilizing Citrix with TSE are:

- Performance - with the MetaFrame's ICA protocol, there is 20% less bandwidth than with TSE's RDP.
- Functionality enhancements - multiple network topologies are now supported with Citrix. It not only supports TCP/IP but also IPX/SPX, PPP, and NetBIOS. TSE only supports TCP/IP. However, keep in mind that OneWorld only supports TCP/IP.
- CCPDD - MetaFrame allows the functions of cut/copy/drag/drop between the session windows. TSE does not.
- Device mapping - MetaFrame allows the mapping of devices local to a remote client such as hard drives, fax modems, and printers from the Terminal Server - TSE only allows with printing which can only be done through a workaround.
- Session shadowing - with MetaFrame loaded, TSE supports an administration tool called session shadowing. This is useful for administrators who want to audit remote sessions. It can also be used with video conferences and support desk roles.

ICA and RDP are presentation services protocols that separate an application's logic from its user interface (UI), processing the logic portion of an application on the server and displaying the UI on the client.

A disadvantage of Citrix MetaFrame is additional cost.

Figure 3 on page 15 is a network configuration utilizing Terminal Server Edition with Citrix MetaFrame laptops dialing in as clients.

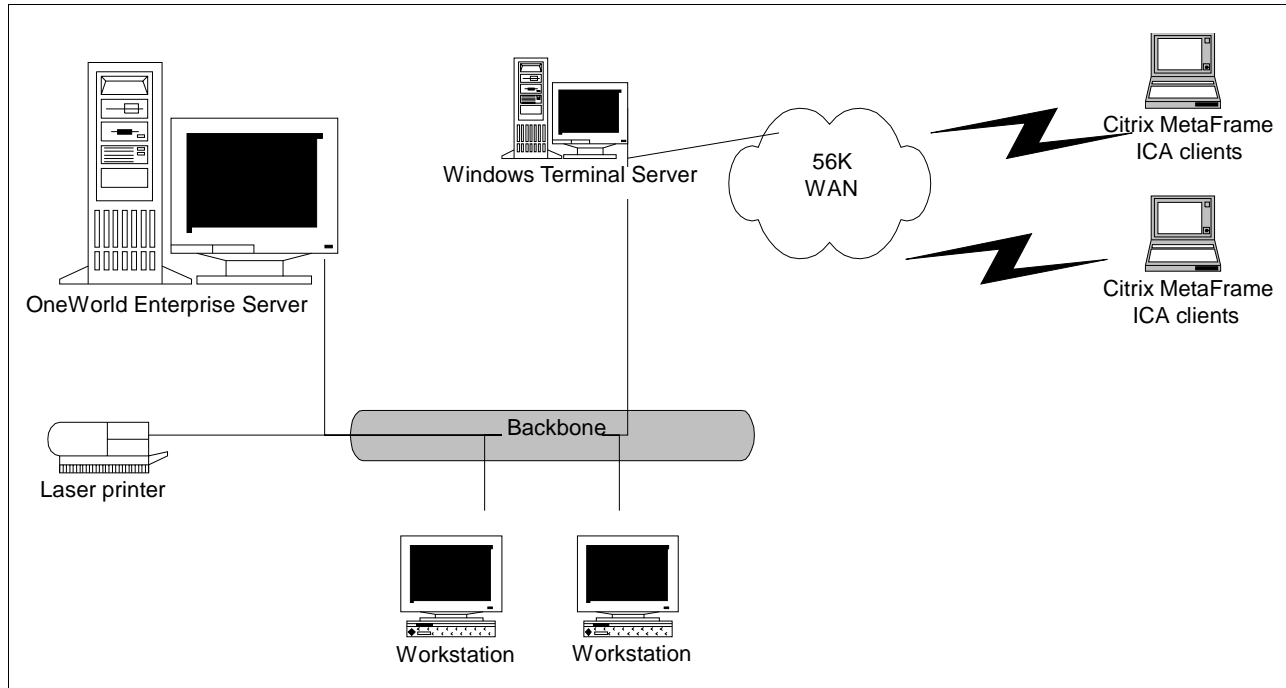


Figure 3. Network Configuration of TSE and MetaFrame

3.1 IBM Network Stations

The IBM Network Station is an industry-leading family of versatile thin clients that is simple, reliable, affordable and easy to manage. The Network Station enables users to access applications on virtually any server, from PC-based Windows NT servers to IBM S/390 mainframes, all at the same time.

The basic IBM Network Station includes:

- A PowerPC RISC-based microprocessor, of varying speed dependent on the model
- RAM memory, up to 64 MB
- Network interface supports 10Base-T Ethernet or 4/16 Mbps token-ring
- 8-bit audio speaker
- Standard PC type ports for:
 - Keyboard
 - Mouse
 - VGA or SVGA monitor
- Parallel port supports system printer connection
- Serial port for modem or peripheral device support
- Type 2 PCMCIA flash memory card for local storage (except for later models of the Series 1000)

IBM Network Station benefits are:

- Provides simultaneous access to applications throughout the enterprise and on the Internet, intranets, and extranets.
- Enables fast deployment of applications on the server.
- Simplifies the management and administration of desktops.
- Reduces total cost of ownership.
- Leverages widely accepted Internet standards and technologies.
- Reduces hardware failures, down time and lost productivity. Improves data security.
- Extends the life of desktop computing investments.
- Positions the enterprise for the future.

Below is a graphical representation of the IBM Network Station Series and how they are viewed at the desktop level:



Figure 4. The IBM Network Station Series 100

The IBM Network Station Series 100 (Figure 4) is the access network computer. It's the most economical thin client for organizations that want to move beyond limited-function terminals and access graphical applications, the Internet, and Java applets alongside traditional, character-based applications. Like all members of the Network Station family, the Series 100 helps speed application deployment and lower your total cost of computing.



Figure 5. The IBM Network Station Series 300

The IBM Network Station Series 300 (Figure 5) is the Internet network computer. It's the thin client of choice for organizations that need access to browser-based applications and data residing on the Internet or corporate intranets, along with graphical Windows and character-based applications. The IBM Network Station Series 300 is available in versions that support Ethernet, Token-Ring and Twin axial (AS/400) cable connections. Like all members of the Network Station family, the Series 300 helps speed application deployment and lowers you total cost of computing.



Figure 6. The IBM Network Station Series 1000

The IBM Network Station Series 1000 (Figure 6) is the Java-focused network computer. It delivers powerful support for running Java applications while simultaneously accessing familiar graphical Windows and character-based applications. It's the thin client choice for organizations that are implementing Java- and Internet-oriented application architectures and it comes with the Java-based Lotus eSuite software.

3.1.1 IBM Network Station Manager

The Network Station ships with Network Station Manager, paired client and server software that includes a user interface, emulators, a browser, Java Virtual Machine, and other features.

The IBM Network Station Manager software provides for management, administration, and authentication of the IBM Network Station. It provides a customized environment with discrete or simultaneous access to:

- Windows (ICA), UNIX, 5250, 3270, and ASCII terminal-based applications
- Internet and intranet applications and data
- JVM 1.1.6
- IBM Netfinity servers, AS/400, RS/6000, S/390 and other PC server types.

Network Station Manager Version 1, Release 3 is the industry-standard for managing first-generation IBM Network Station thin clients. Network Station Manager Version 1, Release 3 (NSM V1R3) is IBM's industry-leading thin client management and administration software that enables centralized, server-based set up and configuration for all Network Station Series 100s, 300s, and 1000s in an enterprise. An administrator can access Network Station Manager from any location on the network to create and manage user-specific desktop environments and access privileges, and to control all Network Station applications and access to server resources such as disk files and printers.

More information regarding the IBM Network Station and the IBM Network Station Manager can be obtained from the following Web site:

<http://www.pc.ibm.com/us/networkstation/>

For deploying the IBM Network Station, we highly recommend that you obtained the IBM redbook, *IBM Network Station Manager Release 3 Guide for Windows NT*, SG24-5221. This redbook can be obtained from the following Web site in PDF format:

<http://www.redbooks.ibm.com/>

Network Station Manager features and benefits:

Table 1. The IBM Network Station Manager Features and Benefits

Feature	Benefit
Centralized, server-based management and administration	<p>For Administrators:</p> <ul style="list-style-type: none"> - Fast, easy application deployment - Efficient use of IT resources - Enhanced security, data backup, and recovery <p>For Users:</p> <ul style="list-style-type: none"> - Less time spent on system maintenance - Access to desktop environment from any Network Station in the enterprise, allowing users to roam - Access to current applications enables customization of desktop characteristics
Browser interface	<p>For Administrators:</p> <ul style="list-style-type: none"> - Enables access from any Network Station accessible to the network <p>For Users:</p> <ul style="list-style-type: none"> - Provides an easy-to-use graphical interface with built-in online help that can reduce training and support costs - Offers access to the Internet or corporate intranet, along with Java applet/application support
Multiple configuration default levels	<ul style="list-style-type: none"> - IBM-supplied defaults help you get started quickly using common settings that can later be overridden - System defaults permit mass changes affecting all users - User and workstation defaults enable highly granular desktop customization

In addition, the Network Station Manager provides:

- Built-in support for multiple serial ports and touch screen displays
- Flash Memory Card support
- Extensive National Language Support
- Support for ICA load balancing, virtual print, virtual communications, text cut/paste
- Support for Lotus eSuite WorkPlace 1.5 (English only)
- Supports local boot from flash card
- Year 2000 and Euro-ready

Chapter 4. IBM Netfinity Family of Servers

The IBM and J.D. Edwards solution for your business starts with a choice of Intel-based servers that can provide exceptional network support. With the IBM server models, you will gain outstanding power, scalability, control, and service, for today's enterprise-to-small network environments. Your decision to choose the IBM and J.D. Edwards solution will allow you to deploy business-critical applications with confidence. J.D. Edwards and IBM are very concerned about the aspects of their customers' businesses, such as the high availability of network services to access and manage mission-critical information, and provide a reliable and secure platform.

This chapter introduces a new line of IBM Netfinity 7000 M10, 5500 M20, 5500, 5000, and 3000 servers, the first in a new family of enterprise servers. The IBM Netfinity servers leverage IBM's server heritage, combining high-performance application computing based on industry-standard, Intel processor-based technology. The IBM Netfinity servers have been designed to enable customers to run demanding e-business applications, including Web server and on-line transaction processing (OLTP), and data-intensive operations.

The IBM server solution provides a very reliable platform for running the world's most popular network operating system, Microsoft NT Server 4.0, the network operating system required for J.D. Edwards' OneWorld Deployment server. This chapter describes the IBM server product line and its features. This information should be used to select the right server platform for your ERP business solution.

4.1 About IBM Netfinity

From the ground up, IBM Netfinity is designed and built to deliver midrange-level performance in critical areas such as enterprise resource planning (ERP) and e-business. The IBM Netfinity server provides the power and scalability to distribute the most demanding 24x7x365 applications and data including your ERP and e-business applications. The IBM Netfinity server includes the following controls for easier management of all your system's resources and the total service that business-critical systems demand:

- **Processing Power** - IBM Netfinity uses the latest Intel Pentium III Xeon processors, power integrated into a server system balanced and tuned for high-speed distribution of applications and data throughout your enterprise.
- **Scalability** - IBM Netfinity servers handle the most resource-hungry data and applications with ease. These applications include J.D. Edwards' OneWorld, Lotus Domino, Microsoft SQL Server and Oracle8 for Windows NT. The ingenious design of the IBM Netfinity server allows it to be configured as a tower or a rack system, so it's easy to grow your server with your business. Key options and components can be quickly replaced, upgraded, or removed - without powering down the server.
- **Control** - IBM Netfinity Manager software and the Netfinity Advanced Systems Management Adapter put you in complete control of your server and all your systems' resources graphically, from a single point of control. So you can see all your systems at a glance, from virtually anywhere in the world, anytime of the day or night. You'll also be in the position to proactively manage your systems for peak efficiency and output.

- **Service** - IBM's renowned service and support are with you all the way. Listed are the worldwide available Web sites:

Netfinity	www.pc.ibm.com/us/netfinity/ - for latest products
J.D. Edwards Alliance	www.ibm.com/erp/jdedwards/
Server Solutions	www.pc.ibm.com/us/solutions/netfinity/index.html
ServerProven	www.pc.ibm.com/us/compat/
SystemXtra	www.pc.ibm.com/us/systemxtra/
TechConnect	www.pc.ibm.com/techconnect/
Support	www.pc.ibm.com/support/
Accessories	www.pc.ibm.com/us/accessories/
Services	www.ibm.com/services/
Year2000	www.pc.ibm.com/year2000/
TCdigest	www-1.ibm.com/support/tcp/
iSource	www.ibm.com/isource

Today, you can configure and order your Netfinity server directly from the Internet at a very competitive price. To do so, go to the following Web site:

BuyIBM www6.pc.ibm.com/buyibm

If you need assistance to help you in your buying decision, use the Sales Assistant located at the BuyIBM Web site.

4.1.1 The Foundation for J.D. Edwards and Domino Applications

J.D. Edwards' OneWorld on Windows NT gives you an ERP solution designed to meet your needs today and well into the future. The powerful, scalable foundation for OneWorld is IBM Netfinity.

The IBM Netfinity is ready to provide you with the following features:

1. The latest Pentium Xeon III Technology

Up to four-way Pentium III Xeon symmetrical multiprocessing in both tower and rack-mountable IBM Netfinity 7000 M10 models.
2. Ultra Fast Throughput

High-speed intelligent disk subsystems with Wide Ultra SCSI controllers, Serial Storage Architecture (SSA), and Fibre-channel adapters and drives, deliver excellent Windows NT application performance.
3. Storage Flexibility

Expand disk arrays while the server is still running using IBM Logical Drive Migration technology with IBM ServeRAID Adapters.
4. Netfinity Advanced Systems Management PCI Adapter

The Netfinity Advanced Systems Management Adapter allows you to communicate with your Netfinity server using Netfinity Manager. It can be used to configure and monitor many of your system's features. With the Netfinity Advanced Systems Management service of Netfinity Manager, you can configure events such as POST, loader, and O/S timeouts, critical temperature, voltage and tamper alerts, and redundant power supply failures.

This service also enables you to dialout and directly access and control a remote system's NASM adapter or Netfinity Advanced Remote Management processor.

5. Complete Manageability Software Suite

Includes IBM Netfinity Manager software for proactive server management and control, IBM Capacity Management tool for upgrade planning, and integrated UPS management for safe application shutdown. All of these are provided as standard to help you reduce your total cost of ownership.

6. Extensive Hardware Management Integration

Disk Drive alerting with S.M.A.R.T. and Predictive Failure Analysis (PFA) provides pre-failure notification for disk drives. Enable full 'lights out' remote management including key component status and remote power and restart with an IBM system management processor that is standard on some models and optional on all IBM Netfinity systems.

7. High Availability

Minimizes system down time with ECC memory, RAID subsystems with hot-swappable disk drives, redundant power supply units, and cooling fans. Certified for Microsoft Cluster Server to provide a highly available fault-tolerant platform for Windows NT applications to protect against server or application failure.

8. Rack Mountable

IBM Netfinity Rack provides an industry-standard 19" enclosure to support IBM Netfinity 7000 M10 and 5500 rack mountable servers and other options to save valuable floor space and ease maintenance operations.

9. Compatibility and Performance

Dedicated IBM engineering teams conduct ongoing compatibility testing, certification testing, performance measurement, and optimization to help ensure that IBM Netfinity systems, Windows NT Server, and J.D. Edwards' OneWorld run seamlessly together.

10. IBM Start Up Support and IBM Warranty

IBM Start Up Support provides, at no additional charge, telephone assistance for IBM and selected third-party hardware, and Windows NT Server, for the first 90 days of ownership. Our servers are also covered by IBM's three-year limited on-site warranty.

11. TechConnect

A comprehensive program designed exclusively for networking professionals provides unique solution-based technical information, training and certification opportunities, and more.

12. Lotus Domino R5 Included

Data can be transferred from J.D. Edwards' OneWorld application to Lotus Domino and other Lotus products, allowing users to use their familiar applications for data analysis and manipulation.

The new Domino R5 offerings at no additional charge will be package with the Netfinity server as follows:

1. IBM Netfinity 3000 and 5000 servers will include a license of Domino Mail Server Release 5 (Windows NT version) plus five client licenses.

2. IBM Netfinity 5500 and 7000 servers will include a license of Domino Application Server Release 5 (Windows NT version) plus five client licenses.

4.2 IBM Netfinity 3000

The Netfinity 3000 delivers solid performance and excellent functionality to the entry server marketplace. Your small business applications can run faster or be upgraded to handle today's more complex business requirements by installing them on the affordable Netfinity 3000 containing the latest Intel Pentium II processor technology. These stylish, uni-processor servers feature a powerful 500/100(1) MHz Pentium III processor with 512 KB ECC L2 cache, a full-duplex 10/100 Mbps Ethernet controller, a PCI Fast/Wide Ultra SCSI Adapter, and integrated sensors to monitor system well-being.

The Netfinity 3000 expands the entry Netfinity product line by offering the latest Intel processor with the right level of network server function to produce an affordable mini-tower package perfect for many of today's business networking applications. They are ideal in small business environments for handling basic to moderately complex business application suites or as a file server. For large-to-medium-sized businesses, they are designed to run similar business applications in departmental or branch office environments.

Potential customers acquiring an IBM Netfinity 3000 server may have the following requirements:

- An affordable server that practically installs itself with the IBM ServerGuide CD-ROM. The IBM ServerGuide is shipped with all Netfinity servers.
- A server packed with power and scalability features that support the operations of a J.D. Edwards' OneWorld Deployment server, and other roles of file-and-print serving, workgroup productivity applications, such as the Lotus Domino Mail Server R5 (shipped with Netfinity at no additional cost), and shared Internet access.
- 500/100 MHz Pentium III processor with dedicated 512 KB ECC L2 cache.
- 64 MB 100 MHz SDRAM Error Checking and Correcting (ECC) DIMM standard, expandable to 768 MB.
- Five available full-length expansion slots - two PCI slots and three ISA slots.
- Six total drive bays supporting up to 72.8 GB of internal hard disk storage.
- Bootable 32X/14X IDE CD-ROM, 9.1 GB Wide Ultra SCSI hard disk drive (model dependent), and 1.44 MB diskette drive.
- A 330-watt, voltage-sensing power supply with a fan and two additional cooling fans - power and cooling for robust configurations.
- An IBM PCI Fast/Wide Ultra SCSI Adapter using the Adaptec AHA-2940UW PCI adapter supporting up to four internal SCSI devices through the 16-bit internal connector or 15 external SCSI devices through the 16-bit external connector.
- Two USB ports, two high-speed, NS16550A software-compatible serial ports, and one high-speed parallel port supporting devices using SSP/EPP/ECP protocols adhering to the IEEE 1284 standard.

- Integrated Accelerated Graphics Port (AGP) video controller with 4 MB of 100 MHz synchronous graphics RAM (SGRAM0 providing optimum setup and systems management capability).
- Integrated systems management features - Vital Product Data (VPD) plus thermal, voltage, and fan sensors - alerts generated through Netfinity Manager.
- Netfinity Manager software (at no cost), which allows you to apply proactive Systems Management functions across your entire networked business systems. In addition, Netfinity Manager can integrate with key workgroup and enterprise management platforms using industry-standard protocols, such as SNMP, MIB, and MIF, and allowing proprietary systems management software to integrate, by using critical file monitoring.
- A reliable foundation to confidently build your networked entry-enterprise business system.

The IBM Netfinity 3000 is shown in Figure 7 on page 24.

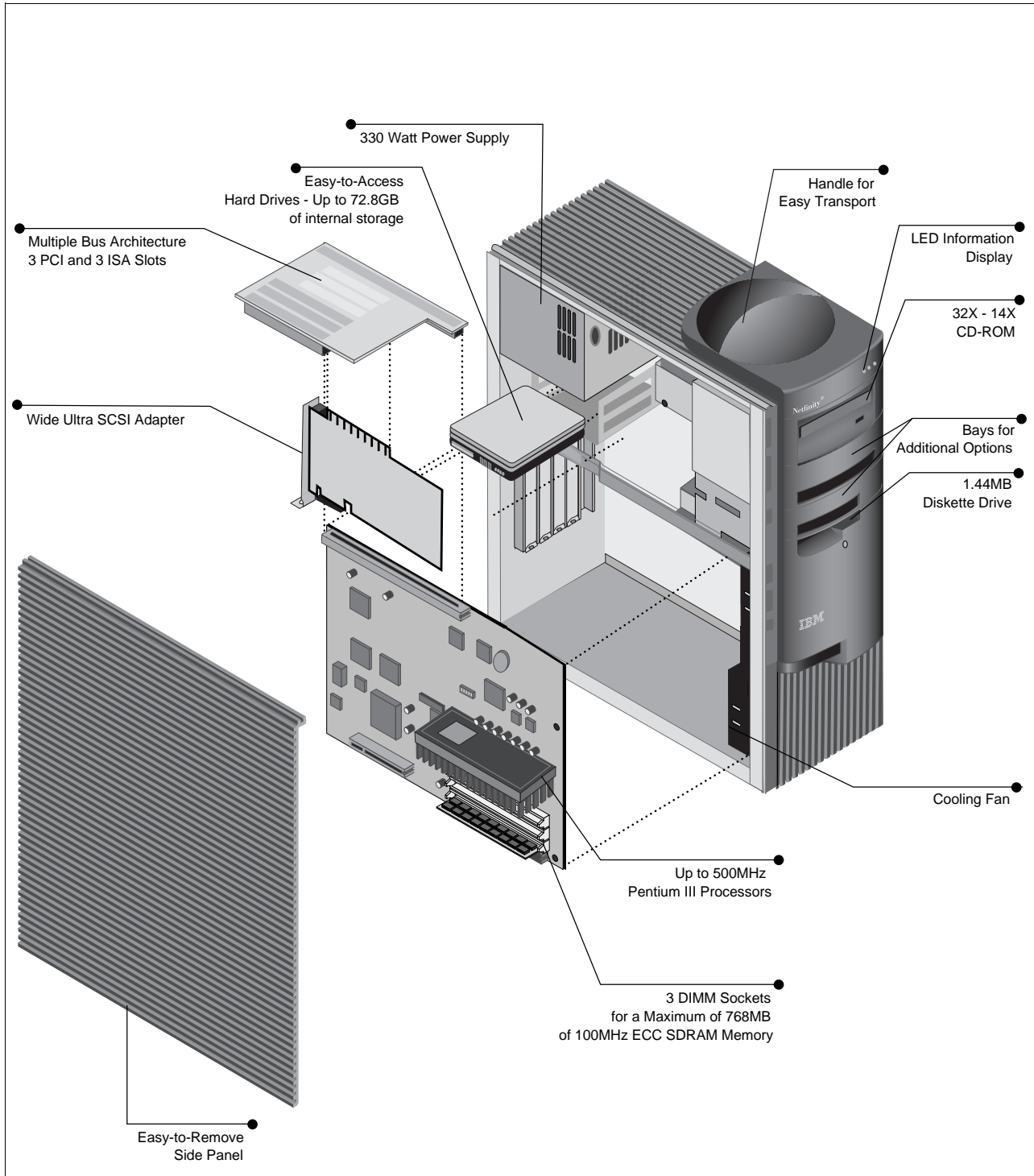


Figure 7. Exploded View of the IBM Netfinity 3000 Tower Server

Even at entry level, this platform combines leading-edge, industry-standard technologies, good internal data storage capacity, ease of installation and system management, and solid performance through a 500/100 MHz Pentium III processor. These uni-processor servers provide a cost-effective, high-performance platform to support networking applications where moderate

amounts of adapter expansion and internal disk storage is required or anticipated in the future.

4.3 IBM Netfinity 5000

The IBM Netfinity 5000 delivers the perfect blend of power, manageability, expandability, and serviceability to satisfy the requirements of small-to-large-sized businesses looking for an affordable general purpose network server. These servers fit right into business environments where rack or tower configurations are desired.

For e-business applications, they are an excellent choice as Lotus Domino Server R5 or Domino Intranet servers. For your J.D. Edwards' OneWorld solution, the Netfinity 5000 is the recommended entry server to support OneWorld deployment services. In addition, they offer 500 MHz Pentium III power with synchronized 100 MHz operations to memory so that the distribution, updates and upgrades of OneWorld software over the network are quick and efficient. To keep a OneWorld deployment site running, the Netfinity 5000 has various cost-effective, high-availability features such as hot-swap hard disk drives, Predictive Failure Analysis (PFA), and redundant power supplies. Each value-priced Netfinity 5000 is backed by the same world-class service and support found with our larger systems.

Using the integrated Netfinity Advanced Systems Management processor in conjunction with IBM award-winning Netfinity Manager and award-winning Lightpath diagnostics, it is the total solution for proactive control of your networked business systems, seamlessly integrating with key workgroup and enterprise management platforms.

The Netfinity 5000 is for customers interested in greater processing subsystem performance, disk capacity, rack-drawer capability, and high-availability functions than that of the Netfinity 3000. Customers requiring a higher level of availability and greater disk storage capacity will still want the Netfinity 5500. The Netfinity 5000 is for customers who want a very affordable general-purpose server that has excellent performance capability, manageability, serviceability, and moderate amounts of high-availability features.

The Netfinity 5000 is a completely new mechanical package engineered for the compactness of a 5 U rack drawer. Potential users of the IBM Netfinity 5000 server may have the following requirements:

- 500/100 MHz Pentium III processors with 512 KB ECC L2 cache.
- Ready for two-way symmetrical multiprocessing (SMP) applications with optional second processor.
- Innovative 350-watt power supply - standard redundant capability.
- 128 MB high-speed system memory - 2 GB maximum.
- Integrated Netfinity Advanced Systems Management processor.
- Five full-length adapter card slots - three PCI and two PCI/ISA slots.
- Eight drive bays -
 - Five 3.5-inch slim-high, hot-swap drive bays, two 5.25/3.5-inch half-high device bays, and one 3.5-inch slim-high drive bay.

- Internal support for high-performance 4.51 GB and 9.1 GB 10K Wide Ultra SCSI HDDs and a high-capacity tape backup device.
- Options By IBM (OBI) provides an excellent selection of devices tested and supported on the Netfinity 5000 (such as the 20/40 GB 8 mm Internal SCSI Tape Drive and the 12/24 GB DDS/3 4 mm Internal Tape Drive).
- Up to 91 GB of internal data storage - five 18.2 GB Ultra SCSI SL Hot-Swap HDDs.
- A 32X/14X IDE CD-ROM and 1.44 MB diskette drive.
- Tower and industry-standard 5 U rack-drawer models.
- Integrated 10/100 Mbps Ethernet, dual-channel Ultra SCSI, and an SVGA controller with 1 MB of video memory.
- Two serial ports (two 16550A compatible), one parallel port, two USB ports, system management port, mouse port, and keyboard port.

The IBM Netfinity 5000 is shown in Figure 8.

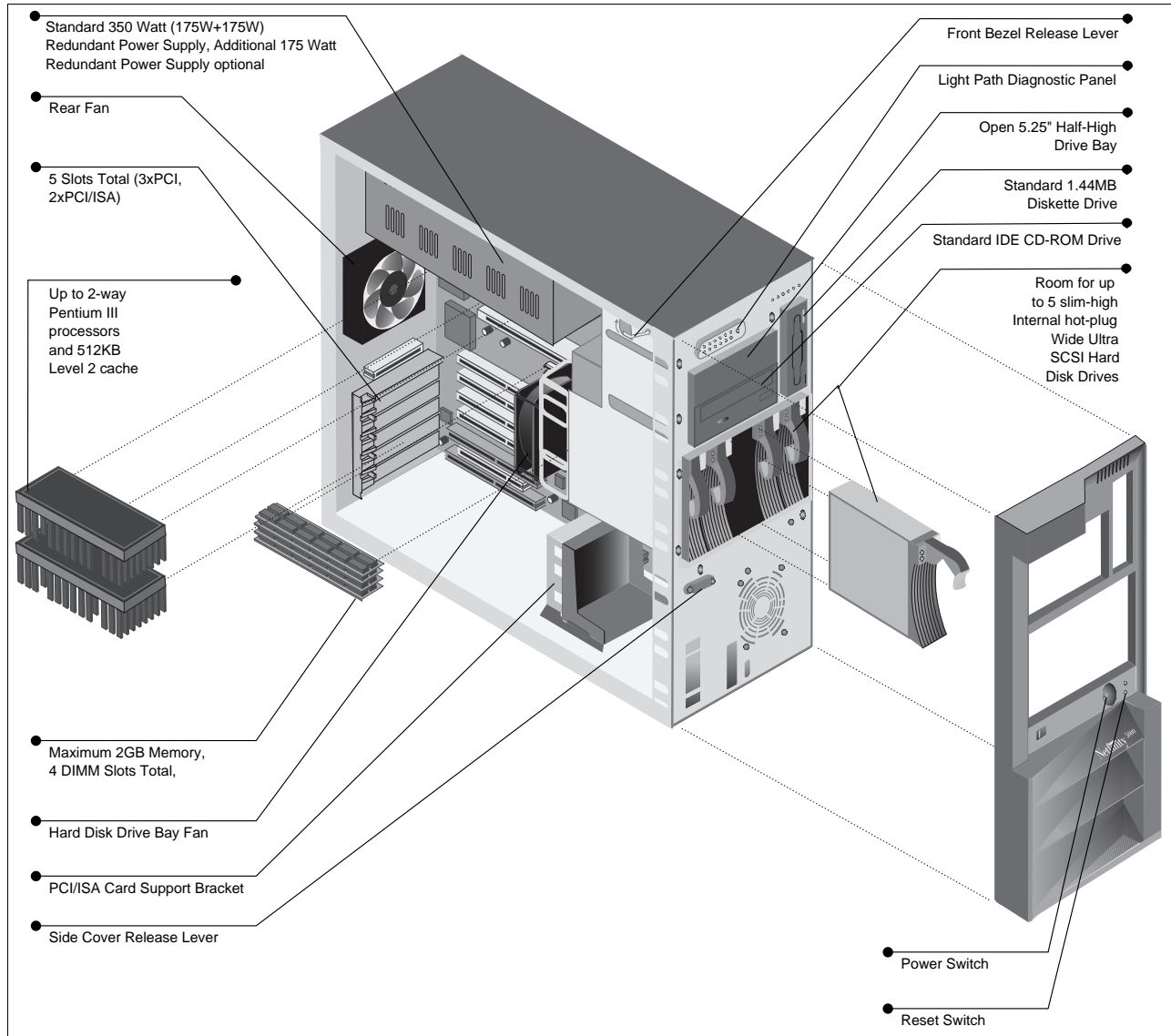


Figure 8. Exploded View of the IBM Netfinity 5000

4.4 IBM Netfinity 5500 and 5500 M20

The IBM Netfinity 5500 and 5500 M20 servers have the power, scalability and manageability for the many demands of your networked systems. Furthermore, with the IBM Netfinity 5500 models, you can maximize your investment through IBM's unrivaled, world-class service and support programs.

4.4.1 IBM Netfinity 5500

New rack and tower models of the popular, award-winning Netfinity 5500 give you the latest Pentium III processor power to run your business. These functionally rich servers not only boost performance but offer the scalability, control, and serviceability you need to confidently run your business-critical applications.

The Netfinity 5500 servers are positioned between the Netfinity 5000 and the Netfinity 5500 M20. They are affordable, two-way SMP capable Pentium III

processor-based platforms designed with high-availability features required to run business-critical applications.

The Netfinity 5500 is for customers who need the power and affordability of the new Pentium III processors with 100 Mhz operations to memory to be used in uni- or two-way processing applications. But it is as important for those customers who must have advanced levels of high-availability and fault-tolerant features for business critical applications found in their corporate data center, branch office, or medium-sized business. Potential users of the IBM Netfinity 5500 who need high-performance, high-availability, two-way SMP capable ERP, database, application server, or e-business solution may have the following requirements:

- 500/100 MHz Pentium III processors with 512 KB ECC L2 cache
- 128 MB or 256 MB system memory - 1 GB maximum
- Upgradeable to two-way or four-way Intel Pentium Xeon(R) processors
- Standard 400-watt hot-swap power supply, optional hot-swap redundant power supply, and standard hot-swap redundant fans
- Integrated Netfinity Advanced Systems Management Processor
- Seven full-length adapter card slots - four hot-swap PCI slots, two conventional PCI slots, and one dedicated ISA slot
- Ten total drive bays -
 - Six 3.5-inch slim-high, hot swap drive bays, three 5.25/3.5-inch half- high device bays, and one 3.5-inch slim-high drive bay - all allowing access to removable media
 - One conventional fan and two high-capacity blowers reducing temperatures for full configurations of adapters and 10K rpm HDDs
 - Internal support for high-performance 4.51 GB and 9.1 GB 10K Wide Ultra SCSI hard disk drives and high-capacity tape backup devices
 - Options By IBM (OBI) provide an excellent selection of devices tested and supported on the Netfinity 5500; devices included are:
 - 35/70 GB Internal DLT Tape Drive
 - 20/40 GB 8-mm Internal SCSI Tape Drive
 - 12/24 GB DDS/3 4-mm Internal Tape Drive
 - Up to 109.2 GB of internal data storage - six 18.2 GB Ultra SCSI SL Hot-Swap Hard Disk Drives
 - Up to 1.2 terabytes of hot-swap storage when combined with three Netfinity EXP15 storage units in two additional Netfinity NetBAY3 enclosures
 - An 32X/14X IDE CD-ROM and 1.44 MB diskette drive
- Industry standard 8 U, 19-inch, rack-drawer model
- Tower models with innovative Netfinity NetBAY3 enclosure
- Integrated dual-channel ServeRAID II Wide Ultra SCSI controller with 4 MB cache, providing up to 132 MB/sec throughput for high-performance RAID 0, 1, or 5 internal or external data storage with logical drive migration and updated drivers to support:
 - Background data scrubbing - corrects disk media errors before they cause a problem.

- One step array initialization and synchronization - reduces the time to prepare a new RAID 5 array to accept data
- 10/100 Mbps Ethernet, and SVGA video controllers
- An SVGA controller with 1 MB of video memory
- Three serial ports (two 16550A compatible), one parallel port
- USB ports, a mouse port, and a keyboard port

The IBM Netfinity 5500 is shown in Figure 9.

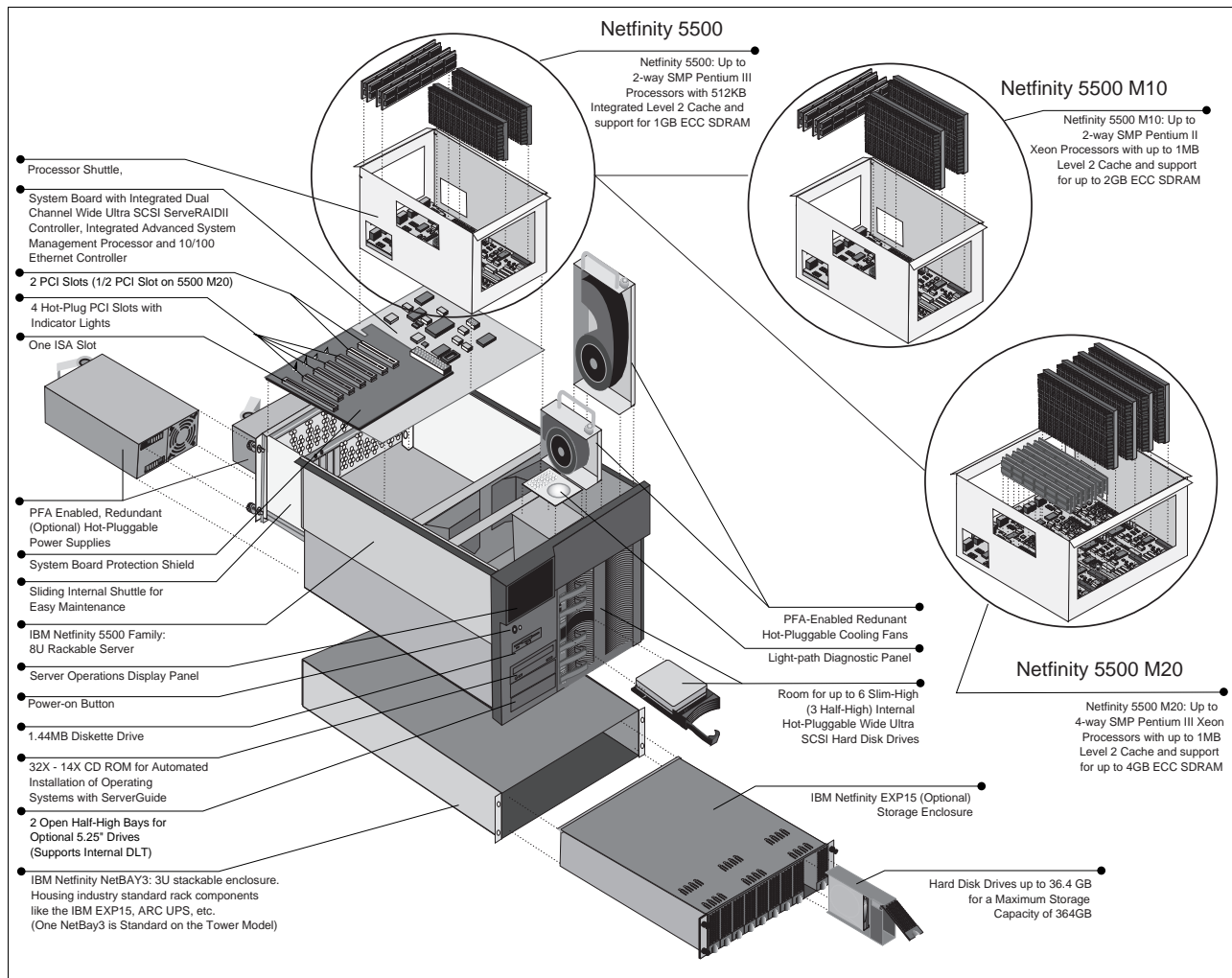


Figure 9. Exploded View of the IBM Netfinity 5500 and 5500 M20 Rack Server

Customers in medium-to-large-sized accounts should be informed that the Netfinity 5500 is not only a powerful SMP capable server with excellent scalability features, but also has all the other ingredients necessary to run business-critical applications and minimize down time. Fault tolerance and high-availability features of this server are designed to make adapter card, power supply, or hard disk drive failures transparent to clients on the LAN. In addition, there are predictive failure analysis features for the processor, VRM, memory, and HDDs, error-logging of events, and status LEDs provide a constant snapshot of the

server's well-being so that questionable components can be replaced during off hours.

4.4.2 Netfinity 5500 M20

The IBM Netfinity 5500 M20 servers advance the popular Netfinity 5500 line by introducing affordable, four-way SMP processing power and scalability to mainstream network computing. Using the latest high-performance Intel 500 MHz Pentium III Xeon processors, these servers deliver blazing performance while giving you the advanced high-availability and remote system management features you need to handle your business-critical applications. Valuable IBM programs top off the offering by bringing mainframe-like support, installation tools, and e-business solution capability without additional charge.

The Netfinity 5500 M20 (also shown in Figure 9 on page 29) excels in network server applications by using powerful Pentium III Xeon processors with either 512 KB ECC or 1 MB full-speed caches that run external operations to memory and I/O buses at 100 MHz. These four-way capable processors coupled to high-speed 100 MHz memory, two primary PCI buses, high-performance integrated Ethernet and RAID controllers, and optional 10K rpm hard disk drives (HDDs) jump mainstream server performance to new heights.

The Netfinity 5500 M20 server is positioned just under the Netfinity 7000 M10. For those who require the additional expansion of memory and I/O adapters or the performance of 64-bit PCI bandwidth and four-way SMP Pentium II Xeon processors, the Netfinity 7000 M10 is an excellent solution. The Netfinity 5500 M20 is for customers who need 500 MHz Pentium III Xeon processors with four-way SMP capability and support for large amounts of memory for compute-intensive applications. They are the perfect solution when advanced levels of high-availability and serviceability features are necessary for business-critical applications found in corporate data centers, branch offices, or medium-sized businesses.

Potential customers who need an advanced mainstream server for the J.D. Edwards' OneWorld ERP system, a database server, an application server, or e-business solutions may have the following requirements:

- Advanced 500 MHz/512 KB or 500 MHz/1 MB Pentium III Xeon processors with 100 MHz operations to memory and I/O subsystems
- 500 watts hot-swap power supply, hot-swap redundant fans, and optional hot-swap redundant power supply
- Netfinity Four-Way Processor Upgrade for Netfinity 5500 and 5500 M10
- 256 MB ECC system memory - 4 GB maximum
- Integrated Netfinity Advanced Systems Management Processor
- Six adapter card slots -
 - Four hot-swap, full-length PCI slots, one conventional, half-length PCI slot, and one dedicated full-length ISA slot
- Ten drive bays -
 - Six 3.5-inch slim-high, hot-swap drive bays, three 5.25/3.5-inch half-high device bays, and one 3.5-inch slim-high drive bay - all allowing access to removable media

- Two hot-swap fans and two hot-swap, high-capacity blowers reducing temperatures for full configurations of adapters and 10K rpm HDDs
- Internal support for:
 - 18.2 GB slim-line and 36.4 GB half-high Wide Ultra SCSI hot-swap HDDs (7,200 rpm)
 - High-performance 9.1 GB and 18.2 GB 10K Wide Ultra SCSI hot-swap HDDs (10,000 rpm)
 - High-capacity tape backup devices
- Options By IBM (OBI) provides an excellent selection of devices tested and supported on the Netfinity 5500 M20; devices include:
 - 35/70 GB Internal DLT Tape Drive
 - 20/40 GB 8mm Internal SCSI Tape Drive
 - 12/24 GB DDS/3 4mm Internal Tape Drive
- A 32X/14X IDE CD-ROM and 1.44 MB diskette drive
- Up to 109.2 GB of internal data storage - six 18.2 GB Wide Ultra SCSI SCA-2 SL HDDs
- Over 1.2 terabytes of hot-swap storage when combined with three Netfinity EXP storage units in two additional Netfinity NetBAY3 enclosures
- Industry-standard 8 U, 19-inch, rack-drawer models
- Tower models with innovative Netfinity NetBAY3 enclosure
- 10/100 Mbps Ethernet
- Three serial ports (two 16550A compatible), one parallel port, two USB ports, a mouse port, and a keyboard port
- Integrated dual-channel ServeRAID II Wide Ultra SCSI controller with 4 MB cache, providing up to 132 MB/sec throughput for high-performance RAID 0, 1, or 5 internal or external data storage with logical drive migration and updated drivers to support:
 - Background data scrubbing - corrects disk media errors before they cause a problem.
 - One step array initialization and synchronization - reduces the time to prepare a new RAID 5 array to accept data
- An SVGA controller with 1 MB of video memory

The configuration flexibility of Netfinity 5500 M20 is a key benefit in supporting today's dynamic business environments.

4.5 IBM Netfinity 7000 M10

The IBM Netfinity 7000 M10 server is a reliable enterprise server available in either rack or tower models. This server is able to deliver exceptional power, functionality, and value to handle complex, business-critical database or application server needs among growing messaging and intranet applications. The Netfinity 7000 M10 system is intended for enterprise customers whose networks depend on a reliable, high-performance platform with excellent scalability for future growth. The Netfinity 7000 M10 can also function as a

OneWorld Enterprise server in LAN environments where a significant number of users require a large amount of server resources.

With the addition of the Netfinity 7000 M10 models to the Netfinity family, even greater intensive CPU requirements and larger databases can be accommodated, meeting the processing power and robustness of even the most demanding and complex business-critical environments in today's highly complex and intensive business markets.

The Netfinity 7000 M10 advances Intel-based network computing to new levels of performance with an architecture that consists of a 64-bit, 100 MHz CPU backplane that supports four 500 MHz Pentium III Xeon processors, a 100 MHz memory controller, and two 16-bit, 100 MHz F-16 buses. The four-way SMP capable Netfinity 7000 M10 delivers impressive TPC-D, SpecWeb on Windows NT, and J.D. Edwards benchmarks that prove it can handle the e-business or advanced application server environments in your enterprise.

Potential customers seeking a reliable foundation to confidently run your networked mission-critical J.D. Edwards' enterprise applications may have the following requirements:

- High-performing 500 MHz Pentium III Xeon processors optimized for server applications with:
 - 512 KB ECC L2 cache
 - 1 MB ECC L2 cache
 - 2 MB ECC L2 cache
- High-speed (50 ns) interleaved, ECC memory - up to 8 GB capacity
- Dual, high-speed system buses supporting high-speed Ethernet, ATM, and FDDI topologies and ServeRAID 3H/3L, SSA, or Fibre Channel disk subsystems
- Five 64-bit and seven 32-bit PCI adapter slots
- Integrated Netfinity Advanced Systems Management PCI Adapter with Ethernet port providing a dedicated processor to perform advanced remote management and monitoring functions
- Twelve full-length PCI slots supporting multiple adapters and allowing for adapter redundancy
- Horizontal orientation fits the rack drawer or can be converted to tower installations with device bays remaining in a convenient horizontal position
- Six total drive bays - all allowing access to removable media
 - Four 3.5-inch slim-high or two half-high, hot-swap drive bays
 - One 5.25/3.5-inch half-high device bay with 32X/14X CD-ROM
 - One 3.5-inch slim-high drive bay with 1.44 MB diskette drive
- Internal support for high-performance 4.51 GB, 9.1 GB, and 18.2 GB, 10K Wide Ultra SCSI HDDs, or 7200 rpm drives up to 36.4 GB each
- Terabytes of data storage capacity through attachment of external Netfinity EXP storage units using 36.4 GB HDDs
- An excellent selection of devices tested and supported with the Netfinity 7000 M10 such as the 35/70 GB External DLT Tape Drive or Magstar Tape Libraries

- Two Integrated Adaptec AIC-7895 SCSI controllers providing up to 132 MB/sec throughput for high-performance internal or external data storage, or external tape backup
- Industry-standard 11 U, 19-inch rack-drawer models
- Conversion to tower configurations and optional Netfinity NetBAY3 enclosures
- Supports Fibre Channel and Oracle Parallel Server through the Netfinity Cluster Enabler
- Two serial ports (16550A compatible), one parallel port, two USB ports, one SCSI port, a mouse port, and a keyboard port
- An S3 Trio64V2/GX video controller with 1 MB of video memory

The Netfinity 7000 M10 is shown in Figure 10.

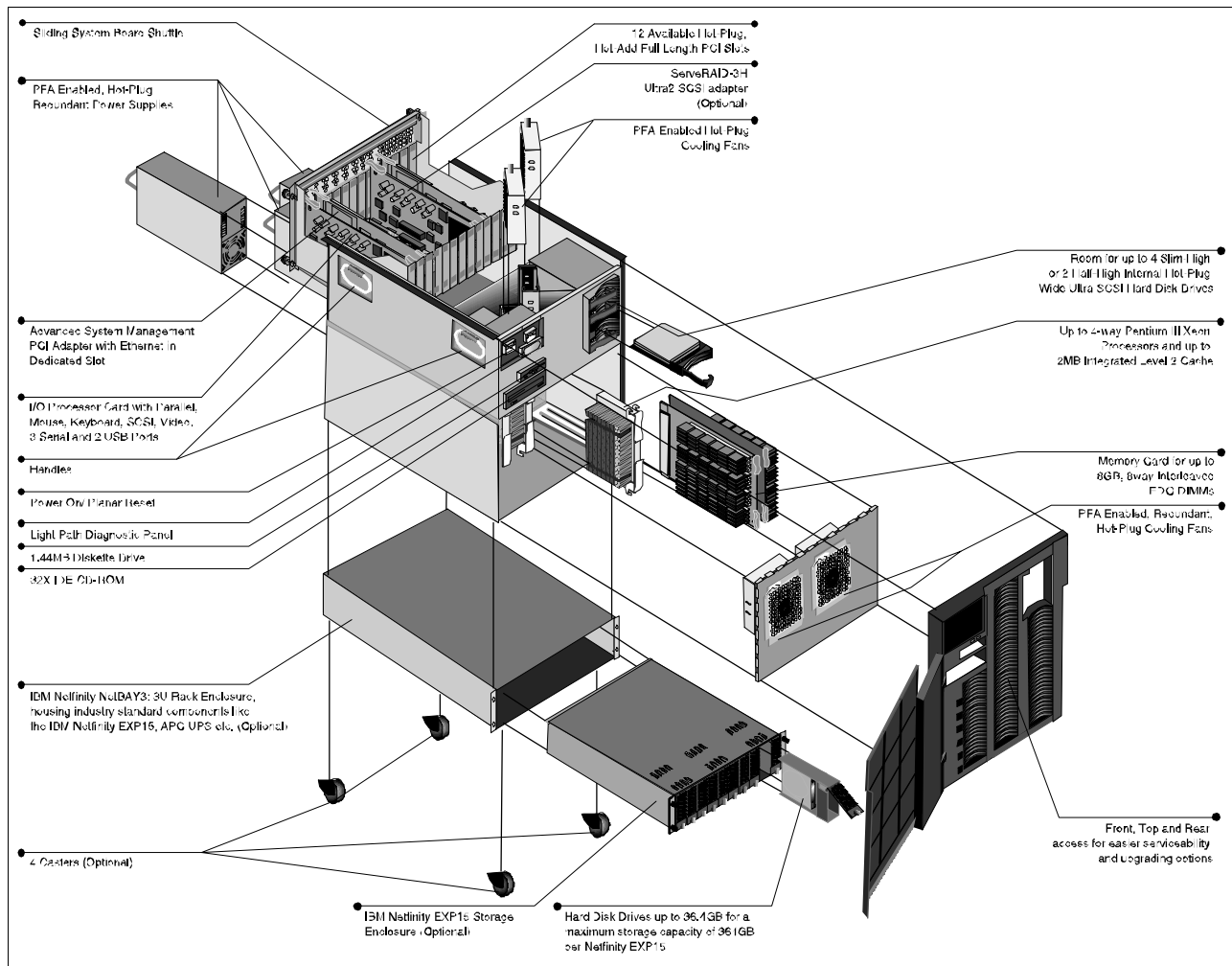


Figure 10. Exploded View of the IBM Netfinity 7000 M10 Server

The Netfinity 7000 M10 contains advanced availability, manageability, and serviceability features to help diagnose problems quickly, even from remote locations:

- Hot-swap PCI card slots, drive bays, fans, power supplies, and optional redundant power supplies enabling redundancy and replacement of components without powering down the server
- Predictive failure analysis (PFA) on key components warning of impending problems so corrective action can be taken before system outage
- An integrated Netfinity Advanced Systems Management PCI Adapter in a dedicated PCI slot supporting:
 - Remote access through a serial or LAN connection
 - Management from a Netfinity Manager console, an ANSI terminal emulator, or Web browser
 - Monitoring and logging of system events
 - Alerts generated if critical system thresholds are approached
 - Restarting the server if the operating system is not responding
- Light-Path Diagnostics displayed on the control panel quickly point to a failing component.
- Mechanical design points allow top, front, and rear access to make critical components more easily accessible so servicing and upgrading new options is quick and easy.

Chapter 5. Sizing, Considerations, and Recommendations

Currently the IBM sizing service for J.D. Edwards is able to provide pre-sales support for two-tier implementation only. In a two-tier implementation the enterprise server functions as the central database server, supporting clients running OneWorld business logic.

Configuration can be changed very rapidly in the field, instantly, as the requirements of business dictate. Additional servers can be added on an application basis, such as Web, File, Print, without having to rewrite applications and without need of application programmers for the new systems.

The approach to sizing J.D. Edwards' OneWorld on the IBM Netfinity platform is the same as sizing any hardware with an application, that is, to simply identify individual components, such as:

- Network operating system
- Systems management software
- Networking software
- Applications
- Hardware platform components

When individual components have been identified, determine the individual requirements of each, then total them up to define the overall requirements. This is a very simple overview of a sizing process. There are many other aspects to this, which are too many to consider discussing here and best left to a separate book on the subject of sizing methodology.

This simple approach does lead to a methodology of sizing that will allow flexibility within individual components, which is very important in today's rapidly and ever changing IT and business environments.

Before submitting a sizing request to IBM, it is strongly suggested that you read and understand the sizing process of J.D. Edwards' OneWorld as it discusses points that you may have not considered.

Note: This chapter covers the sizing requirements of J.D. Edwards' OneWorld versions B73.3 and B73.3.1 only.

It is recommended that you carefully read 5.2, "Hardware Considerations" on page 36 and 5.3, "Software Considerations" on page 50.

While considering your customer's requirements, you should take notes as you read. This overall approach will ensure that you have made careful deliberation of both hardware and software. Once you have reviewed the hardware considerations and software considerations, review 5.6, "Requests for Sizing" on page 66.

5.1 Hardware and Software Considerations and Requirements

To simplify the sizing overview, we discuss the IBM Netfinity hardware that currently supports J.D. Edwards' OneWorld software.

The basic hardware topics covered in this chapter are:

- CPU requirements
- Memory requirements
- Hard disk requirements
- Networking requirements

In addition, we discuss other options and functionality you should consider for the overall stability, availability and reliability of your customer's business. These items are:

- RAID support and IBM ServeRAID Adapters
- Fault tolerance
- Backup and recovery process
- Maintenance and service
- Performance
- Physical configuration of the overall system

These topics are discussed in detail in 5.2, "Hardware Considerations" .

5.2 Hardware Considerations

This section takes a close look at hardware items you should consider when selecting a server for reliability and performance. The implementation should be based on sound business needs versus cost/performance.

5.2.1 CPU

Within the bounds of Intel technology today, there are no realistic fault tolerance capabilities available for CPUs. All IBM Netfinity Servers support at least two processors with the higher end models supporting four processors. If a processor should fail, then there is currently no way to avoid rebooting the system, which means down time to the users. However, to reduce the down time, IBM Netfinity servers with more than one processor will automatically upon a failure and reboot, reconfigure the system with the faulty processor disabled.

5.2.2 Memory

All memory in the IBM Netfinity Server range is Error Checking and Correcting (ECC). Using the latest technology available in the marketplace, memory such as ECC EDO DIMM and ECC SDRAM provide speed, reliability and flexibility in critical environments that demand very high standards.

As the need for speed and reliability of systems increases, the reliability and flexibility of memory becomes of paramount importance.

5.2.3 Hard Disks

In today's environment, hard disks are becoming more and more reliable, with an average life expectancy around 100,000 hours. Your selection of hard disks should provide you with the confidence and assurance of data integrity.

Unexpected data errors are a very serious issue in today's business and disk failures are annoying to customers, IT managers and system administrators alike. So what if the disk could tell you it was having problems before it failed or before that piece of data is unreadable? With today's hard disk technology, businesses run critical applications and store critical data while maintaining a 24x7x365 operation. IBM hard disks, have Self-Monitoring Analysis and Reporting Technology (SMART) built in to them as standard to alert you of any potential problems.

Predictive Failure Analysis (PFA) within the SMART specification provides early warning of some hard-disk drive failures. This allows critical data to be protected. SMART is the industry-standard reliability prediction indicator for hard disk drives. IBM paved the way for SMART by marketing the industry's first failure-prediction capability for SCSI hard disk drives.

Regular backups, combined with SMART-capable hard-disk drives, help safeguard against loss of data. There are two kinds of hard-disk drive failures: unpredictable and predictable. As you might expect, unpredictable failures happen quickly, without advance warning. These failures can be caused by static electricity, handling damage or thermal-related solder problems. Predictable failures, on the other hand, are the types of failures that SMART attempts to detect. These failures result from the gradual degradation of the drive's performance.

SMART-capable drives use a variety of techniques to monitor data availability. These techniques vary from one manufacturer to another. For example, a SMART drive might monitor the fly height of the head above the magnetic media. If the head starts to fly too high or too low, there's a good chance the drive could fail. Other drives might monitor different conditions, such as ECC circuitry on the hard-drive card or soft-error rates. Depending on the circumstances, some drives might monitor all or none of these conditions.

Internal hard drives also support the SCSI Accessed Fault Tolerant Enclosure (SAF-TE) standard to protect hard drive data if failures occur. If one of IBM's SMART-capable drives predicts it is going to fail while it's still under warranty, IBM will repair or replace it at no additional cost to you. PFA keeps track of key parameters of the drive over time. If any of these key parameters should exceed its predetermined threshold, drive logic will alert the system of this event, so that necessary remedial action can be taken before any physical failure occurs. The alert can be sent to the systems management's software, such as IBM Netfinity Manager, where predetermined actions are addressed.

Predictive Failure Analysis will monitor parameters, such as:

- Spindle motor problems (torque and speed)
- Hardware problems (electronic and logic)
- Channel problems (noise, asymmetry, pre-comp, DC offset)
- Fly height change problems

- ECC on the fly (ECC and cache)
- Media problems:
 - Soft error count for read/write operations
 - Hard error count for read/write operations
 - Auto rewrite counts
 - Auto reallocation count and more

When choosing disks, there are several factors to consider that will ultimately affect performance and I/O capabilities of the overall system not just the disk subsystem, so ensure that you choose the right size and speed of disks to meet your needs.

Other points you should consider for your server are hot-swap hard disks, hot-swap disk controllers, the flexibility for growth, and other issues, such as:

- Will this server support the future hard disks when they are available?
- Can I use Fibre Channel disks on the system when they are available?
- If I buy these disks today and need to upgrade six months from now, will I still be able to buy the same disks?

5.2.4 Networking

The networking design and network infrastructure is a very important part of any Intel-based server solution. This is particularly important with J.D Edwards' OneWorld version B73.2.1 and above, as these versions of software are event driven. Event driven means that as the operator keys data into individual fields on the screen, then moves to another field, the input to a previous field is sent over the network. This allows for an evenly distributed flow of data across the network, rather than large packets of data, which can create network congestion.

Another major networking influence within J.D. Edwards' OneWorld software is how the workstations are to be used:

- Thin client - All OneWorld environments and objects run on the enterprise server
- Thick client - Runs most of the OneWorld application locally

Again, the style of client used will be dependent upon the best option for the customer's implementation. Also refer to 5.2.9, "Performance" on page 48 regarding networking performance hints within J.D. Edwards' OneWorld.

Failure of any network adapter where loss of service to endusers is created is a disaster in today's business-critical environments. To overcome this, there are various solutions available from IBM. Refer to 5.2.6.6, "PCI and ISA Adapter Cards" on page 46 for further details of options available.

5.2.4.1 Ethernet Network Hints and Tips

In this section is a list of tips to consider for an Ethernet network:

1. The network infrastructure wiring plant should be 10Base-T Category 5 based. By using a 10base2 "thinwire/coaxial" daisy-chained system, you will have throughput problems along with a higher number of collisions.

2. Never put two servers on the same hub if it can be avoided. This will keep backplane congestion low while allowing for high momentary throughput.
3. Utilize good IP addressing control for all clients. Maintain sub-domain addressing to parallel link ID with sub-network domain ID.
4. Maintain good segment layering and keep the segment propagation delay to IEEE specifications. Maximum LAN delay should be 52ms for every 330 feet of wire. WAN delay is carrier dependent. Solid measurements at this stage are critical.
5. WAN to LAN insertion is unique for each company so to ensure proper system response remember to do a bandwidth usage analysis with the J.D. Edwards application.
6. Optimize all programming to ensure that the WAN is the last network resource used in any one particular OneWorld operation.
7. Workgroup servers must be on the same segment as the operational clients the workgroup server supports.
8. Maintain remote to small non-collocated groups. Also, remote access should be through the Internet as much as possible.

5.2.5 RAID Support

When you have determined the amount of hard disk storage you require, you may need to look at the possibility of using one or more versions of hardware RAID on the IBM Netfinity server. A major influence on performance, reliability and availability and data integrity is the correct choice of RAID controller and RAID levels to use.

Why consider RAID? Given the most mechanical part in any computer today is the hard disk drive and that the hard disk is the most commonly used component. Adding RAID to the server configuration will instantly afford an increase in both availability and fault tolerance of the system. The IBM Netfinity server product range supports RAID 0, RAID 1, Enhanced RAID 1, and RAID 5 with the IBM ServeRAID Adapter.

What is RAID? RAID stands for Redundant Array of Independent Disks, by that we mean:

- Several disks can be linked to appear as one larger disk to the system.
- A single disk can be mirrored to another disk at a hardware level.
- RAID allows a single disk, within an array to fail, without system impact.
- RAID increases performance of the system.
- RAID allows you to have databases and files larger than single disk size.
- RAID increases data integrity of the system.

To discuss RAID in depth is not within the bounds of this book. However, if you wish to know more about RAID there are many books on the subject. RAID is also discussed within the IBM Netfinity server user's guide and installation manuals.

For the purposes of this book we will cover RAID very briefly.

5.2.5.1 RAID Zero (RAID 0)

RAID 0 is the striping of data across a number of disks (as shown in Figure 11):

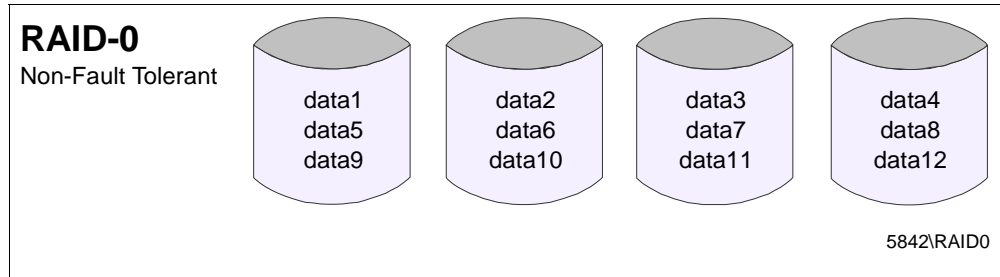


Figure 11. Example of RAID 0

When the data is striped in this manner the main benefit is performance. In simple terms if you have four disks in a single RAID 0 array, then data access is four times faster than retrieving the same amount of data from a single disk.

However, there is an expense for an increase in performance. If a disk should fail, all data is lost on the array. The only way to recover this data is from a previous backup. This is an expensive cost, in time, backup procedures, data recovery, and also data loss. Any data entered after the last backup is lost, and has to be reentered. A complete system reboot and data recovery must be done to bring the system back online at the time the failure occurs.

5.2.5.2 RAID One (RAID 1)

RAID 1 is the mirroring of single disks on a single disk controller (as shown in Figure 12):

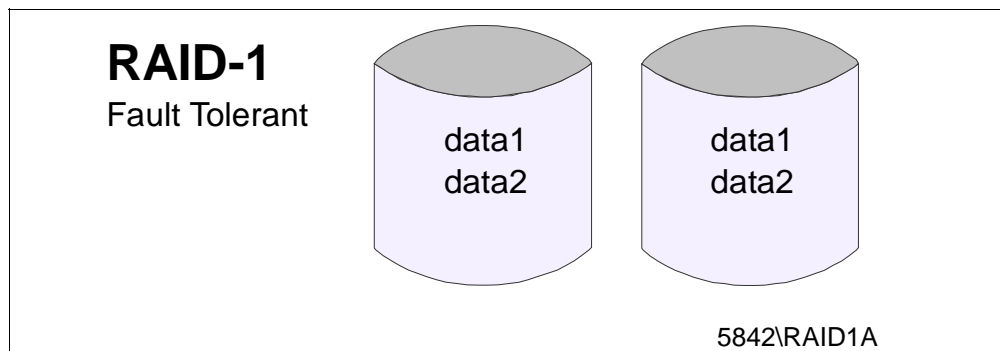


Figure 12. Example of RAID 1

When data is written to one disk, it is also written to a second disk, thereby creating a mirror of the data. Where RAID 0 improves performance, RAID 1 degrades performance. This is because a single write of data requires two writes (one write to each disk in the mirror).

However, the gain is in reliability and availability of data. If a single disk fails, then there is a complete copy of this data on the second disk. Recovery in this circumstance is to simply switch to the other disk (this may require a reboot of the system). Once back online you replace the failed disk, and reinitiate the mirror to bring things back to normal.

Disk duplexing is similar to RAID 1 except the two disks are attached to different disk controllers. The advantage here is a further gain of fault tolerance. The system or data can now withstand the loss of a disk controller and a disk. In some circumstances a reboot of the system is required, to switch to the other disk controller and to bring the system back online.

5.2.5.3 Enhanced RAID 1

Enhanced RAID 1 is a combination of RAID 0 and RAID 1. To put it simply, it is the "mirroring" of a RAID 0 array, within a single array (shown in Figure 13):

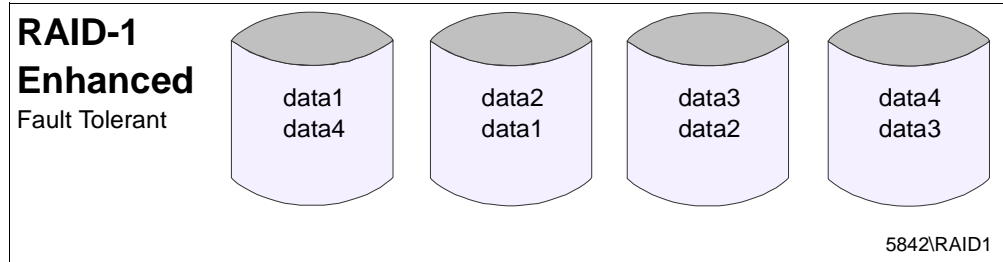


Figure 13. Example of Enhanced RAID 1

This combination of RAID 0 and RAID 1 has advantages of increased performance when reading data but has an overhead of writing data twice on all writes. However, this can be used to an advantage, by placing the Enhanced RAID 1 in a mostly read environment.

Loss of a single disk (as in RAID 1) does not create data loss. In most circumstances this will provide very good data protection, while providing enhanced performance.

5.2.5.4 RAID Five (RAID 5)

RAID 5 is the striping of data and parity (or checksum) across all disks (shown in Figure 14):

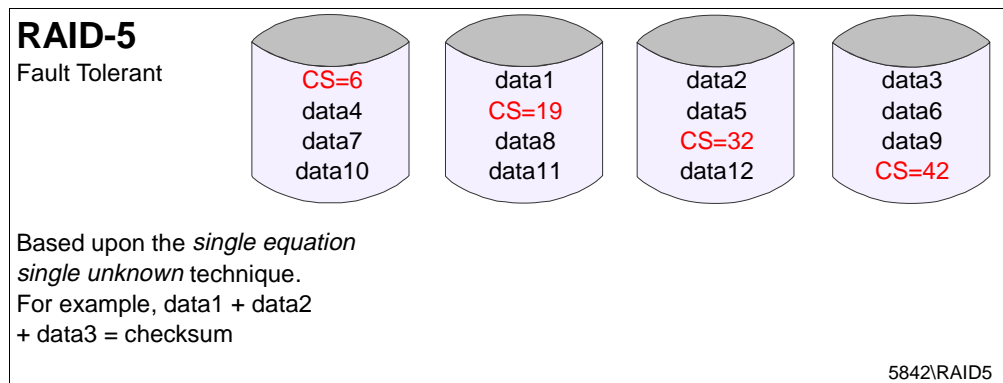


Figure 14. Example of RAID 5

Data is striped with a parity or checksum on each write of data. The total amount of data that can be stored in a RAID 5 array is N-1, where N is the number of disks within the single array. For example, 5 x 9.1 GB in an array will give 4 x 9.1 GB of data storage capacity. If a disk should fail, the system will keep providing data to end users, creating read data by using the checksum as required. There

is performance degradation when one disk fails. However the disk can be replaced, the missing data restored and performance returned, automatically when a hot-spare disk is a part of your configuration or manually when a failed disk has to be physically replaced.

The major advantage of RAID 5, is its ability to keep the system up and running in the event of a disk failure, no down time, no loss of data with a single disk failure. However, where as in RAID 0, RAID 1, and Enhanced RAID 1, the loss of a single disk may require a reboot of the system; in RAID 5 it does not. This is a major advantage when there is a need to keep the data available to endusers and customers for long periods.

5.2.5.5 IBM ServeRAID Adapters

Today's business critical data grows at an alarming rate. A few years ago a database of around 20 GB would have been considered large, even beyond the scope and capacity of all but the largest of mainframes.

Today, databases of around 20 GB are very normal, and nothing out of the ordinary. It is databases of 1 or 2 terabytes that are seen as incredibly large.

So what growth rate can you expect from your customer's database?

The answer is unpredictable, but one point is certain, and that is, grow it most certainly will. If you have a system that will handle up to 100 GB of hard disk today, but you require only 60 GB, your customer will buy 60 GB of hard disk. Sometime in the future, your customer will want to expand, or concentrate some of his data, into smaller more manageable sizes. The challenge is to achieve this data without losing availability to endusers.

So how can this be achieved? Until recently, we had to:

1. Back up all the data.
2. Redefine the disk arrays, or install larger disks and redefine the arrays.
3. Restore the data.

This is an expensive way of growing a database. In today's environment this would be unacceptable within a 24x7x365 operation.

The IBM ServeRAID adapter has the answer to this. To grow the database as mentioned above from 60 GB to 100 GB, you would simply insert more hard disks, and migrate or "grow instantly" the disk space available to the operating system, by increasing the size of the array that is already in use, without any loss of service to endusers.

With IBM ServeRAID adapters, you can migrate the data in a variety of ways. The options are:

- From RAID 0 to RAID 5
- From RAID 5 to RAID 0
- From RAID 1 to RAID 5
- From RAID 5 to RAID 5 (array expansion)

This functionality of the IBM ServeRAID adapter is known as Logical Drive Migration (LDM) and is available as standard with all current IBM ServeRAID

adapters. Also available for the IBM ServeRAID adapters are a range of battery backed cache options to provide even greater stability to your customer's data.

5.2.5.6 RAID Summary

RAID should always be considered when availability and file size of business critical data is an issue. Individual requirements will dictate the final RAID solution for the customer.

In all cases there are advantages and disadvantages of each RAID solution in practical terms. These should be considered when selecting your hard disk configuration for the IBM Netfinity and J.D. Edwards' OneWorld implementation.

Refer to Table 2 for an overview of advantages and disadvantages of RAID solutions. You should review 5.2.6, "Fault Tolerance" for further details regarding overall fault tolerance of the system.

Table 2. IBM Netfinity Hardware Considerations

Considerations	Advantages	Disadvantages
RAID 0	Very high read and write performance	Failure must be dealt with immediately with loss of access to users Data integrity - low
RAID 1	Data integrity - high	Degrades performance (two writes for each data write) Expensive, size of single disk is limitation
Disk Duplexing	Data integrity - very high Performance is greater than RAID 1 Higher fault tolerance than RAID 1 Second disk controller	Single disk is size limitation Expensive - 2x disk capacity for data
Enhanced RAID 1	Data integrity - very high High fault tolerance No reboot on single disk failure	Performance impact Performance - parity/checksum overhead
RAID 5	Data integrity - very high High fault tolerance No reboot on single disk failure	Performance impact Performance - parity/checksum overhead

5.2.6 Fault Tolerance

As discussed in 5.2.5, "RAID Support" on page 39 there are limits to availability, and fault tolerance capabilities that various RAID configurations can offer within the system by themselves. This section will look at other ways of offering fault tolerant solutions to get closer to the ultimate goal of 100% availability.

If we look at the most likely failures, given the history of IT technology, then we can start to look at the gain on reliability and availability versus cost of implementing the relevant solution. The most likely failures are discussed here in some order of "likely to fail", as this order can vary from country to country dependent upon many local factors.

Note: This is not the complete set of IBM Netfinity solutions, but only the solutions that are supported within the current set of IBM Netfinity and J.D. Edwards' OneWorld offerings.

5.2.6.1 Main Power

With the increase in manufacturing technology in recent years, it is a reflection of that advancement, that in today's IT environment, the main supply is one of the most likely components of the system to fail.

To avoid losing data when the main supply fails, there is only one real solution, that is, to use an uninterruptible power supply (UPS). A UPS will not only provide main power in the event of a main power failure, but also reduce or eliminate surges, spikes, and noise on the main supply, during normal use, providing a much smoother level of main voltage. This aids in protecting system data from corruption by these unpredictable characteristics of the main supply.

The UPS will provide main voltage for a limited time after the main supply has been removed. This enables system management software or hardware to initiate an automatic unattended shutdown of the server.

Refer to Chapter 4, "IBM Netfinity Family of Servers" on page 19 for further details on the IBM systems management capabilities and offerings.

Another option is to use the software supplied with the UPS system to monitor the main power and have it initiate a shutdown of the system automatically, in such an event.

When buying a UPS from IBM all software and hardware are tested and certified to be solution assured, within the IBM ServerProven Program with not only the IBM hardware but also any of the operating systems supported on that same model of IBM Netfinity server.

5.2.6.2 Disk and RAID Controllers

A commonly overlooked, critical component is the hard disk controller, it is the heart of any system as much as the CPU or memory. It is also very influential in terms of performance and reliability.

So why do we take it for granted? The reasons are historical. It was not until recently that hard disk controllers had some fault tolerance, either as standard or as an option. There were one or two "niche market" adapters around, that provided some fault tolerance but these were expensive and not industry-standard by any means. With the advent of RAID, the hard disk controller has started to gain recognition and respect. Many industry standard hard disk adapters are now available with features that provide fault tolerance. In almost all cases these are RAID controllers.

So what are the fault tolerant features of RAID controllers? The most obvious is the RAID array itself, as discussed in 5.2.5, "RAID Support" on page 39. The various levels of RAID offer fault tolerance for the data on the disks.

The IBM ServeRAID controllers can also have battery-backed cache. In the event of a complete main power failure, the battery will store the cached data, which has not been written to disk for up to 14 days. Another function is that the battery-backed cache modules are removable from the adapter and can be

placed on the replacement adapter, thereby removing the "human factor" in reconfiguring the arrays.

IBM ServeRAID adapter also supports fail-over and hot-swap technology. This means that in the event of RAID controller failure, then a second or standby ServeRAID controller can replace the existing adapter automatically. The failed adapter can be replaced at a convenient time. There is no need to power down the server to replace the failed adapter, as it can be hot-swapped, keeping the system available to users.

5.2.6.3 Memory

Memory is of the utmost importance in determining the reliability and performance of any system. Installing memory to capacity is an obvious choice to achieve high performance. However, this will only achieve high performance for the memory of the system, and is an expensive way of ensuring you have optimum memory performance.

To address this issue, look at the memory requirements of the whole system, then round this up to the nearest size of memory available for the system.

So how do you determine the amount of memory required?

List the software that will be running on the system, then add up each of the individual network operating system and application requirements. This basic approach will help you to determine the desired amount of memory. This figure should be used as a guide since there are many factors that will influence the amount of actual memory required within a system.

Another consideration for business-critical servers is the flexibility of the memory being used. For example, what happens if a memory DIMM should fail? Will the server stop working or will it keep going?

In high-end servers today, the failure of a single DIMM should not stop the system. The memory controller should be intelligent enough to switch off a single DIMM, or switch off a bank of DIMMs if using memory interleaving to enable the server to keep functioning. Where a single DIMM or a bank of DIMMs are switched off, there will be some performance degradation. How much performance degradation will depend upon the way in which the memory and the whole server has been configured. Under some operating systems there may be the requirement of a reboot of the system to switch off the memory. If you want to take advantage of this type of feature, be sure to check if it's supported on the hardware.

5.2.6.4 Fans

Fans in today's Intel-based servers are of critical importance. In tests, an eight-degree rise in temperature can reduce the system life by around 10 to 15%, while creating intermittent errors throughout the system.

The IBM Netfinity range of servers incorporate a fan monitoring system and a temperature or environmental monitoring system. Sensors constantly monitor the fans rotation and temperature, reporting back to the system management hardware or software of any variation, outside of tolerance.

Some models of IBM Netfinity servers incorporate a "spare fan" design, such that the loss of a single fan will not raise the temperature above the design

specifications. System management hardware or software will report the failure of a fan, which can be changed at a convenient time, without the worry of the system overheating. No need to power down the system to replace the fan, as most models incorporate hot-swap fans. If you wish to take advantage of these features, check to see if they are available for your preferred model, by referring to the technical descriptions within Chapter 4, "IBM Netfinity Family of Servers" on page 19.

5.2.6.5 System Power Supply

Power supplies have historically been a "single point of failure". Models of IBM Netfinity incorporate redundant power supply options, effectively providing a spare power supply. Should a power supply fail, the system will continue to run with the remaining operational power supply or supplies. The failing power supply can be replaced at a convenient time, without the need to power down the system, as most IBM Netfinity power supplies are hot-swap.

All redundant power supplies include Predictive Failure Analysis (PFA). Refer to 5.2.3, "Hard Disks" on page 37 for further details on PFA.

5.2.6.6 PCI and ISA Adapter Cards

Adapter cards are at the very heart of client server and network computing. In today's highly intensive network-oriented solutions, there is no room for failure of a network adapter. One possible solution to this issue is to install multiple network adapters in a single system attached to different segments or rings. So that should an adapter fail, then only a portion of users will be offline, while the adapter is waiting to be replaced.

A solution available from IBM is to use a combination of:

- Hot-swap network cards
- Active-passive fail-over redundancy of network cards
- Active-active use of network failover adapters (Ethernet only at time of writing)

Note: Hot-swap and failover is only available for PCI adapters. Currently, this is a new technology and only a few adapters currently support this feature. For a current list of adapters refer to:

<http://www.pcco.ibm.com/us/techlink/wtpapers/hotplug.html>

In both cases, you will be able to hot-swap the network adapters if installed within a hot-swap model of an IBM Netfinity server upon failure, without any need to reboot the system and loss of service to the network users.

It is recommended to avoid using ISA adapters in a high-end server. The I/O capacity of ISA adapters is very limited and will not provide the I/O capacity required for highly intensive network computing.

5.2.7 Backup and Recovery Process

In all good solutions is a well-planned backup and recovery process. The basis of a good backup solution is planning and attention to detail within your customer's business data processes. It is not enough to assume that simply backing up the data once a day/week/month is good enough for your customer's business. You must understand the business requirements of the data and the impact that loss of data will have on your customer's business.

The main points to consider in providing a good solution are:

- Time taken to back up and restore data
- Impact to system, if doing online backup
- Ability to recover individual files or databases as required
- Cost of recovering files and databases
- Tape device to use
- Network infrastructure - if backing up across a network
- Size of databases and growth rate
- Tape backup software to use
- Storage of backup media
- Testing of recovery procedures
- Scheduling of full backups
- Scheduling of incremental backups - if used
- Disaster recovery plans
- Documentation of all the above

As you can see from the list above, this is not a simple task. Great care must be taken to ensure the right backup and recovery procedures are used, and documented which meet the individual circumstances of the customer's requirements.

It is sufficient that you have a basic understanding of what is required to fulfill the needs of an IBM and J.D. Edwards' OneWorld solution. For particular customer needs, it is recommended that you consult a qualified person to specify the backup and recovery solution required.

Contact IBM Global Services, within your country, for a list of offerings at:

<http://www.ibm.com/Services/>

5.2.8 Maintenance and Service

IBM offers the best server support in the industry. For decades, IBM has been a leader in large and midrange system service and support. Now with that same expertise and focus on Netfinity products, IBM offers you an integrated system that provides you with high-availability service and support, designed and optimized to meet your business needs. IBM is uniquely qualified to deliver a caliber of service and support that allows businesses to concentrate on doing their business.

IBM continues to improve service and support for Netfinity servers. IBM's focus includes increasing the availability of maintenance parts; providing support specialists at the local, regional, and country levels; and assigning customer service representatives and technical support managers to your business.

5.2.8.1 Remote Connect Support

IBM's Remote Connect is a major enhancement to service and support for Netfinity servers. Using the latest technology advances delivered by select models of the Netfinity product line, IBM offers a "Call Home" remote support

feature in an Intel processor-based server. If your server experiences a problem, it will dial IBM and set in motion the right level of support to keep your system up and running. And, you can select options to have IBM contact you or your approved warranty service provider.

Using the multiple technologies in IBM's newest Netfinity servers, Netfinity Manager software and the IBM Netfinity Advanced Systems Management PCI Adapter, our support capability allows us to remotely deliver hardware problem determination, launch on-site resources if needed, and invoke any level of support, including product engineering, within minutes. Included in this offering is a comprehensive problem-management system that provides tracking, management, escalation, and transfer of problem ownership to the appropriate skills required to resolve an issue.

5.2.8.2 Update Connector

IBM's electronic-support Web site provides an automated service for updating your Netfinity and PC Server BIOS and driver files called Update Connector. Update Connector is a quick and convenient way to access the latest available BIOS and driver code. Connecting and executing through the Web, Update Connector searches your system's configuration, determines the levels of BIOS and drivers currently installed, and notifies you of the latest levels. At your discretion, Update Connector can send you the latest versions for your system and prepare them for installation at your convenience.

For more information visit:

<http://pc.ibm.com/us/infobr/f/updconn.html>

5.2.8.3 MoST Connect

Leveraging the latest technology advancements in Netfinity and PC Server systems and Netfinity Manager, IBM increases its on-site support by enhancing the Mobile Solution Terminal (MoST), carried by our server field-service representatives. MoST Connect provides a direct communication link between the IBM field service specialist at your location and the experts at the IBM HelpCenter. Continuing to improve on-site support, IBM delivers remote-console capability with both voice and data communications through a Netfinity or PC Server system's serial port.

MoST Connect allows the HelpCenter support specialist to perform remote problem determination and launch additional resources, including product engineering if required, to solve a server problem.

MoST Connect enables the HelpCenter to assemble a pool of skills and be virtually on-site to address the most complex problems without delay.

5.2.9 Performance

The overall performance of any system is based upon creating a balanced and capable system that can handle not only the day-to-day running of the business, but also the peaks that will occur during a 12-month period of any business. Another factor within performance is the growth rate of the business requirements and capacity of the system design. Designing a well-balanced system to meet all of these requirements is the work of a network and system design consultant who understands the performance characteristics of IBM Netfinity hardware, Microsoft Windows NT 4.0, Oracle or SQL Server and J.D. Edwards' OneWorld software.

Contact a consultant for further advice and guidance on designing, planning, and implementing a well balanced solution.

5.2.10 Networking Performance Hints for J.D. Edwards' OneWorld

To prevent network congestion, and to improve overall network access and server performance, the following guidelines are recommended:

- One to 50 concurrent users, one network card
- 51 to 150 concurrent users, two network cards
- 151 to 300 concurrent users, three network cards
- 301 to 500 concurrent users, four network cards
- 500+ concurrent users, four Network cards plus one additional card for every 250 concurrent users.

The above guidelines will help provide the required bandwidth within mixed J.D. Edwards' OneWorld environments. However, if most of your concurrent users (75% or more) are operating in either a financial or distribution environment, note that these particular environments are more event driven than others. You may want to consider the following adjustments to the previous guidelines:

- For a financial environment, reduce the above concurrent users figures by 15%.
- For a distribution environment, reduce the above concurrent users figures by 10%.

Again, these are recommended guidelines, but they will provide you with a good basis from which to start sizing your network.

Another helpful note might be the following that was found during our test runs:

With 10/100 Base-T NIC cards, in a switched port environment, it was found that a 100 Mb server up-links to 10 Mb segments is not necessarily faster due to the protocol conversion latency between the 10 Mb and 100 Mb within the segments. Testing showed as much as 17% increase in performance by replacing 100 Mb up-links with 10 Mb. However, if you are moving large amounts of data beyond the 10 Mb link capacity, you may find different results from this depending upon your customer's particular networking environment.

5.3 Software Considerations

In the J.D. Edwards' OneWorld B73.3.x Solution, the compulsory software choices for the deployment and enterprise servers are:

- Microsoft Windows NT 4.0 with Service Pack 4
- Microsoft Access 7.0 or Microsoft Access 97
- Microsoft Visual C++ 5.0
- Microsoft Visual C++ 6.0 (For B73.3.1 only)

The software listed above will not require any in-depth consideration other than their hardware requirements. Refer to 5.4.1, "OneWorld Deployment Server Requirements" on page 52 and 5.4.2, "OneWorld Enterprise Server Requirements" on page 55 for further details on these products.

Therefore, the main software considerations for your customer should be aimed at the database software to be used with the J.D. Edwards' OneWorld implementation. The choices are:

- Microsoft SQL Server 7.0 and client software
- Oracle 8.0.5.x or higher and client software

Your customer may choose to use a combination of the above, although this is not recommended. There may be compatibility issues and difficulties associated with upgrading either database software in the future, which in turn may create database issues which will be very difficult to diagnose and resolve. It is for these reasons and simplicity that you and your customer should consider only one of the database packages listed.

Factors that may influence the decision of which database software to use could be:

- Performance
- Database size
- Cost of skill levels available
- Ease of data transfer or data conversion from current system
- Network infrastructure
- Number of users
- Database growth rate
- Compatibility with existing software

These are just some of the items to consider; your customer may consider several more. The underlying point to make here is that this decision should only be made by a competent and qualified person, such as a database administrator.

Other software considerations you may want to review are those additional services or requirements your customer may have, such as:

- File server
- Print server
- Web or Internet server

- Mail server
- Intranet server
- Extranet server
- Application server

These functions or applications may not be part of the J.D. Edwards' OneWorld solution, but they are certainly part of any company's requirements in today's IT environment. These requirements should be considered separate from the IBM Netfinity and J.D. Edwards' OneWorld solution unless it's an integrated solution of OneWorld, for example, Lotus' Domino Connector for OneWorld or IBM's Net.Commerce. Stay abreast of any network performance implications that these functions may have on the overall performance of your solution.

5.4 Hardware and Software Requirements for J.D. Edwards' OneWorld

In this section we discuss and list the minimum hardware and software requirements for implementing J.D. Edwards' OneWorld. These requirements are:

- CPU requirements
- Memory requirements
- Hard disk requirements
- Networking requirements
- Software requirements
- Hardware requirements to run the relevant software

If you have not already done so, it is advisable to read 5.2, "Hardware Considerations" on page 36 and 5.3, "Software Considerations" on page 50 before reviewing the guidelines in this section.

Review each component to determine your customer's requirement for OneWorld implementation. It is recommended that you take notes as you read through this section, with your customer's configuration in mind.

From these notes you will gain an insight into the overall basic hardware and software requirements for your customer's implementation.

Note: In the following server requirements, it is assumed that only the operating system (Microsoft Windows NT 4.0 with Service Pack 4) along with the requirements of the J.D. Edwards' OneWorld applications and environments are being installed on IBM Netfinity servers.

Listed among the minimum hardware requirements for OneWorld are IBM hardware recommendations. These recommendations were based on the realistic performance of J.D. Edwards' OneWorld software running within a live environment. These recommendations should be used as a guide to achieve a higher performance level and meet the needs of your customer's environment. It is our intent to provide you with a reasonable balance of performance for your deployment server and enterprise server to achieve a high level of satisfaction.

5.4.1 OneWorld Deployment Server Requirements

In this section, we list the software and hardware requirements for the OneWorld deployment server. To guarantee the pristine quality of the software, and to protect the performance of operational systems during the installation process, this server is dedicated only to deploying and operating OneWorld software.

Table 3. Software and Hardware Requirements for Deployment Server

Components	Minimum Requirements	IBM Recommendations
CPU	Intel Pentium II 266 MHz	Intel Pentium II 400 MHz
RAM	128 MB	256 MB
Virtual Memory	300 MB initial, no less than 600 MB as the maximum	
Hard Disk Microsoft Windows NT Server 4.0 with Service Pack 4	1.00 GB	2 GB for NT 4.0 Includes networking, systems management software, documentation and Oracle tools
Screen Resolution	800 x 600 pixels	800 x 600 pixels with 256 colors
CD ROM	Required	16x speed or higher
OneWorld B73.3	14 GB - Depending on the numbers of path codes being used	23 GB (Oracle) and 45 GB (SQL) or more depending on the numbers of path codes being used
Microsoft Access 97 or 7.0	Not Available	30 MB
Microsoft Visual C++ 5.0 Microsoft Visual C++ 6.0 (For B73.3.1 Only)	Not Available	140 MB
Internet Explorer 4.01 or above	Not Available	30 MB
Tape Backup	Not Available	
Token Ring or Ethernet Connection Note: You must connect the client and server using one of these methods		

Table 4. Database Hardware Requirements for Deployment Server

Database Name	Minimum Requirements	IBM Recommendations
SQL Server 7.0 Client (1)	Not Available	130 MB with DBA Note: ODBC Administrator: 3.510.3513.0 and later SQL Server driver: 3.70.06.23 and later Access32 driver: 4.00.3513.00 and later Use of the incorrect version may cause data corruption. All of these versions are available on the Mdac 2.1 stack. It must be obtained from Microsoft.
Oracle 8.0.5 or later Client CD(1)	Not Available	150 MB with DBA Required: Oracle SQL Plus 8.0.5 or later Note: The CD must match your specific release.
Note: (1) Choose one version of Oracle or SQL Server for the main database. All other software is required.		

The OneWorld installation program provides you with several environments that represent the typical customer configuration. On the deployment server, these environments are preset in the installation process to provide you with an easy solution for installation setup.

In the installation process, the OneWorld installation program includes the planner environment to define the main components of a OneWorld configuration, and the deployment environment that administers system data source information, such as profiles, packages, and environments. The deployment environment uses the planner path code from the planner environment to run the OneWorld on the deployment server.

In Table 5 on page 54, the required disk space for the objects and path codes included in the planner and deployment environments are listed.

The following table helps you calculate the disk space required for OneWorld software on the deployment server. This can also be found in Chapter 1 of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.

Table 5. OneWorld Software Hard Disk Requirements - Deployment Server

Description	Size in GB
Planner and other objects	1.6 GB
Database Exports	Oracle 1 GB Microsoft SQL Server 1.05 GB
CRP Path Code	3 GB (1)
Development Path Code	3 GB (1)
Pristine Path Code	3 GB (1)
Production Path Code	3 GB (1)
Additional Path Codes	3 GB (1)
<p>Note: (1) Each path code size includes space for two sets of full and partial packages. A full package requires approximately 1.2 GB and a partial package requires approximately 164 MB.</p>	

5.4.2 OneWorld Enterprise Server Requirements

In this section, we list the software and hardware requirements for the OneWorld enterprise server.

Table 6. Software and Hardware Requirements for Enterprise Server

Components	Minimum Requirements	IBM Recommendations
CPU	Intel Pentium II 266 MHz	Dual Intel Pentium III 400 MHz
RAM	96 MB	512 MB includes 32 database users
Hard Disk Microsoft Windows NT Server 4.0 with Service Pack 3 or 4	500 MB for Windows NT 4.0	2 GB for Windows NT 4.0 Includes networking, systems management software, documentation and Oracle tools
Screen Resolution	800 x 600 pixels	800 x 600 pixels
CD-ROM	Required	16x speed or higher
OneWorld B73.3 and Database	See OneWorld disk space requirements for the enterprise server shown in Table 7, Table 8, Table 9, and Table 10.	See OneWorld disk space requirements for the enterprise server shown in Table 7, Table 8, Table 9, and Table 10.
Microsoft Access 97 or 7.0	Not Available	30 MB
Microsoft Visual C++ 5.0 Microsoft Visual C++ 6.0 (For B73.3.1 Only)	Not Available	140 MB
Internet Explorer 4.01 or above	Not Available	30 MB
Tape Backup	Not Available	Refer to requirements of tape backup software used

Table 7. Database Hardware Requirements for Enterprise Server

Database Name	Minimum Requirements	IBM Recommendations
SQL Server 7.0 (1)	Not Available	150 MB or above
Oracle 8.0.5 (1)	Not Available	250 MB
<p>Note: (1) Choose one version of Oracle or SQL Server for the main database. All other software is required.</p>		

Table 8 helps you calculate the disk space required for One World software on the enterprise server. This can also be found in Chapter 2 of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.

Table 8. OneWorld Software Hard Disk Requirements - Enterprise Server

Description	Size
System Directory	55 MB
Pristine Path Code Directory	1.15 GB
CRP Path Code Directory	1.15 GB
Development Path Code Directory	1.15 GB
Production Path Code Directory	1.15 GB
Additional Path Code Directory	1.15 GB

Depending on your database (Oracle or SQL Server), use the following tables to calculate the amount of disk space required for your enterprise server database. Base the total on the central objects data sources you require.

Table 9. Oracle Database Hardware Requirements for Enterprise Server

Description (Data Source)	Oracle (MB)
System Tables (System - B733)	20
Server Map Tables (<i>enterpriseserver</i> - B733 Server Map)	20
Object Librarian Tables (Object Librarian - B733)	70
Data Dictionary Tables (Data Dictionary - B733)	125
Production Data (Business Data - PROD)	400
Pristine Data (Business Data - JDE)	400
CRP Data (Business Data - CRP)	400
Test Data (Business Data - TEST)	400
Production Control Tables (Control Tables - PROD)	50
CRP Control Tables (Control Tables - CRP)	50
Test Control Tables (Control Tables - Test)	50
Central objects for pristine path code (Central Objects - PRISTB733)	1650
Central objects for production path code (Central Objects - PRODB733)	1650
Central objects for CRP path code (Central Objects - CRPB733)	1650
Central objects for development path code (Central Objects - DEVB733)	1650
Central objects for any additional path codes	1650

Table 10. SQL Server Database Hardware Requirements for Enterprise Server

Database Name	Data Sources	SQL Server 7.0
JDEB733	System - B733 Object Librarian - B733 Data Dictionary - B733 <i>machinename</i> - B733 Server Map <i>machinename</i> (where <i>machinename</i> is the enterprise server) <i>machinename</i> - logic (where <i>machinename</i> is the enterprise server)	330 MB
JDE_CRPB733	Central Objects - CRPB733 Versions - CRPB733	2.2 GB
JDE_CRP	Control Tables - CRP Business Data - CRP	550 MB
JDE_PRISTB733	Central Objects - PRISTB733 Versions - PRISTB733	6 GB
JDE_PRISTINE	Business Data - JDE	550 MB
JDE_PRODB733	Central Objects - PRODB733 Versions - PRODB733	2.2 GB
JDE_PRODUCTION	Control Tables - Prod Business Data - PROD	400
JDE_DEVB733	Central Objects - DEVB733 Versions - DEVB733	2.2 GB
JDE_DEVELOPMENT	Control Tables - Test Business Data - TEST	550 MB
<p>Note: Having separate databases will require the ODBC data sources to be set up differently. OneWorld data sources will need to have their ODBC data sources set up to point to the correct SQL Server database. Review the Third-Party ODBC Data Sources in the reference section of the <i>OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3</i>.</p>		

5.4.3 OneWorld Workstation Requirements

In this section, we list the software and hardware requirements for the OneWorld workstation:

Table 11. Software and Hardware Requirements for Workstations

Components	Minimum Requirements	IBM Recommendations
CPU	Intel Pentium 200 MHz	Intel Pentium II 400 MHz
RAM	32 MB	96 MB
Hard Disk Space	320 MB - 1.49 GB Free Space 320 MB - Partial without Development Objects 992 MB - Partial with Development Objects 1.49 GB - Full without Development Objects 1.8 GB - Full with Development Objects	
Screen Resolution	800 x 600 pixels	800 x 600 pixels
Windows NT 4.0 Workstation with SvcPack 4 (1) or Windows 95 (2) or Window 98 (2)	Not Available	500 MB - Windows NT Workstation 350 MB - Windows 95 400 MB - Windows 98
Internet Explorer 4.01 or above	Not Available	30 MB
Acrobat Reader 3.01 or above	Not Available	5 MB
Microsoft Access 7.0 or Access 97 (optional)	Not Available	30 MB - Only required if user is to edit tables
Microsoft Visual C++ 5.0(3) Microsoft Visual C++ 6.0(5)	Not Available	140 MB
OneWorld HELP Files	22 MB (4)	25 MB
Printer	Postscript, line, PCL	Network printer able to handle requirements
<p>Notes:</p> <p>(1) Must use Windows NT 4.0 Workstation with Service Pack 4, if being used as a development workstation.</p> <p>(2) Although it is possible to do development on Windows 98 and Windows 95, it is not recommended.</p> <p>(3) Microsoft C++ 5.0 is only required if the workstation is to be used for programming.</p> <p>(4) Normally, the OneWorld HELP files are serviced from the deployment server. However, if you wish, they can be installed on workstations.</p> <p>(5) Microsoft C++ 6.0 is only required if the workstation is to be used for programming. C++ 6.0 is only supported on OneWorld B73.3.1.</p>		

Table 12. Database Hardware Requirements for OneWorld Workstation

Database Name	Minimum Requirements	IBM Recommendations
SQL Server 7.0 Client ODBC Driver: Use the versions in Mdac 2.1. Use of the incorrect version may result in data corruption	Not Available	40 MB RAM 150 MB - hard disk
Oracle 8.0.5 Client Note: This must match your specific release of Oracle 8, and must match the version on your servers.	Not Available	150 MB + 16 MB RAM

5.5 Preparing for OneWorld Installation

This section presents an overview of the information required and should be discussed between the OneWorld consultant and the customer to prepare for the OneWorld installation.

Please refer to Chapter 3 "Installation Worksheet" of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3* for further details on some of the following points.

Review the following to gain an insight on items to consider prior to an installation:

1. General Information Required

- OneWorld security code
- Software license expiration date
- Authorized modules
- Installation plan information

2. Deployment Server General Information Required

- Name of server
- Multitier (YES/NO)
- Data source type
- Platform type
- Hardware configuration including CPU, MEM, RAID arrays
- TCP/IP configuration details (IP address, subnet mask)
- LAN connections and network information
- Coexistence (YES/NO)
- Applications and versions number details
- Database software to be used
- HELP files to be deployed (YES/NO)

3. Enterprise Server General Information Required

- Name of server
- Hardware configuration including CPU, MEM, RAID arrays
- TCP/IP configuration details (IP address, subnet mask)
- LAN connections and network information
- Platform type
- Coexistence (YES/NO)
- Applications and versions number details
- Database software to be used

4. Enterprise Server Environments Information

This requires input with regard to the OneWorld environments that are used. Information will include items, such as:

- Home directories

- Temp directories
 - Install paths
 - User IDs
5. OneWorld Data Source Names

Data sources will be created for each of the shared environments, they are:

- System
- Object Librarian
- Data Dictionary
- Server Map
- Distributed Processing (enterprise server)
- Replicated Local Data

In addition, there will be input requirements for each of the recommended environments that are to be installed:

- Deployment - DEP733
- Planner - JDEPLAN
- Production - PRD733
- Test - TST733
- CRP - CRP733
- Pristine - PRT733
- Development - DEV733

For each environment to be installed, data source names, object mappings and packages information will be required. Data source names required for each environment will be:

- Business Data
- Central Objects Data
- Control Tables (not required for Pristine Environment)
- Version Tables

6. Workstation General Information Required

- Multitier (YES/NO)
- Data source type
- Hardware configuration including CPU, MEM, RAID arrays
- TCP/IP configuration details (IP address, Subnet mask)
- LAN connections and network information
- Applications and versions number details
- Database software to be used
- HELP files to be deployed (YES/NO)

5.5.1 OneWorld Installation Planner

Installation Planner is a OneWorld application that runs on the deployment server as a system administration tool. Installation Planner guides you through defining

the installation plan you need to install OneWorld. The information you provide on the Installation Planner form, such as database type and enterprise server type, determines the information you will see on the screens as you go through the setup of the Installation Planner.

Installation Planner guides you through setting up:

- Enterprise server information
- Deployment server information
- Data sources
- Environments

Enterprise Server Information

To set up the plan for the enterprise server, you must provide the OneWorld installation program with the name of the enterprise server, its platform type, and the database that runs on it. The program populates the enterprise server tables (F00053, F000531, and F000532) and defines the data sources for the enterprise server. In addition, it provides information for the Object Librarian, Central Objects, Versions, System, Data Dictionary, Business Data, Control Table, and Server Map data sources.

Deployment Server Information

To set up the plan information for the deployment server, you must provide the OneWorld installation program with the machine name and the type of database you use. This information populates the Release Master (F00945), Path Code (F00942), and Data Source Master (F98611) tables appropriately.

Data Source Information

When you run Installation Planner, you set up the following data sources once because they are shared across all of your environments:

System	The data source for the System tables. It is identified by the OneWorld release level (for example, System - B733).
Object Librarian	The data source for the Object Librarian tables. It is identified by the OneWorld release level (for example, Data Dictionary - B733).
Data Dictionary	The data source for the OneWorld Data Dictionary tables. It is identified by the OneWorld release level (for example, Data Dictionary - B733).
Server Map	The data source for the replicated system tables for distributed processing on your enterprise server (for example, enterprise server - Server Map). It is specific to each enterprise server.

You will also set up the following data sources for each environment:

Business Data	The data source for the Business Data tables. You can have multiple sets of Business Data sources (for example, Business Data - CRP, Business Data - PROD, Business Data - TEST, and Business Data - JDE).
----------------------	--

Central Objects	The data source for the Central Objects specification tables. It is identified by the type and version number of OneWorld. In addition, you can have multiple sets of central objects specifications (for example, Central Objects - PRODB733, Central Objects - PRISTB733, Central Objects - DEVB733, and Central Objects - CRPB733). However, you can have only one Central Objects data source for each path code.
Versions	The data source for the OneWorld Versions tables (F983051 and F98306). You can have multiple sets of versions tables (for example, Versions - PRODB733, Versions - PRISTB733, Versions - DEVB733, and Versions - CRPB733). However, you can have only one Versions data source for each path code.
Control Tables	The data source for the Control Tables. You can have multiples (for example, Control Tables - Production, Control Tables - Test, and Control Tables - CRP).

J.D. Edwards configures your OneWorld data sources as completely as possible. However, when you run Installation Planner, you might need to modify some data source information to reflect your system-specific configuration. For example, if you use Oracle 8.0, you must specify JDBOCI80.DLL in the .DLL Name field for all Oracle data sources.

5.5.2 OneWorld Installation Workbench

After you plan the OneWorld installation, run Installation Workbench to allocate and configure software and resources. Depending on your plan, you might not run all the workbench programs during Installation Workbench. For example, if you are not a J.D. Edwards WorldSoftware customer, you will not run the control table merges, so those workbench programs are not displayed. Installation Workbench follows the plan you created.

Running the installation plan updates various tables during each of the workbench processes you chose to perform during the planning stage.

The following actions could occur:

- Data Source Workbench - Copies all data sources that are defined in the plan from the F98611 Data Source Master and F986115 Table and Data Source Sizing files in your Planner data source to your System - B733 data source. It also updates the F98401 Data Source Plan detail record to reflect completion.
- Environment Workbench - Copies the F0093, F0094, F00941, and F00942 environment information tables and the F986101 Object Configuration Manager table from your Planner data source to your System - B733 data source. It then updates the F98403 Environment Plan detail record to reflect completion. Depending on the plan settings, it also runs batch applications that create the tables and indexes for environments defined in the plan.
- Host Workbench - Copies the host configuration files (F00053, F000531, and F000532) from the Planner data source to the System - B733 data source. It then updates the F98402 Host Plan detail record to reflect completion and uses the environment information to populate the F986101, F98611, and F986115 tables in the Server Map data source. (Only valid environments, data sources, and server map tables are created.)

- Package Workbench - Transfers the F9885, F9886, and F9887 package information tables from the Planner data source to the System - B733 data source. It then updates the F98404 Package Plan detail record to reflect completion.

5.5.3 Setting Up OneWorld Users

Setting up users and groups can be time consuming, but you can do it easily during the conference room pilot phase of the installation process. J.D. Edwards recommends you set up one or two users to perform the installation process, then set up the rest of your users and groups later when you have the time to consider how you want groups to be organized and what preferences you want each group to have.

The user profile defines a specific user or group to OneWorld. This description includes:

- The group the user is with (such as accounting) and display preferences (such as language). Groups are an important aspect of OneWorld. By assigning users to groups, system administrators can define user preferences and securities based on groups rather than the individual user.
- The packages from which the user can choose when installing OneWorld to the client workstation.
- The environments from which the user can choose when starting a OneWorld session.

About Group Preference Capability

Group preference capability eliminates the need to assign packages to each individual user profile. By assigning individual users to a group, you can perform package assignment once for the group and have those assignments available to all of the individual users belonging to that group. If necessary, you can specify a different package assignment for each user. In this case, the individual user assignments override the group assignments.

Deployment and environment information is read first from the user's individual profile, and then, if no information exists, from the group's information.

The following example clarifies this:

Table 13. Reading User's Individual Profile

User Information	Group Information
User ID: John Packages Assigned: None	Group ID: Group1 Packages Assigned: CRP, TEST
User ID: Jane Package Assigned: PROD	Group ID: Group 2 Packages Assigned: CRP, DEVL, TEST

The results of the different user and group profiles are as follows:

- John has no assigned packages in his user profile. As a member of Group 1, he has the CRP and TEST packages available.
- Jane has the assigned package PROD. Although a member of Group 2, the assignments in her user profile override the group assignments.

You can specify different packages by users when necessary while taking advantage of the reduced setup effort offered by group preferences.

This section describes the different ways to use the User Profile applications. When setting up profiles perform the following:

- Create all group profiles for the enterprise.
- Create a user profile for every user, and (optional) assign a group profile and display preference to each user.
- Assign to each group or user the following preferences:
 - Packages available to each group or user
 - Environments available to each group or user

Note: During User Deployment, sign on to the deployment environment (DEPB732) on your deployment server.

5.6 Requests for Sizing

The purpose of this section is to describe the current approach for doing pre-sales sizing for the J.D. Edwards' OneWorld application suite running on IBM server platforms. We will start by discussing the performance characterization testing that has been done to date, describe how this data is being used to do pre-sales sizing, and then discuss configuration issues for the IBM Netfinity Platform.

We will then discuss how a sizing request is created and then discuss a typical sizing response from IBM.

This information is taken from the *Sizing and Configuration Guidelines for J.D. Edwards OneWorld Software on IBM Platforms - Version 5.3*. This document was developed by the IBM-JDE Competency Center.

5.6.1 The Sizing Process

In the event you or your customer need assistance in sizing an IBM Netfinity server for J.D. Edwards' OneWorld, the IBM/ERP Presales group is available to provide worldwide sales and sizing support. The IBM/ERP Presales group only size systems (for example, Netfinity, RS/6000, and AS/400) to run OneWorld or OneWorld coexistence with WorldSoftware. The IBM/ERP Presales group can be contacted at 1-800-IBM-0222 or via e-mail: ibmerp@us.ibm.com.

How Do I Request a System Sizing?

To request a system sizing, an IBM ERP consultant or business partner will perform the following:

1. Obtain a copy of the IBM/J.D. Edwards Sizing and Planning Questionnaire from the IBM FAX server at 1-800-IBM-4FAX (or 408-256-5422, if outside of the U.S. and Canada) and request document ID 8651.
2. Fill out the questionnaire in its entirety.
3. Fax the completed questionnaire to the IBM/ERP Pre-Sales Sizing Center in Philadelphia, PA at (610) 892-3035.

4. A professional sizing response package will be returned to the IBM ERP consultant or business partner within five business days.

Netfinity OneWorld Sizing Tool Online

Now you can access the IBM Netfinity OneWorld sizing tool online via the following URL:

<http://www.ibm.com/erp/jdedwards/sizings/index.html>

Remember to answer the questions as carefully as possible so that the IBM Sizing Center may provide you with accurate sizing information.

Request Document ID 8651

Once completed in its entirety, the questionnaire is then faxed to the IBM/ERP Pre-Sales Sizing Center. Professionals in the sizing center will analyze the input and provide an estimate of server sizing based on the performance data we have to date. For unusual sizing requests the sizing center may engage the IBM/J.D. Edwards International Competency Center or J.D. Edwards performance experts.

Once the analysis is complete a comprehensive document summarizing the output of a sizing analysis is delivered to the requester.

The Sizing Tool

The IBM/J.D. Edwards International Competency Center is comprised of a group of experienced professionals dedicated to providing high quality sales support for IBM platforms running J.D. Edwards software. In addition to a Competency Center Manager, the team includes server platform technical specialists, a sizing specialist, a network specialist, and a marketing specialist. The tool used for sizing the OneWorld and IBM Netfinity solution was developed by the Competency Center team. This tool is based on an analysis of the performance characterization data collected during the performance benchmark test runs for the IBM Netfinity servers.

The current tool is a user-based sizing tool and is designed to take user counts as collected by the sizing questionnaire then creating a reasonable estimate of resource needed for each server platform. Certain minimum requirements are built in to the tool. These are discussed in 5.6.2, "Sizing Guidelines" .

5.6.2 Sizing Guidelines

We must keep in mind that while pre-sales sizing is a very important phase of any OneWorld sale, the actual amount of money spent on server hardware in a typical implementation may be a relatively small portion of the entire package. We believe that for every dollar spent on OneWorld software a customer might expect to spend a dollar on server hardware, a dollar on PC upgrades, a dollar on network upgrades, and from three to four dollars on services. These numbers will vary by customer, but they demonstrate the fact that the cost of the server may comprise from 10% to 30% of the entire project cost.

In many situations we have seen the issue of pre-sales sizing take on a role much more important than the amount of money spent on this portion of the package can justify.

Another important consideration when evaluating a pre-sales sizing is that the test workloads created for benchmark testing may vary significantly from the actual workload of any given customer for the same application module.

For example, consider the manufacturer whose typical customer may place an order for an average of three items per sales order. A manufacturer in another industry may average hundreds of items per sales order. Yet when asked to do a pre-sales sizing for each of these potential customers we would be sizing based on a sales order entry script that entered ten items per sales order. This may yield acceptable results for the first prospect but may grossly understate the requirements of the second prospect.

To address this issue J.D. Edwards and IBM recommend that each customer revisit server sizing a number of times during the implementation process when more details about how they will actually be using the OneWorld applications are known.

The current J.D. Edwards implementation methodology proposed to every potential customer suggests that sizing be revisited as part of the Conference Room Pilot phase, and revisited again after the environment has been tuned and prior to going live. This ensures that the final sizing estimates are based on the exact application environment that the customer will be using, not on the environment created for the benchmark testing.

Another important issue to understand is that the limited benchmark testing to date has focused only on a very simple two-tier implementation of OneWorld. The benchmark tests were run with relatively "fat" clients, that is, the client PC was executing the OneWorld business logic and the server machines were acting as database servers only. This is only one possible configuration for a product whose greatest strength is the flexibility it offers customers in implementing multitier configurations. It is hoped that in the near future we will have the capability to test multitier configurations.

5.7 Configuration Guidelines

The purpose of this section is to document the configuration requirements for the various elements of a OneWorld implementation. Guidelines for the deployment server, client PCs, and the Netfinity database (or enterprise server) server are reviewed in detailed in 5.4.1, "OneWorld Deployment Server Requirements" on page 52, 5.4.2, "OneWorld Enterprise Server Requirements" on page 55 and 5.4.3, "OneWorld Workstation Requirements" on page 59.

5.7.1 Netfinity Enterprise Server Guidelines

Every OneWorld implementation must include an enterprise server. The enterprise server acts as the central repository of data for all OneWorld users. The enterprise server contains all the tables and data, to which users will be reading and writing to. So in this instance you can understand how critical the enterprise server is to a customer's business. Not only does it have to be a powerful machine, it also has to be very reliable, very available, and very responsive to enable it to meet the demands of the customer's business.

The following comments apply to Netfinity configurations with either the Oracle or SQL Server database:

- Sizings are done at a target server CPU utilization of 40% to 60%.
- Main memory is sized at 8 MB per active user and never to be less than 512 MB.
- Disk space is sized at 250 MB per user and either 23 GB (Oracle) or 45 GB (SQL Server) for OneWorld objects, plus an additional 30% for free space and then multiplied by 2 for RAID 1.
- For SQL Server a factor of 1.4 is applied to a given database size. Our experience has shown that SQL Server needs that much more space to hold the same database as in an Oracle or DB2/400 environment.
- We recommend a RAID 1 implementation in a Netfinity environment to ensure adequate disk performance.

Comments regarding network performance impact and multiple database servers also apply to the Netfinity server. With Netfinity we do not have available any standard interactive performance tests (like CPW for AS/400 or OLTP for RS/6000) so we cannot effectively scale our measured performance results into the other members of the Netfinity product line. Therefore we can only size for each individual member of the Netfinity line after we have been able to performance test it.

To date we have completed testing for a Netfinity 7000-M10 server (4-way mode) running the Oracle database. These tests were done with the 400 MHz processor cards with 1 MB level 2 cache. We then use a rule of thumb to project the performance of the 512 KB level 2 cache CPU cards.

We have also tested the Netfinity 5500-M10 server with both 350 MHz and 400 MHz processors with the Oracle database. Testing with the Netfinity server was performed using the ServeRAID II adapter and 4.51 GB 10,000 rpm disk drives. This high performance disk configuration proved to be critical to achieving good OneWorld response times.

Recently announced IBM Netfinity servers will provide even greater performance. We are presently engaged in providing new performance test information using these new systems. To view the Netfinity systems, see Chapter 4, "IBM Netfinity Family of Servers" on page 19 of visit the IBM Netfinity Web site at:

<http://www.pc.ibm.com/us/netfinity/index.html>.

All Netfinity servers for use with OneWorld should be configured for RAID 1 using the latest ServeRAID-3HB and 3L Ultra2 SCSI adapters.

The ServeRAID-3HB and 3L Ultra2 SCSI adapters. The ServeRAID-3HB Ultra2 has three SCSI channels whereas all can be externally accessible from a single PCI slot and 32MB of mirrored write cache included as standard for high availability and true enterprise storage. Using an advanced RISC I/O processor on the ServeRAID-3L Ultra2, the Ultra2 SCSI technology with twice the data rate of Wide Ultra SCSI, and an advanced 64-bit, high performance (up to 264Mbps) PCI interface, you can support data-intensive applications. The ServeRAID-3L provides one SCSI channel and 4MB cache. The Ultra2 SCSI channels are capable of supporting up to 15 devices each at up to 80 MBps data throughput. Select Netfinity models support up to eight adapters for up to 8.7 TB of external storage using the Netfinity EXP15.

For more information on the ServeRAID-3HB and -3L Ultra2 SCSI adapters, download this PDF from:

ftp://ftp.pc.ibm.com/pub/pccbbs/pc_servers/ops6198f.pdf

In addition, take a look a IBM Fibre-channel solutions. This information can be obtained at:

ftp://ftp.pc.ibm.com/pub/pccbbs/pc_servers/sv6189f.pdf

For a complete list of hardware and software requirements on the OneWorld enterprise server, refer to 5.4.2, "OneWorld Enterprise Server Requirements" on page 55.

5.7.2 Sizing Questionnaire

An example of the Sizing and Planning Questionnaire for OneWorld on the IBM Netfinity server platform is included for reference:

Note: This is an example only and should not be used for a sizing request.

Example of Page 1 (Fax Header Sheet)

In order to obtain a questionnaire for use with a customer please call the IBM automated fax service at 1-800-IBM-4FAX from the USA or Canada or (408) 256-5422 from anywhere else.

Request document ID 8651

Using the fax service will ensure that the latest version of the Sizing and Planning Questionnaire is obtained.

Important: Please request a copy of this questionnaire every few months from the IBM FAX server to ensure that you have the latest version. Call 1-800-IBM-4FAX or 1-408-256-5422, select option 2, and request document ID 8651.

Sizing Questionnaire

OneWorld

Introduction:

Thank you for allowing IBM the opportunity to provide you a sizing estimate for OneWorld software from J.D. Edwards running on an IBM server platform. We will be requesting the following information in order to arrive at a system recommendation and architecture based on your requirements and business environment.

This information will allow us to provide you with an estimation of the processor class, memory, and disk space requirements.

The sizing process initiated by the completion of this Sizing and Planning Questionnaire is called a pre-sales sizing estimate. A pre-sales sizing is based on minimal input and is intended to be a very rough estimate of server resource required to support a given OneWorld workload. The accuracy of the sizing estimate is dependent upon many variables such as the accuracy of the information provided by you, the customer, (we recognize that it may be difficult to provide exact numbers on your environment) and the actual usage of the system in a real-time environment. Sizing is an iterative process and the sizing issue should be revisited a number of times during the implementation process. Performance data gathered during the pilot phase of an implementation project should be used to generate a much more accurate estimate of server resources required for a given OneWorld workload.

In this pre-sales sizing estimate we will provide to you an estimate of disk space required to support the OneWorld database for the number of users defined in your workload estimate. This will be a very rough estimate as the disk space required does not always correlate with the number of active users. J.D. Edwards has a disk sizer tool that can be used to obtain a much more accurate estimate of the disk space required. This more accurate estimate can be obtained by contacting your J.D. Edwards marketing representative.

Currently we are able to provide pre-sales sizing estimates for two-tier implementations of OneWorld only. In a two-tier implementation the server functions as the central database server supporting client PCs running OneWorld business logic. Certain customers may find it appropriate to explore multitier implementations of OneWorld exploiting the flexibility of OneWorld's Configurable Network Computing (CNC) environment.

Currently sizing for multitier implementations is beyond the scope of this document.

Sizing Questionnaire

OneWorld

Company Name:	
Street Address:	
Street Address:	
City, State Zip:	
Country:	
Contact Person:	
Phone Number:	
Fax Number:	
Company description: (distribution, mfg, etc.)	
IBM Client Rep:	
Phone Number:	
IBM Product Specialist:	
Phone Number:	
IBM OMSYS Number:	
Business Partner - Company Name:	
Contact Name:	
Phone Number:	
Fax Number:	
J.D. Edwards Rep:	
Phone Number:	
Platform preferred (check one): _____ AS/400 _____ Netfinity (NT) with Oracle _____ Netfinity (NT) with SQL Server _____ RS/6000	

Example of Page 4
Company Wide Users

Application	OneWorld Active Users	World/World Vision Active Users*	Total Logged On Users**
Financial			
Distribution			
Manufacturing			
Total			

Users

Please complete this information as accurately as possible. Be sure not to double count users. Classify users where they spend a majority of their time each day. We are trying to size for a peak hour of a day when the most concurrently active users are online.

*Fill in the World/World Vision Active User column ONLY if coexistence with OneWorld is required on the same machine. Use same definition for active user as above.

TOTAL LOGGED ON USERS: Indicates the maximum number of connected users or logged on users who may or may not be actively interacting with the system.

**If unable to provide active user counts, we will assume 65% of the logged on users as being active users

Example of Page 4 - Continued

Conference Room Pilot and Development Requirements:

Will the Conference Room Pilot machine become your production machine?	Yes/No
Peak active users on the CRP?	World _____ OneWorld _____
Installation date for CRP?	
Will you require a separate development or test machine? If Yes, for how many users?	Yes/No OneWorld ____ World ____

Additional Information for Production Environment:

Is coexistence with WorldSoftware a requirement?	Yes/No
What hardware do you have now? If AS/400, give model number	
Do you want a phased approach to sizing, and if Yes, give active user number and dates for each phase	Phase 1 Phase 2 Phase 3
Date for start of production	
Growth projected one year after start of production (%)?	

Example of Page 5

System Requirements for Production:

Batch processing during online time (%)	
Disk Mirroring or RAID 5 required?	Mirroring / RAID 5
High availability configuration required, such as: HACMP, MIMIX, OMS, or MSCS?	HACMP / MIMIX / OMS MSCS
If yes, percentage of total workload that needs to run in failover mode?	
Backup Media Required (4mm/8mm/3590/3570/DLT)	

Explanations of Some of the Above Questions:

Conference Room Pilot Requirements:

Customers often start with a conference room pilot for functional testing. Sometimes this system becomes the production system but not always.

Additional Information: We would like to know your plans for the start of production since future hardware enhancements may be recommended if appropriate.

System Characteristics

- Batch jobs such as reports, MRP runs, general ledger updates, EDI, need to be considered if run during peak online time.
- Disk mirroring typically provides high availability on the disk in a UNIX or Windows NT environment. This should be considered for the production environment.
- High availability on the CPU can be attained by using IBM's HACMP product on the UNIX platform, MIMIX (from Lakeview Corp.) or OMS (from Vision Solutions) on the AS/400, or MSCS on the Netfinity. In all cases, a second system is required for implementation.

5.8 Hardware and Software Requirements for Windows Terminal Server

In this section, we list the OneWorld B73.3 software and hardware requirements for the Microsoft Windows NT Server 4.0, Terminal Server Edition.

Table 14. Software and Hardware Requirements for Windows Terminal Server Edition

Components	Minimum Requirements	IBM JDE Recommendations
CPU	Two-way Pentium Class Intel server	Dual Intel Pentium III 400 MHz Note: For a TSE server supporting 15 or fewer workstations at least two processors. For more than 15 users, four 400 MHz or higher processors.
Operating System	Windows Terminal Server	
RAM	30 MB per user	512 MB plus 30 MB per user
Screen Resolution		
Hard Disk (1) for Microsoft Terminal Server Edition		4 GB, set at RAID 0 for the TSE root drive.
Hard Disk (2) For OneWorld and additional applications		A minimum of three 4 GB hard drives, set at RAID 5. Swap space should be configured to use the striped disk set and configured to be at least one to two times the available physical memory.
Network Card	Required	Note: The network interface card (NIC) used to communicate with the enterprise server should utilize a switched 100 Mbps, full duplex connection as a minimum.
Citrix MetaFrame	Required	Load on striped disk set
Domino Go Web Server	Required	Load on striped disk set
Network Station Manager	Required	Load on striped disk set
OneWorld B73.3 Client	Required	Load on striped disk set
SQL Client Connectivity	Required	Load on striped disk set

Components	Minimum Requirements	IBM JDE Recommendations
<p>Important:</p> <p>(1) Mdac 2.1 (which contains the versions of ODBC drivers) is not supported for Windows Terminal Server Edition. However, Mdac 2.1 is now required for all other servers and workstations if you use Microsoft SQL Server. Please use your current ODBC drivers for the Terminal Server and use the workaround located in 9.11.1, "Instructions for MDAC2.1 and TSE" on page 317.</p> <p>(2) For performance reasons, swap space should be configured to use the striped disk set and configured to be at least one to two times the size of available physical memory. OneWorld should be installed on a striped disk set. The NTFS file system is recommended throughout the hard drive configuration.</p>		

Chapter 6. Using ServerGuide for IBM Netfinity

The HardwareGuide CD helped us to perform a simplified server installation that was specific to our system based on the hardware detected. HardwareGuide's easy-to-use wizard interface gave us complete control of the setup and configuration process, with a choice of an express or custom configuration path. After we completed the hardware configuration, we were ready to install our network operating system. The SoftwareGuide CD was used to install our Windows NT 4.0 Server network operating system. SoftwareGuide helped us by installing the device drivers needed for our IBM Netfinity 5500 systems and are utilized by Windows NT 4.0 Server. This was all that was needed to get our servers up and running. Afterward, we downloaded Microsoft's Service Pack 4 for Windows NT 4.0 Server to update our network operating systems to the latest level.

World Wide Web

For the latest device drivers, software patches, product information, general ServerGuide notes or specific information about your server model and your operating system, visit the ServerGuide home page at:

<http://www.pc.ibm.com/us/server/sguide/> and click **Support**.

Information and BIOS updates for your server can also be obtained from the Netfinity Web site:

<http://www.pc.ibm.com/us/netfinity/> and click **Support**.

6.1 ServerGuide Overview

Installing and configuring a server can be a complex, time-consuming task. In addition to installing hardware, installing the operating system, device drivers and applications makes the task more complex. Because of this, some of your highest cost can be the initial installation and configuration of a server. When several servers are being installed, the costs can rise significantly.

The solution for IBM Netfinity servers is IBM ServerGuide. ServerGuide is designed to simplify and shorten setup, configuration, and network operating system (NOS) installation. ServerGuide simplifies deployment, helping you reduce your total cost of ownership, and also reduces the complexity that administrators and technical personnel face.

ServerGuide is shipped with every IBM Netfinity server. ServerGuide's built-in intelligence recognizes machine types and models of servers and software versions and other hardware criteria. As a result, ServerGuide offers installation and configuration choices designed for your system and its respective custom configuration.

ServerGuide is packaged in an easy-to-use binder format that contains the ServerGuide CDs and the IBM Netfinity system reference manual. ServerGuide aids the installation of all major operating systems. You need your own copy of the operating system you plan to install.

ServerGuide includes the following CDs:

- ServerGuide SoftwareGuide
- ServerGuide HardwareGuide
- CoPilot Application Guide
- Book Factory
- Diskette Factory
- Operating System FixPaks

FixPaks are provided for Microsoft Windows NT, Novell IntraNetWare and OS/2 Warp

ServerGuide supports the following operating systems:

- IBM OS/2 Warp Server, Advanced and SMP
- Microsoft BackOffice Small Business Server 4.0
- Microsoft Windows NT Server 4.0
- Microsoft Windows NT Server Enterprise Edition 4.0
- Microsoft Windows NT Workstation 4.0
- Novell IntraNetWare
- Novell NetWare 5
- SCO Open Server Release 5.0.4 and 5.0.5
- SCO UnixWare 7

In addition, ServerGuide provides the following products and installation tools at no additional charge:

- Lotus Domino Application/Mail Server 5.0 (specific product is dependent on Netfinity server purchased)
- IBM Netfinity Configurator
- APC PowerChute plus
- Replicated Installation Path for Multiple Windows NT Server 4.0
- Book Factory
- Diskette Factory
- System Information Tool
- RAID Manager
- IBM Netfinity Manager
- IBM Update Connector
- IBM Network Station Manager
- IBM Cluster Systems Management
- IBM ServeRAID Adapter Administration and Monitor Utility
- Adaptec EZ-SCSI Utility
- Norton AntiVirus for Windows NT Server Edition

6.2 HardwareGuide and Windows NT Server 4.0

The HardwareGuide CD helps you perform a simplified server installation that is specific to your system based on the hardware detected. HardwareGuide's easy-to-use wizard interface puts you in complete control of the setup and configuration process, with your choice of an express or custom configuration path; no setup diskettes are needed on Netfinity servers. You can run system configuration utilities, set up your RAID configuration, and install flash BIOS updates directly from the HardwareGuide CD. HardwareGuide also installs and uses a 50 MB system partition on your hard drive. The system partition, if available, can be used in the future by other IBM products. After you complete the hardware configuration you are ready to install your network operating system.

Begin using the HardwareGuide CD by completing the following steps:

1. Insert the HardwareGuide CD, and turn on or reboot your Netfinity system.
2. At the Make a selection screen, select **(Start here) Run HardwareGuide for all servers** and press Enter.
3. At the ServerGuide language screen, click **English**.
4. In the region and keyboard panels, the default selection is United States. Click **Next**.
5. Read the Welcome Screen and click **Next**.
6. Select **Express** as your configuration method.
7. Select **Microsoft Windows NT Server** as the operating system you will install and click **Next**.
8. The Express Configuration detects the hardware configuration and states which utility programs are required. For example:
 - Date and time
 - ServeRAID configuration
 - System partition configurationClick **Next**.
9. At the date and time screen, ensure that the correct date and time are indicated (if not, modify to correct). Click **Next**.
10. The ServeRAID Configuration screen appears. Take a moment to read the information. Click **Next**.
11. If the controller card (controller 1) is not configured, click the right mouse button and select **Configure the ServeRAID Controller**. You will have two configuration paths from which to select:
 - Express Configuration for Controller 1
 - Custom Configuration for Controller 1
12. In our example, we had six 9 GB drives installed in our IBM Netfinity 5500 (the deployment server). Select **Express Configuration for Controller 1**. The controller card is set to one array, one logical drive and six physical drives.
 - New Array A: 43.3 MB capacity
 - New Logical Drive 1: RAID level-5, 34.7 MB
 - Physical Drives: 5 - 8.6 MB used capacity on each drive

- Hot Spare Drives: ID 5 on SCSI Channel 2 is 8.6 MB
13. Click **Apply** to continue.
 14. At the confirm dialog screen, click **Yes**. Then click **File** and **Exit**.
 15. Click **OK** to restart the system.
 16. Leave the HardwareGuide CD in the system. After the system reboots the system partition screen appears. Read the information and click **Next**.
 17. Click **Done**. The ServerGuide presents the status report for each utility program as completed. Click **Next**.
 18. Select **Exit HardwareGuide and continue with SoftwareGuide**. Click **Next** and then click **OK**. After shutdown, insert the SoftwareGuide CD and restart the system.
 19. Continue by following the instructions in 6.3.1, "Installing Windows NT Server 4.0 Using the SoftwareGuide CD" on page 84. To understand more about SoftwareGuide, you should begin reading 6.3, "SoftwareGuide and Windows NT Server 4.0" .

6.3 SoftwareGuide and Windows NT Server 4.0

Use the SoftwareGuide CD to install your network operating system easily. SoftwareGuide helps you install the device drivers needed for your IBM server. Hints and tips are available in the online README. Supported operating systems include:

- Microsoft Windows NT Server
- Microsoft BackOffice Small Business Server
- OS/2 Warp Entry, Advanced and SMP Server
- SCO OpenServer and Novell IntraNetWare and NetWare

Each operating system has its own installation method, giving a range of flexibility during installation. The methods are tailored to the operating system. For example, Microsoft Windows NT Server supports diskette-less installation. A Microsoft Windows NT installation provides a replicated path, saving time when installing multiple servers. This is all that's needed to get your server up and running.

If you choose to update your operating system to the latest level, ServerGuide also includes the CD with current operating system FixPaks.

For the purposes of this redbook, this section concentrates on the aspects of ServerGuide 4.1 as it pertains to the installation of Windows NT Server 4.0.

For the installation of Windows NT Server 4.0, ServerGuide provides assistance in building driver diskettes for the various IBM products and the installation diskettes for Windows NT Server 4.0. However, you will have to make sure that the drivers that you create from the ServerGuide CD-ROM are newer than those provided with the product. You can do this by checking their time and date stamps.

World Wide Web

For the latest device drivers, software patches, product information, general ServerGuide notes or specific information about your server model and your operating system, visit the ServerGuide home page at:

<http://www.pc.ibm.com.us/server/sguide>

6.3.1 Installing Windows NT Server 4.0 Using the SoftwareGuide CD

Start the SoftwareGuide bootable CD-ROM by placing it in the CD-ROM drive of your server and reboot the system. After the POST test runs, SoftwareGuide boots and the ServerGuide language selection screen appears. Complete the following instructions for a successful installation:

1. Select the language that you want to use during the software installation process. There are five options:
 - English
 - French
 - German
 - Spanish
 - Italian

For this installation process, we selected **English**.

2. The country and keyboard selection screen is displayed. A left arrow, right arrow and question mark now appear at the bottom of the screen. Selecting the question mark gives you help information on the displayed screen. The left arrow will take you to the previous screen and the right arrow will take you to the next screen. These buttons perform the same functions on many of the following screens on which they appear.
3. Select the appropriate country and keyboard for your software. For this installation process, select **United States** as the country and **United States** for the keyboard. Select > to continue.
4. At the Main Menu, there are six options:
 - README Hints and Tips
 - Overview
 - Product Registration
 - Diskette Factory
 - Operating System Installation
 - Introduction to CoPilot Application Guide

Select **Operating System Installation**.

5. The ServerGuide Operating System selection screen appears and it has four options:
 - Novell IntranetWare
 - Microsoft Windows NT Server
 - IBM OS/2
 - SCO OpenServer

Select **Microsoft Windows NT Server**.

6. The Selecting a Windows NT Server 4.0 Version and Installation Method screen appears. Ensure that the following are selected for Version and Method for Windows NT Server CD Installation:
 - Windows NT Server Release 4.0
 - Customized Installation

At this point, ensure that you have the retail version of Windows NT Server 4.0 available. Click on the > button to proceed with the installation.

7. The Installed Adapters screen is displayed. This screen shows the server type, the hard disk adapters and controllers, and the network adapters and controllers installed in the server, as detected by the ServerGuide. Click on the > button to continue with the installation.
8. Select **FAT** as the type of partition to be created. Make your Windows NT Server partition size 2 GB. Click the > button to proceed with the installation.
9. Select **5** concurrent connections (or whatever the correct number of connections should be entered). Click the > button twice to proceed with the installation.
10. Remove the SoftwareGuide CD from the CD-ROM drive and insert the Windows NT Server 4.0 CD. Click **OK** to continue with the installation of Windows NT Server 4.0.
11. After the files are copied to your server, you will see a dialog box indicating to remove the Windows NT Server 4.0 CD from the drive. Click **OK** to continue. Your system will begin to restart.

Notes

Use the following notes for a successful installation of your Deployment server and Enterprise server.

1. Refer to your Windows NT Server documentation for setup and configuration instructions.
2. When your server reboots, if you see a Virus Warning Screen, ensure the highlighted line states **Change is expected** and press Enter.
3. Although the setup Microsoft Internet Information Server is a requirement for the Deployment server, do not select it during the Windows NT Server 4.0 installation.
4. During our installation, we selected TCP/IP and NetBIOS as our protocols.
5. A MSDOS window will appear running setup.exe, press Enter twice to continue.
6. Create your repair disk.
7. Once your Windows NT Server 4.0 is up and running, remember to partition, format and assign drive letters for the remaining hard drive(s).

6.3.2 Operating System FixPaks CD-ROM

This CD-ROM contains the vendors' FixPaks for their operating systems. FixPaks are provided for Microsoft Windows NT, Novell IntranetWare, and OS/2 Warp. Use this CD-ROM to load the Microsoft Windows NT Server 4.0 Service Pack 4. Remember to check your Microsoft Web site for recent releases of service packs. The Web site is <http://www.microsoft.com/>.

6.4 SoftwareGuide CD-ROM with Windows Terminal Server Edition

When using SoftwareGuide to install Windows NT Server 4.0, Terminal Server Edition, you must copy the necessary device drivers to diskettes and use these diskettes during the installation of Windows NT Server 4.0, Terminal Server Edition. Terminal Server Edition is installed via its diskettes and CD-ROM (you must use the shrink-wrap version).

Note: At the time of writing, ServerGuide does not support Windows NT Server 4.0, Terminal Server Edition.

After using HardwareGuide, you should use SoftwareGuide to prepare your system for the Terminal Server Edition installation. Complete the following steps to create the necessary diskettes:

1. Place the SoftwareGuide CD-ROM into the server and reboot.
2. At the main menu, click **Diskette Factory**.
3. Under Select a Category, you should see **Your Server** selected as the default. Click > to continue.
4. Check the packages that appear on the screen. In our example, we used an IBM Netfinity 5000 as our Windows Terminal Server and selected:
 - IBM Netfinity 5000 System Diskettes
 - IBM ServeRAID AdapterClick > to continue.
5. In our example, the diskettes we selected to create from the packages were:
 - 7800 Family Manager Set Disk 1 of 2
 - IBM ServeRAID Device Driver Diskette
 - IBM Netfinity S3 Trio V2/GX Device Driver for NT
 - IBM Netfinity, PC Srvr Ethernet Ctrlr and IBM Netfinity 10/100 Fault Tolerant Dev Drvr.
6. Click > to begin creating your diskettes. After all the diskettes have been completed, click < four times to return to the ServerGuide exit dialog box and click **OK**.
7. Remove the CD-ROM and then click **OK**.
8. Continue with the installation of Windows NT Server 4.0, Terminal Server Edition using the diskettes and CD-ROM shipped with the product.

Important

During our installation of Windows NT Server 4.0, Terminal Server Edition, at the Mass Storage Device screen you must install the Adaptec driver for Windows NT from the 7800 Family Manager Set Disk 1 of 2 and the IBM ServeRAID Adapter from the IBM ServeRAID Device Driver diskette.

After you complete installing Windows NT Server 4.0, Terminal Server Edition, you must install Windows NT Server 4.0, Terminal Server Edition Service Pack 4. During the installation of the Service Pack, a dialog box will appear indicating that a file was detected that was installed by your computer manufacturer and you will be asked if you would like to overwrite this driver with a file from the Service Pack. *Do not overwrite this file.* This file is the Adaptec driver for Windows NT and your IBM system.

The Windows NT Server 4.0, Terminal Server Edition Service Pack 4 can be downloaded from the Microsoft Web site:

<http://www.microsoft.com>

Note: The IBM Netfinity S3 Trio V2/GX Device Driver for NT and the IBM Netfinity PC Srvr Ethernet Ctrlr and IBM Netfinity 10/100 Fault Tolerant Dev Drvr diskettes were not used during our installation because Windows NT Server 4.0, Terminal Server Edition automatically detected the video device and network adapter and installed the correct drivers.

Chapter 7. Implementing Oracle8 and J.D. Edwards' OneWorld

This chapter will discuss the necessary procedures for installing and configuring Oracle8 Enterprise Edition for Windows NT and J.D. Edwards' OneWorld B73.3 applications on a Windows NT 4.0 platform. The server used in these processes are IBM's Netfinity 5500 systems. Before installing Oracle and OneWorld, IBM's ServerGuide (included with all new IBM Netfinity servers) was used to configure the Netfinity servers. This set of software (HardwareGuide and SoftwareGuide) contains the installation tools and codes, and are necessary to aid users in installing their appropriate operating systems with minimum effort.

7.1 Deployment Server Setup

In this section, the deployment server will be set up and configured with the required software. The tasks will include the following installations:

- Updated BIOS for the IBM Netfinity server
- Windows NT 4.0 using IBM's ServerGuide software
- Microsoft Access
- Microsoft Visual C++ 5.0
(C++ 6.0 supported by OneWorld B73.3.1 or higher only)
- Microsoft Internet Explorer 4.01 or higher
- Adobe Acrobat Reader 3.01
- Oracle8 Enterprise Edition for Windows NT
- Microsoft Internet Server

Before you begin, it is recommended that you download the latest BIOS for your IBM Netfinity server from the IBM Web site:

<http://www.pc.ibm.com/us/netfinity>

Complete the following steps to set up the deployment server:

1. Install the latest BIOS on your Netfinity server and continue.
2. Using the ServerGuide that came with your machine, set up the hardware and install Windows NT Server 4.0. In addition, install Service Pack 4 or later for Windows NT Server 4.0 and ensure your Y2K software requirements have been met. ServerGuide will configure your hardware and simplify the operating system installation by providing Windows NT with the correct drivers for your machine (see Chapter 6, "Using ServerGuide for IBM Netfinity" on page 79 to help you with these tasks).
3. After Windows NT is installed, a few changes are needed for tuning purposes:
 1. From the Windows NT work space, select **Start > Settings > Control Panel**.
 2. Double-click **Network** and select the **Services** tab.
 3. Double-click the **Server** process.

4. Select **Maximize throughput for Network Applications**. Do not reboot when prompted.
 5. Return to Control Panel and select **System**.
 6. Select the **Performance** tab.
 7. Set the Application Performance Boost for Foreground Applications to 50% (slide set at halfway mark).
 8. Click **Change** and modify initial paging file size to the recommended size. Click **Set** and **OK**.
 9. The deployment server can now be shutdown and restarted.
4. Install Service Pack 4 or later for Windows NT Server 4.0.
 5. Install Microsoft Internet Explorer 4.01 or higher.
 6. Install Microsoft Access 7.0. Choose **Typical Install**.
 7. Install Microsoft Visual C++ 5.0. Choose **Professional Edition**. The path used for this installation is **C:\Msdev\DevStudio\VC**.
- Note:** We used the Microsoft software from the Microsoft Developer's Network CD-ROM during our installation, therefore, our installation procedures may differ slightly from the shrink-wrapped software that you purchased.
8. Next, you will install the Oracle8 client. Make sure the client and server version of Oracle match exactly. Oracle Install launches automatically when the CD-ROM is inserted. If it does not, double-click the **CD icon** under My Computer.

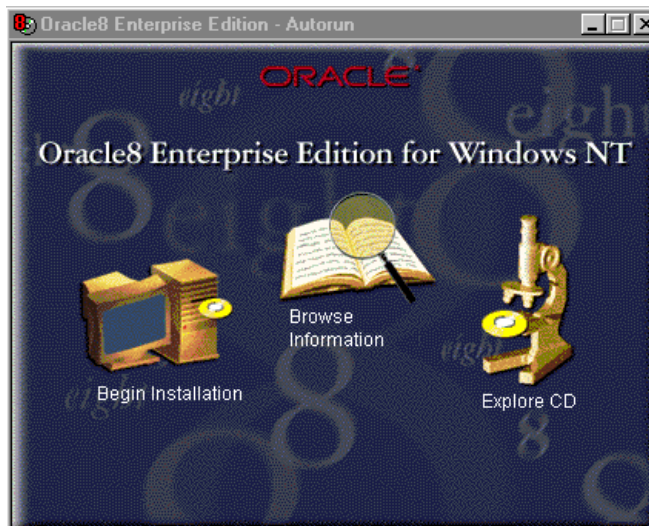


Figure 15. Oracle8 for Windows NT Installation Screen

1. Select **Begin Installation**. You will see a screen similar to Figure 16 on page 91.

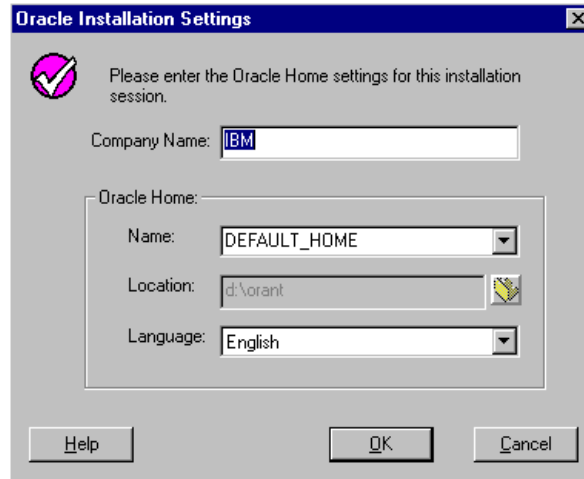


Figure 16. Oracle8 Installation Settings Screen

2. Complete the following fields:
 - Company Name = Input company name, for example, type IBM.
 - Name = DEFAULT_HOME
 - Location = The drive path where Oracle8 will be installed, for example, type d:\orant.
 - Language = English
3. Click **OK** to continue.
4. Select **Oracle8 Client**.
5. Select **Database Administrator**. This will install the database administration programs. Accept all default parameters.
6. You are now asked if you want to leave the Oracle documentation on the CD-ROM, or install it to disk (approximately 80 MB required). You will also have to have an HTML viewer installed to access the documentation. For this example, we chose to leave it on the CD-ROM for now.
7. Setup now begins installing the software and creating the icons.
8. When the installation is completed, shut down and restart the deployment server.
9. From the Windows NT desktop, access the User Manager for Domains under Administrative Tools (Common) to create user ID JDE and assign it the password JDE. Give this user administrative rights.
10. Log off and log on using the JDE ID.

Note: After logging back on, you may be required to complete the installation of the Service Processor DLL file and device driver. Press Enter twice.
11. Configure FTP on the deployment server by performing the following steps:
 1. Check if FTP is already installed. Go to the Control Panel and double-click **Network**. Select the **Services** tab.
 2. If Microsoft Internet Information Server (IIS) does not exist, click **Add**, and select **Microsoft Internet Information Server**. Click **OK** and follow the instructions to install IIS. Select:

- **Internet Service Manager**
 - **FTP Service**
 - **ODBC Driver and Administration**
3. Click **Close** to go back to Windows NT desktop.
 4. To configure FTP, select **Start > Programs > Microsoft Internet Server > Internet Service Manager**.
 5. Right-click the **FTP** service with your computer name, and choose **Service Properties**.
 6. Make sure **Allow Anonymous Connections** is not chosen.
 7. Read the warning message that is displayed and click **Yes**.
 8. On the FTP Service Properties, click the **Directories** tab, then **Add**.
 9. Configure the Directory Properties tab by adding the drive where you will install OneWorld by filling out the following fields:
 1. Directory - Type the drive where OneWorld will be installed (example: d:).
 2. Alias Field - Type the drive location preceded by a slash (example, /d:).
 3. Under Access, select **read** and **write** options.
 4. Click **OK**.
 5. Under **Directory Listing Style** select **MS-DOS** and click **OK**.
 12. If you do not have a printer already installed, refer to the Windows documentation and create one.

Note: Do not exceed 30 characters for the printer name, otherwise OneWorld will not be able to use it.

7.2 Enterprise Server Setup

In this section, the enterprise server will be set up and configured. The tasks include installing the latest BIOS, installing Windows NT Server 4.0 using IBM's ServerGuide software, installing Microsoft Internet Explorer 4.01 or higher, installing Microsoft Visual C++ 5.0 and Oracle8 for Windows NT.

Before you begin, it is recommended that you download the latest BIOS for your IBM Netfinity server from the IBM Web site:

<http://www.pc.ibm.com/us/netfinity>.

Complete the following steps to set up your enterprise server:

1. Install the latest BIOS on your Netfinity server and continue.
2. Using the ServerGuide that came with your machine, set up the hardware and install Windows NT Server 4.0. In addition, install Service Pack 4 or later for Windows NT Server 4.0 and ensure your Y2K software requirements have been met. ServerGuide will configure your hardware and simplify the operating system installation by providing Windows NT with the correct drivers for your machine (see Chapter 6, "Using ServerGuide for IBM Netfinity" on page 79 to help you with these tasks).

3. After Windows NT is installed, you need to change a few parameters for tuning purposes:
 1. From your Windows NT desktop, select **Start > Settings > Control Panel**.
 2. Double-click **Network** and select the **Services** tab.
 3. Double-click the **Server** icon.
 4. Select **Maximize throughput for Network Applications**. You will be prompted to reboot. Do not reboot at this time.
 5. Return to Control Panel and select **System**.
 6. Select the **Performance** tab.
 7. Set the Application Performance Boost for Foreground Applications to 50% (slide set at halfway mark).
 8. Click Change and modify initial paging file size to the recommended size. Click **Set** and **OK**.
 9. Check that your screen resolution is set to at least 256 colors or higher.
 10. The enterprise server can now be shut down and restarted.
4. Install Microsoft Visual C++ 5.0. Choose **Professional Edition**. The path used for this installation is **C:\Msdev\DevStudio\VC**.

Note: We used the Microsoft software from the Microsoft Developer's Network CD-ROM during our installation, therefore, our installation procedures may differ slightly from the shrink-wrapped software that you purchased.

7.2.1 Installing Oracle8 Enterprise Edition for Windows NT

In this section, we begin our installation of Oracle8 Enterprise Edition for Windows NT on our enterprise server. The Oracle databases will be created and later populated with databases and user data from OneWorld B73.3.

Important Note

Oracle8 tools are Java based. These tools will not run unless you have a minimum of 256 colors selected under your display properties. Do not continue the database installation until your display properties have been properly set.

Begin the installation by performing the following instructions:

1. Create the OneWorld administrator user on the enterprise server.
 1. Sign on to the enterprise server as an administrator or a user with administrative privileges.

Note: If your OneWorld deployment server and enterprise server are part of a Domain, you should have created the user ID JDE during the setup of the deployment server. Use the Domain user ID JDE to log on. Skip the next two steps and continue with step 2 on page 94.
 2. From the Windows NT desktop, select **Programs > Administrative Tools > User Manager for Domains**.
 3. Create a new user called JDE and give it the password JDE. Assign this user ID administrative rights. Log off and log on with this user ID.

2. Place your Oracle8 Enterprise Edition for Windows NT in the CD-ROM drive. Oracle Install will launch automatically when the CD-ROM is inserted. If it does not, double-click the CD-ROM icon under My Computer. You will see a screen similar to Figure 17:

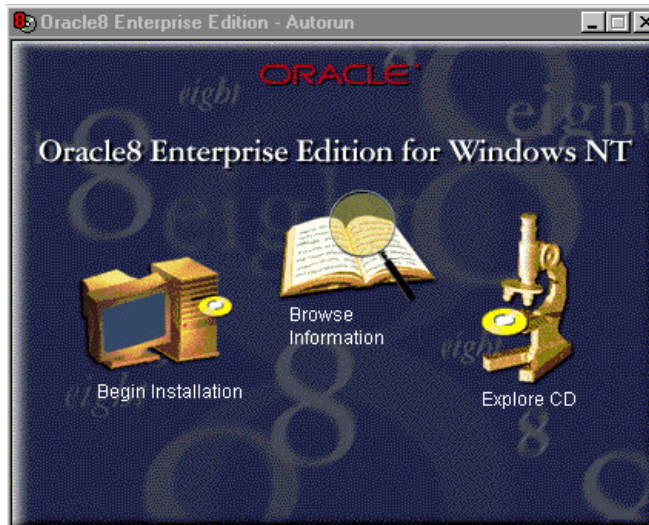


Figure 17. Oracle8 Installation Screen

3. Select **Begin Installation**. You will see a screen similar to Figure 18:

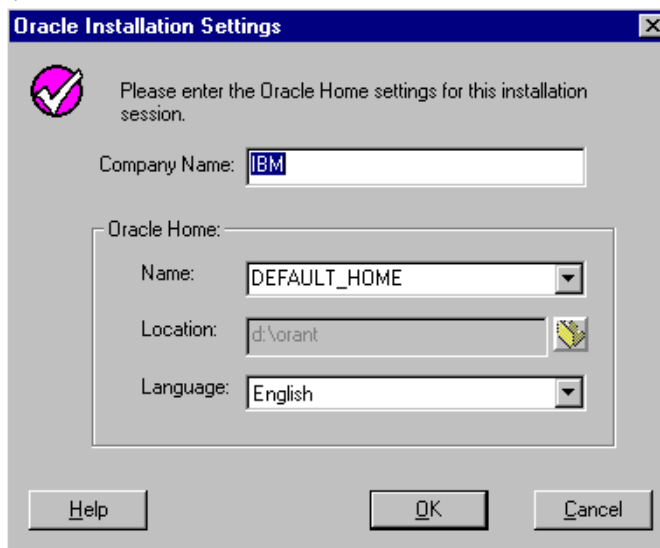


Figure 18. Oracle8 Installation Settings Screen

4. Complete the following fields:
 - Company Name = Input your company name, for example, type **IBM**.
 - Name = **DEFAULT_HOME**
 - Location = The drive path where Oracle8 will be installed, for example, type **d:\orant**.
 - Language = Select your language. In our example, we selected **English**.

5. Click **OK** to continue. You will see a screen similar to Figure 19:

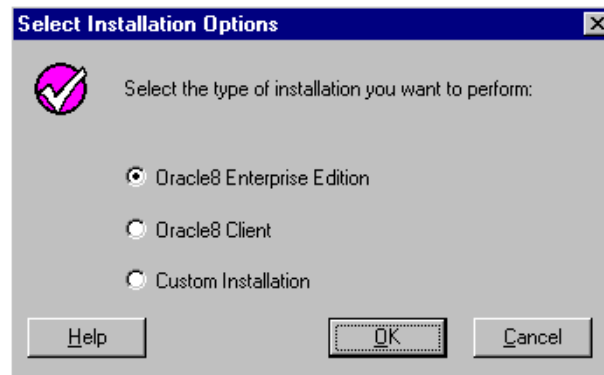


Figure 19. Installation Options Screen

6. Select **Oracle8 Enterprise Edition**. You will see a screen similar to Figure 20:

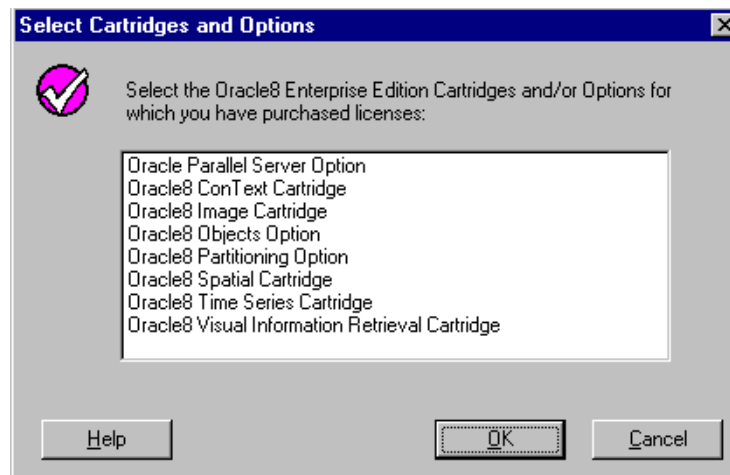


Figure 20. Cartridges and Options Selection Screen

7. Do not select any cartridges. Click **OK** to continue. You will see a screen similar to Figure 21:

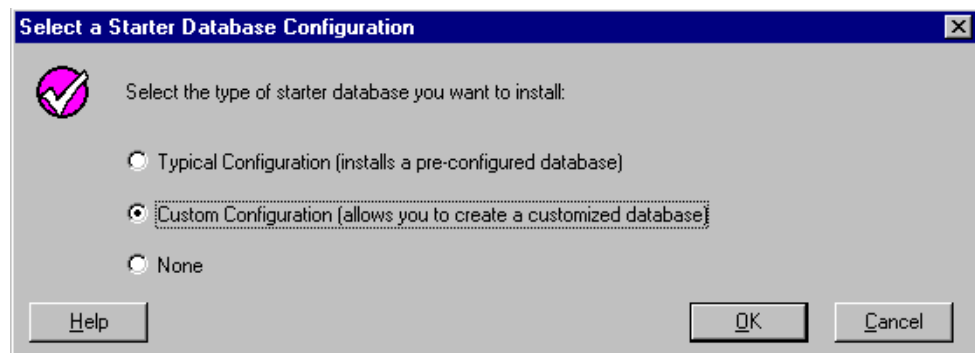


Figure 21. Starter Database Configuration Screen

8. At the Starter Database Configuration screen, select **Custom Configuration** and click **OK** to continue. You will see a screen similar to Figure 22:

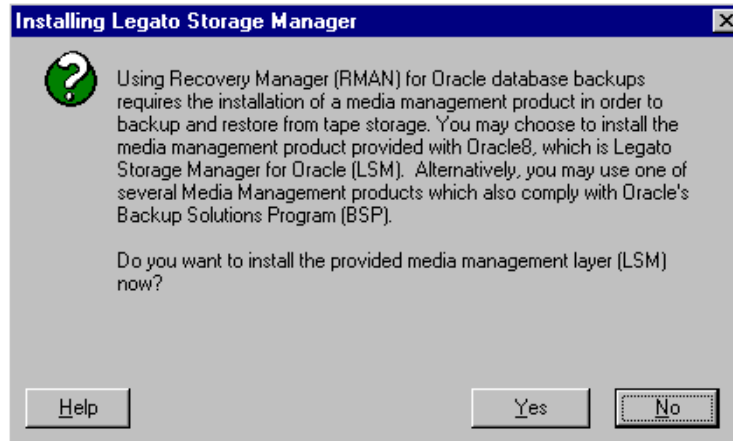


Figure 22. Legato Storage Manager Screen

9. In this example, the Legato Storage Manager was not used. Select **No** to continue. You will see a screen similar to Figure 23:

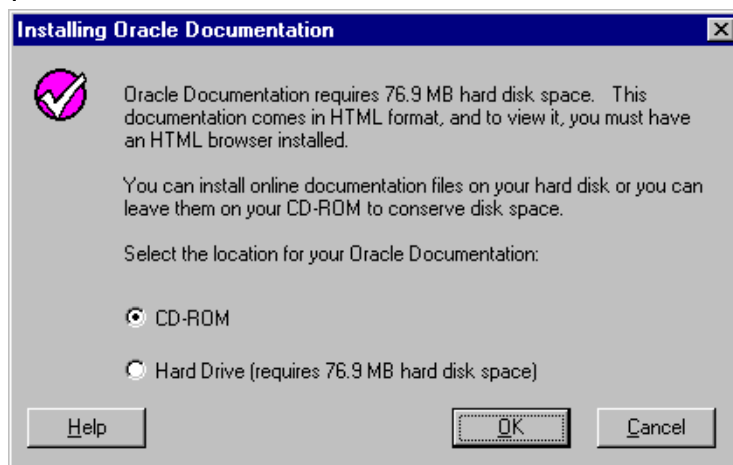


Figure 23. Oracle Documentation Screen

10. Select **CD-ROM** and click **OK** to view your documentation files from the CD-ROM. You will see a screen similar to Figure 24:

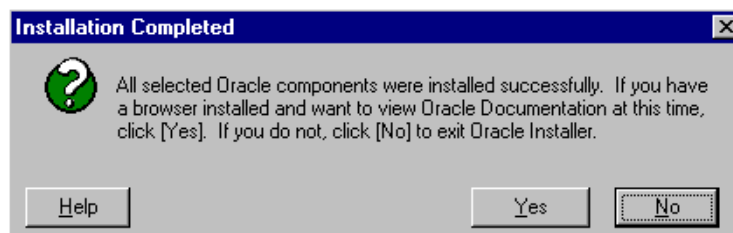


Figure 24. Installation Completed Screen

11. After the components are installed, click **No** to continue.

12. You are now allowed to create and customize your database. Click **OK** to begin. You will see a screen similar to Figure 25 on page 97.

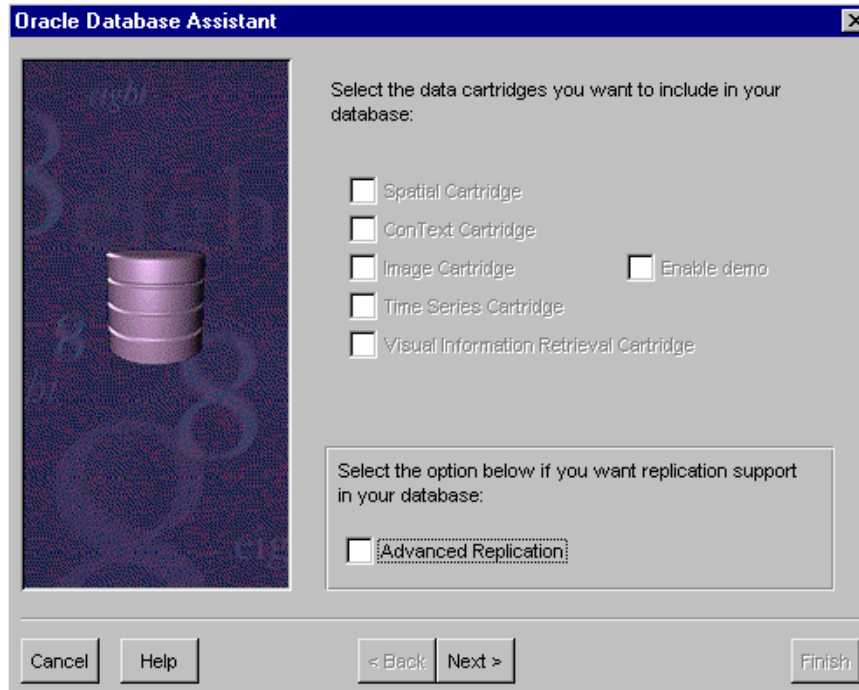


Figure 25. Oracle Database Assistant Screen

13.No cartridges were selected at this screen. Click **Next** to continue. You will see a screen similar to Figure 26:

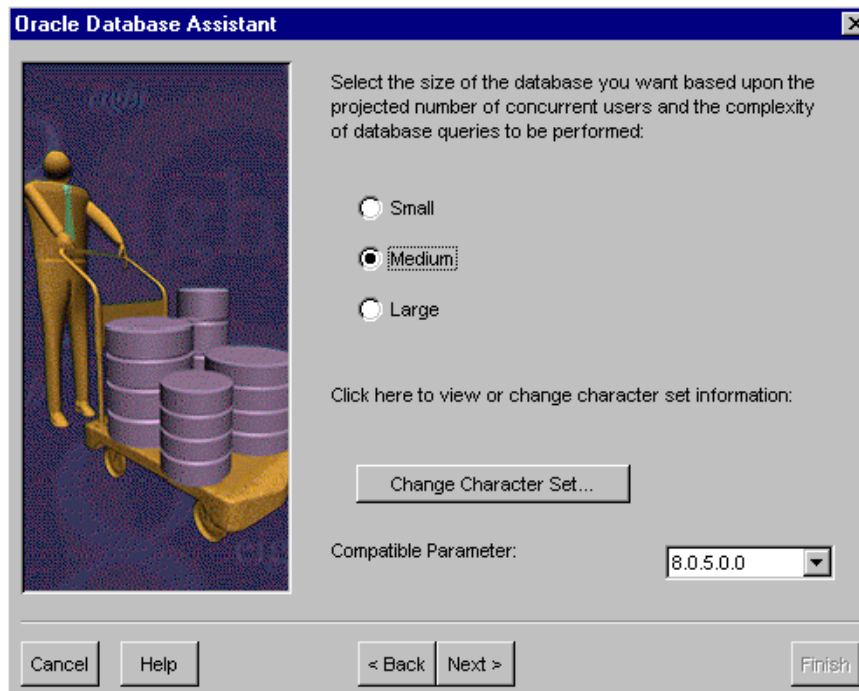


Figure 26. Oracle Database Assistant Screen

Select **Medium** as the size for your database. Take a moment to view the character set for your database by clicking **Change Character Set**. Your character should match that of J.D. Edwards' OneWorld language you selected

(see Appendix K-1 of *OneWorld Installation Guide (Windows NT-Based Systems)*, Release B73.3. For our example, using OneWorld B73.3 the character set required is WE_ISO88591 for U.S. English. Click **Next** to continue. You will see a screen similar to Figure 27 on page 98.

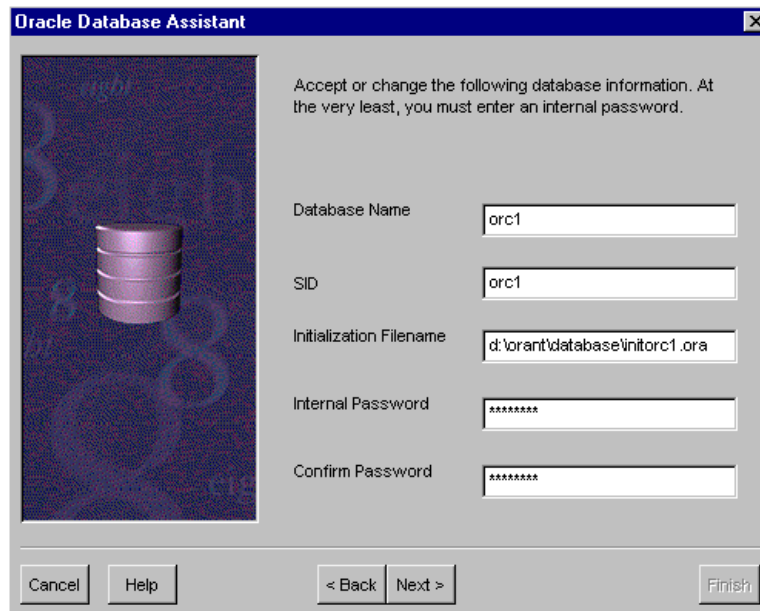


Figure 27. Oracle Database Assistant Screen

14. In the fields, type the following:

- Database Name = orcl (this name was used for this example)
- SID = orcl
- Initialization Filename = d:\orant\database\initorc1.ora
- Internal Password = oneworld (this password is provided only as an example)
- Confirm Password = oneworld

Note: Do not forget this password; write it down and put it in a secure place.

15. Click **Next** to continue.

Note: In the next several screens, you will set the required database environment variables for Oracle Windows NT and OneWorld. The following variables are highlighted:

- For OneWorld, the DB_FILES should be set to 200. The default value for the maximum number of DB_FILES allowed in Oracle8 is 254. Use the default variable of 254 for this installation.
- For OneWorld, the default database should have a block size of 4K to 8K depending on your available disk space. The default in Oracle8 is 2K. This was changed to 4K for this installation.
- Define the minimum system tablespace for OneWorld. Verify that the Oracle system tablespaces have at least the following space configurations and are partitioned appropriately for maximum performance:

Table 15. OneWorld B73.3 Minimum System Tablespace Requirements for Oracle8

Tablespace Name	Minimum Size (MB)
SYSTEM	40
ROLLBACK_DATA	500
TEMPORARY_DATA	350 (MAX extents set to unlimited)
USER_DATA	15

If you created the tablespaces with different names from those described above, you might need to modify some scripts described in the procedures that follow to reference the correct names.

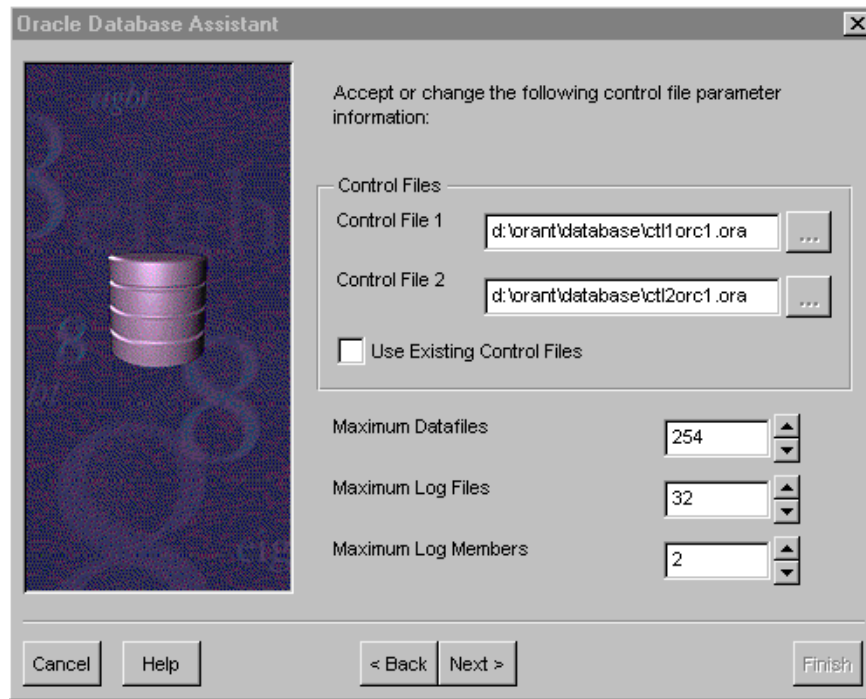


Figure 28. Oracle Database Assistant Screen

16. Ensure that your control files include your System Identifier (SID) name (for example, orc1) as a part of its file name. For OneWorld, the required number of maximum data files open is 200. The default parameter for Oracle8 is 254 and was used for this example. Click **Next**. You will see a screen similar to Figure 29 on page 100.

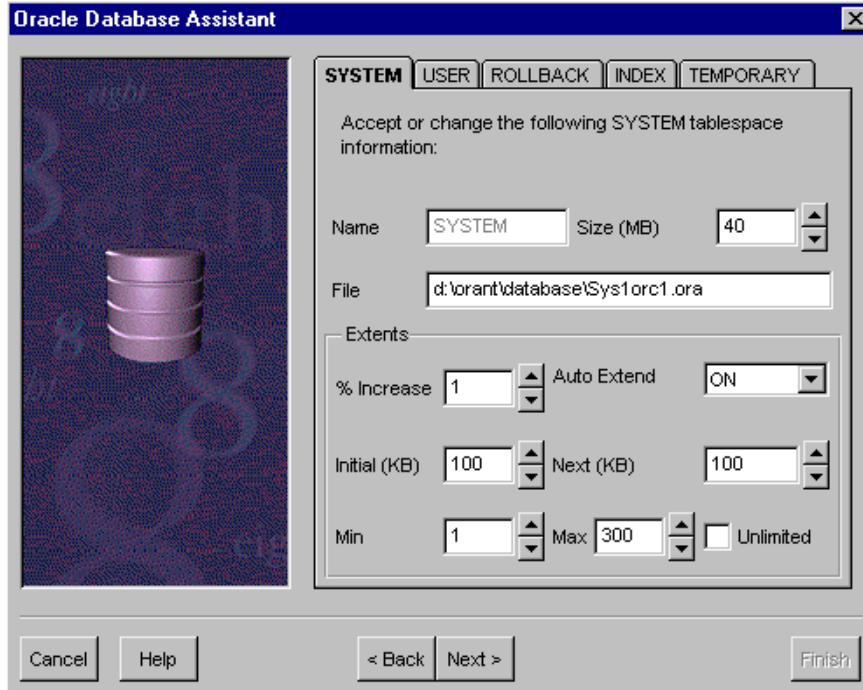


Figure 29. Oracle Database Assistant Screen

17. At this screen, you will define the minimum system tablespace requirements for OneWorld B73.3. Under the **SYSTEM** tab, verify and modify the following fields:

- Name = SYSTEM
- Size (MB) = 40

18. Click the **USER** tab. You will see a screen similar to Figure 30 on page 101.

Note: The tablespace requirements may be different for OneWorld versions, B73.3 and B73.3.1. Ensure that you've obtained the correct values for the version of OneWorld you are using.

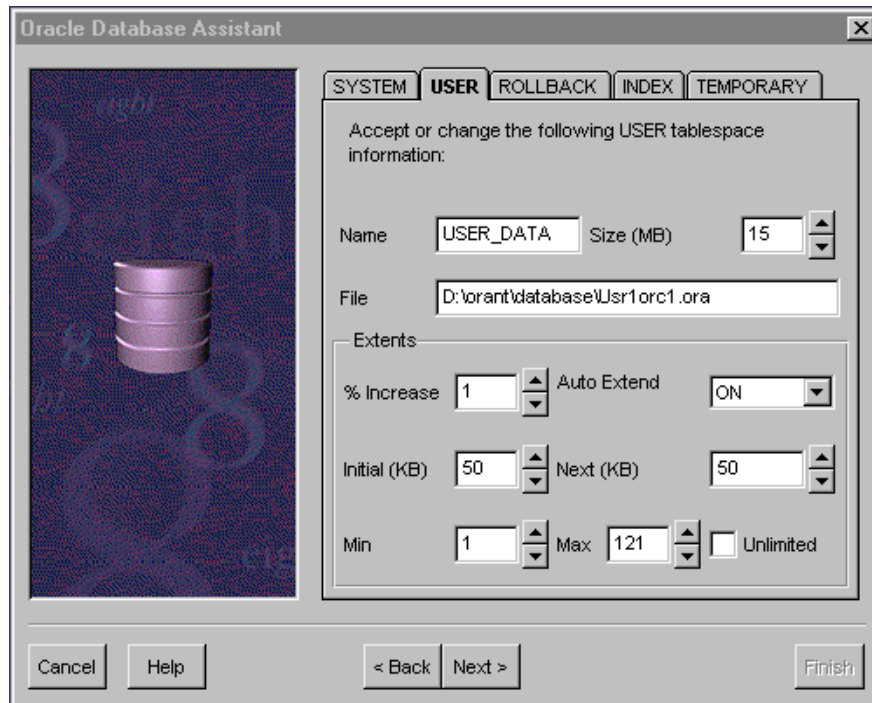


Figure 30. Oracle Database Assistant Screen

19. Under the USER tab in the Name field, type `USER_DATA`. Click the arrow buttons to reflect **15** in the Size (MB) field. Next, click the **ROLLBACK** tab. You will see a screen similar to Figure 31:

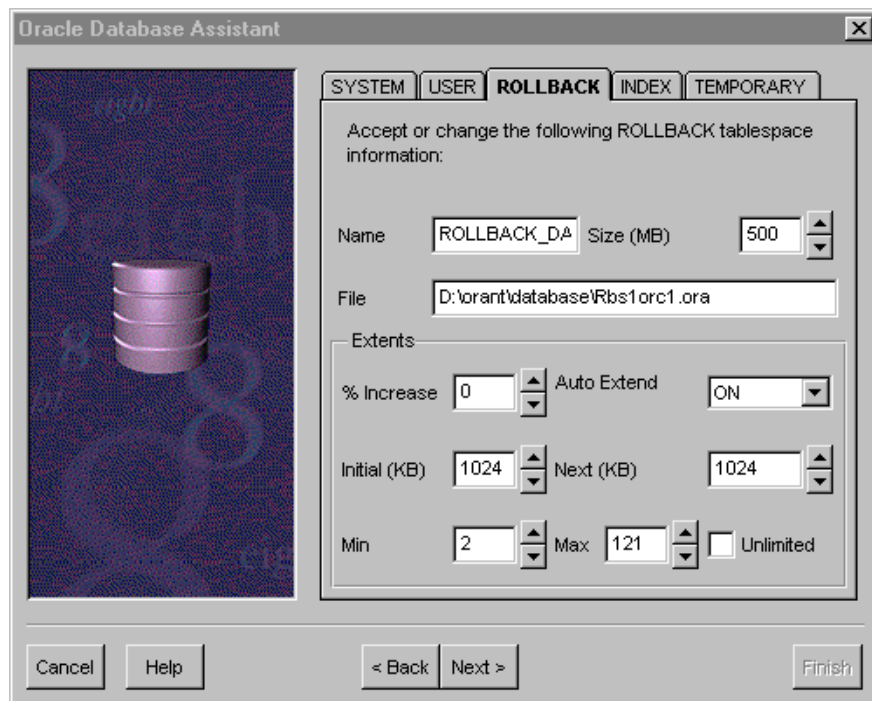


Figure 31. Oracle Database Assistant Screen

20. Under the ROLLBACK tab in the Name field, type `ROLLBACK_DATA`. Click the arrow buttons to reflect **500** in the Size (MB) field. Next, click the **TEMPORARY** tab. You will see a screen similar to Figure 32 on page 102.

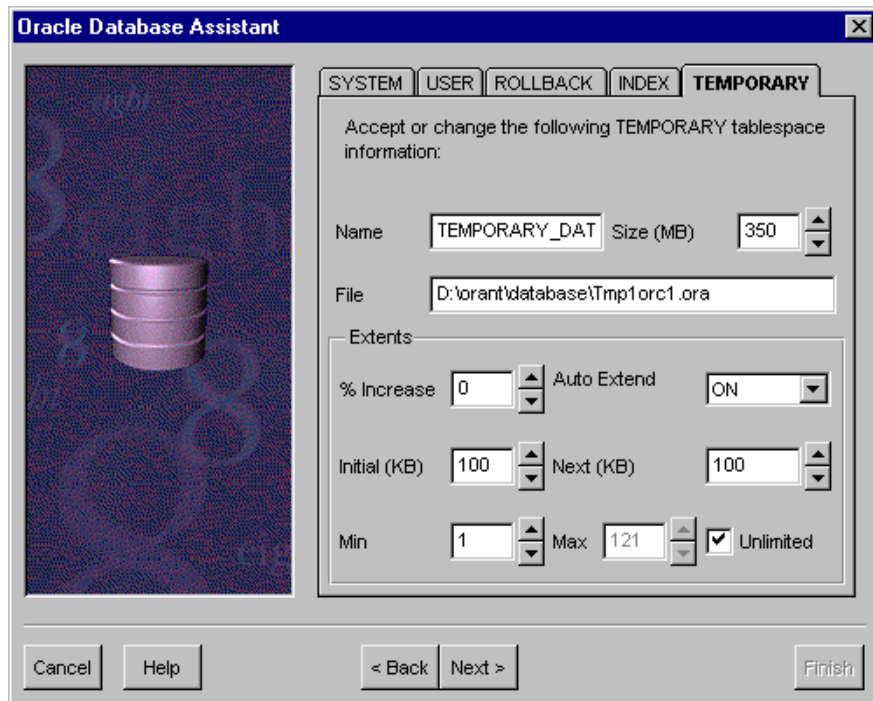


Figure 32. Oracle Database Assistant Screen

21. Under the TEMPORARY tab in the Name field, type `TEMPORARY_DATA`. Click the arrow buttons to reflect **350** in the Size (MB) field. Under Extents, check the Unlimited box. Click **Next** to continue. You will see a screen similar to Figure 33:

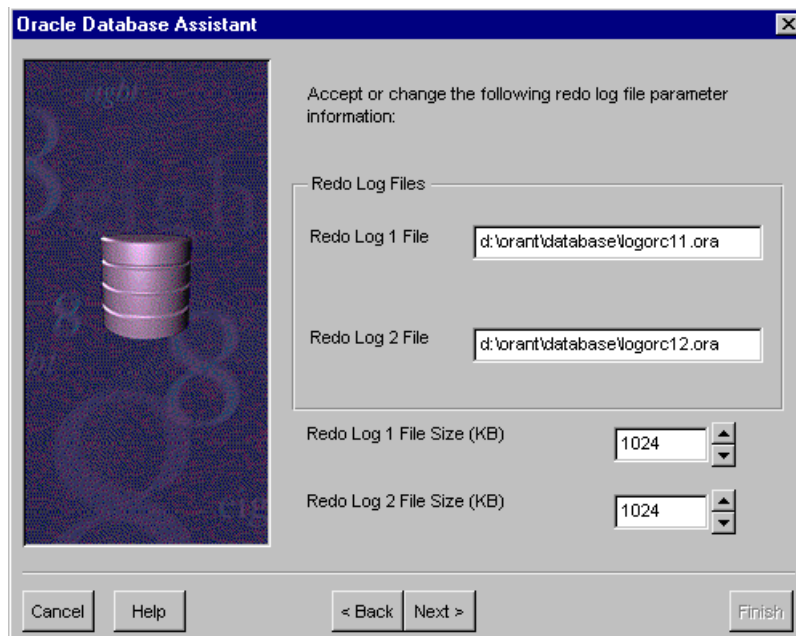


Figure 33. Oracle Database Assistant Screen

22. Accept the defaults for the Redo logs and click **Next**. You will see a screen similar to Figure 34 on page 103.

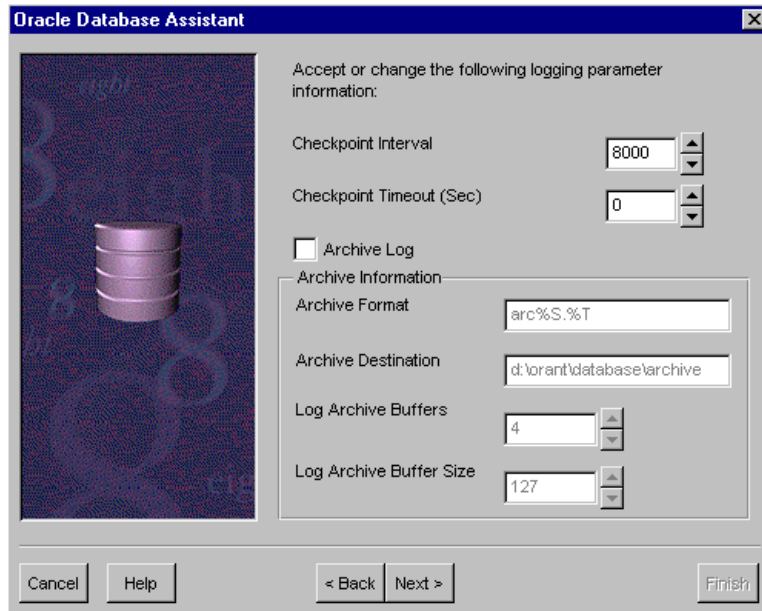


Figure 34. Oracle Database Assistant Screen

23. Accept the defaults for archiving, unless you want to enable the archiving of the Redo logs. Click **Next** to continue. You will see a screen similar to Figure 35.

Note: In a production environment, you will want to use archiving for recovery purposes, but for our example, we will leave it turned off. This can be changed later.

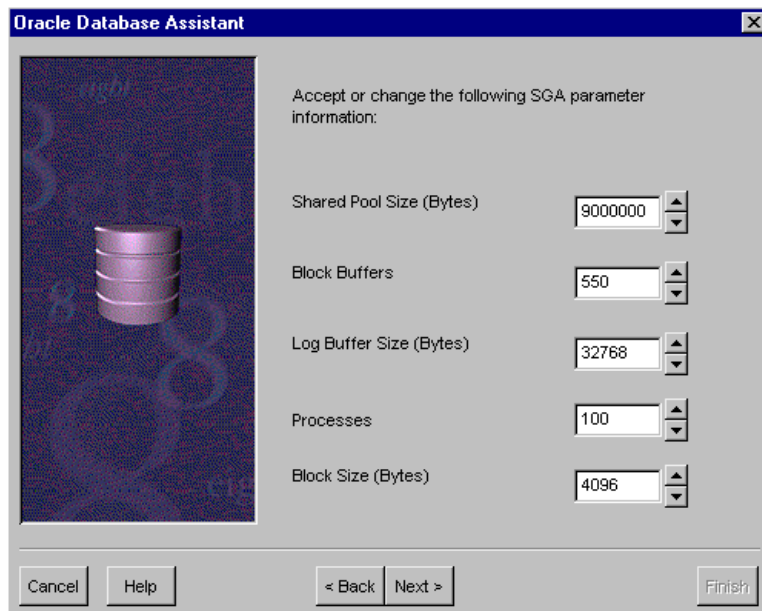


Figure 35. Oracle Database Assistant Screen

24. For OneWorld, your default database should have a block size of 4K to 8K depending upon your disk space. In the Block Size (Bytes) field, use the arrow buttons to select **4096**. Click **Next** to continue. You will see a screen similar to Figure 36:

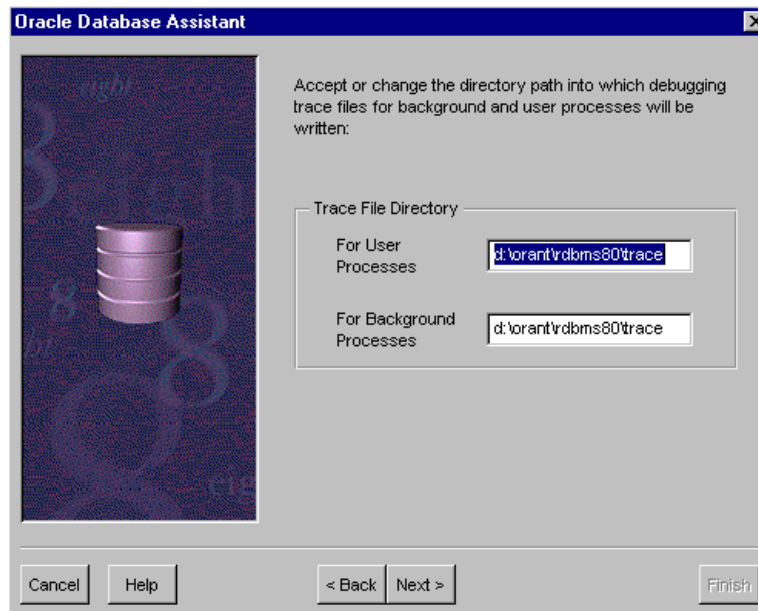


Figure 36. Oracle Database Assistant Screen

25. Click **Next** to continue. You will see a screen similar to Figure 37:

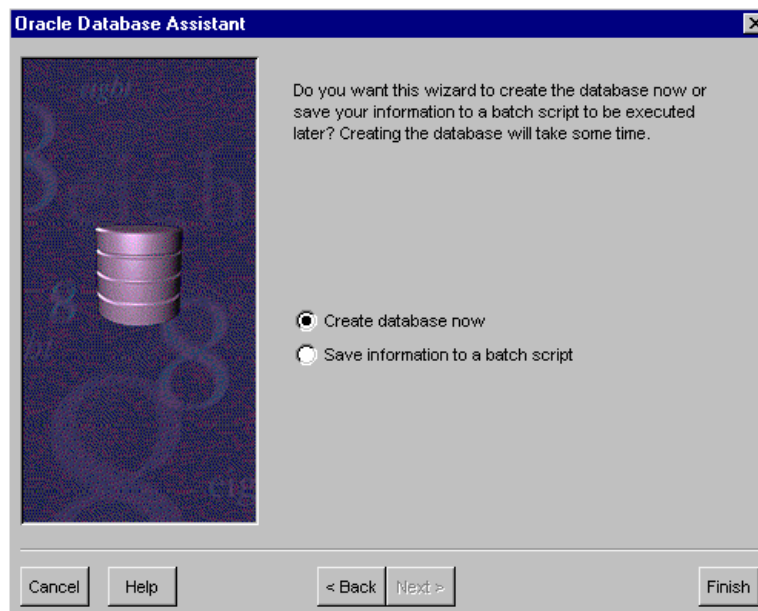


Figure 37. Oracle Database Assistant Screen

26. After modifying the parameters to customize your database, you are now ready to create it. Select **Create database now** and click **Finish** to continue.

27. Click **Yes** to begin creating your OneWorld database.

28. The name of the database will be `orc1`. The system identifier for the database will be `orc1`. Click **OK** to continue.
29. Click **Yes** to add the SID name (`orc1`) to your `Listener.ora` file. You will see a screen similar to Figure 38:

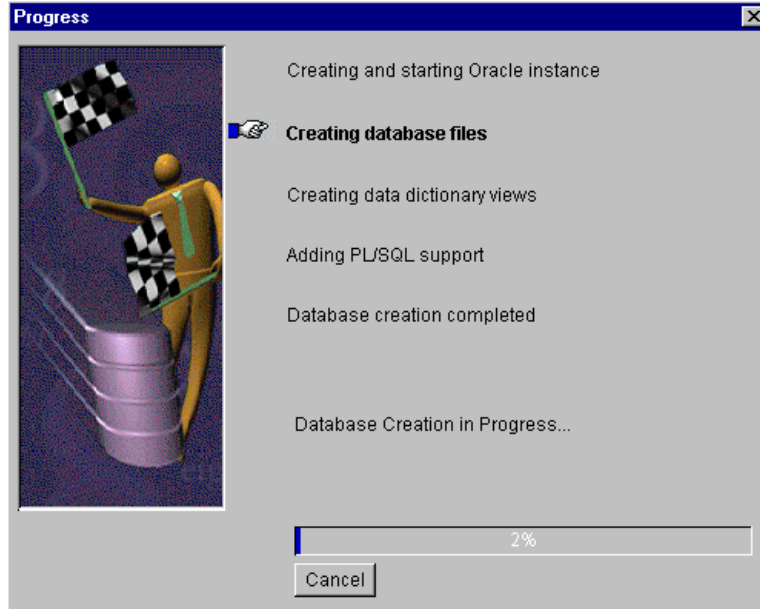


Figure 38. Creating Database Progress Screen

This process will take several minutes to complete. Once the process has completed you will see a screen similar to Figure 39:

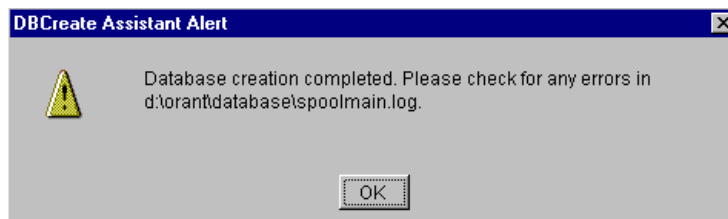


Figure 39. DBCreate Assistant Alert Screen

30. After the creation of the database, you must shut down and restart your enterprise server.
31. It is recommended that you make this the default database on the system. To do so, you must update the Windows NT registry on the enterprise server.
- From an MS-DOS prompt, type `regedt32` and press Enter.
 - Choose **HKEY_LOCAL_MACHINE\Software\Oracle**.
 - Locate the `Oracle_SID` parameter on the right side of the screen.
 - Double-click the parameter name and change it to match your SID. In our example, the SID is `orc1`.

7.2.2 Verify Setup of Listener.ora and Tnsnames.ora Files

You need to check and make sure the Listener.ora and the Tnsnames.ora files are set up correctly on the enterprise server, where the database resides. This is done to ensure that the Oracle clients can communicate with the database.

The Listener.ora file lists the names and addresses of all of the listener processes on the enterprise server and the instances it supports. The Tnsnames.ora contains a list of connect descriptors. Connect descriptors specify the communication protocol, server name, and instance name to use when performing a query. These files reside in the \orant\net80\admin subdirectory.

Note: The Oracle Net8 Assistant can be used to edit your Tnsnames.ora and Listener.ora files. Using the Oracle Net8 Assistant will help you minimize the possibility of any errors while using an editor. For this example, the Oracle Net8 Assistant will be used:

1. From the enterprise server, click **Start > Programs > Oracle for Windows NT**.
2. Select **Oracle Net8 Assistant**.
3. Highlight **Service Name**.
4. At the top of the menu click **Edit** and select **Create**.
5. Service Name = For this example, **ORC1**. Click **Next**.
6. Select **IPC (Local Process)** and click **Next**.
7. IPC Key Value = **ORC1**. Click **Next**.
8. Database Sid = **ORC1**. Click **Next**.
9. Click **Finish** to continue.
10. Review the examples for the database (SID=orc1) and accept all default parameters.
11. Save this file and Exit.

```

# D:\ORANT\NET80\ADMIN\TNSNAMES.ORA Configuration
File:D:\orant\net80\admin\tnsnames.ora
# Generated by Oracle Net8 Assistant

ORCL.WORLD =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = IPC)(Key = ORCL))
    (CONNECT_DATA = (SID = ORCL))
  )

# D:\ORANT\NET80\ADMIN\LISTENER.ORA Configuration
File:D:\orant\net80\admin\listener.ora
# Generated by Oracle Net8 Assistant

PASSWORDS_LISTENER= (oracle)

LISTENER =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = IPC)(KEY = oracle.world))
    (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC0))
    (ADDRESS = (PROTOCOL = NMP)(SERVER = IBM5500ES)(PIPE = ORAPIPE))
    (ADDRESS = (PROTOCOL = TCP)(HOST = ibm5500es)(PORT = 1521))
    (ADDRESS = (PROTOCOL = TCP)(HOST = ibm5500es)(PORT = 1526))
    (ADDRESS = (PROTOCOL = TCP)(HOST = 127.0.0.1)(PORT = 1521))
    (ADDRESS = (PROTOCOL = IPC)(KEY = ORCL))
    (ADDRESS = (PROTOCOL = IPC)(KEY = ORCL))
  )

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = extproc)
      (PROGRAM = extproc)
    )
    (SID_DESC =
      (SID_NAME = ORCL)

```

Figure 40. The Tnsnames.ora and Listener.ora Files on the Enterprise Server

1. Shown in Figure 40 are the files Tnsnames.ora and Listener.ora located on the enterprise server (\orant\net80\admin). Ensure your files are configured correctly. If you make changes to the Listener.ora file, stop and restart the listener on the enterprise server by opening a command prompt and typing:
 1. Isnrctl80 stop
 2. Isnrctl80 start
2. Ensure the listener starts. If it does not, recheck your Listener.ora file for errors. Pay close attention to the brackets.
3. You need to make sure that the deployment server can communicate with the database on the enterprise server. On the deployment server, review and if necessary edit the Tnsnames.ora file to reflect the protocol and database SID. This file resides in \orant\net80\admin. Shown in Figure 41 on page 108 is an example of the Tnsnames.ora file from the deployment server allowing it to

communicate with the database named orc1 on the enterprise server. The host IP address is the IP address of the machine where the database actually resides.

1. From the deployment server, click **Start > Programs > Oracle for Windows NT**.
2. Select **Oracle Net8 Assistant**.
3. Highlight **Service Name**.
4. At the top of the menu click **Edit** and select **Create**.
5. Service Name = For this example, **ORC1**. Click **Next**.
6. Select **TCP/IP (Internet Protocol)** and click **Next**.
7. IPC Key Value = **ORC1**. Click **Next**.
8. Database Sid = **ORC1**. Click **Next**.
9. Click **Finish** to continue.
10. Review the examples for the database (SID=orc1) and accept all default parameters.
11. Save this file and Exit.

```
D:\ORANT\NET80\ADMIN\TNSNAMES.ORA Configuration File:D:\orant\net80\admin\tnsnames.ora
# Generated by Oracle Net8 Assistant

orc1.WORLD =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.254.4)(PORT = 1521))
    (CONNECT_DATA = (SID = orc1))
```

Figure 41. The Tsnames.ora on the Deployment Server

12. Shown in Figure 41 is the file Tsnames.ora, located on the deployment server (\orant\net80\admin). Ensure this file is configured correctly.

```
Microsoft <R> Windows NT <TM>
<C> Copyright 1985-1996 Microsoft Corp.

C:\>tnsping80 orc1

TNS Ping Utility for 32-bit Windows: Version 8.0.5.0.0 - Production on 02 Mar 99
13.23:00

<c> Copyright 1997 Oracle Corporation. All rights reserved.

Attempting to contact <ADDRESS=<PROTOCOL=TCP><Host=192.168.254.4>
<Port=1521>>
OK <180 msec>

C:\>
```

Figure 42. TNSPING Command

After setting up this file, test the deployment server's connection to the database by entering `tnsping80 orc1` at the DOS Command Prompt (where orc1 is the

SID of the database shown in Figure 42) on the deployment server. You should get a response back saying that the attempt to contact the host was OK.

7.3 Installing and Configuring J.D. Edwards' OneWorld B73.3

In this section, you will use the Installation Planner to create your plan and deploy OneWorld to the enterprise server(s) and the client workstations. During this installation we will install the OneWorld B73.3 Setup software on your deployment server. If necessary, refer to J.D. Edwards' *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3* as a reference. Be sure you conduct a pre-installation audit to verify that all requirements have been met. Also run the Environment Checker to help with any configuration and setup issues.

Complete the following instructions to Install OneWorld:

1. Earlier you were instructed to create a JDE user ID and use JDE as the password. If you have done so, go to the next step. Otherwise, do so at this time and log off. Log on using the JDE user ID. This user should have full administrative rights to the Windows NT Server.
2. Log on to the deployment server as user JDE.
3. Insert the OneWorld Setup CD-ROM and run Setup.exe.

Note: MDAC 2.1 or higher may be required to be installed prior to the installation of OneWorld. This will update ODBC driver for Microsoft Access.

Welcome

Welcome to OneWorld Setup!

Before proceeding, please obtain an authorization code by contacting the J.D. Edwards Contracts Department at (303) 334-4000 between the hours of 8 am (08:00) and 5 pm (17:00), Mountain Standard Time.

Please be prepared to provide your name, telephone number, company name, and the serial number given below.

Security Revision

Serial Number

Expiration Date

Number of Licenses

Authorization Code -

Press Next to continue the installation.

< Back Next > Cancel

Figure 43. OneWorld Setup Screen

4. A Welcome screen will appear with the following fields:
 - Security Revision
 - Serial Number
 - Expiration Date
 - Number of Licenses

- Authorization Code

To continue with your installation, you will need to obtain an authorization code. You must call J.D. Edwards at 303-334-4000 (ask for Contracts). You will need to provide your J.D. Edwards' Address Book number and the serial number that appears on the screen, the expiration data, and the number of licenses.

Note: You may be instructed to leave a telephone number and someone from contracts will give you a call back. It is important that you have a telephone near the deployment server you're about to set up.

5. The contracts' representative will give you an authorization code while on the telephone. You will enter this code into the Authorization Code field and click **Next**. You will see a screen similar to Figure 44.

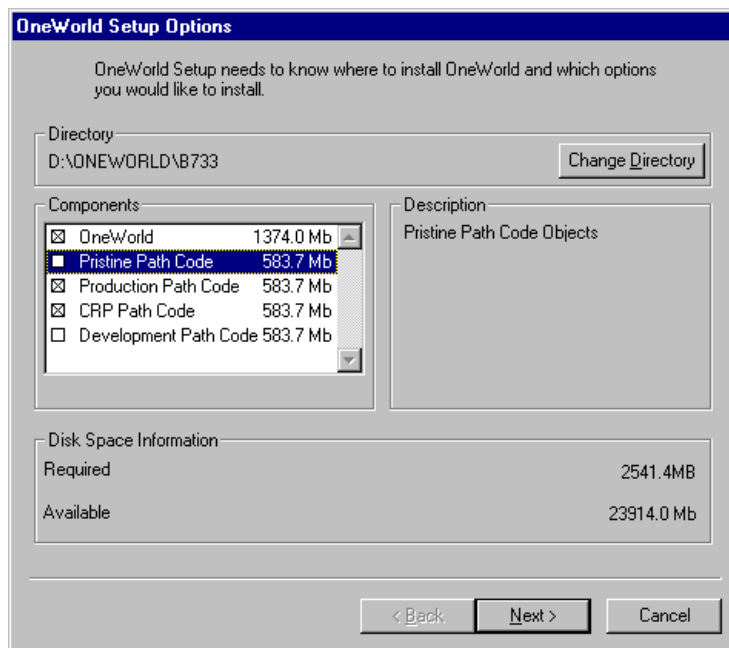


Figure 44. OneWorld Setup Options Screen

6. In the components area, we performed the following steps for our example:

- Click **Change Directory** and enter `D:\ONEWORLD\B733` as the path.

7. For this example, the following components were selected:

- OneWorld
- Production Path Code
- CRP Path Code

Note: Only the CRP (Conference Room Pilot) and the Production Path Code will be installed for this example. However, this should be changed, depending on your client or customer specifications.

8. Click **Next** to continue.

9. The program now installs the ODBC Access 7.0 drivers and begins copying its file to the deployment server. After the files have completed loading, you will see a screen similar to Figure 45 on page 111.

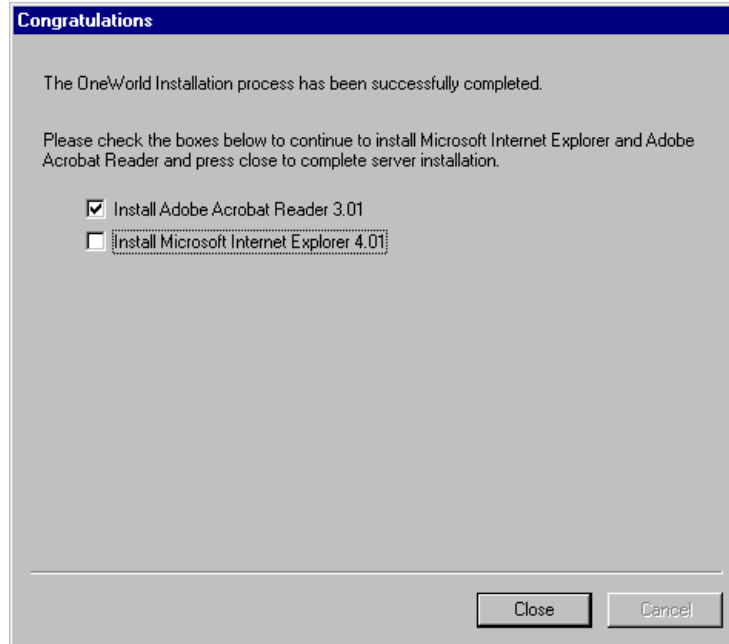


Figure 45. OneWorld Congratulations Screen

10. Select **Install Adobe Acrobat Reader 3.01** and click **Close** to continue. After the installation of the first setup CD-ROM has completed, you are not prompted to insert the second setup CD-ROM.

Note: If you installed Adobe Acrobat Reader and Internet Explorer earlier during the installation process, do not select these programs for installation again.

11. After the first setup CD-ROM has completed loading its files, insert the second setup CD-ROM and run Setup.exe. You will see a screen similar to Figure 46 on page 112.

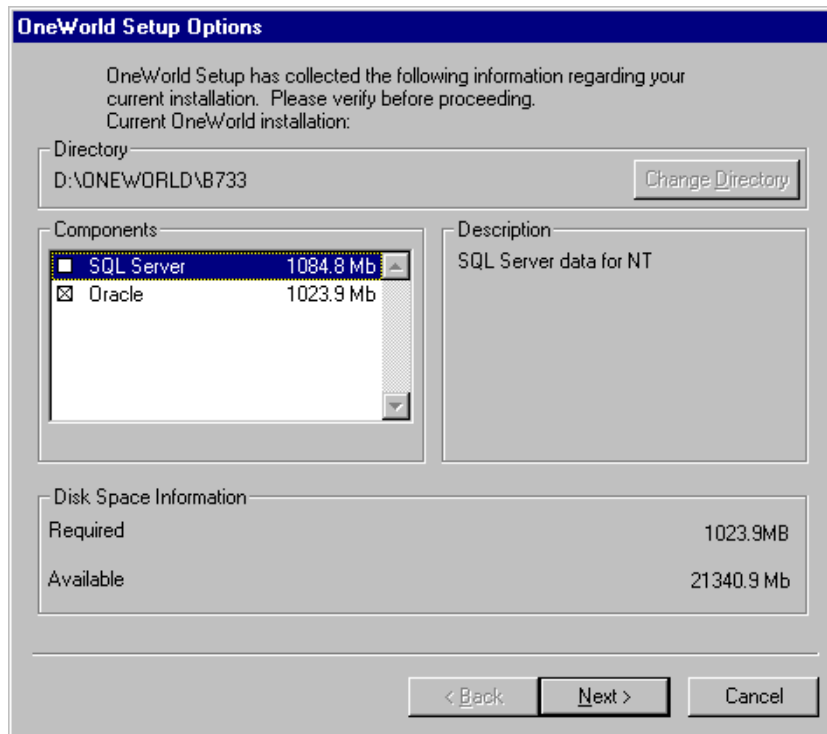


Figure 46. OneWorld Setup Options Screen

On OneWorld Setup Options, choose the appropriate server database (either SQL Server or Oracle) to load its export files and scripts. For this example, select **Oracle**. In addition, click **Change Directory** to install the files on the d:\ drive. Click **Next** to continue.

Note: The components you need for further building your database are copied into the subdirectory B733\DATABASE\EXPORTS.

12. When copying of the export files and scripts has completed successfully, click **Close**.

13. Set the read-only option for the OneWorld\B733\Helps directory on the deployment server; otherwise only one user at a time will be able to access this directory.

14. Share the \OneWorld\B733 subdirectory using the sharename B733.

If you want to set up Windows NT security on the OneWorld directories and files on the deployment server, use the chart in the section Setting Up Windows NT Security on OneWorld Directories and Files of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*. For this example, security setup was not necessary for user JDE.

7.3.1 Preparing Rollback Segments, Tablespaces, and Cursors

J.D. Edwards provides a script for verifying Oracle8 as the appropriate rollback segment setup. The script deletes existing rollback segments, creates larger rollback segments, and alters them online. The additional scripts to be used work only for systems that follow the J.D. Edwards recommended naming conventions. If you use a different naming convention, either modify the delivered scripts or develop a custom process for your naming conventions.

To prepare your rollback scripts, go to your enterprise server and complete the following steps:

1. From the enterprise server, map a network driver to the deployment server's shared drive B733. For our example, our drive is x:\.
2. Make a backup copy of each of the scripts:
 - rbs_redo.nt
 - crtabsp.nt
 - crdbausr.nt
 - crusrs.nt

These scripts reside on the deployment server in the \OneWorld\B733\Database subdirectory.

3. You will run the scripts from your Windows NT desktop using Oracle's SQL Plus 8.0. Click **Start > Programs > Oracle for Windows NT > SQL Plus 8.0**. Log in as an Oracle user with administrative privileges. For example:
 - Userid = system
 - Password = manager
 - Host String = orc1

The rollback script and the other scripts that you will edit and execute reside on the deployment server in the \OneWorld\B733\Database directory path.

Important Note

Before running the following scripts, read the notes of each and edit the scripts according to the environment that you are setting up. Notice the tablespace names that are listed in the scripts and ensure they are correct and that they match your configuration.

4. Before running rbs_redo.nt, you must read the note and follow its instructions.

To run rbs_redo.nt, type and execute the following example:

```
SQL> @x:\database\rbs_redo.nt
```

Note: Take a moment to view this file before running. Ensure that the name of your tablespaces (created using Oracle) matches the tablespace name in this script.

When you run the script, ignore the error message about rollback segments. It assumes you have rollback segments rb1 through rb16, and deletes them. Then it creates additional rollback segments named rbs1, rbs2, rbs3, and rbs4.

5. After the script has run, edit your INITSID.ORA file (for this example, the file is INITORC1.ORA). This file is located in the directory path D:\orant\Database\. Edit this file to begin using the new rollback segments, and also type an additional line entry to increase the number of available cursors. Your entries should appear as the following:

```
rollback_segments=(rbs1,rbs2,rbs3,rbs4)
open_cursors=255
```

6. Restart Oracle and start SQL Plus 8.0

- From the command prompt, type `svrmgr30` and press Enter.
 - Type `connect internal` and press Enter.
 - Type in the internal password you chose when installing Oracle (for our example, `oneworld`) and press Enter.
 - Type `shutdown` and press Enter.
 - Type `startup` and press Enter.
 - Log in to SQL Plus 8.0 again.
7. Before running `crtabsp.nt`, you must read the information in the label box and follow its instructions.

To run `crtabsp.nt`, type and execute the following example:

```
SQL> @x:\database\crtabsp.nt
```

Must Read!

The `crtabsp.nt` script will create the database tablespaces for OneWorld, so before you run it view the script. You must manually create the appropriate directory structure on the disk drive in the enterprise server where you want these tablespaces created (for example, `d:\orajde`). Your script should match that directory structure.

As a rule of thumb, you should put the index file and the data file on the same tablespace on a different disk drive for performance reasons, if possible. Also, look at the size of the data files and ensure you have enough space to hold them. We also recommend you stay with the directory naming convention in the script. Again, the `crtabsp.nt` script is located on the deployment server in the `\OneWorld\B733\Database` directory path and it must be run on the enterprise server. *This process took approximately one hour to run on our machine.*

8. Before running `crdbausr.nt`, you must read the note and follow its instructions.

To run `crdbausr.nt`, type and execute the following example:

```
SQL> @x:\database\crdbausr.nt
```

Note: This creates a Database Administrator (DBA) user called `JDEDBA` with the appropriate privileges. The `crdbausr.nt` script is also in the deployment server in `OneWorld\B733\Database` and must be run on the enterprise server. View this file to ensure the tablespace names match those you created during the Oracle8 install.

9. Before running `crusrs.nt`, you must read the note and follow its instructions.

To run `crusrs.nt`, type and execute the following example:

```
SQL> @x:\database\crusrs.nt
```

Note: This creates the remaining users and roles required for OneWorld. Review and edit the script for your environment. Ensure the tablespace names match those you created during the Oracle8 install. The `crusrs.nt` script is located on the deployment server in the `\OneWorld\B733\Database` directory path and must be run on the enterprise server.

10. Go to the deployment server. The final step in configuring the database is to load the central objects. In this step, you modify batch files with the

appropriate user IDs, passwords, and other variables, then run the batch files to load the tables. The following steps must be performed on the deployment server:

1. Edit the batch files LOADDEVL.BAT, LOADPROD.BAT, LOADPRST.BAT, and LOADCRP.BAT in the \OneWorld\B733\Database\Exports\Oracle\NT directory to reflect your environment by completing steps 2 - 4.

Note: For Oracle8, you must change the references from imp73 to imp80, and from plus33 to plus80.

2. In the JDESET.BAT file, check the machine name (identified by machinename) and connectstring. The machine name should be the name of your enterprise server and the connectstring should be your database SID (orc1). The connectstring should be updated for each path code.

For example, XXX_SPEC_DB=orc1 and JDE_SRV=IBM5500ES.

3. Edit the LOADALL.BAT script. It's located in the d:\OneWorld\B733\Database\Exports\Oracle\NT subdirectory.

Note: The LOADALL.BAT is a script that will load production, pristine, and Conference Room Pilot (CRP) sets of specifications tables. If you want to load development, or do not load other specifications, edit LOADALL.BAT appropriately. For this example, only CRP and Production will be used, therefore, do not remark them.

4. Run the batch file to load the data by double-clicking the **LOADALL.BAT** file. After completion, check the log files that it created for errors.

Note: This step can take from two to four hours to process each path code.

7.3.2 Installation Planner - Defining the Installation Plan

The Installation Planner is a OneWorld application that runs as a stand-alone program on the deployment server. It is also a system administration tool. The Installation Planner lets you manage the following processes:

- Location revisions
- Deployment server revision
- Enterprise server revision
- Machine server types
- Data source setup
- Environment selection
- Data load parameters
- Validation plan
- Running Release Master

The Installation Planner will guide you in a step-by-step process toward defining your installation plan. In the example below, we used it to define and set up the enterprise and deployment server, data sources, Conference Room Pilot (CRP) and Production package builds and environments. After completing your plan, you will load OneWorld on the enterprise server.

In this section, you will provide information such as database type, enterprise server, operating system platform, install path, etc. For this example, the installation plan will be defined in the following procedures:

1. At your Windows NT desktop on the deployment server, launch OneWorld. Click **Programs > OneWorld > OneWorld Explorer**. You will see a screen similar to Figure 47:

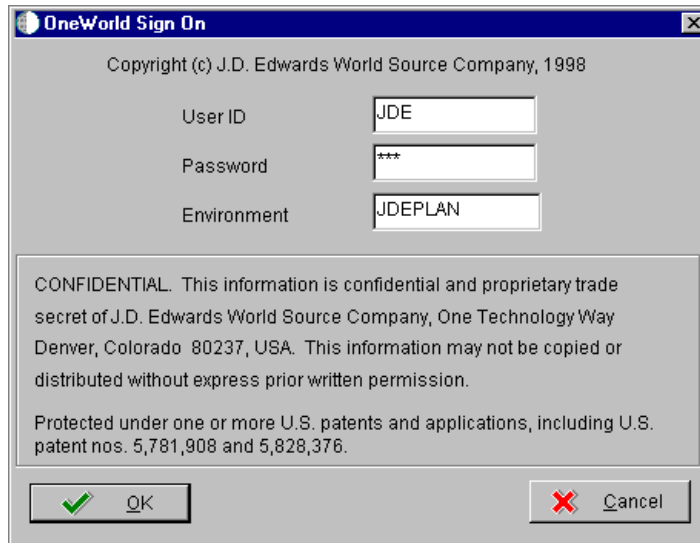


Figure 47. OneWorld Sign On Screen

2. Sign on to OneWorld as JDE (password, JDE) using the planner environment, JDEPLAN. Click **OK** to continue.
3. Access the Installation Planner. From the OneWorld interface, click **Foundation Systems > Tools > System Installation Tools** (fastpath GH961). Select **Installation Planner**. For our example, we selected **Custom Installation Plan**. You will see a screen similar to Figure 48 on page 117.

Note: There are two types of Installation Plan:

- *Typical Installation Plan* involves all environments.
- *Custom Installation Plan* allows you to modify your data source environment to reflect your system-specific specifications. For example, if you use Oracle8, you must specify jdboci80.dll in the .DLL Name field for all Oracle data sources.

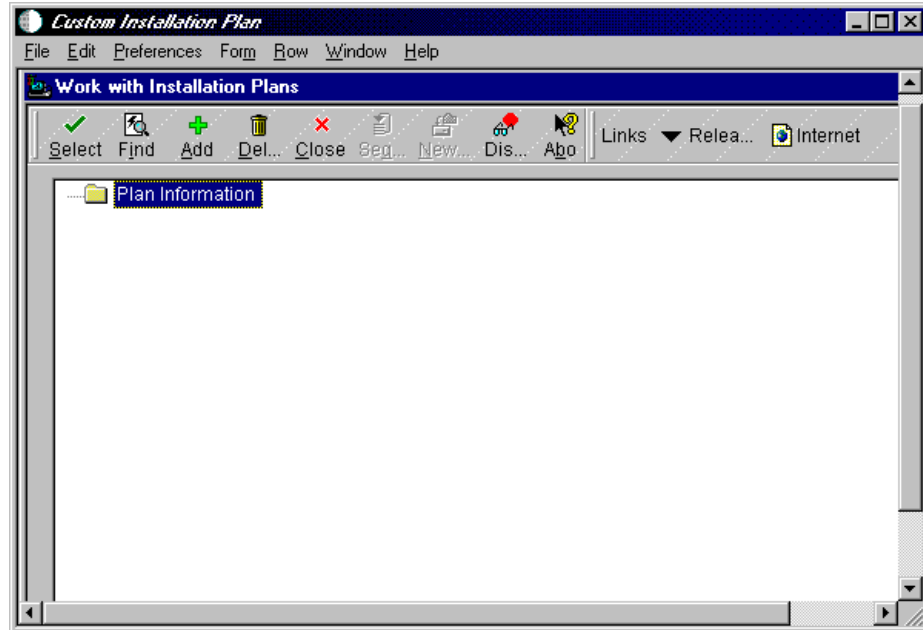


Figure 48. Work with Installation Plans Screen

4. On the Work with Installation Plans screen, click **Add**. You will see a screen similar to Figure 49:

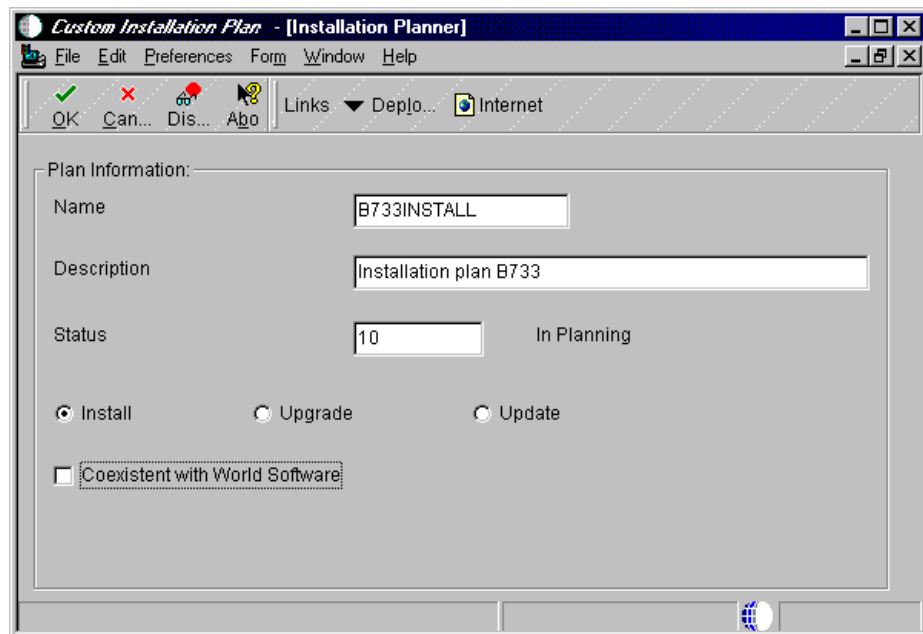


Figure 49. Custom Installation Plan - (Installation Planner) Screen

5. In Figure 49, complete the fields and selections of the following:
 - Name = Type the name of your installation plan (for example, B733INSTALL).
 - Description = Type the description of your installation plan.
 - Status = select **10**.
 - Click **Install**.

- Verify that the Coexistent with World Software box is not checked.
6. Click **OK** to continue.
 7. You will be asked to define a location or select an existing location. Click **OK** to define a new plan. You will see a screen similar to Figure 50:

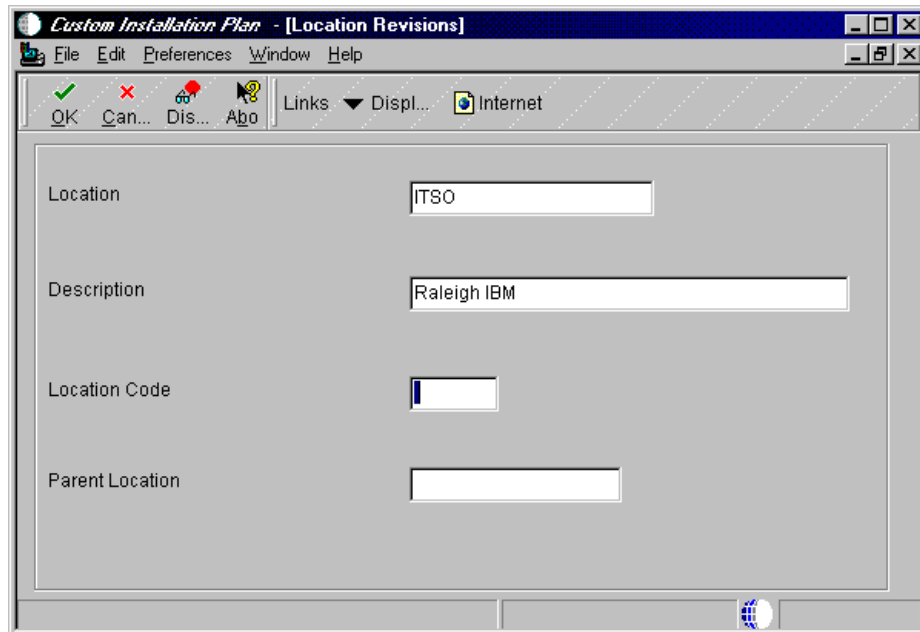


Figure 50. Location Revisions Screen

8. Enter the following information for Location Revision:
 - Location = Enter the name or place that applies with this plan. For our example, we chose ITSO.
 - Description = Enter a long description for the location (for example, Raleigh IBM).
 - Location Code = Leave blank.
 - Parent Location = Leave blank.
9. Click **OK** to continue.
10. To add a deployment server, click **OK**. You will see a screen similar to Figure 51 on page 119.

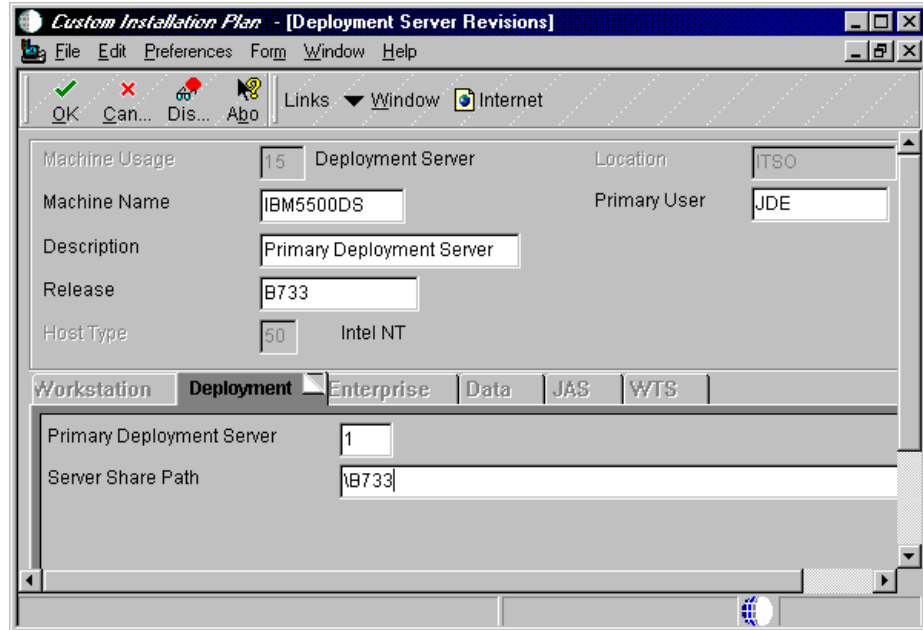


Figure 51. Deployment Server Revisions Screen

11. Complete the following information for the Deployment Server Revisions:

- Machine Name = Name of your deployment server; for example, IBM5500DS.
- Description = Enter a long description for the machine; for example, Primary Deployment Server.
- Release = OneWorld release number you are installing, B733.
- Primary Deployment Server = 1.
- Server Shared Path= \B733.

12. If you are not adding another deployment server, click **No** to continue. You will see a screen similar to Figure 52:

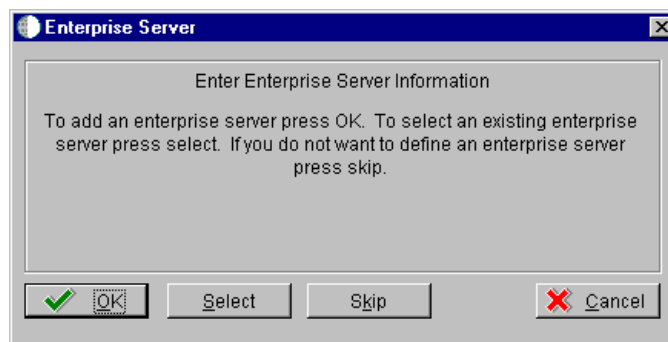


Figure 52. Enterprise Server Information Screen

13. Select **OK** to add an enterprise server. You will see a screen similar to Figure 53 on page 120.

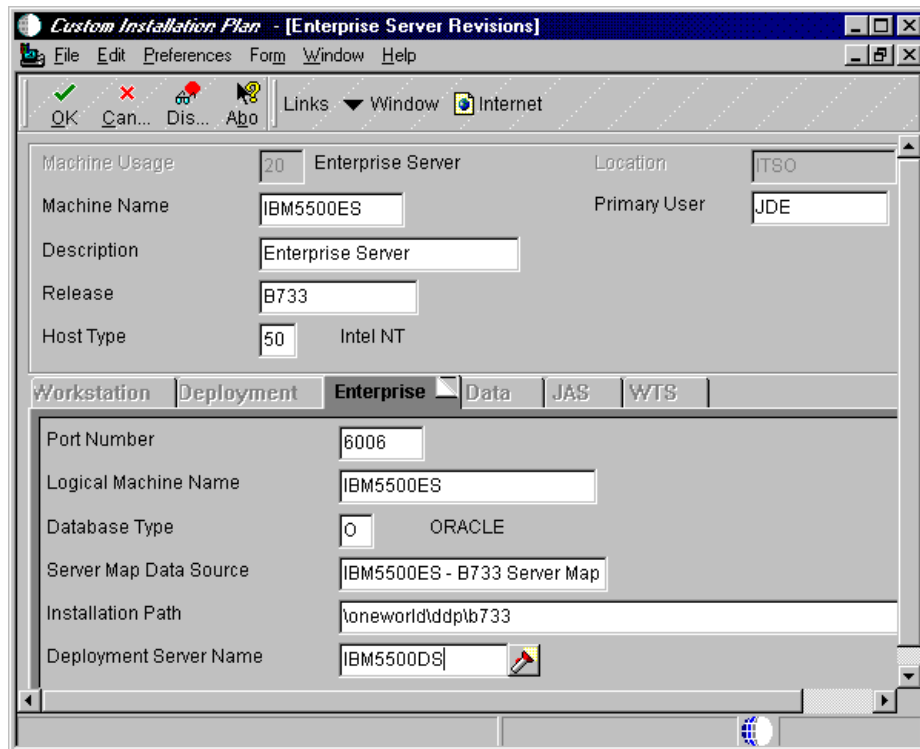


Figure 53. Enterprise Server Revisions Screen

14. On the Enterprise Server Revisions screen, complete the following fields:

- Machine Name - The name of your primary enterprise server; for example, **IBM5500ES**.
- Description - Enter a description of your machine name; for example, Enterprise Server.
- Release = B733.
- Host Type = Click the flashlight button and select code **50** (Intel NT).
- Database Type = Click on the flashlight button and select **O** (ORACLE).
- Installation Path = The installation directory you want to use on the enterprise server (for example, d:\oneworld\ddp\b733).
- Deployment Server Name = The name of your deployment server; for our example, IBM5500DS.

15. Click **OK** to continue. OneWorld now prompts you for the data source information for the enterprise server.

16. Click **OK**. You will see a screen similar to Figure 54 on page 121.

Note: If you click Take Defaults, then OneWorld will set up default data sources that will limit your customization choices.

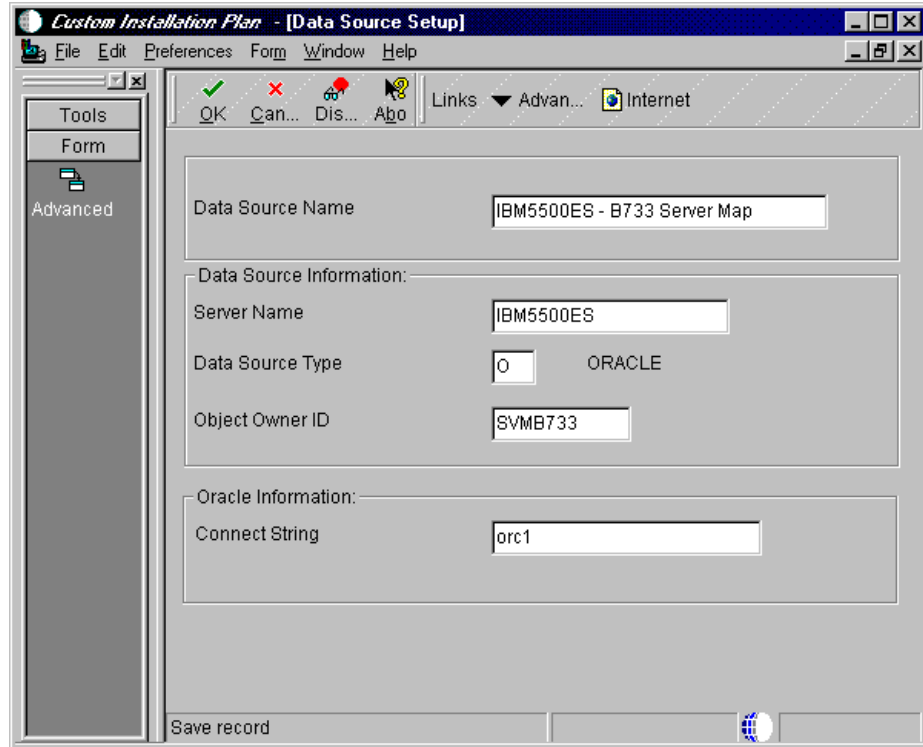


Figure 54. Data Source Setup Screen

17. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 55 on page 121.

Note: In the Connect String field, this is the same name as the database System Identifier (SID) used in the Tnsnames.ora file (example, orc1).

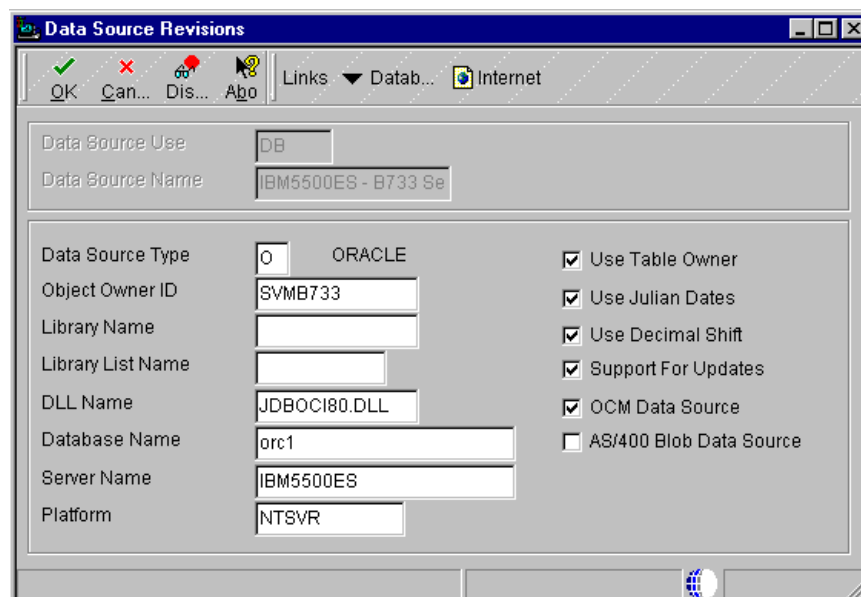


Figure 55. Data Source Revisions for B733 Server Map Screen

18. Make the appropriate change in the DLL Name field.

- Change JDBOCI73.DLL to JDBOCI80.DLL.
 - For B733 - Server Map, put a check mark in the OCM Data Source check box.
19. Click **OK** and then click **Next** if you are setting up another data source.
20. If you are finished setting up the data source, then click **Cancel** to continue.
21. OneWorld prompts if you want to add another enterprise server. For this example, click **NO**. You will see a screen similar to Figure 57 on page 123.

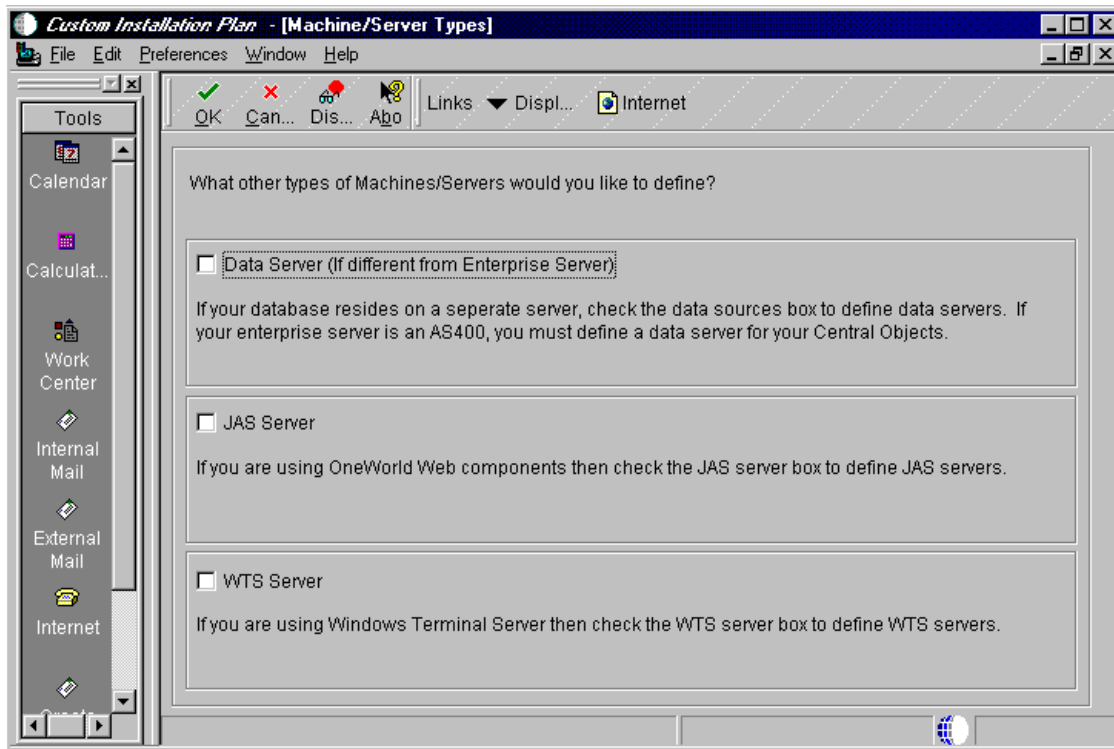


Figure 56. Machine/Server Types Screen

22. Check the appropriate box for other Machine/Server Types. If none of the servers is selected, then turn off these options. In our example, none of the items was selected. Click **OK**. You will see a screen similar to Figure 57 on page 123.

If any of the above are chosen, then refer to J.D. Edwards' *OneWorld Installation Guide (Windows NT - Based Systems)*, Release B73.3 guide.

Note: For WTS (Windows Terminal Server), refer to Chapter 9, "Implementing Windows NT Terminal Server Edition" on page 251.

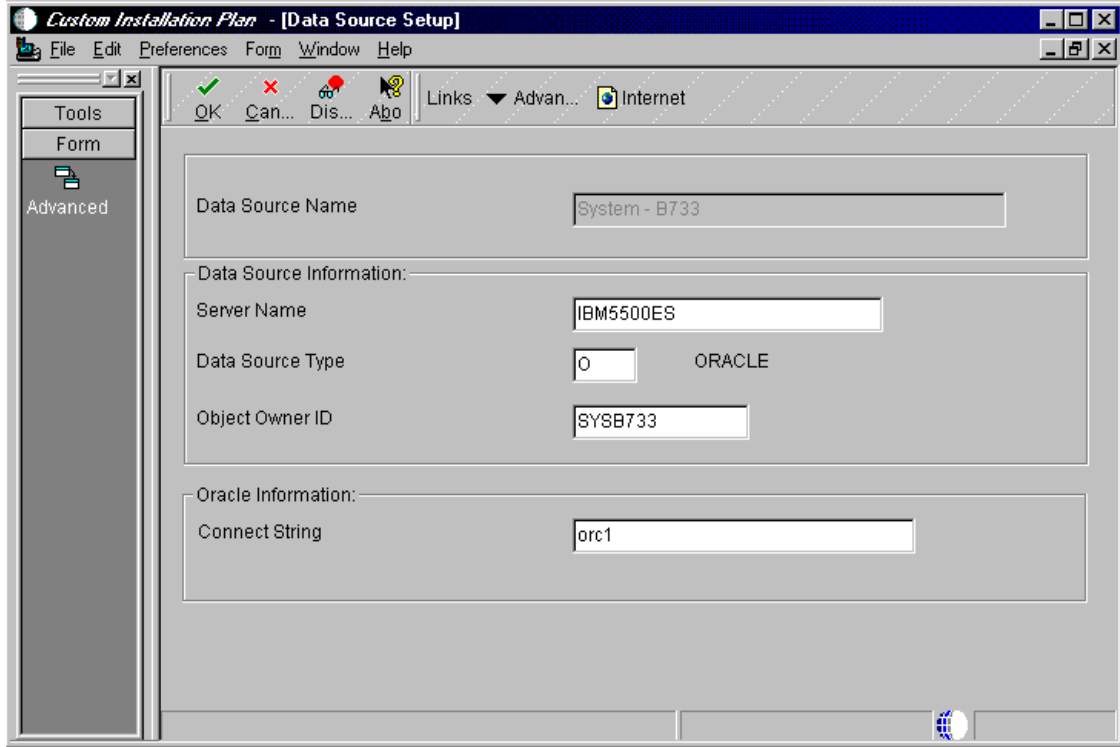


Figure 57. Data Source Setup for System - B733 Screen

23. Click **Form > Advanced**. You will see a screen similar to Figure 58 on page 123.

Note: In the Connect String field, this is the same name as the database System Identifier (SID) used in the Tnsnames.ora file (example, orc1).

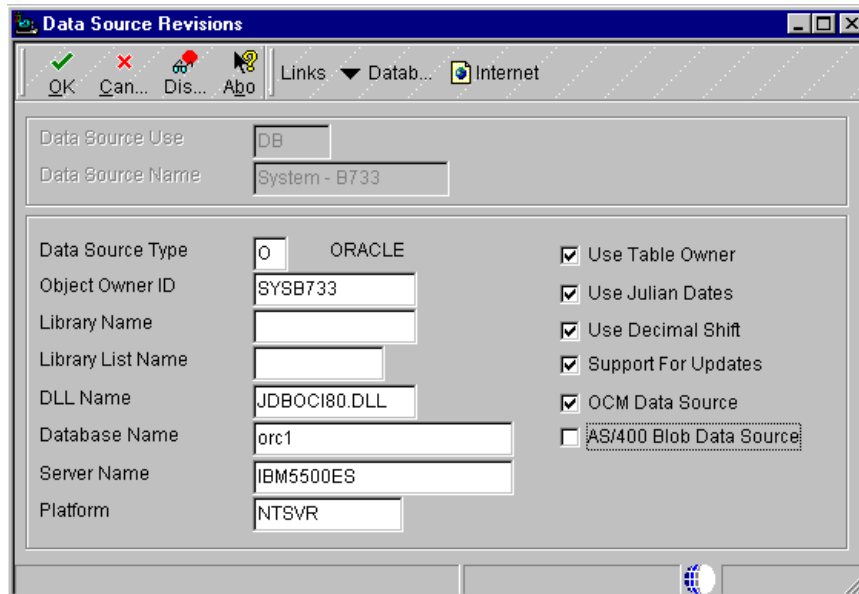


Figure 58. Data Source Revisions for System - B733 Screen

24. Make the appropriate change in the DLL Name field.

- Change JDBOCI73.DLL to JDBOCI80.DLL.
 - For System - B733, put a check mark in the OCM Data Source check box.
25. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 59.

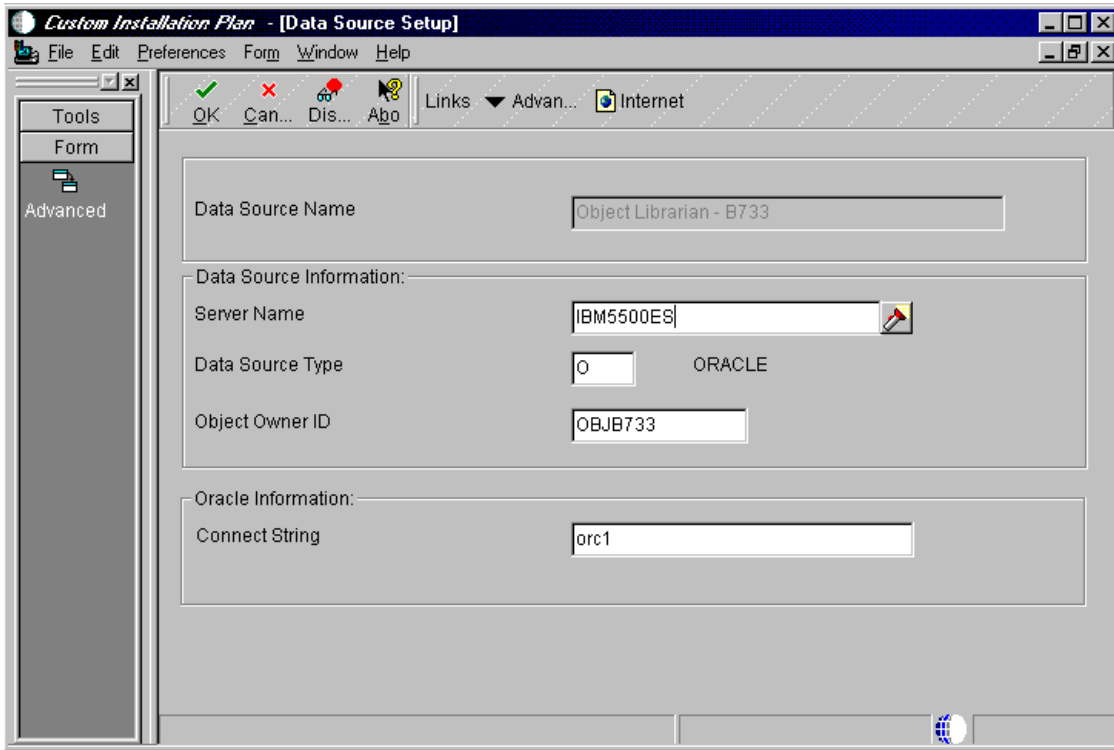


Figure 59. Data Source Setup for Object Librarian - B733 Screen

26. Review the fields to ensure the correct data is entered. From the action bar, click **Form > Advanced**. You will see a screen similar to Figure 60 on page 125.

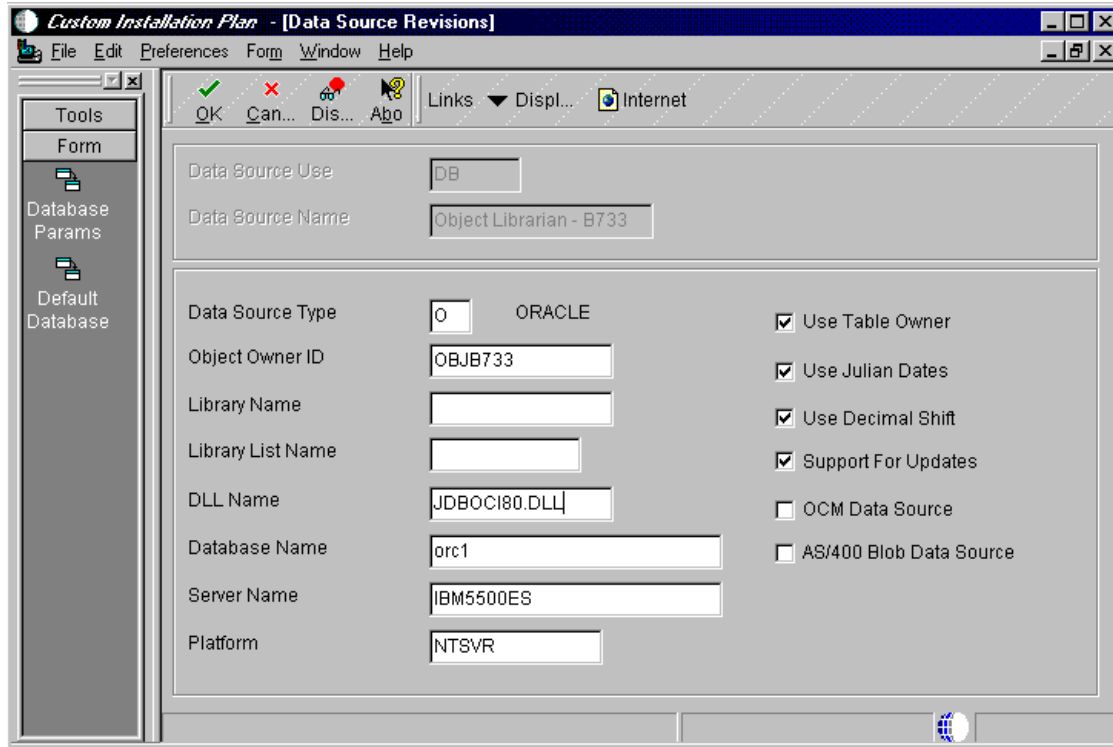


Figure 60. Data Source Revisions for Object Librarian - B733 Screen

27. Make the appropriate change in the DLL Name field. Change JDBOCI73.DLL to JDBOCI80.DLL.
28. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 61 on page 126.

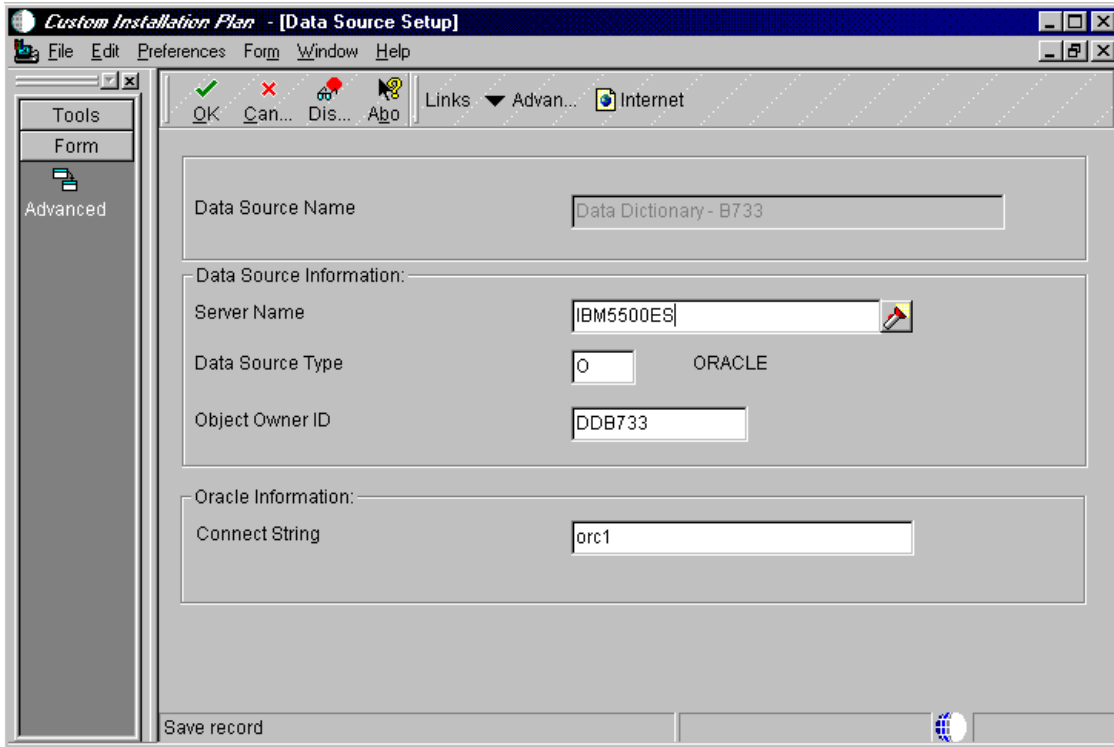


Figure 61. Data Source Setup for Data Dictionary - B733 Screen

29. From the action bar, click **Form > Advanced**. You will see a screen similar to Figure 62:

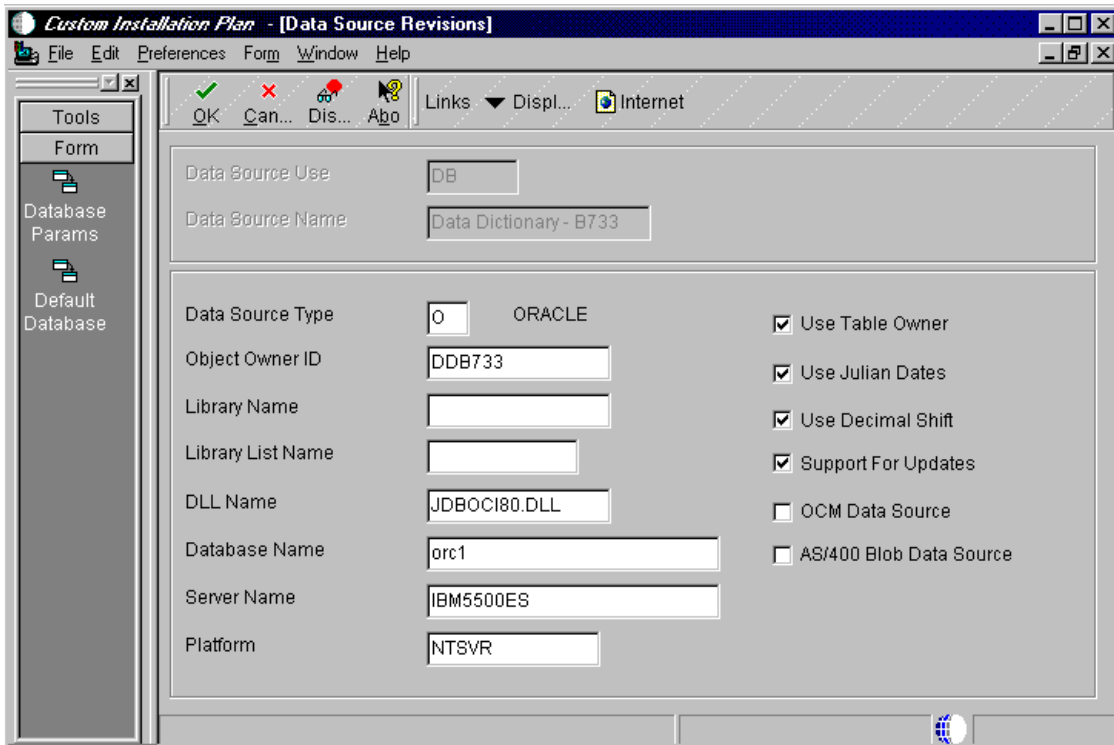


Figure 62. Data Source Revisions for Data Dictionary - B733 Screen

30. Make the appropriate change in the DLL Name field. Change JDBOC173.DLL to JDBOC180.DLL.
31. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 63:

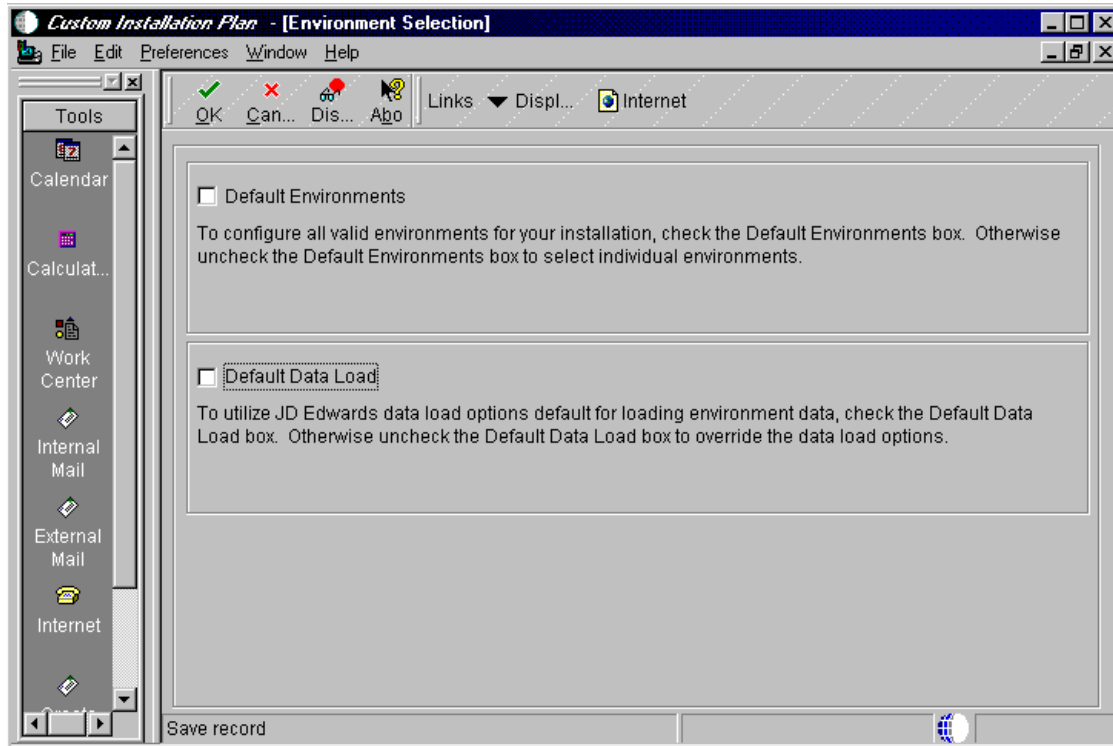


Figure 63. Environment Selection Screen

32. On the Environment Selection screen, both boxes are marked with a check as the default. For our example, we did not mark the check boxes so we could make our own selection of environments and the data to load. Click **OK** to continue. You will see a screen similar to Figure 64 on page 128.

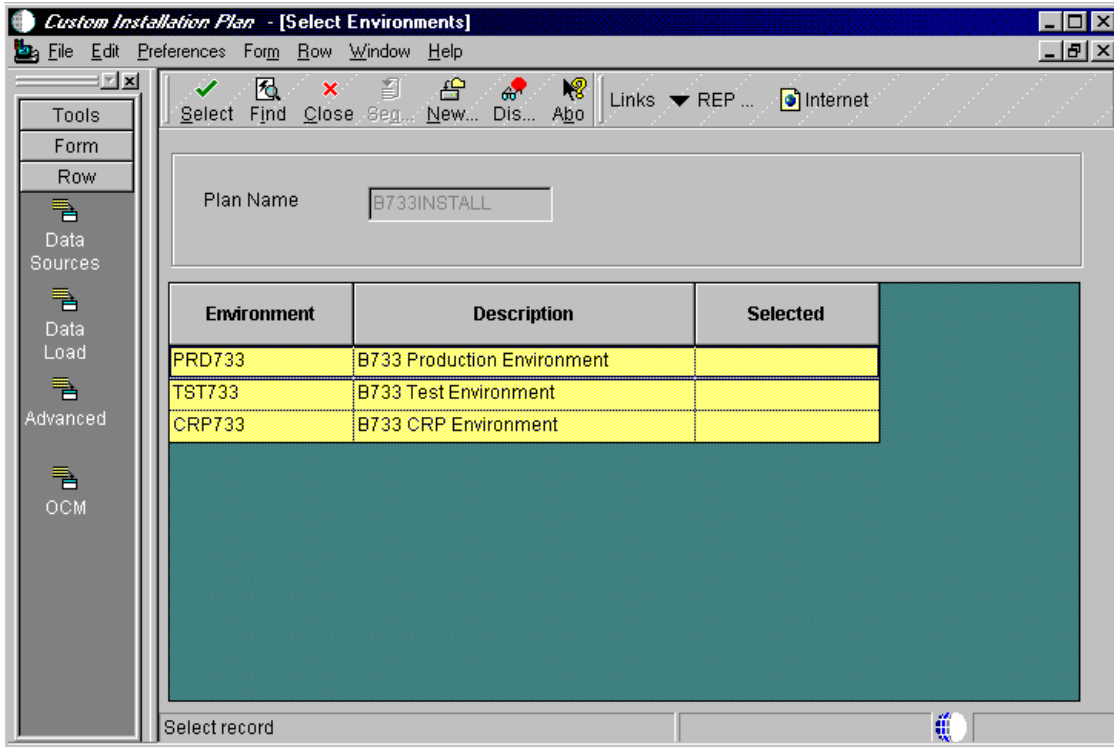


Figure 64. Select Environments Screen

33. At this screen, you will need to select the environments that you want to define. In this example, PRD733 and CRP733 are chosen. However, you must choose and define each environment one at a time. Double-click **PRD733**. You will see a screen similar to Figure 65 on page 129.

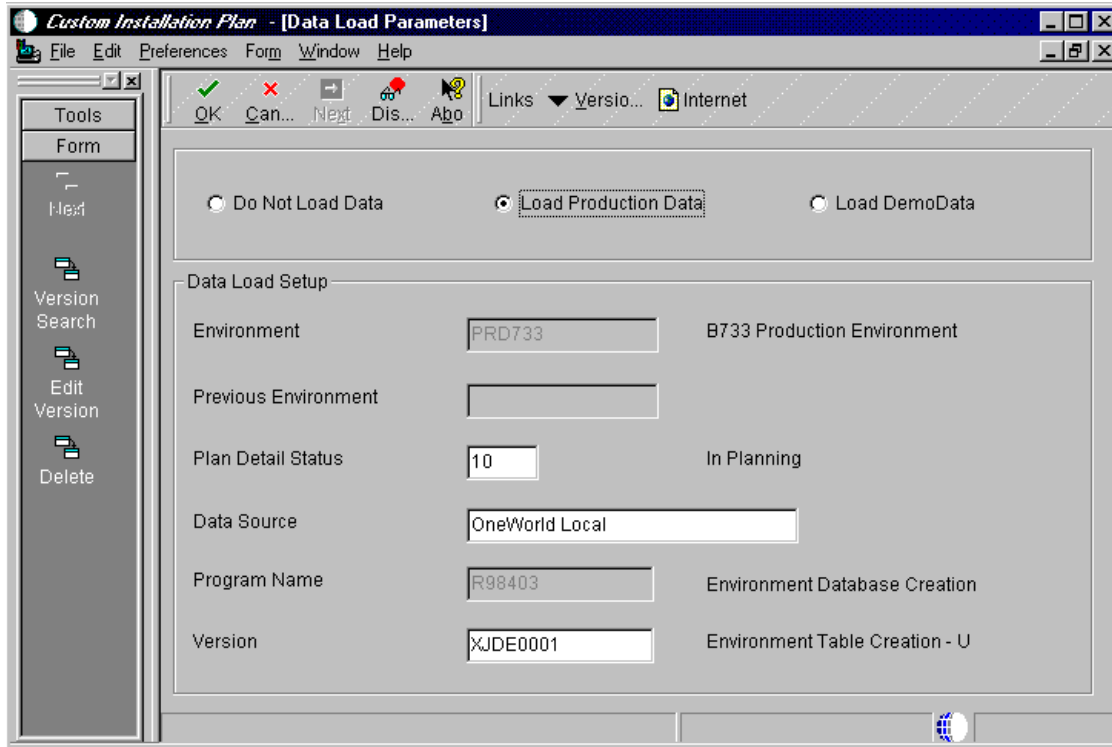


Figure 65. Data Load Parameters Screen

34. Select **Load Production Data** and then click **OK**.

35. OneWorld asks if you want to set up data sources for each environment or take the defaults that J.D. Edwards sets up. For our example, we chose to set up each data source. Click **OK**. You will see a screen similar to Figure 66 on page 130.

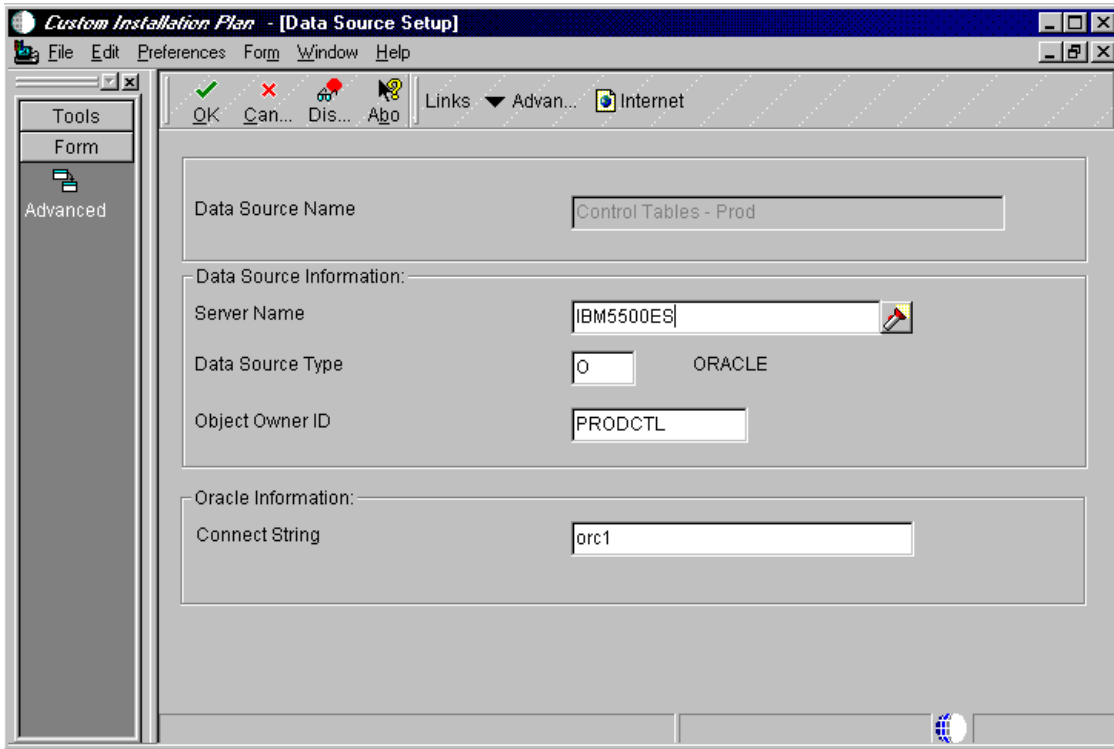


Figure 66. Data Source Setup for Control Tables - Prod (Production) Screen

36. Review the accuracy of the Control Tables data source. From the action bar, click **Form > Advanced**.

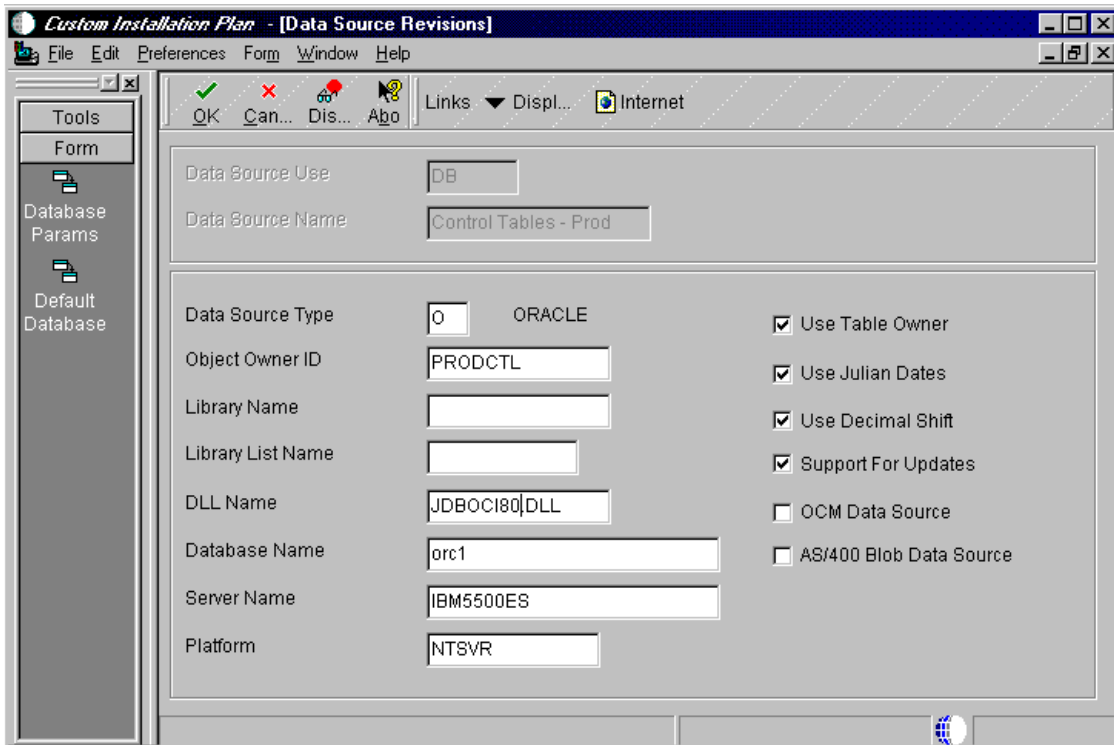


Figure 67. Data Source Revisions for Control Tables - Prod (Production) Screen

37. Make the appropriate change in the DLL Name field. Change JDBOC173.DLL to JDBOC180.DLL.
38. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 67:

Figure 68. Data Source Setup for Central Objects - PRODB733 Screen

39. From the action bar, click **Form > Advanced**. You will see a screen similar to Figure 69 on page 132.

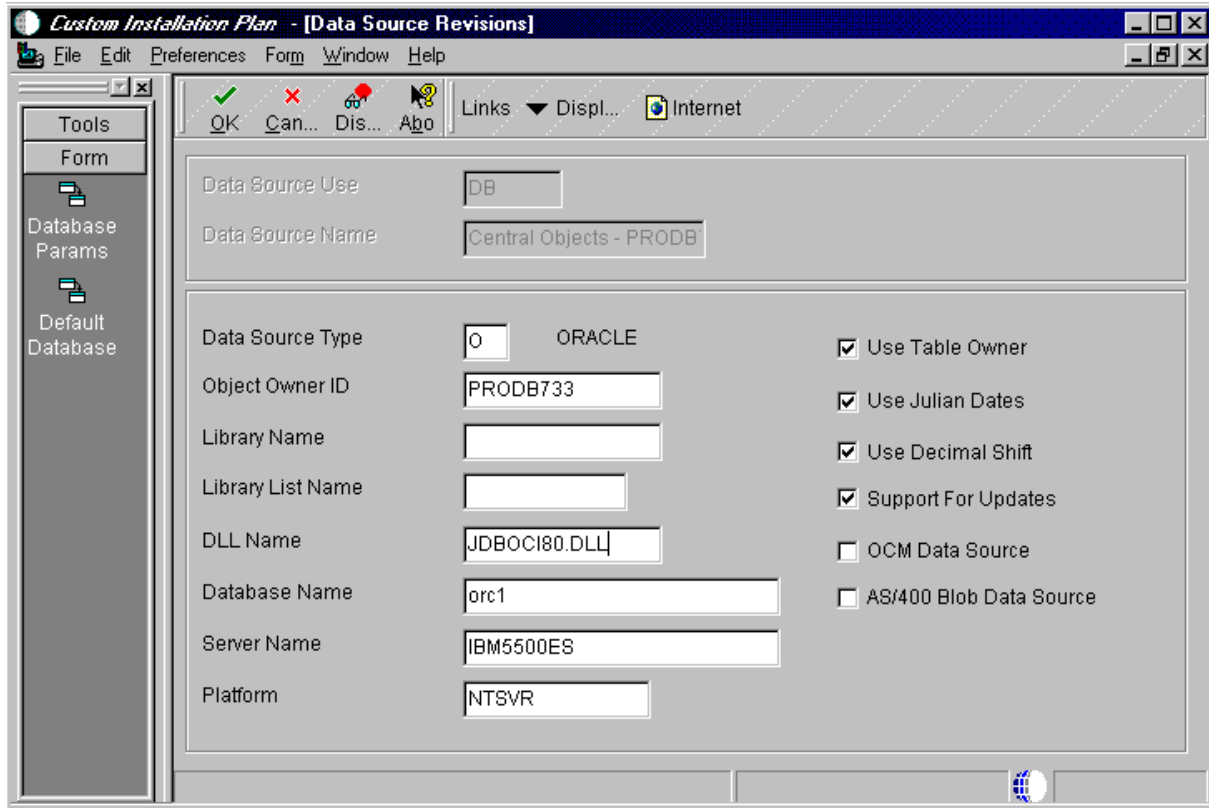


Figure 69. Data Source Revisions for Central Objects - PRODB733 Screen

40. Make the appropriate change in the DLL Name field. Change JDBOC173.DLL to JDBOC180.DLL.

41. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 70 on page 133.

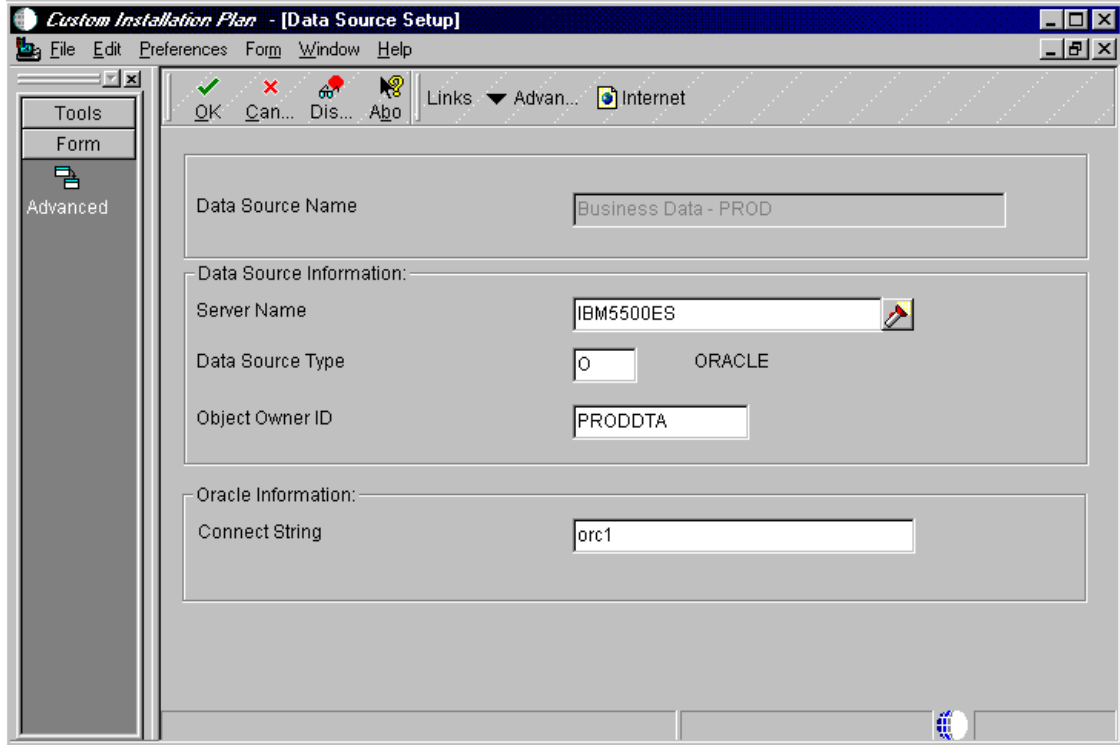


Figure 70. Data Source Setup for Business Data - PROD Screen

42. Here you will set up the data source for your business data. From the action bar, click **Form > Advanced**. You will see a screen similar to Figure 71:

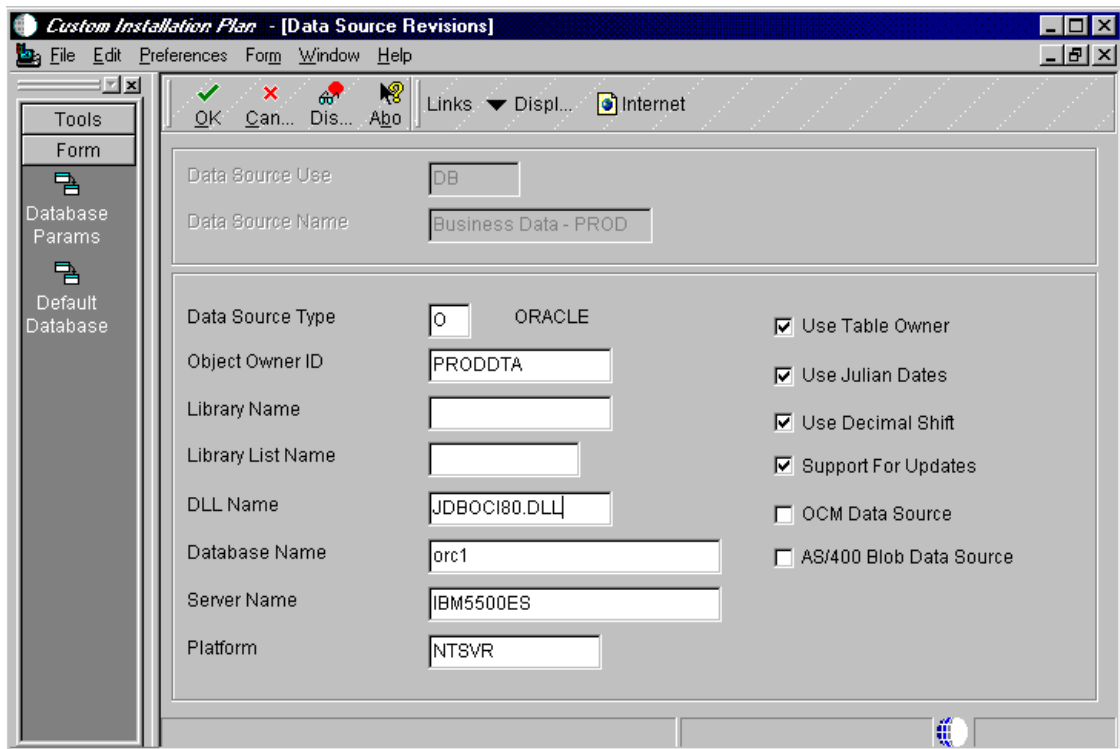


Figure 71. Data Source Revisions for Business Data - PROD Screen

43. Make the appropriate change in the DLL Name field. Change JDBOCI73.DLL to JDBOCI80.DLL.
44. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 72:

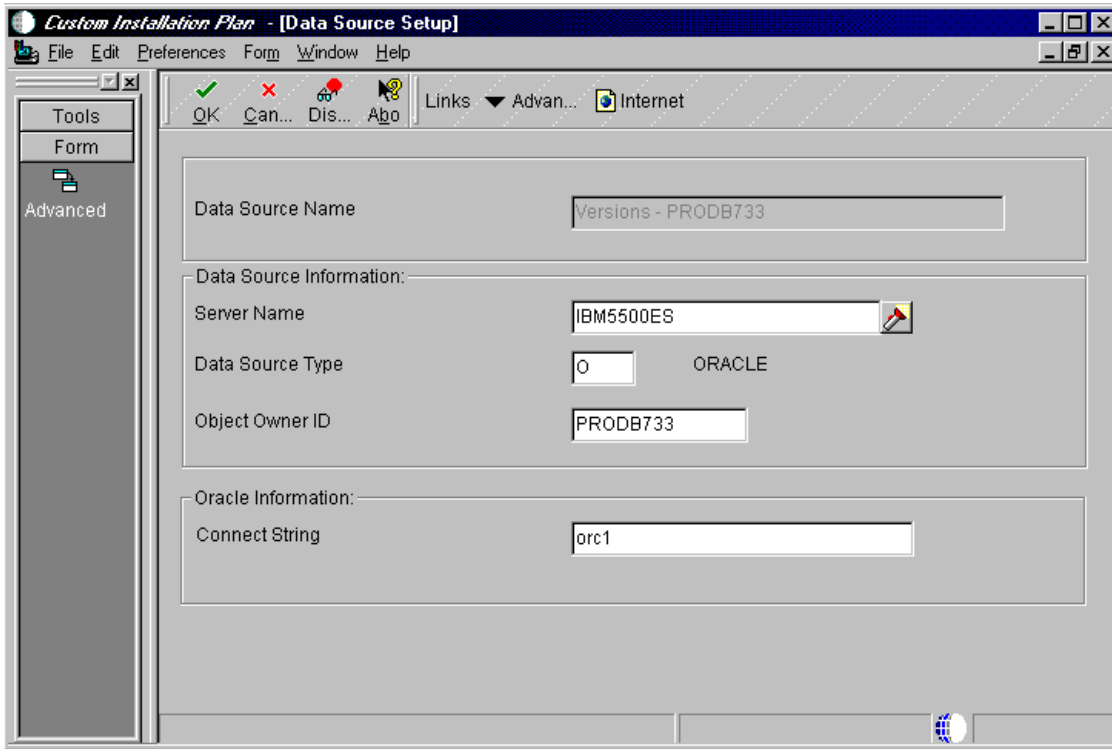


Figure 72. Data Source Setup for Versions - PRODB733 Screen

45. From the action bar, click **Form > Advanced**. You will see a screen similar to Figure 73 on page 135.

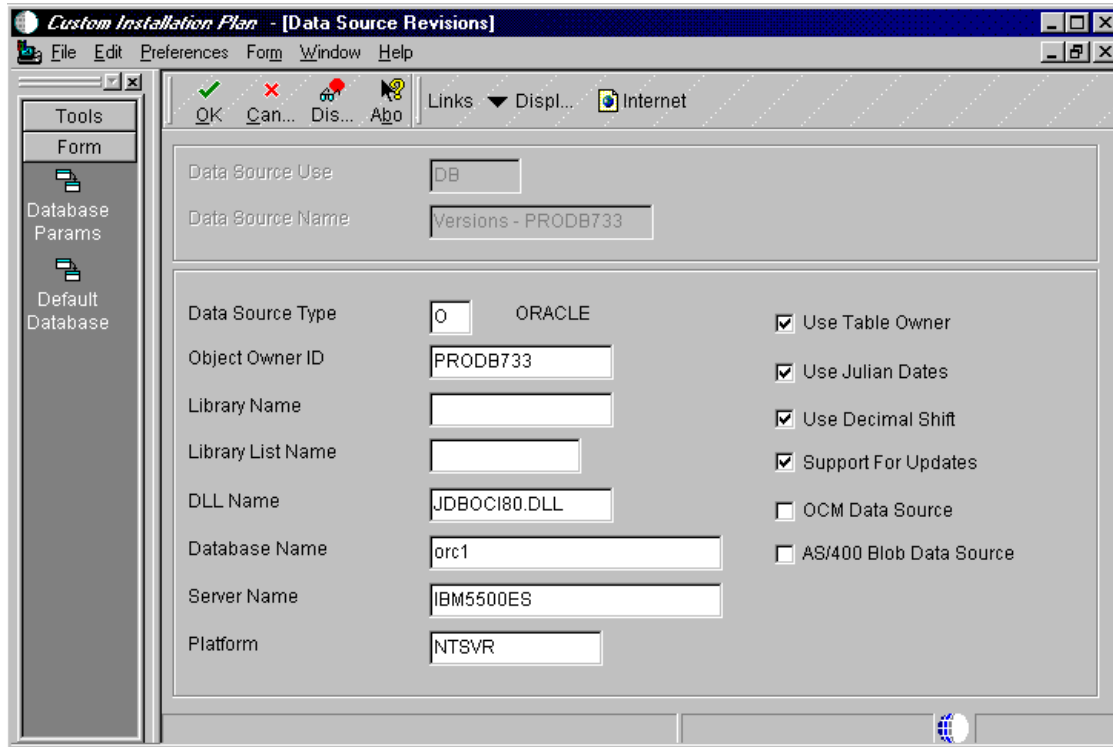


Figure 73. Data Source Revisions for Versions - PRODB733 Screen

46. Make the appropriate change in the DLL Name field. Change JDBOCI73.DLL to JDBOCI80.DLL.
47. Click **OK** and then click **Next** to set up the next data source. You will see a screen similar to Figure 74 on page 136.

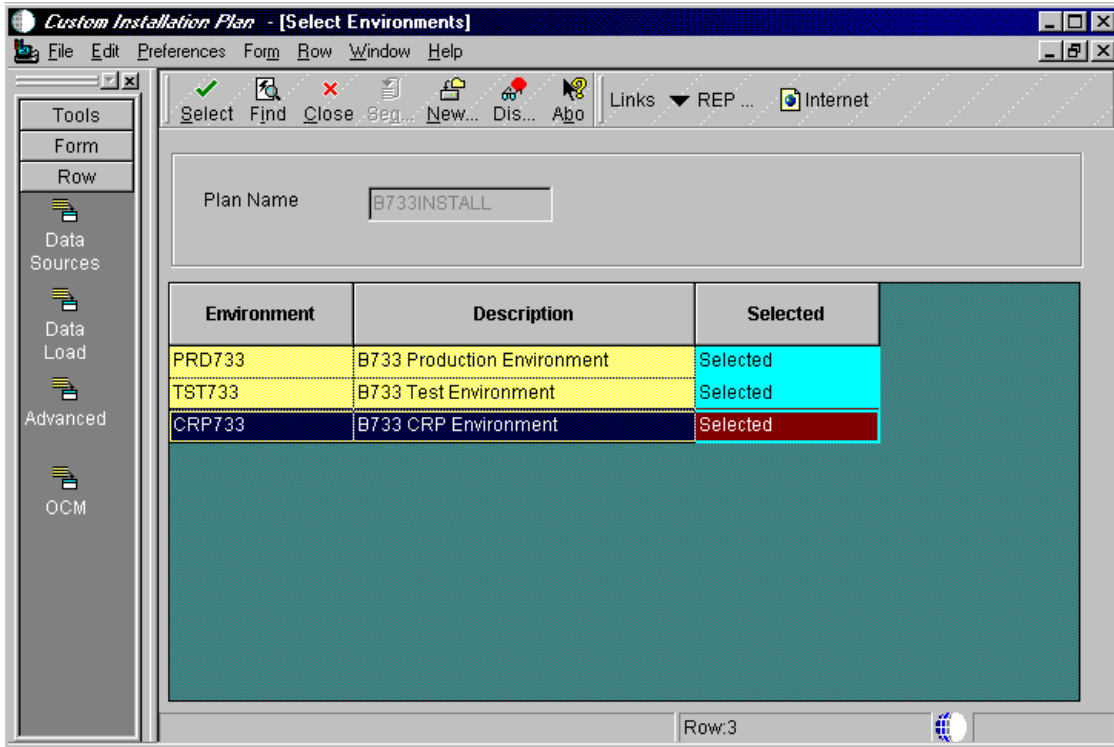


Figure 74. Select Environments Screen

48.Repeat the same steps for CRP733 as you did for PRD733. Double-click **CRP733**. Remember to change the DLLs from 73 to 80.

When you reach this screen again and CRP733 is selected as shown in Figure 74, click **Close** to continue.

49.OneWorld prompts you if you want to set up another location. For our example, click **No**. You will see a screen similar to Figure 75 on page 137.

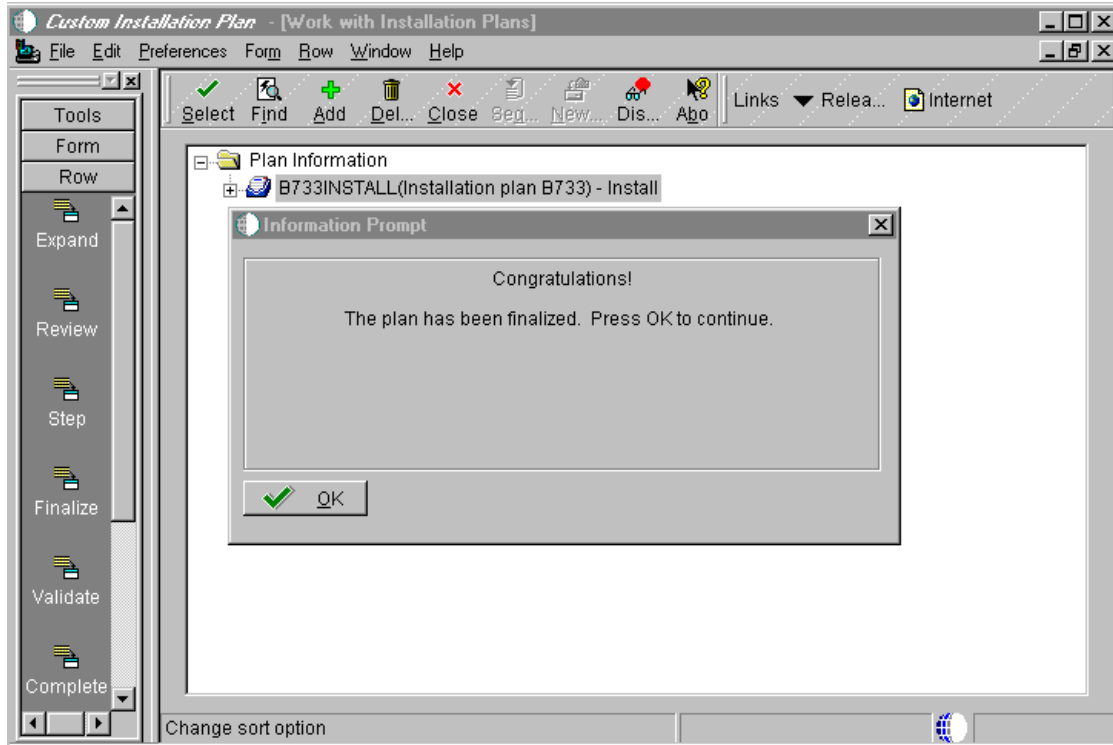


Figure 75. Congratulations Screen

50. Click **OK** to continue.

7.3.3 Validate the Plan

In this section, you will run the plan validation report to ensure that the plan is correct and ready for installation.

1. Run the plan validation report. From your OneWorld Explorer interface, type GH961 in the Fast Path field and press Enter to go to the System Installation Tools menu.
2. Double-click **Plan Validation**. You will see a screen similar to Figure 76 on page 138.

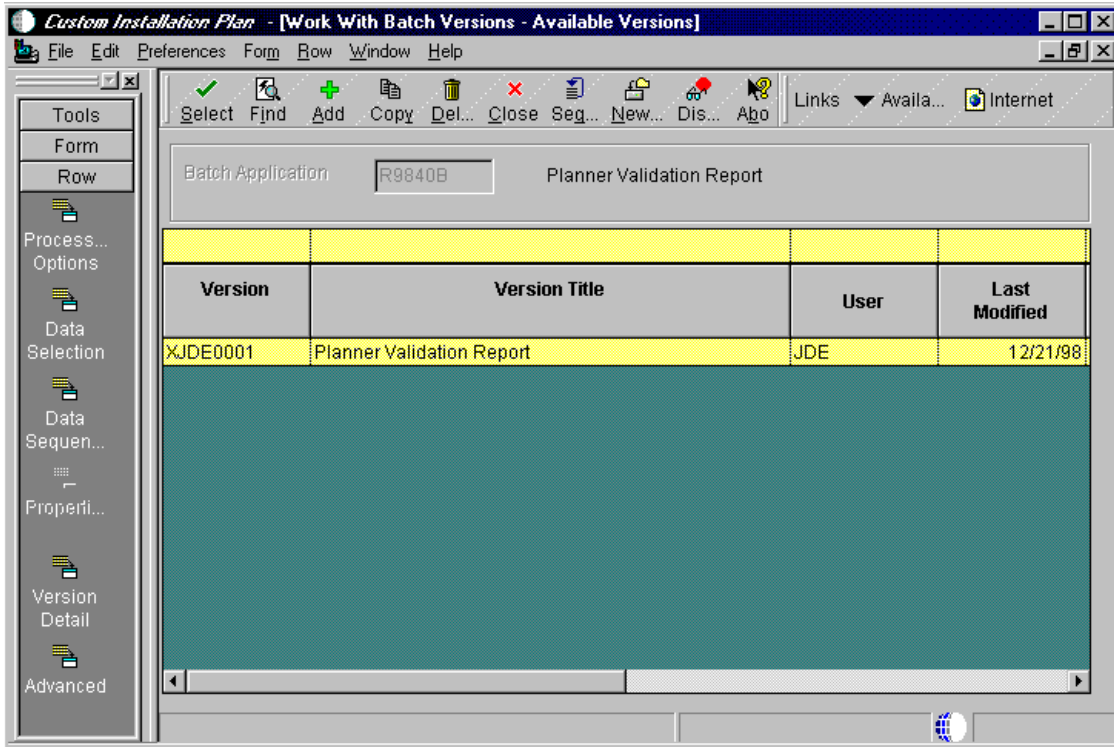


Figure 76. Work With Batch Versions - Available Versions Screen

3. Highlight the grid record for Version XJDE0001, then click **Select**. You will see a screen similar to Figure 77:

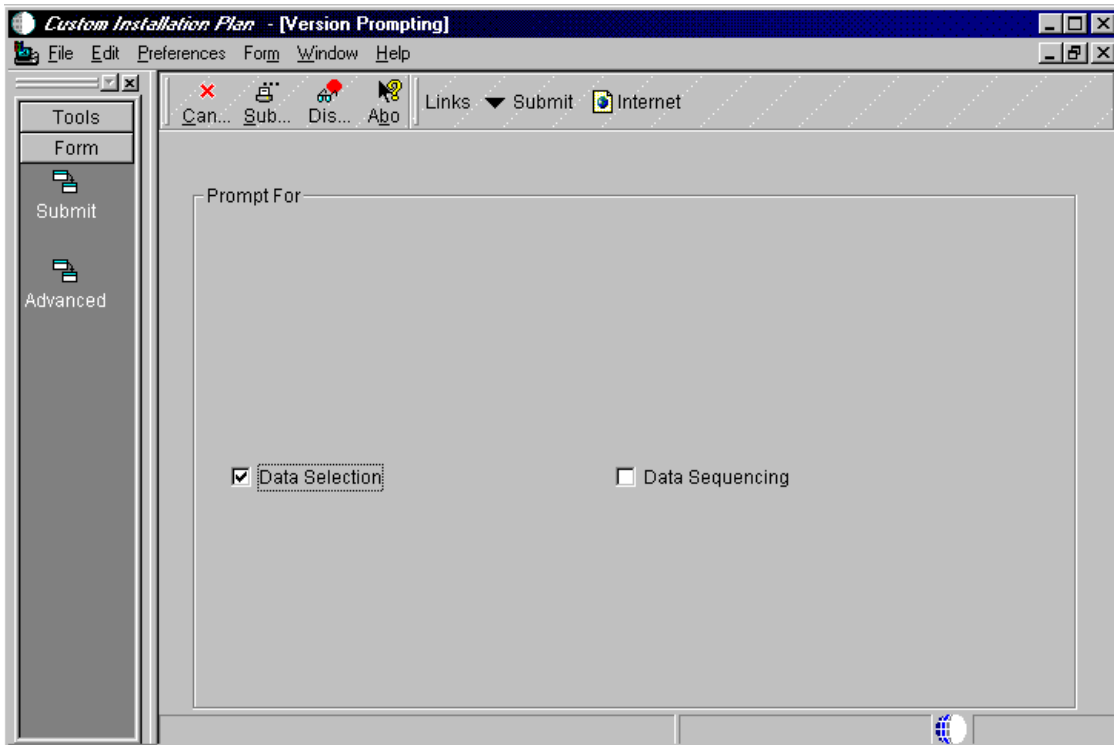


Figure 77. Version Prompting Screen

4. Choose the **Data Selection** box, then click **Submit**. You will see a screen similar to Figure 78:

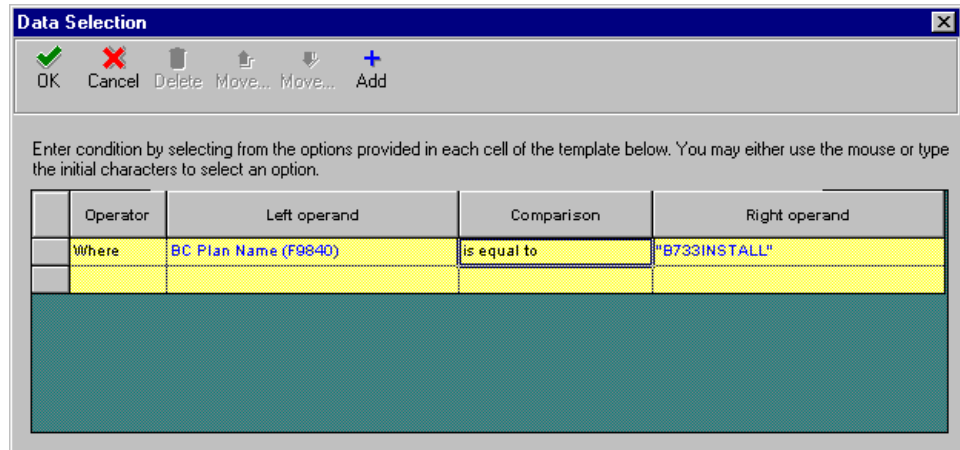


Figure 78. Data Selection Screen

5. At this screen, you will set criteria design information. In the column, Right operand, double-click **Plan Name** and select **Literary**. Type in your plan name, for example, B733INSTALL and click **OK**. You will see a screen similar to Figure 79:

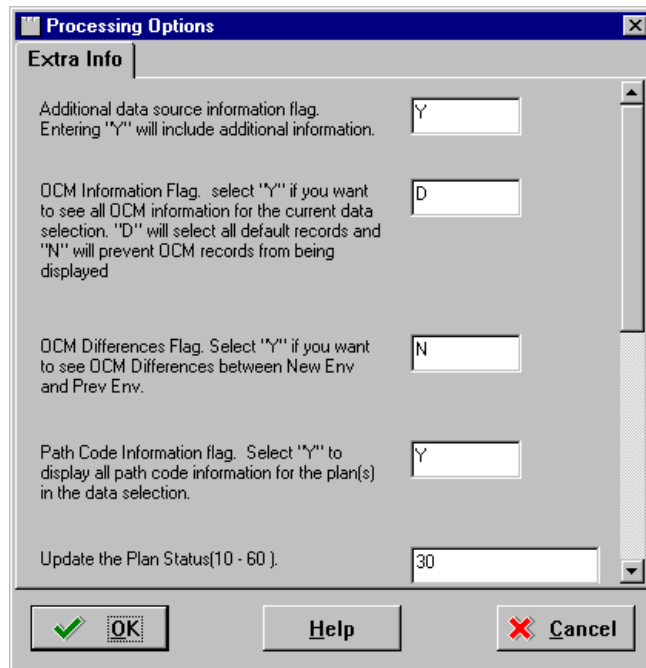


Figure 79. Processing Options Screen

6. On the Extra Info tab on Processing Options, accept the defaults and click **OK**.
7. Accept the defaults and click **OK** to run the validation report.

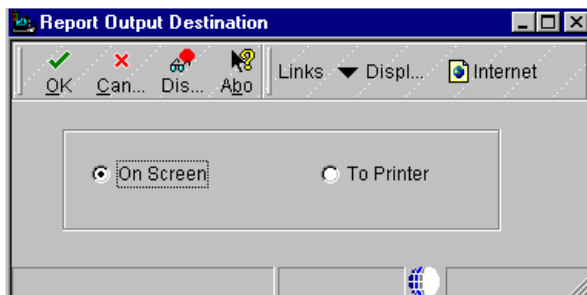


Figure 80. Report Output Destination Screen

8. Choose **On Screen** to view your validation report at your display. Click **OK**. Adobe's Acrobat Reader launches the Installation Planner Validation Report PDF.
9. Review the report and ensure your information is correct. Exit the Acrobat Reader and select **Close** to exit Validation.

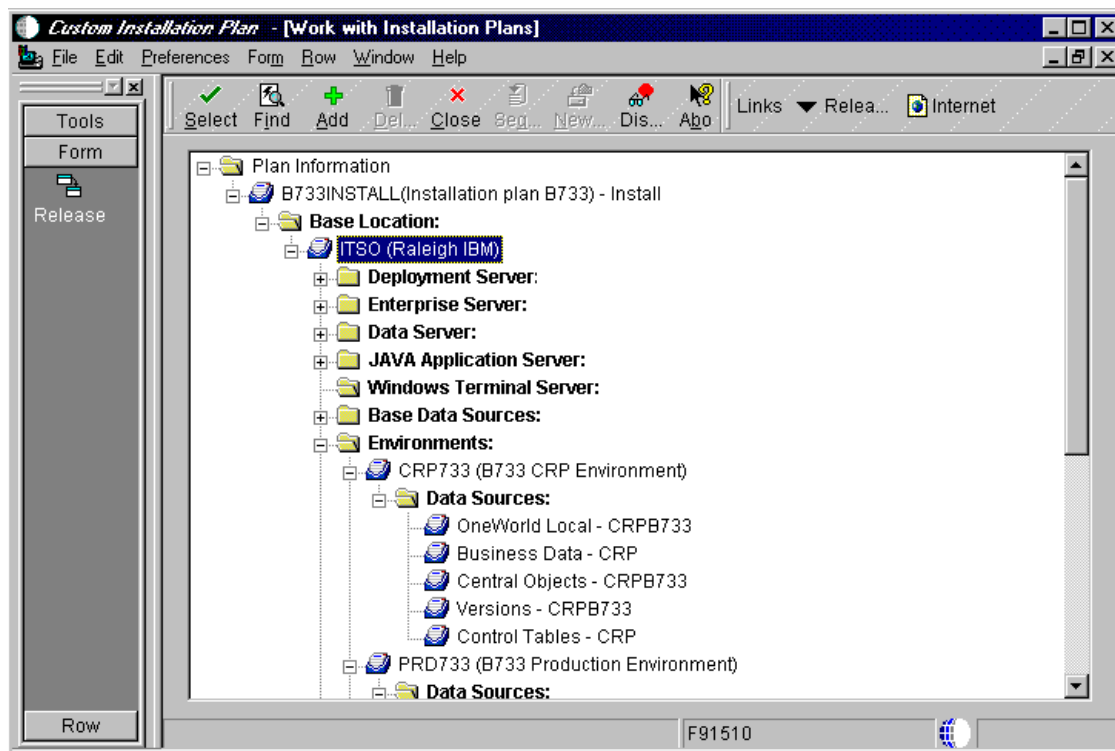


Figure 81. Custom Installation Plan (Work with Installation Plans) Screen

10. On Work with Installation Plans, click **Expand** to review the entire plan you created. Go to the next section and continue.

7.3.4 Running Release Master

After creating the plan, you must release it in order to initialize the system data source and create the system tables.

1. From the Installation Planner (shown in Figure 83 on page 142), highlight our plan, **B733INSTALL**. Click **Form** and then click **Release**.

Note: If the Data Source administrator appears, requesting that you create a data source, click **Cancel** to continue. You should have created all of your data sources earlier during the installation planner process.

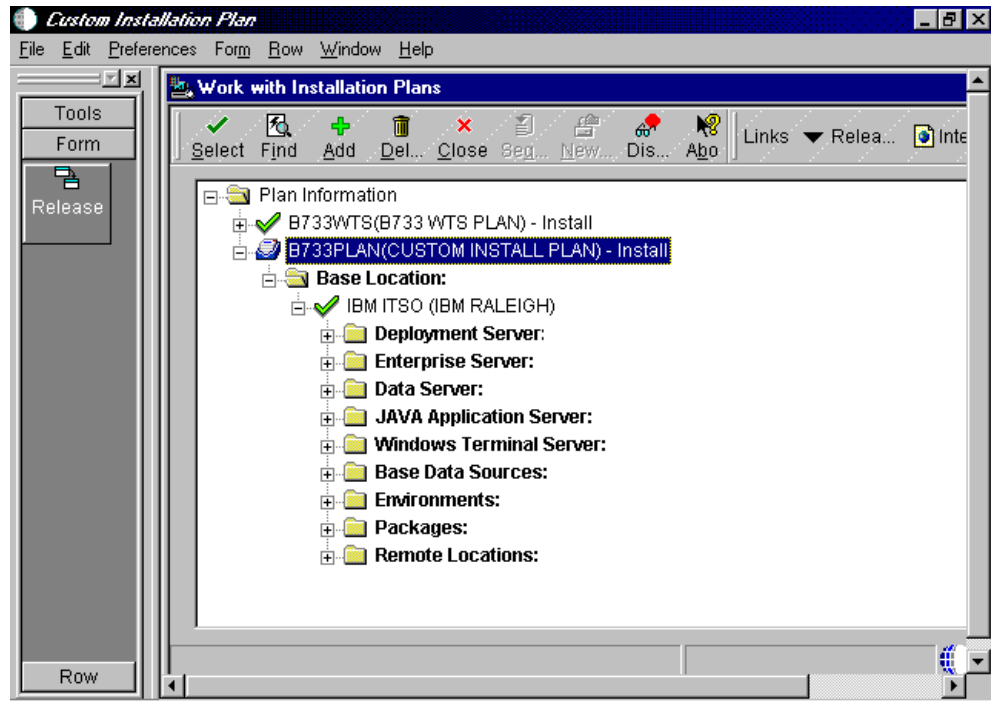


Figure 82. Work with Installation Plans Screen

2. A message appears to let you know that the Release Master has completed. Click **OK** and then click **Close**.

7.3.5 Running Installation Workbench

The Installation Workbench runs the plan you created. Its primary function is to act as a central point for all the processes required to install the server environments. Some processes that install the server environments might require you to perform procedures manually. However, the Installation Workbench makes sure you perform procedures in the proper order, and it insulates you as much as possible from the platform-specific environment setup. Perform the following steps to run the plan that we've created:

1. Log on to the planner environment (JDEPLAN) as user JDE and password JDE.
2. From the System Installation Tools menu (GH961), choose **Installation Workbench**. You will see a screen similar to Figure 83 on page 142.
3. Verify that a printer is set up for your deployment server.

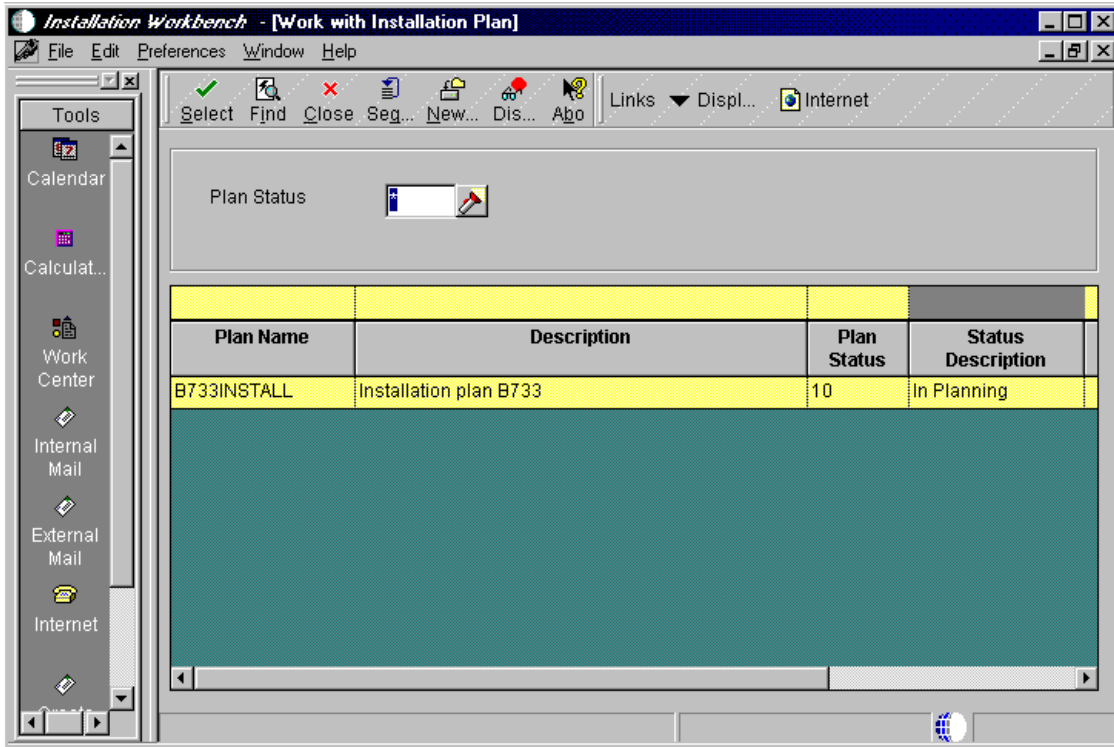


Figure 83. Work with Installation Plan Screen

4. At the Work with Installation Plan screen, double-click the Plan Name, **B733INSTALL** record. You will see a screen similar to Figure 84:

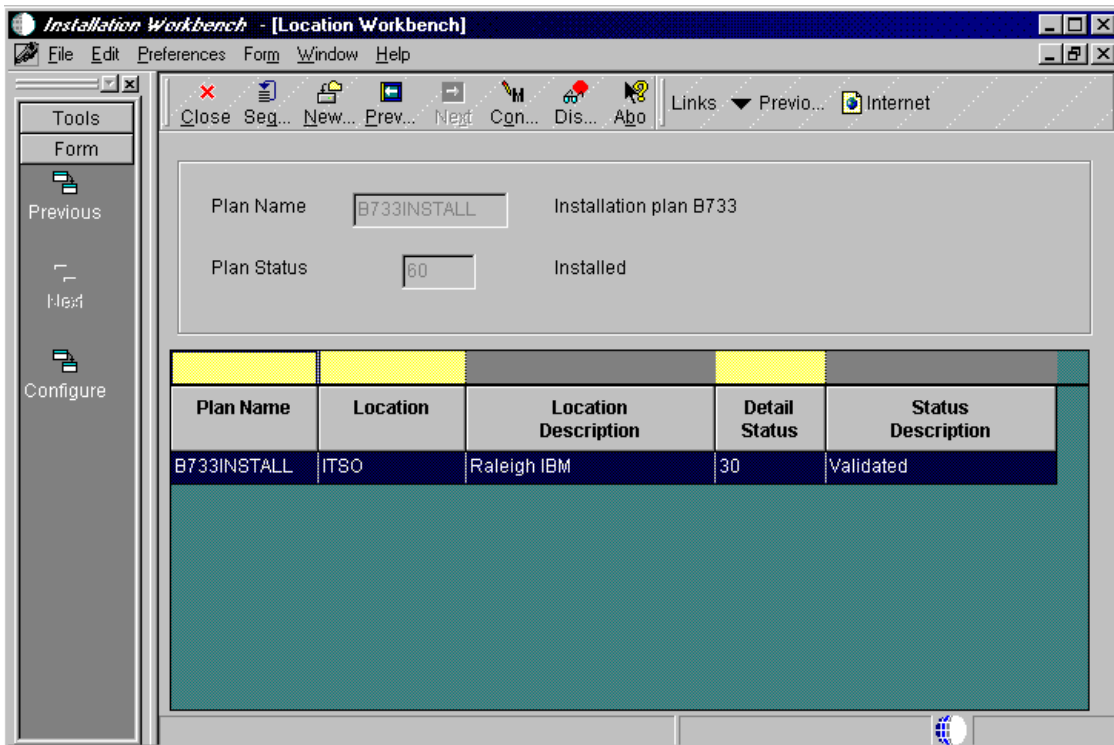


Figure 84. Location Workbench Screen

5. Verify that this form lists all the necessary locations for your plan. From the action bar click **Form > Configure** (the Workbench updates your Detail Status to 60 and changes the Status Description from Validated to Installed).
6. Click **Next** to continue. You will see a screen similar to Figure 85:

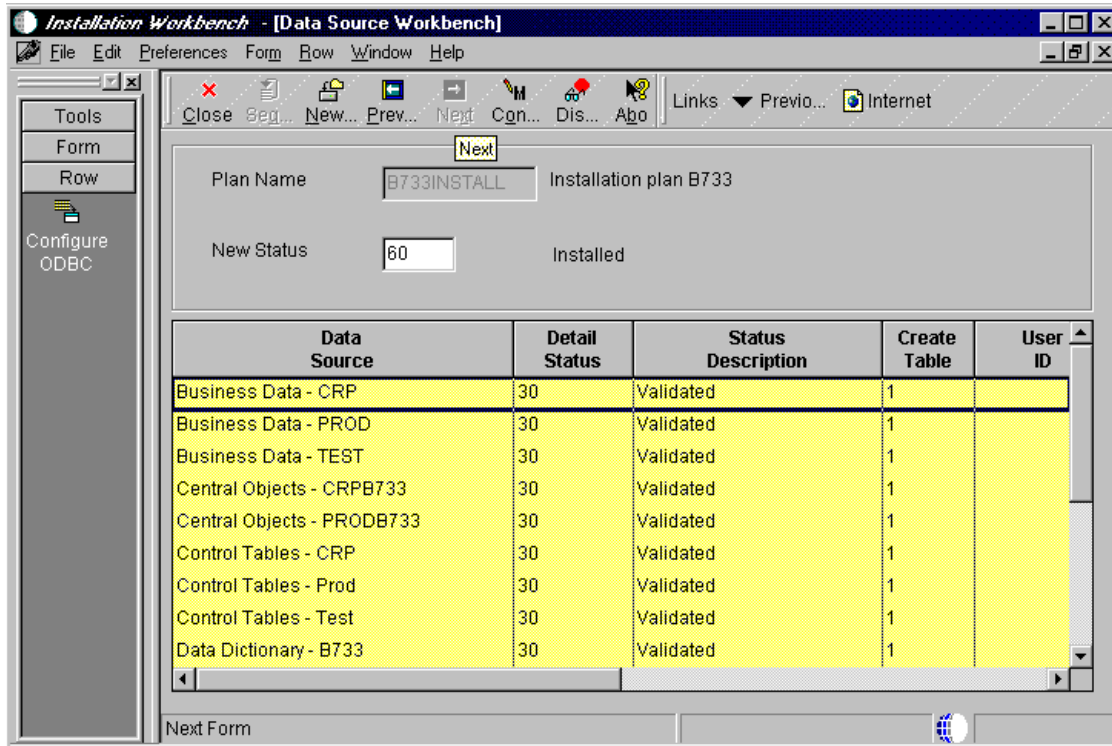


Figure 85. Data Source Workbench Screen

7. At the Data Source Workbench screen, scroll down the list of items and verify that the information presented lists all the necessary data sources for our plan.
8. From the action bar click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
9. Click **Next** to continue. You will see a screen similar to Figure 86 on page 144.

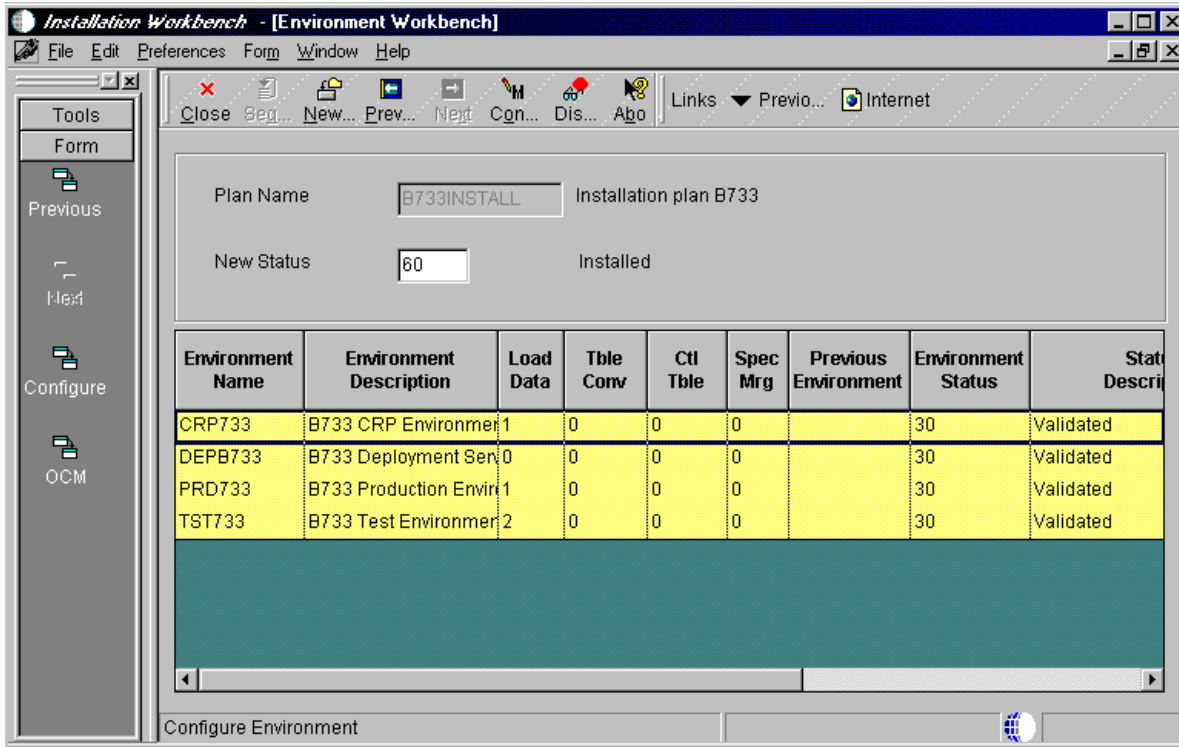


Figure 86. Environment Workbench Screen

10. On the Environment Workbench screen, verify the environment you selected and each environment's associated parameters for correct values. OneWorld includes the deployment server environment in this list.

Note: The environment configuration phrase takes approximately two hours or more per environment to run. You can let Environment Workbench run overnight, but do not lock the workstation or Environment Workbench stops after loading the first environment.

11. From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).

12. After the configuration of your environments has been completed, click **Next** to continue. You will see a screen similar to Figure 87 on page 145.

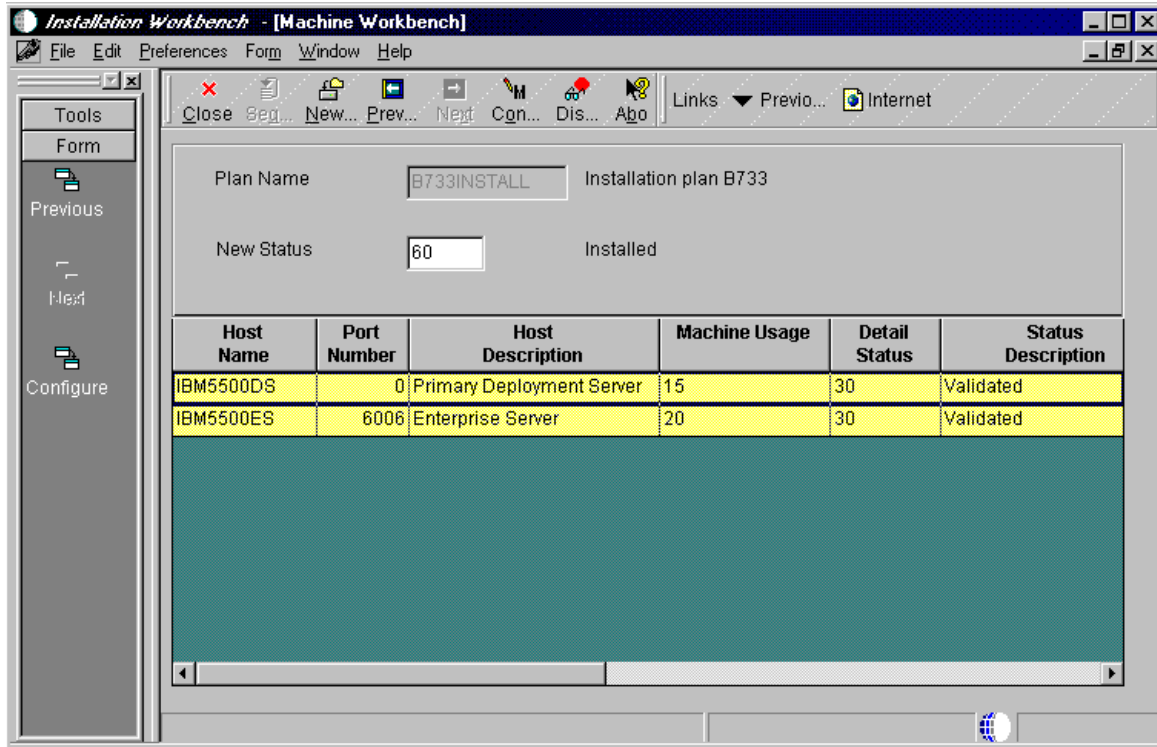


Figure 87. Machine Workbench Screen

13. Review the Machine Workbench for the correct parameters. At the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
14. Click **Next** to configure your packages. You will see a screen similar to Figure 88 on page 146.

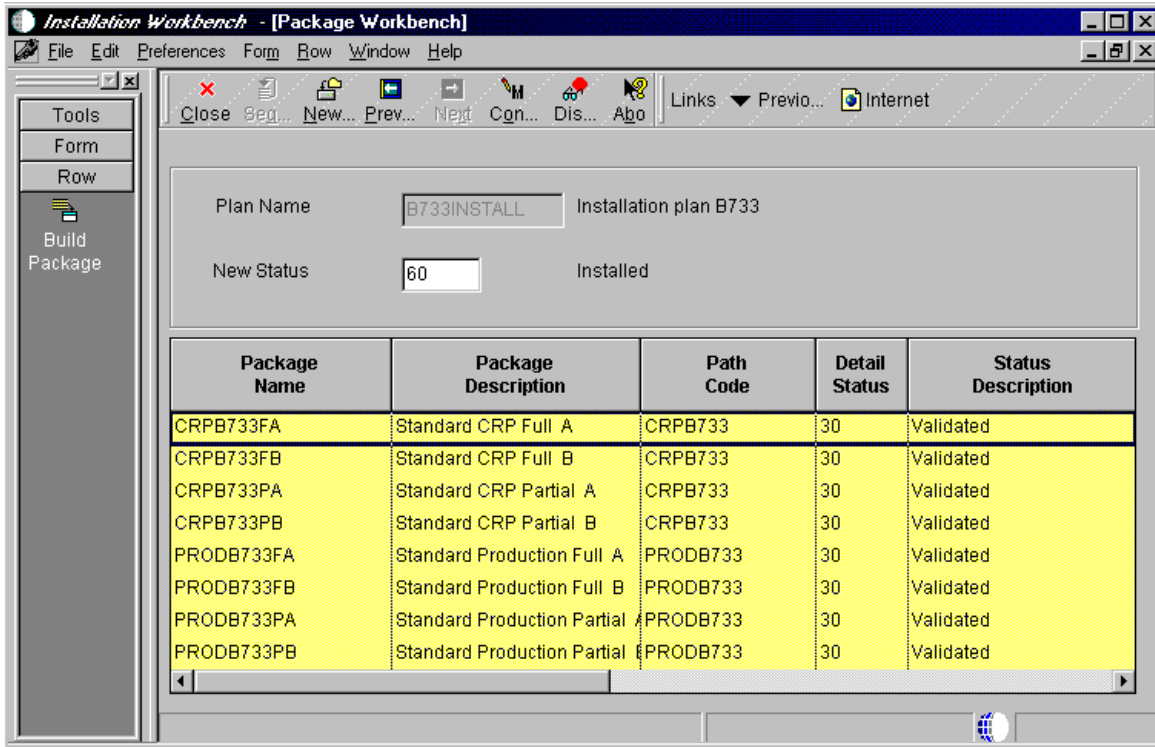


Figure 88. Package Workbench Screen

15. On the Package Workbench screen, review the Conference Room Pilot (CRP) and Production (PROD) packages. From the action bar, click **Form > Configure**.
16. Click **Next** to finish the plan. From the action bar, click **Form > Finish**.

7.3.6 Setting Up and Verifying the Hosts File

If no Domain Naming Service is defined on your network, you must set up the hosts file for each machine. The following procedure must be completed on each machine on your network to ensure each machine can identify the other:

1. From Windows Explorer, access \\Winnt\System32\Drivers\Etc\Hosts.
2. Add the Machine IP address and Machine name (enterprise server) in your hosts file:
 - 192.168.254.4 ibm5500es #The OneWorld enterprise server
 - 192.168.254.2 ibm5500ds #The OneWorld deployment server

Verify that you entered the address and name on a separate line. A pound sign (#) marks the start of a comment, and the end-of-line character marks the end of a comment.

Note: Again, if you use the Domain Naming Service (DNS) or the Windows Internet Services (WINS), you do not need to set up and verify the hosts files.

7.4 Installing OneWorld on the Enterprise Server

In this section, you will use the CD-ROM software OneWorld Release B73.3 Windows NT Intel, 1 of 1 to install OneWorld on the enterprise server. This installation process copies the OneWorld system and the path code files directly from the CD-ROM to the enterprise server.

Complete the following steps to install the enterprise server software:

1. Log on to the enterprise server with system administrator privileges.
2. Create a new user JDE with password JDE; log off and log on using the JDE user ID.

Note: If your deployment and enterprise server are set up as a PDC or PBC, respectively, then you will not need to create JDE user.

3. From your enterprise server, map a drive to the deployment server where the OneWorld base directory resides (d:\OneWorld\B733). For our example, we used x:\.
4. Review the JDE.INI file that will be copied to the enterprise server. By default it is located in the deployment Server:

ONEWORLD\B733\HOSTS\INTELNT\enterpriseserver.

For our example, we used ONEWORLD\B733\HOSTS\INTELNT\IIBM5500ES.

5. Edit the JDE.INI file if necessary to match the following statements:
 - In the [SECURITY] section, verify that the DefaultEnvironment setting matches a valid environment that you defined in your plan.
 - In the [INSTALL] section, verify the LocalCodeSet parameter is set to the appropriate value for your installation.
 - In the [DB SYSTEM SETTINGS], verify that the server name parameters are set as the machine name. Normally, this is set automatically.
6. Save and close the file.
7. Insert the CD-ROM labeled Release B73.3, NT Intel 1 of 1 into the CD-ROM drive. Setup will start automatically. You will see a screen similar to Figure 89 on page 148.

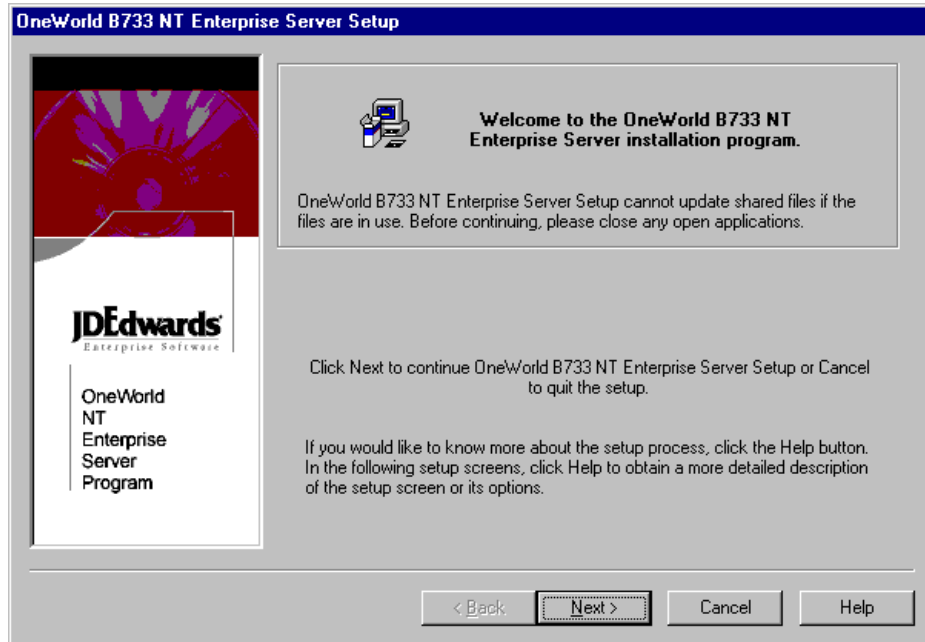


Figure 89. OneWorld B733 NT Enterprise Server Setup Screen

8. Click **Next** to continue. You will see a screen similar to Figure 90:

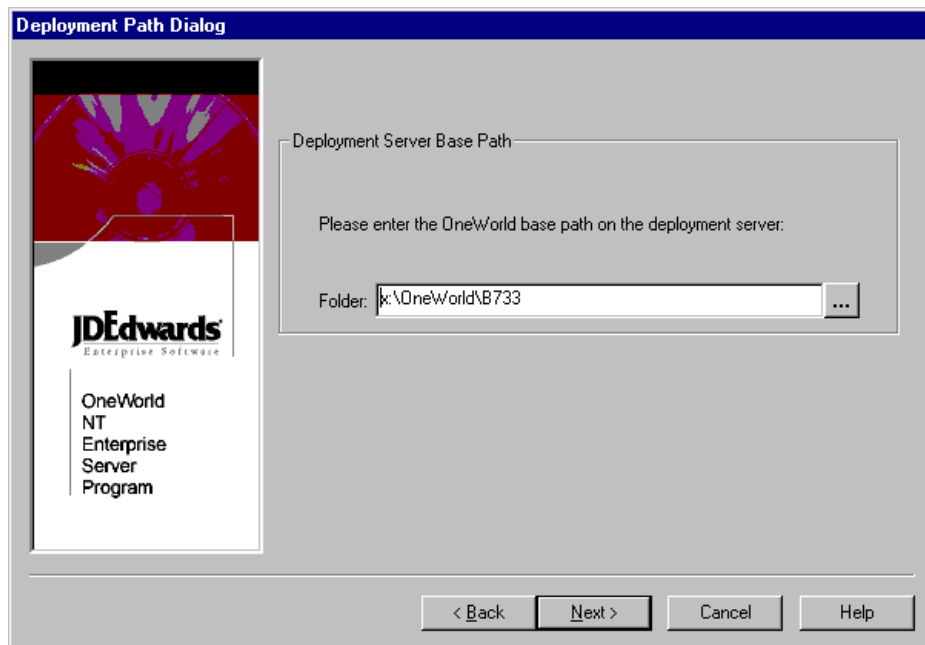


Figure 90. Deployment Path Dialog Screen

9. At the Deployment Path Dialog screen, type the path on the deployment server where the base OneWorld installation exists. In this example, we typed `x:\OneWorld\B733`. Click **Next** to continue. You will see a screen similar to Figure 91 on page 149.

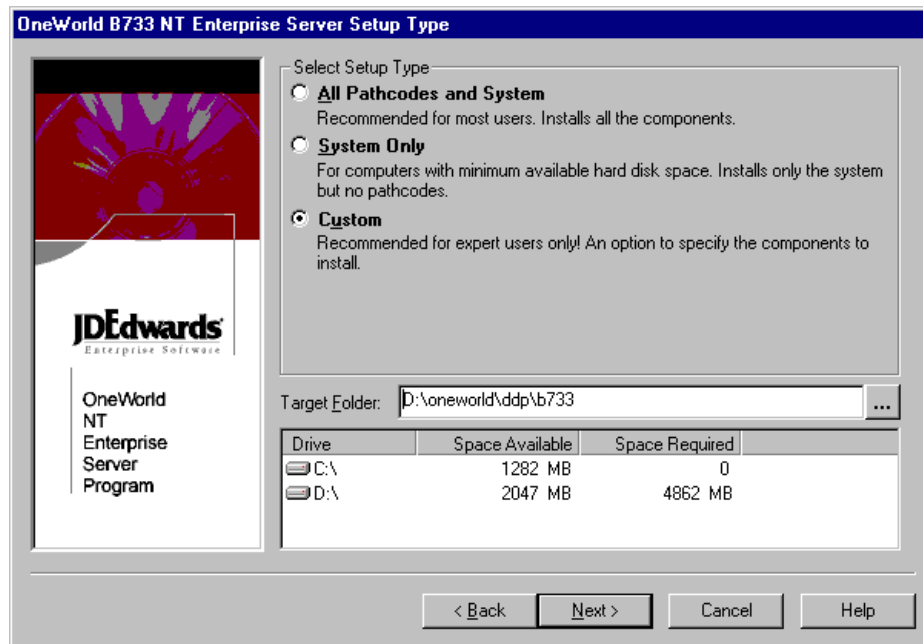


Figure 91. Enterprise Server Setup Type Screen

10. Select **Custom** for your setup type.

In the Target Folder field of the Setup Type screen, type the directory where you want the files to be installed on your enterprise server. For this example, we typed `D:\oneWorld\ddp\b733`. Click **Next** to continue. You will see a screen similar to Figure 92 on page 150.

Note: Under Space Available the software package does not recognize the correct amount of space that is available. Do not be alarmed. In the planning and setup of our enterprise server, we ensured the appropriate amount of disk space was made available for OneWorld.

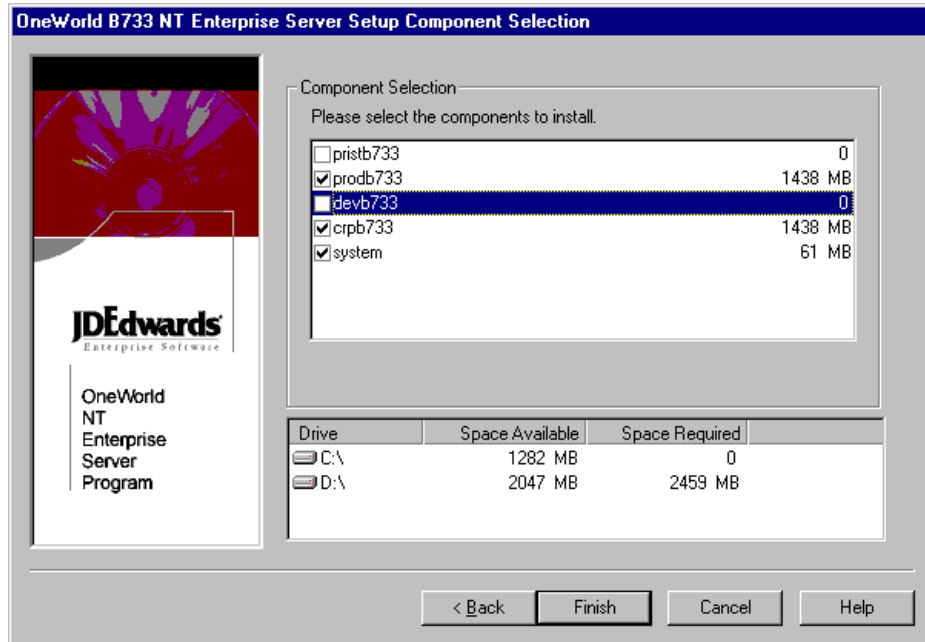


Figure 92. Enterprise Server Setup Component Selection Screen

11. At the Component Selection screen, you may want to select all the components that apply to your OneWorld setup. In this example, prodb733, crpb733 and system were selected. Click **Finish**.
12. When the enterprise server setup completes copying its files, the OneWorld B733 NT Enterprise Server Setup screen will notify you that the installation was successful.
13. Click **OK** to continue.

7.4.1 Starting the OneWorld Windows NT Enterprise Server

This section includes procedures for verifying the OneWorld Windows NT enterprise server installation and starting the OneWorld Windows NT enterprise server.

7.4.1.1 Verify the OneWorld Windows NT Enterprise Server Installation

To verify that our OneWorld enterprise environment has been installed correctly, you must run the porttest program for each environment. Perform the following steps:

1. Log on to the Windows NT enterprise server as JDE and use the password JDE.
2. To verify that OneWorld is installed correctly on the enterprise server, open a DOS command prompt and type the following commands:

```
cd \OneWorld\ddp\B733\System\Bin32
porttest JDE JDE CRP733
porttest JDE JDE PRD733
```

Note: Ensure that you type the information correctly because these parameters are case-sensitive. You must enter the porttest command for each environment.

The porttest program initializes a user and an environment (assuming that OneWorld is installed and configured correctly). The program should display messages indicating the selection of records out of a OneWorld table. If it does not, review the jde.log_### that was specified in the JDE.INI file on the enterprise server.

If porttest fails to run, see the Host Services Checklist in the reference section of the J.D. Edwards' *OneWorld Installation Guide (Windows NT-Based Systems)*, Release B73.3.

3. Shut down and restart the enterprise server.

7.4.1.2 Installing OneWorld Network and Queue Services

In this section, you will install JDESQUE and JDESNET. To complete the installation of JDESQUE and JDESNET, perform the following steps:

1. Open a DOS command prompt, and type the following commands:

```
cd \ OneWorld\ddp\B733\System\Bin32
jdesque -I
jdesnet -I
exit
```

2. From the Windows NT interface, click **Start > Settings > Control Panel**. Select the **Services** icon. You will see a screen similar to Figure 93:

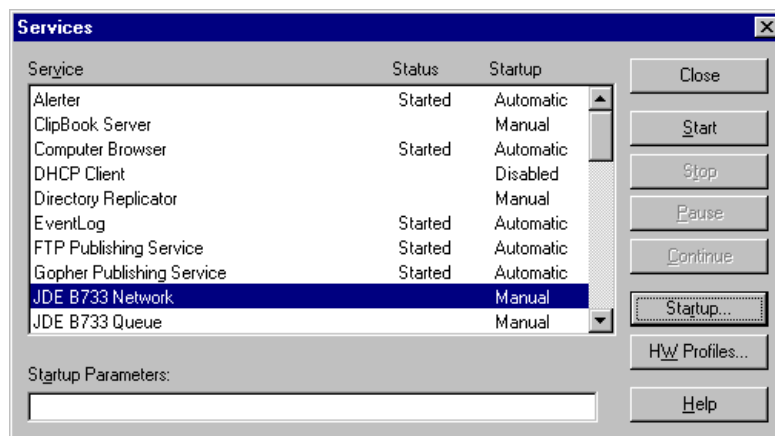


Figure 93. Windows NT Services on the Enterprise Server

3. Choose the OneWorld network service. For example, select **JDE B733 Network**.
4. Click **Startup** for this service.
5. Under Startup Type, select **Manual**.
6. Under Log On As:, click **This Account**.

If your default printer is a local printer, type in a local account name and password. If your default printer is a network printer, enter a network account name and password. In our example we had a network printer, therefore, we used the ONEWORLD\JDE user ID and JDE password.

7. Click **OK**.
8. Repeat the same procedures (steps 4-7) for the JDE B733 Queue service.

7.4.1.3 Start the OneWorld Enterprise Server

To start the OneWorld enterprise server, perform the following steps:

1. From the Windows NT interface, click **Start > Settings > Control Panel**. Select the **Services** icon.
2. Choose the **JDE B733 Network** services and click **Start**.
3. Next, choose the **JDE B733 Queue** services and click **Start**.

Note: You must always start Network, then Queue services. Information on stopping these services correctly can be reviewed in the Stopping OneWorld Enterprise Server Processes in the reference section of J.D. Edwards' *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.

7.5 Setting Up a Printer on the OneWorld Enterprise Server

In this section, these procedures are performed to set up a printer for our OneWorld enterprise server, however, depending on the customer or clients, these steps may be different. The following tasks will be done on the deployment server in the deployment environment (DEPB733):

- Adding a paper type.
- Adding a physical printer.
- Defining a conversion program.
- Adding a logical printer.
- Adding a Default Logical Printer.

7.5.1 Adding a Paper Type

In this section, we begin our printer setup by adding a paper type. Log on to the OneWorld deployment server in the deployment environment DEPB733).

1. On the Printers menu (GH9013), select **Work with Paper Types** (P98616).
2. Click **Add**. You will see a screen similar to Figure 94 on page 153.

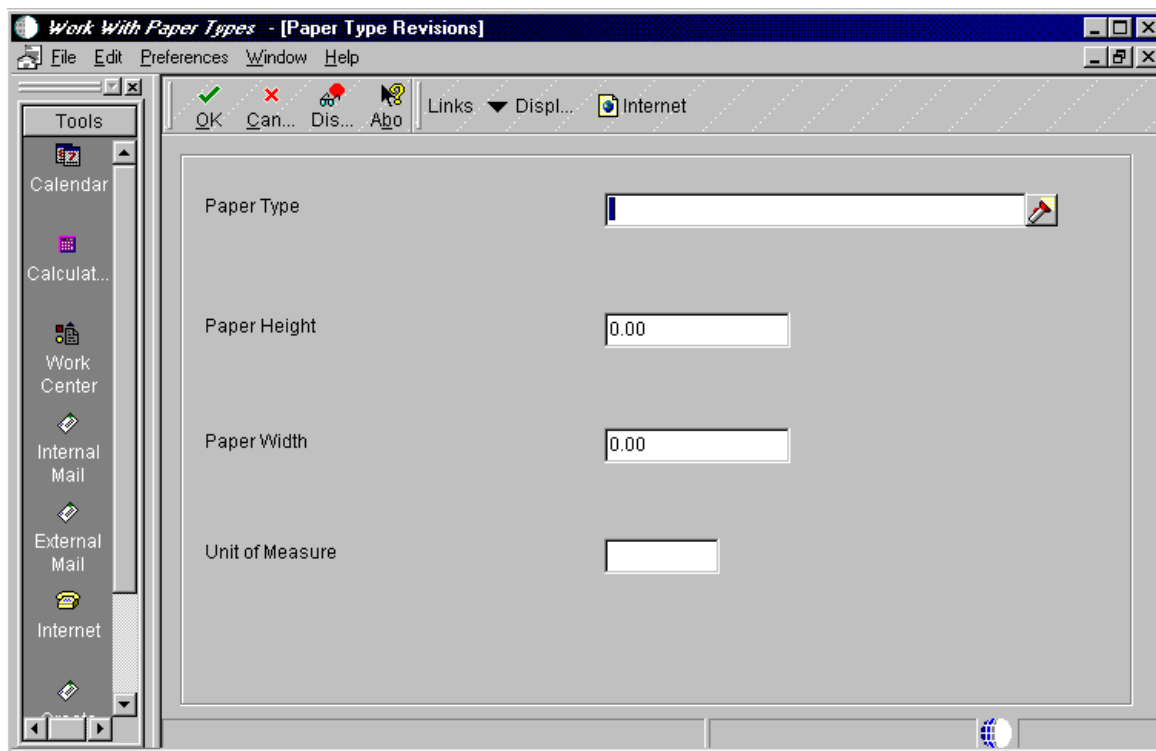


Figure 94. Work With Paper Types (Paper Type Revisions) Screen

3. In the B73.3 release of OneWorld, the only valid paper types are the ones that are pre-defined User Defined Codes (UDCs): LETTER, LEGAL, and A4. In this section, adding a paper type will not be necessary, however, the basic steps are shown below. For Paper Type Revisions, enter the following fields:
 - Paper Type = Select the paper type that you are going to use.
 - Paper Height = Specify the height of the paper for this paper type.
 - Paper Width = Specify the width of the paper for this paper type.
 - Unit of Measure = Indicate the unit of measure in which the paper height and width are entered.
4. Click **OK** and then **Cancel** to continue.

7.5.2 Adding a Physical Printer

In this section, we will add a physical printer to our OneWorld set up. Complete the following steps:

1. On the printers (GH9013), choose **Work with Physical Printers** (P98616).
2. Click **Add**. You will see a screen similar to Figure 95 on page 154.

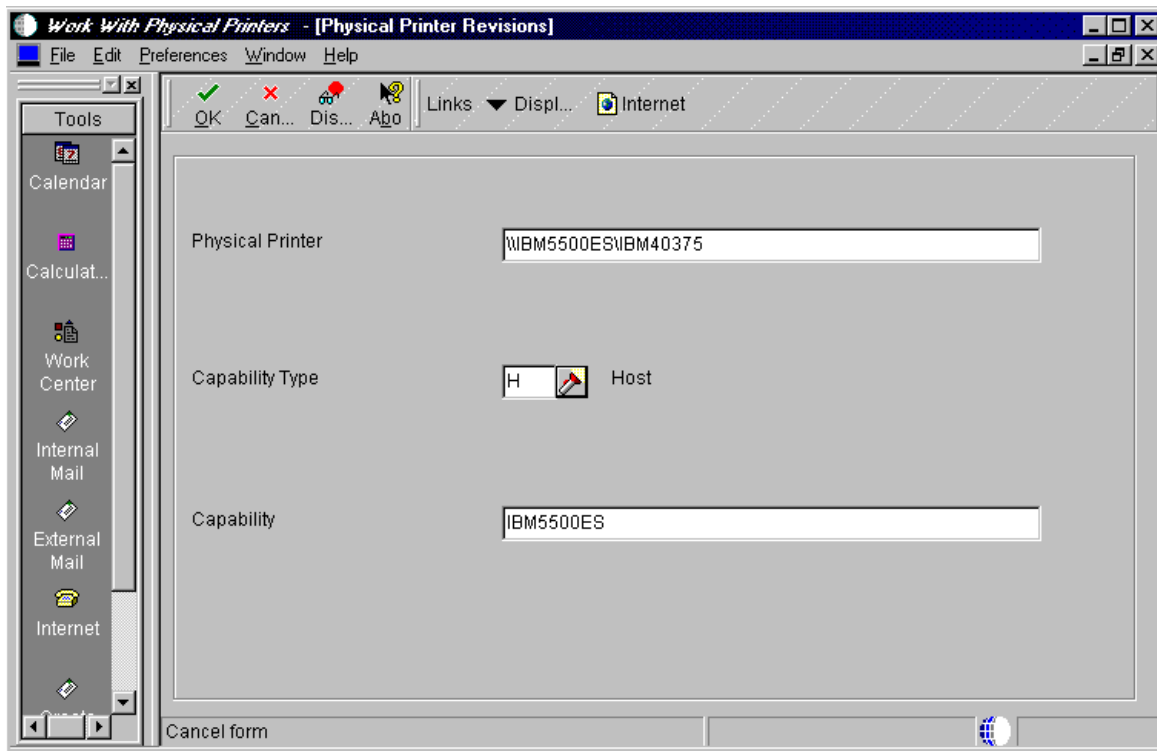


Figure 95. Work With Physical Printers (Physical Printer Revisions) Screen

3. Complete the required fields:

- Physical Printer = Name of printer that exists on you network:
In Windows NT, the format is *\\enterprise server name\printer name*.
For our example, we used *\\IBM5500ES\IBM40375*.
- Capability Type = Select the type of capability that are required for OneWorld to print properly. For this example, **H** (host) is chosen first.
Note: The capability type **H** (Host) and **P** (Paper) are required to set up a physical printer, however, **T** (Type) and **W** (Where) are for informational purposes only and may be optional.
- Capability = This step is determined by the capability type. For example: Paper represents LETTER, A4, and LEGAL, while Host represents the name of the machine that processes the job.

4. Click **OK**.

5. Repeat the same procedure above for **P** (Paper) and if necessary, for **T** (Type) and **W** (Where).

6. Once you have finished defining the printer capabilities, click **Cancel** to continue.

7.5.3 Defining a Conversion Program

This task is not necessary for Intel-based servers. For the Intel-based server, Adobe Acrobat Reader acts as the conversion program.

7.5.4 Adding a Logical Printer

1. On the Printers (GH9013), choose Work with Logical Printers (P98616).
2. On Work with Logical Printers, click **Add**. You will see a screen similar to Figure 96:

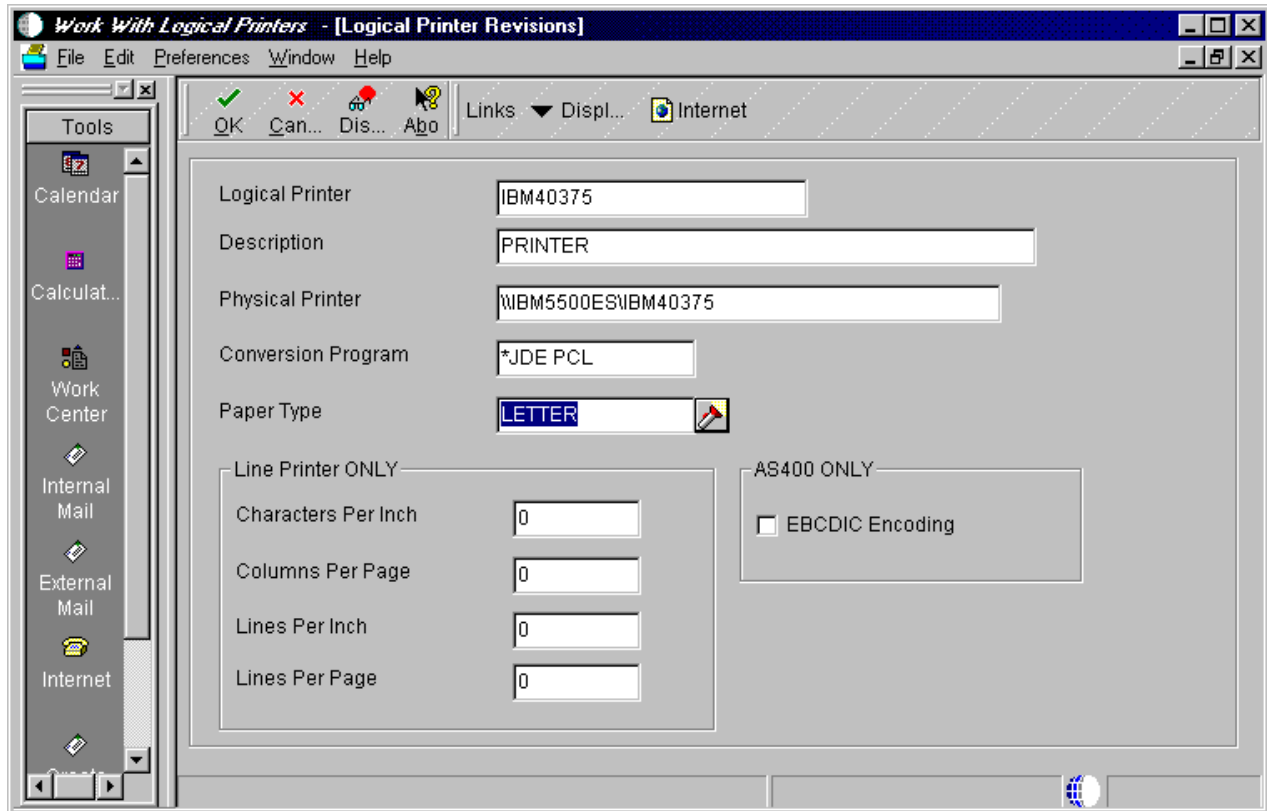


Figure 96. Work With Logical Printers (Logical Printer Revisions) Screen

3. Complete the following fields for Logical Printer Revisions:
 - Logical Printer = Name of printer where you will send your print job.
 - Description = Long description of your printer.
 - Physical Printer = Location of your printer.
 - Conversion Program = Choose your correct conversion program.
 - Paper Type = Choose your appropriate pre-defined paper type.
4. Click **OK** to save the record for your printer definition.

7.5.5 Adding a Default Logical Printer

In this section, we will add a default printer. Complete the following steps:

1. On Printers (GH9013), choose **Work with Default Logical Printers** (P98616).
2. Click **Add**. You will see a screen similar to Figure 97 on page 156.

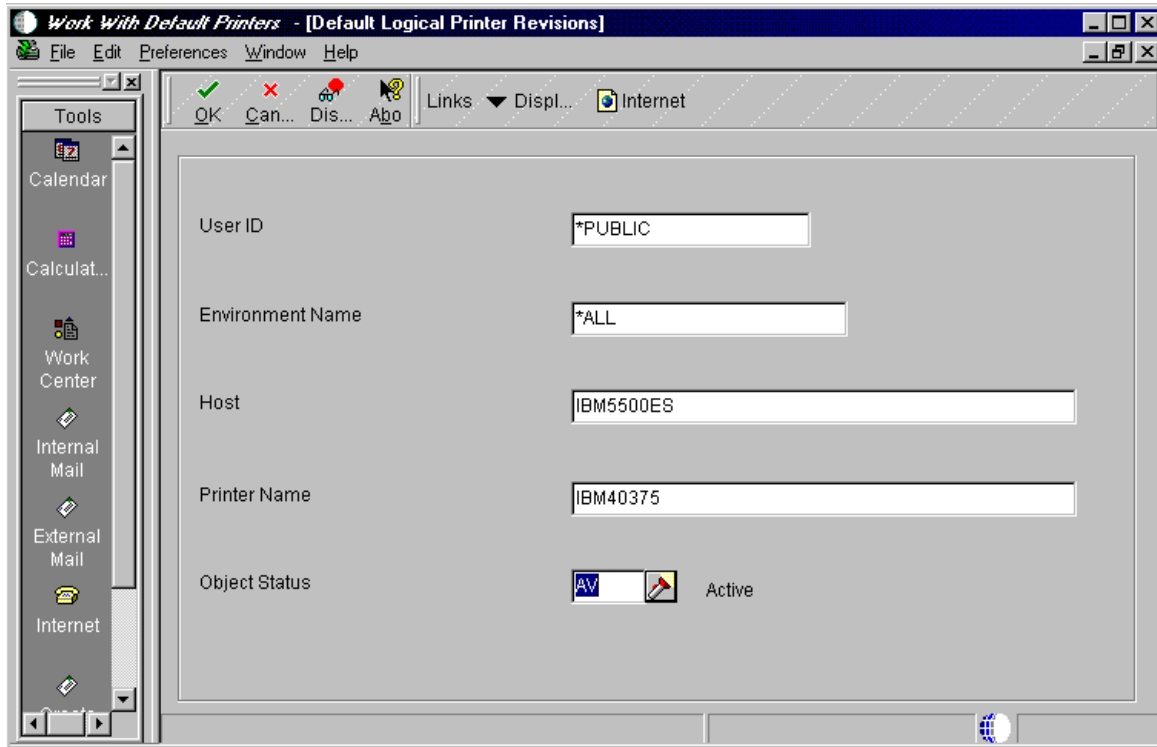


Figure 97. Work With Default Printers (Default Logical Printer Revisions) Screen

3. Complete the required fields:
 - User ID = *PUBLIC
 - Environment Name = *ALL
 - Host = enterprise server name
 - Printer Name = Name of your printer
 - Object Status = AV (Active)
4. Once completed, Click **OK** to continue.

7.6 Setting User and Group Profiles

J.D. Edwards recommends you set up one or two users to perform the installation process. Once this is done, you can then set up the rest of your users and groups when you have time to consider how you want groups to be organized and what preferences you want each group to have. In this section, we will perform the following:

- Create a user and group profile.
- Assign our packages to our profiles.
- Assign our environments to our profiles.

7.6.1 Creating a User and Group Profile

In OneWorld, you have the ability to set up group preferences. This eliminates the need to assign packages to each individual user profile. With group preferences, you could perform package assignment for the entire group and have those

assignments available to all of the individual users belonging to that group. In our example, we will create a user and assign that user to a group. However, the user we create will have packages and environments assigned directly to its profile.

Profiles define certain setup and display features, such as language, date format, and country code. Although we can set up numerous users (clients) for OneWorld, our example demonstrates a basic overview of setting a group. For more information and references, please refer to the User Profile Procedures chapter of the *OneWorld Installation Guide (Windows NT Based-Systems), Release B73.3*.

During user deployment, sign on to the deployment environment, DEP733, of the deployment server and perform the following steps to create a group and user:

1. At the deployment server, log on to the deployment environment by selecting **DEPB733**.
2. From the Advanced Operations menu (GH9011), select **User Profiles**.
3. Click **Find** to view the existing user profiles. You will see a screen similar to Figure 98:

User ID	Group	Menu Id	Fast Path	Address Number	Description
APPLEAD		G	Y	0	
CNCADMIN		G	Y	0	
DEVUSER		G	Y	0	
JDE		G	Y	0	
PRODUSER		G	Y	0	
CRPDTA	CNCADMIN	G	Y	0	
PRISTDTA	CNCADMIN	G	Y	0	
PRODDTA	CNCADMIN	G	Y	0	
TESTDTA	CNCADMIN	G	Y	0	

Figure 98. User Profiles (Work With User Profiles) Screen

4. Click **Add** to create a new profile. You will see a screen similar to Figure 99 on page 158.

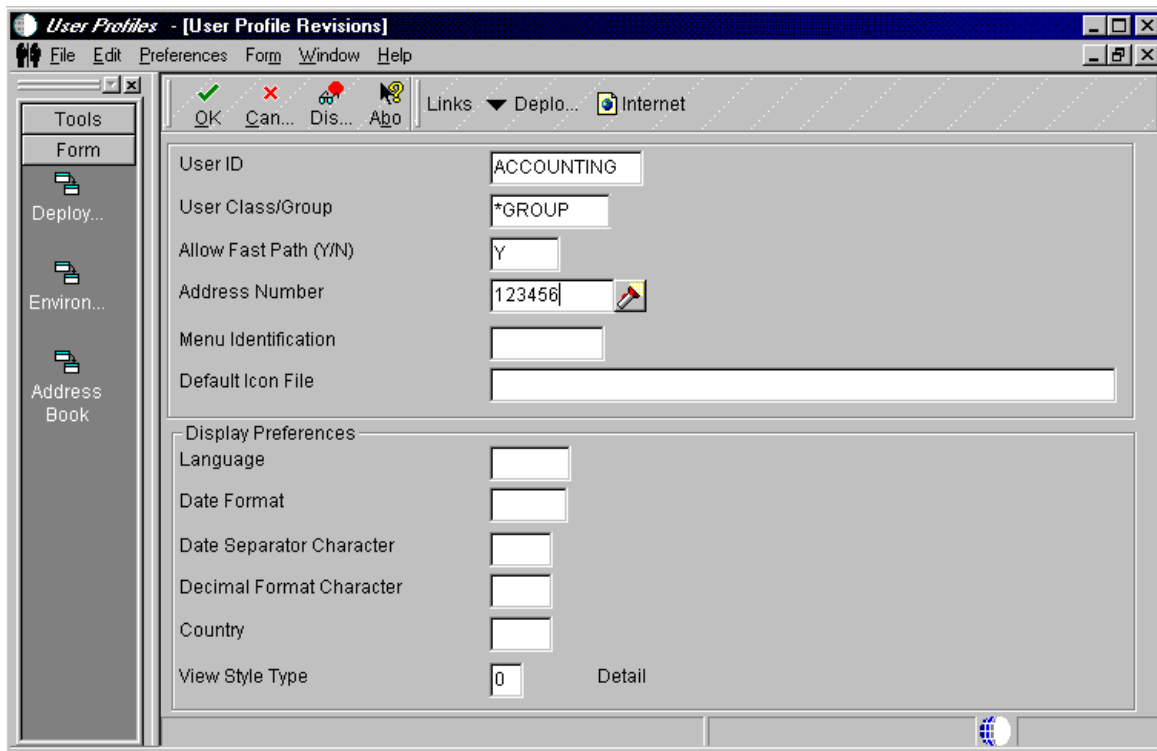


Figure 99. User Profiles (User Profile Revisions) Screen

5. To create a group profile:
 - In the User ID field, type a group name, such as ACCOUNTING..
 - In the User Class/Group field, type *GROUP.
6. Click **OK**.
7. Click **Add** to create a new user. You will see a screen similar to Figure 100 on page 159.

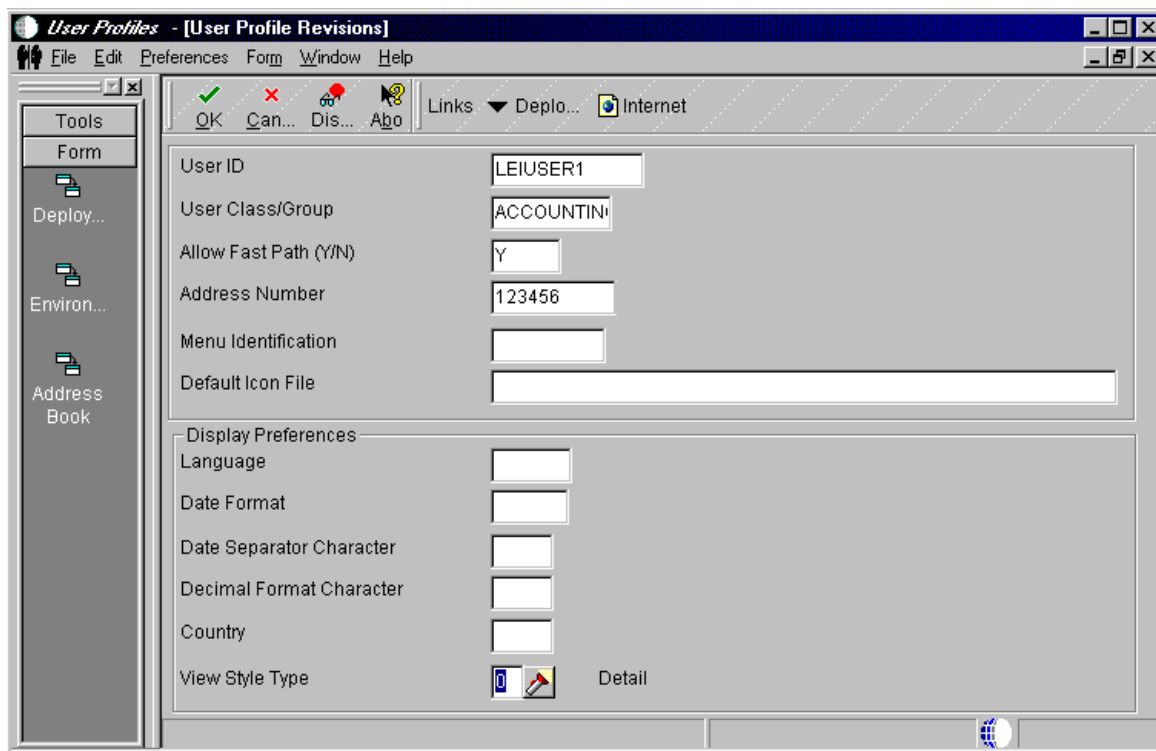


Figure 100. User Profiles (User Profile Revisions) Screen

8. Complete the following fields:

- In the User ID field, type the individual's user ID. For our example, we used **LEIUSER1**.
- In the User Class/Group field, type the name of the group to which the user belongs, such as ACCOUNTING or use the flashlight button to search for this group. Leave this field blank if the user does not belong to a group.
Note: The flashlight button appears in the field that is selected.
- Enter an address book number.

9. For user or group profiles, complete the remaining fields as appropriate or leave at the defaults. In our example, we used the defaults. Click **OK**.

10. To display the profiles you modified or created, on the Work with User Profiles screen, click **Find**.

7.6.2 Assigning Packages to a Profile

After creating a user and a group profile, you must assign deployment preferences to them (for example, packages and environments). In this section, we will assign Conference Room Pilot (CRP) and Production (PROD) packages for our user to install. Perform the following steps:

1. From the OneWorld work space, access the Advanced Operations menu (GH9011) and choose **User Profiles**.
2. On the Work With User Profiles screen, click **Find**. You will see a screen similar to Figure 101 on page 160.

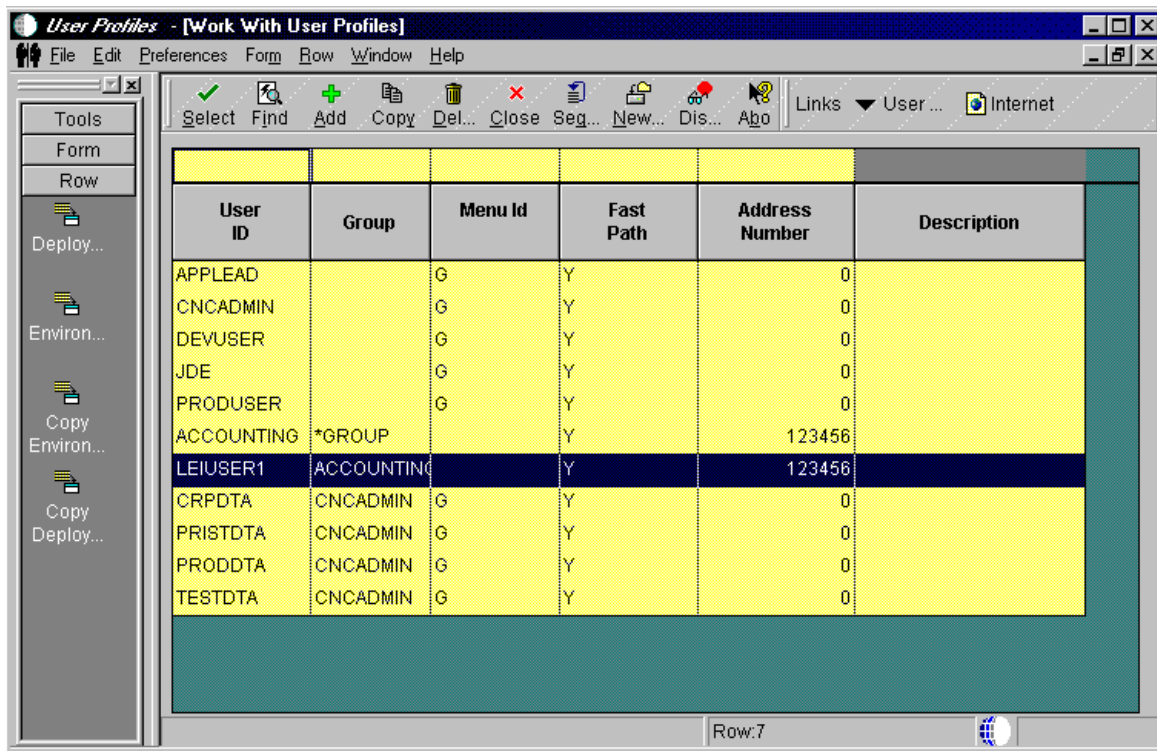


Figure 101. User Profile (Work With User Profiles) Screen

3. Choose an existing user ID. For our example, we chose LEIUSER1. This can be an individual or group profile. (See Figure 101.)
4. From the action bar, select **Row > Deployment**.
5. On the User Deployment Preferences screen, complete the following fields:
 - Deployment Location = (We left this field blank for this example).

Note: You can have the workstation installation pull packages from a machine other than your deployment server. On User Deployment Preferences, use the Deployment Location field to indicate the machine that has the package(s) you want deployed during a workstation installation.
 - Package Name = Select our packages, **CRPB733PA** and **PRODB733PA**.

Note: PA reflects a partial package. The partial package is selected for workstation that are part of a local area network. The full package is normally selected for workstations across a wide area network.
 - Help Location = Defaults to the server.

Note: Regardless of how you define a package for help instructions, workstation installation only installs help instructions to the workstation based on the user's deployment preference of workstation or enterprise server. Workstation installation updates the JDE.INI file according to the package's information (.INF) file and the deployment preferences help location.
6. Click **OK**.

7.6.3 Assigning Environments to a Profile

When starting OneWorld, you can assign more than one environment to each user or group from which any user or group can choose. If users do not have environments of their own, they can choose from the ones assigned to their group. To assign environments, perform the following steps:

1. From your OneWorld work space access the Advanced Operations menu (GH9011), choose **User Profiles**.
2. On Work With User Profiles, click **Find**.
3. Choose a profile. In our example, we highlighted LEIUSER1.
4. From the **Row** menu, select **Environments**. You will see a screen similar to Figure 102:

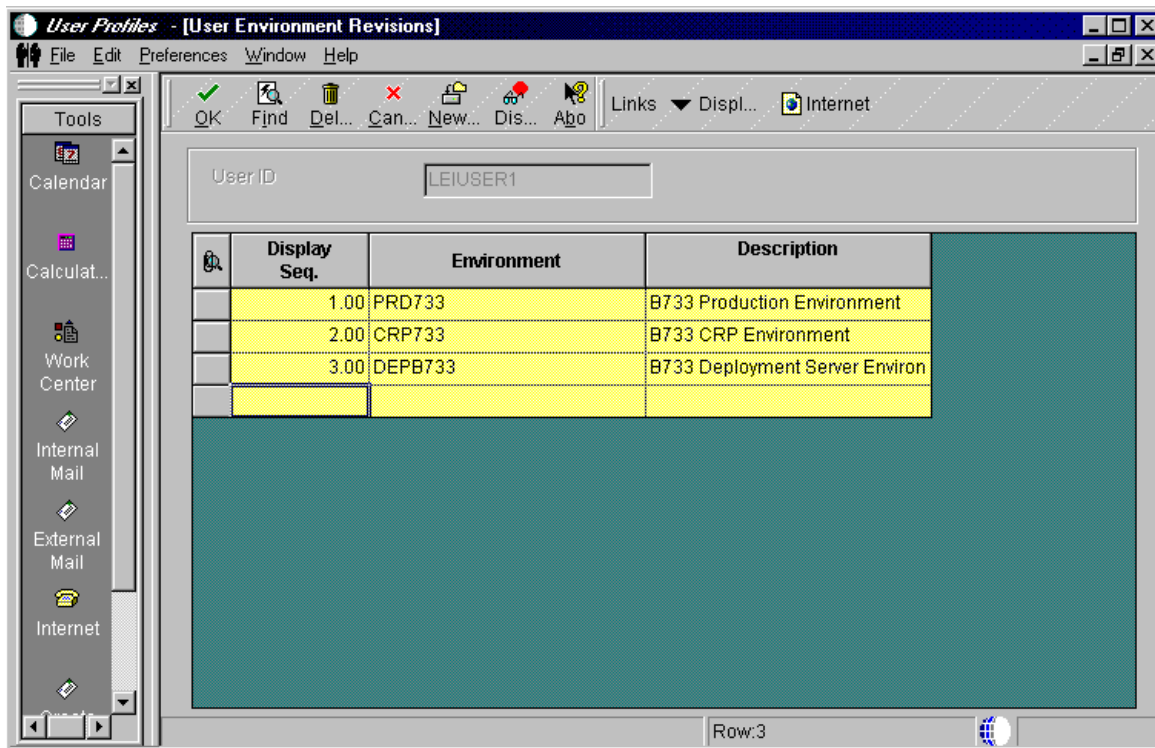


Figure 102. User Profiles (User Environment Revisions) Screen

5. Complete the following fields for User Environment Revisions:
 - Display Sequence (Display Seq.) = This is an optional field. Leave blank to arrange environment names alphabetically or enter numbers to create your own order.
 - Environment = For our example. select **PRD733**, **CRP733**, and **DEPB733**.
 - Click **OK**.
 - To delete an environment from the list, select the environment and click **Delete**.

7.7 Installing Oracle8 Client

Before you begin with the installation of OneWorld client on the workstation, you must install Oracle8 Client:

1. Insert the Oracle8 CD-ROM and select **Begin Installation**. You will see a screen similar to Figure 103 on page 162.

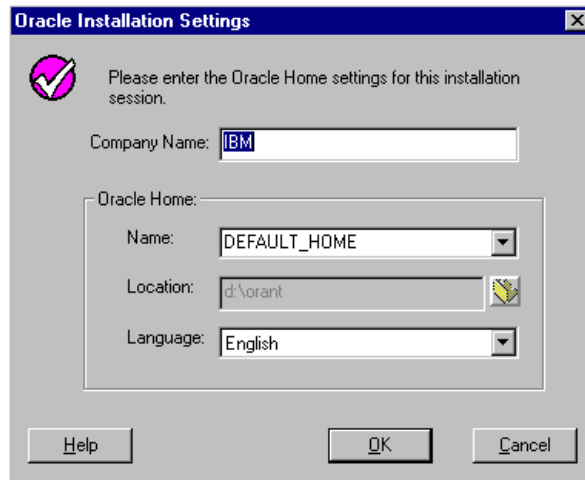


Figure 103. Oracle8 Client Installation Settings Screen

2. Complete the following fields:

- Company Name = Your Company name (for example, IBM)
- Name = DEFAULT_HOME
- Location = Drive path where Oracle8 will be installed (for example, d:\orant)
- Language = English

3. Click **OK** to continue. You will see a screen similar to Figure 104:

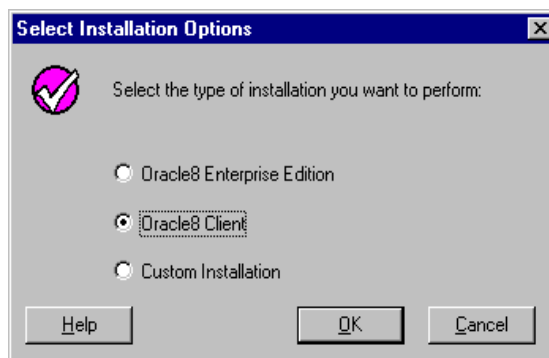


Figure 104. Oracle8 Client Installation Options Screen

4. Select **Oracle8 Client** and click **OK**. You will see a screen similar to Figure 105 on page 163.

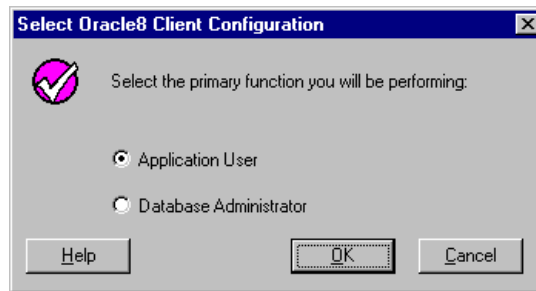


Figure 105. Oracle8 Client Configuration Screen

5. Select **Application User** and click **OK**.
6. You are now asked if you want to leave the Oracle documentation on the CD-ROM, or install it to disk (approximately 80 MB required). You will also have to have an HTML viewer installed to access the documentation. For this example, we chose to leave it on the CD-ROM for now.
7. Setup now begins installing the software and creating the icons.

7.8 Installing OneWorld Client

The workstation installation copies all necessary components of OneWorld to a client workstation. To prepare for the OneWorld client installation, we will perform the following steps:

- Modify the JDE.INI file on the deployment server.
- Modify the Setup.inf file on the deployment server.

7.8.1 Modify the JDE.INI File on the Deployment Server

You must modify the JDE.INI file on the deployment server prior to installing OneWorld on your workstations. To begin, perform the following steps:

1. On the deployment server, sign on as JDE.
2. Edit the JDE.INI on the deployment server.
 - [JDENET]

The serviceNameListen and serviceNameConnect parameters must match those in the enterprise server JDE.INI.
3. To ensure the workstation will be set up correctly (such as for National Language Support), make the following changes to the JDE.INI file in the *OneWorld\B733\Client\Misc* directory on the deployment server:
 - [INSTALL]

Verify that the LocalCodeSet parameter is set to the appropriate language value. Also, verify that your code page is set up properly. For appropriate values and code pages, see the "National Language Support" section of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.
 - [NETWORK QUEUE SETTINGS]

Set the UBEQueue parameter appropriately.

Note: You can resynchronize replicated data by changing the ForcedSync value in the [REPLICATION] section from 0 to 1. When client workstations are installed, this value is set to 0, meaning you do not want to resynchronize data.

7.8.2 Modify the Setup.inf File on the Deployment Server

In this section, Setup.inf will be modified to specify the default environment.

Note: You do not need to perform this task if you want the default environment to be Production (PRD733).

Complete the following steps if your default environment is CRP:

1. From Windows Explorer, open Setup.inf, which is in the OneWorld\B733\Client directory.
2. In the [DB SYSTEM SETTINGS] section, set the Default Env parameter to the valid environment you want to be the default. In our example, we typed CRPB733.
3. In the [DB SYSTEM SETTINGS] section, set the Default PathCode parameter to the valid path code you want to be the default (this should match the environment). In our example, we typed CRPB733.
4. Save the file, then close it.

7.8.3 Installing OneWorld Client (Interactive Mode)

Install the OneWorld Client software on the designated workstation using Interactive Mode. Ensure all the required software is installed and no other services or open programs are active.

Note: If you are installing an alternate language, such as Spanish or Chinese, you will need to load the appropriate language to the workstation. For more information about the steps to follow, see the section "Installing the Client Workstation" in the *Language Installation Guide, Release Level B73.3*.

Complete the following steps:

1. From the Windows Explorer, connect to the OneWorld shared drive of the deployment server.
2. In the Client directory, double-click **setup.exe** to run it. You will see a screen similar to Figure 106 on page 165.

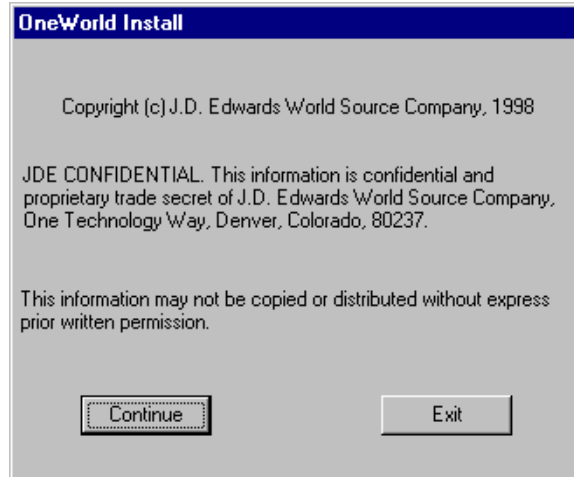


Figure 106. OneWorld Client Install Screen

3. Read the licensing terms and click **Continue**. You will see a screen similar to Figure 107.

The OneWorld installation process verifies that several of the system .DLLs are current. If they are not current, you receive a message to reboot your system. When you reboot, the system updates the .DLLs in your Windows directories. To install OneWorld, you must begin again with the first step in this task.

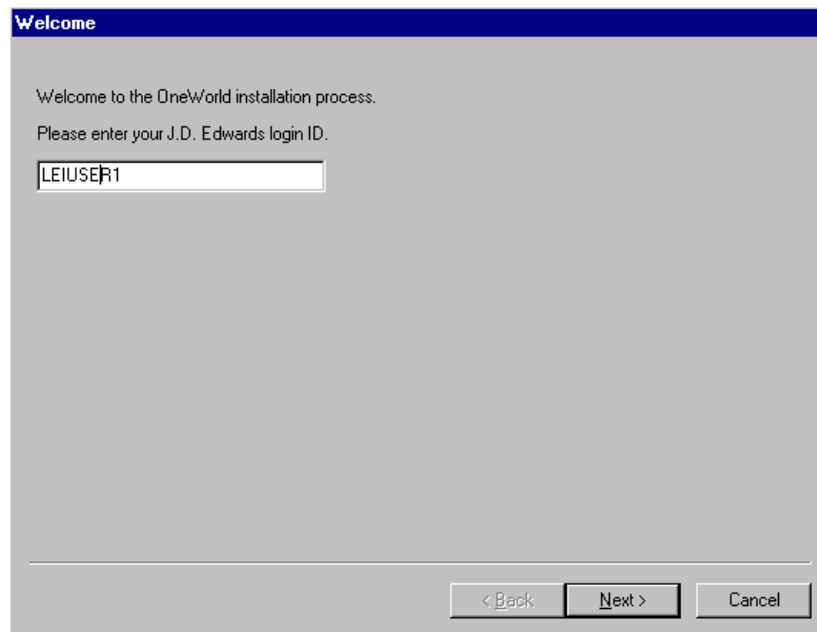


Figure 107. OneWorld Sign-On (Installation) Screen

4. Type the login ID. (For this example, LEIUSER1.)
Note: This list of packages comes from your user and group profiles for deployment preferences.
5. Check the box to the left of each package to install on the client workstation.

Click the option to Install Development Objects if you are a OneWorld developer. This option appears only if you have a compiler loaded on your workstation.

You can also change the drive where OneWorld is installed, but the directory path is always b7.

6. To initialize the package, click **Next**.

Note: This could run for several minutes. The client installation displays two status bars. The first shows the status of the installation. The second shows the status of any configuration necessary to run OneWorld on the workstation.

The Congratulations screen will prompt you that the installation has finished successfully. Workstation Installation creates a OneWorld folder in the Start menu Programs folder.

7. At the Congratulations screen, you have the option to select Adobe Acrobat Reader or Microsoft Internet Explorer. Mark the check box **Install Adobe Acrobat Reader 3.01**. If you prefer Netscape Navigator as your browser, do not check the box for Microsoft Internet Explorer; otherwise, click the **Microsoft Internet Explorer 4.01** option as well.

8. Click **Close**.

Chapter 8. Implementing Microsoft SQL Server 7.0 and OneWorld

In this chapter, we will set up the deployment server for OneWorld. This will allow us to create and maintain installation plans, and deploy OneWorld code to the enterprise server and client workstations. Our configuration includes Microsoft SQL Server 7.0 for Windows NT 4.0 and J.D. Edwards' OneWorld B73.3. The servers used in this process were IBM's Netfinity 5500 systems. Prior to the installation of the two software packages, IBM's ServerGuide (included with all new IBM Netfinity servers) was used to configure the Netfinity 5500 servers and prepare the servers for Microsoft Windows NT Server 4.0.

The OneWorld installation program loads OneWorld on the deployment server, then proceeds to load central objects (specifications) tables into your SQL Server 7.0 database.

8.1 Deployment Server Setup

In this section, the deployment server will be set up and configured with the required software. The tasks will include the following installations:

- Updated BIOS for the IBM Netfinity server
- Windows NT 4.0 using IBM's ServerGuide software
- Microsoft Access
- Microsoft Visual C++ 5.0
(C++ 6.0 is supported by OneWorld B73.3.1 or higher only)
- Microsoft Internet Explorer 4.01 SP1 or higher
(Required for MS SQL Server 7.0)
- Adobe Acrobat Reader 3.01
- Microsoft SQL Server 7.0 Client and Server
- Microsoft Internet Server

Before you begin, it is recommended that you download the latest BIOS for your IBM Netfinity server from the IBM Web site:

<http://www.pc.ibm.com/us/netfinity>

Complete the following steps to set up the deployment server:

1. Install the latest BIOS on your Netfinity server and continue.
2. Using the ServerGuide that came with your machine, set up the hardware and install Windows NT Server 4.0. In addition, install Service Pack 4 or later for Windows NT Server 4.0 and ensure your Y2K software requirements have been met. ServerGuide will configure your hardware and simplify the operating system installation by providing Windows NT with the correct drivers for your machine. See Chapter 6, "Using ServerGuide for IBM Netfinity" on page 79 to help you with these tasks.
3. After Windows NT is installed, a few changes are needed for tuning purposes:
 1. From the Windows NT desktop, select **Start > Settings > Control Panel**.
 2. Double-click **Network** and select the **Services** tab.

3. Double-click the **Server** process.
 4. Select **Maximize throughput for Network Applications**. Do not reboot when prompted.
 5. Return to Control Panel and select **System**.
 6. Select the **Performance** Tab.
 7. Set the Application Performance Boost for Foreground Applications to 50% (slide set at halfway mark).
 8. Click **Change** and modify initial paging file size to the recommended size. Click **Set** and **OK**.
 9. The deployment server can now be shut down and restarted.
4. Install Service Pack 4 or later for Windows NT Server 4.0.
 5. Install Microsoft Access 7.0. Choose **Typical Install**.
 6. Install Microsoft Visual C++ 5.0. Choose **Professional Edition**. The path used for this installation is: **C:\Msdev\DevStudio\VC**.
- Note:** We used the Microsoft software from the Microsoft Developer's Network CD-ROM during our installation, therefore, our installation procedures may differ slightly from the shrink-wrapped software that you purchased.
7. If the SQL Server 7.0 database is used, make sure it matches the database version exactly and install the SQL Server 7.0 client by doing the following:
 1. SQL Server 7.0 install launches automatically when the CD-ROM is inserted. If it does not, double-click the **CD icon** under My Computer.



Figure 108. SQL Server 7.0 Selection Screen

2. Select **Install SQL Server 7.0 Prerequisites** (shown in Figure 108 on page 168). Next, select **Windows NT 4.0**. You will see a screen similar to Figure 109:

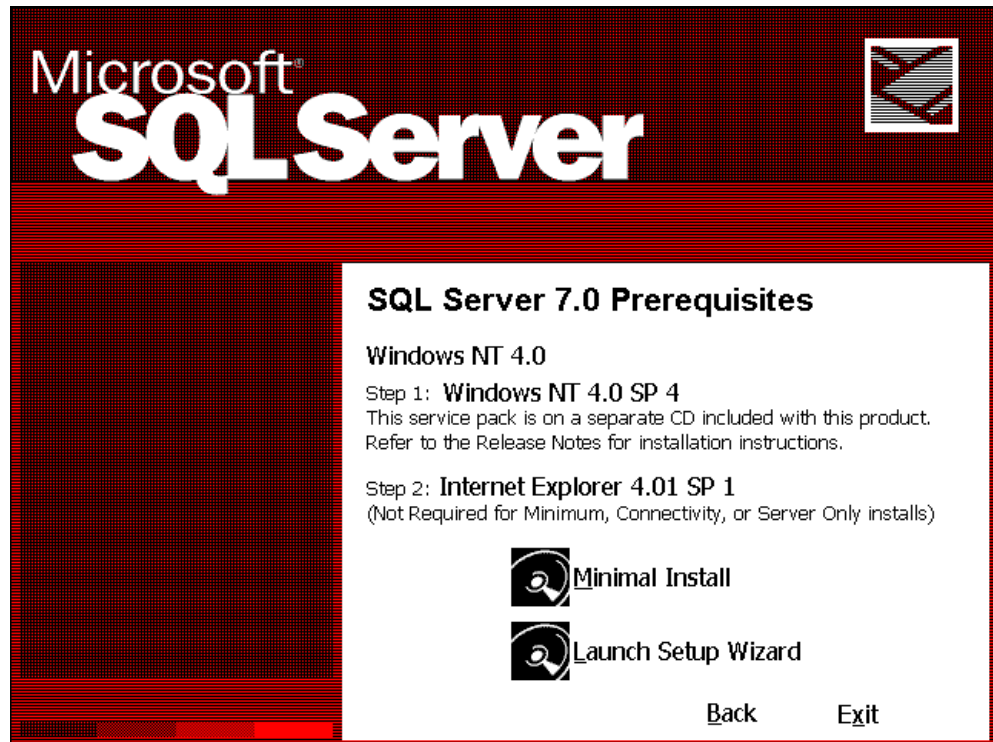


Figure 109. SQL Server 7.0 Prerequisites Screen

3. Select **Launch Setup Wizard**. This will install Internet Explorer 4.01 SP 1.
4. Click **Next**. Choose **Standard Installation** and accept the defaults. When the process is finished you must restart the computer and run the Microsoft SQL Server 7.0 CD-ROM again.



Figure 110. SQL Server 7.0 Selection Screen

5. This time, select **Install SQL Server 7.0 Components**. You will see a screen similar to Figure 111:

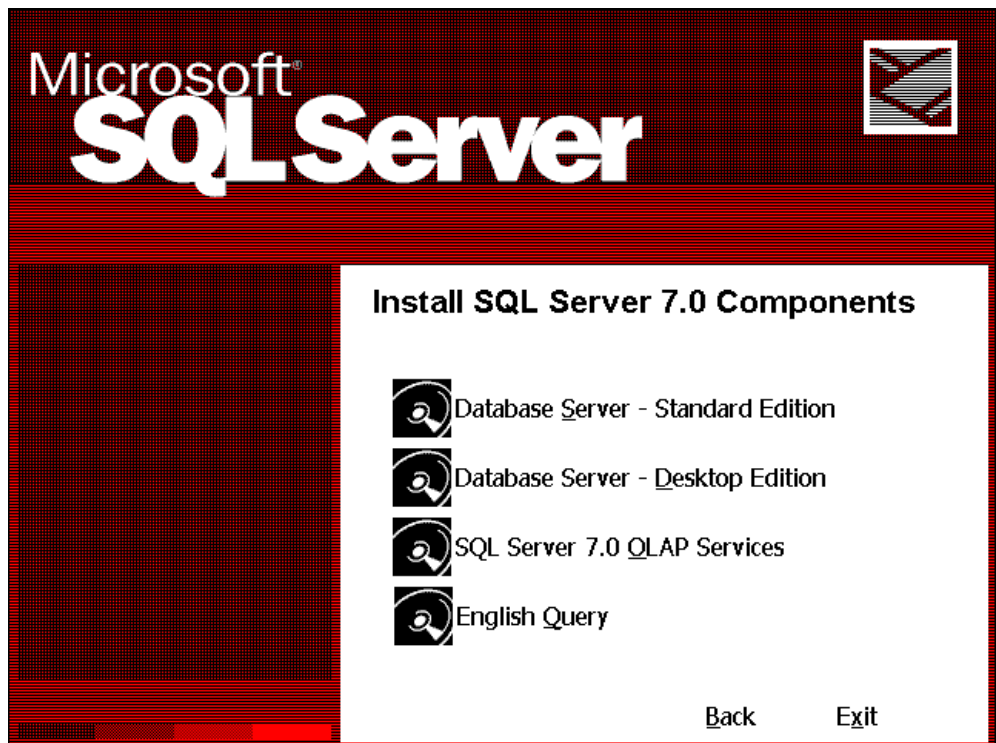


Figure 111. SQL Server 7.0 Components Selection Screen

6. Select **Database Server - Standard Edition**. You will see a screen similar to Figure 112:

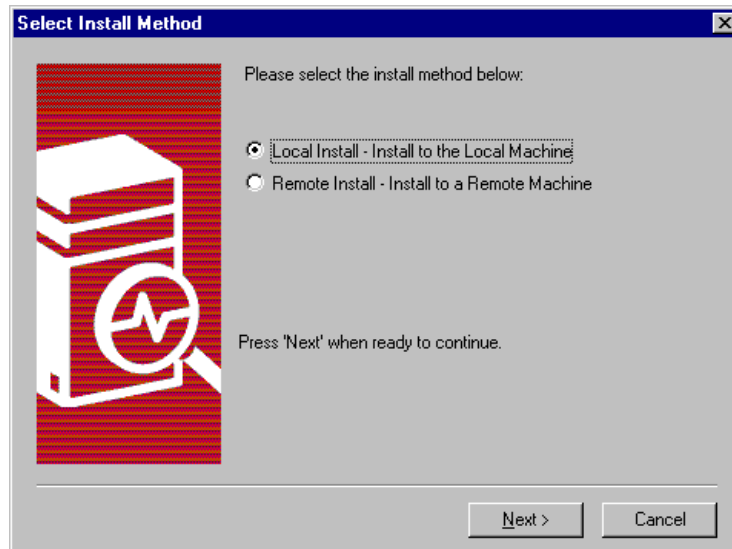


Figure 112. Select Install Method Screen

7. Select **Local Install - Install to the Local Machine**. Click **Next** twice.
8. At the Software License Agreement screen, select **Yes**.
9. At the User Information screen, enter the appropriate information for User and Company. For our example, we entered IBM in both fields. Click **Next** and you will see a screen similar to Figure 113:

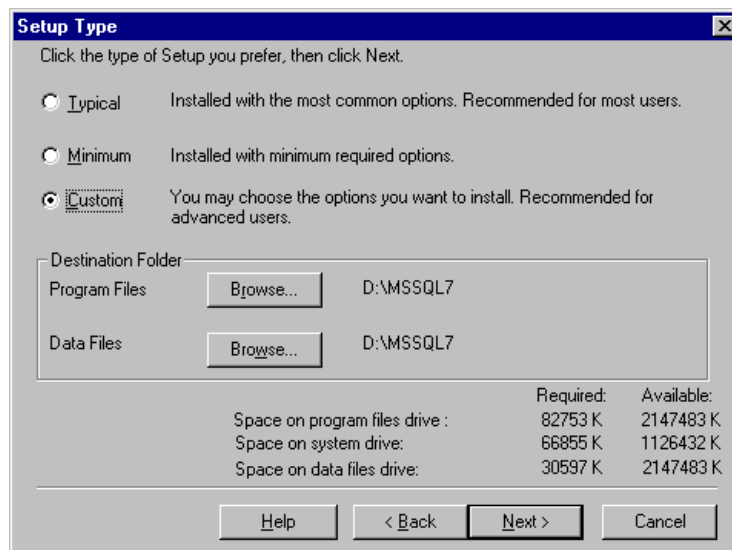


Figure 113. Setup Type Screen

10. Select **Custom** configuration and click **Browse** for Program Files and Data Files to change the drive letter to where OneWorld will be installed. Click **Next** to continue and you will see a screen similar to Figure 114 on page 172.

Note: In this step, we changed the drive letter for the SQL Client 7.0 installation to match that of the SQL Server 7.0 software installation on the enterprise server. For the SQL Server 7.0 software installation on the enterprise server, you must ensure you have plenty of disk space available when OneWorld script files are run to create databases, create database logins and users, and load central objects for SQL Server 7.0. Our d:\ drive on the deployment and enterprise servers has the capacity of 32 GB each. However, in Figure 114 the amount of available disk space is incorrect, we assumed a possible bug in the SQL software. Ensure SQL Server 7.0 is installed on the same drive as the OneWorld software.

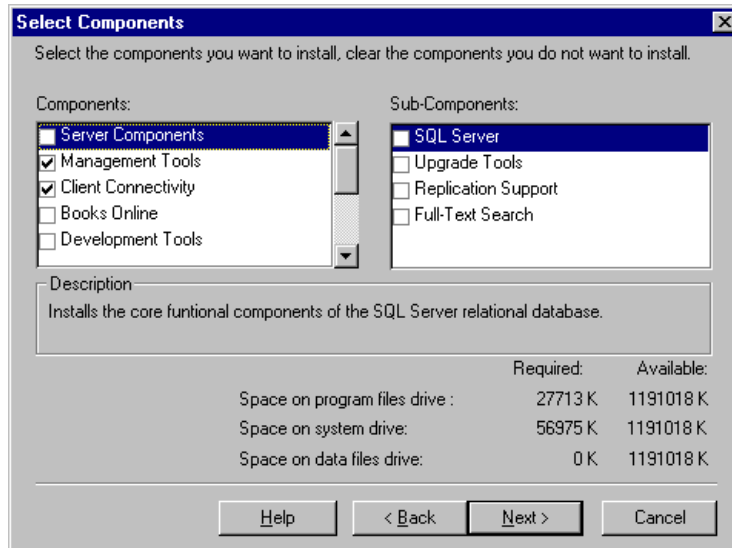


Figure 114. Select Components Screen

11. Select **Management Tools** and **Client Connectivity**. It is optional to install Management Tools, however this may be necessary for administration purposes.

The Client Connectivity component is used to allow communication between clients and servers. It includes network libraries for ODBC, OLE DB, SQL Distributed Management Objects (SQL-DMO), DB-Library, and the client network libraries.

The Management Tools component includes: SQL Server Enterprise Manager, SQL Server Profiler, SQL Server Query Analyzer, MS DTC Client Support and Replication Conflict Viewer.

Click **Next** twice to continue.

12. When the installation is completed, click **Finish** and then **Exit** to continue.

13. Select **"Yes, I want to restart my computer now."** and click **Finish**.

14. After restarting, configure the SQL Client through **Client Network Utility**. To configure Client Network Utility, select **Start > Microsoft SQL Server 7.0 > Client Network Utility**. You will see a screen similar to Figure 115 on page 173.

Setting up the SQL Client Network Utility allows your system to establish communication with the SQL Server databases that reside on the enterprise server.

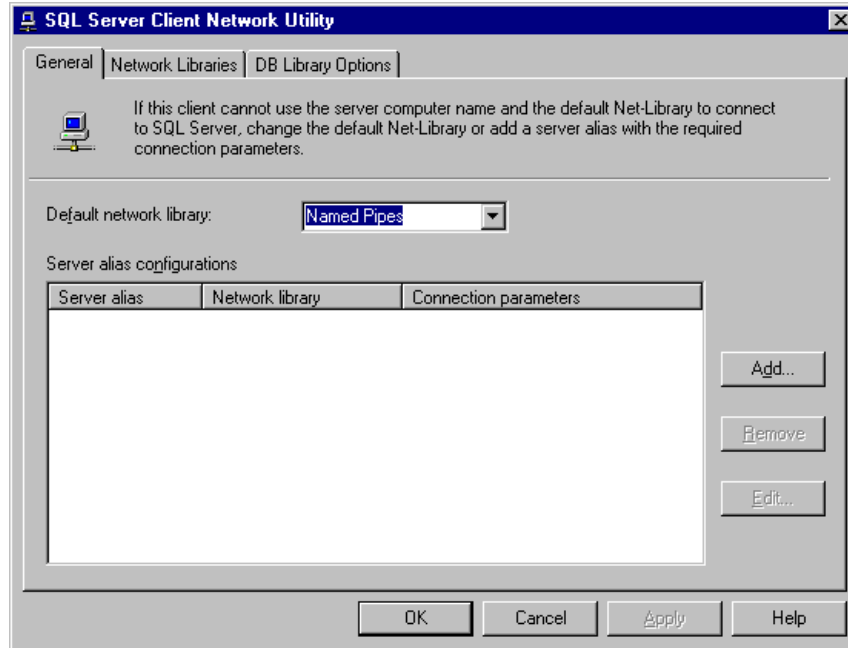


Figure 115. SQL Server Client Network Utility Screen

15. Click **Add** and you will see a screen similar to Figure 116:

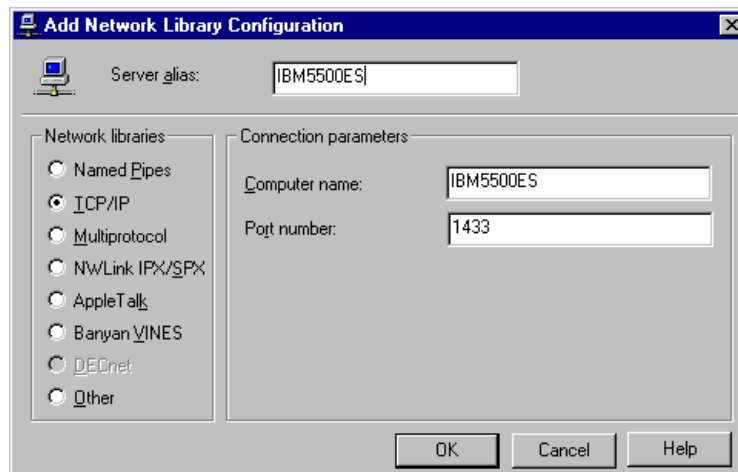


Figure 116. Add Network Utility Configuration Screen

16. In the Network libraries select **TCP/IP** protocol. In the Server alias field, enter the name of your enterprise server (for example, **IBM5500ES**).

17. Click **OK** to continue and you will see a screen similar to Figure 117 on page 174.

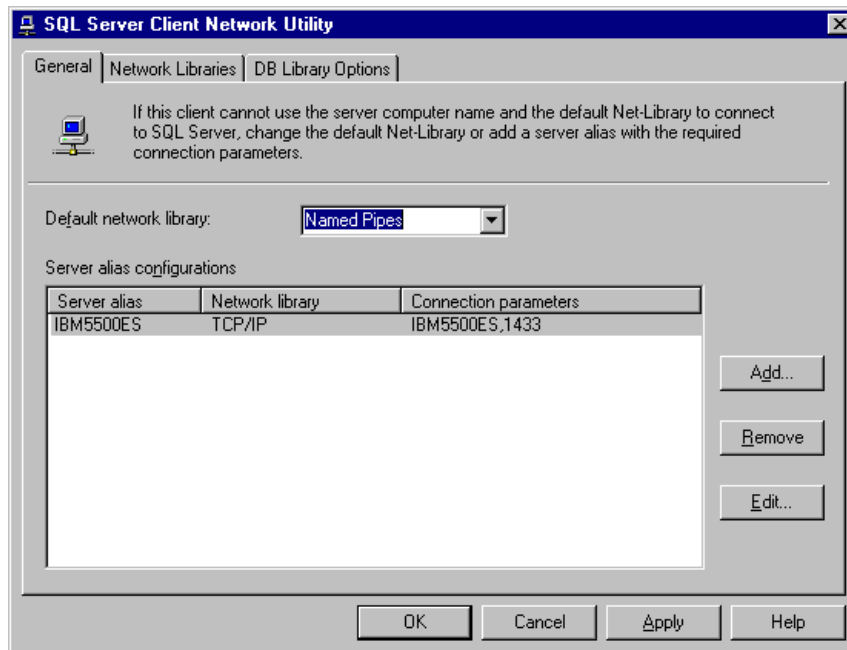


Figure 117. Server Client Network Utility Screen

18. Click **OK**.
8. From the Windows NT desktop, access the User Manager for Domains under Administrative Tools (Common) to create user ID JDE and assign it the password JDE. Give this user administrative rights.
9. Log off and log on with the JDE ID.

Note: After logging back on, you may be required to complete the installation of the Service Processor DLL file and device driver. Press Enter twice.
10. Configure FTP on the deployment server by performing the following steps:
 1. Check if FTP is already installed. Go to the Control Panel and double-click **Network**. Select the **Services** tab.
 2. If Microsoft Internet Information Server (MIIS) does not exist, click **Add** and select **Microsoft Internet Information Server**. Click **OK** and follow the instructions to install MIIS. Select:
 - **Internet Service Manager**
 - **FTP Service**
 3. Click **Close** to go back to the Windows NT desktop.
 4. To configure FTP, select **Start > Programs > Microsoft Internet Server > Internet Service Manager**.
 5. Right-click the **FTP** service with your computer name, and choose **Service Properties**.
 6. Make sure **Allow Anonymous Connections** is not chosen.
 7. Read the warning message that is displayed and click **Yes**.
 8. On the FTP Service Properties, click the **Directories** tab, then click **Add**.

9. Configure the Directory Properties tab by adding the drive where you will install OneWorld by filling out the following fields:
 1. Directory - Type the drive where OneWorld will be installed (example, d:).
 2. Alias Field - Type the drive location preceded by a slash (for example, /d:).
 3. Under Access, select **read** and **write** options.
 4. Click **OK**.
 5. Under Directory Listing Style select **MS-DOS** and click **OK**.
11. If you do not have a printer already installed, refer to the Windows documentation and create one.

Note: Do not exceed 30 characters for the printer name, otherwise OneWorld will not be able to use it.

8.2 Enterprise Server Setup

In this section, the enterprise server will be set up and configured. The tasks include installing the latest BIOS, installing Windows NT Server 4.0 using IBM's ServerGuide software, Microsoft Internet Explorer 4.01 SP1, Microsoft Visual C++ 5.0 and Microsoft SQL Server 7.0.

Before you begin, it is recommended that you download the latest BIOS for your IBM Netfinity server from the IBM Web site:

<http://www.pc.ibm.com/us/netfinity>.

Complete the following steps to set up your enterprise server:

1. Install the latest BIOS on your Netfinity server and continue.
2. Using the ServerGuide that came with your machine, set up the hardware and install Windows NT Server 4.0. In addition, install Service Pack 4 or later for Windows NT Server 4.0 and ensure your Y2K software requirements have been met. ServerGuide will configure your hardware and simplify the operating system installation by providing Windows NT with the correct drivers for your machine. See Chapter 6., "Using ServerGuide for IBM Netfinity" on page 79 to help you with these tasks.
3. After Windows NT is installed, you need to change a few parameters for tuning purposes:
 1. From your Windows NT work space, select **Start > Settings > Control Panel**.
 2. Double-click **Network** and select the **Services** tab.
 3. Double-click the **Server** icon.
 4. Select **Maximize throughput for Network Applications**. You will be prompted to reboot. Do not reboot at this time.
 5. Return to Control Panel and select **System**.
 6. Select the **Performance** tab.

7. Set the Application Performance Boost for Foreground Applications to 50% (slide set at halfway mark).
 8. Click **Change** and modify initial paging file size to the recommended size. Click **Set** and **OK**.
 9. At this point, check that your screen resolution is set to at least 256 colors or higher.
 10. The enterprise server can now be shut down and restarted.
4. Install Microsoft Visual C++ 5.0. Choose **Professional Edition**. The path used for this installation is: **C:\Msdev\DevStudio\VC**.
- Note:** We used the Microsoft software from the Microsoft Developer's Network CD-ROM during our installation, therefore, our installation procedures may differ slightly from the shrink-wrapped software that you purchased.

8.2.1 Installing Enterprise SQL Server for Windows NT

In this section, we begin our installation of Microsoft SQL Server 7.0 on our enterprise server. The SQL Server databases will be created and later populated with additional databases and user data from OneWorld B73.3.

1. Create the OneWorld administrator user on the enterprise server.
 1. Sign on to the enterprise server as an administrator or a user with administrative privileges.

Note: If your OneWorld deployment server and enterprise server is part of a Domain, you should have created the user ID JDE during the setup of the deployment server. Use the Domain user ID JDE to log on. Skip the next two steps and continue with step 2.
 2. From the Windows NT interface, select **Programs - Administrative Tools - User Manager for Domains**.
 3. Create a new user called JDE and give it the password JDE. Assign this user ID administrative rights. If Oneworld is in a domain, then you must also assign domain administrative rights.
2. Place your SQL Server 7.0 for Windows NT in the CD-ROM drive. SQL Server Install launches automatically when the CD-ROM is inserted; if it does not, double-click the **CD icon** under My Computer.



Figure 118. SQL Server 7.0 Selection Screen

3. Select **Install SQL Server 7.0 Prerequisites** and you will see a screen similar to Figure 119.



Figure 119. SQL Server 7.0 Prerequisites Screen

4. Select **Launch Setup Wizard**. This will install Internet Explorer 4.01 SP 1. When the process is finished you must restart the computer.
5. Again, you must run the installation program from the SQL Server 7.0 CD-ROM.



Figure 120. SQL Server Selection Screen

6. Select **Install SQL Server 7.0 Components**. You will see a screen similar to Figure 121.



Figure 121. SQL Server 7.0 Components Selection Screen

7. Select **Database Server - Standard Edition**. You will see a screen similar to Figure 122:

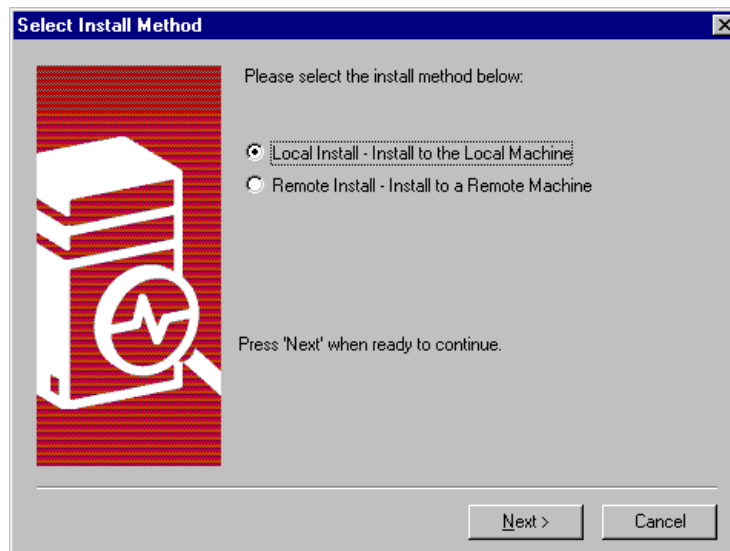


Figure 122. Select Install Method Screen

8. Select **Local Install - Install to the Local Machine**. Click **Next** twice and continue.
9. Accept the licensing agreement. Click **Yes**.
10. At the User Information screen, enter the appropriate information for user and company name.

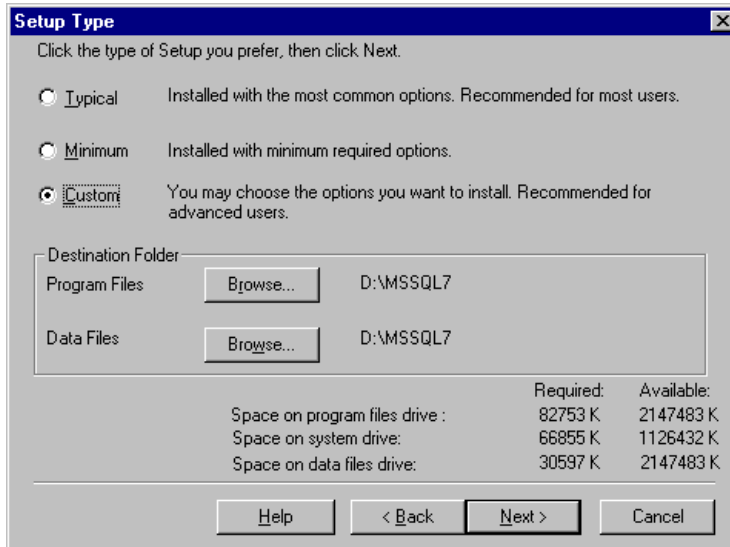


Figure 123. Setup Type Screen

11. Select **Custom** configuration and click **Next** to continue. You will see a screen similar to Figure 124 on page 180.

Note: In this step, we changed the drive letter to reflect where we intend to install the SQL Server 7.0 software on the enterprise server. You must ensure you have plenty of disk space available when OneWorld script files are run to create databases, create database logins and users, and load central objects for SQL Server 7.0. Ensure SQL Server 7.0 is installed on the same drive as the OneWorld software.

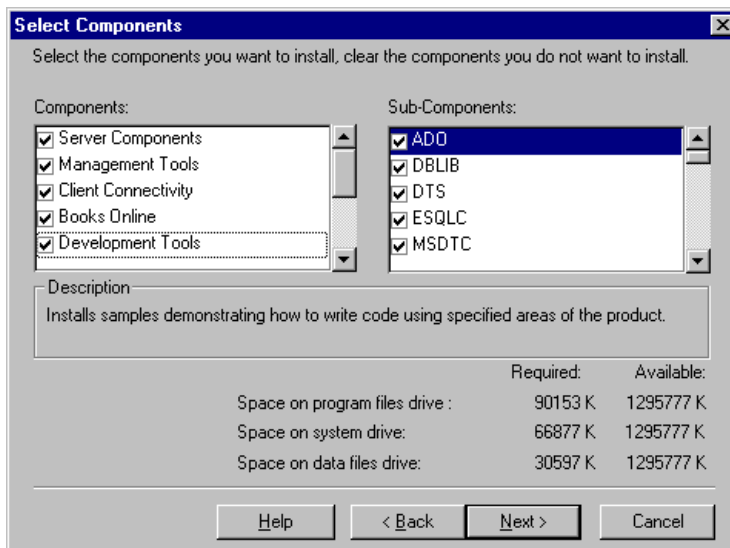


Figure 124. Select Components SQL Server 7.0 Screen

12. Select all items listed under Components. It is optional to install Books Online. Click **Next** to continue. You will see a screen similar Figure 125 on page 181.

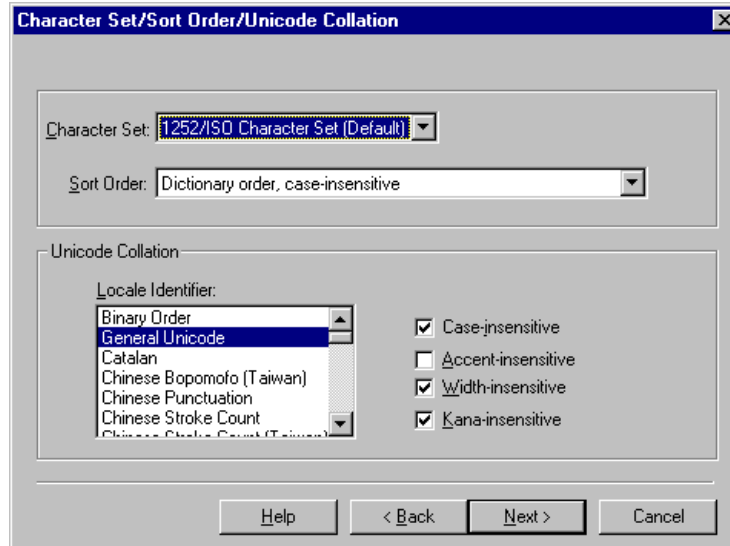


Figure 125. Character Set/Sort Order/Unicode Collation Screen

13. Accept all default parameters. Click **Next** to continue. You will see a screen similar to Figure 126.

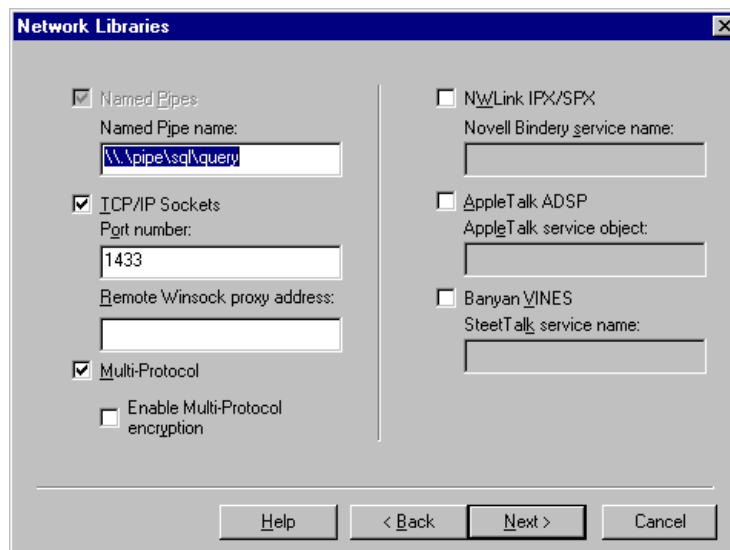


Figure 126. Network Libraries Screen

14. Select **TCP/IP Sockets**; the port number is 1433. Click **Next** to continue. You will see a screen similar to Figure 127 on page 182.

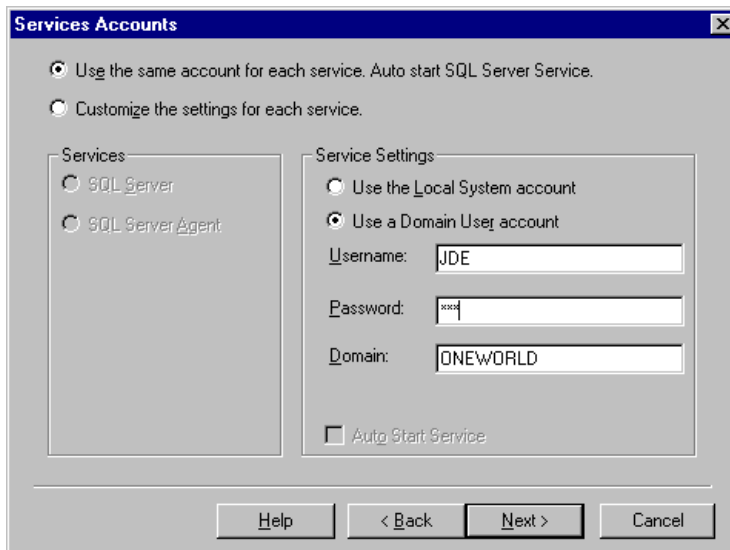


Figure 127. Services Accounts Screen

15. In the following fields, choose:

- **Use the same account for each service. Auto start SQL Server Service.**
- **Use a Domain User account** and press Enter
 - Username: JDE
 - Password: JDE
 - Domain: *The name of your domain.* For this example, ONEWORLD.

16. Click **Next** to continue.

17. Choose your licensing mode and click **Continue** to complete loading the software.

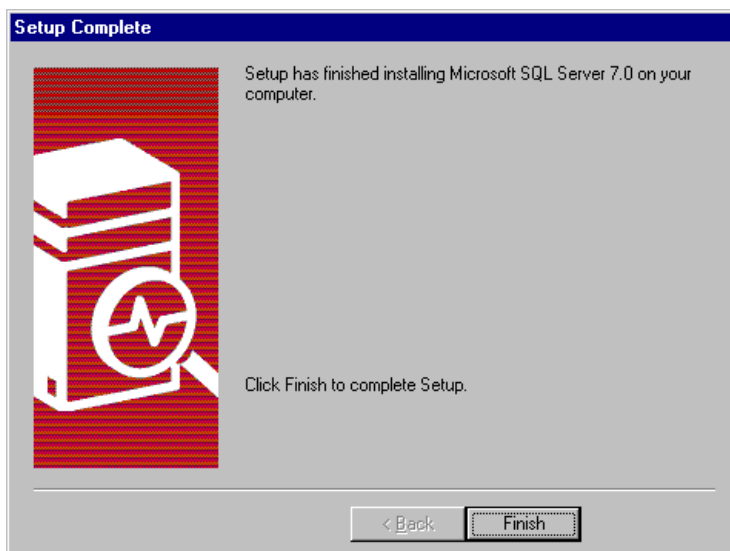


Figure 128. Setup Complete Screen

18. When Setup is completed, click **Finish** and click **Exit** to continue.

19. Restart the enterprise server and continue.

20. You must configure your SQL Client. To configure Client Network Utility, select **Start > Programs > Microsoft SQL Server 7.0 > Client Network Utility**. You will see a screen similar to Figure 129:

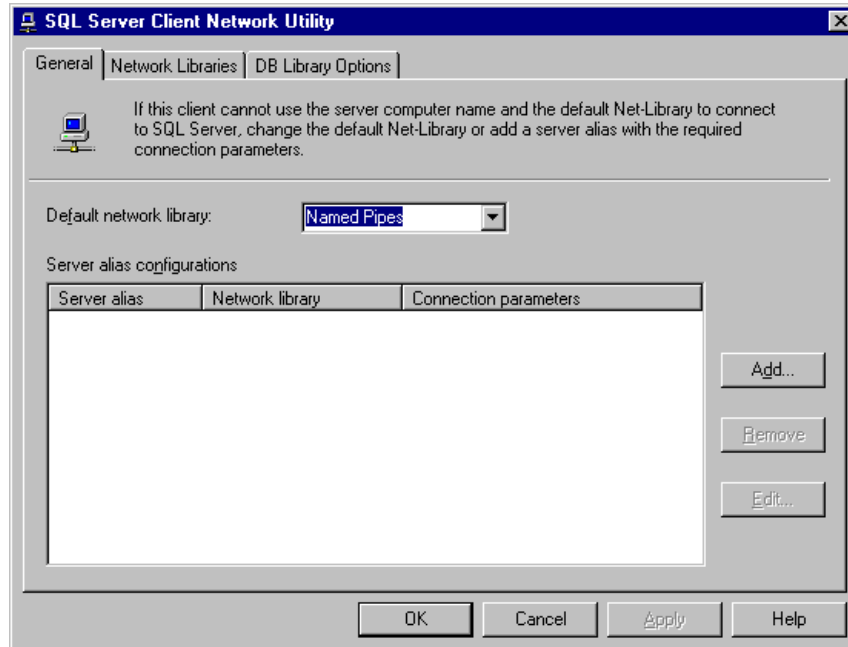


Figure 129. SQL Server Client Network Utility Screen

21. Click **Add**. You will see a screen similar to Figure 130.

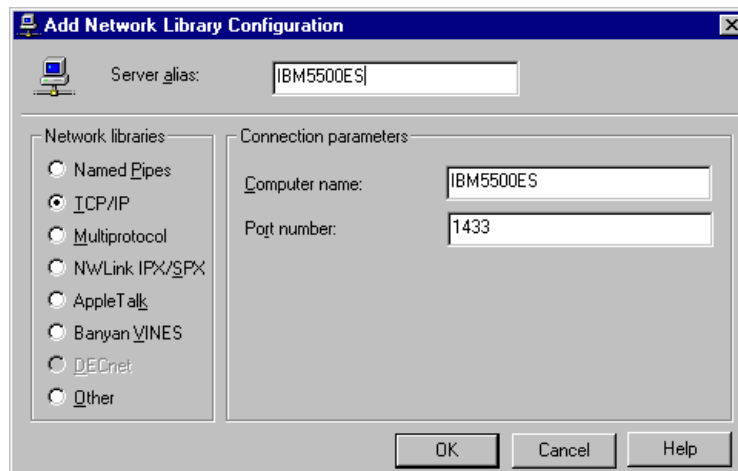


Figure 130. Add Network Library Configuration Screen

22. In the Network libraries select **TCP/IP** protocol, and in the field Server alias, introduce the name of the enterprise server. You do not change the field Port number. Click **OK** to continue. You will see a screen similar to Figure 131.

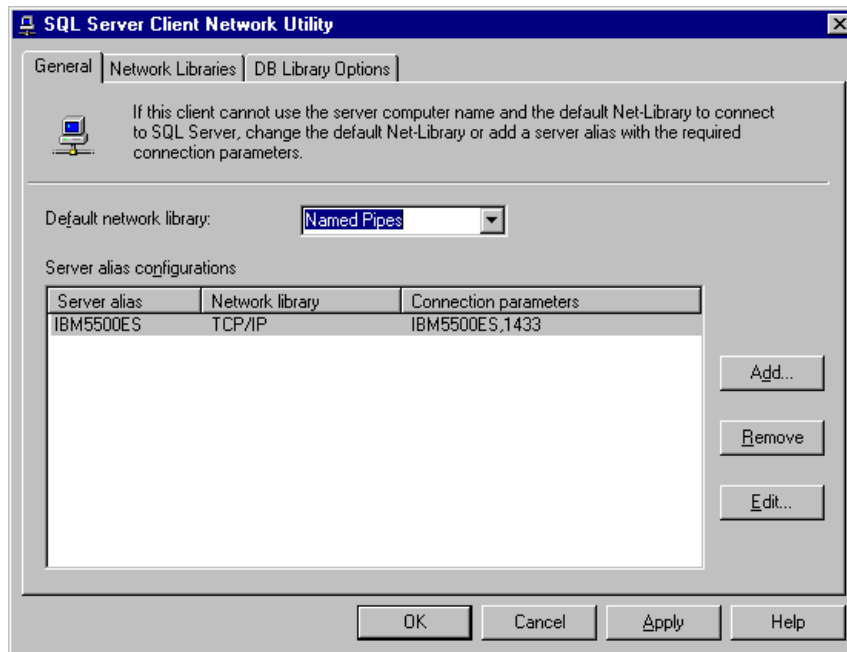


Figure 131. SQL Server Client Network Utility Screen

23. Click **OK**.

24. Go to your Windows NT desktop.

25. After completing the client setup, you can now enter the SQL Server Management utility.

8.3 Installing and Configuring J.D. Edwards' OneWorld B73.3

In this section, you will use the Installation Planner to create your install plan and deploy OneWorld to the enterprise server(s) and client workstations. During this installation, we install the OneWorld B73.3 setup software on your deployment server. If necessary refer to the *OneWorld Installation Guide (Windows NT-Based Systems)*, release B73.3 as a reference. Make sure you conduct a pre-installation audit to verify that all requirements have been met and run the Environment Checker to help with any configuration and setup issues.

Complete the following instructions to install OneWorld:

1. Earlier you were instructed to create a JDE user ID and use JDE as the password. If you have done so, go to the next step. Otherwise, do so at this time and log off. Log on using the JDE user ID. This user should have full administrative rights to the Windows NT Server.
2. Log on to the deployment server as user JDE.
3. Insert the OneWorld Setup CD-ROM and run Setup.exe. You will see a screen similar to Figure 132:

Welcome

Welcome to OneWorld Setup!

Before proceeding, please obtain an authorization code by contacting the J.D. Edwards Contracts Department at (303) 334-4000 between the hours of 8 am (08:00) and 5 pm (17:00), Mountain Standard Time.

Please be prepared to provide your name, telephone number, company name, and the serial number given below.

Security Revision

Serial Number

Expiration Date

Number of Licenses

Authorization Code .

Press Next to continue the installation.

< Back **Next >** Cancel

Figure 132. OneWorld Deployment Setup Screen

4. A Welcome screen will appear with the following fields:

- Security Revision
- Serial Number
- Expiration Date
- Number of Licenses
- Authorization Code

In order to continue with your installation, you will need to obtain an authorization code. You must call J.D. Edwards at 303-334-4000 (ask for

contracts). You will need to provide your J.D. Edwards' Address Book number and the serial number that appears on the screen, the expiration data and the number of licenses.

Note: You may be instructed to leave a telephone number and someone from contracts will give you a call back. It is important that you have a telephone near the deployment server you're about to set up.

5. The contracts' representative will give you an authorization code while on the telephone; you will enter this code into the Authorization Code field and click **Next**. You will see a screen similar to Figure 133:

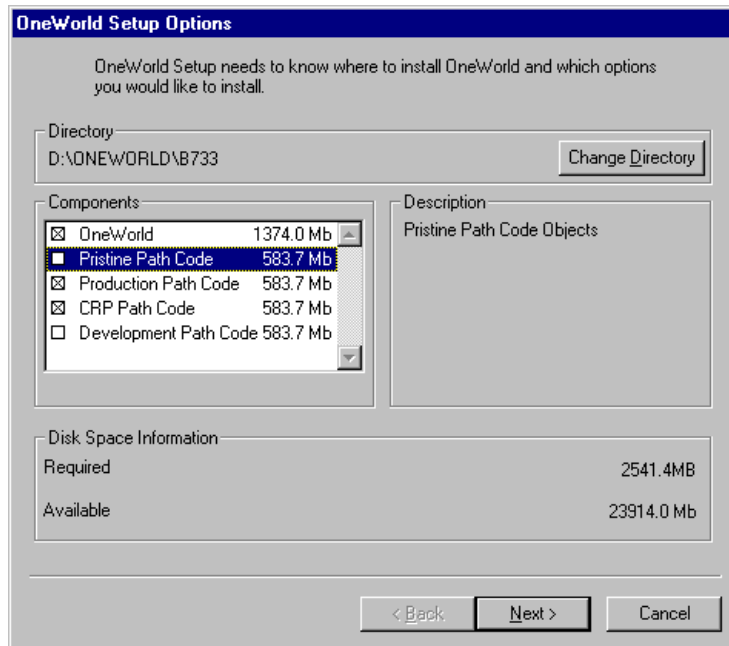


Figure 133. OneWorld Setup Options Screen

6. In the Components area, we performed the following steps for our example:
 1. Click **Change Directory** and enter D:\ONEWORLD\B733 as the path.
 2. For this example, we selected the following components:
 - OneWorld
 - Production Path Code
 - CRP Path Code
- Note:** Only the CRP (Conference Room Pilot) and the Production Path Code will be installed for this example. However, depending on your client or customer specification this will change.
3. Click **Next** to continue.
7. The program now installs the ODBC Access 7.0 drivers and begins copying its files to the deployment server. After the files have completed loading, you will see a screen similar to Figure 134 on page 187.

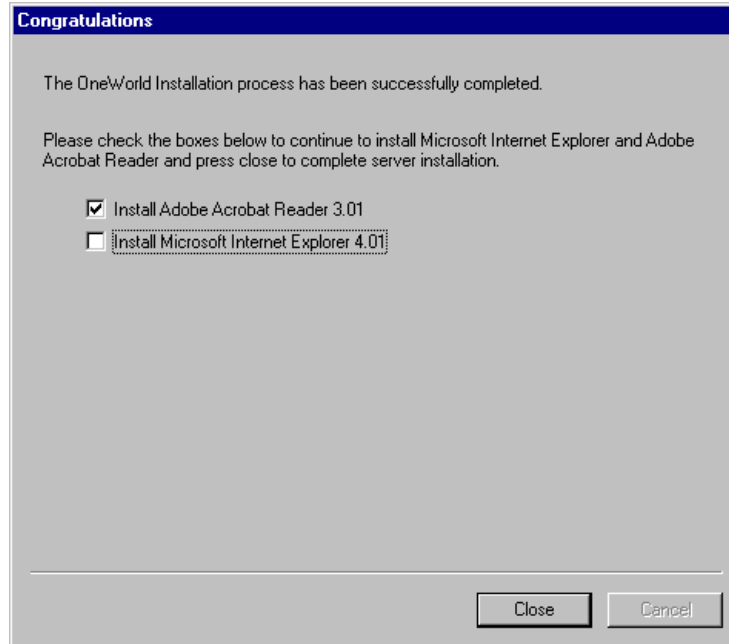


Figure 134. OneWorld Congratulations Screen

8. Select **Install Adobe Acrobat Reader 3.01** and click **Close** to continue. After the installation of the first setup CD-ROM has completed, you are not prompted to insert the second setup CD-ROM.

Note: If you installed Acrobat Reader and Internet Explorer earlier during the installation process, do not select these programs for installation again.

9. After the first setup CD-ROM has completed loading its files, insert the second setup CD-ROM and run Setup.exe. You will see a screen similar to Figure 135:

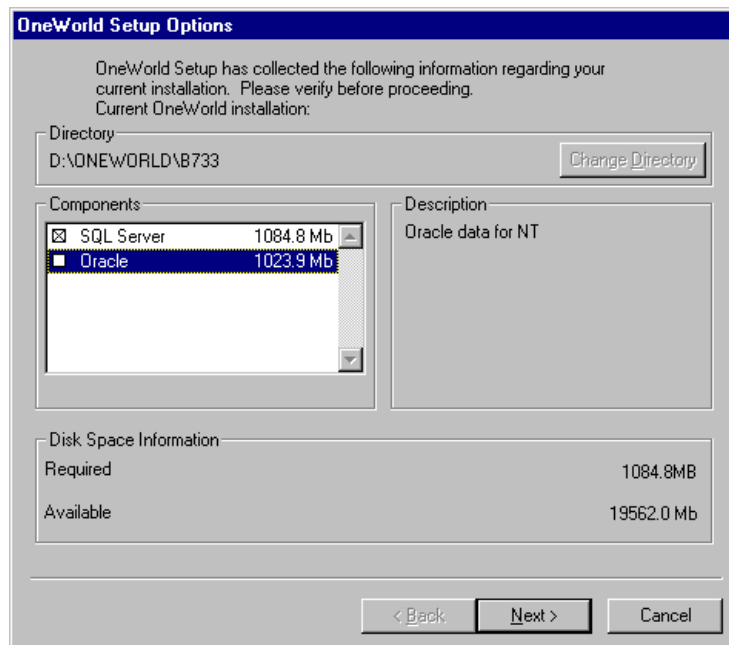


Figure 135. OneWorld Setup Options Screen

10. On OneWorld Setup Options, choose the appropriate server database (either SQL Server or Oracle) to load its export files and scripts. For this example, select **SQL Server**. In addition, click **Change Directory** to install the files on the d:\ drive. Click **Next** to continue.

Note: The components you need for further building your database are copied into the subdirectory B733\DATABASE\EXPORTS.

11. When copying of the export files and scripts has completed successfully, click **Close**.

12. Set the read-only option for the OneWorld\B733\Helps directory on the deployment server; otherwise, only one user at a time will be able to access this directory.

13. Share the \OneWorld\B733 subdirectory using the sharename B733.

14. If you want to set up Windows NT security on the OneWorld directories and files on the deployment server, use the charts in the section "Setting Up Windows NT Security on OneWorld Directories and Files" of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*. For this example, security setup was not necessary for user JDE.

8.3.1 Creating Databases for SQL Server 7.0

In this section, we begin the creation of the SQL Server 7.0 databases for OneWorld B73.3. The OneWorld tables are divided among multiple databases. These databases and their owners are created using scripts that are delivered with OneWorld.

In Table 16, you will notice the specific OneWorld data sources and their respective database location:

Table 16. Data Sources Names within OneWorld Databases

Database Name	Data Sources
JDEB733	System - B733 Object Librarian B733 Data Dictionary - B733 <i>machinename</i> - B733 Server Map <i>machinename</i> (where <i>machinename</i> is the enterprise server) <i>machinename</i> - logic (where <i>machinename</i> is the enterprise server)
JDE_CRPB733	Central Objects - CRPB733 Versions - CRPB733
JDE_CRP	Control Tables - CRP Business Data - CRP
JDE_PRISTB733	Central Objects - PRISTB733 Versions - PRISTB733
JDE_PRISTINE	Business Data - JDE
JDE_PRODB733	Central Objects - PRODB733 Versions - PRODB733
JDE_PRODUCTION	Control Tables - Prod Business Data - PROD
JDE_DEVB733	Central Objects - DEVB733 Versions - DEVB733
JDE_DEVELOPMENT	Control Tables - Test Business Data - TEST

These OneWorld data sources will need to have their ODBC data sources set up to point to the correct SQL Server database. You should use Table 16 when setting up your ODBC data sources. Additional information can be found in Appendix N - Third-Party ODBC Data Sources of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.

We will use a database creation script to create databases for OneWorld. Afterwards, this script will be executed using the Query Analyzer for SQL Server 7.0. To begin complete the following instructions:

1. Log on to the deployment server as user JDE.
2. Verify that the TCP/IP connection is functioning properly for the database.

3. The database creation script is in the \Oneworld\B733\Database folder. The name of the script is DB_SQLSRVR70.SQL (shown in Figure 136 on page 190).
4. Review the script and edit the paths (default path is z:\mssql) and verify that the directory you are specifying exists in the enterprise server. For our example, we changed z:\mssql to d:\mssql7 (d:\mssql7 is where SQL Server 7.0 exists on the enterprise server).
5. Delete the sections of the script you do not need; do not delete the section for JDE_PRISTINE. The pristine specifications are completely replaced, and this database is required. The script is clearly marked to identify easily which sections of the script to delete completely. Use Table 17 to help decide which database name and associated environment you can delete. For our example, we deleted JDE_DEVB733 and JDE_DEVELOPMENT.

Table 17. Database Names and Associated Environments

Database Name	Environments That Require This Database
JDEB733	All environments
JDE_CRPB733	CRP733
JDE_CRP	CRP733
JDE_PRISTB733	PRT733
JDE_PRISTINE	PRT733
JDE_PRODB733	PRD733
JDE_PRODUCTION	PRD733
JDE_DEVB733	DEV733
JDE_DEVELOPMENT	DEV733

Begin Section →

```

/*****
/* Create JDEB733 Database and its devices */
/* Needed for all installations and upgrades */
/* except AS/400 */
/*****
use master
GO
CREATE DATABASE JDEB733
ON
( NAME = 'JDEB733_Data', FILENAME = 'z:\mssql\jdeb733data.mdf', SIZE = 300,
MAXSIZE = 500MB, FILEGROWTH = 5MB )
LOG ON
( NAME = 'JDEB733_log', FILENAME = 'z:\mssql\jdeb733log.ldf', SIZE = 30,
MAXSIZE = 50MB, FILEGROWTH = 5MB )
GO
sp_dboption JDEB733, 'select into/bulkcopy', TRUE
go
sp_dboption JDEB733, 'trunc. log on chkpt.', TRUE
go
use JDEB733

```

End Section →

Change to your default path

Figure 136. Example of the DB_SQLSRVR70.SQL Script

6. After you have finished editing the script, save this under a new name (for example, DB_SQLSRVR70OK).
7. On the deployment server, click **Start > Programs > SQL Server 7.0 > Query Analyzer**. Establish a connection to your SQL Server using a database administrator ID and password (for example, user sa and no password or Windows NT Administrator, JDE).
8. Click **File > Open**. You will see a screen similar to Figure 137:

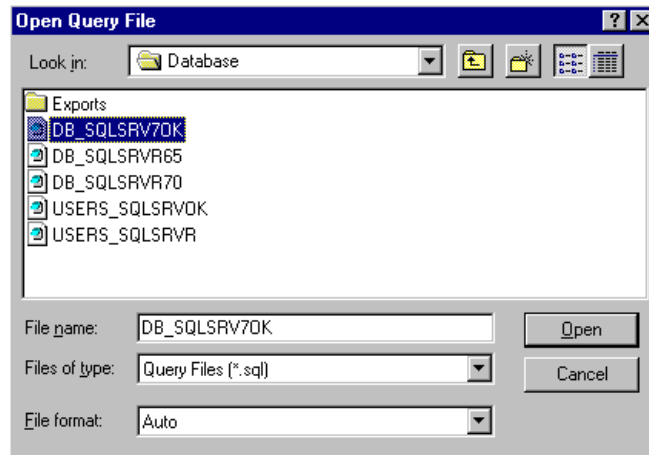


Figure 137. Open Query File Screen

9. Locate the file you just edited and saved, DB_SQLSRVR70OK.SQL (this file is located in subdirectory d:\OneWorld\B733\Database). Select **DB_SQLSRVR70K** and open it. You will see a screen similar to Figure 138.

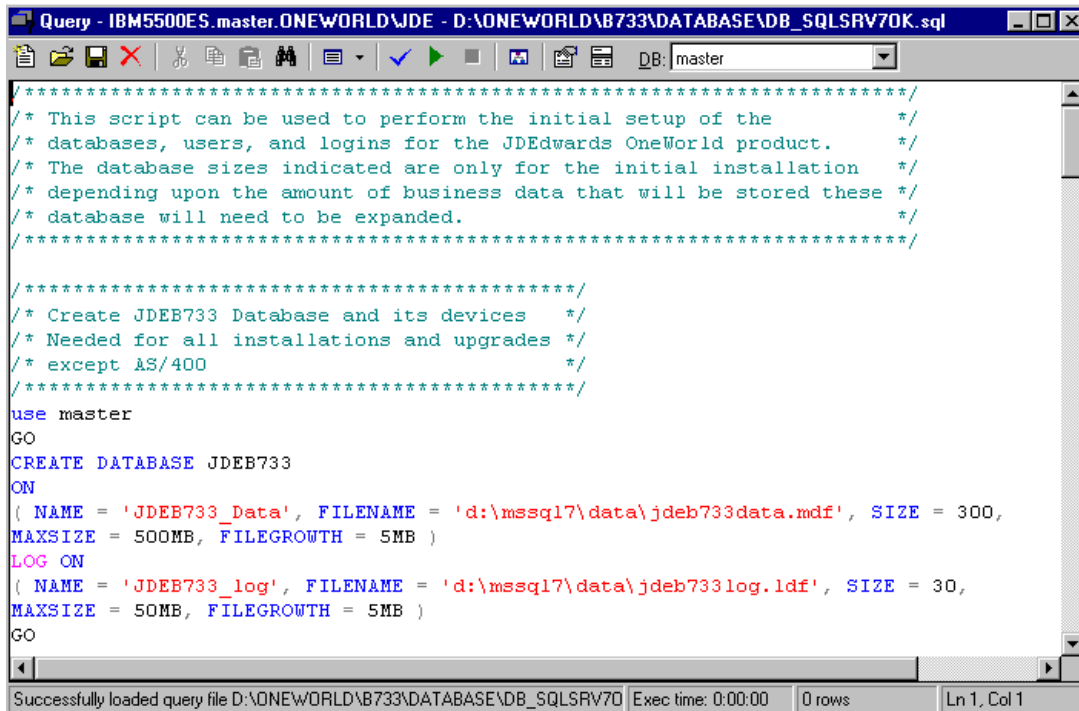


Figure 138. SQL Server Query Analyzer Screen

10. From the action bar, click **Query > Execute**. This process will take several minutes to complete. You can verify your results by looking at the final results in the lower half of the form.

8.3.2 Creating Database Logins and Users for SQL Server 7.0

In this section, we begin the creation of SQL Server 7.0 database logins and user IDs for OneWorld B73.3. These logins and users are created using script provided with OneWorld.

To begin, complete the following instructions and later execute the script, `USERS_SQLSRVR.SQL`:

1. Open the `USERS_SQLSRVR.SQL` script, located in the `\Oneworld\B733\Database` folder.
2. Search for the phrase "Default_DB" and replace it with `JDEB733`, your default database.
3. Delete the sections of this script you do not need. Your decision should be based on the sections you had removed from the script you modified earlier, `DB_SQLSRVR70.SQL`.
4. Rename the `USERS_SQLSRVR.SQL` script and save it. (For our example, `USERS_SQLSRVROK`.)
5. On the deployment server, from the Windows desktop click **Start > Programs > SQL Server 7.0 > Query Analyzer**. Establish a connection to the SQL Server using a database administrator ID and password (for example, `JDE`).
6. Click **File > Open**. You will see a screen similar to Figure 139:

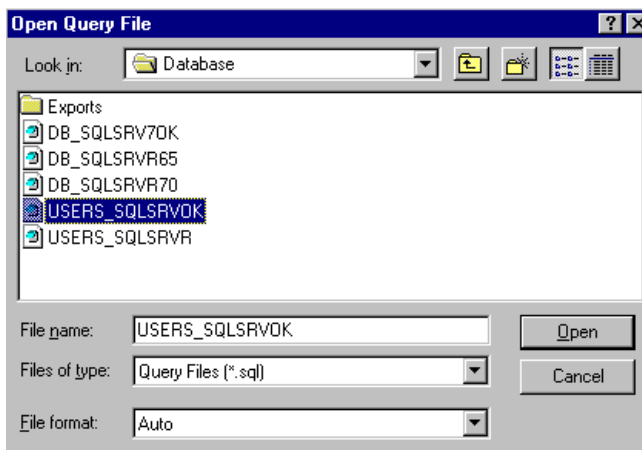


Figure 139. Open Query File Screen

7. Locate the file you just edited and saved, `USERS_SQLSRVROK.SQL` (this file is located in subdirectory `d:\OneWorld\B733\Database`). Select **USERS_SQLSRVROK.SQL** and open it.
8. From the action bar, click **Query > Execute**. You can verify your results by looking at the final results in the lower half of the form.

8.3.3 Loading Central Objects for SQL Server 7.0

In this section, we will complete the final step to prepare Microsoft SQL Server 7.0 for OneWorld B73.3 by loading the central objects data sources. To begin, complete the following steps:

1. Edit the JDESET.BAT script located in the d:\OneWorld\B733\Database\Exports\Sqlsrvr\NT subdirectory. Check the machine name (identified by machinename). The machine name should be the name of your enterprise server (for example, JDE_SRV= IBM5500ES) and where your central objects are located. Check SQL VERSION, the value of this variable is 7.
2. In the JDESET.BAT file, verify and edit (only if necessary) the following environment variables:
 - All user passwords (identified by _PSSWD).
 - All database names.
 - JDE_DTA - Path where SQL Server import files (.dta) reside if you are using J.D. Edwards standards for naming logical volumes and directory structures.
 - JDE_LOG - Path where you record logs.
 - JDE_ERR - Path where you record error information.
3. Edit the LOADALL.BAT script located in the d:\OneWorld\B733\Database\Exports\Sqlsrvr\NT subdirectory.

Note: The LOADALL.BAT is a script that will load production, pristine, and CRP sets of specifications tables. If you want to load development or not load other specifications, edit LOADALL.BAT appropriately. For this example, only CRP and Production will be loaded.

4. Run the batch file to load the data by double-clicking the LOADALL.BAT file (located in D:\Oneworld\B733\Database\Exports\Sqlsrvr\NT). After completion, check the log files that it created for errors.

Note: This step can take from two to five hours to process each path code.

8.3.4 Installation Planner - Defining the Installation Plan

The Installation Planner is a OneWorld application that runs as a stand-alone program on the deployment server. It is also a system administration tool. The Installation Planner lets you manage the following processes:

- Location revisions
- Deployment server revisions
- Enterprise server revisions
- Machines/server types setup
- Data source setup
- Environment selection
- Data load parameters
- Validation plan
- Running Release Master

The Installation Planner will guide you in a step-by-step process toward defining your installation plan. In the example below, we define and set up the enterprise server, deployment server, data sources, CRP and Production package builds and environments. After completing your plan, you will load OneWorld on the enterprise server.

In this section, you will provide information such as database type, enterprise server, operating system platform, install path, etc. For this example, the installation plan will be defined in the following procedures:

1. At your Windows NT desktop on the deployment server, launch OneWorld. Click **Programs > OneWorld > OneWorld Explorer**. You will see a screen similar to Figure 140:

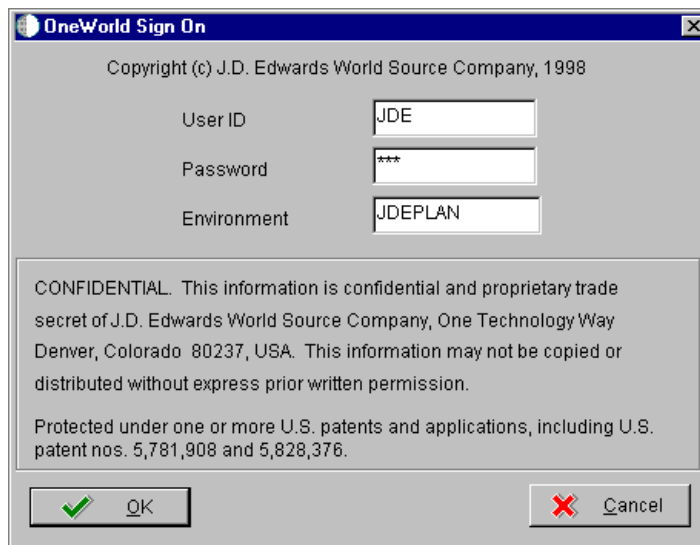


Figure 140. OneWorld Sign-On Screen

2. Sign on to OneWorld as JDE (password, JDE) using the planner environment, JDEPLAN. Click **OK** to continue.
3. Access the Installation Planner. From the OneWorld interface, click **Foundation Systems > Tools > System Installation Tools** (the fastpath is GH961). Select **Installation Planner**. For our example, select **Custom Installation Plan**. You will see a screen similar to Figure 141.

Note: There are two types of Installation Plan:

- *Typical Installation Plan* involves all environments.
- *Custom Installation Plan* allows to you to modify your data source environment to reflect your system-specific specifications.

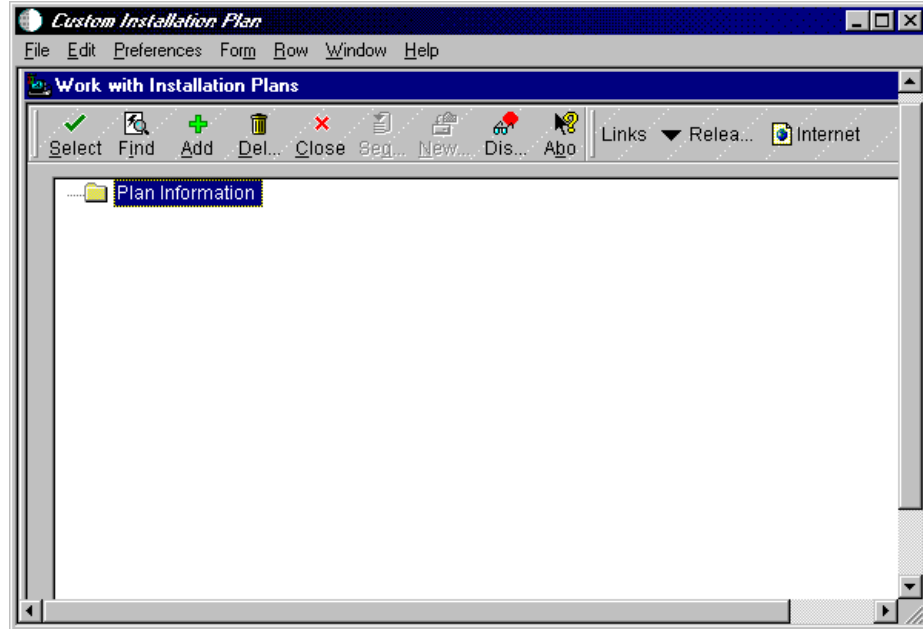


Figure 141. Work with Installation Plans Screen

- On Work with Installation Plans screen, click **Add**. You will see a screen similar to Figure 142:

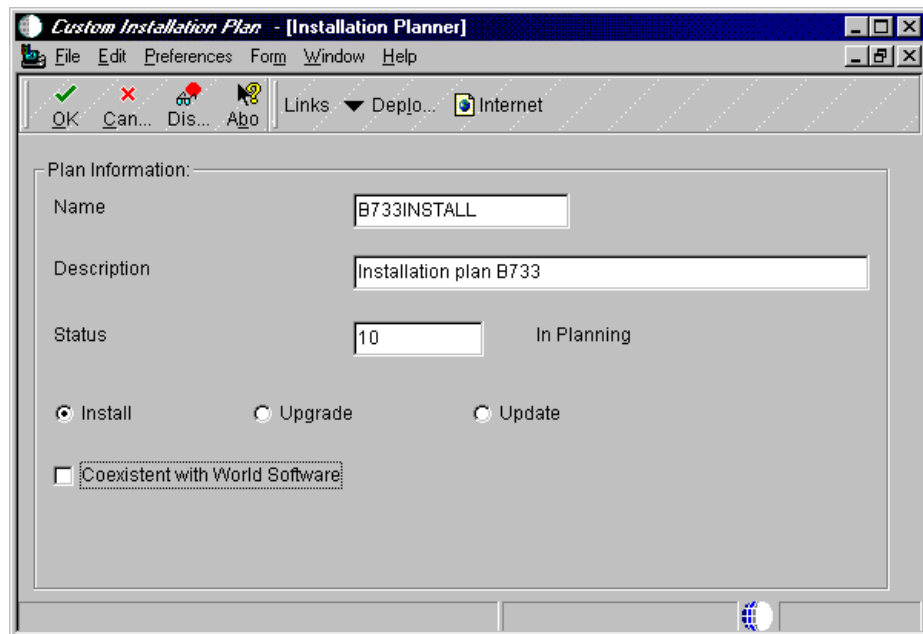


Figure 142. Custom Installation Plan (Installation Planner) Screen

- In Figure 142, complete the fields and selections of the following:
 - Name = Type the name of your installation plan (for example, B733INSTALL).
 - Description = Type the description of your installation plan.
 - Status = Select 10.
 - Click **Install**.

- Verify that the Coexistent with World Software box is not checked.
6. Click **OK** to continue.
 7. You will be asked to define a location or select an existing location. Click **OK** to define a new plan. You will see a screen similar to Figure 143:

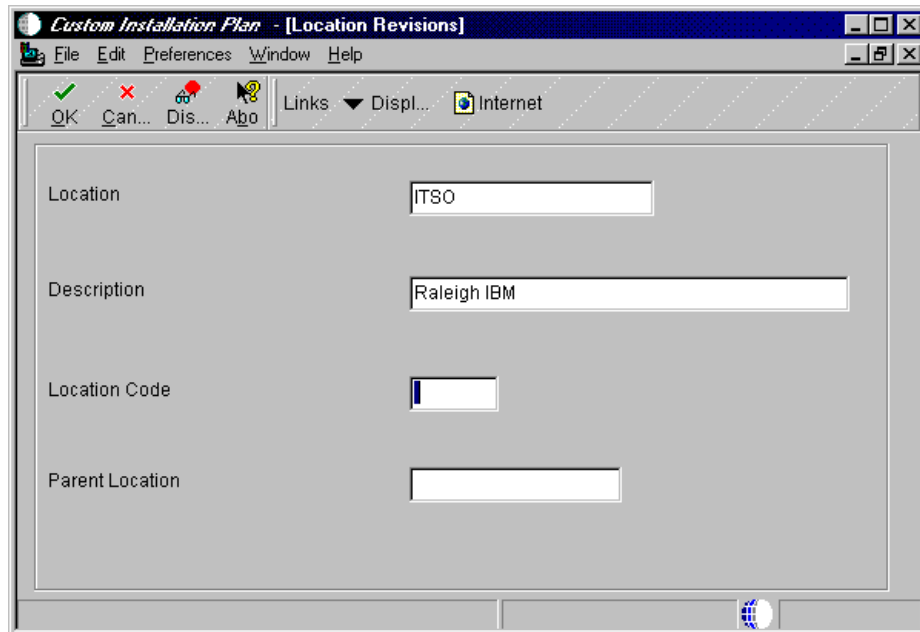


Figure 143. Location Revisions Screen

8. Enter the following information for Location Revision:
 - Location = Enter the name or place that applies to this plan. For our example, we chose ITSO.
 - Description = Enter a long description for the location (for example, Raleigh ITSO).
 - Location Code = Leave blank.
 - Parent Location = Leave blank.
9. Click **OK** to continue.
10. To add a deployment server, click **OK**. You will see a screen similar to Figure 144 on page 197.

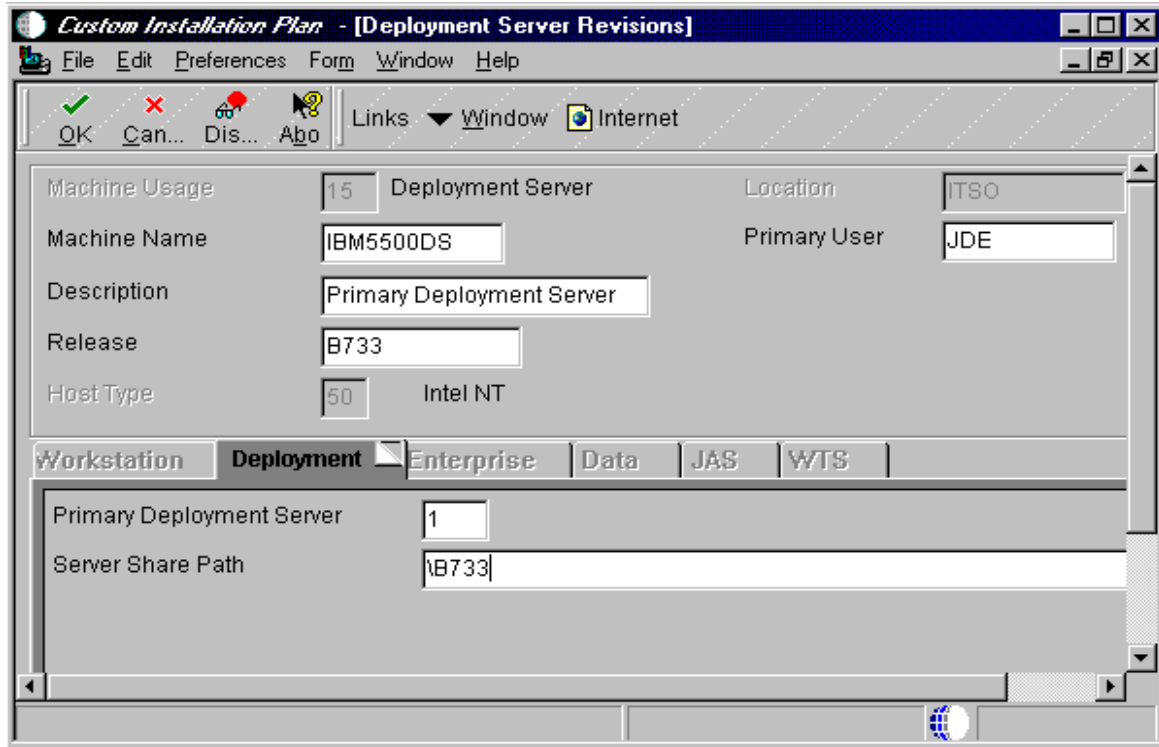


Figure 144. Deployment Server Revisions Screen

11. Complete the following information for the Deployment Server Revisions:

- Machine Name = Name of your deployment server; for example, IBM5500DS.
- Description = Enter a long description of the machine; for example, Primary Deployment Server.
- Release = OneWorld release number that you are installing, B733.
- Primary Deployment Server = 1.
- Server Share Path= \B733.

12. If you are not adding another deployment server, click **No** to continue.

13. Select **OK** to add an enterprise server. You will see a screen similar to Figure 145 on page 198.

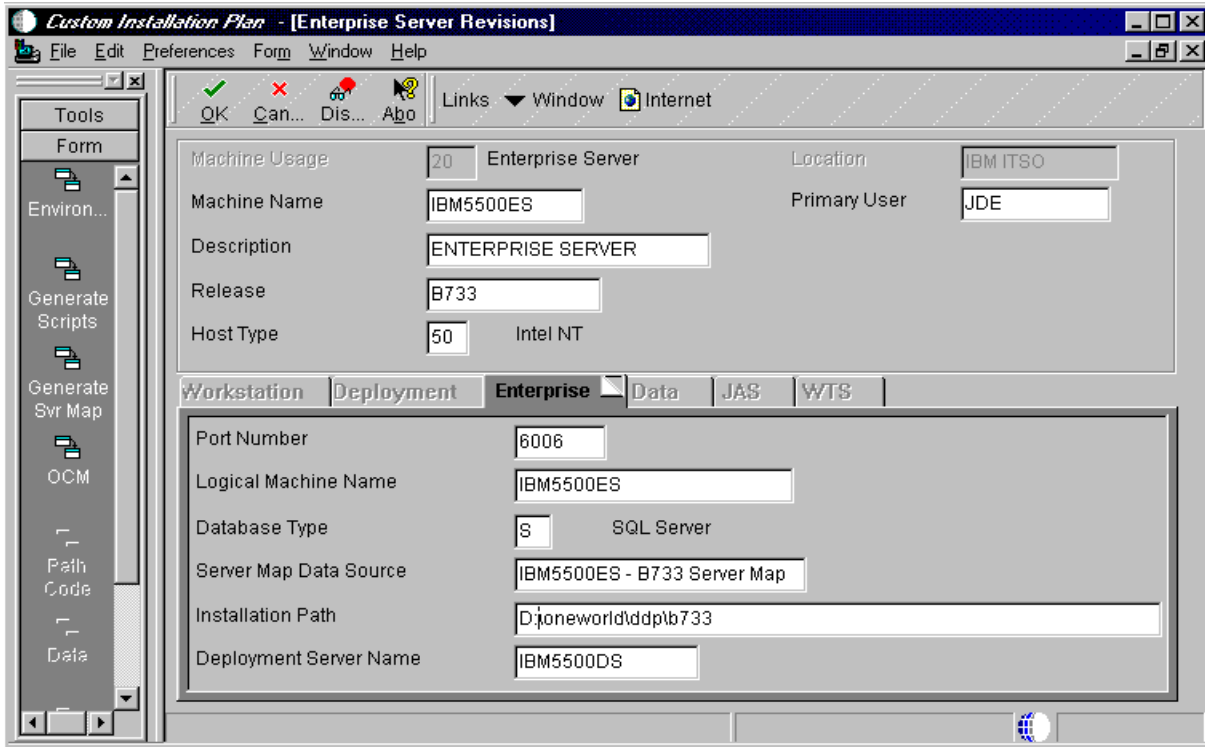


Figure 145. Enterprise Server Revisions Screen

14. On the Enterprise Server Revisions screen, complete the following fields:

- Machine Name - The name of your primary enterprise server; for example, IBM5500ES.
- Description - Enter a description of your machine name; for example, ENTERPRISE SERVER.
- Release = B733.
- Host Type = Click the flashlight button and select code **50** (Intel NT).
Note: The flashlight button is shown when you place the cursor in the field.
- Database Type = Click the flashlight button and select **S** (SQL Server).
- Installation Path = The installation directory you want to use on the enterprise server (for example, d:\Oneworld\ddp\B733).
- Deployment Server Name = The name of your deployment server; for our example, IBM5500DS.

15. Click **OK** to continue. OneWorld now prompts you for the data source information for the enterprise server.

16. Click **OK**. You will see a screen similar to Figure 146 on page 199.

Note: If you click Take Defaults, then OneWorld will set up default data sources that will limit your customization choices.

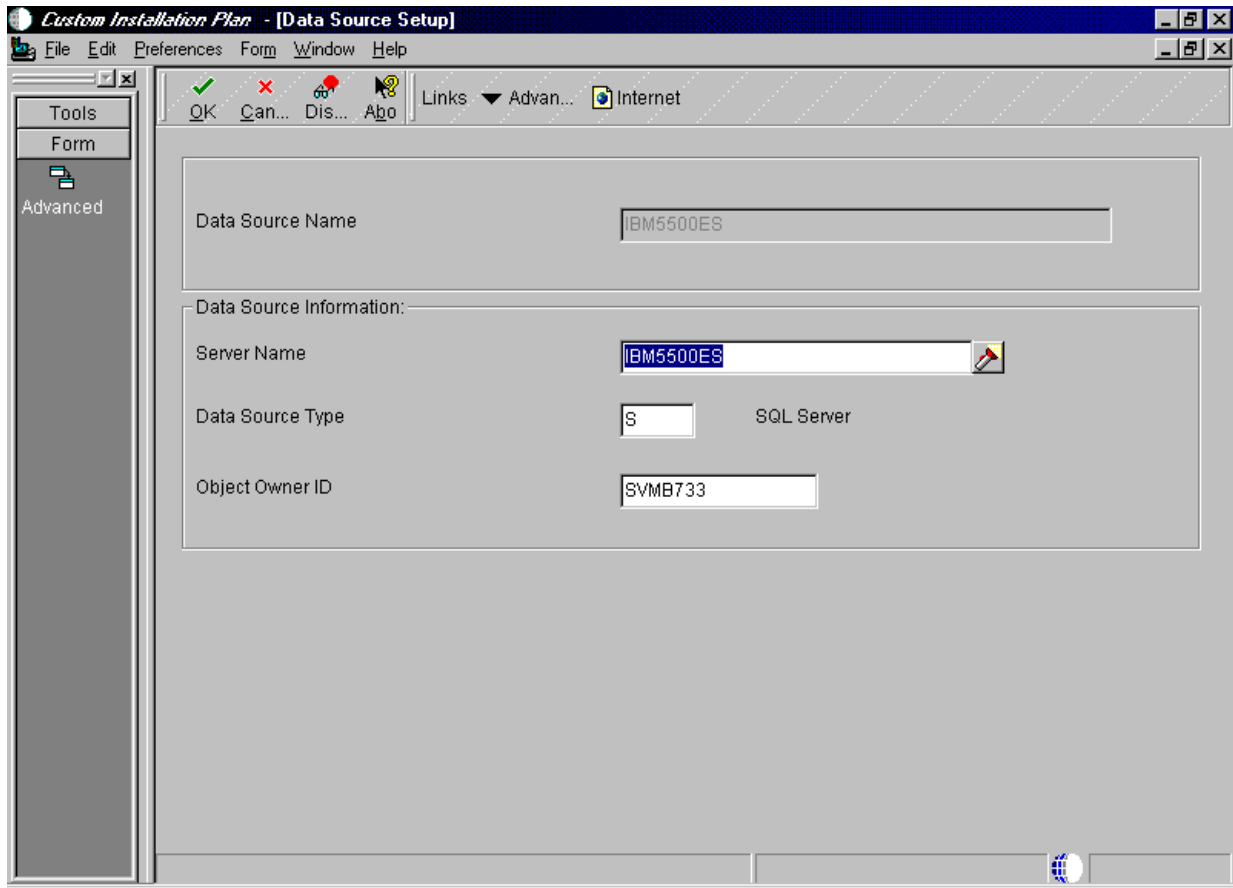


Figure 146. Data Source Setup Screen

17. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 147 on page 200.

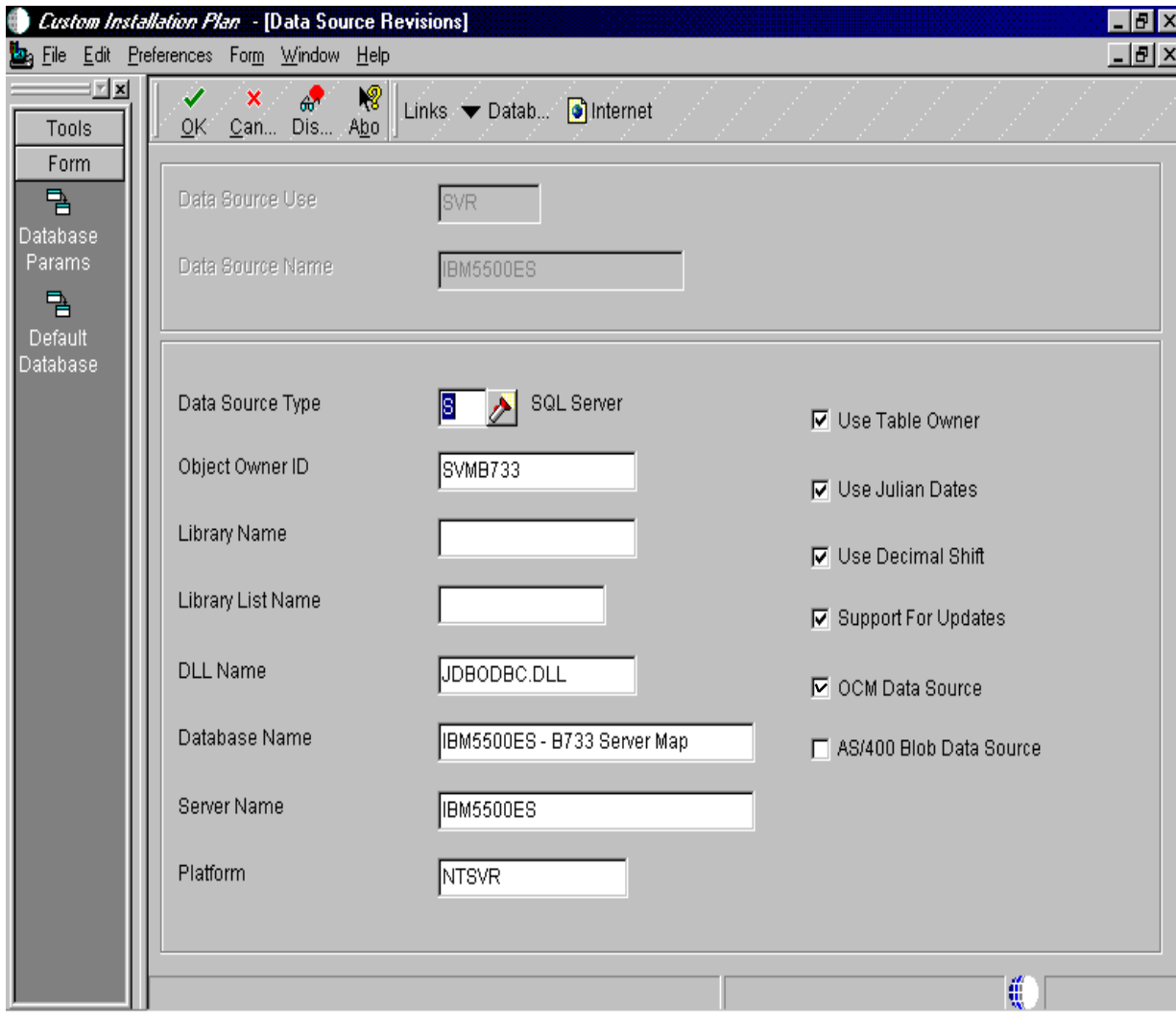


Figure 147. Data Source Revisions Screen

18. At this screen, put a check mark in the OCM Data Source check box.

Note: The DLL Name must be JDBODBC.DLL for SQL Server. The OCM check box is checked for only the IBM5500ES - B733 Server Map and System - B733 data sources.

19. Click **OK** to create a new data source. You will see a screen similar to Figure 148 on page 201.

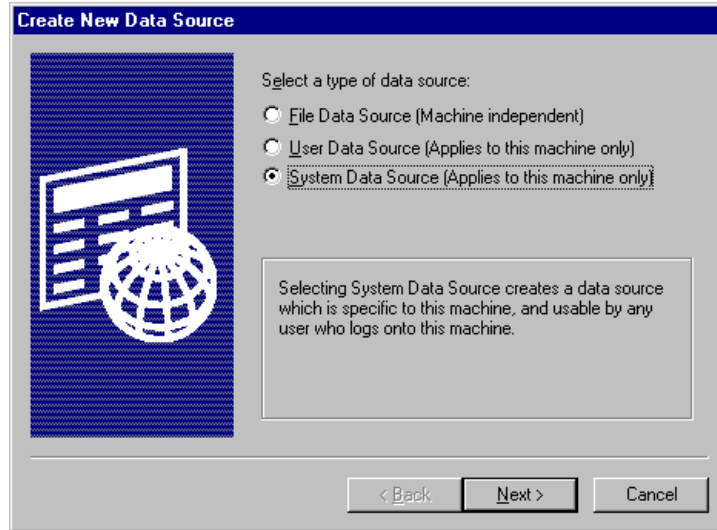


Figure 148. Create New Data Source Screen

20. Choose System Data Source and Click **Next** to continue. You will see a screen similar to Figure 149:

21. **Note:** When creating ODBC data sources you can elect to not use the Login ID and Password to configure data sources. However, we use the procedure recommended by J.D. Edwards'.

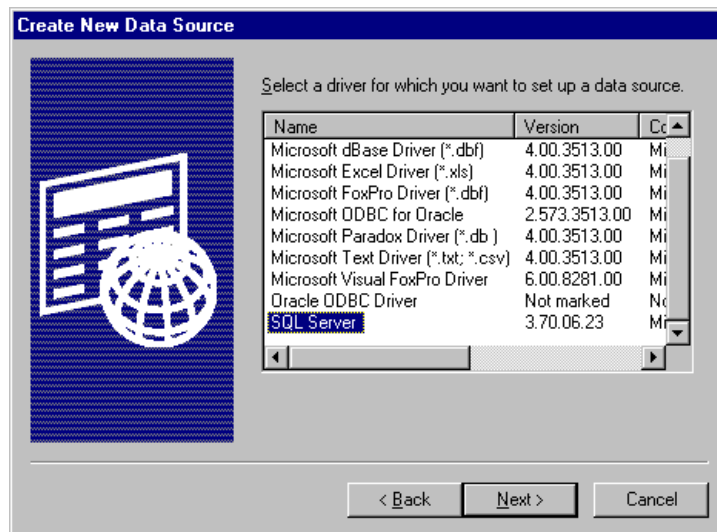


Figure 149. Create New Data Source Screen

22. Select **SQL Server** driver and click **Next** to continue.

23. Click **Finish** to create a new data source. You will see a screen similar to Figure 150 on page 202.

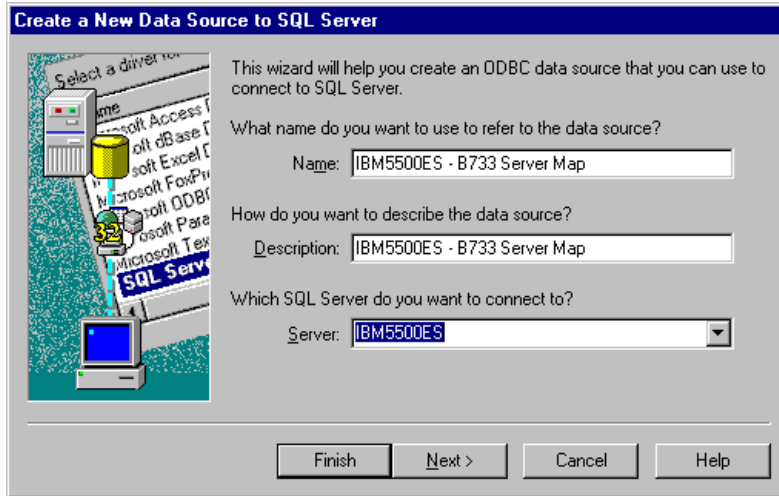


Figure 150. Create a New Data Source to SQL Server Screen

24. Complete the following fields:

- Name (of Data Source) = IBM5500ES - B733 Server Map
- Description = IBM5500ES - B733 Server Map
- Server (SQL Server) = The name of your enterprise server, IBM5500ES

25. Click **Next** to continue. You will see a screen similar to Figure 151:

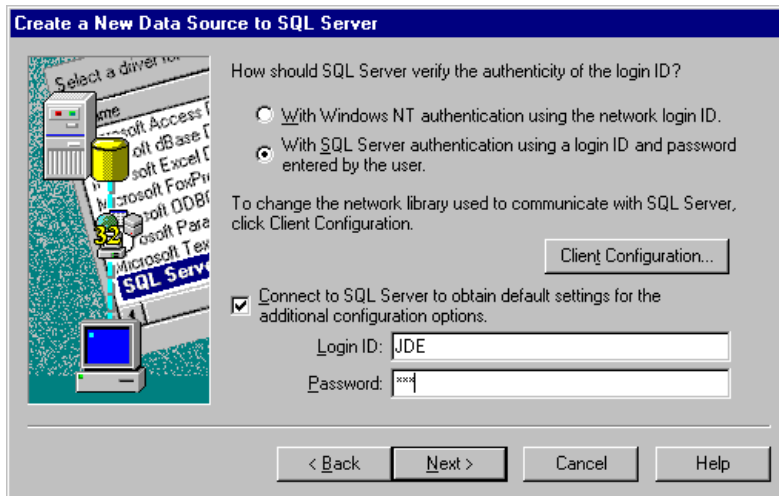


Figure 151. Create a New Data Source to SQL Server Screen

26. Select **With SQL Server authentication using a login ID and password entered by the user**. Mark the check box **Connect to SQL Server to obtain default settings for the additional configuration options**. In the Login ID field, type **JDE**, and in the Password field, type **JDE**. Click **Next** to continue. You will see a screen similar to Figure 152 on page 203.

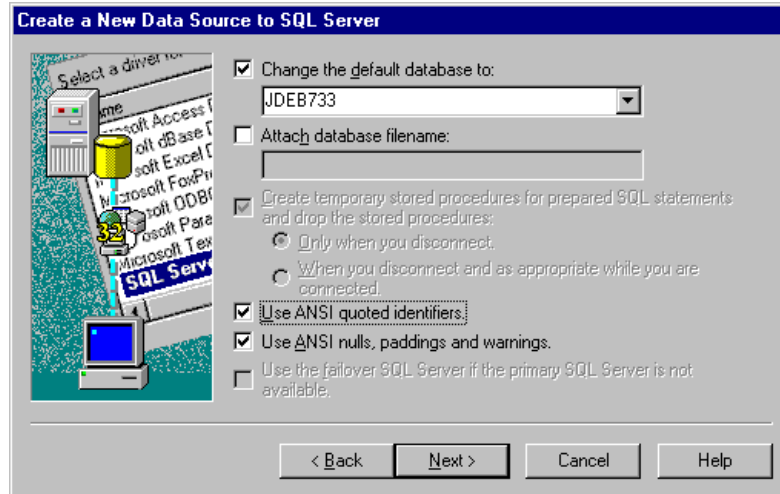


Figure 152. Create a New Data Source to SQL Server Screen

27. Mark the check box for Change the default database to: and select **JDEB733** from the pull-down menu. Click **Next** to continue. You will see a screen similar to Figure 153.

Note: The check box Create temporary stored procedures for prepared SQL statements and drop the stored procedures should not be checked. Our version of the ODBC administrator was shaded and we were unable to modify per J.D. Edwards' recommended procedure.

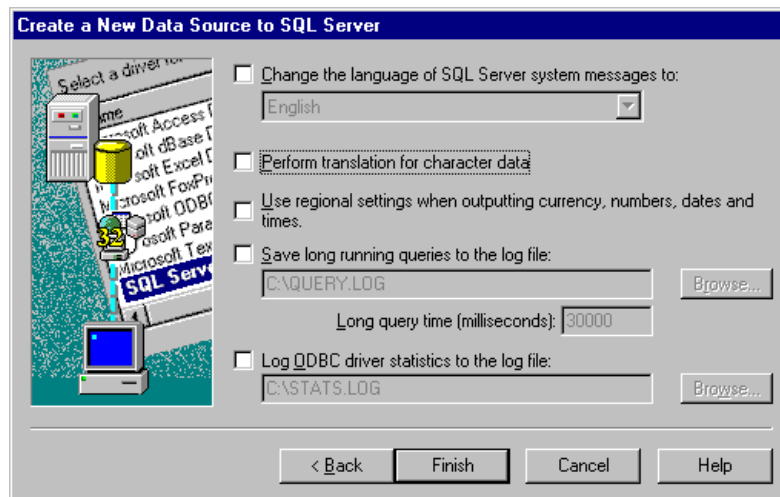


Figure 153. Create a New Data Source to SQL Server Screen

28. Do not check Perform translation for character data; click **Finish**. You will see a screen similar to Figure 154 on page 204.

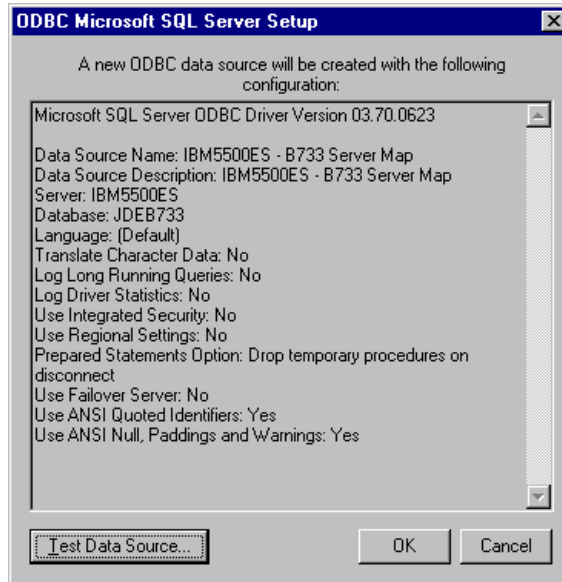


Figure 154. ODBC Microsoft SQL Server Setup Screen

29. Review your setup and click **OK** to continue.

30. Again, click **OK** to continue.

31. If you are not adding another enterprise server, click **No** to continue. You will see a screen similar to Figure 155:

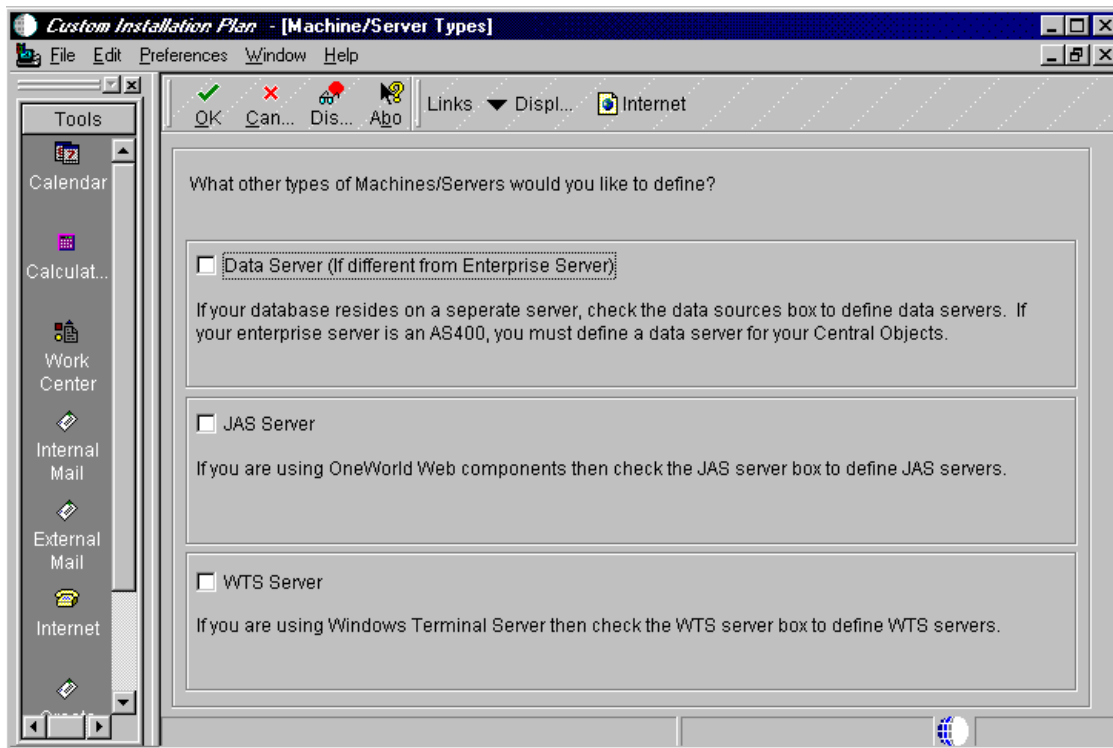


Figure 155. Machine/Server Types Screen

32. Check the appropriate box for other Machine/Server Types. If none of the servers is selected, then turn off these options. In our example, none of the

items was selected. Click **OK**. If any of the above are chosen, then refer to J.D. Edwards' *OneWorld Installation Guide (Windows NT - Based Systems), Release B73.3* guide.

Note: For instructions on WTS (Windows Terminal Server), refer to Chapter 9, "Implementing Windows NT Terminal Server Edition" on page 251.

33. Next, OneWorld prompts you for the data source information for the shared data sources. Click **OK** and use Table 18 in the next several screens.

Table 18. Data Sources Names within OneWorld Databases

Database Name	Data Sources
JDEB733	System - B733 Object Librarian - B733 Data Dictionary - B733 <i>machinename</i> - B733 Server Map <i>machinename</i> (where <i>machinename</i> is the enterprise server) <i>machinename</i> - logic (where <i>machinename</i> is the enterprise server)

Note: If you click Take Defaults, then OneWorld will set up default data sources that will limit your customization choices.

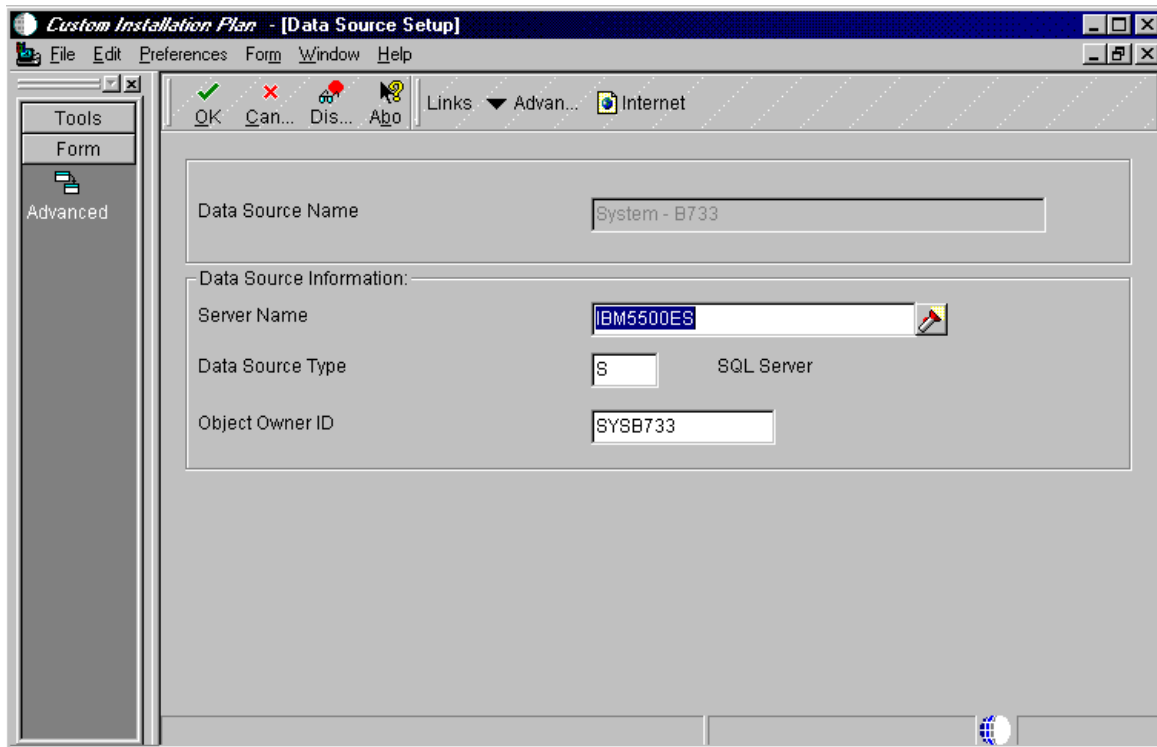


Figure 156. Data Source Setup for System - B733 Screen

34. In the Server Name field, ensure the name of your enterprise server is shown (for example, IBM5500ES). The owner is SYSB733. Click **Form > Advanced**. You will see a screen similar to Figure 157 on page 206.

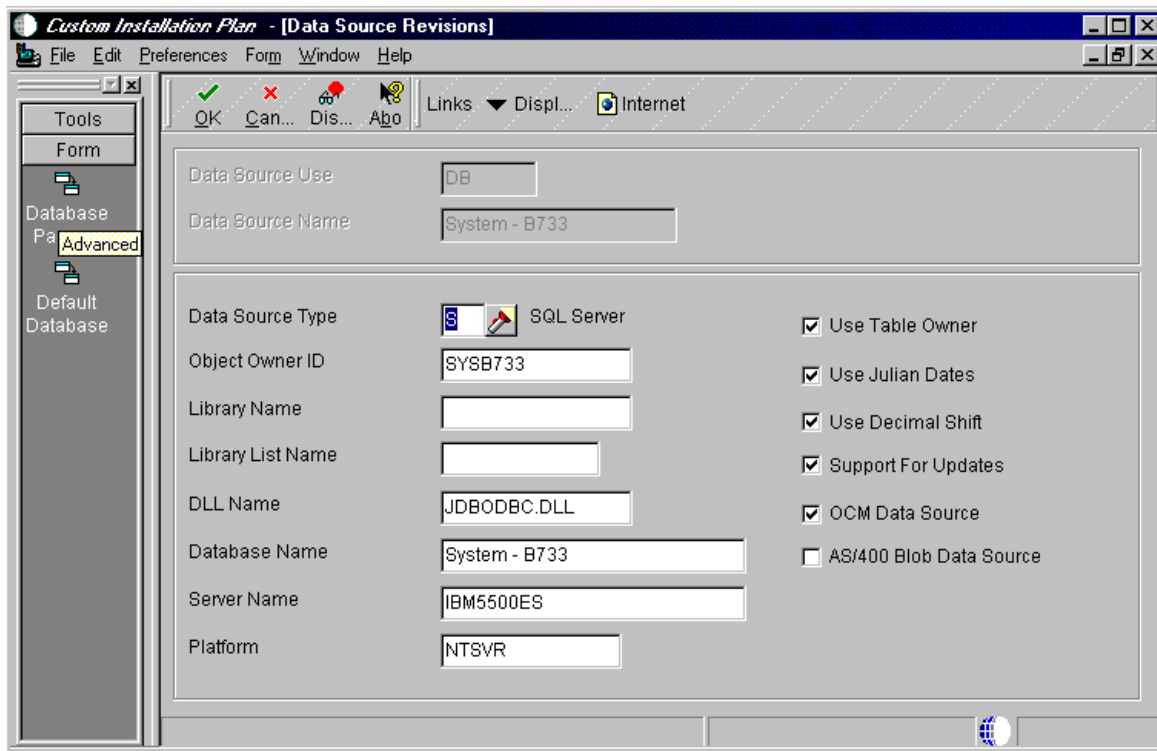


Figure 157. Data Source Revisions for System - B733 Screen

35. Accept the defaults and place a check mark in the OCM Data Source check box. The OCM check box is checked only for the IBM5500ES - B733 Server Map and System - B733 data sources. Click **OK** to create a new data source.

Note: You must repeat the same steps used during the creation of a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 18 on page 205 to identify the name of the associated database.

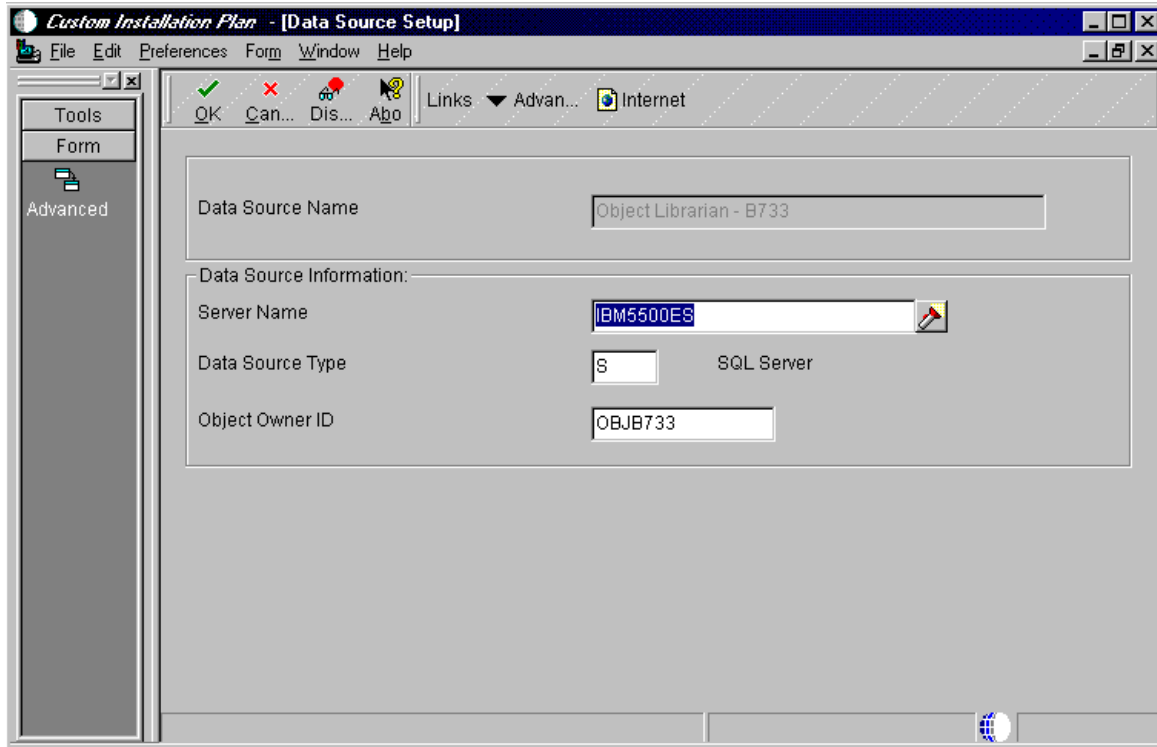


Figure 158. Data Source Setup for Object Librarian - B733 Screen

36. In the Server Name field, ensure the name of your enterprise server is shown (for example, IBM5500ES). The owner is OBJB733. Click **Form > Advanced**. You will see a screen similar to Figure 159 on page 208.

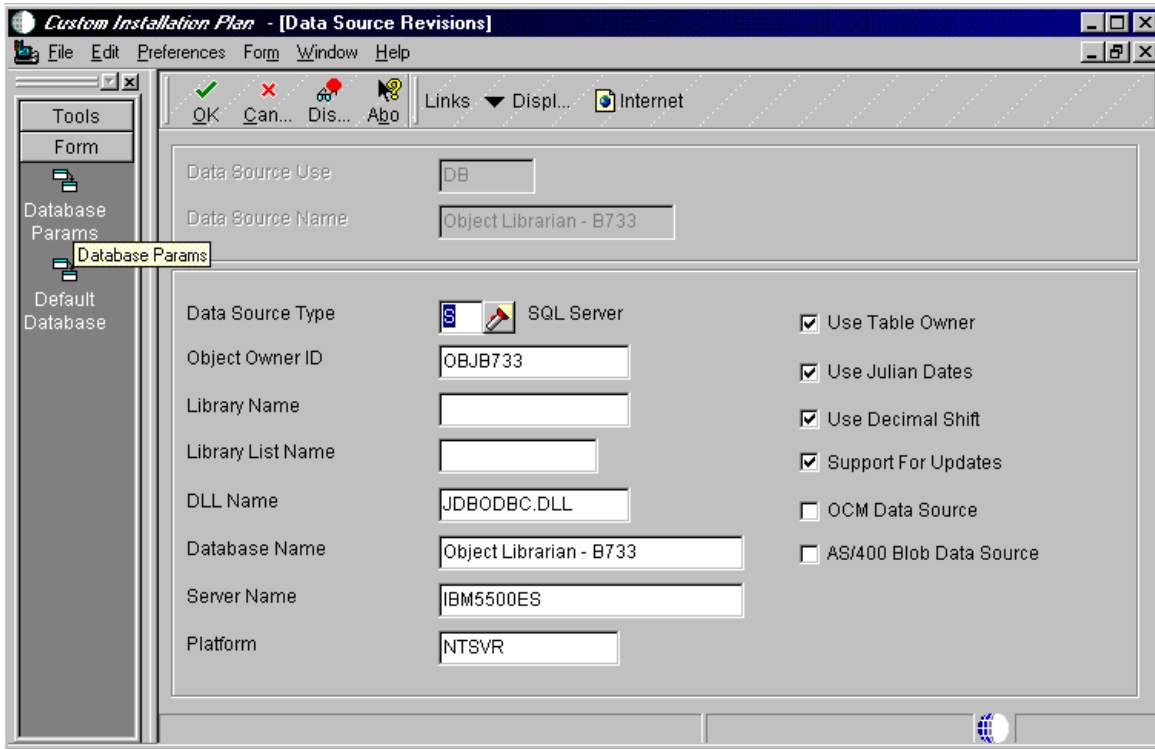


Figure 159. Data Source Revisions for Object Librarian - B733 Screen

37. Accept the defaults. Click **OK** to create a new Data Source.

Note: You must repeat the same steps used during the creation of a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 18 on page 205 to identify the name of the associated database.

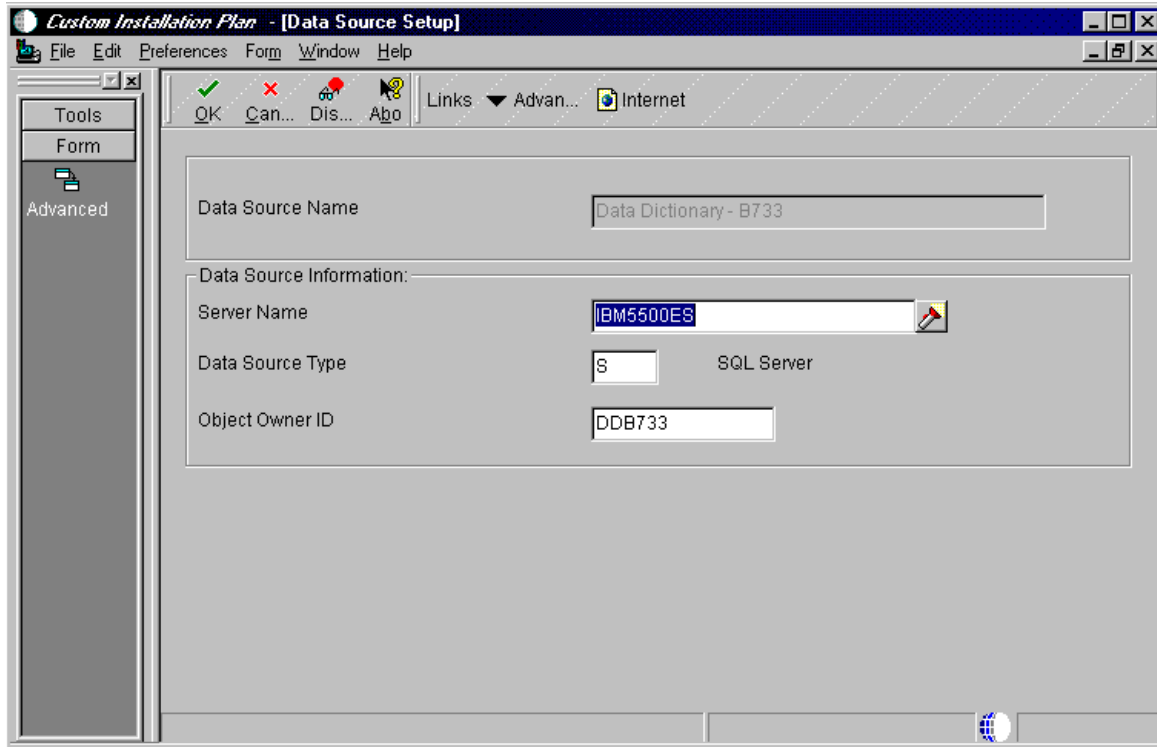


Figure 160. Data Source Setup for Data Dictionary B733 Screen

38. In the Server Name field, ensure the name of your enterprise server is shown (for example, IBM5500ES). The owner is DDB733. Click **Form > Advanced**. You will see a screen similar to Figure 161 on page 210.

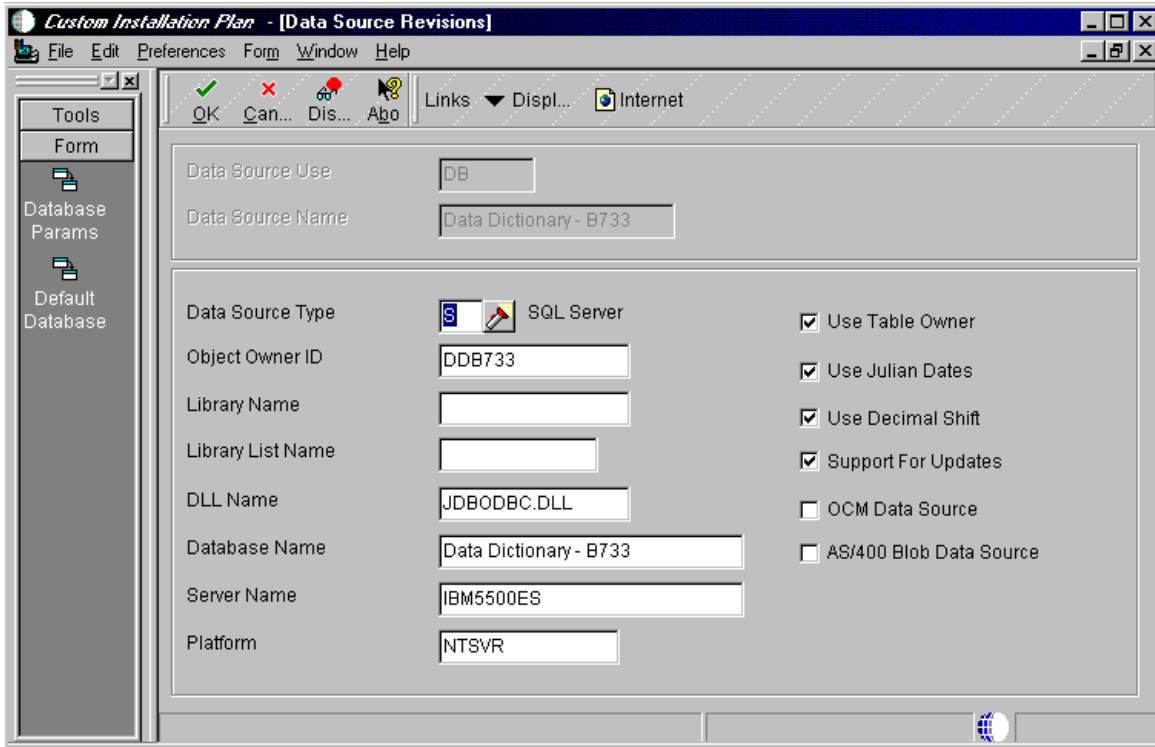


Figure 161. Data Source Revisions for Data Dictionary - B733

39. Accept the defaults. Click **OK** to create a new data source.

Note: You must repeat the same steps used during the creation of a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 18 on page 205 to identify the name of the associated database.

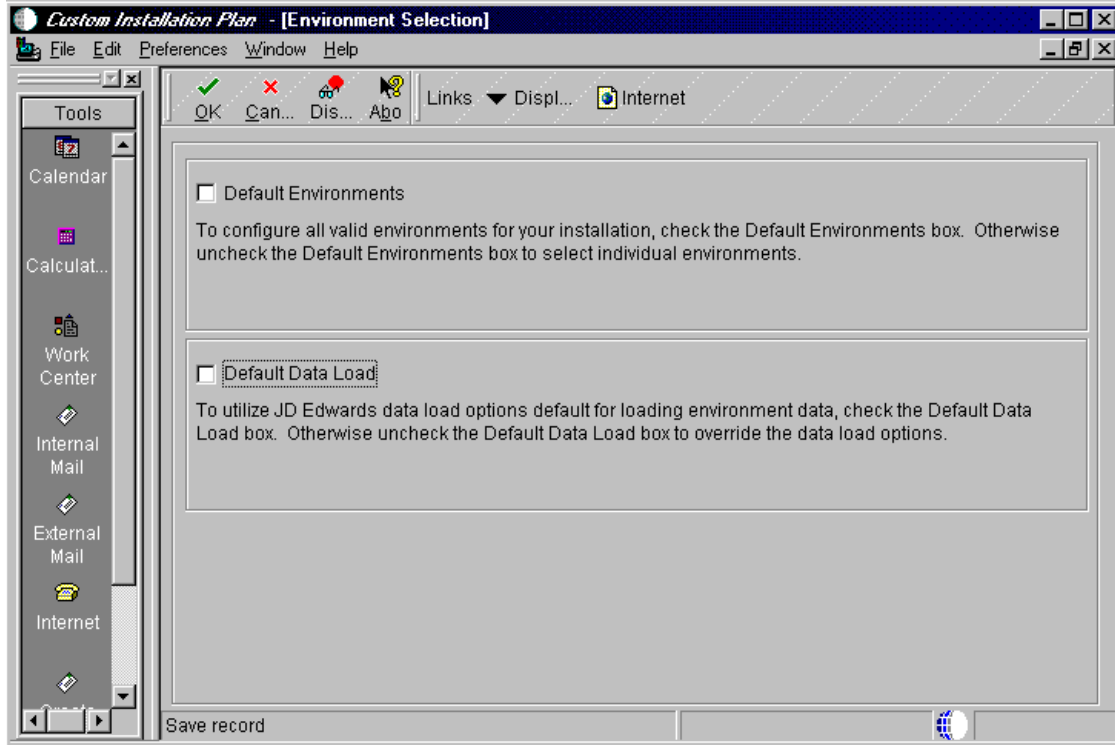


Figure 162. Environment Selection Screen

40. On the Environment Selection screen, check the appropriate box if you want to accept defaults. Uncheck these options if you want to choose your own environment information. For our example, none of the environments was chosen. Click **OK** to continue. You will see a screen similar to Figure 163 on page 212.

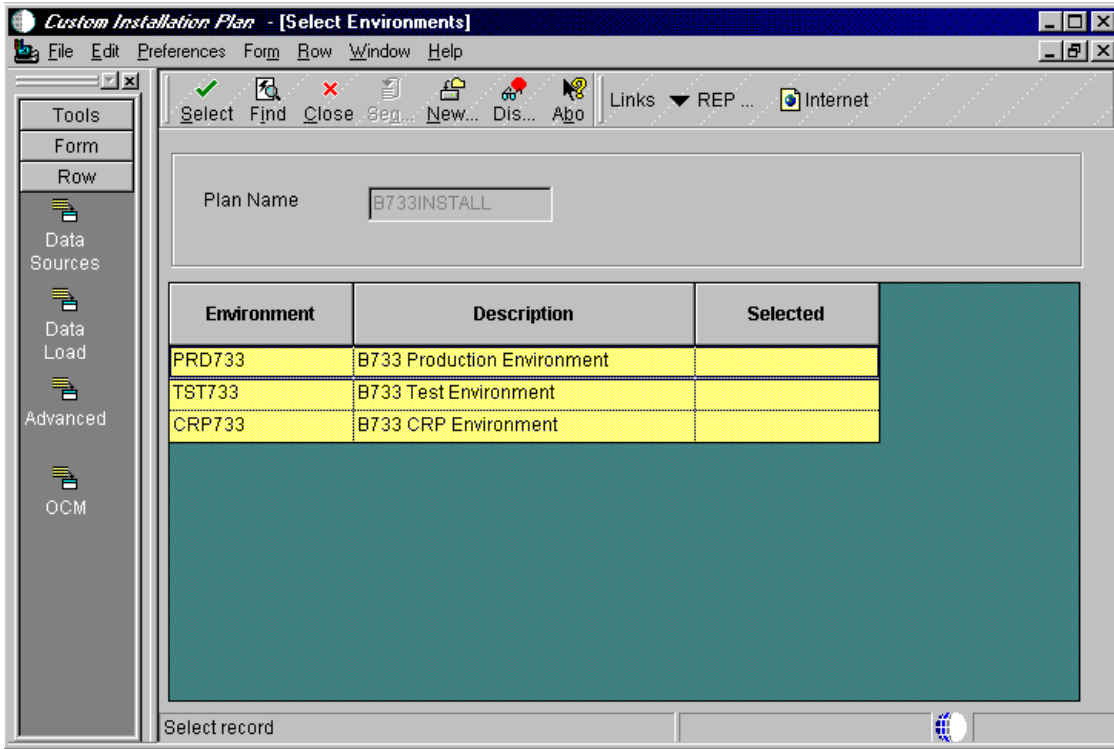


Figure 163. Select Environments Screen

41. At this screen, you will select the environments you want to define. In our example, we chose PRDB733 and CRP733. Double-click **PRDB733** and you will see a screen similar to Figure 164 on page 213.

Note: You must choose and define each environment one at a time.

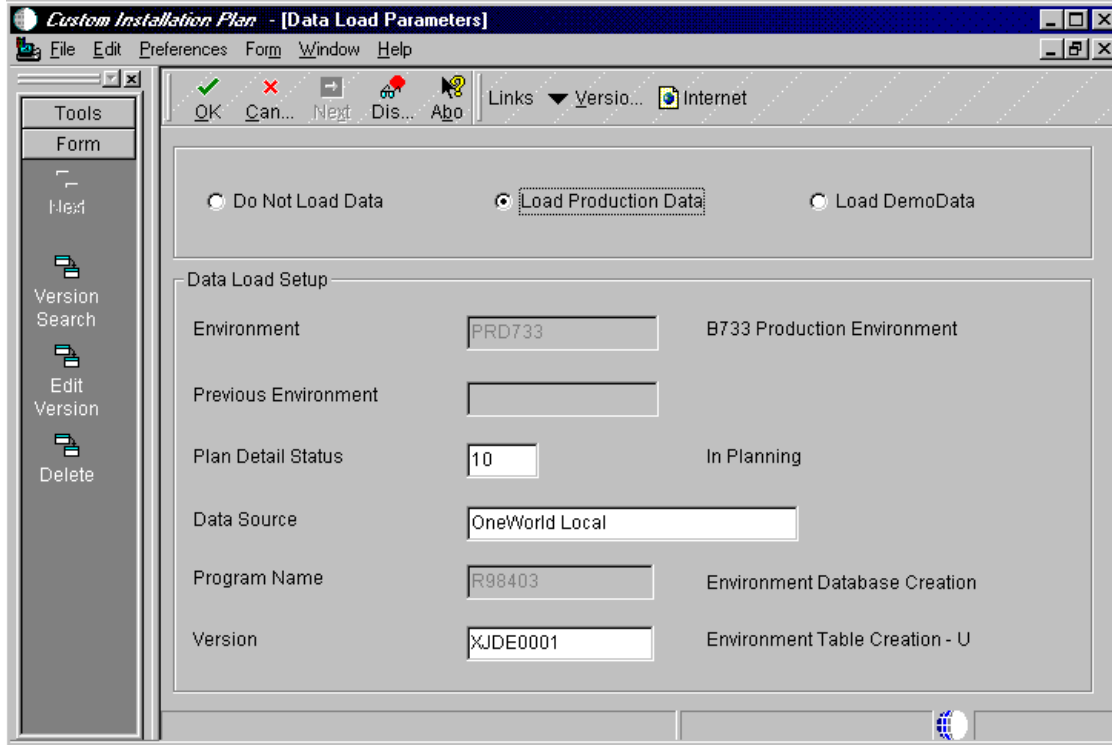


Figure 164. Data Load Parameters Screen

42. Select **Load Production Data** and then click **OK**.

43. OneWorld asks if you want to set up data sources for each environment or take the defaults that OneWorld sets up. For our example, we clicked **OK** and used Table 19 to create ODBC data sources:

Table 19. Data Sources Names within OneWorld Databases

Database Name	Data Sources
JDE_CRPB733	Central Objects - CRPB733 Versions - CRPB733
JDE_CRP	Control Tables - CRP Business Data - CRP
JDE_PRISTB733	Central Objects - PRISTB733 Versions - PRISTB733
JDE_PRISTINE	Business Data - JDE
JDE_PRODB733	Central Objects - PRODB733 Versions - PRODB733
JDE_PRODUCTION	Control Tables - PROD Business Data - PROD
JDE_DEVB733	Central Objects - DEVB733 Versions - DEVB733
JDE_DEVELOPMENT	Control Tables - Test Business Data - TEST

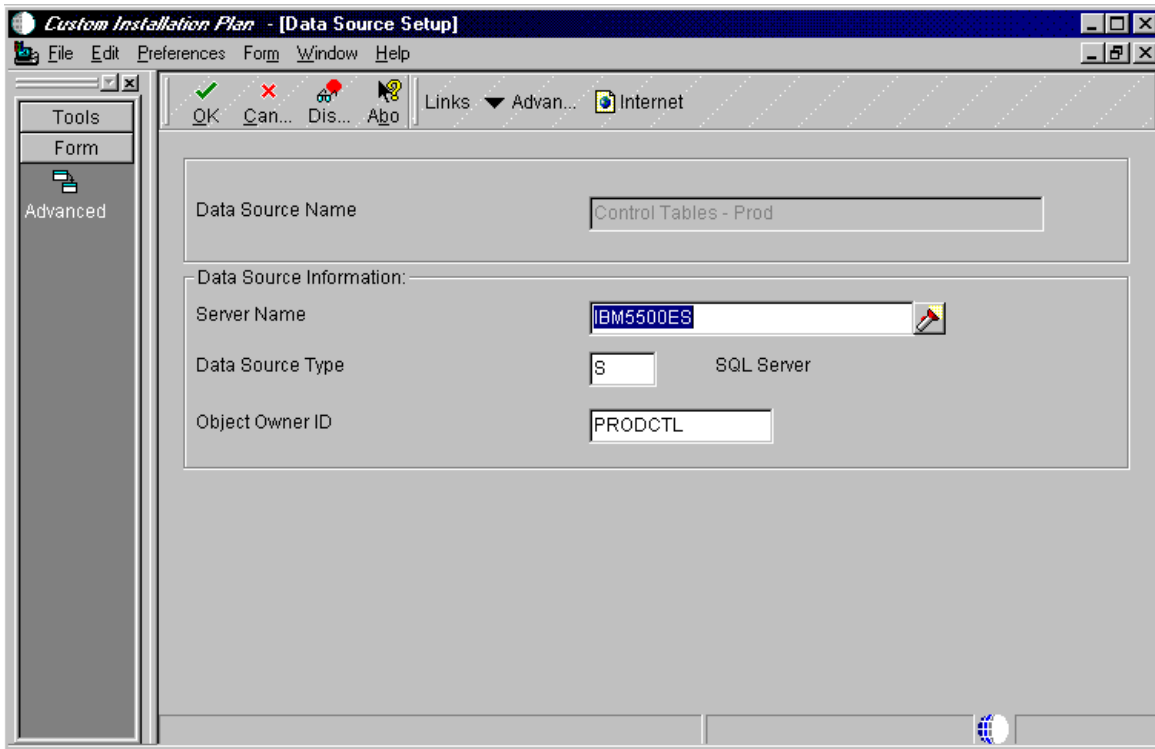


Figure 165. Data Source Setup for Control Tables - Prod Screen

44. Review the accuracy of the Control Tables - Prod data source. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 166 on page 215.

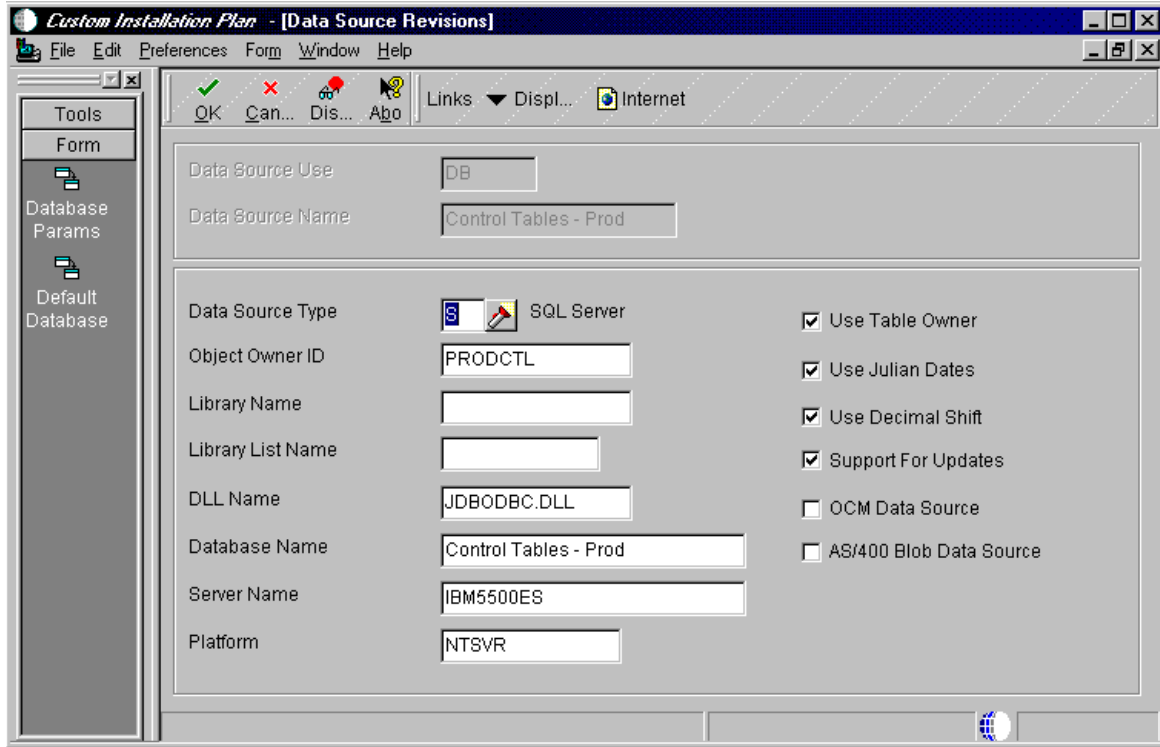


Figure 166. Data Source Revisions for Control Tables - Prod Screen

45. Accept the defaults. Click **OK** to create a new Data Source.

Note: You must repeat the same steps when you create a data source for IBM5500ES - B733 Server Map beginning with Step 19 on page 200. Use Table 19 on page 213 to identify the name of the database.

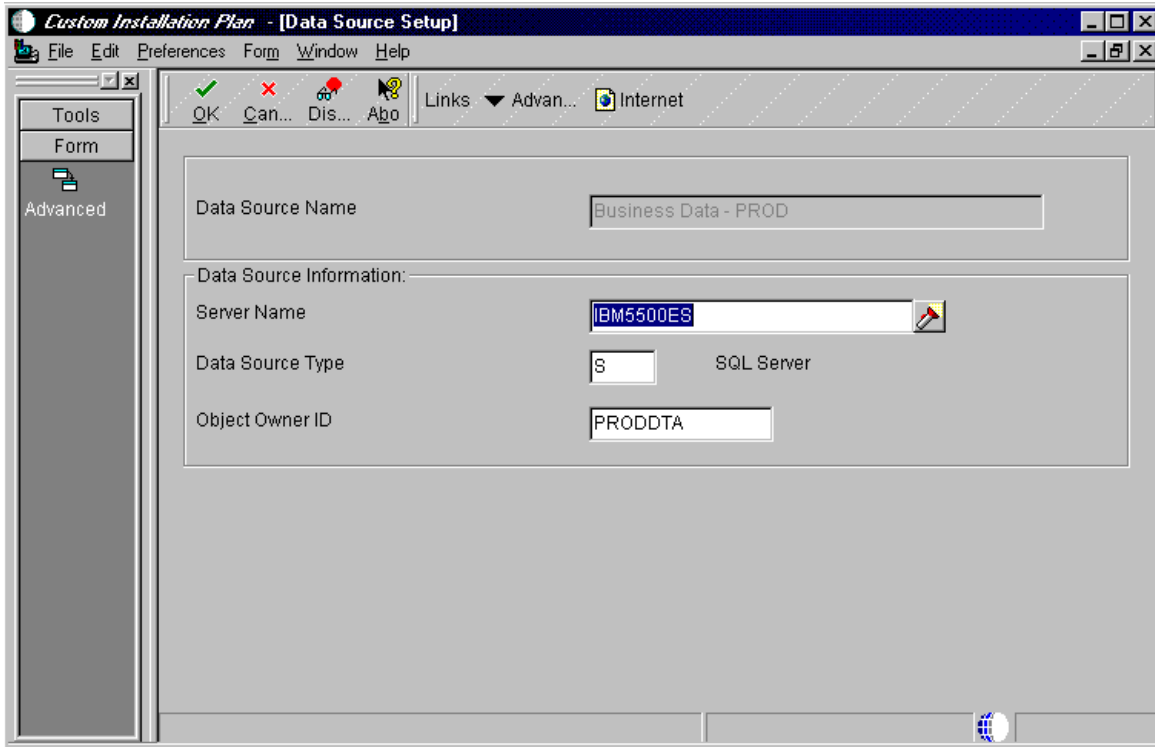


Figure 167. Data Source Setup for Business Data - Prod Screen

46. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 168 on page 217.

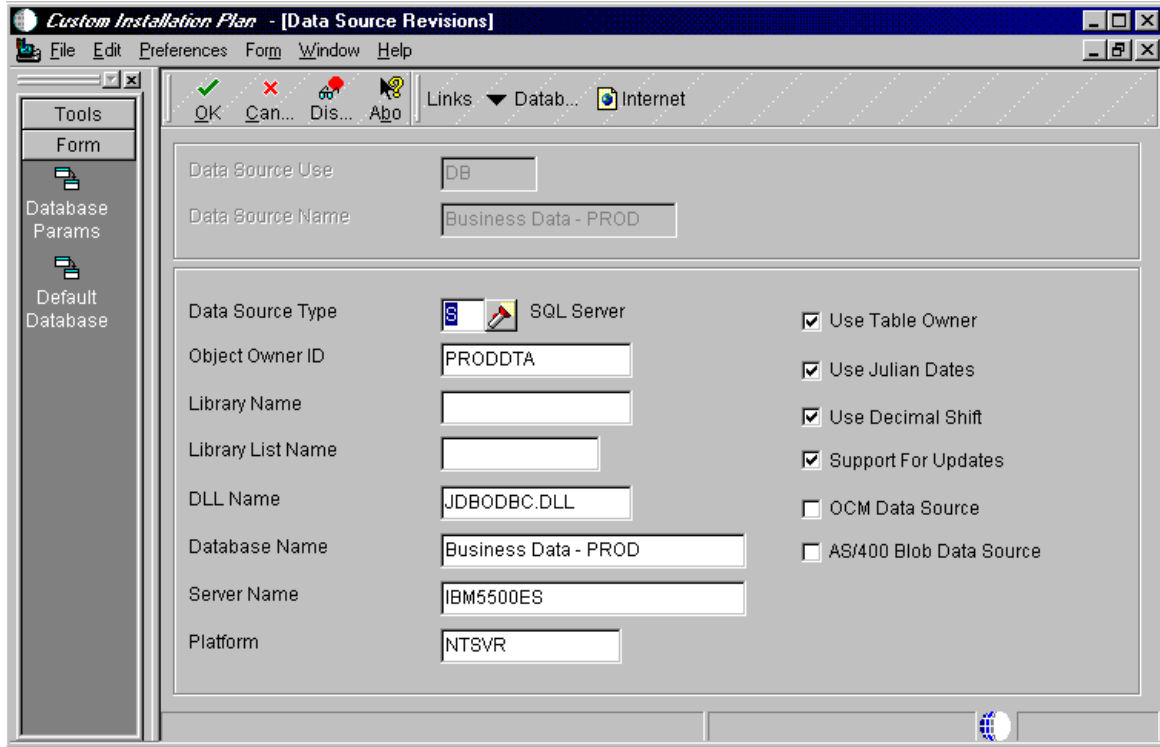


Figure 168. Data Source Revisions for Business Data - Prod Screen

47. Accept the defaults. Click **OK** to create a new data source.

Note: You must repeat the same steps when you create a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 19 on page 213 to identify the name of the database.

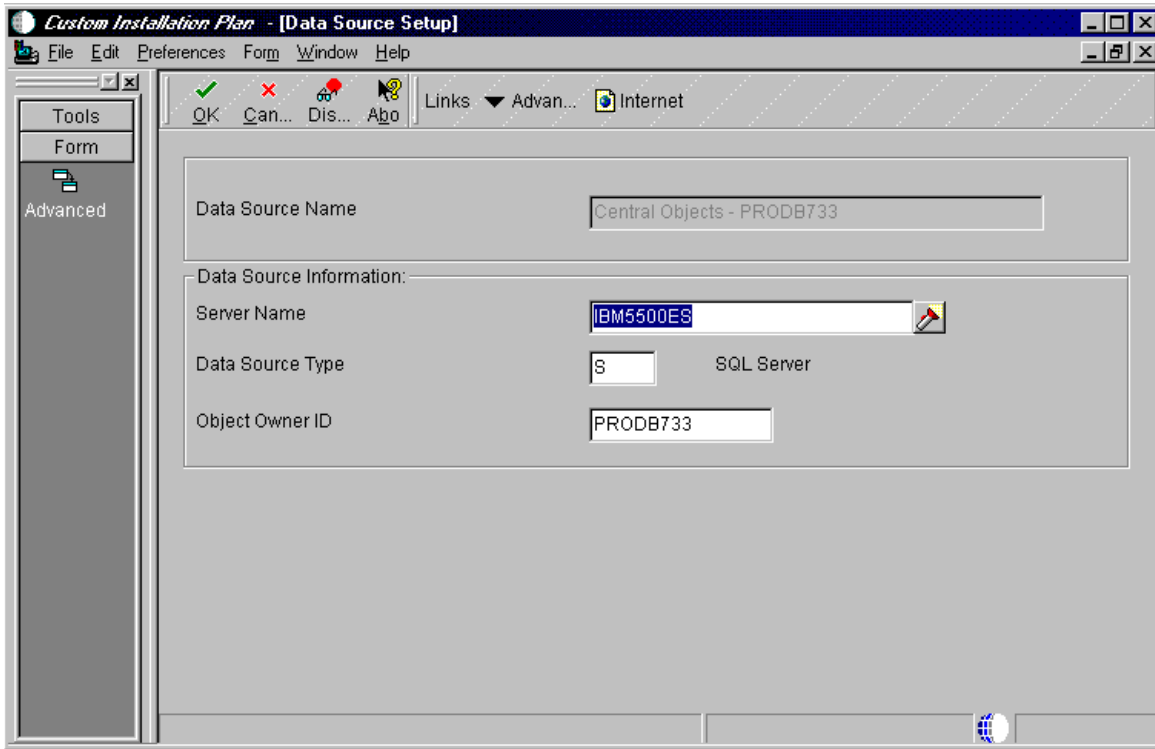


Figure 169. Data Source Setup for Central Objects - PRODB733 Screen

48. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 170.

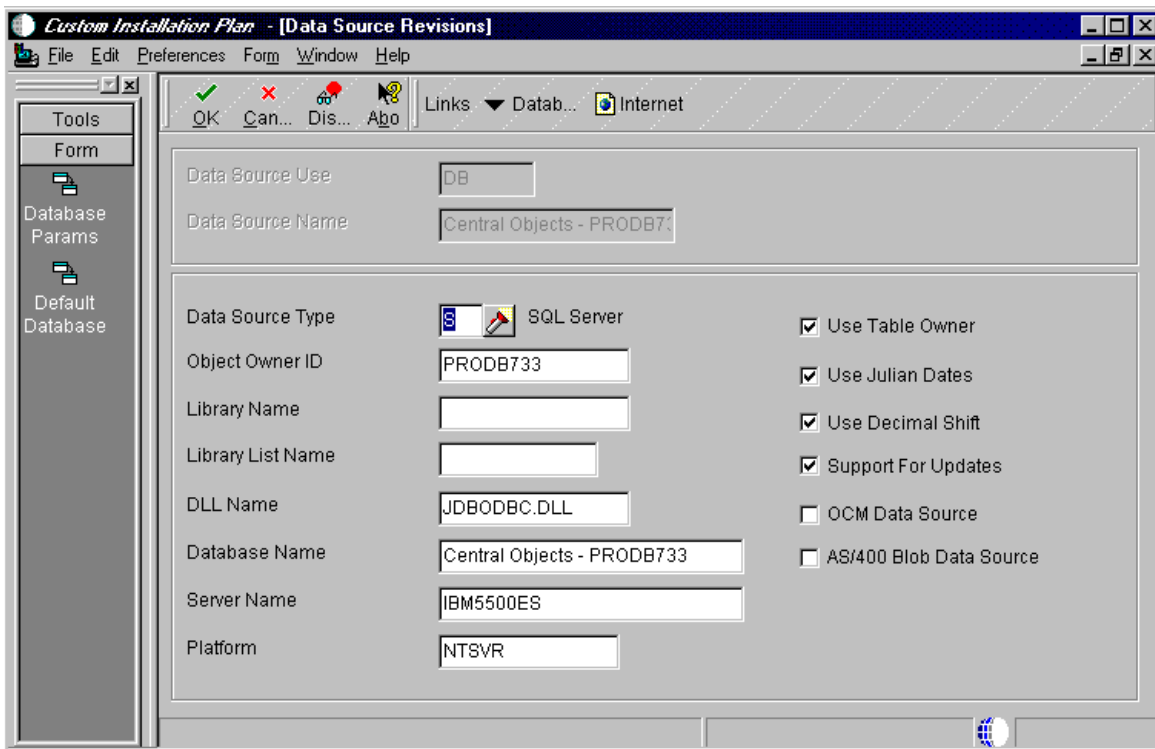


Figure 170. Data Source Revisions for Central Objects - PRODB733 Screen

49. Accept the defaults. Click **OK** to create a new data source.

Note: You must repeat the same steps when you created a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 19 on page 213 to identify the name of the database.

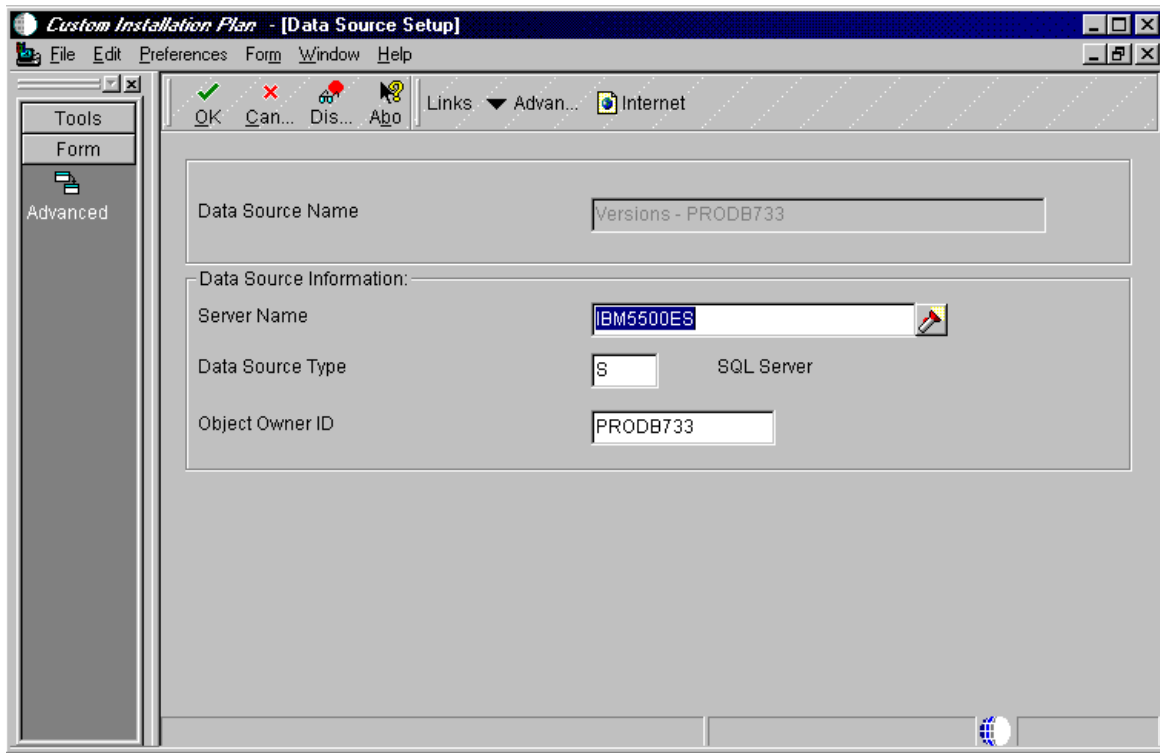


Figure 171. Data Source Setup for Versions - PRODB733 Screen

50. From the action bar, click **Form** and select **Advanced**. You will see a screen similar to Figure 172 on page 220.

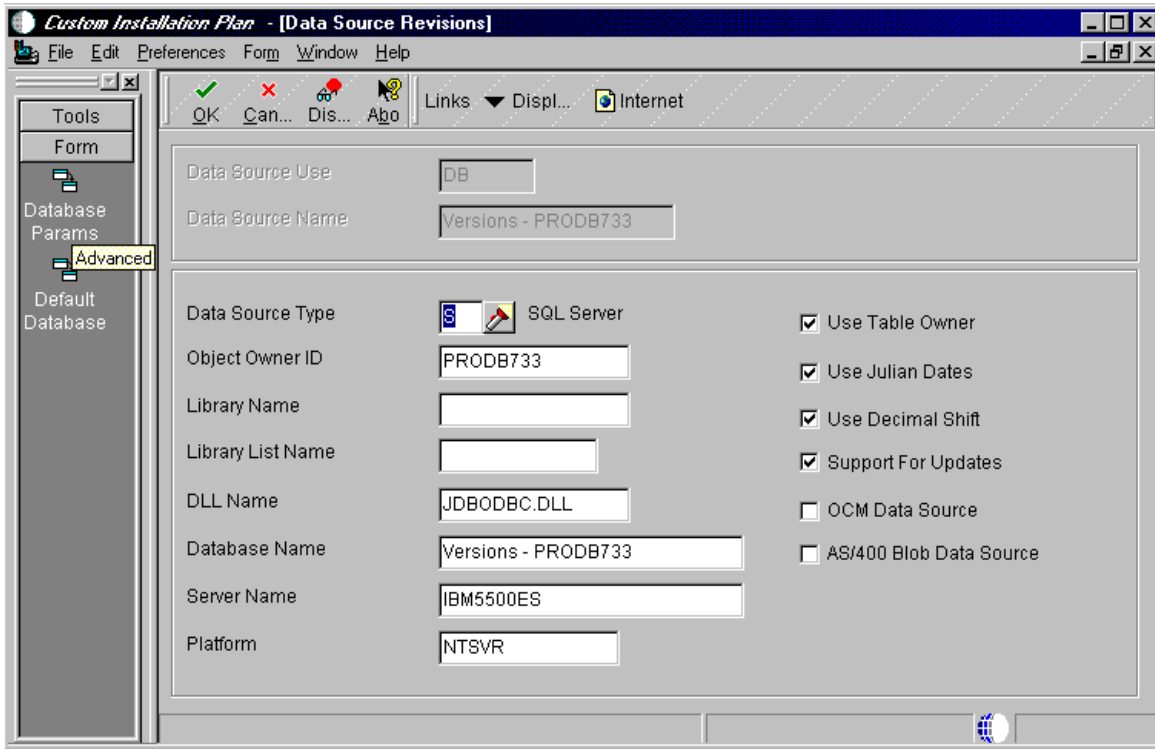


Figure 172. Data Source Revisions for Versions - PRODB733 Screen

51. Accept the defaults. Click **OK** to create a new data source.

Note: You must repeat the same steps when you created a data source for IBM5500ES - B733 Server Map beginning with step 19 on page 200. Use Table 19 on page 213 to identify the name of the database.

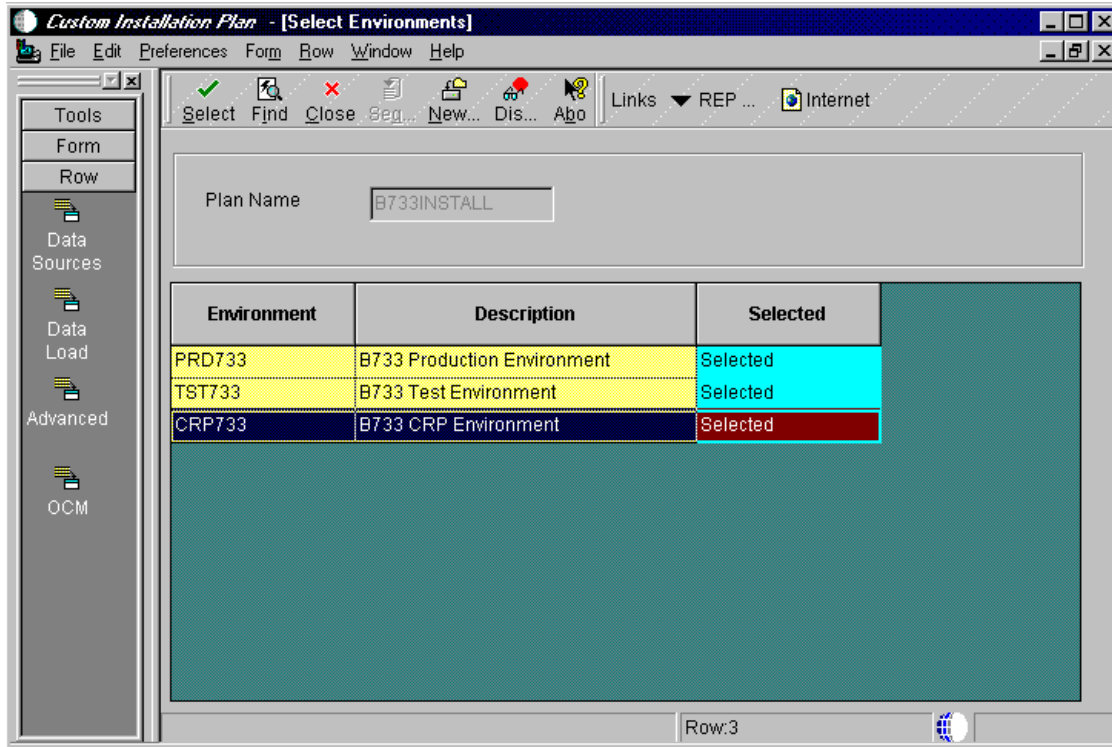


Figure 173. Select Environments Screen

52. Repeat the same steps for CRP733 as for PRD733. Double-click **CRP733**.
When you reach this screen again and CRP733 is complete, click **Close** to continue.
53. Click **No** if you do not want to add another location. You will see a screen similar to Figure 174 on page 222.

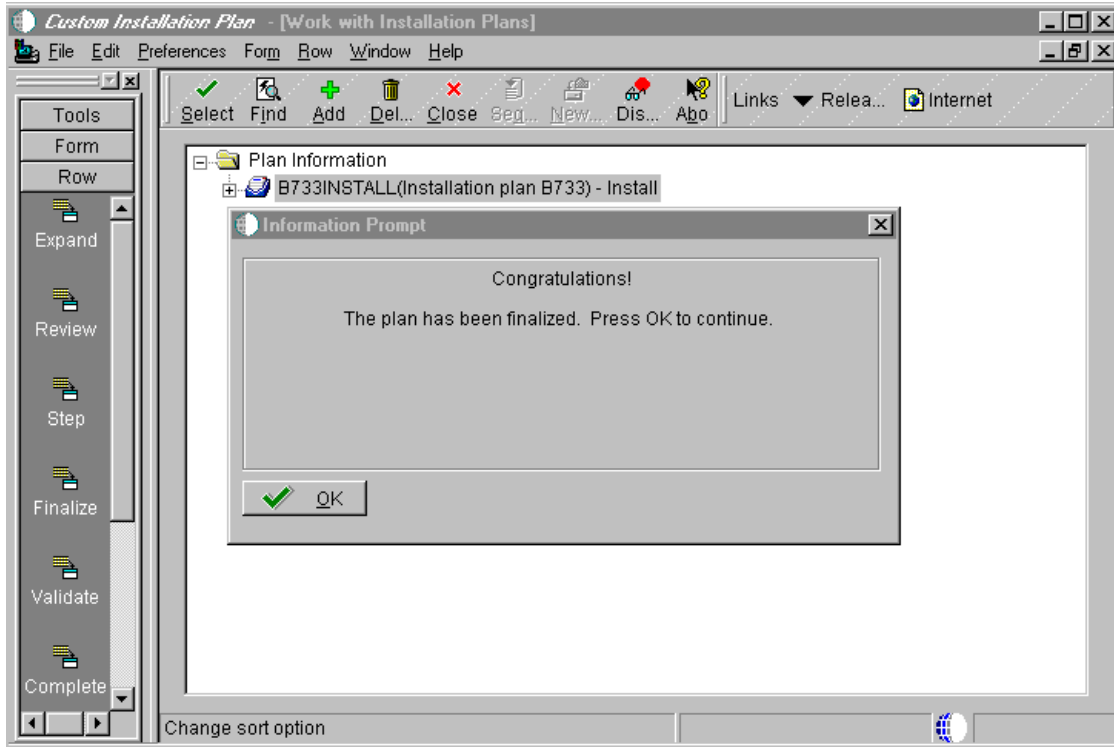


Figure 174. Work with Installation Plans Screen

54. Click **OK** to continue.

8.3.5 Validate the Plan

In this section, you will run the plan validation report to ensure that the plan is correct and ready for installation.

1. Run the plan validation report. If you are not at the System Installation Tools menu, type GH961 in the Fast Path field and press Enter.
2. Double-click **Plan Validation**. You will see a screen similar to Figure 175 on page 223.

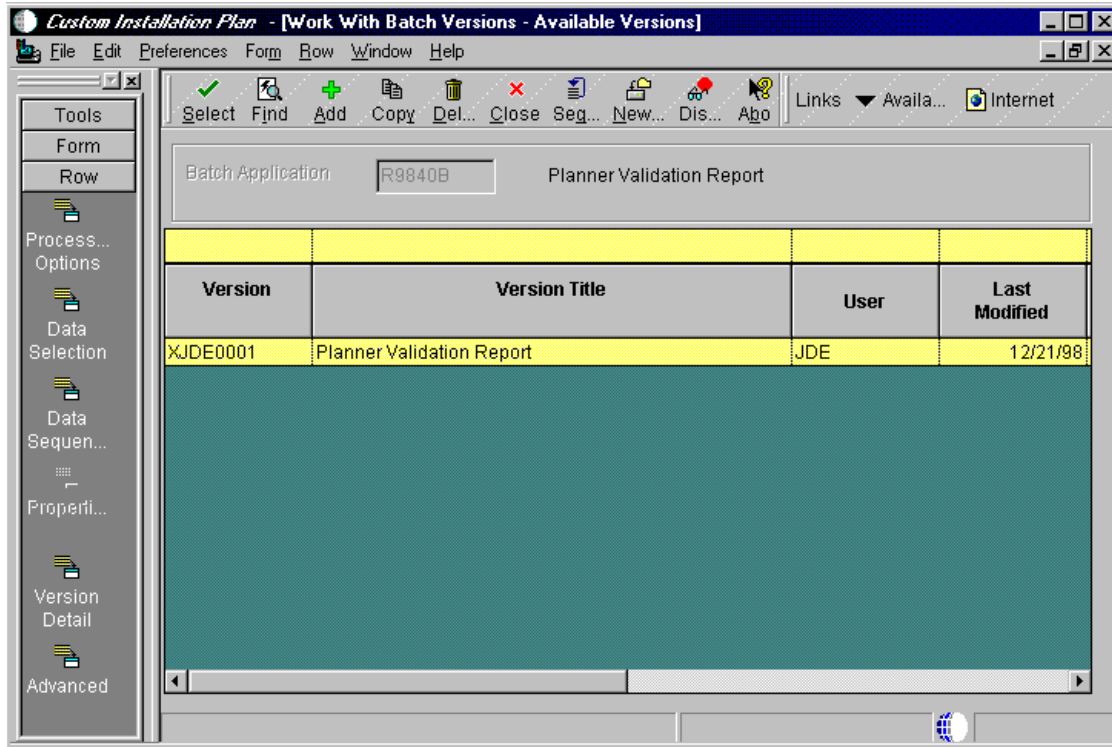


Figure 175. Work With Batch Versions - Available Versions Screen

- Highlight the grid record for Version **XJDE0001**, then click **Select**. You will see a screen similar to Figure 176:

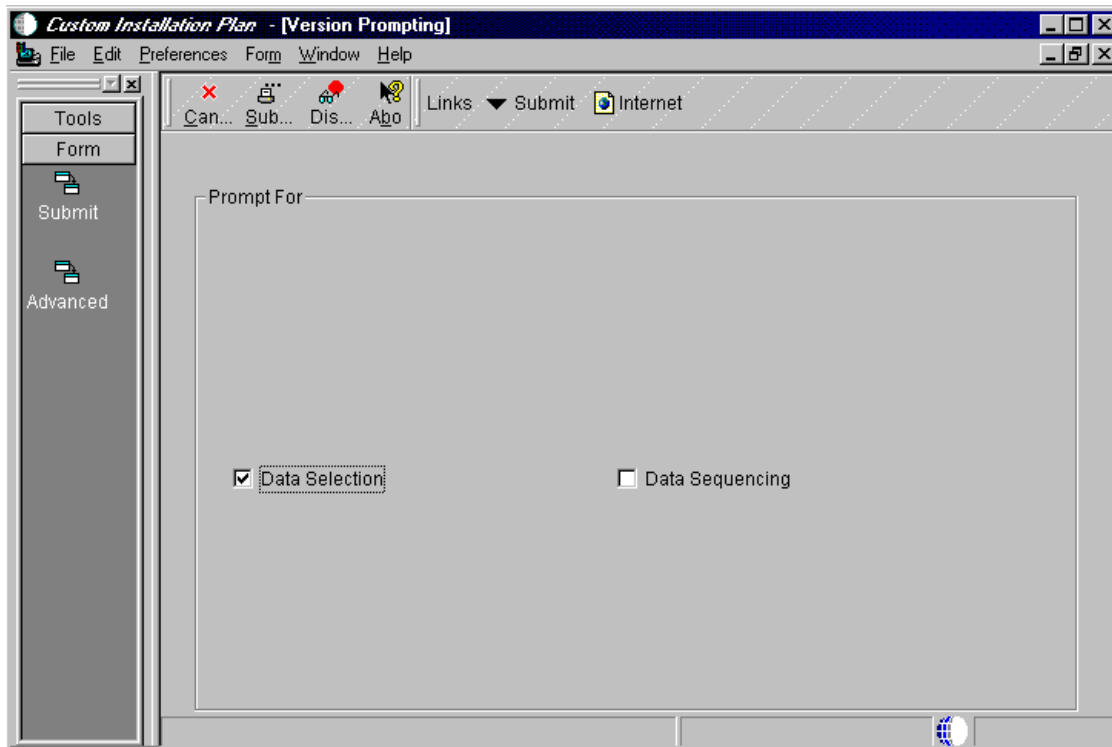


Figure 176. Version Prompting Screen

4. Select the **Data Selection** box, then click **Submit**. You will see a screen similar to Figure 177:

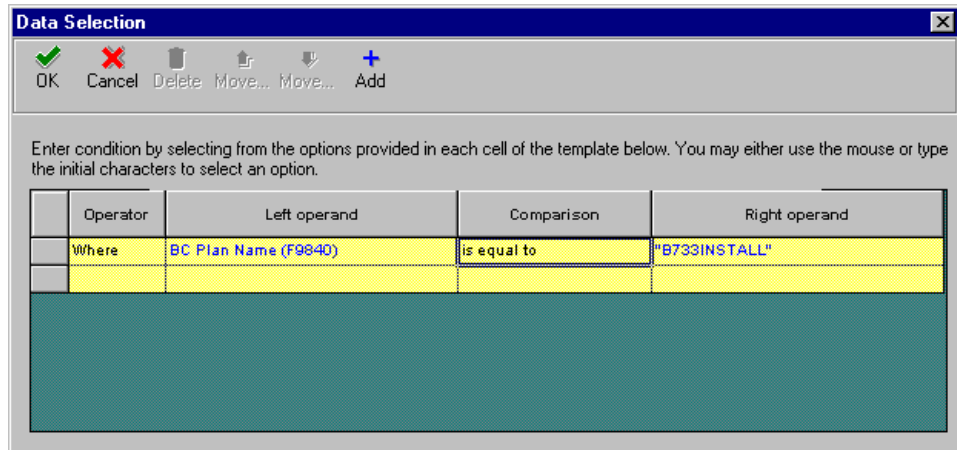


Figure 177. Data Selection Screen

5. At this screen, you will set criteria design information. In the column, Right operand, double-click **Plan Name** and select **Literary**.
 - Type in the plan name; for our example, we typed B733INSTALL
 - Click **OK**. You will see a screen similar to Figure 178:

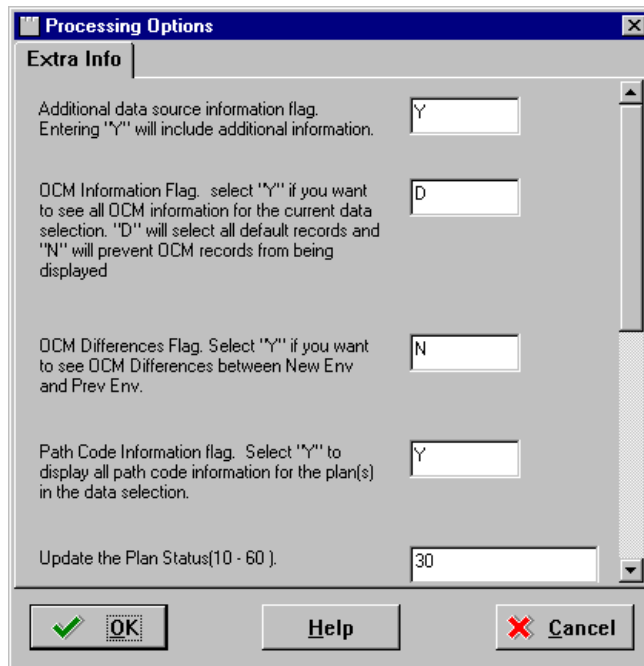


Figure 178. Processing Options Screen

6. On the Extra Info tab on Processing Options, accept the defaults and click **OK**.
7. Accept the defaults and click **OK** to run the validation report.

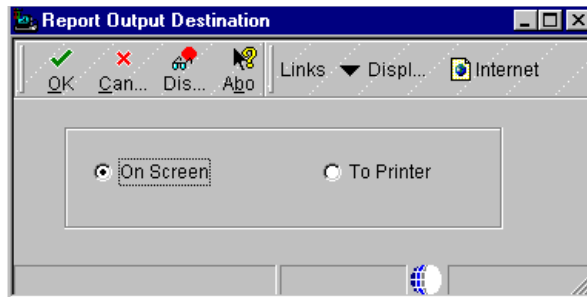


Figure 179. Report Output Destination Screen

8. Choose **On Screen** to view your validation report at your display. Click **OK**. Adobe's Acrobat Reader launches the Installation Planner Validation Report PDF.
9. Review the report and ensure your information is correct. Exit the Acrobat Reader and select **Close** to exit Validation.

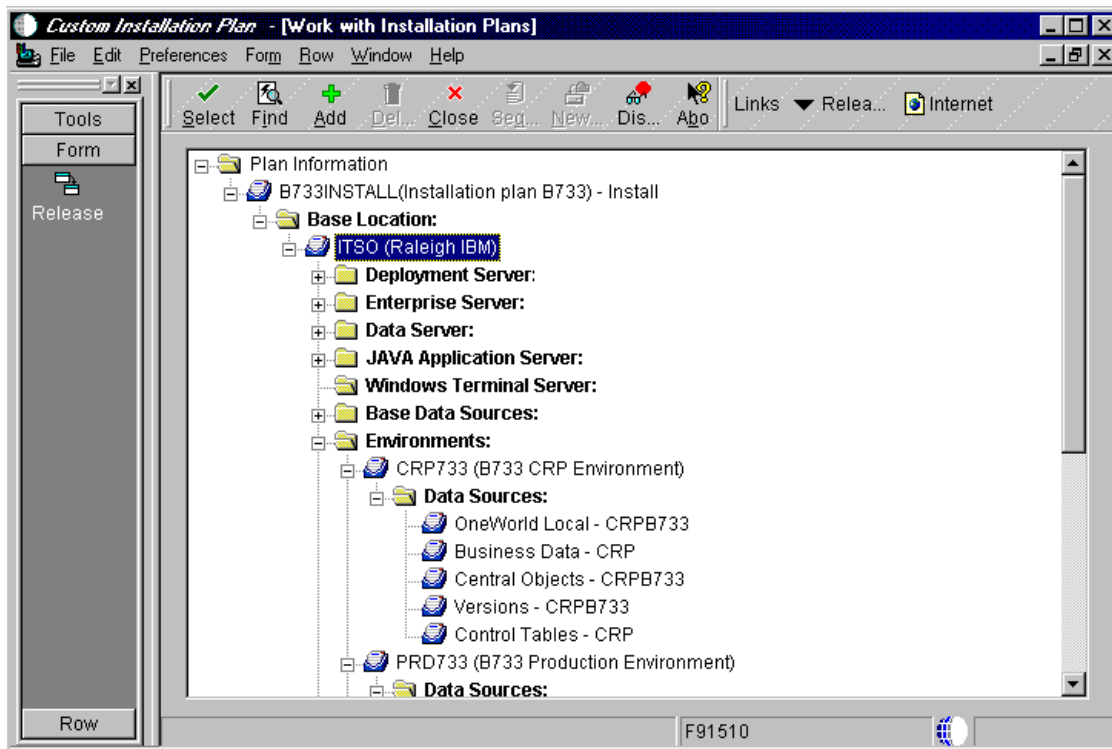


Figure 180. Work with Installation Plans Screen

10. On the Work with Installation Plans screen, click **Expand** to review the plan you've created. Go to the next section and continue.

8.3.6 Running Release Master

We've just completed the creation of our plan. Now we must release it in order to initialize the system data source and create the system tables.

1. From the Installation Planner (shown in Figure 181 on page 226), highlight the plan, **B733INSTALL**. Click **Form** and then click **Release**.

Note: If the Data Source administrator appears, requesting that you create a data source, click **Cancel** to continue. You should have created all of your data sources earlier during the installation planner process.

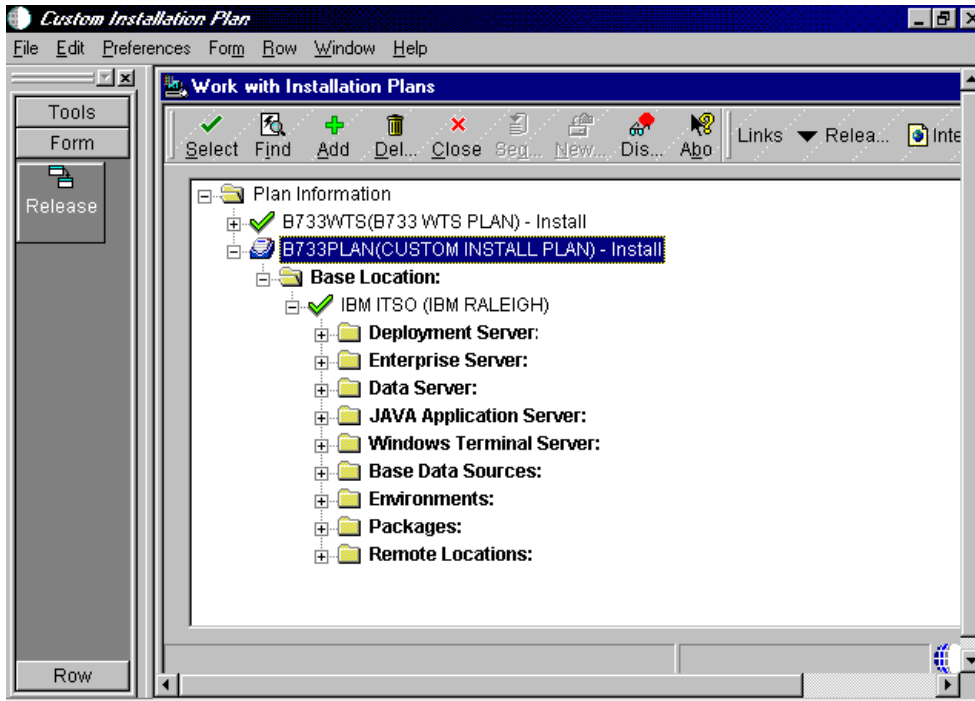


Figure 181. Work with Installation Plans Screen

2. A message appears to let you know that Release Master has completed. Click **OK** and then click **Close**.

8.3.7 Running Installation Workbench

The Installation Workbench runs the plan you created. Its primary function is to act as a central point for all the processes required to install the server environments. Some processes that install the server environments might require you to perform procedures manually. However, the Installation Workbench makes sure you perform procedures in the proper order, and it insulates you as much as possible from a platform-specific environment setup. Perform the following steps to run the plan we've created:

1. Log on to the planner environment (JDEPLAN) as user JDE and password JDE.
2. From the System Installation Tools menu (GH961), choose **Installation Workbench**. You will see a screen similar to Figure 182 on page 227.
3. Verify that a printer is set up for your deployment server.

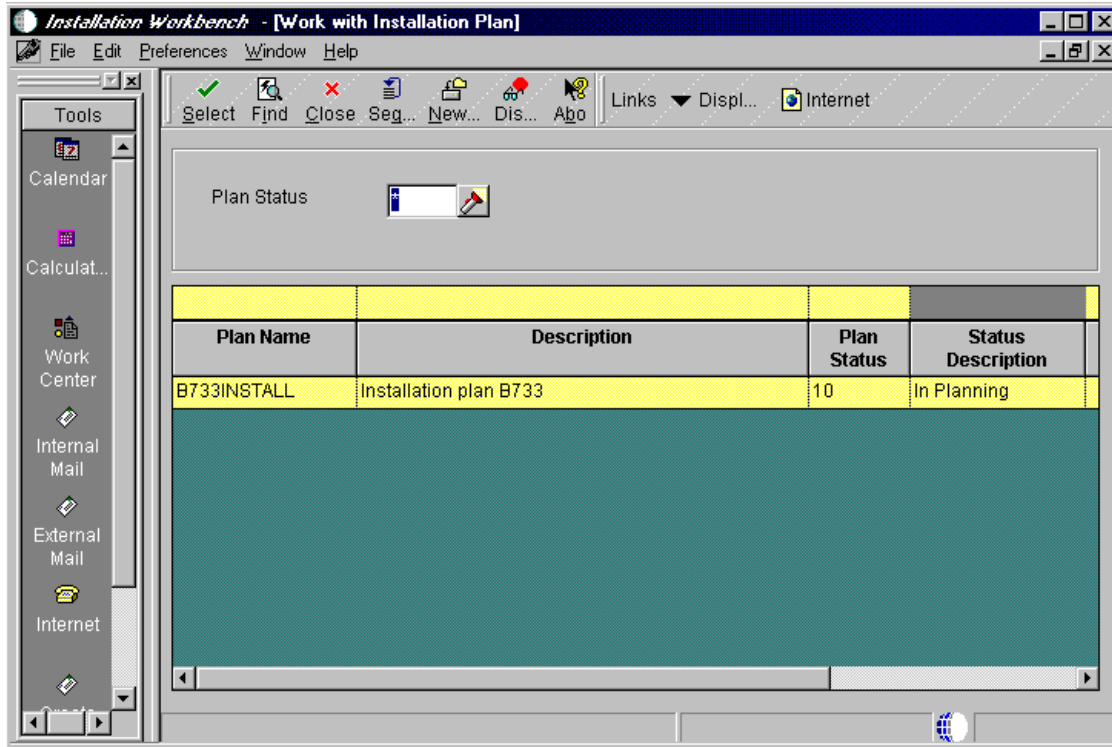


Figure 182. Work with Installation Plan Screen

- At the Work with Installation Plan screen, double-click the Plan Name, **B733INSTALL** record. You will see a screen similar to Figure 183:

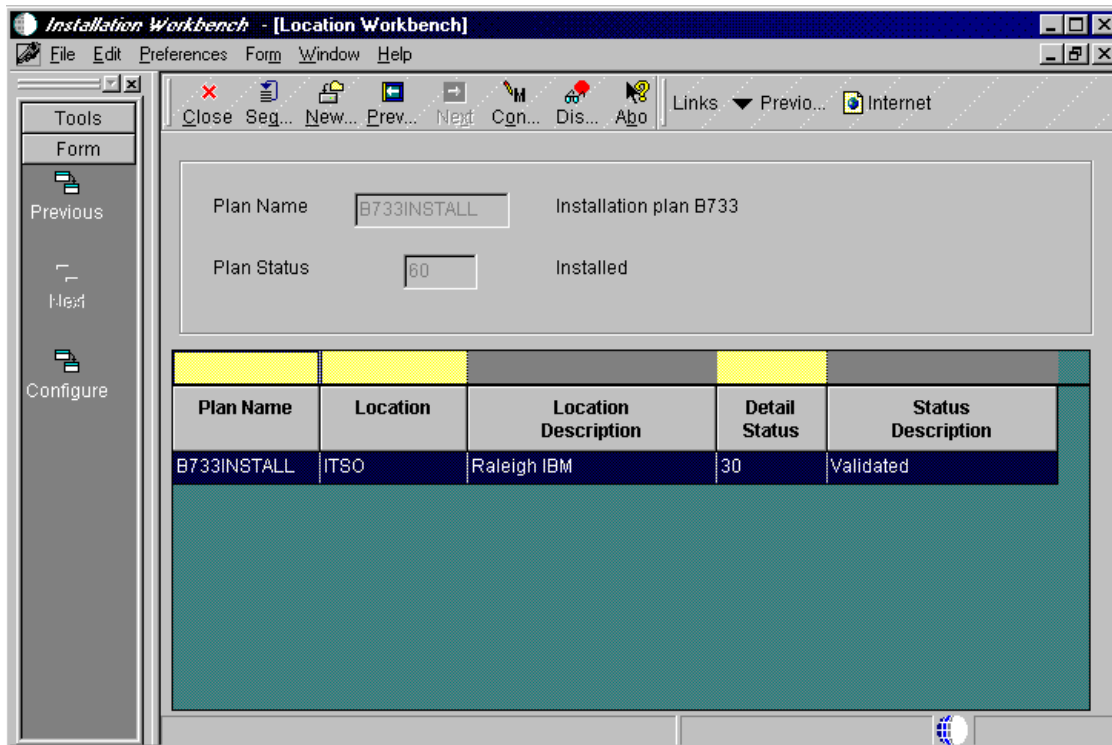


Figure 183. Location Workbench Screen

- Verify that this form lists all the necessary locations for your plan. From the action bar click **Form > Configure** (the Workbench updates your Detail Status to 60 and changes the Status Description from Validated to Installed).
- Click **Next** to continue. You will see a screen similar to Figure 184:

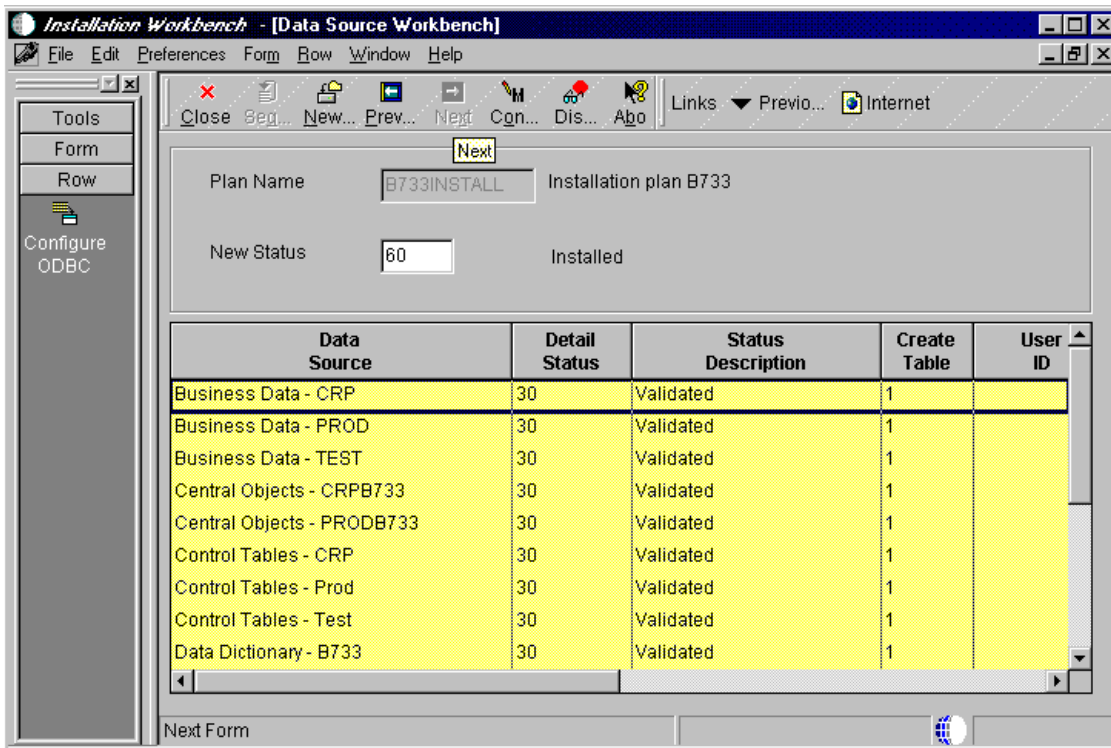


Figure 184. Data Source Workbench Screen

- At the Data Source Workbench screen, we scrolled down the list of items and verify that the information presented lists all the necessary data sources for our plan.

Note: If you are using SQL Server data sources, you must create ODBC data sources defined in the plan that were not created earlier (at the beginning of the Installation Planner). As you complete the next steps, if the option appears for you to create a new data source take a look at the bottom left corner of the screen to determine which data source must be created. This information will appear in the screen where Next Form is currently shown in Figure 184.
- From the action bar click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
- Click **Next** to continue. You will see a screen similar to Figure 185 on page 229.

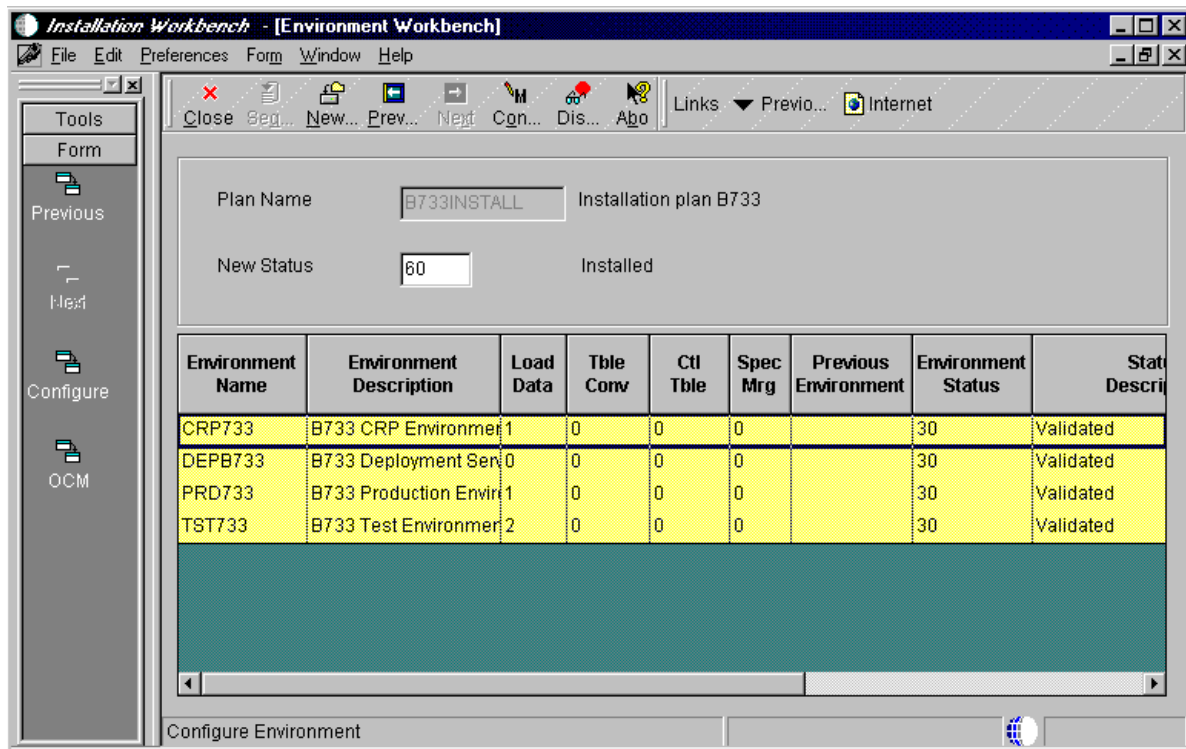


Figure 185. Environment Workbench Screen

10. On the Environment Workbench screen, verify the environment you selected and each environment's associated parameters for correct values. OneWorld includes the deployment server environment in this list.

Note: The environment configuration phrase takes approximately two hours or more per environment to run. You can let Environment Workbench run overnight, but do not lock the workstation or Environment Workbench stops after loading the first environment.

11. From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
12. After the configuration of your environments has been completed, click **Next** to continue. You will see a screen similar to Figure 186 on page 230.

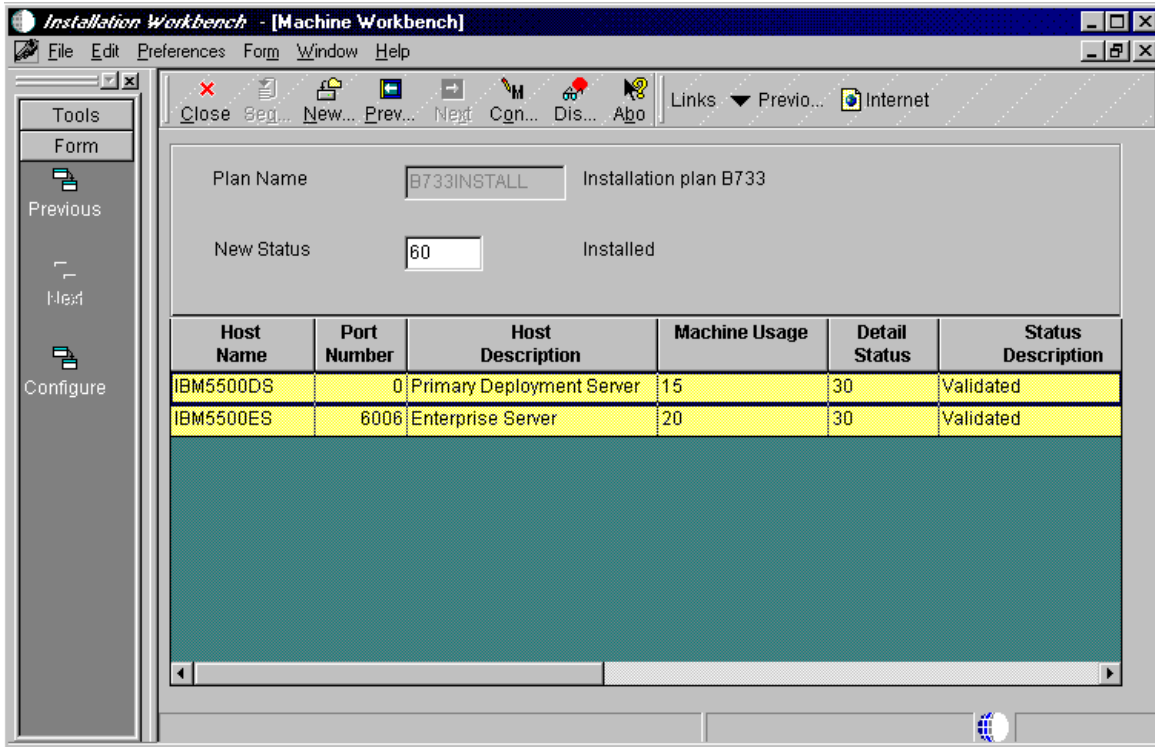


Figure 186. Machine Workbench Screen

13. Review the Machine Workbench for the correct parameters. At the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
14. Click **Next** to configure your packages. You will see a screen similar to Figure 187.

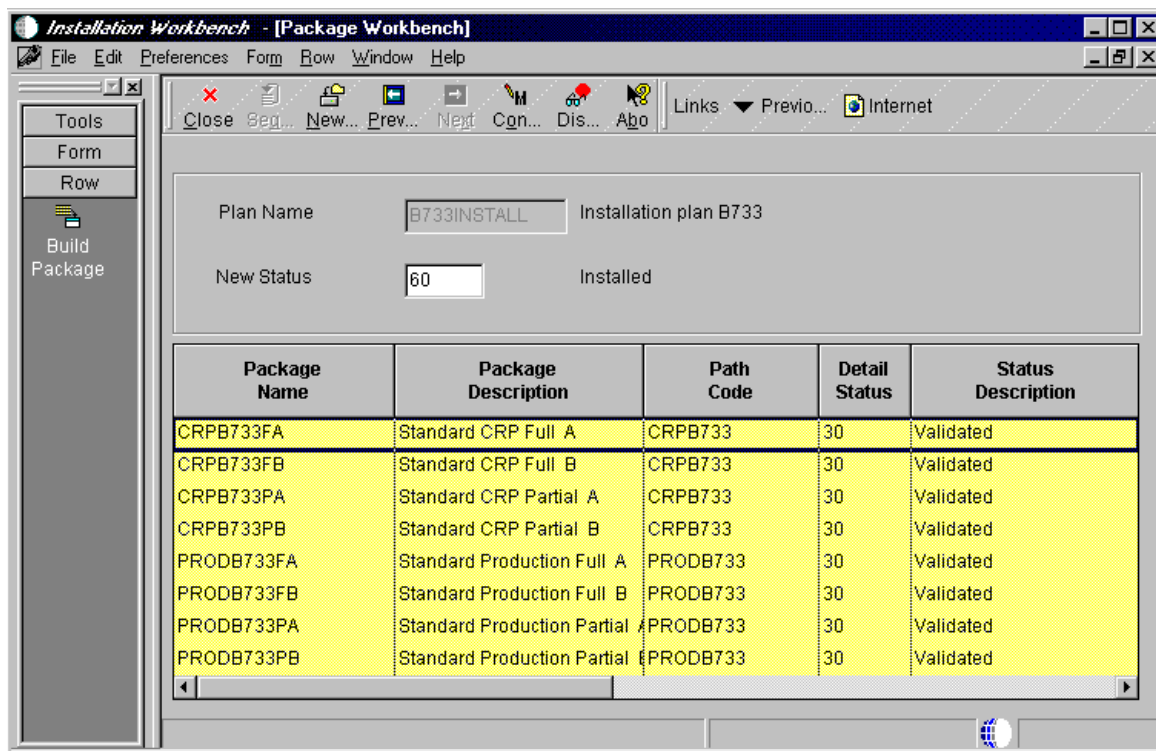


Figure 187. Package Workbench Screen

15. On the Package Workbench screen, review the Conference Room Pilot (CRP) and Production packages. From the action bar, click **Form > Configure**.
16. Click **Next** to finish the plan. From the action bar, click **Form > Finish**.

8.3.8 Setting Up and Verifying the Hosts File

If no Domain Naming Service is defined on your network, you must set up the hosts file for each machine. The following procedure must be completed on each machine on your network to ensure each machine can identify the other:

1. From Windows Explorer, access `\\Winnt\System32\Drivers\Etc\Hosts`.
2. Add the Machine IP address and Machine name in your hosts file. For example,

```
192.168.254.4 ibm5500es #The OneWorld enterprise server
192.168.254.2 ibm5500ds #The OneWorld deployment server
```

Verify that you entered the address and name on a separate line. A pound sign (#) marks the start of a comment, and the end-of-line character marks the end of a comment.

Note: Again, If you use the Domain Naming Service (DNS) or the Windows Internet Services (WINS), you do not need to set up and verify the hosts files.

8.4 Installing OneWorld on the Enterprise Server

In this section, you will use the CD-ROM software OneWorld Release B73.3 NT Intel, 1 of 1 to install OneWorld on the enterprise server. This installation process copies OneWorld system and path code files directly from the CD-ROM to the enterprise server.

Complete the following steps to install the enterprise server software:

1. Log on to the enterprise server with system administrator privileges.
2. Create a new user JDE with a password JDE; log off and log on using the JDE user ID.

Note: If your deployment and enterprise server are set up as a PDC or PBC, respectively, then you will not need to create JDE user.

3. From your enterprise server, map a drive to the deployment server where the OneWorld base directory resides (d:\OneWorld\B733). For our example, we used x:\.
4. Review the JDE.INI file that will be copied to the enterprise server. By default it is located in deployment server:

ONEWORLD\B733\HOSTS\INTELNT\enterpriseserver

For our example, we used ONEWORLD\B733\HOSTS\INTELNT\IBM5500ES.

5. Edit the JDE.INI file if necessary to match the following statements:
 - In the [SECURITY] section, verify that the DefaultEnvironment setting matches a valid environment that you defined in our plan.
 - In the [INSTALL] section, verify the LocalCodeSet parameter is set to the appropriate value for our installation.
 - In the [DB SYSTEM SETTINGS], verify that the server name parameters are set as the machine name. Normally, this is set automatically.
6. Save and Close the file.
7. Insert the CD-ROM labeled Release B73.3, NT Intel 1 of 1 into the CD-ROM drive. Setup will start automatically. You will see a screen similar to Figure 188 on page 233.

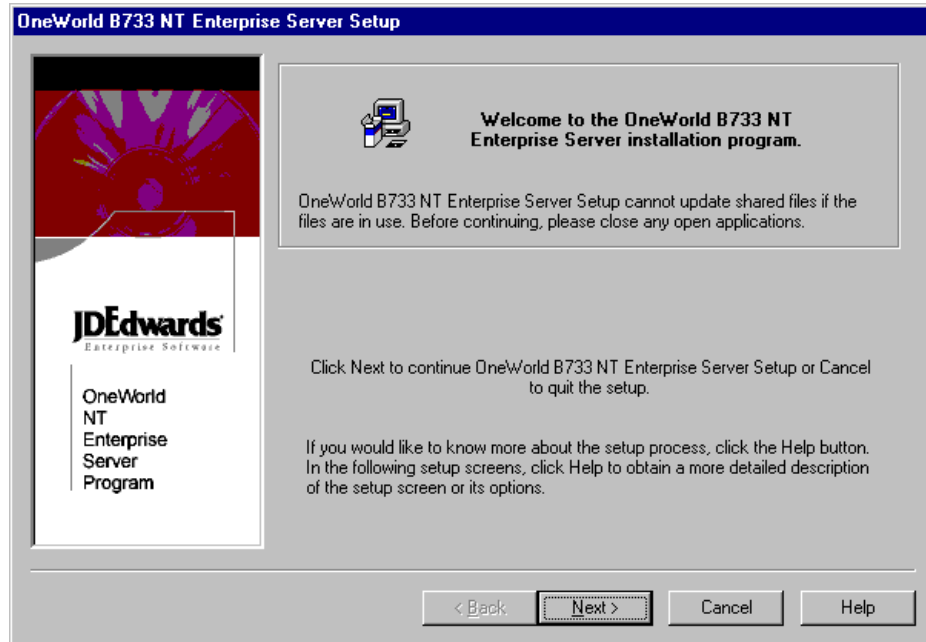


Figure 188. OneWorld B733 NT Enterprise Server Setup Screen

8. Click **Next** to continue. You will see a screen similar to Figure 189:

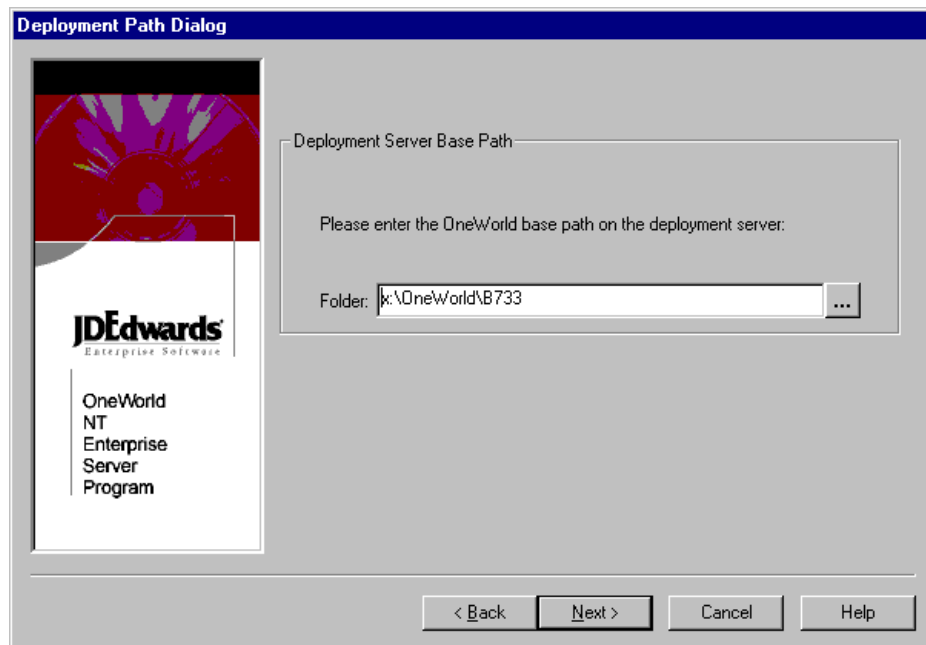


Figure 189. Deployment Path Dialog Screen

9. At the Deployment Path Dialog screen, type the path on the deployment server where the base OneWorld installation exists. In this example, we typed `x:\OneWorld\B733`. Click **Next** to continue. You will see a screen similar to Figure 190 on page 234.

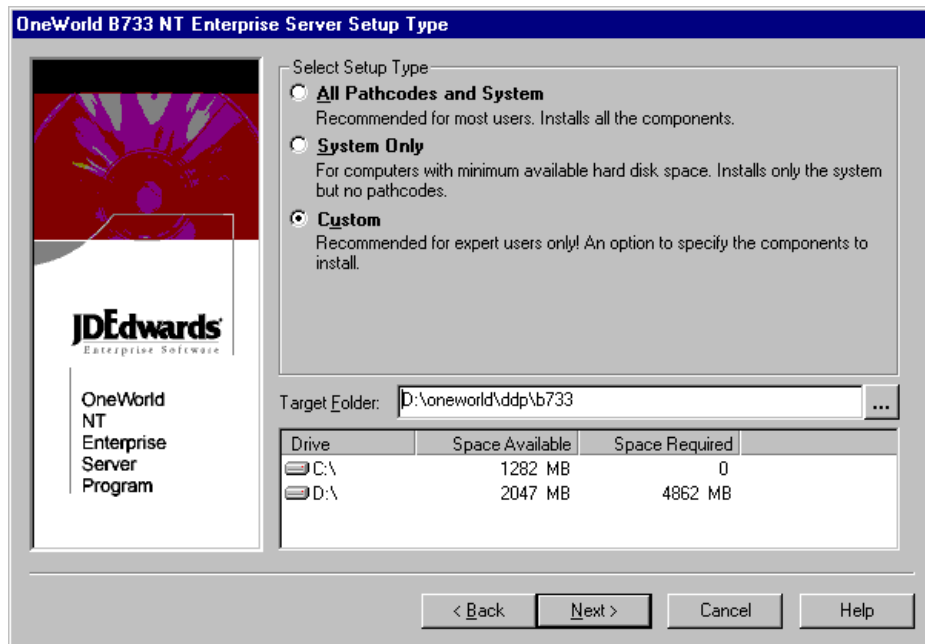


Figure 190. Enterprise Server Setup Type Screen

10. Click **Custom** for your setup type.

11. In the Target Folder field of the Setup Type screen, type the directory where you want the files installed on your enterprise server. In our example, we typed D:\OneWorld\ddp\B733. Click **Next** to continue. You will see a screen similar to Figure 191 on page 235.

Note: Under Space Available the software package does not recognize the correct amount of space that is available. Do not be alarmed. In the planning and setup of our enterprise server, we ensured the appropriate amount of disk space was made available for OneWorld.

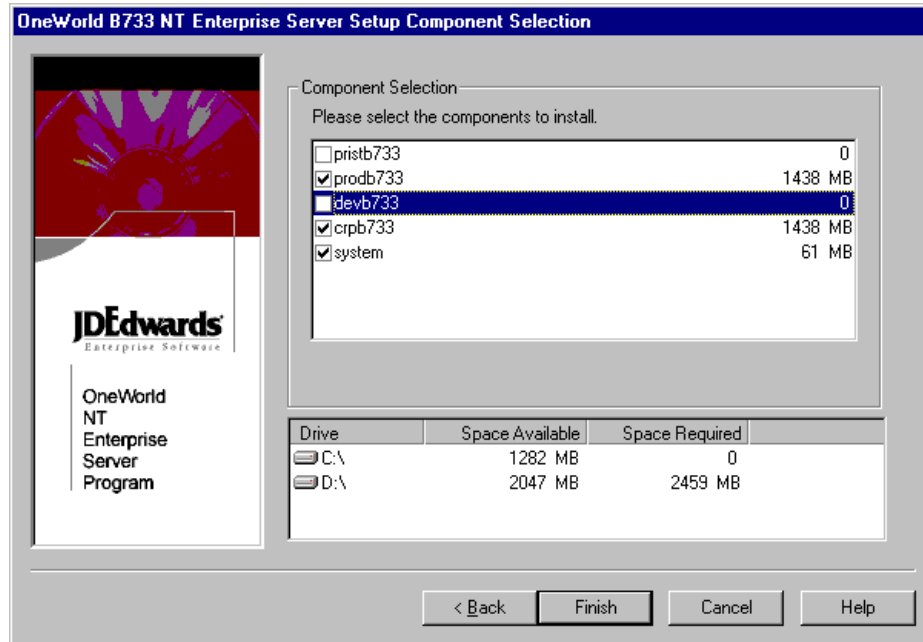


Figure 191. Enterprise Server Setup Component Selection Screen

12. At the Component Selection screen, you may want to select all the components that apply to your OneWorld setup. In this example, prodb733, crpb733, and system were selected. Click **Finish** to continue.
13. When the enterprise server setup completes copying its files, the OneWorld B733 NT Enterprise Server Setup screen will notify you that the installation was successful.
14. Click **OK** to continue.

8.4.1 Starting the OneWorld Windows NT Enterprise Server

This section includes procedures for verifying the OneWorld Windows NT enterprise server installation and starting the OneWorld NT enterprise server.

To verify that the OneWorld enterprise environment has been set up correctly, you must run the porttest program for each environment. Perform the following steps:

1. Log on to the Windows NT enterprise server as JDE and use the password JDE.

Note: Prior to running porttest, you must create ODBC data sources for the enterprise server as you did for the deployment server. You should use Table 20 on page 236.

Table 20. OneWorld Data Sources and Database Names for SQL Server 7.0

Data Sources	Database Name
System - B733 Object Librarian - B733 Data Dictionary - B733 <i>machinename</i> - B733 Server Map <i>machinename</i> (where <i>machinename</i> is the enterprise server). <i>machinename</i> - logic (where <i>machinename</i> is the enterprise server).	JDEB733
Central Objects - CRPB733 Versions - CRPB733	JDE_CRPB733
Control Tables - CRP Business Data - CRP	JDE_CRP
Central Objects - PRISTB733 Versions - PRISTB733	JDE_PRISTB733
Business Data - JDE	JDE_PRISTINE
Central Objects - PRODB733 Versions - PRODB733	JDE_PRODB733
Control Tables - Prod Business Data - PROD	JDE_PRODUCTION
Central Objects - DEVB733 Versions - DEVB733	JDE_DEVB733
Control Tables - Test Business Data - TEST	JDE_DEVELOPMENT

For more information about ODBC data sources, review the Third-Party ODBC Data Sources in the reference section of the *OneWorld Installation Guide (Windows NT - Based Systems)*, Release B73.3.

- To verify that OneWorld is installed correctly on the enterprise server, open a DOS command prompt and type the following commands:

```
cd \OneWorld\ddp\B733\System\Bin32
porttest JDE JDE CRP733
porttest JDE JDE PRD733
```

Note: Ensure you type the information correctly because these parameters are case-sensitive. You must enter the `porttest` command for each environment.

The `porttest` program initializes a user and an environment (assuming that OneWorld is installed and configured correctly). The program should display messages indicating the selection of records out of a OneWorld table. If it does not, review the `jde.log_###` that was specified in the JDE.INI file on the enterprise server.

If `porttest` fails to run, see the Host Services Checklist in the reference section of the J.D. Edwards' *OneWorld Installation Guide (Windows NT Based-Systems)*, Release B73.3.

- Shut down and restart the enterprise server.

8.4.1.1 Installing OneWorld Network and Queue Services

In this section, you will install JDESQUE and JDESNET. To complete the installation of JDESQUE and JDESNET, perform the following steps:

1. Open a DOS command prompt, and type the following commands:

```
cd\OneWorld\ddp\B733\System\Bin32
jdesque -I
jdesnet -I
exit
```

2. From the Windows NT interface, click **Start > Settings > Control Panel**. Select the **Services** icon. You will see a screen similar to Figure 192:

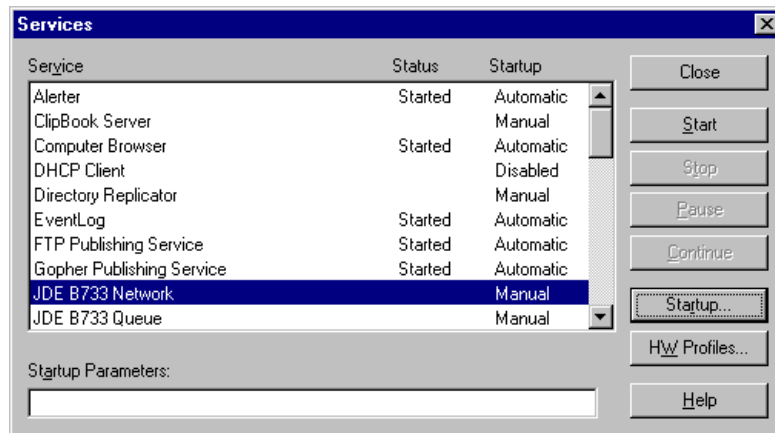


Figure 192. Windows NT Services Screen

3. Choose the OneWorld network service. For example, select **JDE B733 Network**.
4. Click **Startup** for this service.
5. Under Startup Type, select **Manual**.
6. Under Log On As:, click **This Account**.

If your default printer is a local printer, type in a local account name and password. If your default printer is a network printer, enter a network account name and password. In our example we had a network printer, therefore, we used the ONEWORLD\JDE user ID and JDE password.

7. Click **OK**.
8. Repeat the same procedures (steps 4-7) for the JDE B733 Queue service.

8.4.1.2 Start the OneWorld Enterprise Server

To start the OneWorld enterprise server, perform the following steps:

1. From the Windows NT interface, click **Start > Settings > Control Panel**. Select the **Services** icon.
2. Choose **JDE B733 Network** services and click **Start**.
3. Next, choose **JDE B733 Queue** services and click **Start**.

Note: You must always start Network, then Queue services. Information on stopping these services correctly can be reviewed in the section "Stopping

8.5 Setting Up a Printer on the OneWorld Enterprise Server

In this section, these procedures are performed to set up a printer for our OneWorld enterprise server. However, depending on the customer or clients, these steps may be different. The following tasks will be done on the deployment server in the deployment environment (DEPB733):

- Adding a paper type.
- Adding a physical printer.
- Defining a conversion program.
- Adding a logical printer.
- Adding a Default Logical Printer.

8.5.1 Adding a Paper Type

In this section, we begin our printer set up by adding a paper type. Log on to the OneWorld deployment server in the deployment environment DEPB733):

1. On the Printers menu (GH9013), select **Work with Paper Types** (P98616).
2. Click **Add**. You will see a screen similar to Figure 193:

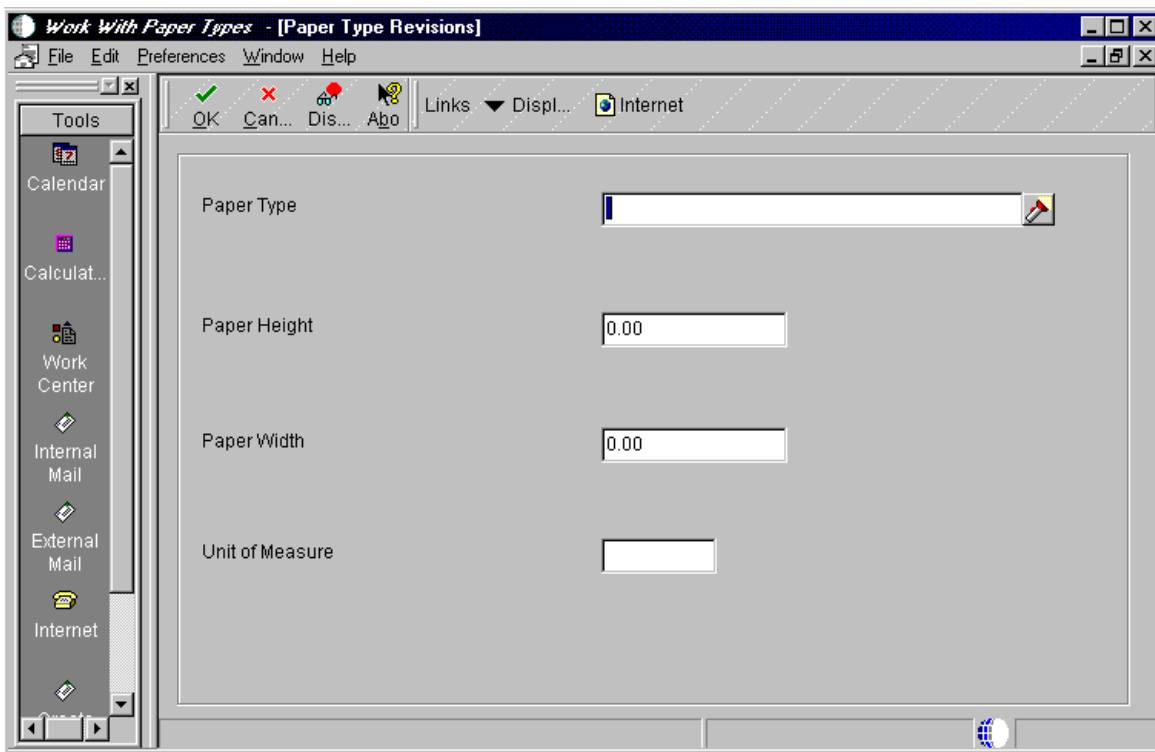


Figure 193. Work With Paper Types (Paper Type Revisions) Screen

3. In this release of the B73.3 release of OneWorld, the only valid paper types are the ones that are pre-defined User Defined Codes (UDCs): LETTER, LEGAL, and A4. In this section, adding a paper type will not be necessary,

however the basic steps are shown below. For Paper Type Revisions, enter the following fields:

- Paper Type = Select the paper type that you are going to use.
 - Paper Heights = Specify the height of the paper for this paper type.
 - Paper Width = Specify the width of the paper for this paper type.
 - Unit of Measure = Indicate the unit of measure in which the paper height and width are entered.
4. Click **OK** and then **Cancel** to continue.

8.5.2 Adding a Physical Printer

In this section, we will add a physical printer to our OneWorld setup. Complete the following steps:

1. On the Printers (GH9013), choose **Work with Physical Printers** (P98616).
2. Click **Add**. You will see a screen similar to Figure 194:

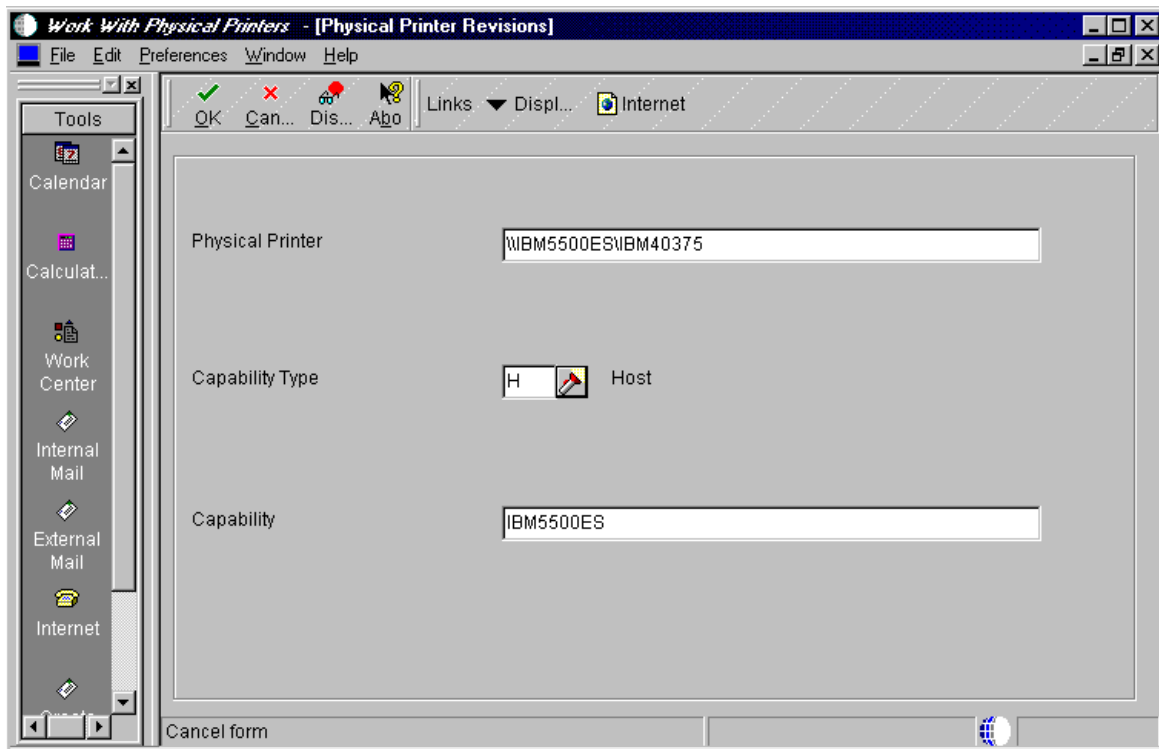


Figure 194. Work With Physical Printers (Physical Printer Revisions) Screen

3. Complete the required fields:
 - Physical Printer = Name of the printer that exists on you network.
The Windows NT format is: *\\enterprise server name\printer name*.
For our example, we used: *\\IBM5500ES\IBM40375*.
 - Capability Type = Select the type of capability that is required for OneWorld to print properly. For our example, **H** (Host) was chosen first.

Note: The capability type H (Host) and P (Paper) are required to set up a physical printer. However, T (Type) and W (Where) are for informational purposes only and may be optional.

- Capability = This step is determined by the capability type. For example: Paper represents LETTER, A4, and LEGAL, while Host represents the name of the machine that process the job.
4. Click **OK**.
 5. Repeat the same procedure above for P (Paper) and if necessary, for T (Type) and W (Where).
 6. Once you have finished defining the printer capabilities, click **Cancel** to continue.

8.5.3 Defining a Conversion Program

This task is not necessary for Intel-based servers. For the Intel-based server, Adobe Acrobat Reader acts as the conversion program.

8.5.4 Adding a Logical Printer

In this section, we added a printer to our environment. Complete the following steps:

1. On the Printers (GH9013), choose **Work with Logical Printers** (P98616).
2. On Work With Logical Printers, click **Add**. You will see a screen similar to Figure 195:

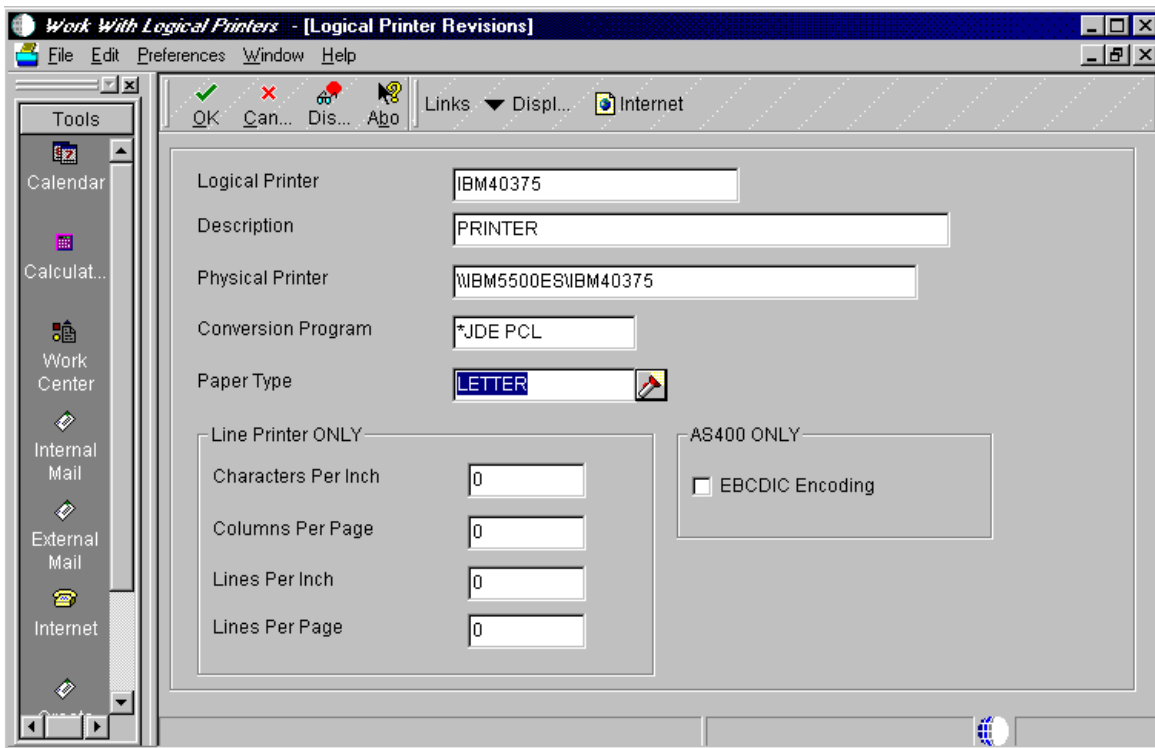


Figure 195. Work With Logical Printers (Logical Printer Revisions) Screen

3. Complete the following fields for Logical Printer Revisions:

- Logical Printer = Name of printer where you will send your print job.
 - Description = Long description of your printer.
 - Physical Printer = Location of your printer.
 - Conversion Program = Choose your correct conversion program.
 - Paper Type = Choose your appropriate pre-defined paper type.
4. Click **OK** to save the record for your printer definition.

8.5.5 Adding a Default Logical Printer

In this section, we will add a default printer. Complete the following steps:

1. On Printers (GH9013), choose **Work with Default Logical Printers** (P98616).
2. Click **Add**. You will see a screen similar to Figure 196:

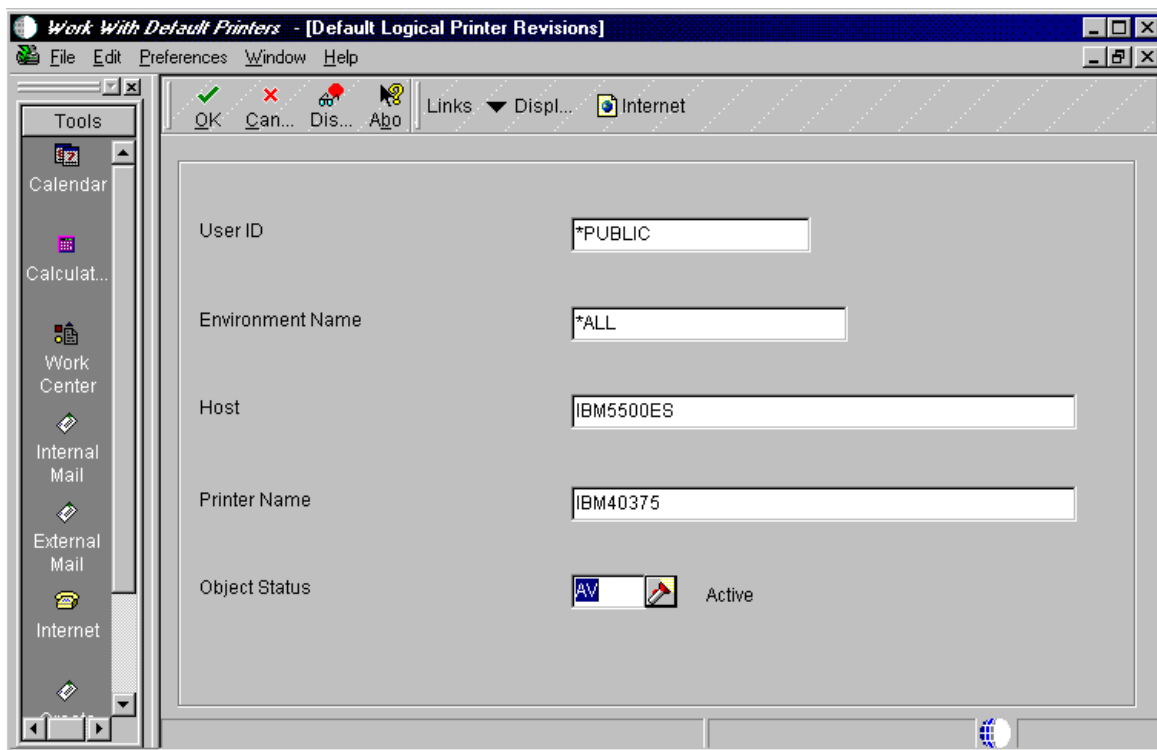


Figure 196. Work With Default Printers (Default Logical Printer Revisions) Screen

3. Complete the required fields:
 - User ID = *PUBLIC
 - Environment Name = *ALL
 - Host = Enterprise server name
 - Printer Name = Name of your printer
 - Object Status = AV (Active)
4. Once completed, click **OK** to continue.

8.6 Setting User and Group Profiles

J.D. Edwards recommends you set up one or two users to perform the installation process. Once this is done, you can then set up the rest of your users and groups when you have time to consider how you want groups to be organized and what preferences you want each group to have. In this section, we will perform the following:

- Create a user and group profile.
- Assign our packages to our profiles.
- Assign our environments to our profiles.

8.6.1 Create a User and Group Profile

In OneWorld, you have the ability to set up group preferences. This eliminates the need to assign packages to each individual user profile. With group preferences, you can perform package assignments for the entire group and have those assignments available to all of the individual users belonging to that group. In our example, we will create a user and assign that user to a group. However, the user we create will have packages and environments assigned directly to its profile.

Profiles define certain setup and display features, such as language, date format, and country code. Although we can set up numerous users (clients) for OneWorld, our example demonstrates a basic overview of setting a group. For more information and references, please refer to the chapter "User Profile Procedures" of the *OneWorld Installation Guide (Windows NT Based-Systems), Release B73.3*.

During user deployment, sign on to the deployment environment, DEP733, of the deployment server and perform the following steps to create a group and user:

1. At the deployment server, log on to the deployment environment by selecting **DEP733**.
2. From the Advanced Operations menu (GH9011), select **User Profiles**.
3. Click **Find** to view the existing user profiles. You will see a screen similar to Figure 197 on page 243.

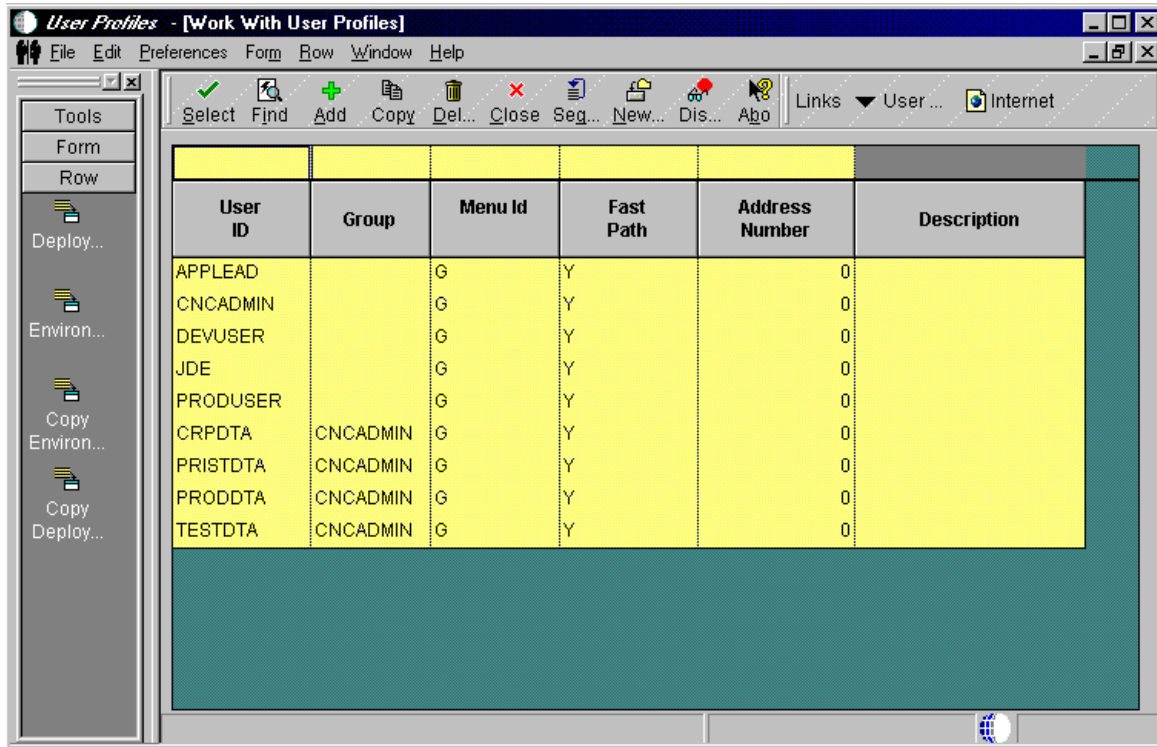


Figure 197. User Profiles (Work With User Profiles) Screen

4. Click **Add** to create a new profile. You will see a screen similar to Figure 198 on page 244.

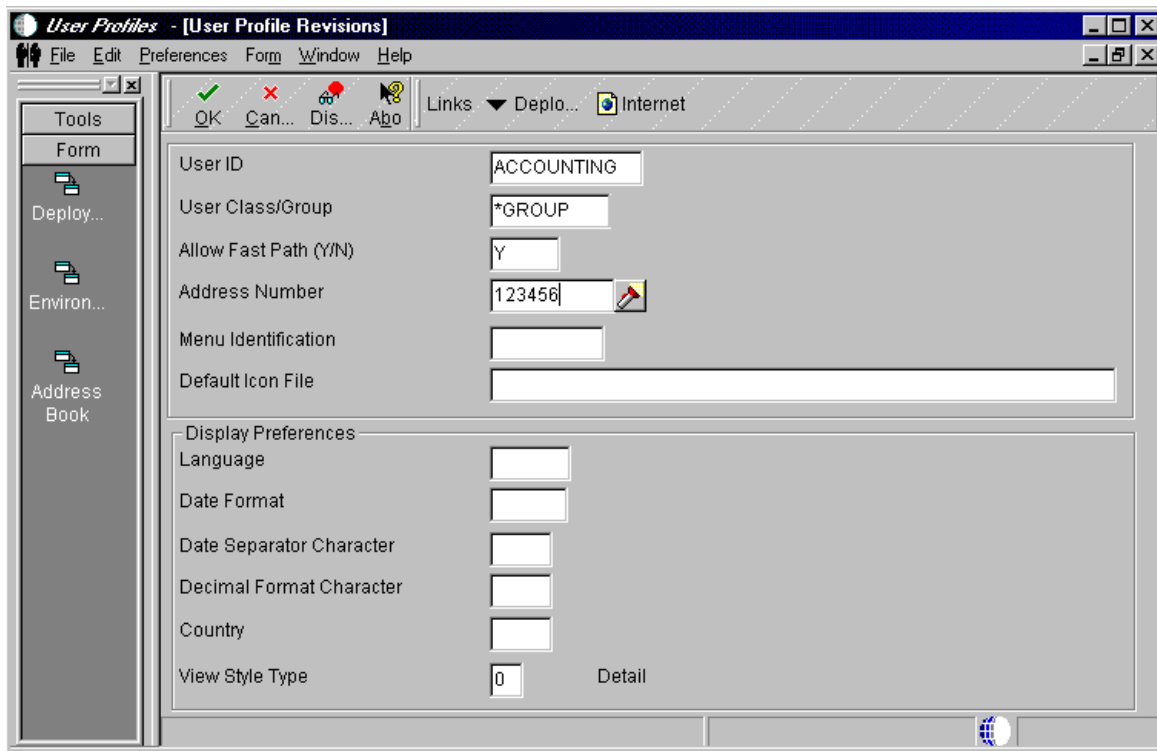


Figure 198. User Profiles (User Profile Revisions) Screen

5. To create a group profile:
 - In the User ID field, type a group name, such as ACCOUNTING.
 - In the User Class/Group field, type *GROUP.
6. Click **OK**.
7. Click **Add** to create a new user. You will see a screen similar to Figure 199 on page 245.

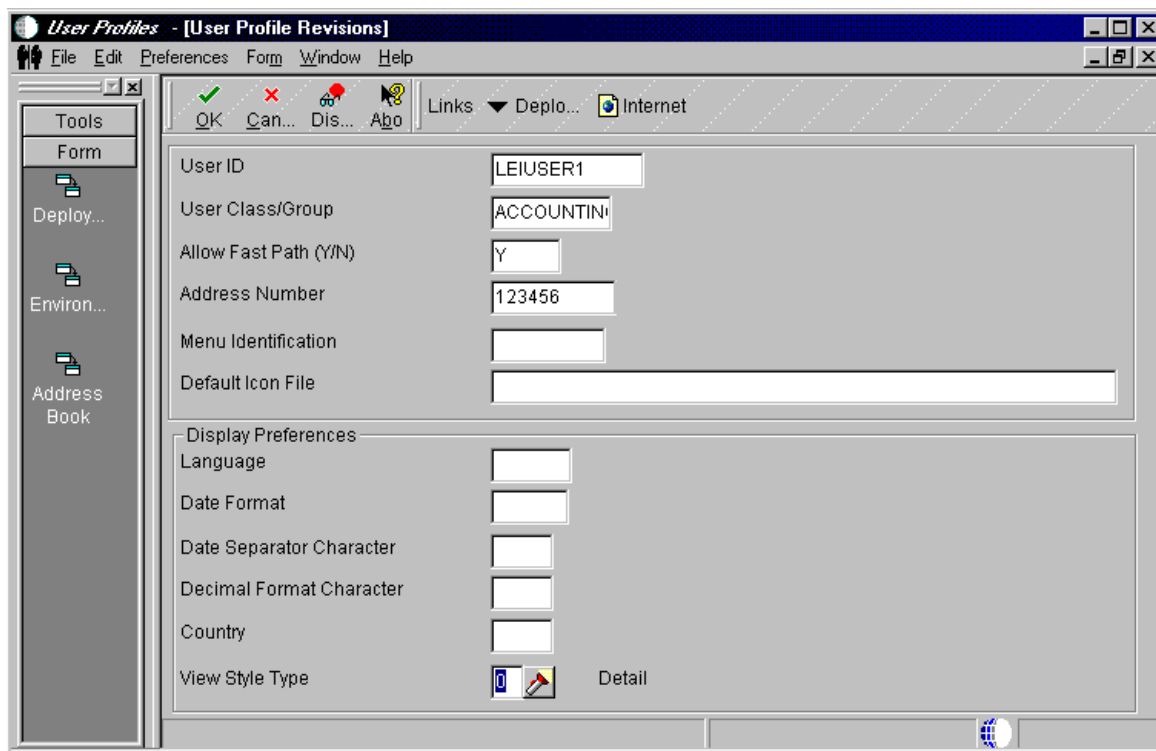


Figure 199. User Profiles (User Profile Revisions) Screen

8. Complete the following fields:

- In the User ID field, type the individual's user ID. For our example, we used LEIUSER1.
- In the User Class/Group field, type the name of the group to which the user belongs, such as ACCOUNTING, or use the flashlight button to search for this group. Leave this field blank if the user does not belong to a group.
- Enter an address book number.

9. For user or group profiles, complete the remaining fields as appropriate or leave at the defaults. In our example, we used the defaults. Click **OK**.

10. To display the profiles you modified or created on the Work With User Profiles screen, click **Find**.

8.6.2 Assign Packages to a Profile

After creating a user and a group profile, you must assign deployment preferences to them (for examples, packages and environments). In this section, we will assign Conference Room Pilot (CRP) and Production (PROD) packages for our user to install. Perform the following steps:

1. From the OneWorld work space, access the Advanced Operations menu (GH9011) and choose **User Profiles**.
2. On the Work With User Profiles screen, click **Find**. You will see a screen similar to Figure 200 on page 246.

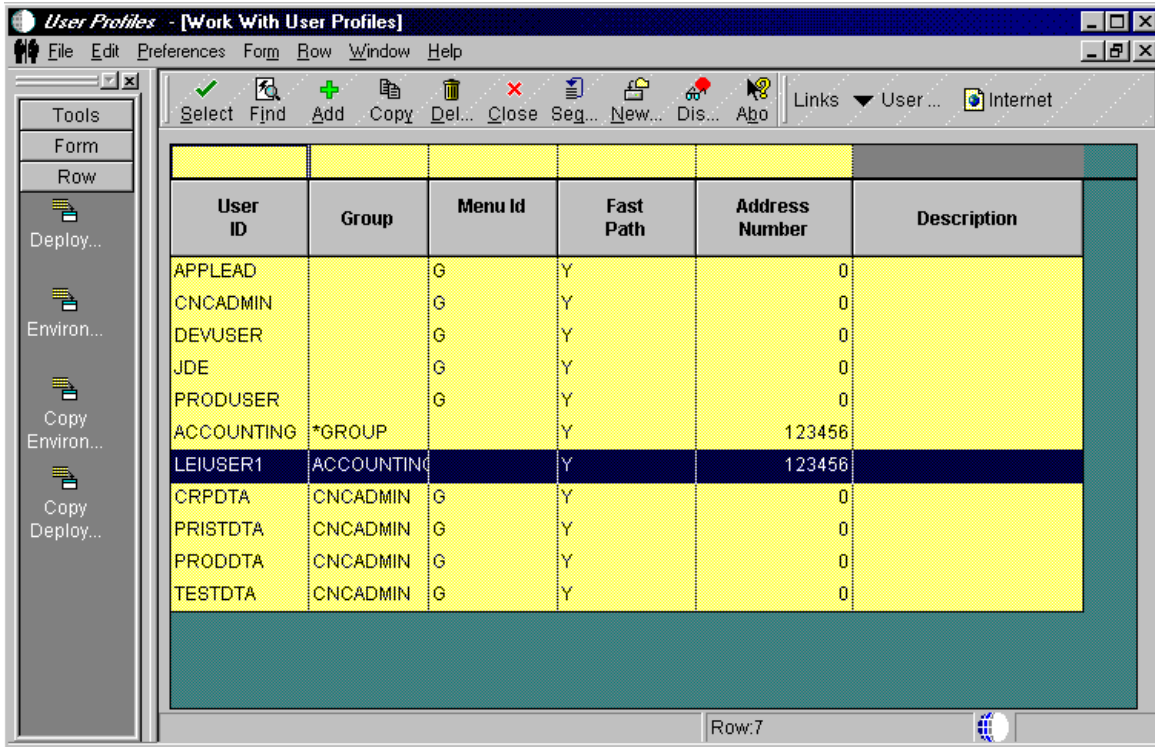


Figure 200. User Profile (Work With User Profiles) Screen

3. Choose an existing user ID. For our example, we chose LEIUSER1. (This can be an individual or group profile.)
4. From the action bar, select **Row > Deployment**.
5. On the User Deployment Preferences screen, complete the following fields:
 - Deployment Location = We left this field blank for this example.

Note: You can have the workstation installation pull packages from a machine other than your deployment server. On User Deployment Preferences, use the Deployment Location field to indicate the machine that has the package(s) you want deployed during a workstation installation.
 - Package Name = Select our packages, **CRPB733PA** and **PRODB733PA**.

Note: PA reflects a partial package. The partial package is selected for workstation that are part of a local area network. The full package is normally selected for workstations across a wide area network.
 - Help Location = Defaults to the server.

Note: Regardless of how you define a package for help instructions, workstation installation only installs help instructions to the workstation based on the user's deployment preference of workstation or enterprise server. Workstation installation updates the JDE.INI file according to the package's information .INF file and the deployment preferences help location.
6. Click **OK**.

8.6.3 Assigning Environments to a Profile

When starting OneWorld, you can assign more than one environments to each user or group from which any user or group can choose. If users do not have environments of their own, they can choose from the ones assigned to their group. To assign environments, perform the following steps:

1. From your OneWorld work space access the Advanced Operations menu (GH9011), and choose **User Profiles**.
2. On Work With User Profiles, click **Find**.
3. Choose a profile. In our example, we highlighted LEIUSER1.
4. From the **Row** menu, select **Environments**. You will see a screen similar to Figure 201:

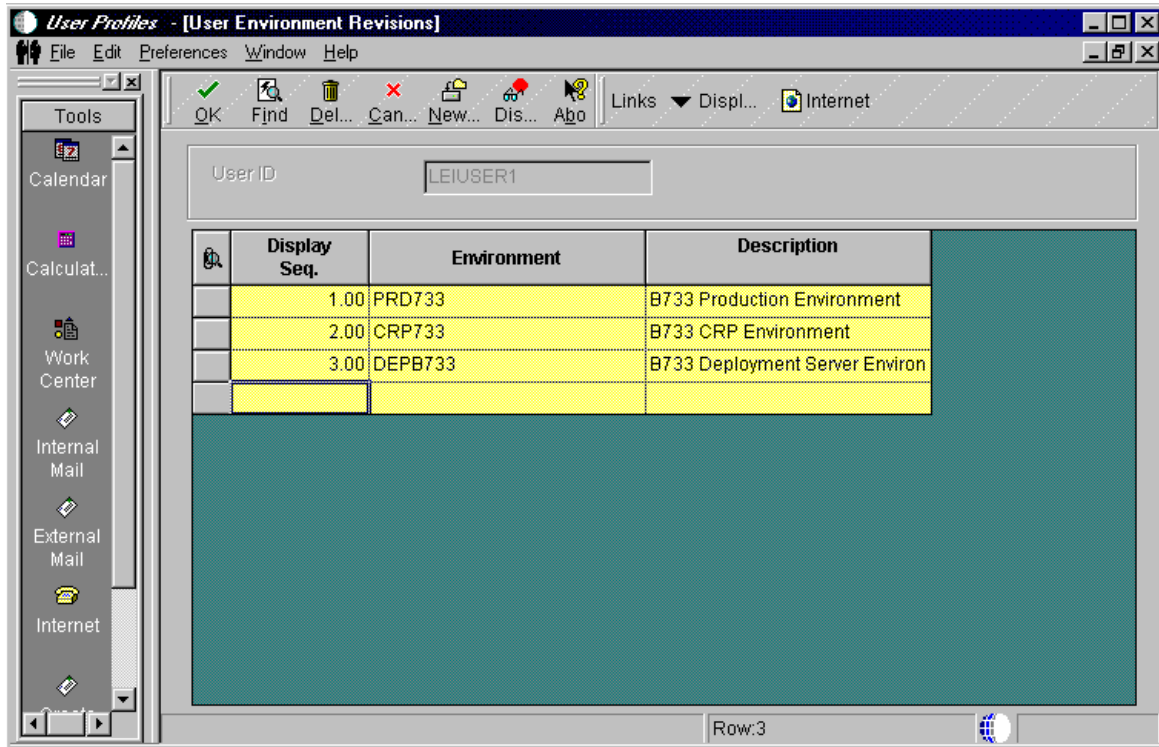


Figure 201. User Profiles (User Environment Revisions) Screen

5. Complete the following fields for User Environment Revisions:
 - Display Sequence (Display Seq.) = This is an optional field. Leave blank to arrange environment names alphabetically or enter numbers to create your own order.
 - Environment = For our example, we selected **PRD733**, **CRP733**, and **DEPB733**.
 - Click **OK**.
 - To delete an environment from the list, select the environment and click **Delete**.

8.7 Installing OneWorld Client

The workstation installation copies all necessary components of OneWorld to a client workstation. To prepare for the OneWorld client installation, we will perform the following steps:

- Modify the JDE.INI file on the deployment server.
- Modify the Setup.inf file on the deployment server.

8.7.1 Modify the JDE.INI File on the Deployment Server

You must modify the JDE.INI file on the deployment server prior to installing OneWorld on your workstations. To begin, perform the following steps:

1. On the deployment server, sign on as JDE.
2. If necessary, edit the JDE.INI on the deployment server.
 - [JDENET]
Set the serviceNameListen and serviceNameConnect parameters to match those in the enterprise server JDE.INI.
3. To ensure the workstation will be set up correctly (such as for National Language Support), make the following changes to the JDE.INI file in the OneWorld\B733\Client\Misc directory on the deployment server:
 - [INSTALL]
Verify that the LocalCodeSet parameter is set to the appropriate language value. Also, verify that your code page is set up properly. For appropriate values and code pages, see the "National Language Support" section of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.
 - [NETWORK QUEUE SETTINGS]
Set the UBEQueue parameter appropriately. This parameter is set automatically but should be checked.

Note: You can resynchronize replicated data by changing the ForcedSync value in the [REPLICATION] section from 0 to 1. When client workstations are installed, this value is set to 0, meaning you do not want to resynchronize data.

8.7.2 Modify the Setup.inf File on the Deployment Server

In this section, Setup.inf will be modified to specify the default environment.

Note: You do not need to perform this task if you want the default environment to be Production (PRD733).

Complete the following steps if your default environment is CRP:

1. From Windows Explorer, open Setup.inf, which is in the OneWorld\B733\Client directory.
2. In the [DB SYSTEM SETTINGS] section, set the Default Env parameter to the valid environment you want to be the default. In our example, we typed CRP733.
3. In the [DB SYSTEM SETTINGS] section, set the Default PathCode parameter to the valid path code you want to be the default (this should match the environment). In our example, we typed CRPB733.

4. Save the file, then close it.

8.7.3 Installing OneWorld Client (Interactive Mode)

Install the OneWorld Client software on the designated workstation using Interactive Mode. Ensure that all the required software for the workstation has been installed, such as the SQL Server client software. No other services or open programs should be active during the OneWorld client installation. For instructions on how to install the SQL Server 7.0 Client, see "Deployment Server Setup" on page 167 and begin with step 5 on page 170. When you get to the Select Components screen, do not select Management Tools.

Note: If you are installing an alternate language, such as Spanish or Chinese, you will need to load the appropriate language to the workstation. For more information about the steps to follow, see "Installing the Client Workstation" in the *Language Installation Guide, Release Level B73.3*.

Complete the following steps:

1. From the Windows Explorer, connect to the OneWorld shared drive of the deployment server.
2. In the Client directory, double-click **setup.exe**. You will see a screen similar to Figure 202:

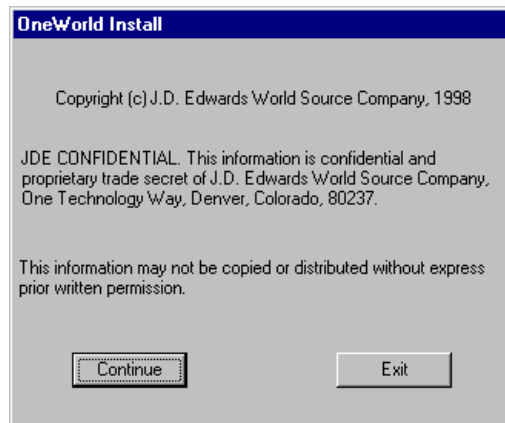


Figure 202. OneWorld Client Install Screen

3. Read the licensing terms and click **Continue**. You will see a screen similar to Figure 203 on page 250.

The OneWorld installation process verifies that several of the system .DLLs are current. If they are not current, you receive a message to reboot your system. When you reboot, the system updates the .DLLs in your Windows directories. To install OneWorld, you must begin again with the first step in this task.

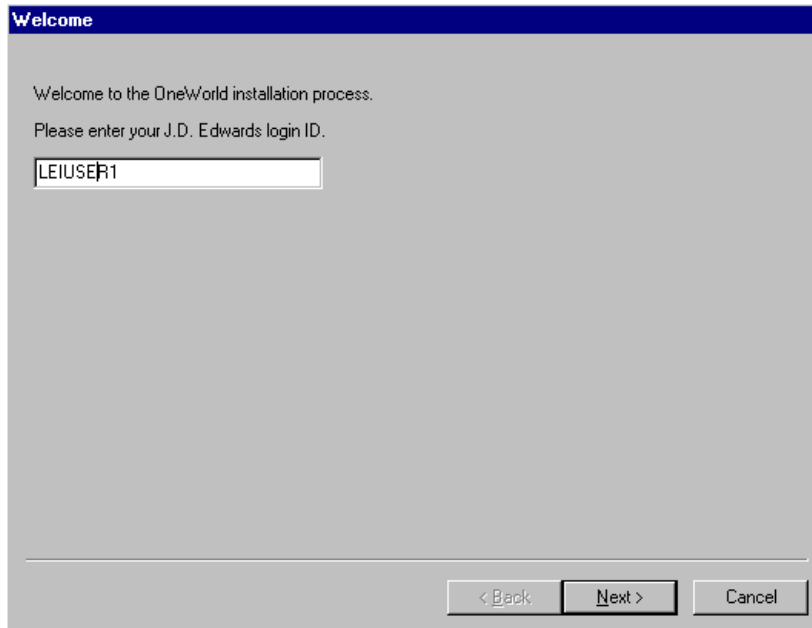


Figure 203. OneWorld Sign-On (Welcome) Screen

4. Type the login ID. (For this example, LEIUSER1.)

Note: This list of packages comes from your user and group profiles for deployment preferences.

5. Check the box to the left of each package to install on the client workstation.

Click the option to Install Development Objects if you are a OneWorld developer. This option appears only if you have a compiler loaded on your workstation.

You can also change the drive where OneWorld is installed, but the directory path is always b7.

6. To initialize the package, click **Next**.

Note: This could run for several minutes. The client installation displays two status bars. The first shows the status of the installation. The second shows the status of any configuration necessary to run OneWorld on the workstation.

The Congratulations screen appears to indicate that the installation has finished successfully. Workstation Installation creates a OneWorld folder in the Start menu Programs folder.

7. At the Congratulations screen, you have the option to select Adobe Acrobat Reader and Microsoft Internet Explorer. Click the check box **Install Adobe Acrobat Reader 3.01**. If you prefer Netscape Navigator as your browser, do not check the box for Microsoft Internet Explorer; otherwise, click the **Microsoft Internet Explorer 4.01** option as well.
8. Click **Close**.

Chapter 9. Implementing Windows NT Terminal Server Edition

This chapter provides information and instructions to install and configure Windows NT Terminal Server Edition, Citrix MetaFrame, Netscape Navigator, Go Lotus Domino Go Webserver, eNetwork OnDemand Server, NC Navigator, Network Station Manager and Network Station, and the OneWorld B73.3 Client. Once these tasks have been completed, Windows NT Terminal Server Edition will be able to support multiple IBM Network Stations accessing the OneWorld B73.3 client, and this client will provide the enduser access to the OneWorld B73.3 Enterprise server.

Windows NT Terminal Server Edition introduces a terminal server into the OneWorld implementation. Actually, the terminal server becomes the client and is located on the same local area network as the Enterprise server. End-user network stations are connected to the terminal server across a WAN and do not have any OneWorld Files or logic installed. A number of end-user network stations can be connected to a single terminal server. Even though the network stations only receive screen drawing information from the terminal server, the enduser can perform all OneWorld tasks.

For more in-depth information regarding IBM's Network Station and Network Station Manager, we recommend downloading the redbook, *IBM Network Station Manager Release 3 Guide for Windows NT*, SG24-5221.

For this chapter, it is our intent to provide detailed step-by-step installation instructions based on the setup of our lab environment only, because there are already detailed instructions provided in the *IBM Network Station Manager Installation and Use*, SC41-0664 product publication. We also recommend that you always read the readme files as they include last minute details and corrections that are always useful to know.

9.1 Types of Windows NT Server Installs for IBM Network Station Manager

With this release of the IBM Network Station Manager, you can install on:

- A primary domain controller (PDC) - This is not recommended.
- A backup domain controller (BDC) - This is not recommended.
- A stand-alone server attached to a domain (SAD) - Recommended.
- A stand-alone server - Recommended.

We recommend running IBM Network Station Manager on a stand-alone server or a stand-alone server attached to a domain.

However, installing on a PDC remains possible since PDC was the recommended install (initially) for NSM Release 2. An existing PDC server that is migrated from Release 2 to Release 3 has to remain a PDC, since you can only change a system to a non-PDC or non-BDC system with a reinstallation of the base Windows NT system.

Here is some additional information that will be helpful in setting up Terminal Server Edition among other systems on your network. For DHCP use one of the following options:

- IBM DHCP services may be installed using your IBM Network Station Manager CD-ROM.
- Microsoft DHCP services or another version of DHCP.
- Or you can elect to run no DHCP services at all.

In our example, we elected not to use DHCP in our lab environment.

9.2 Hardware and Software Requirements

The table below is a summary of the amount of disk space required by the components we installed in the plain vanilla sample installation we describe below, using the General Availability version of NSM Release 3.

In a Windows NT Server 4.0, Terminal Server Edition environment, 1 GB of space is the recommended size.

Note: This is the space required for the base system and the NSM-related products; it does not include the space required by the applications and related components.

Table 21. Size of Installed Directories

Required Software Component	Approximate Size
Windows NT Server 4.0, Terminal Server Edition	220 MB (1)
Windows NT Server 4.0, Terminal Server Edition Service Pack 4	(2)
IBM Network Station Manager	150 MB
eNetwork On-Demand Server	18 MB
Lotus Domino Go Webserver	18 MB
Netscape Navigator 4.04 or Microsoft Internet Explorer 4.01	10 MB
Citrix MetaFrame	
Notes: (1) Plus 350+ MB of pagefile space. The NTFS partition is required for Terminal Server Edition (2) Terminal Server Edition has its own Service Pack 4	

The IBM Network Station Manager code can be obtained via the following Web site:

<http://service.boulder.ibm.com/nc>

The CD-ROM can also be ordered from this Web site in either the North American version or the International version.

The CD-ROM contains the following code:

- IBM Network Station Manager
- eNetwork On-Demand Server
- Lotus Domino Go Webserver
- Netscape Navigator 4.04 Browser

- NC Navigator Network Station Browser
- Adobe Acrobat Reader

If you wish to use Microsoft's Internet Explorer and Internet Information Server (IIS) instead of the Netscape Navigator browser and Lotus Go Webserver, you can download the Internet Explorer from Microsoft's Web site and obtain the IIS code from the Windows NT Server 4.0, Terminal Server Edition CD-ROM. The URL for Microsoft's Web site is:

<http://www.microsoft.com>

9.3 Prerequisites Products

Please remember to always consult the readme file that comes with the product for the latest information on prerequisites and last minute changes and instructions.

In this case, in addition to the general readme file, there are many other readme files that can be consulted. The figure below displays all the readme files we found by using Find.

The main one is the one at the top of the list (shown in Figure 204), whereas the others are the individual product readme files.

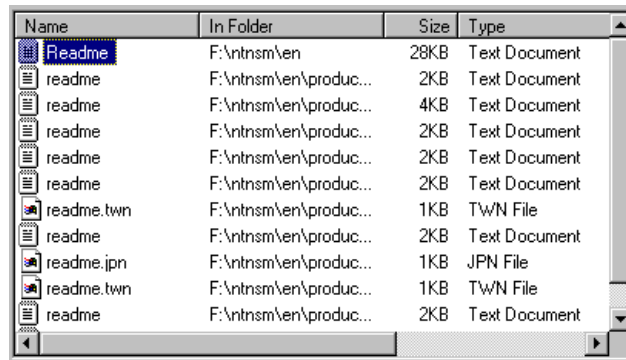


Figure 204. Readme Files on the CD-ROM

Prerequisites are enforced by the installation process, meaning that the installation process does not proceed if a prerequisite is missing. In summary, the software prerequisites are:

1. Windows NT Server 4.0, Terminal Server Edition, and disk drives formatted with NTFS. The WTS server will be a stand-alone server attached to the domain called OneWorld.

Important

If the install drive is not formatted as NTFS, you will see a message similar to Figure 208 on page 256.



Figure 205. Error Message When Installing on a FAT Drive

2. A Web browser, either Netscape Navigator 4.04 or Microsoft Internet Explorer 4.0.4. The IBM Network Station Manager has not been tested using later browser products.
3. A Web server, either Lotus Domino Go Webserver 4.6.1 or Microsoft's Internet Information Server 4.0. In our installation, we installed the Domino Go Webserver.

9.4 Installation of Windows NT Server 4.0, Terminal Server Edition

The installation of Windows NT Server 4.0, Terminal Server Edition system is the same as installing a normal Windows NT Server 4.0 system. Proceed with installing Terminal Server Edition as you would with Windows NT Server 4.0.

You should make sure that other software requirements have been installed on the Terminal Server Edition, such as the Microsoft SQL Server 7.0 Client Connectivity code. The OneWorld B73.3 client will be installed later.

After Terminal Server Edition, NSM, and all other required software components have been installed, you should install Service Pack 4 for Windows NT Server 4.0, Terminal Server Edition. Service Pack 4 provides enhancements to application development, security and application services, and known Year 2000 issues for Terminal Server Edition.

Service Pack 4 for Windows NT Server 4.0, Terminal Server Edition can be downloaded from the following Microsoft Web site:

<http://www.microsoft.com/ntserver/terminalserver/default.asp>

9.5 Installation of IBM Network Station Manager and Additional Products

In this section we install the IBM Network Station Manager and its required components. Prior to installing IBM Network Station Manager, you must carry out the following procedure to make the registry information and icons accessible to the user. From your Windows NT desktop, open a command prompt and type `change user /install`.

Insert the IBM Network Station Manager software CD-ROM and start the installation:

1. The first screen (shown in Figure 206 on page 255) will automatically appear utilizing the autorun facility. If not, you can click the `autorun.exe` file located in the `ntnsm\en\autorun` directory.

This screen allows you to select the language of installation. Select **English**. This language selection is only for the installation dialogs, and does not

represent a choice of the language that the product should use once installed, except in the case of the additional products.



Figure 206. First Install (Language) Screen

2. The second screen shown in Figure 207 allows you to view the readme file (we highly recommend you read this before proceeding), install the IBM Network Station Manager, install additional products, and explore the contents of the CD-ROM.

The additional products are:

- Netscape Navigator 4.0
- Lotus Domino Go Webserver 4.6.1
- Adobe Acrobat Reader

A Citrix MetaFrame Demo and NCD WinCenter UIS is also included, but at the moment these are only place holders until these products are made available.

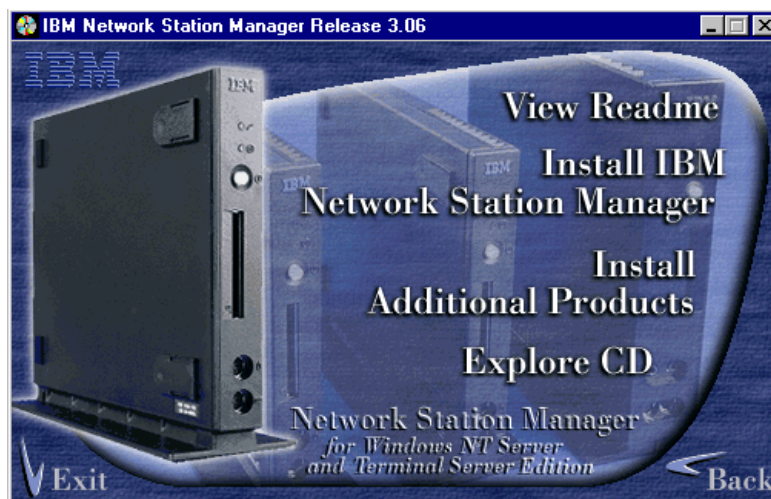


Figure 207. Install Task Selection Screen

Select **Install Additional Products** first since we need the Web browser and Web server prerequisite products. You will see a screen similar to Figure 208.

9.5.1 Installation of Netscape Navigator 4.0

In this section, we begin the installation of Netscape Navigator.

1. On the Install Additional Products screen, select **Netscape Navigator 4.0**.

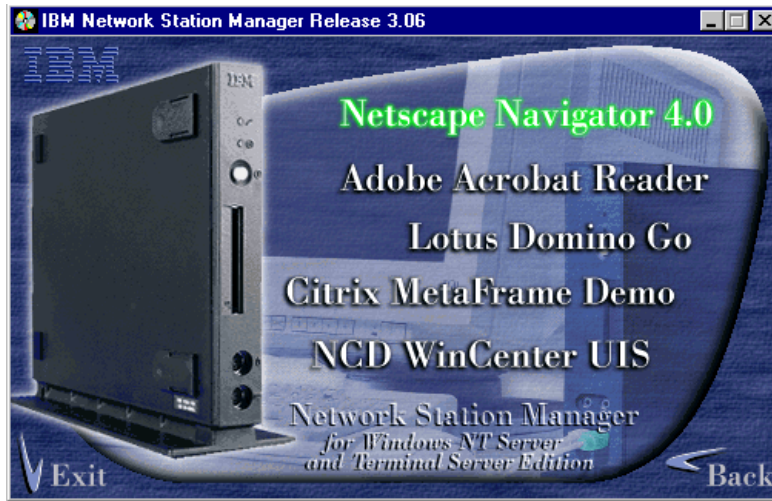


Figure 208. The Install Additional Products Screen

2. The installation process is very straightforward as there are few decisions to be made. The main decisions are the destination directory and the setup type as illustrated in Figure 209:

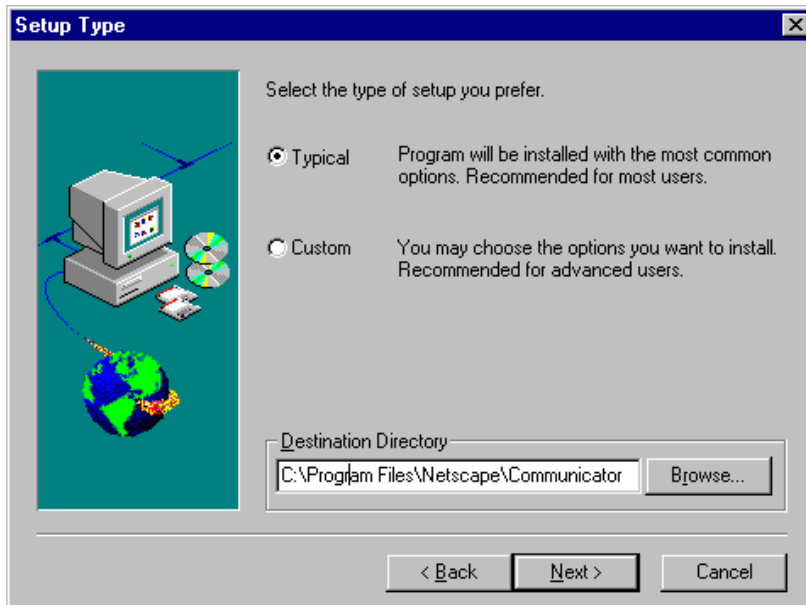


Figure 209. Installation Type and Destination Directory Screen

3. At this screen, select **Typical** and click **Next** to continue. Once the installation completes, the browser can be started immediately without the need for a reboot.

4. Start the browser and follow the instructions. You will click through several screens before reaching the New Profile Setup (shown in Figure 210):

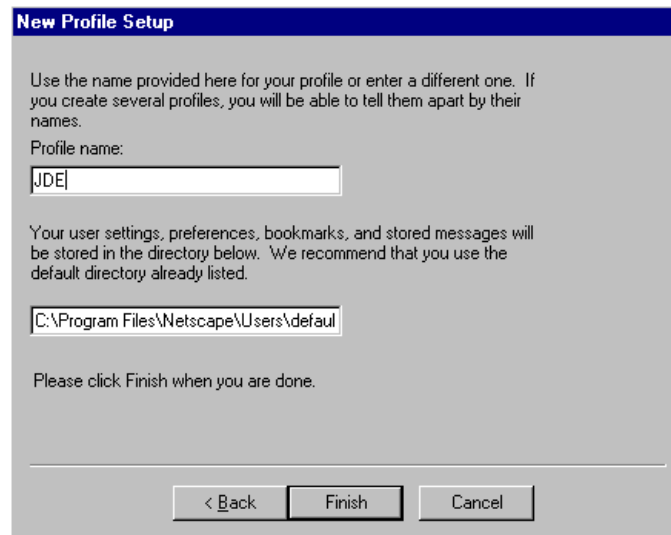


Figure 210. New Profile Setup Screen

5. This setup creates a profile and allows you to choose Netscape Navigator as your default browser. This is important if you later indicate that you want a shortcut to be created on the desktop for the IBM Network Station Manager because the default browser is the one that is used at the time that the shortcut is created.

9.5.2 Installation of Lotus Domino Go Webserver

In this section, we begin our installation of Lotus Domino Go Webserver. After completing the installation of Netscape Navigator, we return to the install additional products menu. Complete the following steps:

1. Select **Lotus Domino Go** (Webserver) and at the Welcome screen, click **Next**. You will see a screen similar to Figure 211 on page 258.

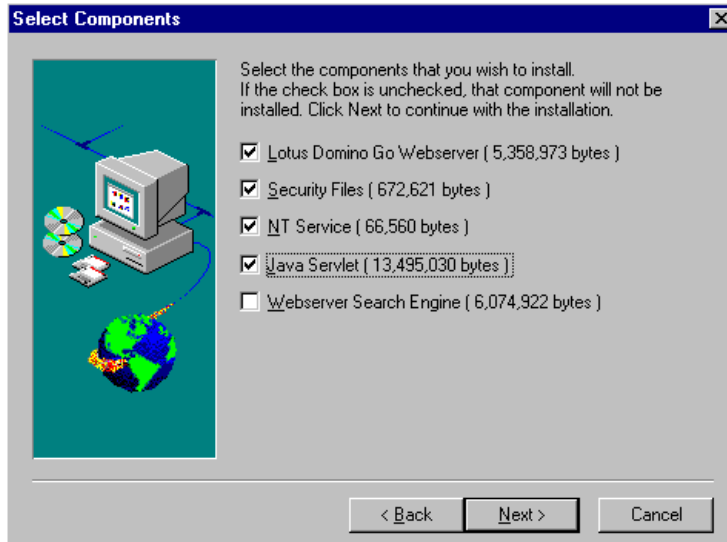


Figure 211. Lotus Domino Go Webserver - Select Components Screen

2. On the Select Components screen, the first three entries are already pre-selected. Check the **Java Servlet** check box to add and click **Next** to continue.
3. You are prompted for an installation directory. In our example, we chose to leave at the default, C:\. Click **Next**.

The next two screens (Figure 212 and Figure 213 on page 259) show the different directories to be created, giving you the option to change their location if desired. We accepted the default locations and clicked **Next** twice to continue. You will see a screen similar to Figure 214 on page 259.

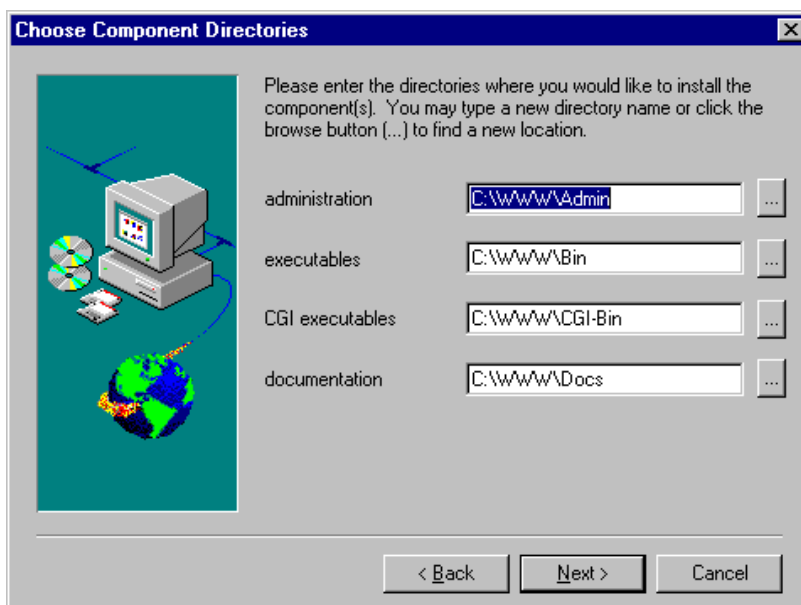


Figure 212. Lotus Domino Go Webserver - Component Directories Screen

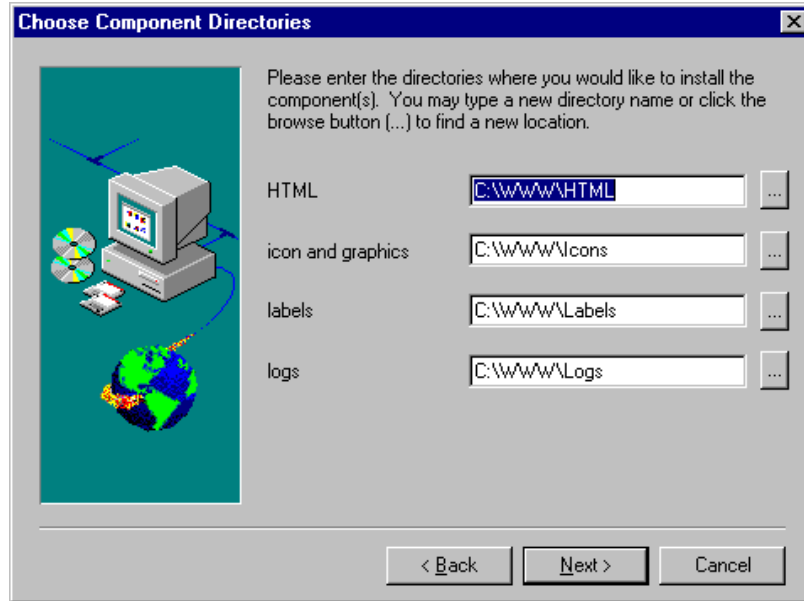


Figure 213. Lotus Domino Go Webserver - Choose Component Directories Screen

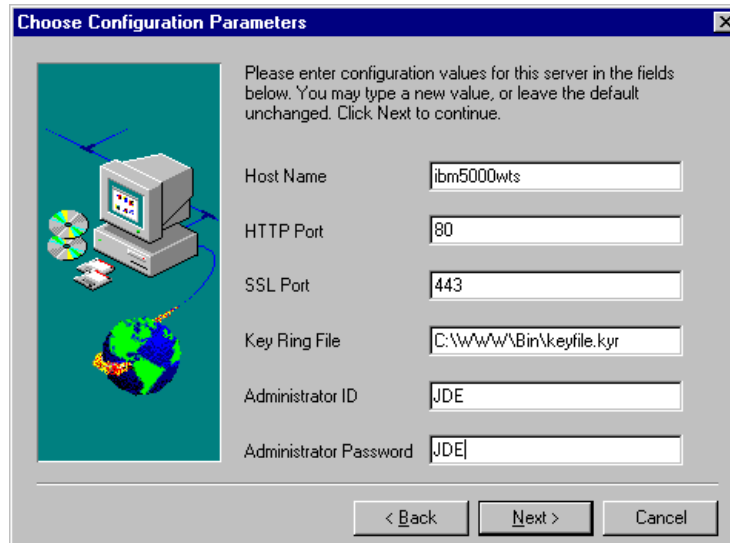


Figure 214. Lotus Domino Go Webserver - Choose Configuration Parameters Screen

4. This panel allows you to change some of the basic configuration data. Accept the defaults and enter our administrator ID (JDE) and password (JDE). Click **Next**.

Note: The use of JDE as the admin ID and admin password is not a requirement. This can be whatever you select.

5. After several files are copied to your system, a message (see Figure 215 on page 260) appears indicating the completion of the installation.

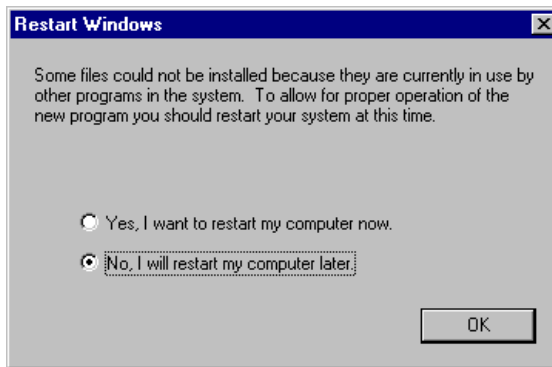


Figure 215. Lotus Domino Go Webserver - Completion Warning Screen

Notice, as indicated in the message above, the Lotus Domino Go Webserver can be started using the Services activity in the Control Panel. In other words, there is not an icon in a folder somewhere that you can click to start the Web server; you can only start it by starting the corresponding Windows NT service.

6. It is not necessary to start the Web server at this time. Select **No, I will restart my computer later** and click **OK**.
7. There is no need to reboot at this time before going on with the other components to install. Click **Back** to return to the main installation menu.

9.5.3 Installation of IBM Network Station Manager

In this section, we begin the installation of our IBM Network Station Manager and some additional required components. Complete the following steps:

1. At the main installation screen, select **Install IBM Network Station Manager**. You will see a screen similar to Figure 216:



Figure 216. IBM Network Station Manager Install Screen

2. Click **Run Installation**. You will see a screen similar to Figure 217 on page 261.

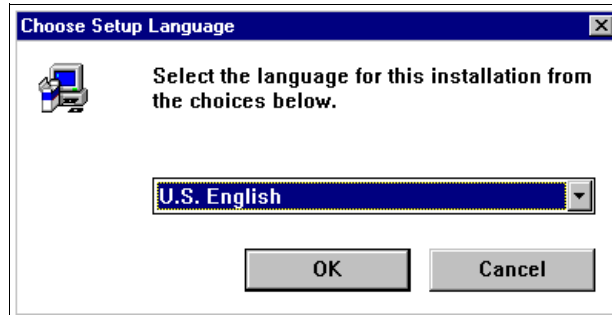


Figure 217. Language Selection for Network Station Manager Screen

This screen asks for a language selection. This language selection is only for the language used during the installation process dialogs and *not* to select the language that the application will use once installed.

The language that the application uses after installation is automatically determined by the value of the default system locale in the Windows NT Regional Settings.

3. Select **U.S. English** and click **OK**.
4. At the welcome screen, click **Next** to continue.
5. Click **Yes** to accept all the terms of the Software License Agreement and continue. You will see a screen similar to Figure 218:

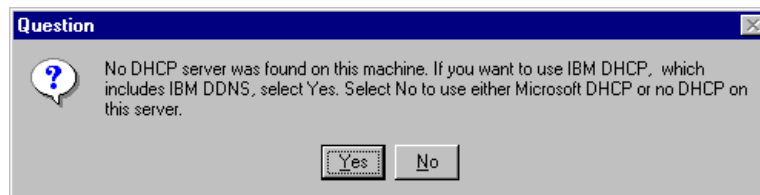


Figure 218. DHCP Selection Panel

6. The message in this panel is issued when the install process does not find the IBM Intermediate Support Driver (previously known as the wedge) required for the IBM DHCP Server. For our example, we will not set up a DHCP server. Click **No**. You will see a screen similar to Figure 219 on page 262.

Note: Here you have a choice of answering Yes, if you want to use the IBM version of the DHCP server. Otherwise, answer No if you do not want to install a DHCP server on this machine or you want to use Microsoft's DHCP server. You will need the Windows NT 4.0 Server CD-ROM for Microsoft's DHCP server.

This does not have to be installed at this time but can be done at any time since there is no direct installation relationship or dependency between NSM and DHCP.

Also, there is a read.me file specific to the IBM Intermediate Support Driver in the \ntnsm\en\products\enod\ndis directory on the NSM CD-ROM.

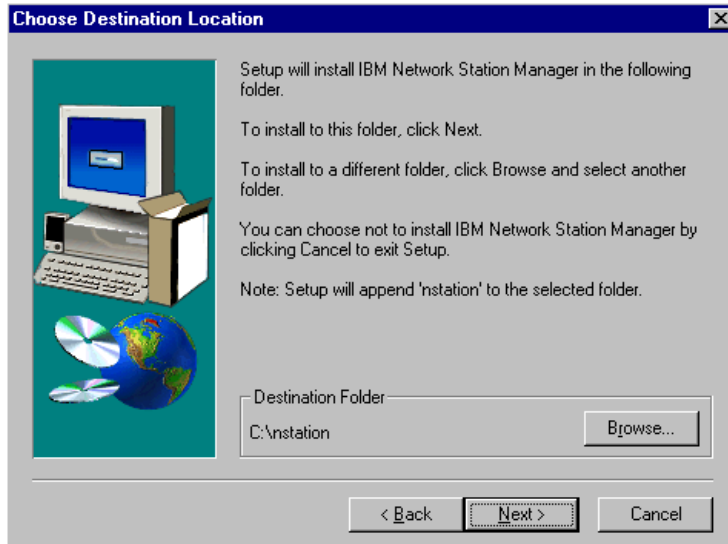


Figure 219. Choose Destination Location Screen

7. This screen allows you to choose the target folder for the IBM Network Station Manager. We accepted the default. Click **Next** to continue. You will see a screen similar to Figure 220.

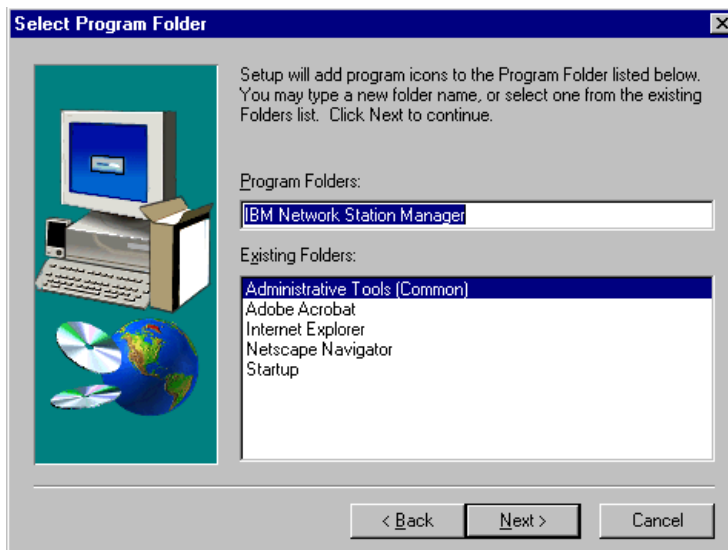


Figure 220. Select Program Folder Screen

8. Accept the default for the program folder; click **Next** to continue. You will see a screen similar to Figure 221 on page 263.

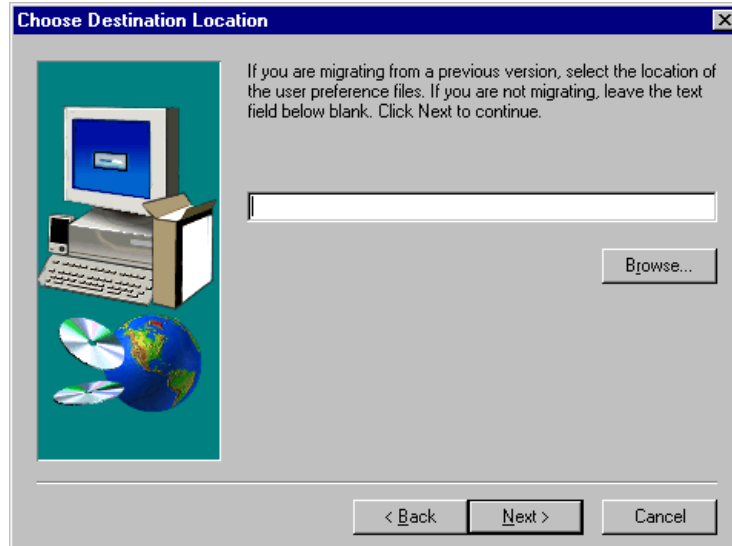


Figure 221. Migration Screen

This screen is used only if you are migrating from a previous version and you need to indicate the location of the user preference files to be migrated. For example, you might specify `x:\nstation` where `x:` is a drive mapped to the server on which the old release is installed.

9. In our example, we are not migrating so we leave this blank. Click **Next** to continue. You will see a screen similar to Figure 222:

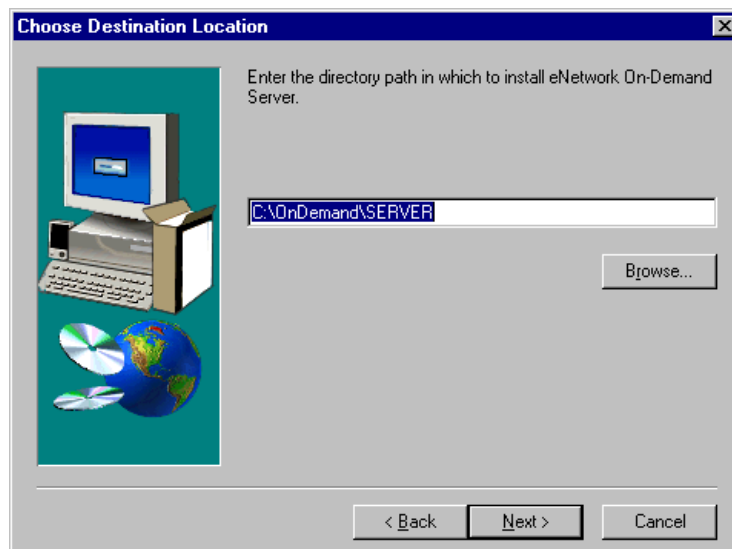


Figure 222. Choose Destination Location Screen

This screen indicates that the eNetwork On-Demand Server will be installed. Do not forget to change the drive letter here if you want to install the eNetwork On-Demand Server on a drive other than `C:\`.

The eNetwork On-Demand Server consists of many components, including the IBM Intermediate Support Driver (previously known as the wedge), the DHCP

and DDNS servers, the TFTP server, the TIMED server, the network station login (NSLD) server, the NFS server, and the RPC Portmapper server.

Note: These components can be installed individually as well by using the specific setup.exe file for the eNetwork On-Demand Server. See the readme.txt file in the \ntnsm\en\products\enod\tcpip directory on the CD-ROM for more details.

10. Click **Next** to continue. You will see a screen similar to Figure 223:

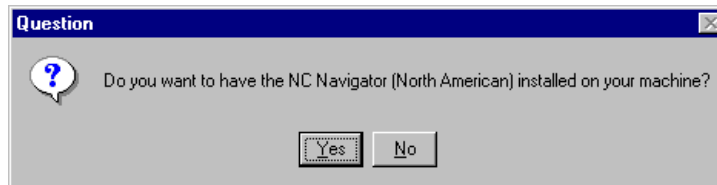


Figure 223. NC Navigator Question Screen

This screen is presented only using the NSM North American version CD-ROM. In the International version of the CD-ROM, you will not be asked this question and the 40-bit NC Navigator product is installed automatically.

11. Click **Yes**. You will see a screen similar to Figure 224 on page 265.

Note

On the NSM North American version of the CD-ROM Version 3.06, the 128-bit NC Navigator browser is not available. However, all previous versions include two choices:

1. 40-bit NC Navigator browser
2. 128-bit NC Navigator browser

Answer No, if you only need the standard 40-bit NC Navigator browser, and therefore do not need to install the more secure version of the browser. This is because the 40-bit NC Navigator browser is, by default, part of the IBM Network Station Manager install. (In other words, it is installed whether you want it or not.)

Answer Yes, if you want to install the more secure version of the browser. In other words, the more secure version is also present on the CD-ROM but is installed only if you answer Yes to the prompt illustrated in Figure 223 on page 264.

For the International version of the CD-ROM, only the 40-bit version is present on the CD-ROM and therefore, this question is not asked.

If you answer Yes, the 128-bit version of the browser is installed (in addition to the 40-bit version), and it also needs to be manually enabled by adding an environment variable using the IBM Network Station Manager and setting its value to TRUE. The name of the environment variable to add is NAV_128SSL.

Since the environment variable can be configured for the system, group or user, you can have certain users use the 40-bit version and you can have others use the 128-bit version if desired.

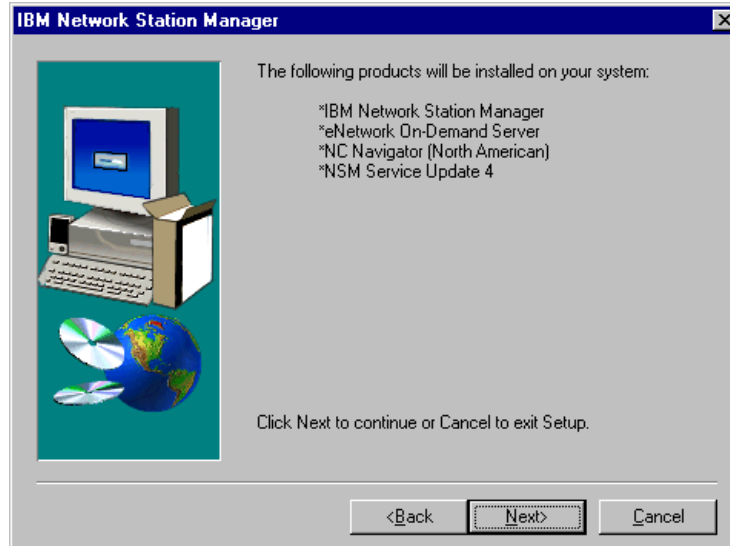


Figure 224. Summary of Products to Be Installed Screen

12. Click **Next** to continue. The program files are copied to your system and later will see a screen similar to Figure 225.

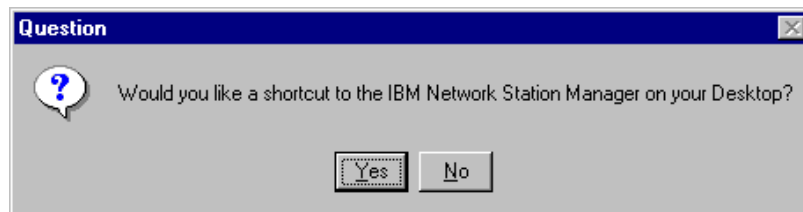


Figure 225. Desktop Shortcut Creation Question

13. You are asked if you want the installation to create a shortcut for you on the desktop, which allows you to start the IBM Network Station Manager directly from the desktop on the server. Click **Yes** to continue. The program starts setting the Go Webserver permissions.

A final screen simply lists the components that are about to be installed as a final check before launching the copying of files.

You then get a series of progress panels that provide feedback on the significant actions that are taking place, such as the one illustrated in Figure 226:

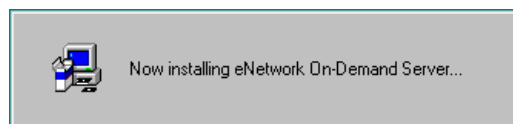


Figure 226. Installation Progress Screen

14. In Figure 227, you are informed of the completion of the install process. Click **Finish** to let the system reboot.

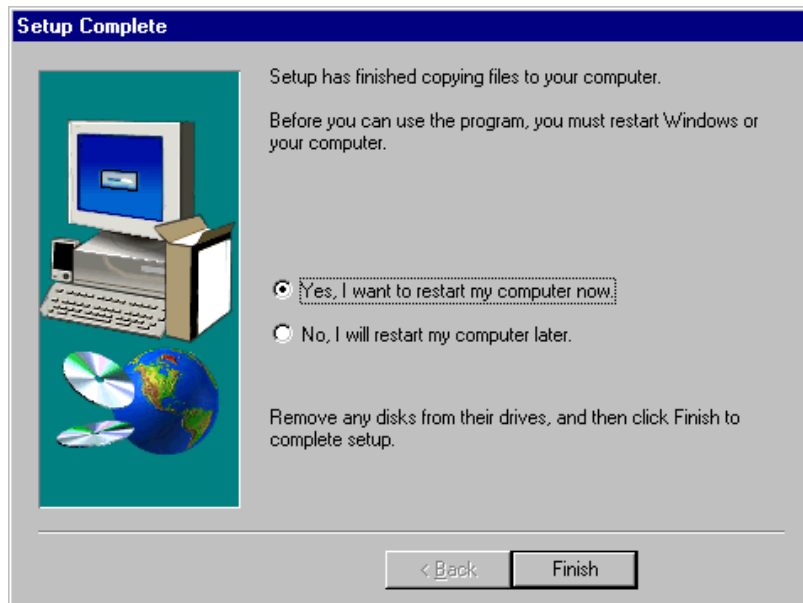


Figure 227. Completion Screen

9.5.4 Verify the Network Station Manager and Components Installation

If you need a quick visual confirmation that your installation was done properly and that you have all the required components, the following screens are provided to help verify your installation of products. In addition, these screens might be useful in cases where problems are encountered during or after installation.

1. To view your Add/Remove Programs Properties, click **Start > Settings > Control Panel > Add/Remove Programs**. You will see a screen similar to Figure 228.

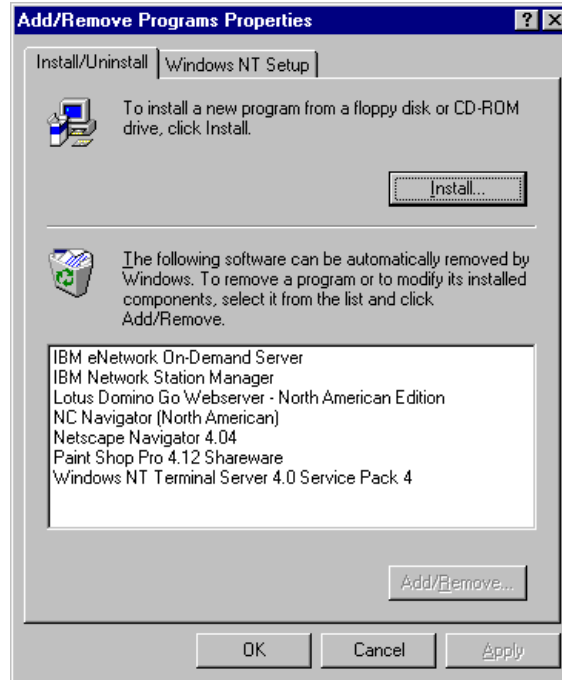


Figure 228. Add/Remove Programs Properties Screen (Installation Verification)

The Add/Remove Program list should at least have the following installed products:

- IBM eNetwork On-Demand Server
- IBM Network Station Manager
- Lotus Domino Go Webserver
- NC Navigator
- Netscape Navigator
- Windows NT Terminal Server 4.0 Service Pack 4

Although the Windows NT Terminal Server 4.0 Service Pack 4 is listed here, you should consider installing it toward the end of your setup.

2. To view an alternate location to verify your installation, let's take a look at Services activity. Click **Start > Settings > Control Panel > Services**. You will see a screen similar to Figure 229 on page 268.

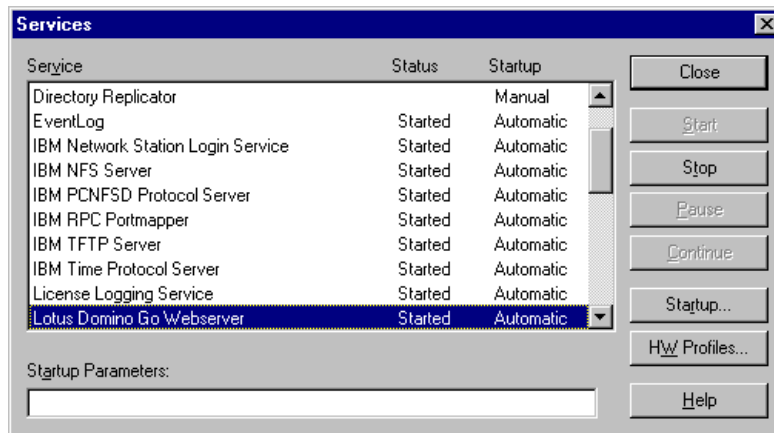


Figure 229. Installed Services Screen

The fact that all of these services have a status of Started is probably the best indication that the installation was successful. If there was a problem with the installation, it is probable that one or more of these services would not be able to start correctly.

The IBM DDNS and IBM DHCP Server services may not appear in this list if you chose not to use the Microsoft DHCP Server or the IBM DHCP Server. However, all the other services whose names start with IBM in the above list are required.

Note: Some of the services might be different if you do not have the North American version.

9.5.5 Create NSMAdmin and NSMUser Groups

The NSMAdmin and NSMUser user groups created by the installation process are always created on the local server (except in one case, which is for an installation on a BDC, in which case these user groups are created on the PDC).

Note

You must define each Network Station user in your network and add each Network Station user to the NSM User Group. To limit administrative control, you should put the user in the NSMUser Group only. To assign full administrative control, put the user in both the NSMUser and the NSMAdmin groups. For more information on managing users see *IBM Network Station Manager Installation and Use*, SC41-0664. To view or print the latest publications, go to <http://www.ibm.com/nc/pubs> also note that documentation is available on the NSM CD-ROM.

If your IBM Network Station users are already defined on a PDC, these users must be made members of the local NSMUser group on the server where they log on.

If all these users are already part of a global group on the PDC, then the easiest and fastest way to include them in an NSMUser local group on a stand-alone server is to make the domain's global group a member of the stand-alone server's NSMUser local group.

For example, assume we have users User1 and JDE defined on the ONEWORLD PDC as members of a global group called NSMACCT. We want to give these users the ability to log on to the IBM5000WTS server.

When these users were defined on the PDC, they were made part of a global group called NSMACCT on the PDC, as illustrated in the next figure, which displays the Global Group Properties on the ONEWORLD domain PDC:

1. Select the **Start > Programs > Administrative Tool > User Manager for Domains**.
2. Select the **NSMACCT** Group Name and add the members. For example, we added JDE and User1 (shown in Figure 230):

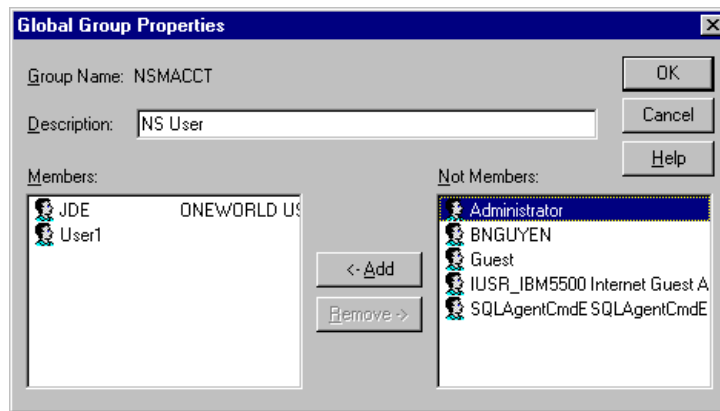


Figure 230. Creating an NSMACCT Global Group on a PDC

3. On the IBM5000WTS server, we access the User Manager for Domains and bring up the NSMUser group, which is a local group created on the IBM5000WTS server, as shown in Figure 231:

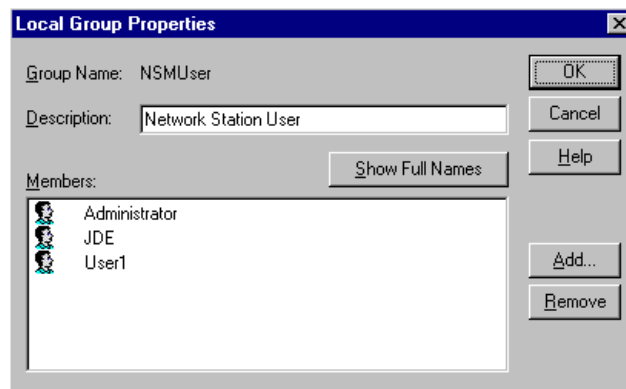


Figure 231. Global Group Properties Screen

4. Click the **Add** button to bring up the next screen, Add Users and Groups (see Figure 232).

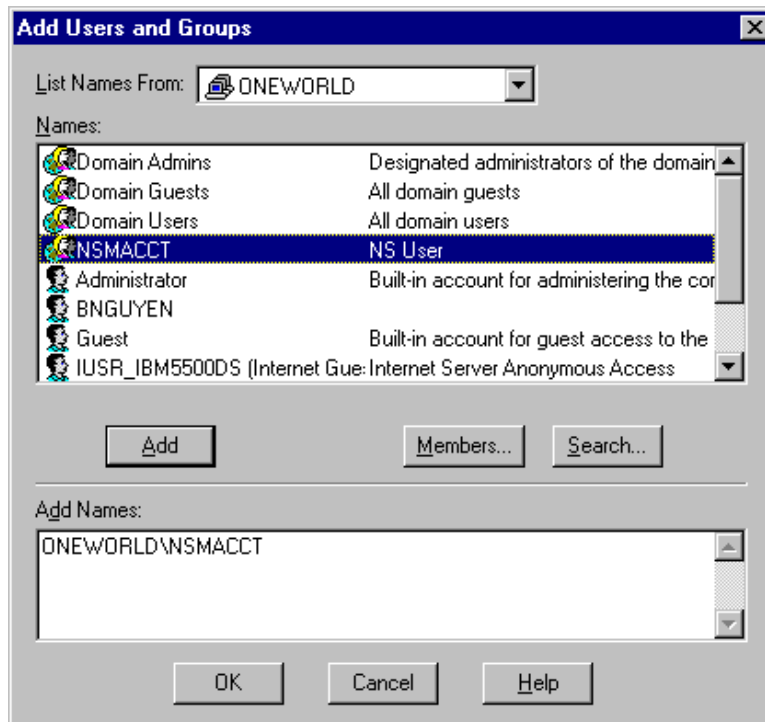


Figure 232. Add Users and Groups Screen

Notice that we have selected in the List Names From field, **ONEWORLD**. The list of names that gets displayed is from the ONEWORLD Primary Domain Controller.

We select the **NSMACCT** group from the list and click **Add** so that the \\ONEWORLD\\NSMACCT entry appears in the bottom portion of the window, indicating that we are adding the NSMACCT global group from the ONEWORLD domain to our local group NSMUser on the IBM5000WTS server.

Instead of including the group, we could of course add the individual domain users \\ONEWORLD\\user1 and \\ONEWORLD\\JDE.

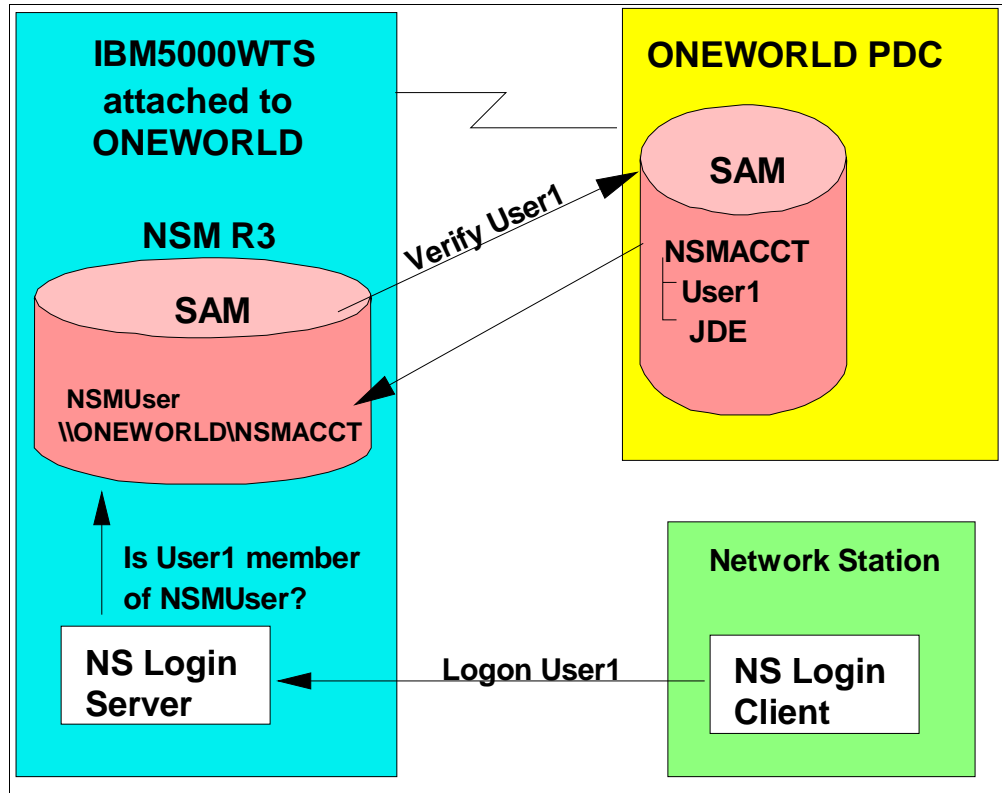


Figure 233. NSMUser Group on Local Server

9.5.6 Lotus Domino Go Webserver Service Startup

If you examine the startup information for the Lotus Domino Go Webserver Windows NT service, it should appear as automatic startup, which means that it should be automatically started after a reboot. To display and keep track of your Go Webserver's activity on your Windows NT Terminal Server Edition's desktop, perform the following steps:

1. Click **Start > Settings > Control Panel > Services**.
2. Highlight **Lotus Domino Go Webserver** and click **Startup**. You will see a screen similar to Figure 234 on page 272.



Figure 234. Service Startup Screen

3. Under System Account, select **Allow Service to Interact with Desktop**, to display this service on your desktop, and click **OK**.

The next time you boot your system, this service will start automatically and display a Go Webserver status screen. To start displaying this screen immediately, continue to the next step.

4. From the Windows NT Services screen, highlight **Lotus Domino Go Webserver** and click **Stop**. Click **Start** to execute Go Webserver. You will see a screen similar to Figure 235:

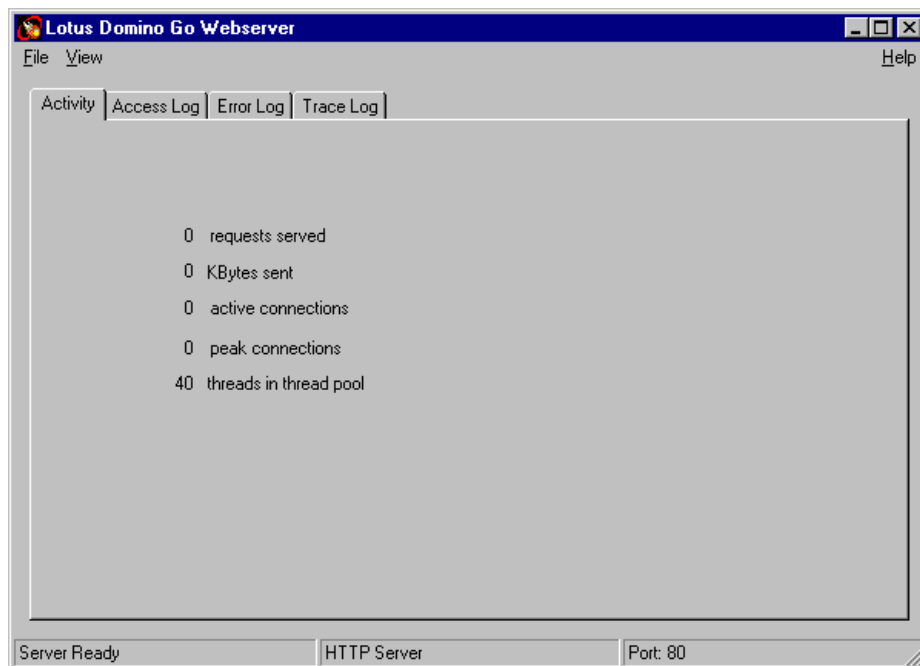


Figure 235. Lotus Domino Go Webserver Status Panel

This status panel displays activity and log information. Notice the bottom left-hand corner of the screen displays Server Ready, indicating that the Web server is indeed operational.

Note: When you install the Lotus Domino Go Webserver on Windows NT Server 4.0, Terminal Server Edition, the status panel shown in Figure 235 on page 272 will not be displayed on remote clients. It is only displayed if you are logged on at the desktop of the TSE server.

9.6 MetaFrame from Citrix Systems Inc.

MetaFrame is Citrix's thin client/server system software for Microsoft Windows NT Server 4.0, Terminal Server Edition. MetaFrame thin client/server system software, which incorporates Citrix's Independent Computing Architecture (ICA) protocol, provides a high-performance, cost-effective, and secure way to deploy, manage, and access business-critical applications throughout an enterprise regardless of client device or network connection.

In our lab environment, we used Citrix MetaFrame's 45 Day Demonstration Version 1.0 with our TSE setup. If you have questions regarding Citrix MetaFrame, visit the Citrix Web site:

<http://www.citrix.com>

9.6.1 MetaFrame Installation

We found the MetaFrame installation process to be very easy and straightforward with few responses required when using the defaults. To install, complete the following procedures:

1. Log in to Windows NT Terminal Server Edition as an Administrator.
2. Insert the Citrix MetaFrame CD-ROM into the CD-ROM drive. The install program starts automatically and you will see a screen similar to Figure 236 on page 274.



Figure 236. MetaFrame Installation Autorun Panel

3. At this screen, click **MetaFrame Setup** to start the install process on your IBM5000WTS.
4. Click **I Agree** to accept the terms of the MetaFrame License Agreement and continue.
5. Enter the serial number of the license. The serial number should be printed on the documentation that ships with the MetaFrame product. Click **OK**. The install program begins to copy files to your system.
6. After the installation of MetaFrame, you will see a screen similar to Figure 237 on page 275.



Figure 237. Lotus SmartSuite 97 Screen (Exit and Reboot) Screen

7. Here, you are given the option to load Lotus SmartSuite. For our example, we chose to **Exit and Reboot**. Click **OK**. Remove the Citrix MetaFrame CD-ROM from the CD-ROM drive.

9.7 Activate MetaFrame Licensing on Windows NT Terminal Server Edition

After your system has been restarted, we will activate the Citrix MetaFrame license. This section describes the process of installing the ICA client on Windows NT Terminal Server Edition. To install and activate the MetaFrame license, complete the following steps:

1. Log on to your system as an administrator. From the Windows NT desktop, click **Start > Programs > MetaFrame Tools > Citrix Licensing**. You will see a screen similar to Figure 238:

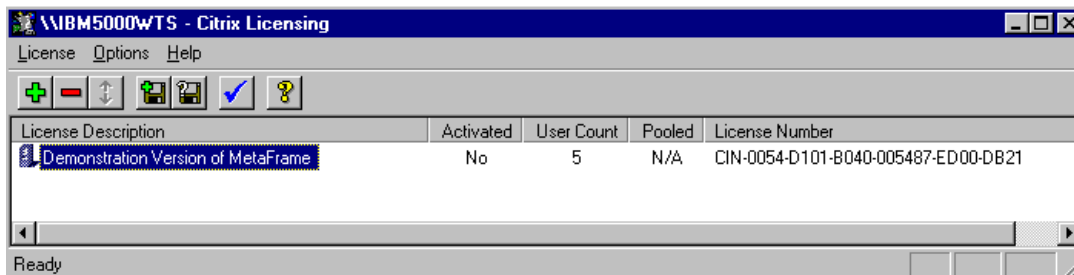


Figure 238. Citrix Licensing Screen

This is the Citrix Licensing screen; it displays all of your installed licenses and their license numbers. This information must be used when activating your software.

2. You can activate your MetaFrame software via URL and telephone numbers provided in your product documentation. For our example, we used our Web

browser to access the Citrix Web site, <http://www.citrix.com/activate>, to activate Metaframe. You will see a screen similar to Figure 239:



Figure 239. Citrix Product Activation URL Screen

3. Click **Citrix MetaFrame** and then click **Activate License** (Citrix Activation System).
4. Take a moment to read the information regarding the 30-day grace period. Click **Continue**.
5. Complete the Registrant Information form and click **Continue**.
6. Complete the Application/Usage Information form and click **Continue**. You will see a screen similar to Figure 240 on page 277.

Activation Detail for IBM

Please enter your license number and server information below.

[How do I find my license number on a MetaFrame installation?](#)
[How do I find my license number on a WinFrame installation?](#)

All Fields marked with are required

License #: CIN - 0054 - D101 - B040 - 005487 - xxxx - xxxx

Server CPU Info: Other CPU Type (specify) CPU Other* Pentium II 450

Processors: Single CPU #Processors

Memory (MB): 256 MB Memory

Manufacturer: IBM Manufacturer

*Please be advised, if you put any information in the "Other" fields on the right side of the screen, the value of the field on its left will be defaulted to "Other < Specify>", regardless of what is displayed in the associated lefthand field. If you change information in subsequent activations in this session be sure to clear the right hand associated input field, otherwise it will overwrite your entry.

Figure 240. Activation Detail Form Screen

7. Complete the Activation Detail form and click **Continue**. You will be presented with your activation code. Write this code down or print the screen. Click **OK**.
8. You will be presented with a summary of your license activation. Click **Exit**.
9. Return to your Citrix Licensing screen (shown in Figure 238 on page 275). To activate your Metaframe software, select the Citrix license you are activating from the list of licenses, and click **Activate License** on the License menu. The Activate License dialog box appears. Enter your activation code from step 7. and click **OK** twice.

9.8 ICA Client Setup on Windows Terminal Server

After the system has been restarted, we begin setting up our ICA client. This section describes the process of installing the ICA client on Windows NT Terminal Server Edition. To install, complete the following steps:

1. Again, insert the Citrix MetaFrame CD-ROM into the CD-ROM drive. The install program starts automatically and you will see a screen similar to Figure 241 on page 278.



Figure 241. MetaFrame Installation Autorun Panel

2. Select **Setup ICA Client** and click **Next** to continue. You will see a screen similar to Figure 242:

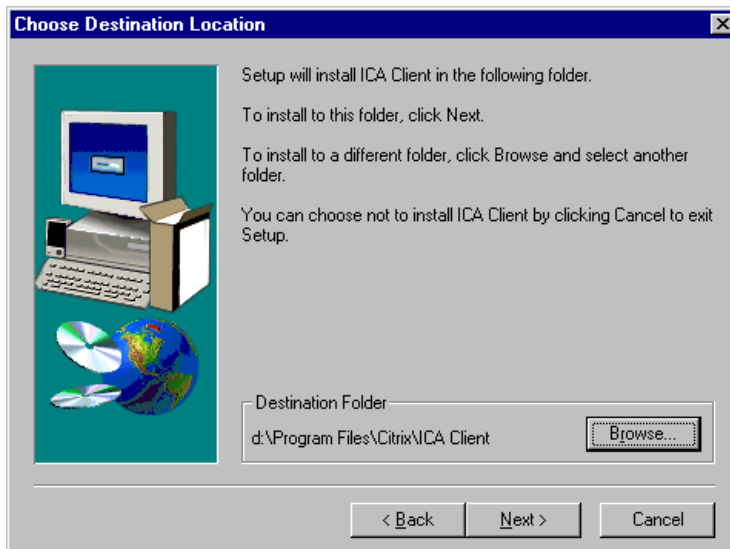


Figure 242. Destination Location Screen

3. Choose the Destination folder for the ICA Client. Click the **Browse** button (for example, D:\Program Files\Citrix\ICA Client).
4. Choose **Next** to continue.
5. Choose the default for Program Folder and Existing file and click **Next** and continue.

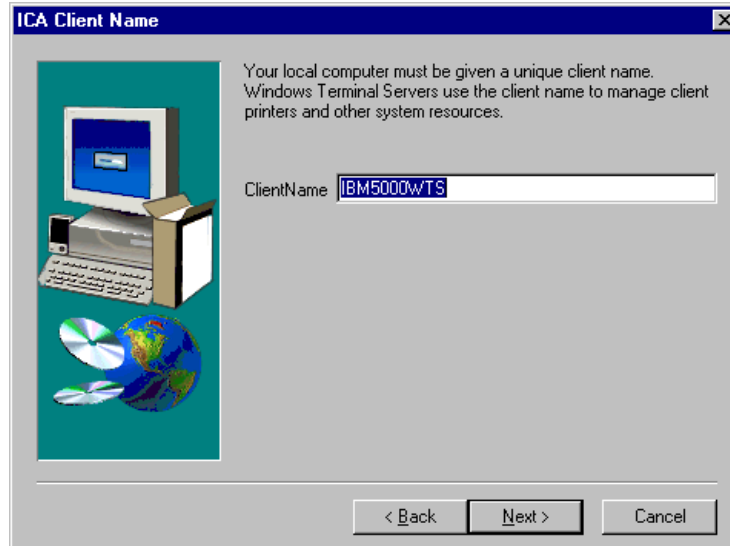


Figure 243. ICA Client Setup Screen

6. Type in a unique name that you will call the workstation client and click **Next** to continue (for example, we used IBM5000WTS). You will see a screen similar to Figure 244.

Note: At this point, the Client icons will be created.

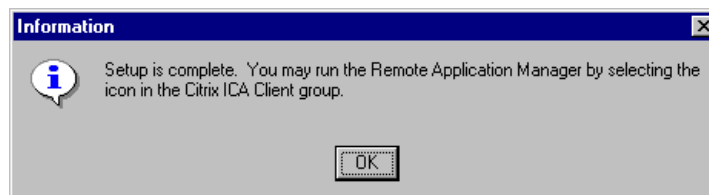


Figure 244. ICA Client Complete Screen

7. Choose **OK**, and close.

9.8.1 Network Station Client Configuration for OneWorld

In this section we discuss the procedures for setting up an icon or button on the Network Station (client). For this example, the Network Station will be used to access the Windows Terminal Server (TSE), running OneWorld application from the Enterprise server. Follow these steps:

1. On the Windows NT Terminal Server (for example, IBM5000WTS), log in as an administrator in the Local Domain.
2. On the desktop screen, double-click **IBM Network Station Manager**.

Note: If you do not have a shortcut on you desktop to IBM Network Station Manager, then click **Start > Programs > IBM Network Station Manager** and select **IBM Network Station Manager**.

3. For the User Name and Password screen, type in **Administrator** and click **OK**. In our example, JDE is the user ID and password. You will see a screen similar to Figure 245 on page 280.



Figure 245. IBM Network Station Manager Main Screen

4. From the Setup Tasks, on the left side of the screen, click **Startup** and select **Menus**. You will see a screen similar to Figure 246:

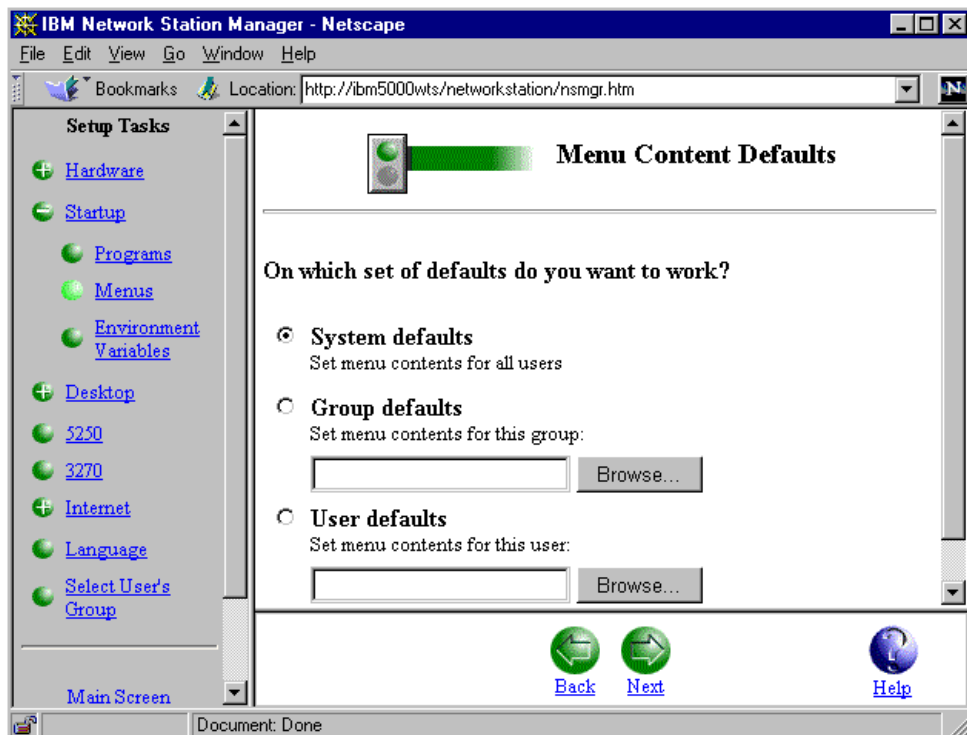


Figure 246. Menu Content Defaults Screen

5. Select the default that you are using. For this example, select **System defaults**.

Note: Depending on your preferences, you may choose to set up a group or a specific user.

6. At the bottom of the screen, click **Next** to continue. You will see a screen similar to Figure 247:

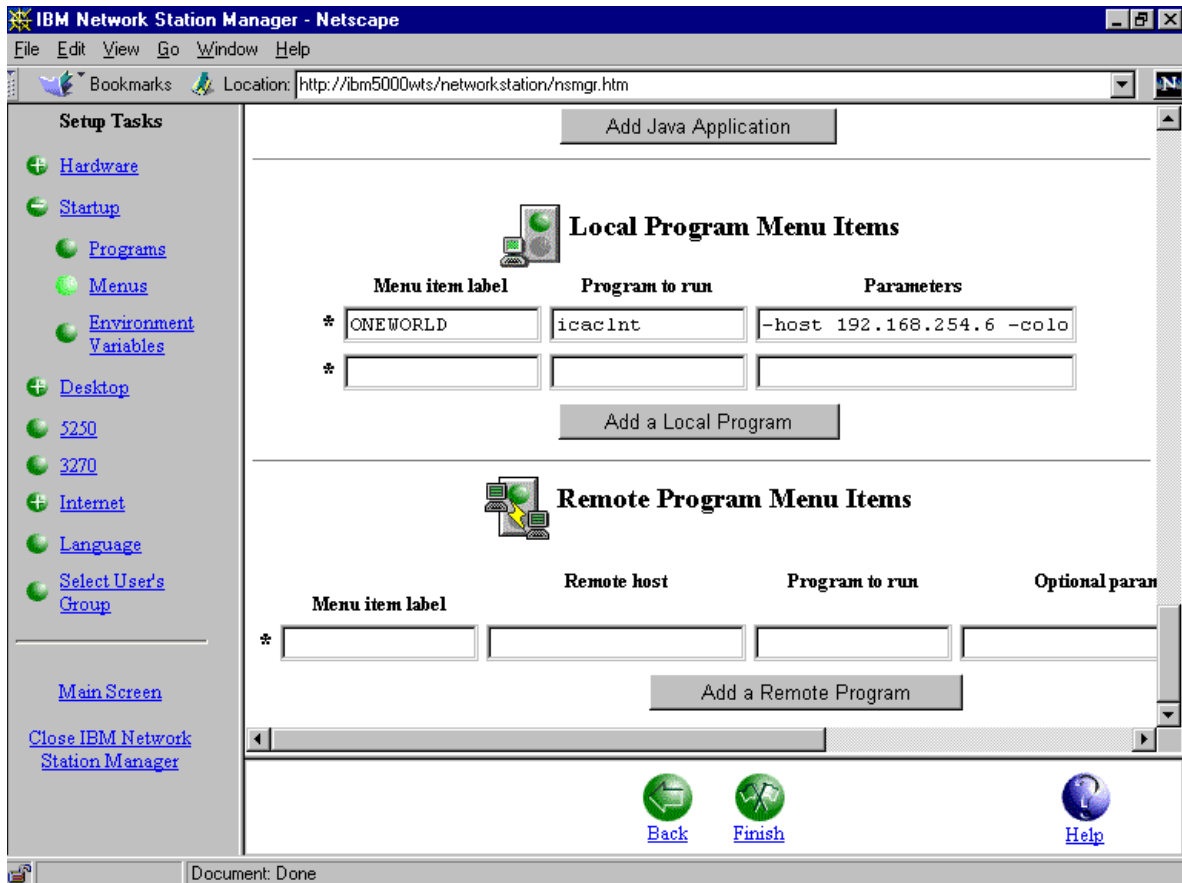


Figure 247. Local Program Menu Items Screen

7. Select a type of menu. For this example, scroll down to Local Program Menu Items.
 - Menu item label = Enter the name of the OneWorld application (for example, ONEWORLD).
 - Program to run = icacInt
 - Parameters = Your host name (for example, -host 192.168.254.6 -colors 16).
8. Click **Finish**.
9. Reboot your system.

9.8.2 Workstation Client Setup

In this redbook, the use of the IBM Network Station is the primary workstation used to access Windows NT Terminal Server and the OneWorld B73.3 client and

other applications. However, we chose to add the creating of an ICA client for the PC desktop. Complete the following steps:

1. From your Windows NT desktop, click **Start > Programs > MetaFrame Tools > ICA Client Creator**. You will see a screen similar to Figure 248:

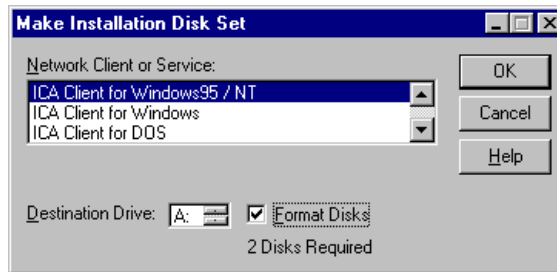


Figure 248. Make Installation Disk Set Screen

Note: This process takes two diskettes. It also formats and loads its data.

2. Insert the first diskette and then click **OK** to continue. When this process complete, it will then ask for the second diskette.
3. Go to the Windows 95 or Windows NT workstation(s) on which you plan to install your ICA client code.
4. Put disk 1 of the ICA Client that you created into the workstation's A drive.
5. Go to the Start Menu, then select **Run** and type `A:\setup`. Click **OK**. You will see a screen similar to Figure 249:

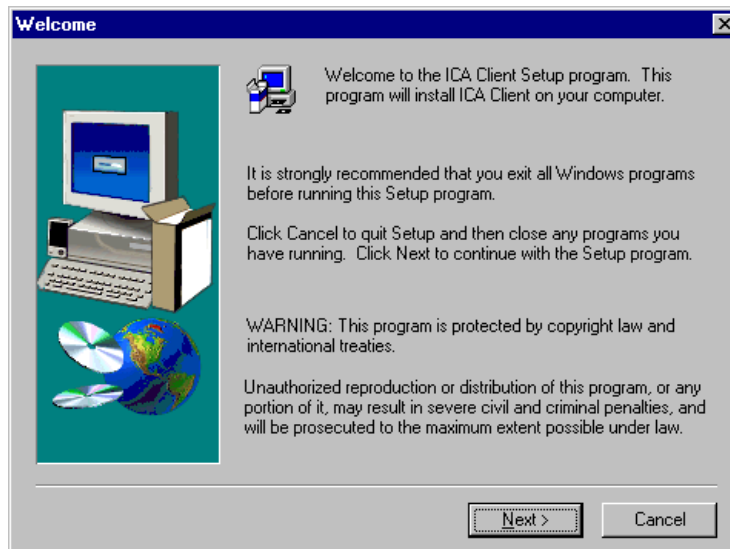


Figure 249. ICA Client Install Screen

6. Click **Next** and continue. You will see a screen similar to Figure 250 on page 283.

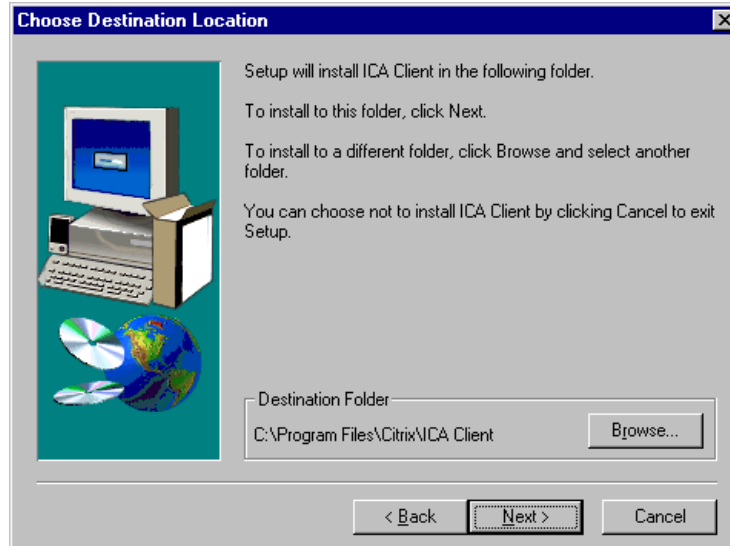


Figure 250. Client Destination Location Screen

7. Click **Next** to install the client to the default destination folder. You will see a screen similar to Figure 251:

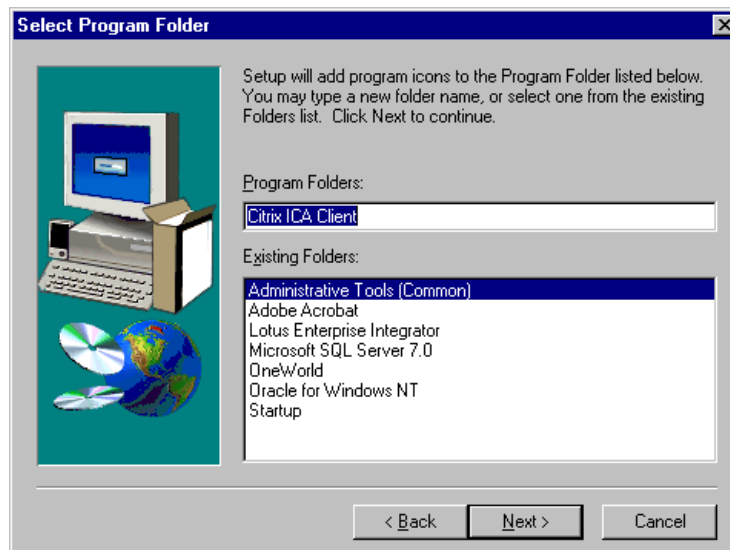


Figure 251. Client Program Folder Screen

8. Click **Next** to add the icons to the Citrix ICA Client folder. You will see a screen similar to Figure 252 on page 284.

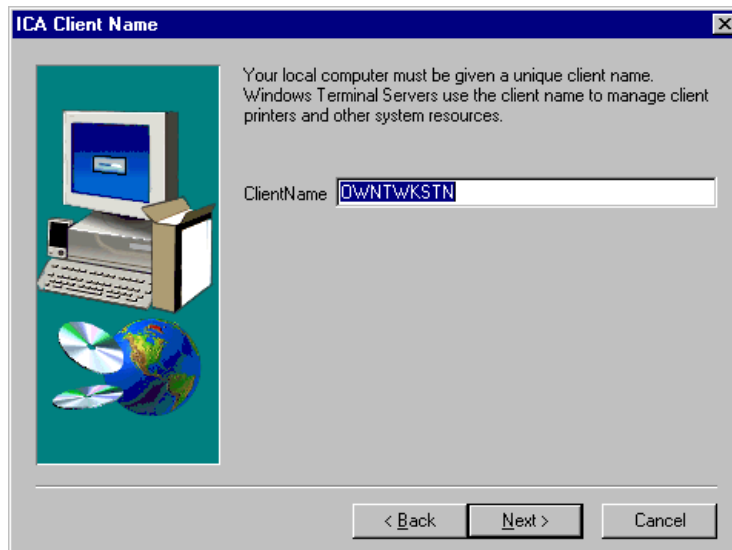


Figure 252. ICA Client Name Screen

9. Type in your client name and click **Next** to continue. (For our example, we used OWNTWKSTN.)
10. In the **Citrix ICA Client** Icon Group, select **Remote Application Manager** to set up the application that you will be using to log in to the Windows Terminal Server. You will see a screen similar to Figure 253:

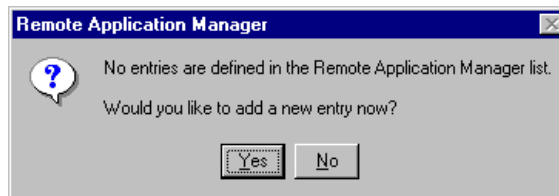


Figure 253. Remote Application Manager Dialog Box

11. Click **Yes** to continue. You will see a screen similar to Figure 254:

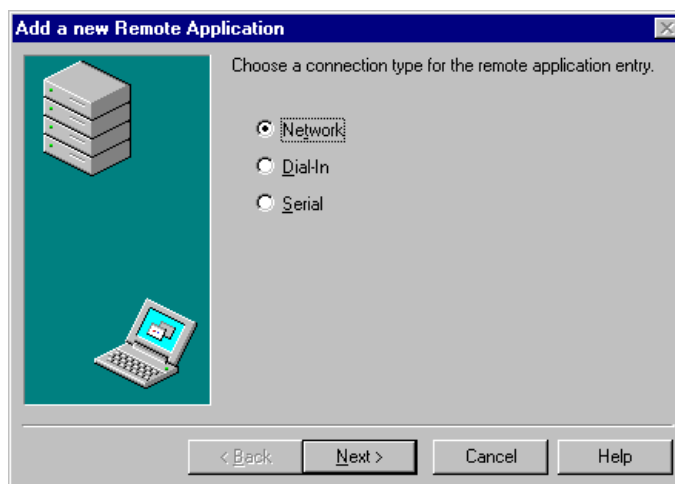


Figure 254. Remote Application Screen

12. Select the connection type that you will be using. (For example, we used Network). Click **Next** and continue. You will see a screen similar to Figure 255:

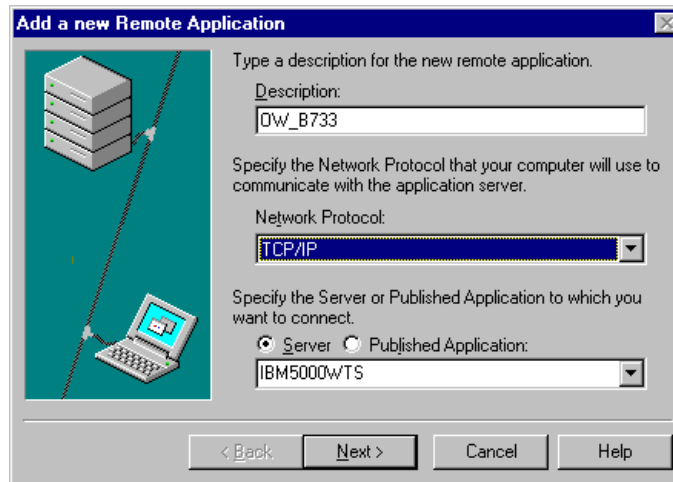


Figure 255. Add a new Remote Application Screen

Complete the following fields:

- Description = Type in a description for your remote application. (For example, we used OW_B733.)
- Network Protocol = Select the type of Network Protocol. (For example, we used TCP/IP.)
- Specify the Server or Published Application to which you want to connect = Enter the name of your Windows NT Terminal Server. (For example, we used IBM5000WTS.)

13. Click **Next** and continue. You will see a screen similar to Figure 256:

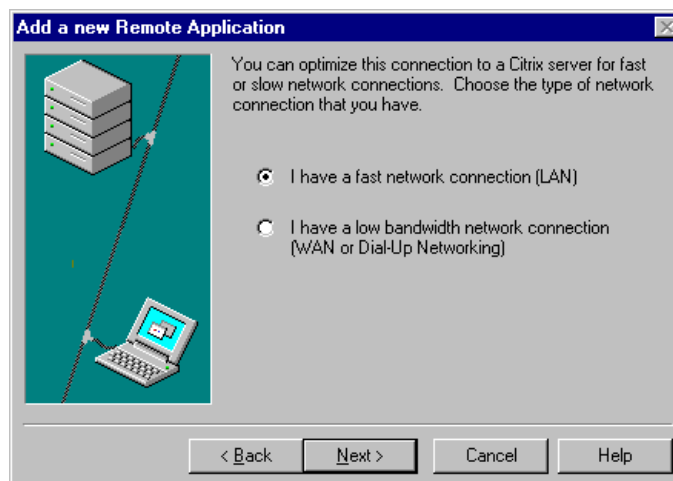


Figure 256. Add a new Remote Application Screen

14. Select the type of connection that will be used. Select **I have a fast network connection (LAN)** and click **Next to** continue. You will see a screen similar to Figure 257 on page 286.

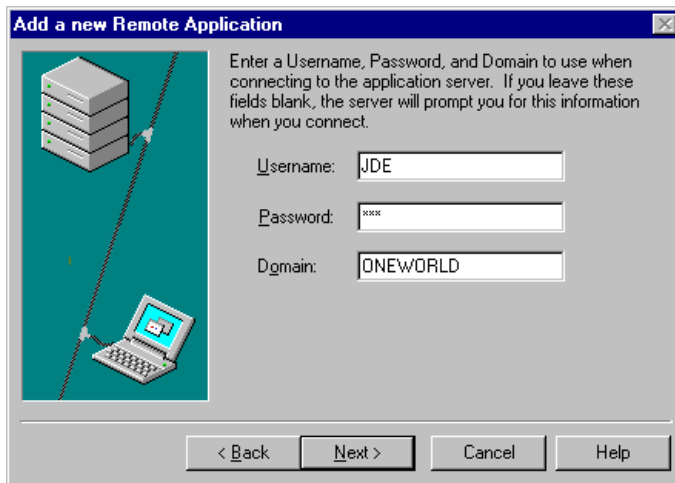


Figure 257. Add a new Remote Application Screen

15. Complete the following fields:

- Username = The user name to connect to the application server (for example, JDE).
- Password = The password for the user.
- Domain = Enter the domain name (for example, ONEWORLD).

16. Click **Next** and continue. You will see a screen similar to Figure 258:

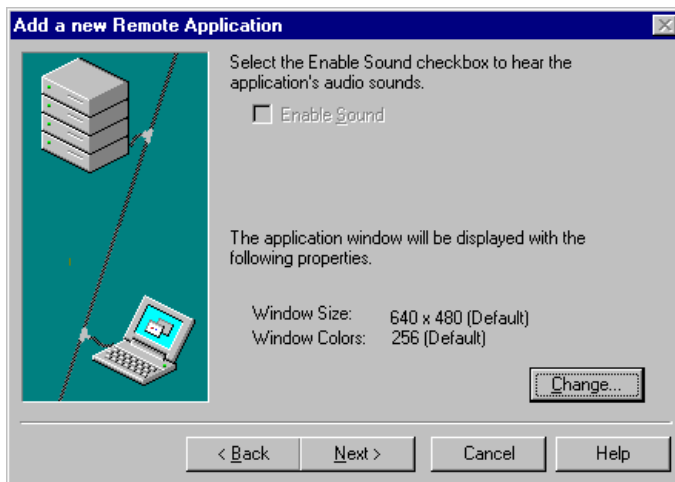


Figure 258. Add a new Remote Application Screen

17. Click **Next** and continue. You will see a screen similar to Figure 259 on page 287.

Note: Select **Change** to adjust the window size and color.

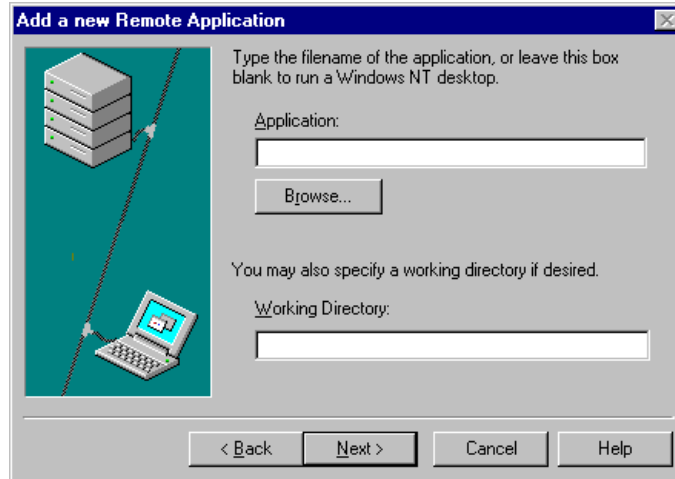


Figure 259. Add a new Remote Application Screen

18. Leave the following fields blank:

- Application = (Leave blank)
- Working Directory = (Leave blank)

19. Click **Next** and continue. You will see a screen similar to Figure 260:

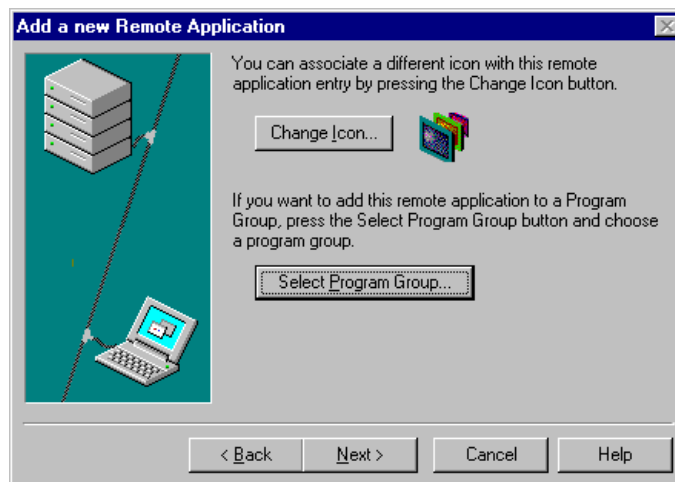


Figure 260. Add a new Remote Application Screen

20. Click **Next** and continue. You will see a screen similar to Figure 261 on page 288.

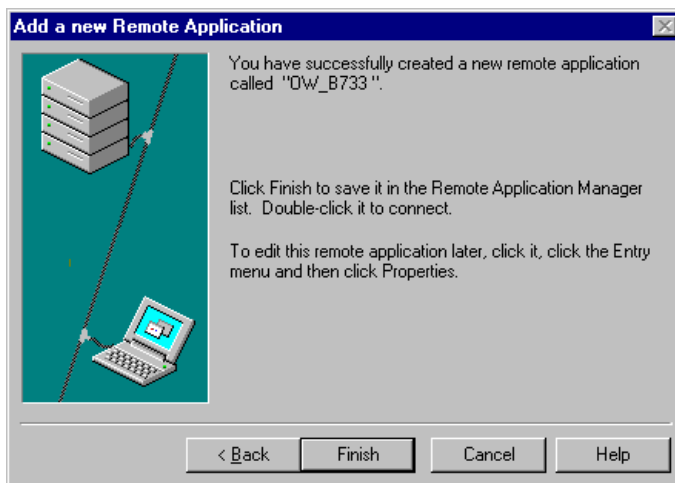


Figure 261. Add a new Remote Application Screen

21. Click **Finish**. You will receive the message below confirming that setup has successfully completed.

Setup is complete. (**Note:** At this time, you may log on to the Windows Terminal Server by double-clicking the **OW_B733** or whatever application that you create.

9.8.3 MetaFrame Documentation

Shipped with the Citrix MetaFrame CD-ROM are the two following publications that contain all the required details for the installation of the product:

- *Citrix MetaFrame Administrator's Guide*
- *Citrix MetaFrame ICA Client User's Guide*

The MetaFrame documentation is also online under Help Topics, as shown in Figure 262:

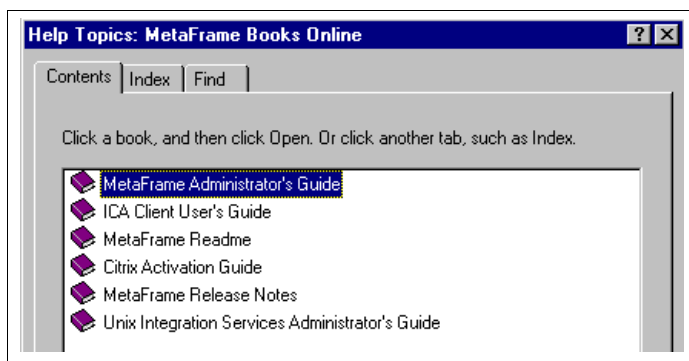


Figure 262. MetaFrame Books Online Screen

9.9 Configure Installation Planner for Windows NT Terminal Server

This section provides the necessary steps to create an installation plan to install Microsoft Windows NT Server 4.0, Terminal Server Edition. In Chapter 7, “Implementing Oracle8 and J.D. Edwards’ OneWorld” on page 89 and Chapter 8, “Implementing Microsoft SQL Server 7.0 and OneWorld” on page 167, we created an installation plan for OneWorld B73.3 using Oracle8 Enterprise Edition for Windows NT and Microsoft SQL Server 7.0. In our example, the screens you will see apply to our adding the Windows NT Terminal Server using SQL Server 7.0. Since we initially had these environments set up, the following instructions are based on our adding Windows NT Terminal Server to our previous installation plan.

To add Windows Terminal Server to installation plan, complete the following steps:

1. Sign on to OneWorld as user JDE with password JDE.
2. Access the planner environment (JDEPLAN).
3. From the System Installation Tools menu (GH961), double-click **Custom Installation**. You will see a screen similar to Figure 263:

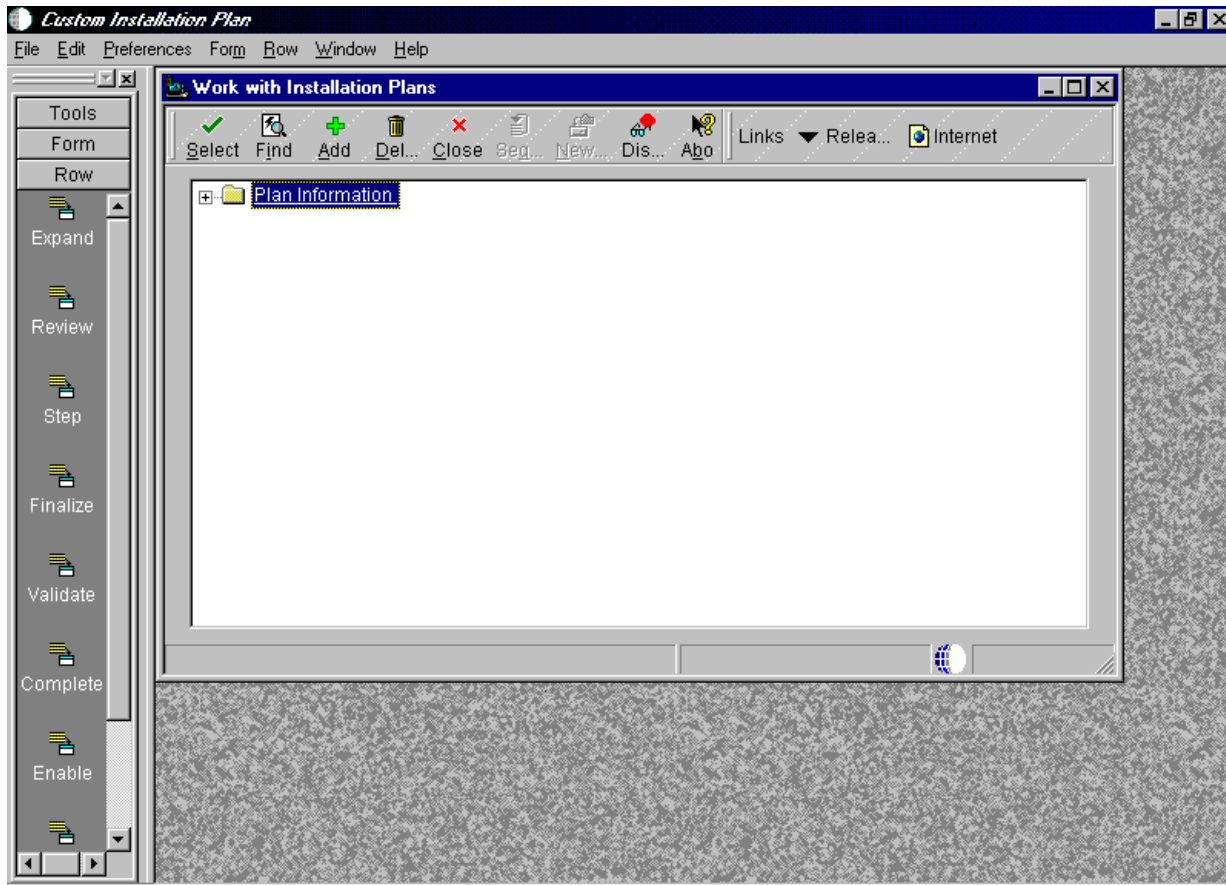


Figure 263. OneWorld Custom Installation Plan Screen

4. On Work with Installation Plans, click **Find** button to locate your plan. Click **Add**. You will see a screen similar to Figure 264 on page 290.

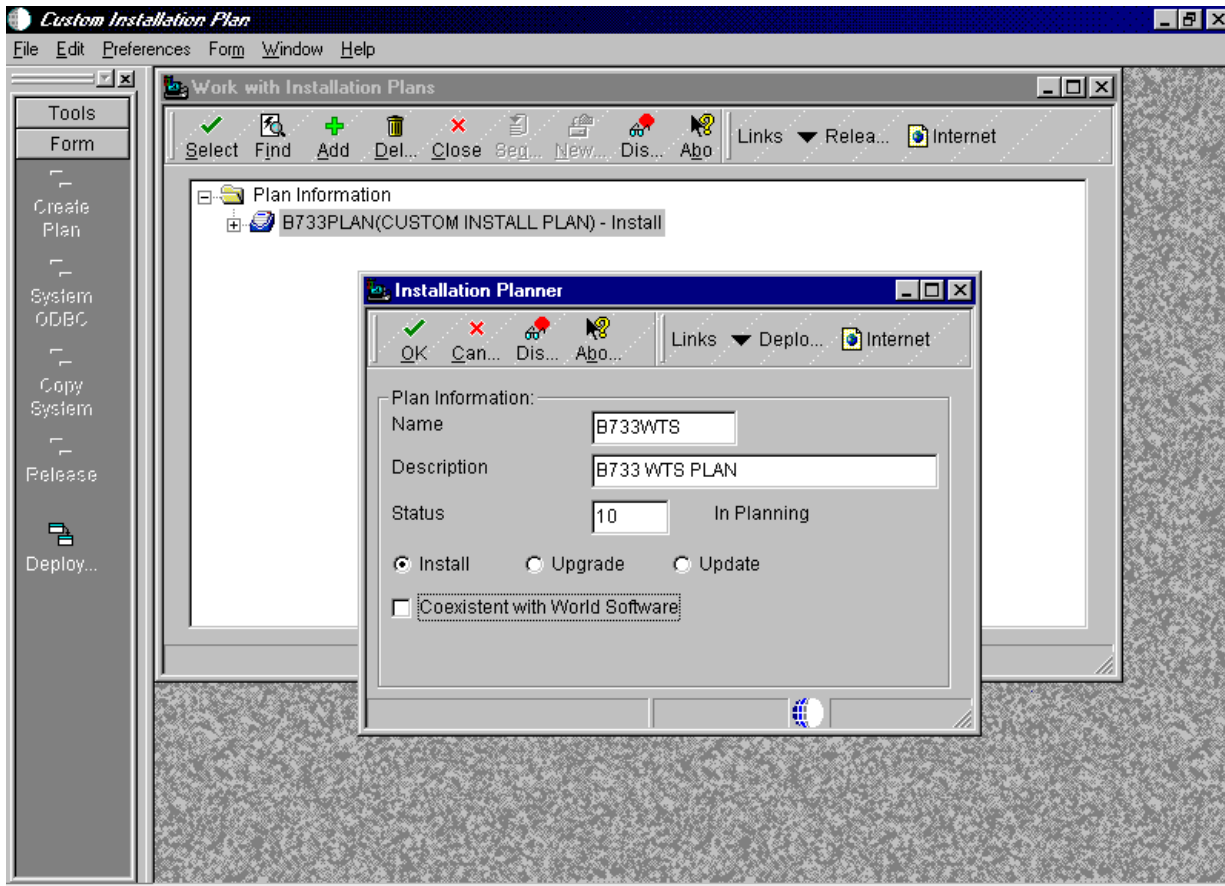


Figure 264. Custom Installation Planner Screen

5. On Installation Planner, enter the base plan information by completing the following fields:
 - Name = The name of your installation plan (for example, B733WTS).
 - Description = The description of your plan with as much detail as possible.
 - Status = **10**.
 - Click **Install**.
 - Verify that the Coexistent with World Software box is not checked.
6. Click **OK**. On Location Search, choose the location, and click **Select**. You will see a screen similar to Figure 265.

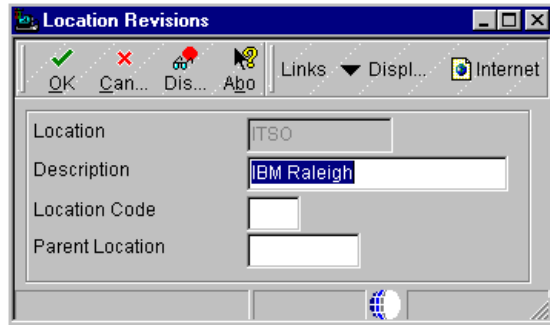


Figure 265. Custom Installation Plan (Location Revisions) Screen

7. Click **OK** to continue.
8. On the Enter Deployment Server Information screen, click **Skip**.

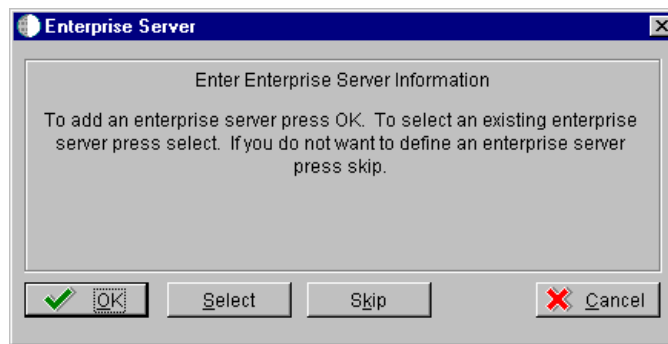


Figure 266. Enterprise Server Dialog Box

9. On the Enter Enterprise Server Information screen, click **Select**.

Note: Our Enterprise server exist from an earlier setup, therefore, we click **Select**. If we were adding a new enterprise server, we would click **OK** and continue with the data source setup. Follow the steps:

10. Locate your enterprise server, highlight **IBM5500ES** and click **Select**. You will see a screen similar to Figure 267 on page 292.

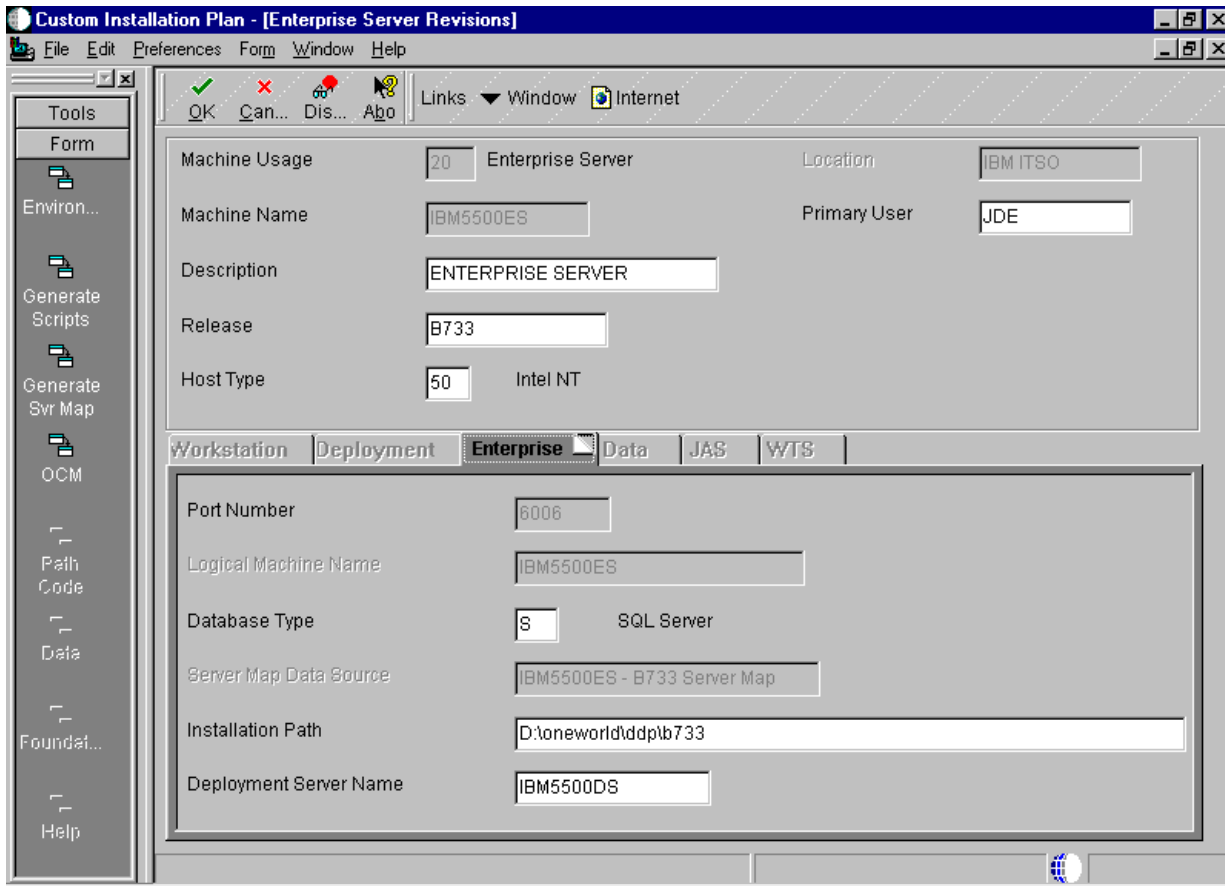


Figure 267. Custom Installation Plan (Enterprise Server Revisions) Screen

11. Click **OK**. You will see a screen similar to Figure 268:

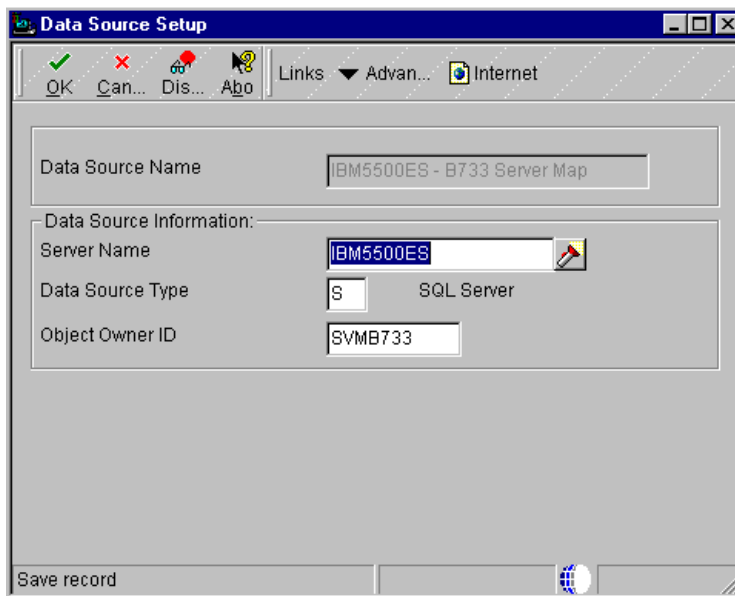


Figure 268. Data Source Setup Screen

12. Click **OK**. (Select the highlighted section.)

13. Click **OK** to continue.

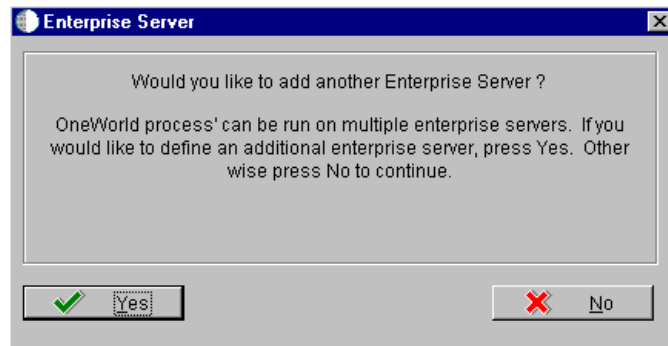


Figure 269. Enterprise Server Dialog Box

14. Click **No** if you are not adding another enterprise server. Next, you will see a screen similar to Figure 270:

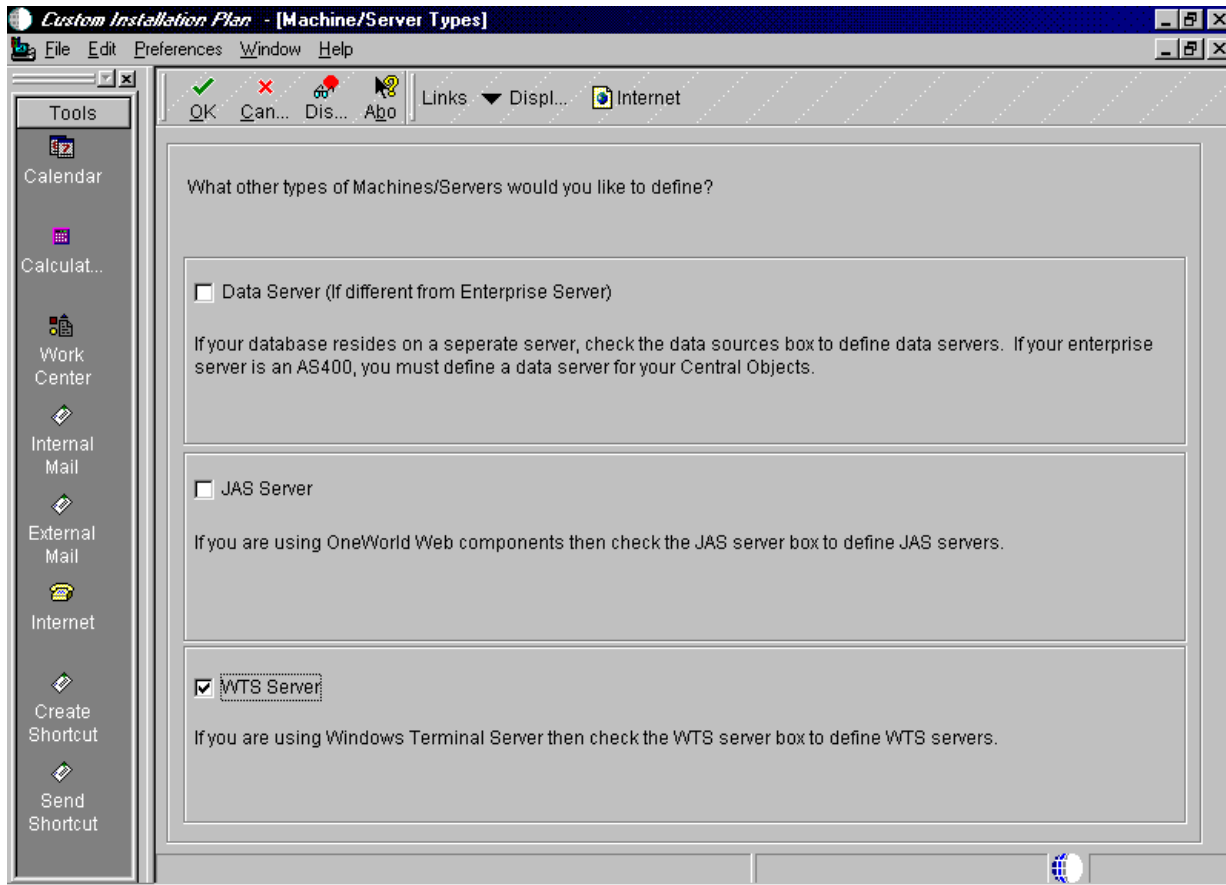


Figure 270. Custom Installation Plan (Machine/Server Types) Screen

15. Check **WTS Server** and then click **OK**. You will see a screen similar to Figure 271 on page 294.

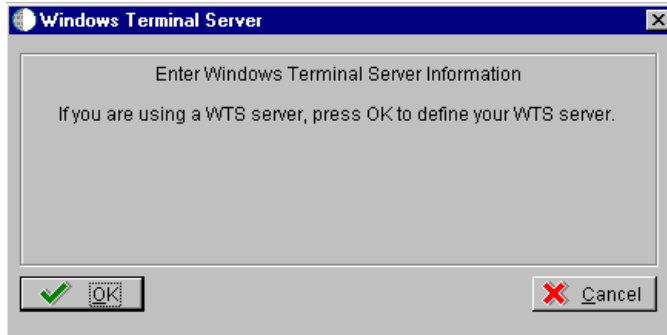


Figure 271. Windows Terminal Server Dialog Box

16. Click **OK** to continue. You will see a screen similar to Figure 272:

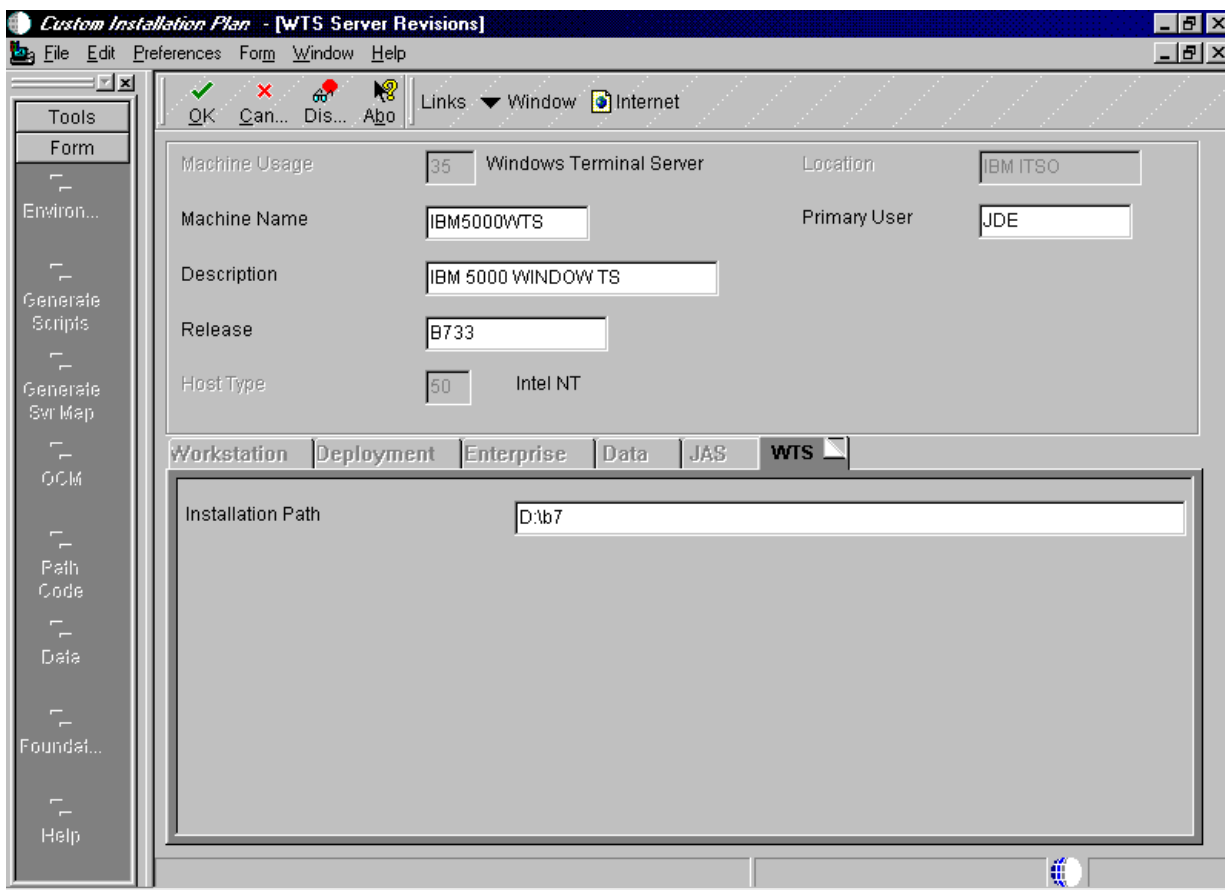


Figure 272. Custom Installation Plan (Windows Terminal Server Revisions) Screen

17. Complete the following fields for the WTS Server Revisions:

- Machine Name = The name of your Windows Terminal Server. (For example, IBM5000WTS.)
- Description = A description of your installation plan.
- Release = The release number of OneWorld that you are installing.

- Installation Path = The installation directory path to which you are installing OneWorld on your server. Make sure that it is specific to the version of the release, for example, we used d:\b7.
18. Click **OK**. OneWorld asks if you want to add another Windows Terminal Server: If you do not want to add another Windows Terminal Server, click **No**.
19. OneWorld now prompts you for the data source information for the shared data sources for the Windows Terminal Server that was added. Click **OK**.
- Note:** If you chose Take Defaults, then OneWorld will set up the default data sources and that will limit your customization choices.

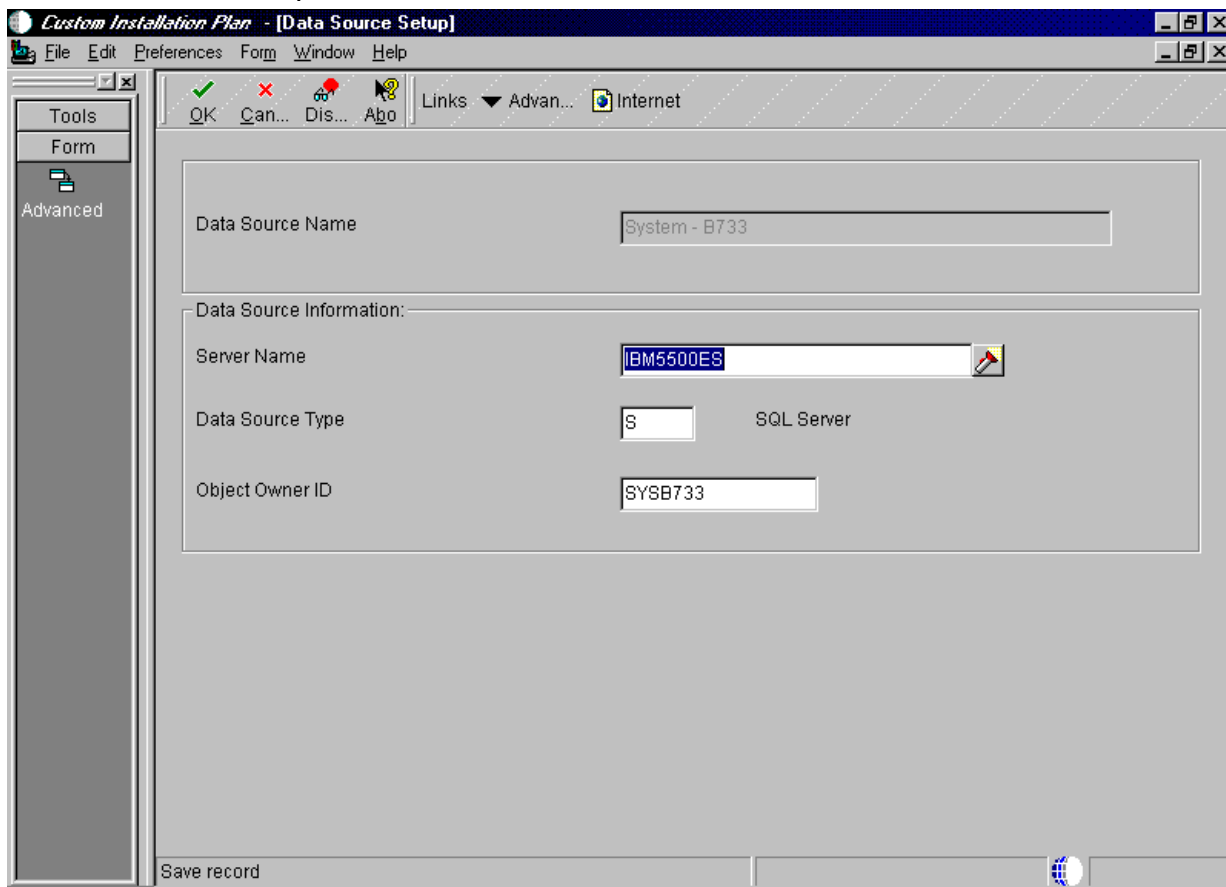


Figure 273. Custom Installation Plan (Data Source Setup) Screen

20. Verify the accuracy of the System Data Source and click **OK**. You will see a screen similar to Figure 274 on page 296.

Note: For a reference list of data sources to help you configure these steps, see Table 16 on page 189.

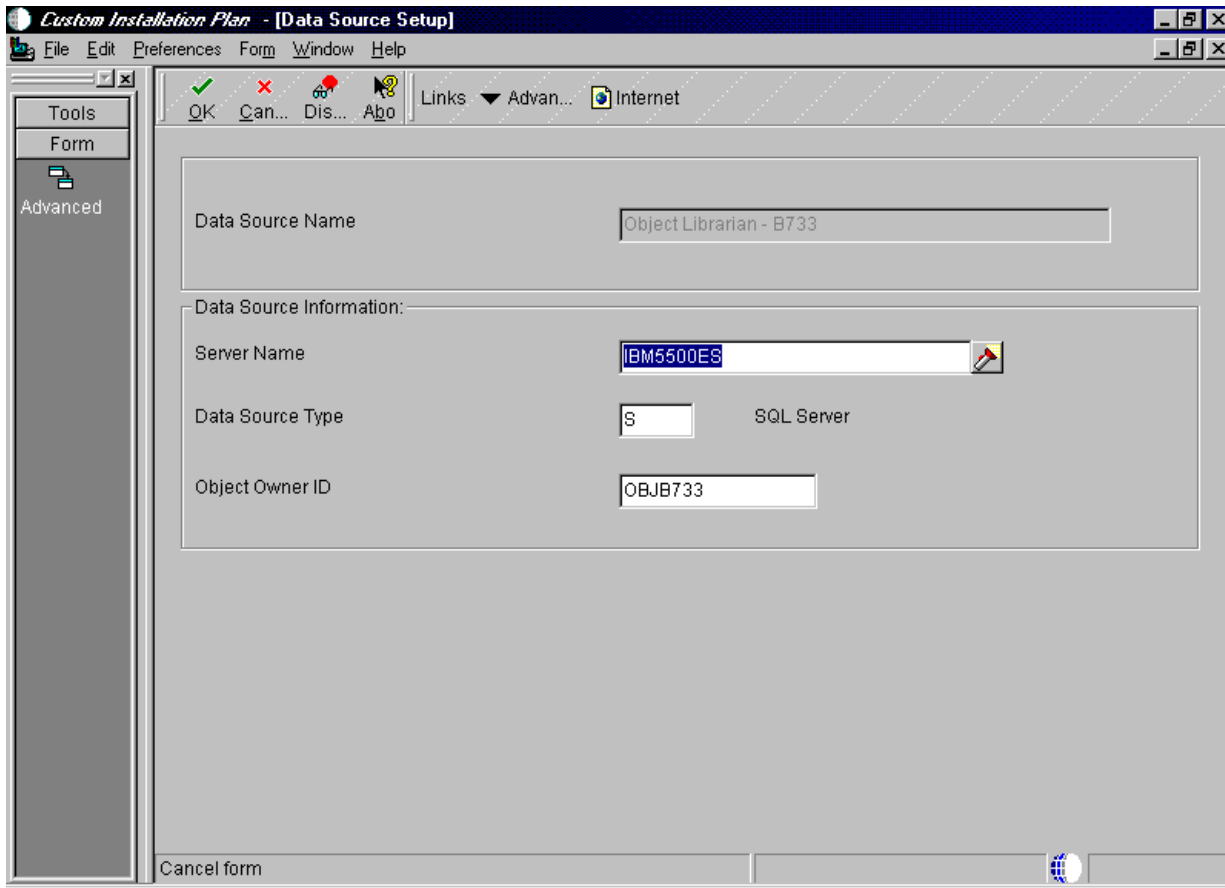


Figure 274. Custom Installation Plan (Data Source Setup) Screen

21. Verify the accuracy of the Object Librarian data source and then click **OK**. You will see a screen similar to Figure 275.

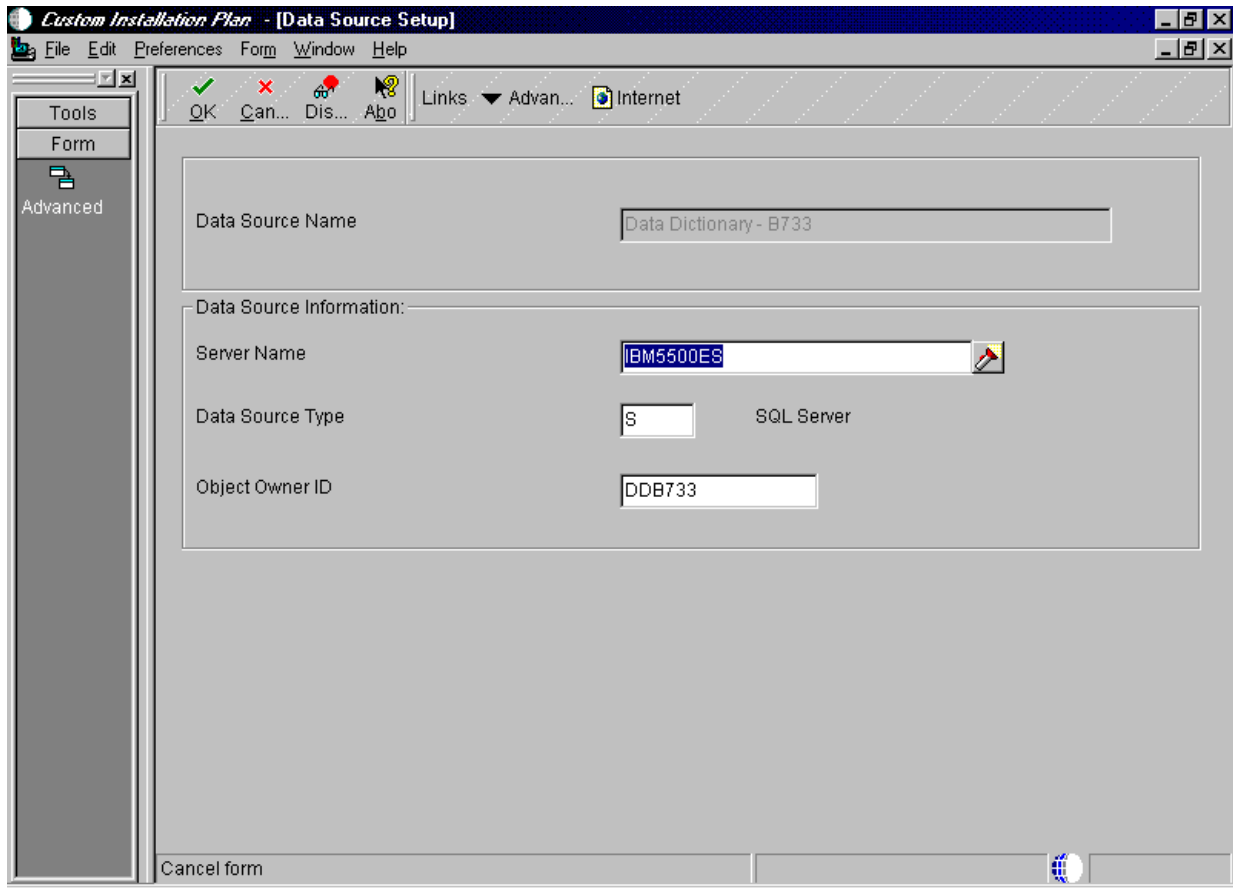


Figure 275. Custom Installation Plan (Data Source Setup) Screen

22. Verify the accuracy of the Data Dictionary data source and then click **OK**. You will see a screen similar to Figure 276 on page 298.

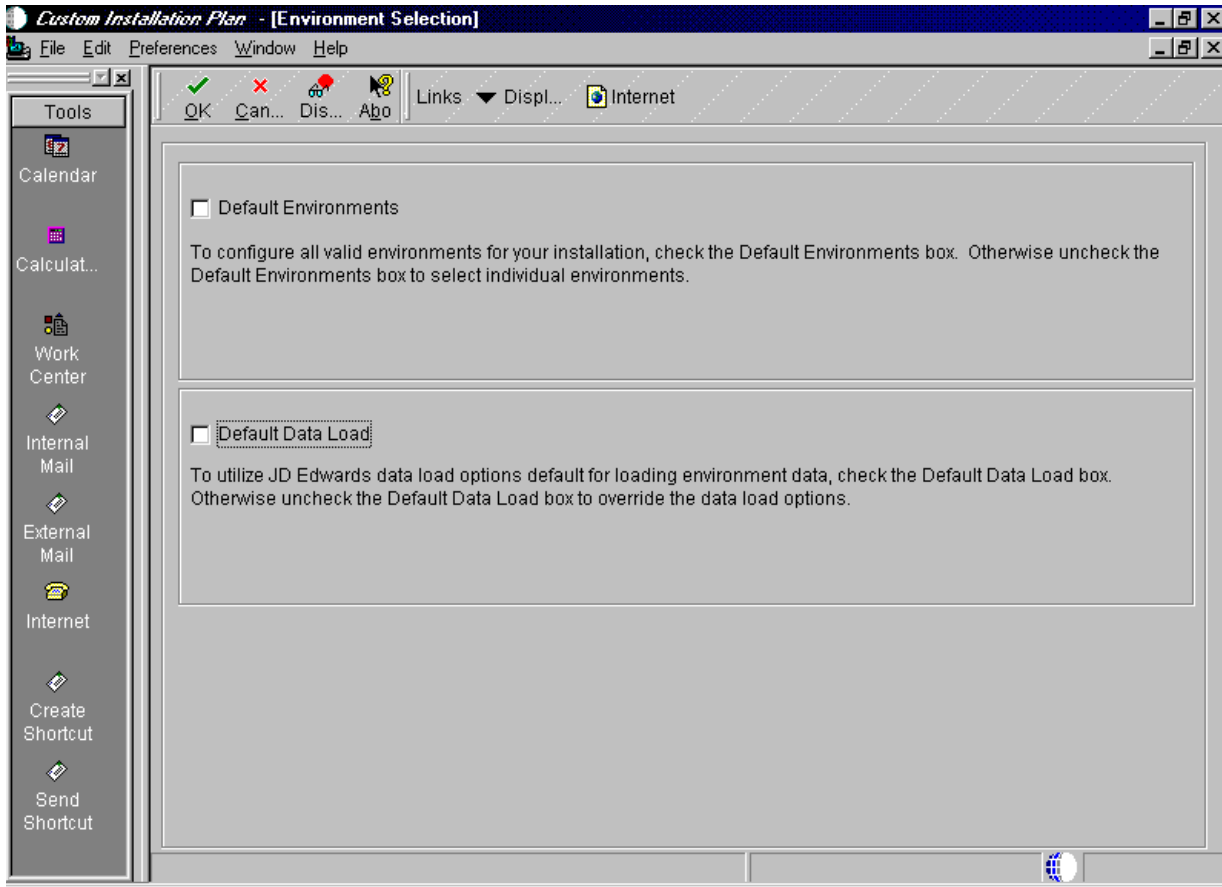


Figure 276. Custom Installation Plan (Environment Selection) Screen

23. In the Environment Selection, make sure Default Environments and Default Data Load are not checked and then click **OK** to continue. You will see a screen similar to Figure 277 on page 299.

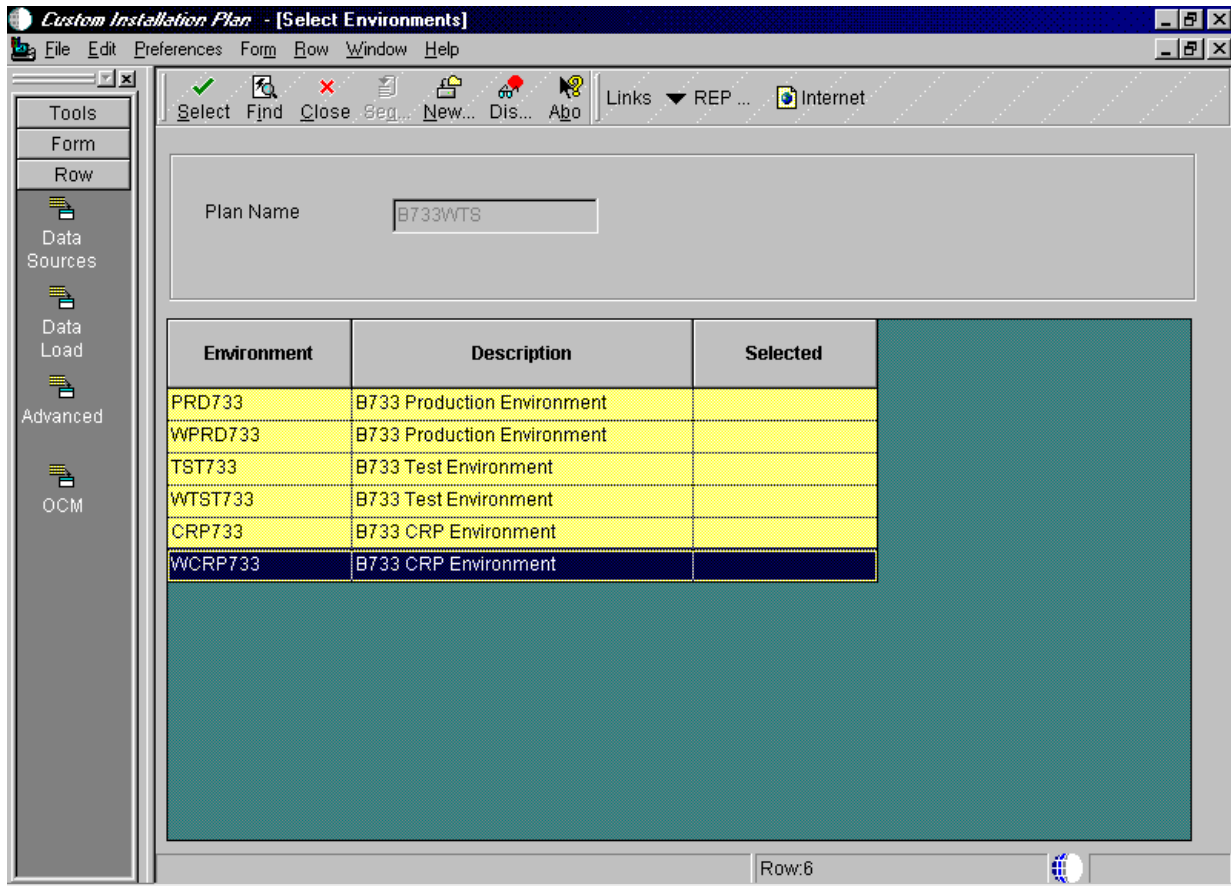


Figure 277. Custom Installation Plan (Select Environments) Screen

The Wxxx733 environments will appear since we selected to add a Windows Terminal Server to our plan.

Note: Refer to the reference section "Default Environment OCM Mappings" of the install manual to review and understand the Object Configuration mappings for each of the environments.

24. To set up your environments, the following step must be completed.

25. On Select Environments, double-click the environment that you choose to define. (For example, we selected **WCRP733** for the Windows Terminal Server CRP environment). The system will then display the *Data Load Parameters*.

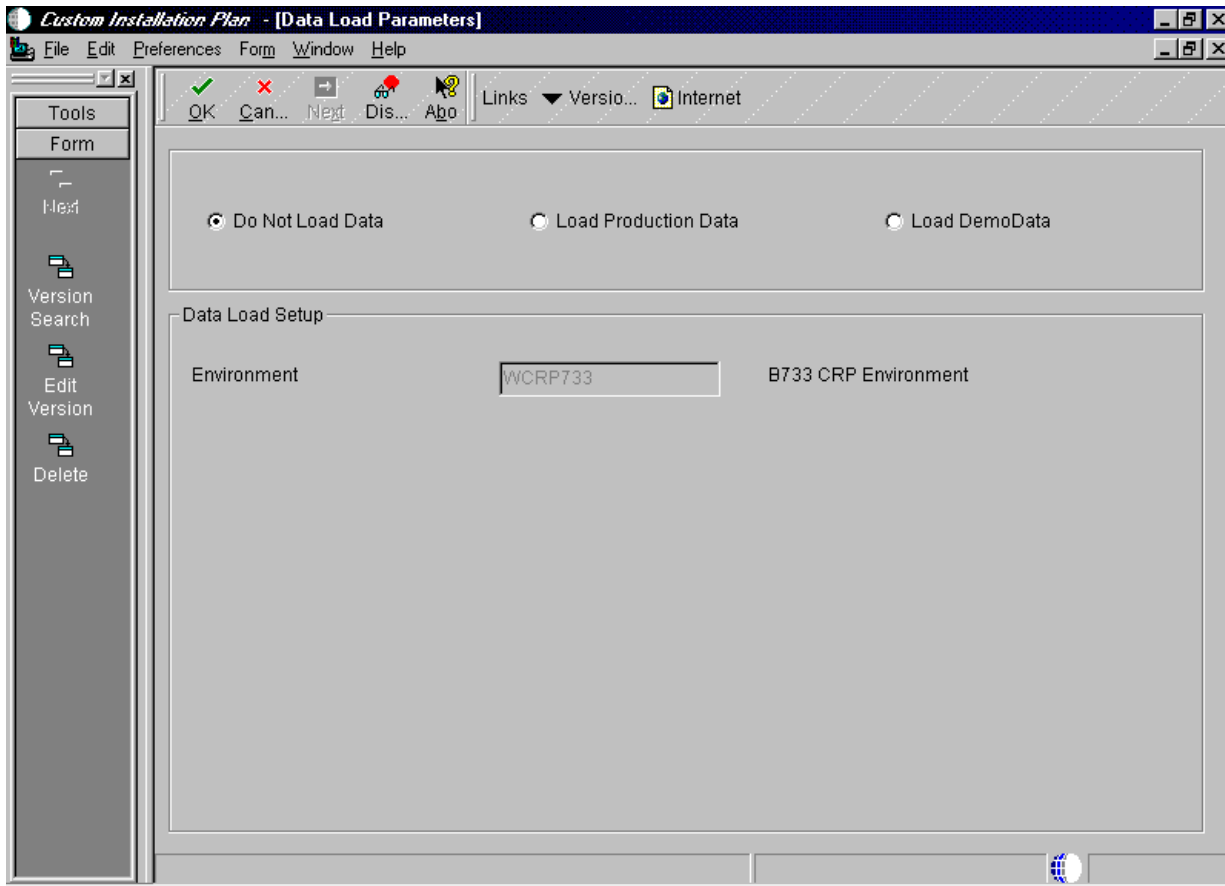


Figure 278. Custom Installation Plan (Data Load Parameters) Screen

26. Choose **Do Not Load Data** and then click **OK**.

Note: You would only load data if you had not previously installed that environment.

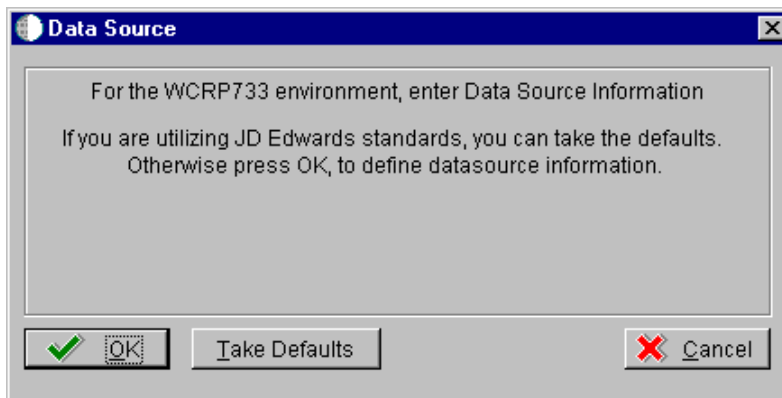


Figure 279. Custom Installation Plan (Data Source Screen)

27. Click **OK** to set up the data sources.

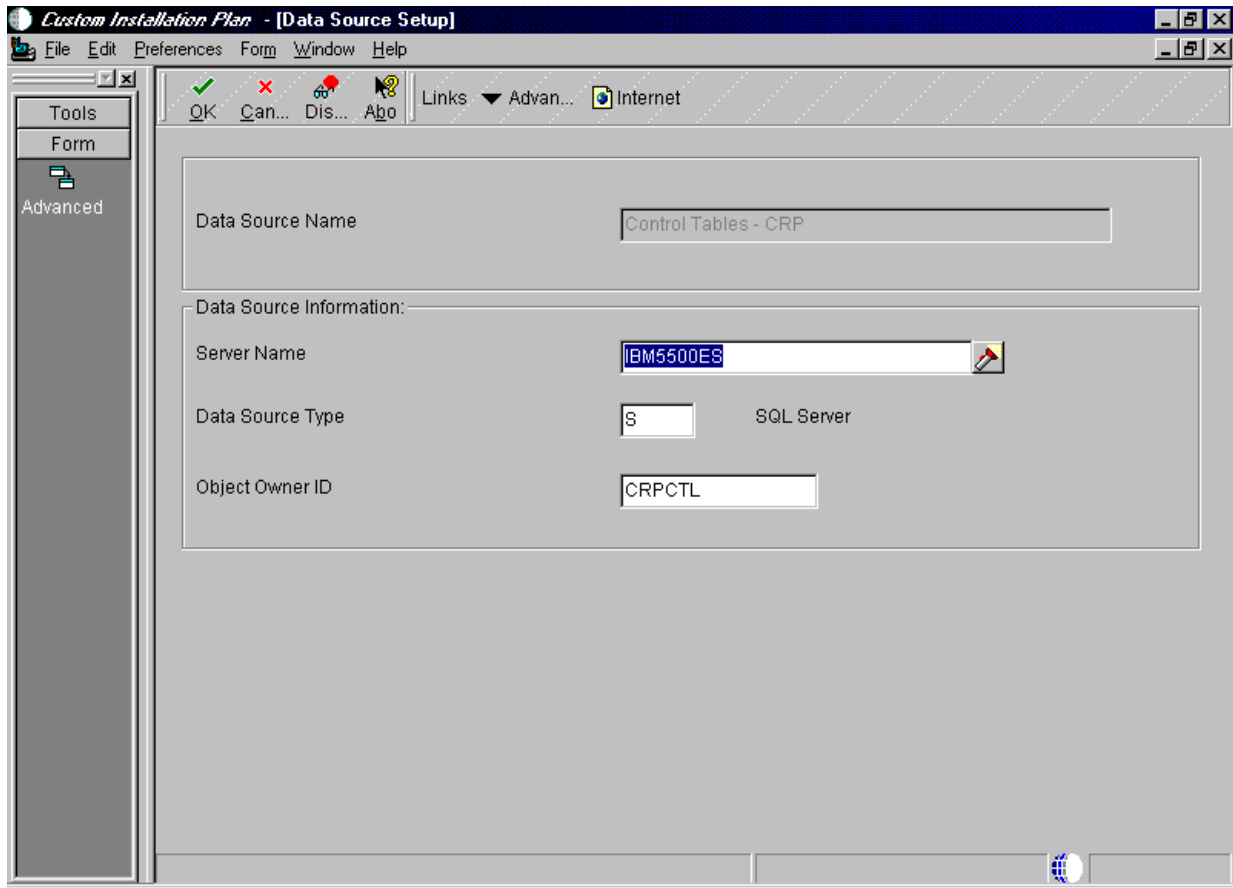


Figure 280. Custom Installation Plan (Data Source Setup) Screen

28. Verify the accuracy of the Control Tables data source and then click **OK**. You will see a screen similar to Figure 281 on page 302.

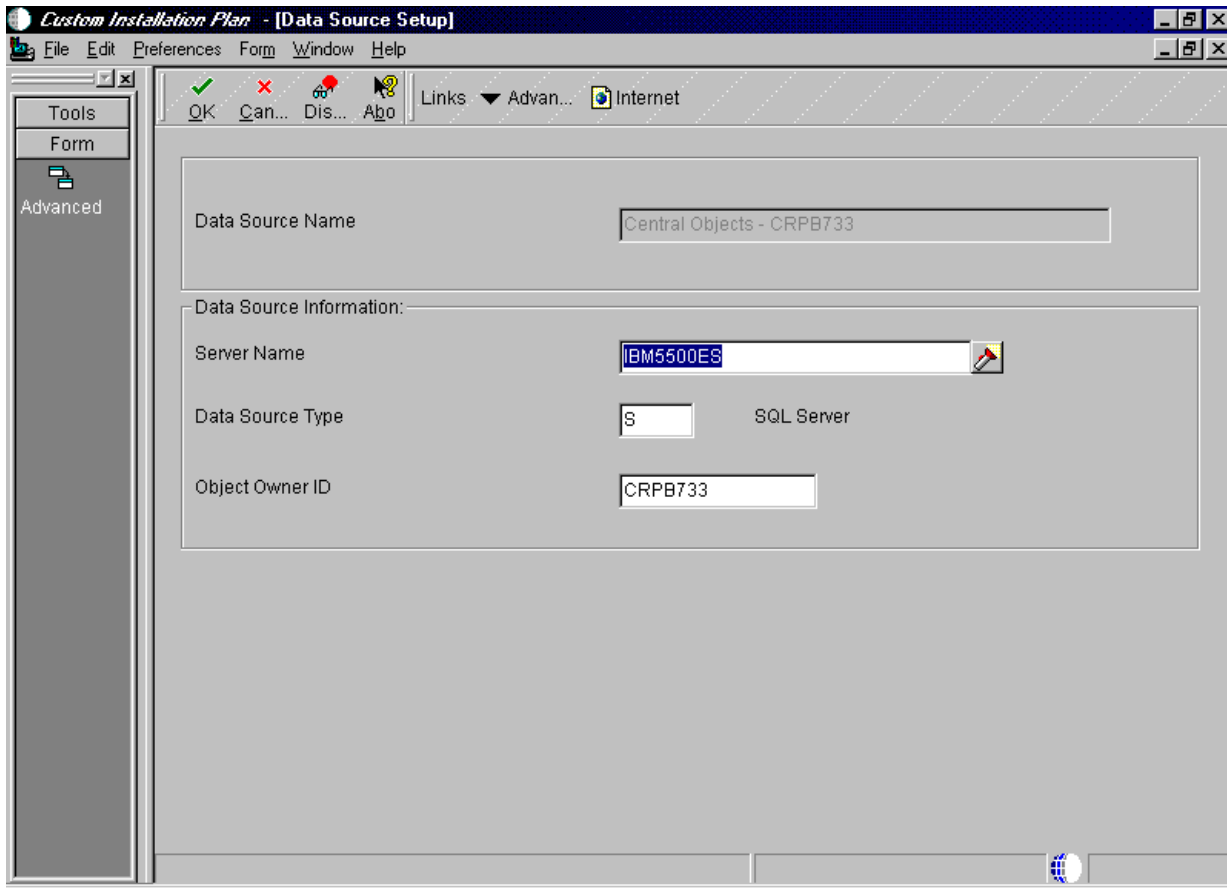


Figure 281. Custom Installation Plan (Data Source Setup) Screen

29. Verify the accuracy of the Central Object data source and then click **OK**. You will see a screen similar to Figure 282 on page 303.

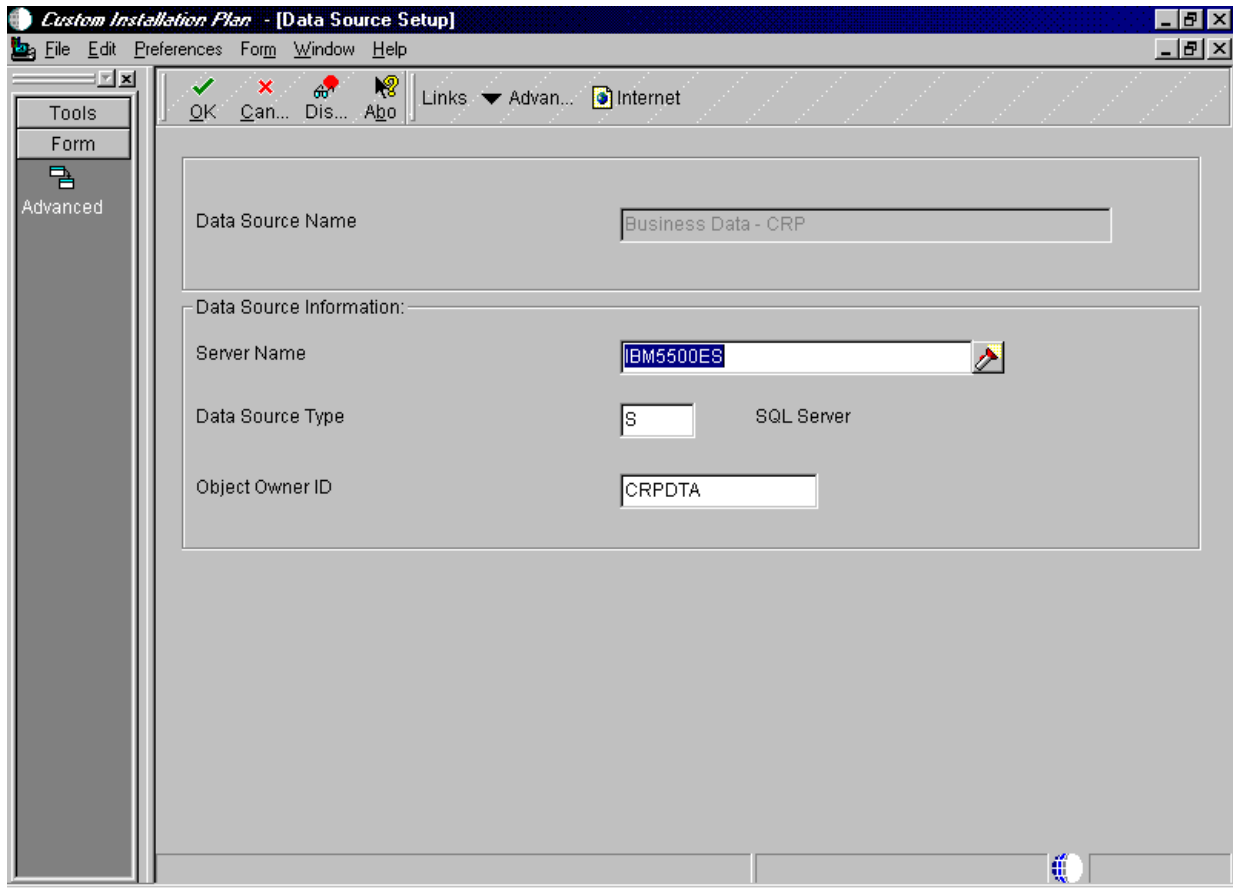


Figure 282. Custom Installation Plan (Data Source Setup) Screen

30. Verify the accuracy of the Business data source and then click **OK**. You will see a screen similar to Figure 283 on page 304.

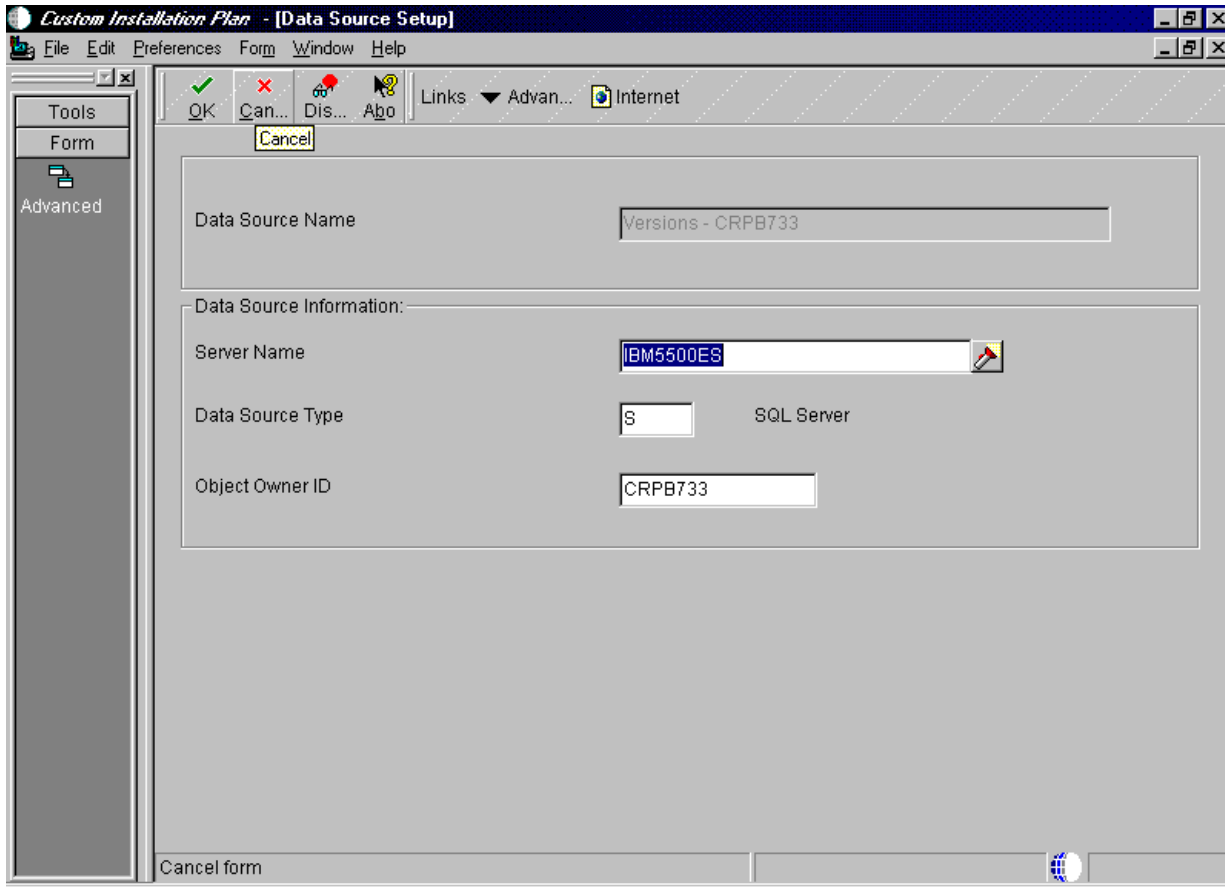


Figure 283. Custom Installation Plan (Data Source Setup) Screen

31. Verify the accuracy of the Version data source and then click **OK**.
32. The system now displays Select Environments (see Figure 284 on page 305) so that another environment can be defined (if necessary).

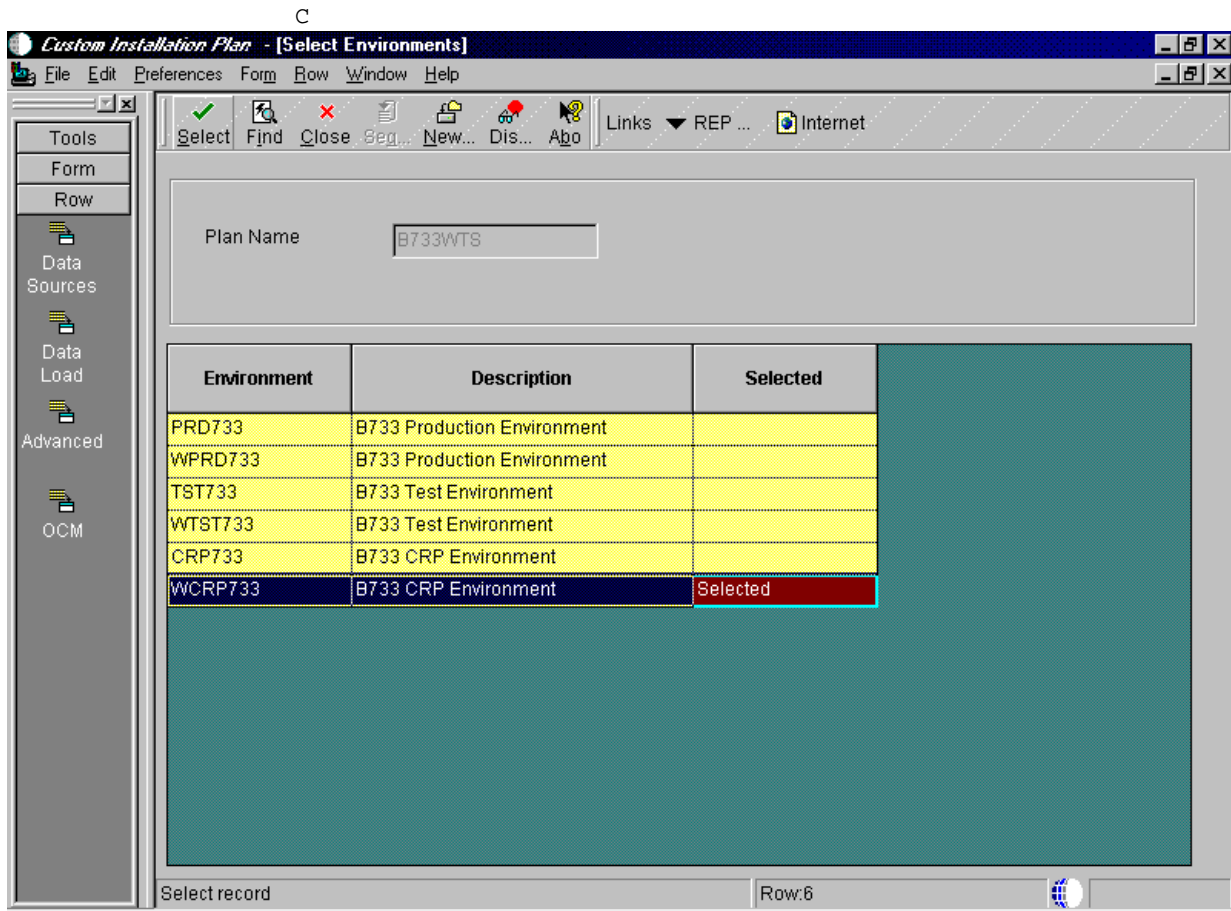


Figure 284. Custom Installation Plan (Select Environments) Screen

33. On Select Environments, choose the next environment that you want to define.
34. Repeat all of the previous steps that were done above to configure the data sources and environment.
35. After defining all of your environments, click **Close**.
36. OneWorld will now ask if you would like to add another location, click **No**.

A message will appear stating that the plan has been finalized.

Note: When the plan is finalized, the status is set to 20. This means that several changes have been made to the OCM mappings and tables according to the plan that you defined.

37. Click **OK** and continue. You will see a screen similar to Figure 285 on page 306.

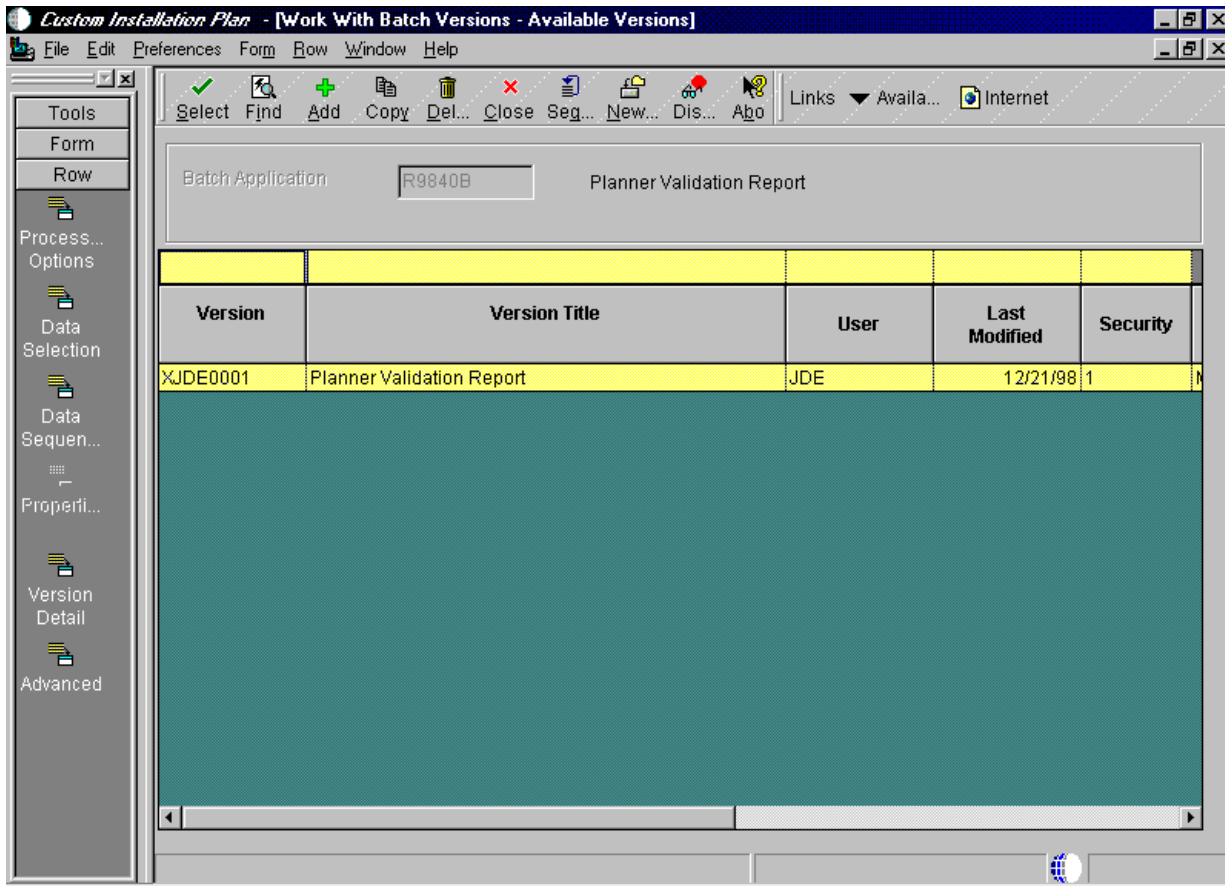


Figure 285. Custom Installation Plan (Work With Batch Versions) Screen

38. Complete the following steps to run the Planner Validation Report. Highlight **XJDE0001**, **Planner Validation Report**, and click **Select**. You will see a screen similar to Figure 286:

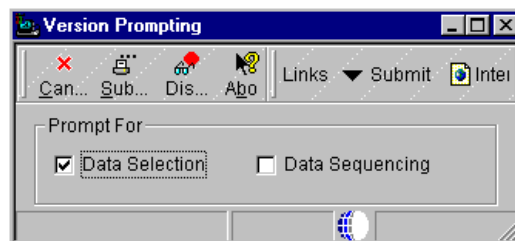


Figure 286. Version Prompting Screen

39. At the Version Prompting screen, check the box for **Data Selection** and then click **Submit** icon. You will see a screen similar to Figure 287 on page 307.

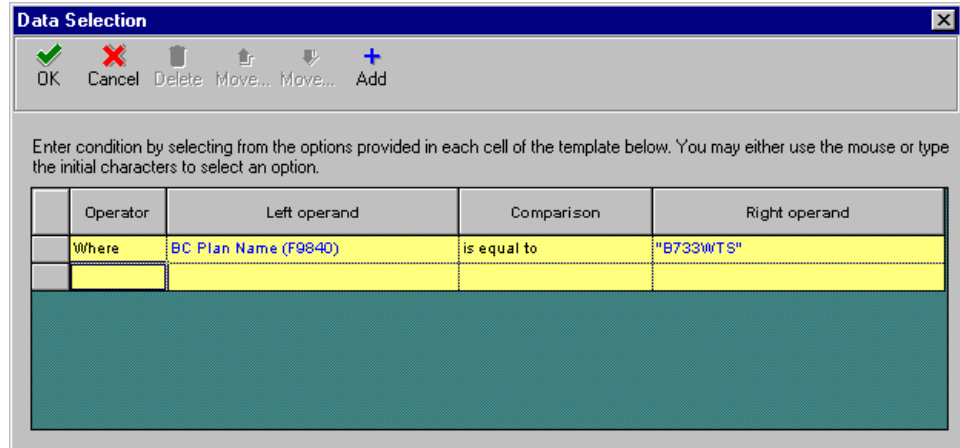


Figure 287. Custom Installation Plan (Data Selection) Screen

40. At this screen, you will set criteria design information. In the column, Right operand, double-click "Plan Name" and select **Literary**. Type in the plan name, for this example, B733WTS.

41. Click **OK** and continue. You will see a screen similar to Figure 288:

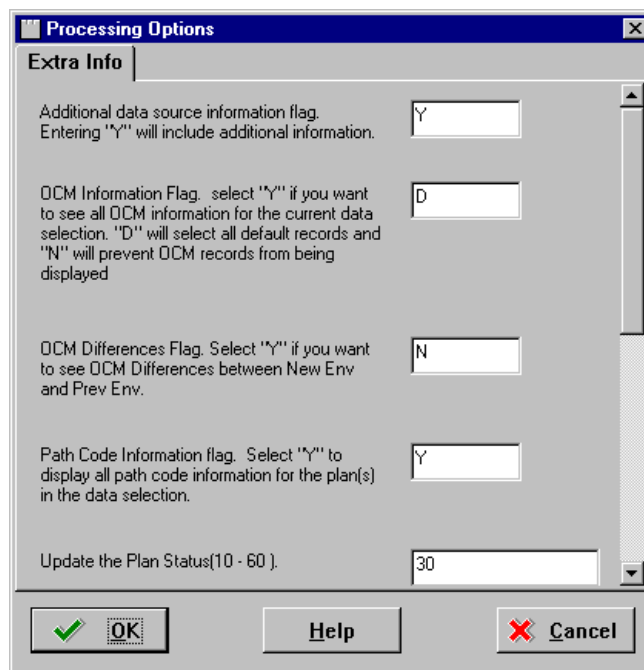


Figure 288. Processing Options Screen

42. On the Extra Info tab on Processing Options, verify the fields and click **OK**. You will see a screen similar to Figure 289 on page 308.

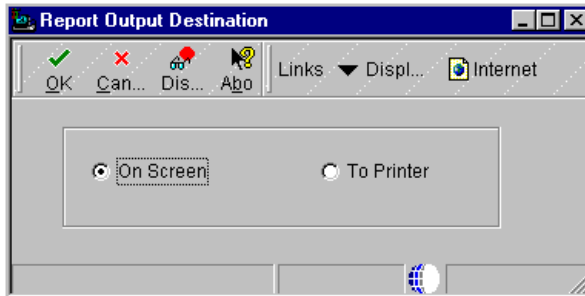


Figure 289. Report Output Destination Screen

43. Choose **On Screen** to view your validation report at your display. Click **OK**. Adobe's Acrobat Reader launches the Installation Planner Validation Report PDF.

44. Review the report and ensure your information is correct. Exit the Acrobat Reader and select **Close** to exit Validation. You will see a screen similar to Figure 292 on page 310.

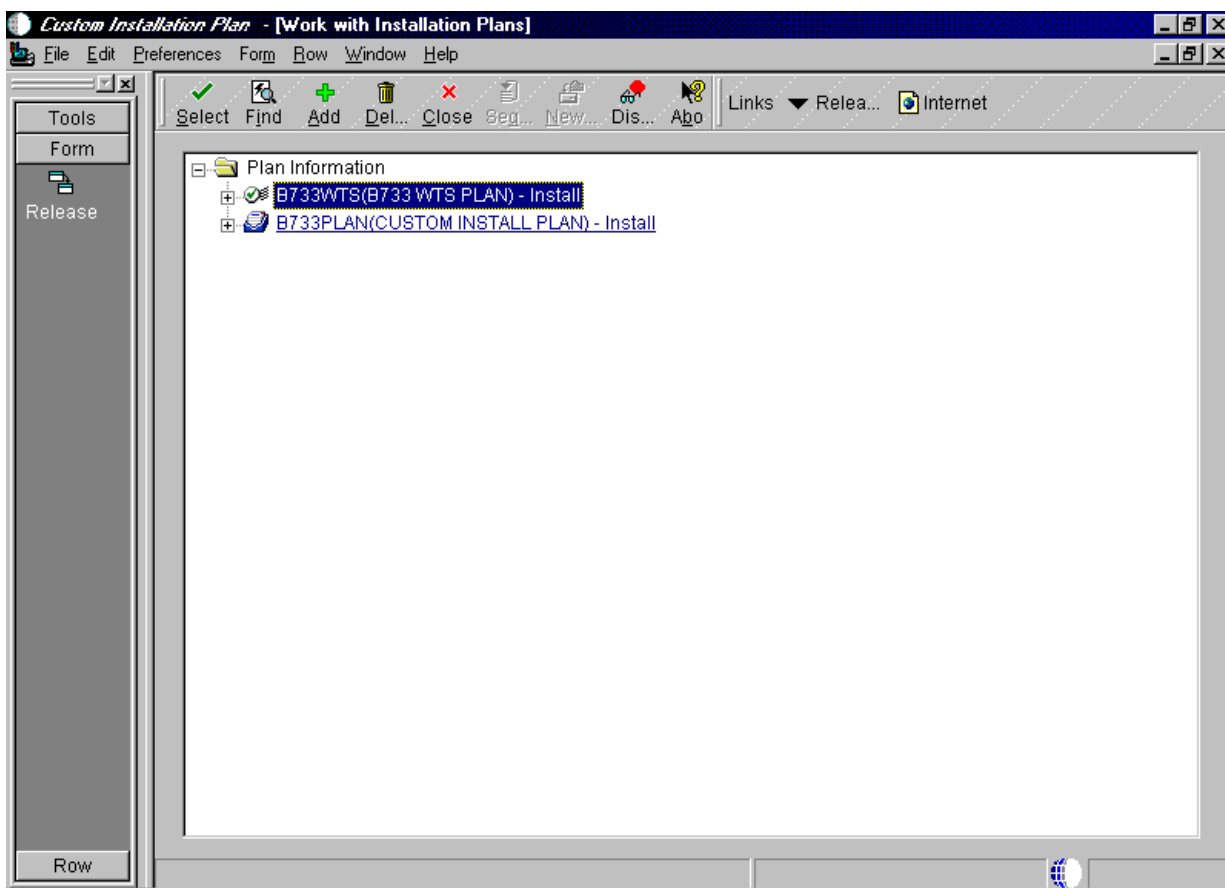


Figure 290. Custom Installation Plan (Work with Installation Plans) Screen

After you have created the plan, you must release it in order to initialize the system data source and create the system tables.

45. On Work with Installation Plans, click **Expand** to review the WTS plan you created. Highlight our plan, **B733WTS**.

46. From the action bar, click **Form > Release**. You will see a screen similar to Figure 291.

Note: If the data sources have been previously created in the Installation Planner, click **Cancel** to continue. (In our example, we clicked **Cancel** since we had previously created our data sources.)

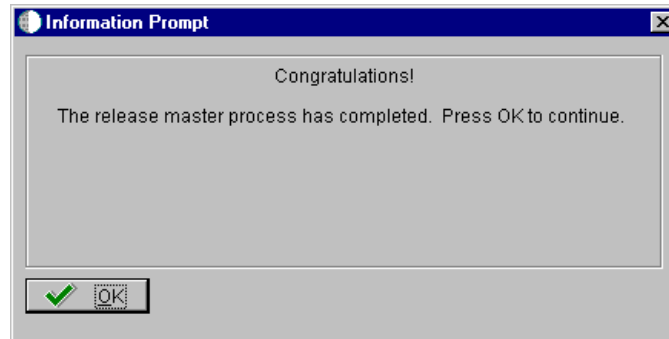


Figure 291. Custom Installation Plan (Release Master Completion) Screen

47. The system will now inform you that the process has completed. Click **OK** and **Close** to continue.

9.9.1 Run Installation Workbench for the Windows Terminal Server Plan

The Installation Workbench runs the plan you created. It functions as a central point for all the processes required to install the server environments. Some processes that install the server environments might require you to perform procedures manually. However, the Installation Workbench makes sure you perform procedures in the proper order, and it insulates you as much as possible from a platform-specific environment setup. Perform the following steps to run the plan we've created:

1. Log on to the planner environment (JDEPLAN) as user JDE and password JDE.
2. From the System Installation Tools menu (GH961), choose **Installation Workbench**. You will see a screen similar to Figure 292 on page 310.

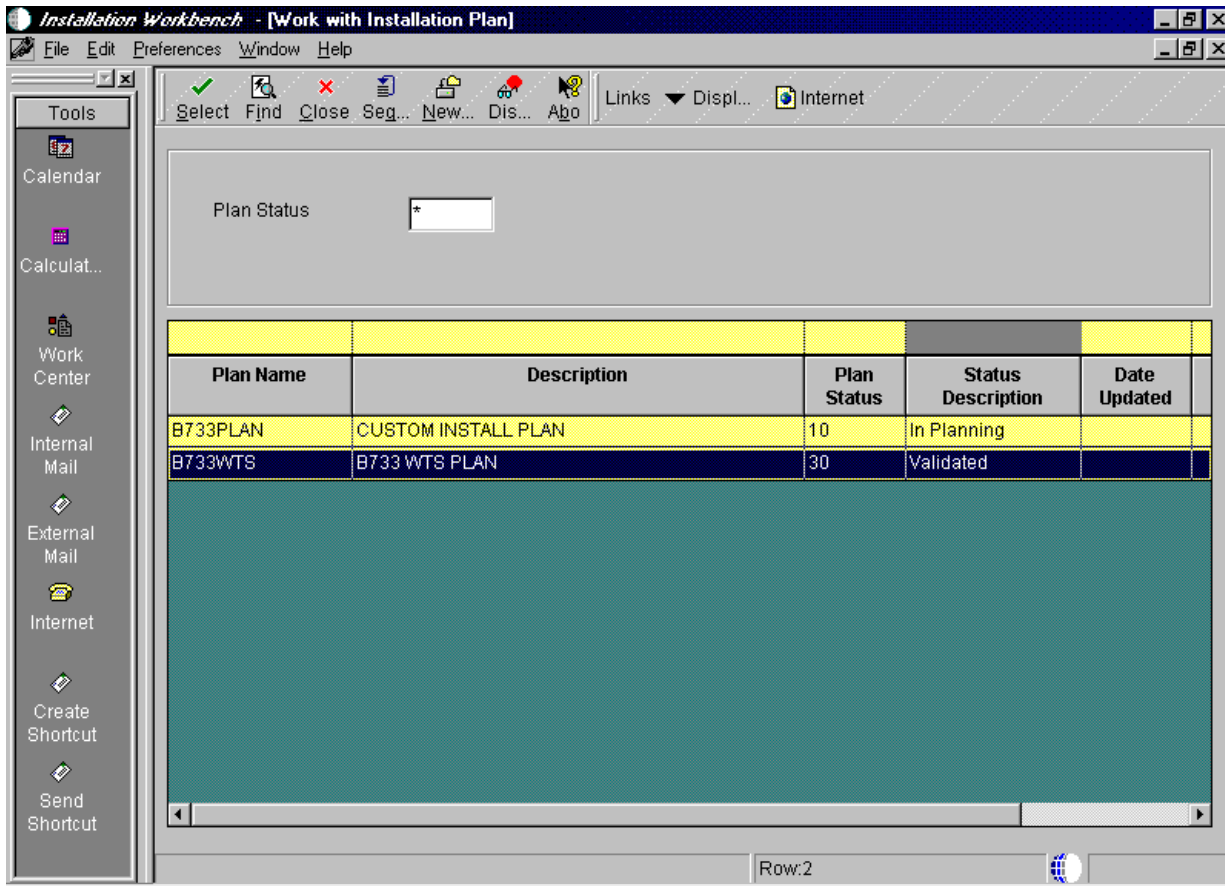


Figure 292. Installation Workbench (Work with Installation Plan) Screen

3. Again, verify that a printer is set up for your deployment server.
4. On Work with Installation Plan, double-click your plan. For our example, B733WTS. You will see a screen similar to Figure 293 on page 311.

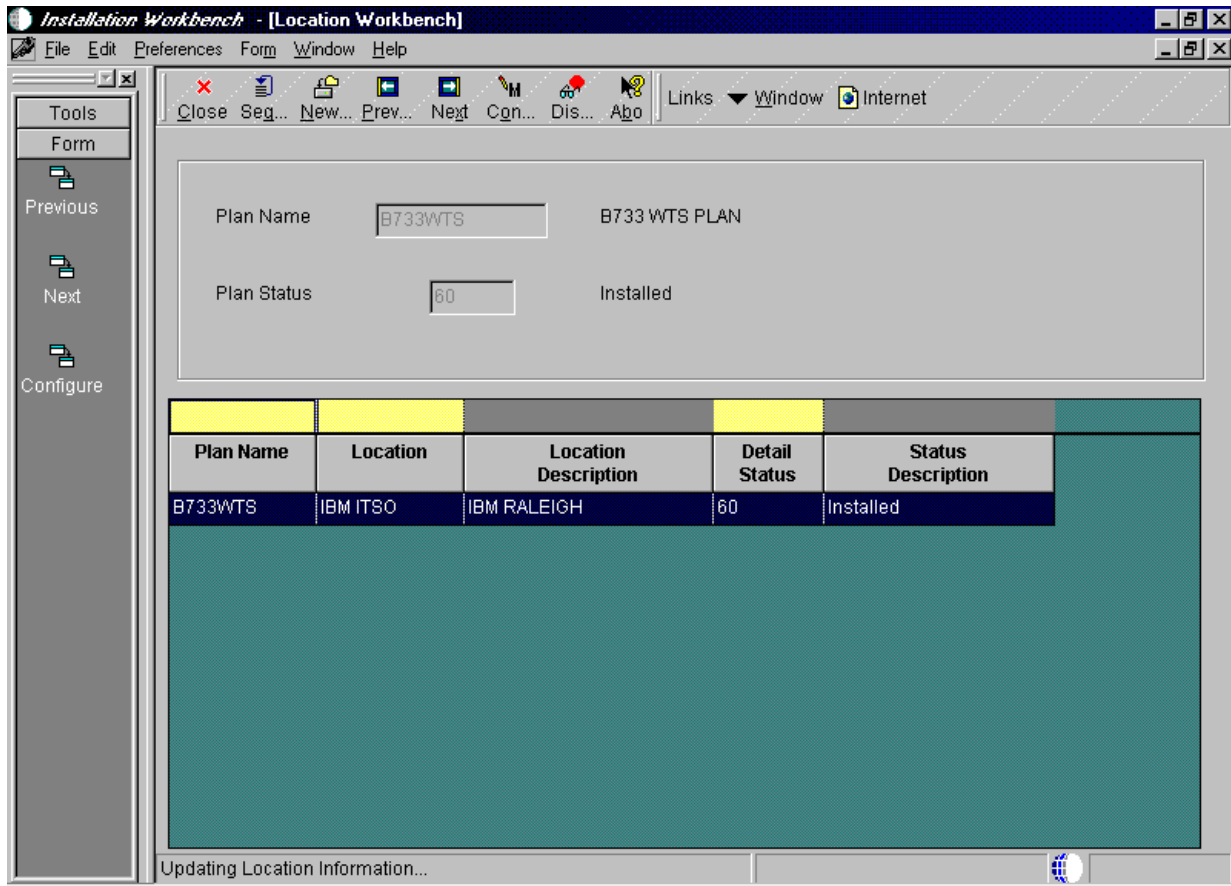


Figure 293. Installation Workbench (Location Workbench) Screen

5. Verify that this form lists all the necessary locations for your plan. From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
6. Click **Next** and continue. You will see a screen similar to Figure 294 on page 312.

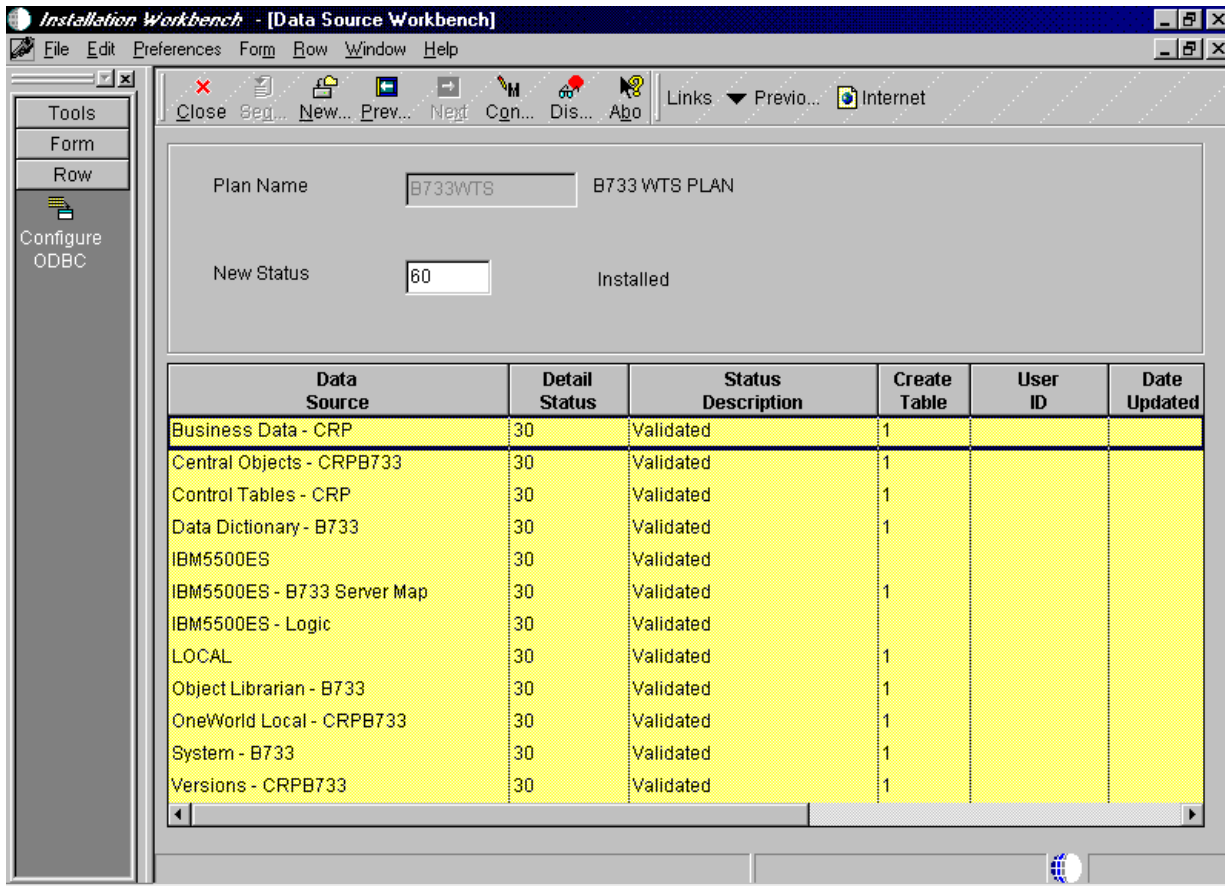


Figure 294. Installation Workbench (Data Source Workbench) Screen

- At the Data Source Workbench screen, scroll down the list of items and verify that the information presented listed all the necessary data for your plan.

Note: If you are using non-Oracle data sources, you must create ODBC data sources defined in the plan that you did not create earlier when setting up the plan during Running Installation Planner, or it will automatically prompt for any that are not set up. For SQL Server 7.0, both the deployment server and enterprise Server have the ODBC data sources set up and defined.

- From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
- Click **Cancel** when given the option to create new data sources.

Note: There were a couple of times we noticed the Create Data Source screen would come up during Installation Planner and Workbench. Therefore, we rechecked the deployment and enterprise servers to ensure all data sources had been set up correctly. If you are sure of about the creation of your ODBC data sources, perform step 9 and go to the next step.

- Click **Next** to configure your environment. You will see a screen similar to Figure 295 on page 313.

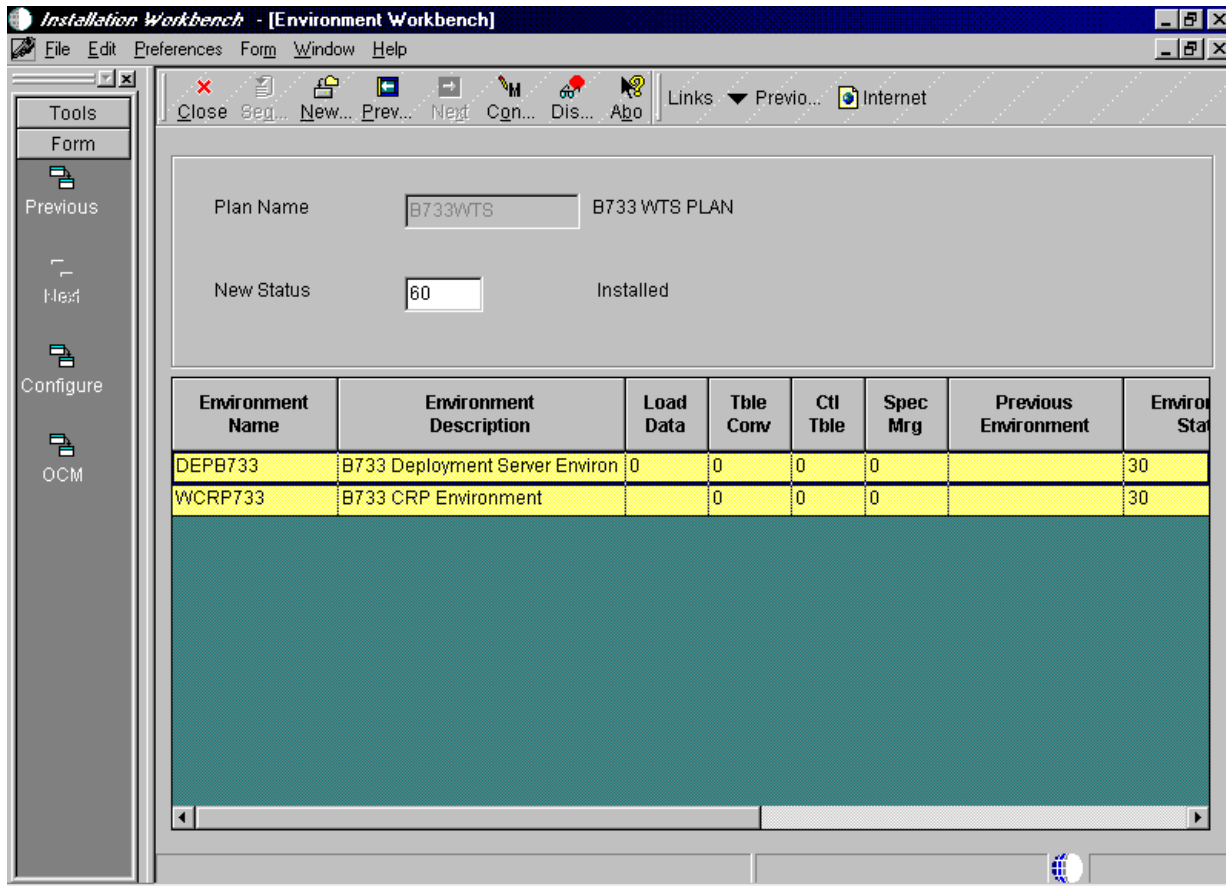


Figure 295. Installation Workbench (Environment Workbench) Screen

11. On the Environment Workbench screen, review each environment and each environment's associated parameters for correct values.

Note: The environment configuration phase takes approximately two hours or more per environment to run. You can let Environment Workbench run overnight, but do not lock the workstation or Environment Workbench stops after loading the first environment.

12. From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
13. Click **Next** to configure your machine. You will see a screen similar to Figure 296 on page 314.

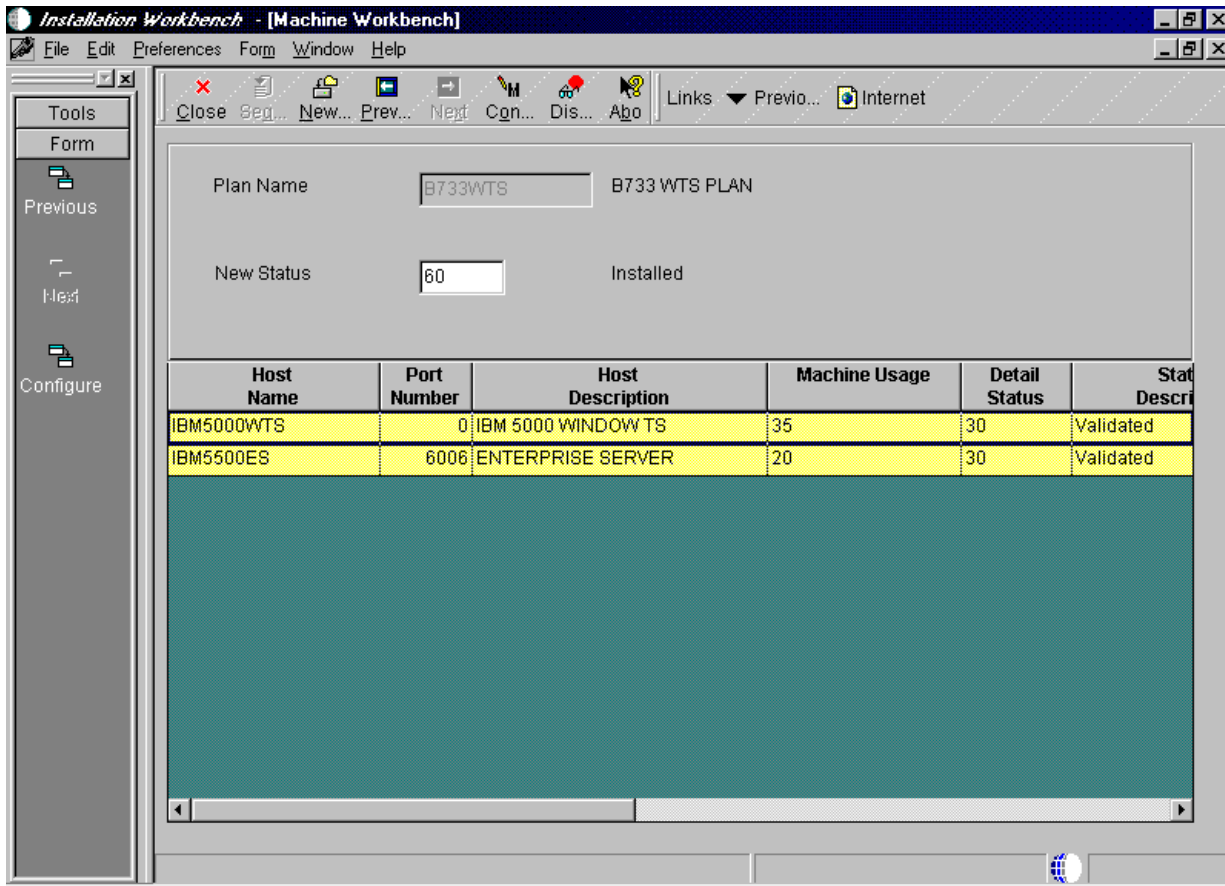


Figure 296. Installation Workbench (Machine Workbench) Screen

14. Review the Machine Workbench for the correct parameters.
15. From the action bar, click **Form > Configure** (this will update your Detail Status to 60 and changes the Status Description from Validated to Installed).
16. Click **Next** to configure your packages. You will see a screen similar to Figure 297 on page 315.

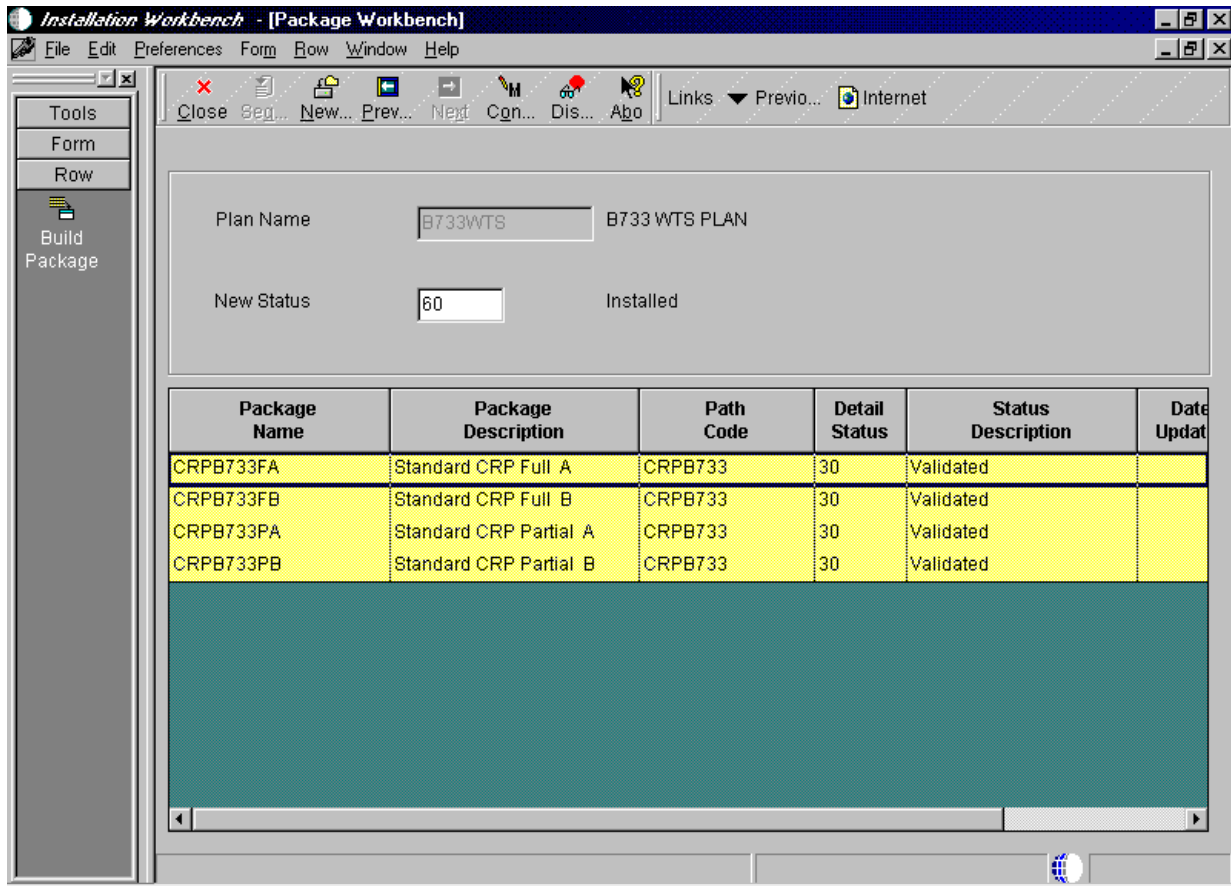


Figure 297. Installation Workbench (Package Workbench) Screen

17. On the Package Workbench screen, we review the Conference Room Pilot and Production packages.
18. From the action bar, click **Form > Configure**.
19. Click **Next** to finish the plan.
20. On the Congratulations screen, from the action bar click **Form > Finish**. From the Work with Installation Plans, click **Close**.

9.10 Installing and Configuring the OneWorld Client on WTS

This section assumes that the users already exist within OneWorld. If you need to create a new user, please refer back to 8.6, "Setting User and Group Profiles" on page 242.

9.10.1 Assigning Environments to Profile

When starting OneWorld, you can assign more than one environment to each user or group from which any user or group can choose. If users do not have environments of their own, they can choose from the ones assigned to their group. To assign environments, perform the following steps:

1. Sign on to the deployment server as user JDE.

2. From your OneWorld work space access the Advanced Operations menu (GH9011), and choose **User Profiles**.
3. On Work With User Profiles, click **Find**.
4. Choose a profile. In our example, we highlighted **JDE** (see Figure 298):

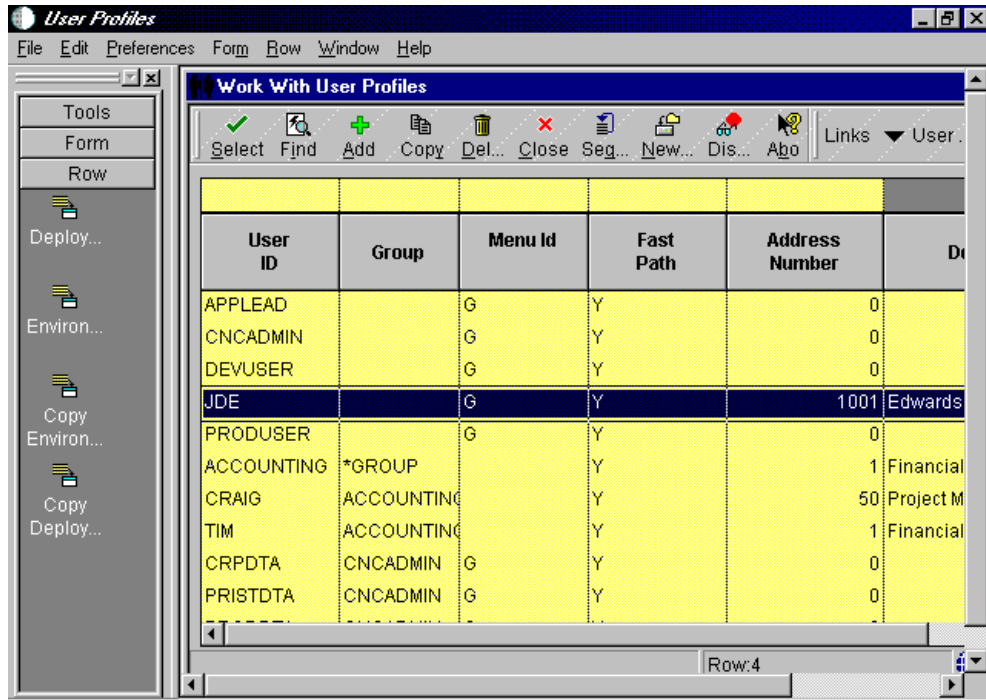


Figure 298. User Profile Screen

5. From the action bar, click **Row > Deployment** to select a package name. Highlight **CRPB733PA** and click **Select**.

Note: Install a full package of OneWorld. You need to install a full package because OneWorld on the terminal server is multiuser. If you install a partial package, multiple users will simultaneously experience just-in-time installation, which will negatively impact performance on the terminal server.
6. From the action bar, click **Row > Environments**. You will see a screen similar to Figure 299 on page 317.

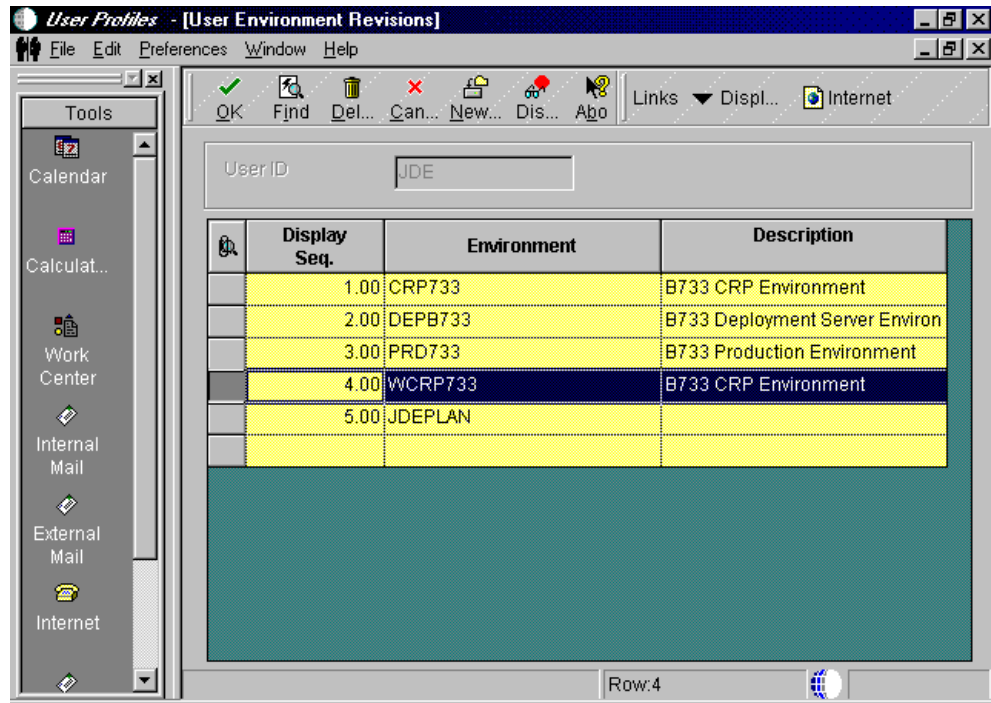


Figure 299. User Profiles (User Environment Revisions) Screen

7. For User Environment Revisions, select the environments you want this user to have:
 - Display Sequence (Display Seq.) = This is an optional field. Leave blank to arrange environment names alphabetically or enter numbers to create your own order.
 - Environment = We selected **WCRP733** (CRP733, PRD733, and DEP733 already existed and had been selected earlier).
8. Click **OK**.

Note: To delete an environment from the list, select the environment and click **Delete**.

9.11 Installing OneWorld Client on Windows NT Terminal Server

The workstation installation copies all necessary components of OneWorld to a client workstation. To prepare for the OneWorld client installation, complete the following steps:

- Perform a workaround for the OneWorld client install on TSE.
- Modify the JDE.INI file on the deployment server.
- Modify the Setup.inf file on the deployment server.

9.11.1 Instructions for MDAC2.1 and TSE

MDAC2.1 is required for enterprise servers, deployment servers, and client workstations if running SQL Server 7.0 and OneWorld B73.3. However, MDAC2.1 is not supported on Windows Terminal Server. Therefore, a workaround is required to install the OneWorld B73.3 client on a Windows Terminal Server. Prior

to performing a client install on the Windows Terminal Server, complete the following steps:

1. On the deployment server, go to the \Oneworld\b733\client directory.
2. Create a new directory called \olddlls off of the \client directory.
3. Move the following .dlls from the \client directory to the \client\olddlls directory: Odbc32.dll, Odbccp32.dll, Odbccr32.dll, and Odbcint.dll.
4. Continue performing the steps in the next section to prepare the client install on the Windows Terminal Server.

Note: The above steps will allow you to successfully run clients from your Windows Terminal Server without using MDAC2.1.

9.11.2 Modify the JDE.INI File on the Deployment Server

You must modify the JDE.INI file on the deployment server prior to installing OneWorld on your workstations. To begin, perform the following steps:

1. On the deployment server, sign on as JDE.
 2. Edit the JDE.INI on the deployment server.
 - [JDENET]
The serviceNameListen and serviceNameConnect parameters must match those in the enterprise server JDE.INI.
 3. To ensure the workstation will be set up correctly (such as for National Language Support), make the following changes to the JDE.INI file in the *OneWorld\B733\Client\Misc* directory on the deployment server:
 - [INSTALL]
Verify that the LocalCodeSet parameter is set to the appropriate language value. Also, verify that your code page is set up properly. For appropriate values and code pages, see the "National Language Support" section of the *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*.
 - [NETWORK QUEUE SETTINGS]
Set the UBEQueue parameter appropriately (optional).
- Note:** You can resynchronize replicated data by changing the ForcedSync value in the [REPLICATION] section from 0 to 1. When client workstations are installed, this value is set to 0, meaning you do not want to resynchronize data.

9.11.3 Modify the Setup.inf File on the Deployment Server

In this section, Setup.inf will be modified to specify the default environment.

Complete the following steps to change your default environment to WCRP733.

1. From Windows Explorer, open Setup.inf, which is in the OneWorld\B733\Client directory.
2. In the [DB SYSTEM SETTINGS] section, set the Default Env parameter to the valid environment you want to be the default (for example, CRP733 or PRT733). In our example, we typed WCRP733.

3. In the [DB SYSTEM SETTING] section, set the Default PathCode parameter to the valid path code you want to be the default (this should match the environment).
4. For the parameter Last User =, remove JDE from this parameter and leave it blank.
5. Save the file, then close it.

9.11.4 Installing OneWorld Client (Interactive Mode)

Install the OneWorld Client software on the designated workstation using Interactive Mode. Ensure no other services or open programs are active.

Note: Refer to your Windows Terminal Server Installation Guide for MDAC releases supported prior to loading the clients.

To begin, complete the following steps:

1. From the Windows Explorer, connect to the OneWorld shared drive of the deployment server.
2. In the Client directory, double-click **setup.exe** to run it.

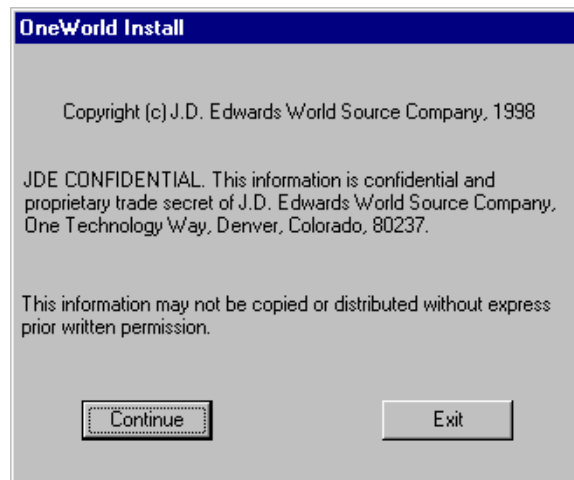


Figure 300. OneWorld Client Install Screen

3. Read the licensing terms and click **Continue**. You will see a screen similar to Figure 301.

The OneWorld installation process verifies that several of the system .DLLs are current. If they are not current, you will receive a message to reboot your system. When you reboot, the system updates the .DLLs in your Windows directories. To install OneWorld, you must begin again with the first step in this task.

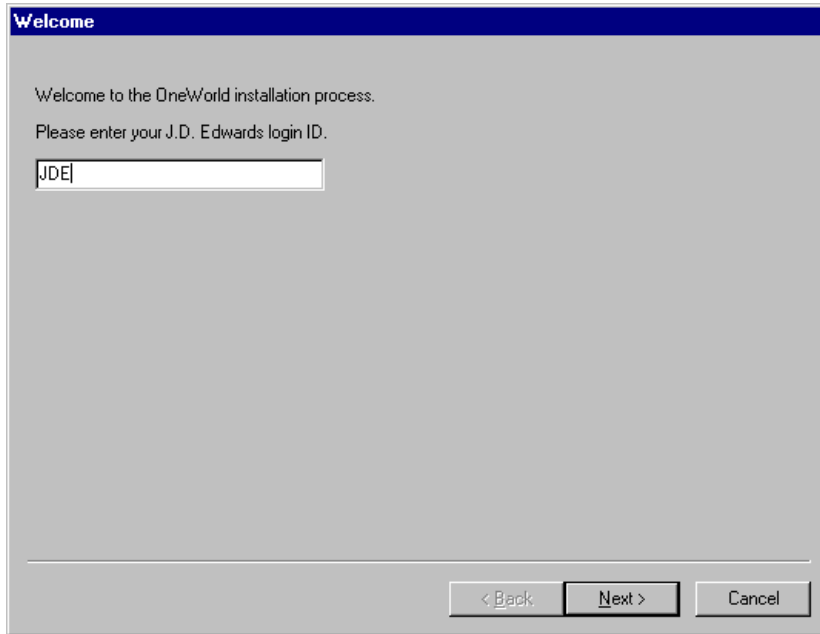


Figure 301. OneWorld Sign-On (Installation) Screen

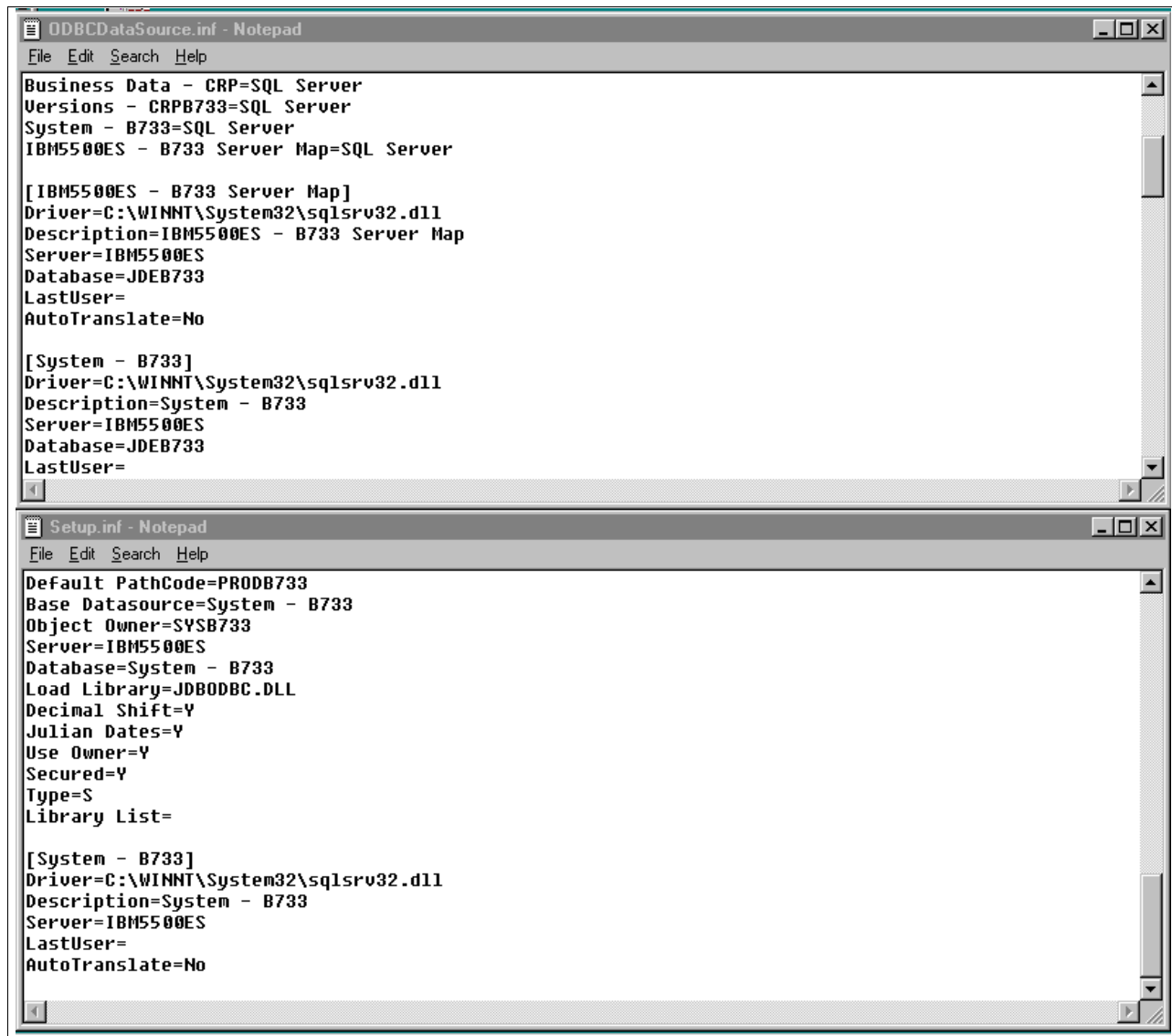
4. Type the login ID. (For this example, JDE.)
Note: This list of packages comes from your user and group profiles for deployment preferences.
5. Check the box to the left of each package to install on the client workstation. You can change the drive where OneWorld is installed, but the directory path is always b7.
6. To initialize the package, click **Next** to continue.
Note: This could run for several minutes. The client installation displays two status bars. The first shows the status of the installation. The second shows the status of any configuration necessary to run OneWorld on the workstation. The Congratulations screen appears to indicate that the installation has finished successfully. Workstation Installation creates a OneWorld folder in the Start menu Programs folder.
7. At the Congratulations screen, you have the option to select Adobe Acrobat Reader or Microsoft Internet Explorer. Click the check box **Install Adobe Acrobat Reader 3.01**. If you prefer Netscape Navigator as your browser, do not check the box for Microsoft Internet Explorer; otherwise, click the **Microsoft Internet Explorer 4.01** option as well.
8. Click **Close**.
9. Install the Service Pack 4 for Windows NT Server 4.0, Terminal Server Edition.
10. From a command prompt, type `change user /execute`.

Appendix A. Modify Setup.inf and ODBCDataSource.inf for SQL Server

When you prepare to install the OneWorld client on your workstations, you must change two files prior to running Setup.exe. Those files are Setup.inf and ODBCDataSource.inf. We learned during the implementation process of SQL Server 7.0 that unless you modify these files to leave the parameter LastUser= blank, you will have problems loading your client.

The Setup.inf and ODBCDataSource.inf reside in the Deployment server in the \OneWorld\B733\Client subdirectory.

The parameter LastUser= must be *blank* in both files and in all data source sections.



```
ODBCDataSource.inf - Notepad
File Edit Search Help
Business Data - GRP=SQL Server
Versions - CRPB733=SQL Server
System - B733=SQL Server
IBM5500ES - B733 Server Map=SQL Server

[IBM5500ES - B733 Server Map]
Driver=C:\WINNT\System32\sqlsrv32.dll
Description=IBM5500ES - B733 Server Map
Server=IBM5500ES
Database=JDEB733
LastUser=
AutoTranslate=No

[System - B733]
Driver=C:\WINNT\System32\sqlsrv32.dll
Description=System - B733
Server=IBM5500ES
Database=JDEB733
LastUser=

Setup.inf - Notepad
File Edit Search Help
Default PathCode=PRODB733
Base Datasource=System - B733
Object Owner=SYSB733
Server=IBM5500ES
Database=System - B733
Load Library=JDBODBC.DLL
Decimal Shift=Y
Julian Dates=Y
Use Owner=Y
Secured=Y
Type=S
Library List=

[System - B733]
Driver=C:\WINNT\System32\sqlsrv32.dll
Description=System - B733
Server=IBM5500ES
LastUser=
AutoTranslate=No
```

Figure 302. The Setup.inf and ODBCDataSource.inf Files

Appendix B. Special Notices

This publication is intended to help IS professionals perform server selection and implementation for J.D. Edwards' OneWorld B73.3, Microsoft Windows NT Server 4.0, Terminal Server Edition, Oracle8 Enterprise Edition for Windows NT, and Microsoft SQL Server 7.0 on IBM Netfinity. The information in this publication is not intended as the specification of any programming interfaces that are provided by J.D. Edwards' OneWorld B73.3, Microsoft Windows NT Server 4.0, Terminal Server Edition, IBM Network Station Manager, Oracle8 Enterprise Edition for Windows NT, Microsoft SQL Server 7.0, Network Station Manager 3.06, Citrix MetaFrame 1.0, Lotus Domino Go WebServer 4.6.2.2, Microsoft Visual C++ 5.0, Microsoft Internet Information Server 3.0, and Microsoft Access 7.0. See the PUBLICATIONS section of the IBM Programming Announcement for more information about what publications are considered to be product documentation.

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Appendix C. Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

C.1 International Technical Support Organization Publications

For information on ordering these ITSO publications see "How to Get ITSO Redbooks" on page 329.

- *Netfinity Server Management*, SG24-5208
- *IBM Network Station Manager Release 3 Guide for Windows NT*, SG24-5221
- *Implementing Lotus Domino Connector and J.D. Edwards' OneWorld on IBM Netfinity*, SG24-5308
- *Netfinity Performance Tuning with Windows NT 4.0*, SG24-5287
- *Implementing Netfinity Disk Subsystems: ServerRAID SCSI, Fibre Channel and SSA*, SG24-2098
- *IBM PC Server and Windows NT Integration Guide*, SG24-4763

C.2 Redbooks on CD-ROMs

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C.3 Other Publications

These publications are also relevant as further information sources. They can be obtained by attending J.D. Edwards' courses, purchasing the OneWorld product, or purchasing the IBM Network Station.

- *OneWorld Installation Guide (Windows NT-Based Systems), Release B73.3*
- *IBM Network Station Manager Installation and Use*, SC41-0664
- *System Configurator Expedition B73.3*, Books 1, 2, 3, and 4

C.4 Referenced Web Sites

<http://www.pc.ibm.com/us/netfinity>

- <http://www.pc.ibm.com/us/server/sguide/>
- <http://www.pc.ibm.com/us/netfinity/>
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- <http://www.citrix.com>
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<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

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