

Verilink Node Manager Installation Guide

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- Return Materials Authorization (RMA) (800.837.4546 x332)
- Maintenance contracts and leasing plans (800.837.4546 x206)
- Technical Training on network concepts and Verilink products (800.837.4546 x346, training@verilink.com)
- Web site (www.verilink.com)
- FAX-On-Demand (800.957.5465)

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About Node Manager

Verilink's Node Manager application is a software package used to control wide-area networks. Node Manager provides an intuitive way to manage all of your Verilink nodes (AS2000 and AS3000) using a graphical user interface (GUI).

Node Manager displays each shelf with the application modules in their slots. When an application module is selected by clicking on its slot, its rear connector module (CIM) displays. To configure or monitor a particular port, click on the port's graphical representation.

Node Manager guides the circuit-building process and—using an Oracle database—tracks and stores all circuits and configurations within the entire network.

Node Manager supports SNMP (Simple Network Management Protocol), ACP (Verilink's proprietary Advanced Communication Protocol), and TABS (Telemetry Asynchronous Block Serial) node management protocols. Node Manager can operate in a multi-user environment.

Overview

This installation guide covers the following:

Chapter 2: “[Set-Up](#)” and equipment requirements.

Chapter 3: “[Installing Oracle](#)”. Oracle must be installed on your network management PC before installing Node Manager.

Chapter 4: “[Installing Node Manager](#)”.

Chapter 5: “[Getting Started](#)” covers logging in and accessing the Online Help system. Online Help replaces the Node Manager user manual.

This guide assumes a familiarity with digital telecommunications terminology and with Verilink products. All user manuals are included on the Verilink Documentation CD-ROM.

Technical Support

Our Technical Assistance Center can assist you with any difficulties with your Node Manager installation (800.837.4546 x333, support@verilink.com). The Verilink Web site (www.verilink.com) provides updates and additional information.

Chapter 2

Set-Up

This chapter describes the set-up required to install Node Manager.

Hardware and Software Requirements

Before Node Manager can be installed, certain requirements must be met.

- If you are using an NCM, make sure the firmware version is 4.22 or higher. See the *NCM 2000 User Manual* on the Verilink Documentation CD-ROM for more details.
- When installing Windows 95™ Microsoft Client™ software, the Microsoft TCP/IP protocol stack must be included in the installation process. These can also be added later by using the Control Panel, but the Windows 95™ CD will be necessary.

Node Manager can be installed on a client/server (multi-user) or client (single user) PC configuration. The system requirements for each configuration are listed below.

Server Configuration (Multi-User)

- IBM-compatible Pentium PC required
- 100 MB hard drive storage space available (200 MB is recommended for databases of 100 or more nodes)
- 32 MB RAM minimum (128 MB recommended)
- CD-ROM Drive
- Windows NT 3.51/4.0
- Oracle8™ version 8.0.5 or better for Workgroups (full installation)

Client (Single-User)

- IBM-compatible Pentium PC required
- 100 MB hard drive storage space available (200 MB is recommended for databases of 100 or more nodes)
- 16 MB RAM minimum (32 MB recommended)
- CD-ROM Drive
- Windows 95
- Personal Oracle8™ version 8.0.5 or better (full installation)

NOTE: When using the direct method, Node Manager communicates with your equipment at 38,400 kbit/s. Ensure that your PC I/O card supports this speed.

Node Manager's PC communications port requires a 16550 UART chip. If problems occur with your PC COM port, use the MSD.EXE DOS command to determine the chip level for your PC's COM port.

NOTE: When using Node Manager to access an SCM, NCM, or SCC using SNMP/SLIP, a terminal server should be used to connect the modem to the LAN. This is required for Node Manager to receive SNMP traps.

Node Manager PC to Verilink Equipment Connection

Node Manager supports the following controller module connections:

- SCM—direct and SNMP (Ethernet/SLIP)
- NCM—direct and SNMP (Ethernet/SLIP)
- NCC—direct and modem
- SCC—SNMP (Ethernet/SLIP)

When an SNMP connection is used, IP addresses must first be configured through the Craft interface for the equipment before it can be connected. For further information see *SNMP Management* manual, included on the Verilink Documentation CD-ROM.

Node Manager can support up to nine PC COM ports from a single PC using the direct connection method. The following diagrams illustrate the connectors available on the front and rear panels of the various controller modules.

Cables

A management cable is required for a direct connections with equipment. The RJ-48/DB-25 management cable (P/N: 458-502312-008) that is supplied with the Node Manager works with NCM and SCM controllers.

For SNMP equipment connections, an Ethernet 10baseT/2 transceiver (P/N: 591-502386-001) is required. This transceiver is used for NCM, SCM, and SCC controllers.

Modem Connection

Verilink controllers accept modem connections at 9600 baud. Modems must be Hayes compatible. Two modems are supported by Verilink, US Robotics 56K and Best Data Smart One 56SX V.90. The US Robotics modem can only support NCC Connections at 2400.

US Robotics

For the US Robotics 56K modem the following settings are recommended:

1. Set the dip switch at 5 up for autoanswer.
2. If using an NCC, the baud rate must be set for 2400:
 - Open your terminal application and type in "AT &N3 &M0 &B1 & AOX4Y0 &U0 &W0".
 - Press ENTER. If OK appears, the connection is established.
 - If there is no OK, no connection between the serial port and modem exists, or there is a typing error.
3. This configuration sets the modem to operate only at 2400 baud. To enable it to operate at 9600 baud:
 - Open your terminal application and type in "AT &N6 &M0 &B1 & AOX4Y0 &U0 &W0".
 - Press ENTER. If OK appears, the connection is established.

See the online help in Node Manager for further information on configuring modem parameters.

Best Data

If the Best Data Smart One 56SX V.90 modem is used to connect remote equipment, the local end must be configured as follows:

1. At the local end, go to the **Dial-Up Networking** box and select (by highlighting) the icon for the connection name.
2. Go to the **File Menu** and select Properties.
3. In the dialog box that opens, go to Connect Using and click Configure.
4. In the General tab of the dialog box that opens, set the Maximum Speed field to 9600.
5. Click OK, then click OK again.

This prevents any type of modem at the local end from attempting to connect to the Best Data modem at the remote end at a speed faster than the 9600 baud rate required by the NCM, SCM or SCC.

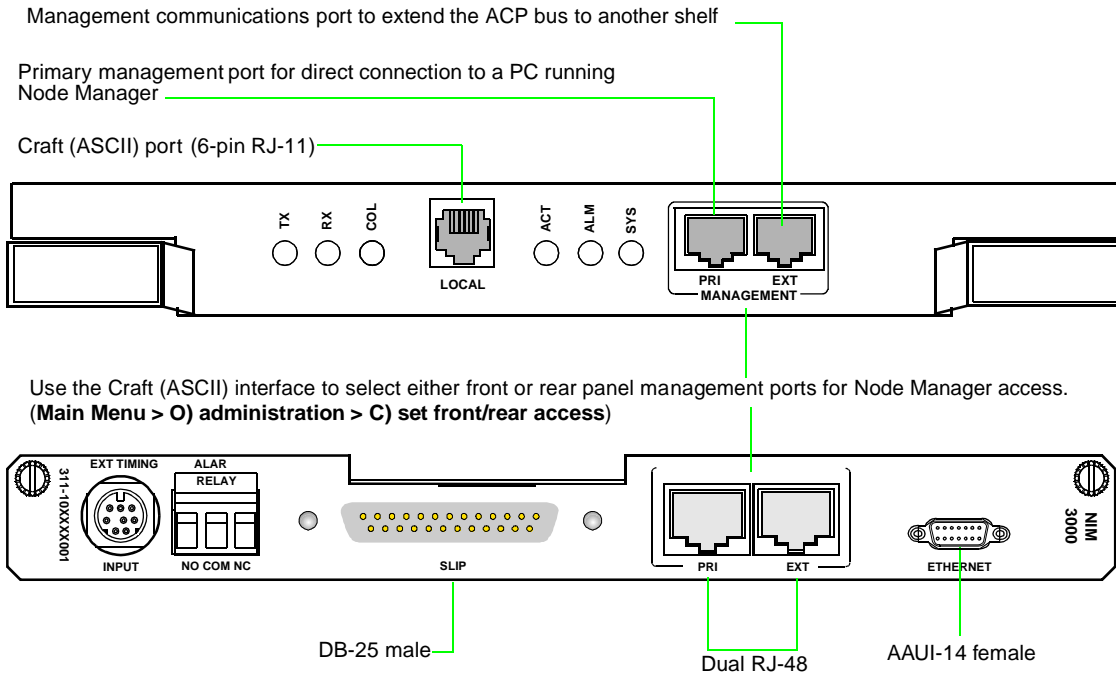
SLIP Connection

If a SLIP connection will be used for an NCM, SCM, or SCC, it must first be correctly set up in the Windows **Dial-up Networking** dialog box.

6. In Windows 95 click on the My Computer icon and click on the Dialup Networking icon.
7. If the Windows **Dial-up Networking** dialog box isn't there, go to Settings in the **Startup Menu**, then to Control Panel, and double click on Add/Remove Programs. Select Windows Setup then double click on Communications.
8. Put a check in the **Dial-Up Networking** box. Click OK in the Communications dialog box, then click OK in the **Windows Setup** dialog box, and the **Dial-Up Networking** folder is enabled.
9. In the **Dial-Up Networking** folder, click on the Make a New Connection icon. In the **Make a New Connection** dialog box enter the connection name, select and configure your modem, and click Next.
10. Enter the phone number you want to use for dialing out and click Next. After you are done creating the the connection name, it appears as an icon in the **Dial-Up Networking** window.
11. Highlight the new icon, go to the **File** menu in the **Dial-Up Networking** window, click on Properties and then click on Server types.
12. Select SLIP: UNIX Connection for Type of Dial-Up Server. Under Advanced Options there should not be a check on Log On to Network. Under Allowed Network Protocols there should be a check on TCP/IP.
13. If SLIP: UNIX Connection is not an option, go to the Windows CD-ROM and find the **Admin** folder. Go to the **App Tools** folder and then to the **SLIP** folder. Open the file "slip.txt" and follow the instructions it contains.
14. Click on TCP/IP Settings and select Specify an IP Address. Type in the IP address for your host computer. The first three sets of numbers must match the first three sets of the equipment's SLIP IP address. Two examples:
 - a. Equipment SLIP IP address: 192.94.46.82
 - b. Host IP address: 192.94.46.1

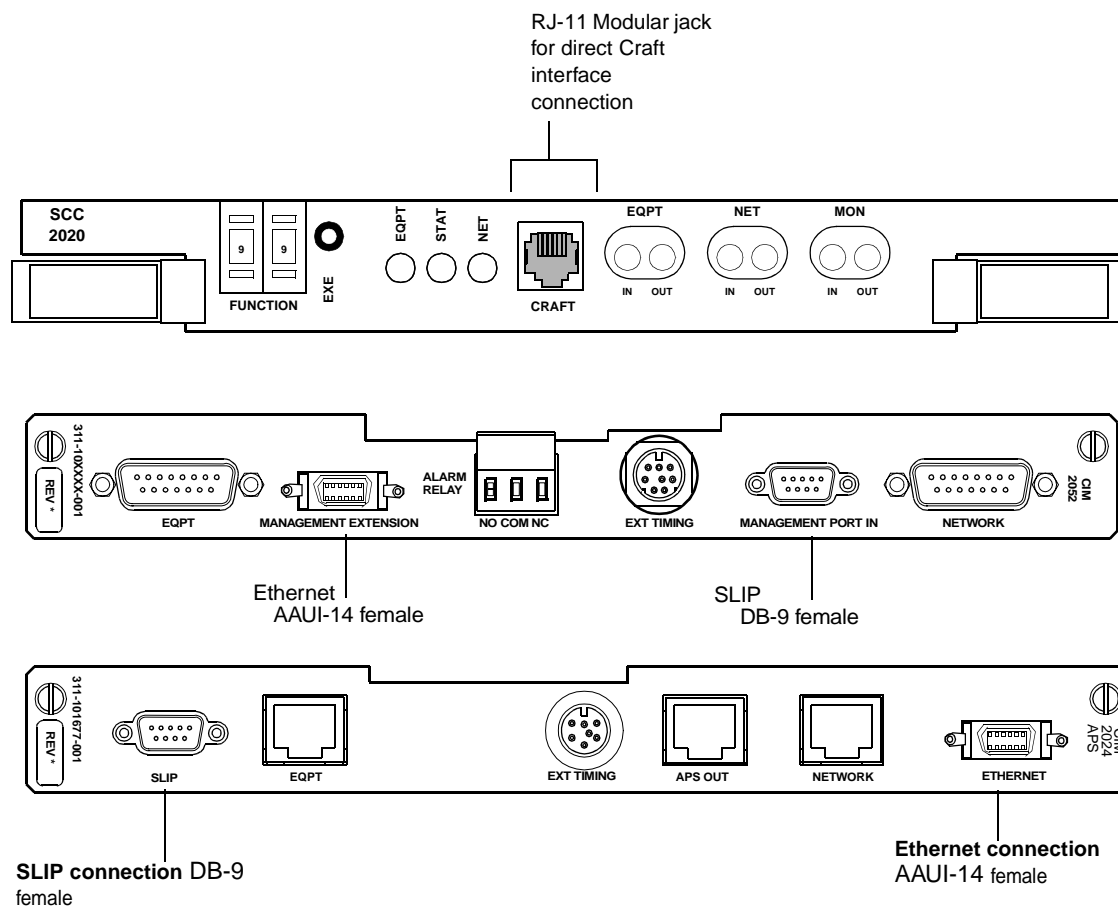
Controller Module Connections

Figure 2-1 SCM/NCM Front and Rear Panels



PRI and EXT management ports are located on both the NCM/SCM front panel and on the rear connector module (NIM). Select which set of these management ports the card will communicate from by using the Craft (ASCII) interface. See the *NCM 2000 User Manual* or the *SCM User Manual* on the Verilink Documentation CD-ROM for more information on this process.

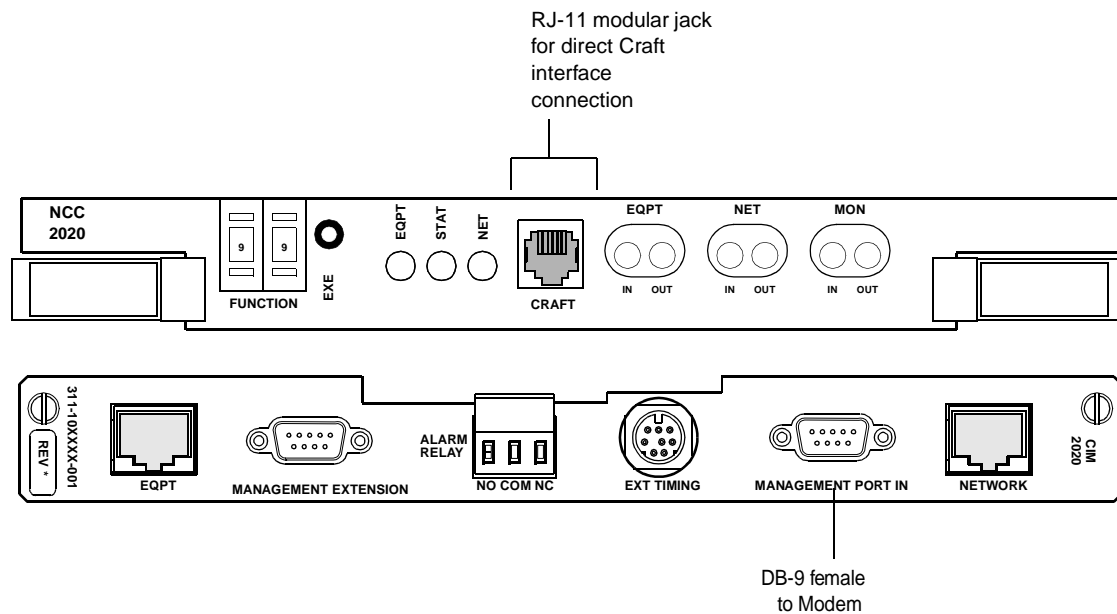
Figure 2-2 SCC Front and Rear Panels



For Ethernet, the cable from the LAN is first connected to a transceiver (included in any Verilink package that supports SNMP) that converts a 10base2 or 10baseT Ethernet interface to an AUI interface before being connected to the Management Extension connector on the CIM.

For SLIP, the cable from the PC, terminal server, or modem is connected to the MANAGEMENT PORT IN connector on CIM 2052 or SLIP connector on CIM 2024.

Figure 2-3 NCC Front and Rear Panels



For the NCC module, the direct connection is made via the MANAGEMENT PORT IN connector located on the rear connector module (CIM). There are two types of NCC modules—NCC 2020 and NCC 2130. Each of these can be used with a variety of CIMs. A sample is shown above.

NOTE: Only one port per CIM can be used for SLIP.

On each CIM, the Management Port In is used for connecting a modem to the node. Do NOT use the Management Extension Port.

Installing Oracle

This chapter describes the procedures for installing Oracle™ in a manner consistent with its use for Node Manager. Oracle8™ is the preferred version, but Oracle7™ may also be used.

If you experience problems with Oracle™, contact Oracle at www.oracle.com/support/index.html or (650) 506-1500.

Oracle 8™ Installation

1. Insert the Oracle™ CD into the PC CD drive.
2. If your Windows 95/NT™ system has the Autorun feature enabled, the Oracle™ CD will load and display. Otherwise, from the Windows Start button menu, select Run and type the path to the setup.exe file on the CD drive. For example: "E:\setup.exe".
3. Select the Begin Installation icon.
4. The Oracle™ **Installation Settings** dialog box displays and prompts for the Oracle Home. The dialog box displays your Company Name and a suggested Oracle Home path. If this is not where you want the database, type the path for where the Oracle™ database will reside. Click OK.
5. The dialog box prompts you to select the language your facility will be using (the default is American English). Click OK.
6. A **Path Modifications** dialog box displays informing you that the path variable in your autoexec.bat file needs to be changed to accommodate the Oracle™ database. Click Yes to accept.
7. The Oracle™ **Installation Options** dialog box displays either:
 - a. For an individual/independent installation of Personal Oracle™, from the options presented as radio buttons, select *Application Developer* (Complete). Click OK.

OR

 - b. For a client-server installation, the **Oracle8 Client** dialog box displays. Select Oracle8 Client Products. Then select *Database Administrator*. Click OK.

Follow the rest of the prompts using Oracle™ defaults to finish the installation process. Reboot your computer before continuing.

Workgroup Server Version 8.0

PCs with the client version of Oracle™ are not able to access a database until Oracle™ is installed on the server they have access to.

For installation of Oracle™ on a server, follow the instructions in the Oracle™ documentation.

Workgroup Client Version 8.0

After installing the Oracle™ database on a Windows NT™ server, the following parameters must be configured from a Windows 95/NT™ client workstation:

1. Go to the Start menu, select Programs, then Oracle for Windows 95/NT, then Oracle Net8 Easy Config.
2. In the **Oracle Net8 Easy Config** dialog box, select Add New Service.
3. In the New Service Name field, type "NMS", then click Next.
4. Choose TCP/IP (Internet Protocol) and then click Next.
5. In the Host Name field, type in the IP address of the Windows NT™ Server, then click Next.
6. In the Database SID field type "ORCL" and then click Next.
7. Click Next. Then click Finish.
8. Go to Start, select Programs, then select Oracle for Windows 95/NT, then select Microsoft ODBC Administrator.
9. In the **ODBC Data Source Administrator** dialog box click Add.
10. In the **Create New Data Source** dialog box, select (by highlighting) Oracle ODBC Driver. Click Finish.
11. In the **Oracle8 ODBC Driver Setup** dialog box, in the Data Source Name field, type "Remote Node Manager".
12. In the Service Name field, type "NMS".
13. The Description field is an optional parameter for your use. Click OK, then click OK again.
14. Click OK in the **Create New Data Source** window.
15. Reboot the PC.

Personal Version 8.0

After installing the Oracle™ database on a standalone PC, the following parameters must be configured from the **ODBC Data Source Administration** program group window that displays:

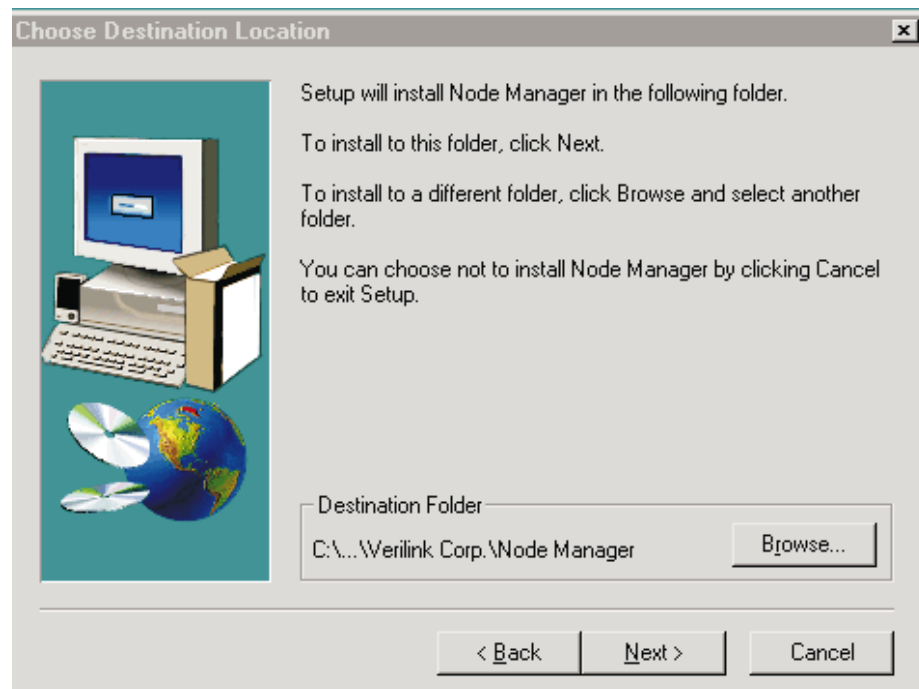
1. Click on the ODBC Data Source Administration icon in the program group window.
2. From the **Microsoft ODBC Administrator** dialog box click Add. The **ODBC Data Source Administrator** dialog box displays.
3. From the list displayed in the dialog box, select (by highlighting) Oracle ODBC Driver.
4. Click Finish. The **Oracle8 ODBC Driver Setup** dialog box displays.
5. In the Data Source Name field, type "Node Manager".
6. In the Service Name field type "BEQ-LOCAL". Click OK, then OK again.
7. Reboot the PC.

Installation

This chapter describes the procedures for installing Node Manager once Oracle is installed.

1. Place the Node Manager CD-ROM in the CD-ROM drive.
2. If your Windows 95/NT™ system has the Autorun feature enabled, the Node Manager CD will load and display.
3. If Autorun is disabled, from the Windows **Start Menu**, select the Run dialog box, type the path to the CD-ROM drive and select (by browsing): autorun.exe.
4. When the CD-ROM's autorun menu appears, click on Install Node Manager.
5. The **Node Manager Setup Program** displays the **Welcome** dialog box with instructions for installation.
6. Click Next to display the next dialog box for continuing the installation.

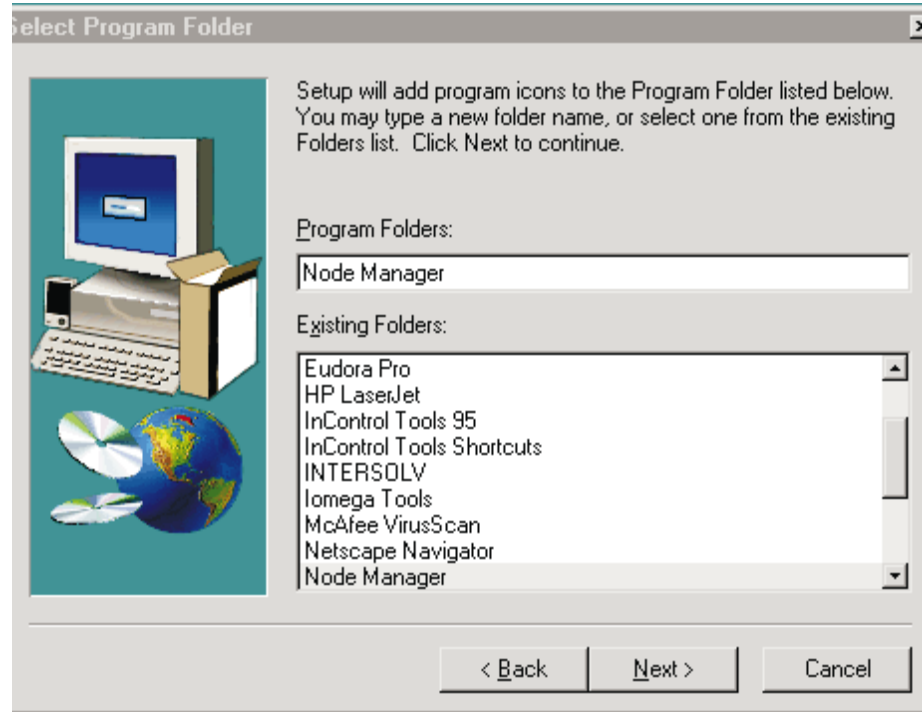
Figure 4-1 Choose Destination Location Dialog Box



The **Choose Destination Location** dialog box (Figure 4-1) recommends a folder and path in which to install Node Manager.

7. If you want to install Node Manager in a different location, click Browse and select a different folder. Otherwise, click Next.

Figure 4-2 Select Program Folder Dialog Box



8. The Select Program Folder dialog box adds program icons to the Folder listed in the Program Folder field, or you may choose one from the list field presented below it. Click Next.
9. The first **Select Components** dialog box has a checkbox labeled Remote Database:
 - Check this box if you will be using the Client/Server application of Node Manager (the Oracle database resides on a server, not on this PC).
 - Leave this box unchecked if you will be using the Individual/Independent PC application of Node Manager (the Oracle database resides on the PC).
 - Click Next.
10. The second **Select Components** dialog box asks you to create a database, use existing database, or upgrade an existing database.
 - Select Create Database for a new installation.
 - Select Upgrade Database for upgrading a previous version of Node Manager.

- Select Use Existing Database for a duplicate of an existing database on a different client.
11. If Create Database is chosen, it prompts the user for the Oracle Server Home Directory. For the default Oracle Server Home Directory (c:\orant), click the Next button. Otherwise type in the desired pathway and name, and click Next.
 12. The **Setup Complete** Dialog Box displays at the end of the installation session. Click Finish to close this dialog box and complete the setup.

Oracle Configuration

It is important to make sure the Oracle™ settings are correct.

Before opening Node Manager, go back to check the instructions in [“Workgroup Client Version 8.0”](#) or [“Personal Version 8.0”](#) on page 3-2 .

Failure to follow these instructions will result in the display of the “Open Database Failed” message when Node Manager is first opened. The Node Manager database will not be accessible until the correct settings are in place.

Chapter 5

Getting Started

This chapter describes the basic start-up procedures for Node Manager.

Starting Node Manager

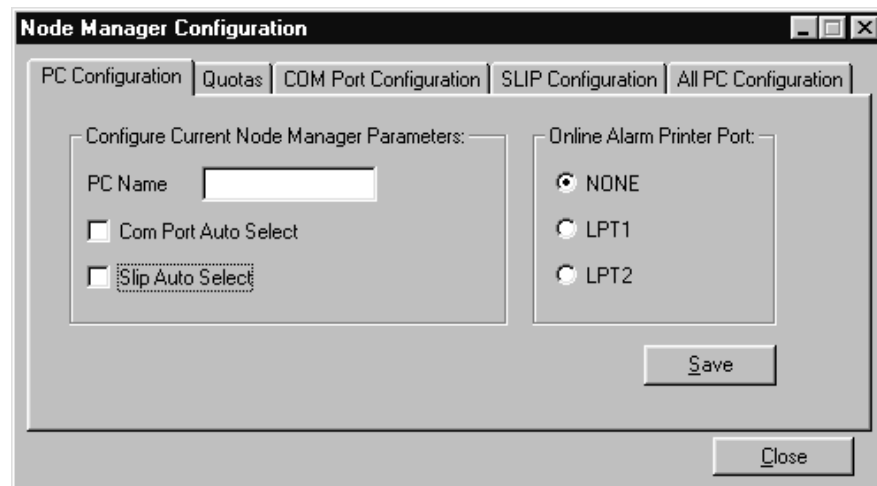
1. From the Windows 95™ **Start Menu** at the bottom left corner of the screen, select Programs.
2. Select Node Manager and click on the Node Manager icon button that displays at the side of the Node Manager selection.

Login Dialog Box

The Node Manager Main Window first displays with the Node Manager Login dialog box.

1. When accessing Node Manager for the first time, the default user name is Administrator. Type the default password “verilink” in the password field.
2. The first time opening Node Manager after installation, a dialog box displays stating that a PC name has not been assigned. Acknowledge this dialog box by clicking OK and the **Node Manager Configuration** dialog box displays.
3. Enter a unique identifying workstation name in the PC Name field.

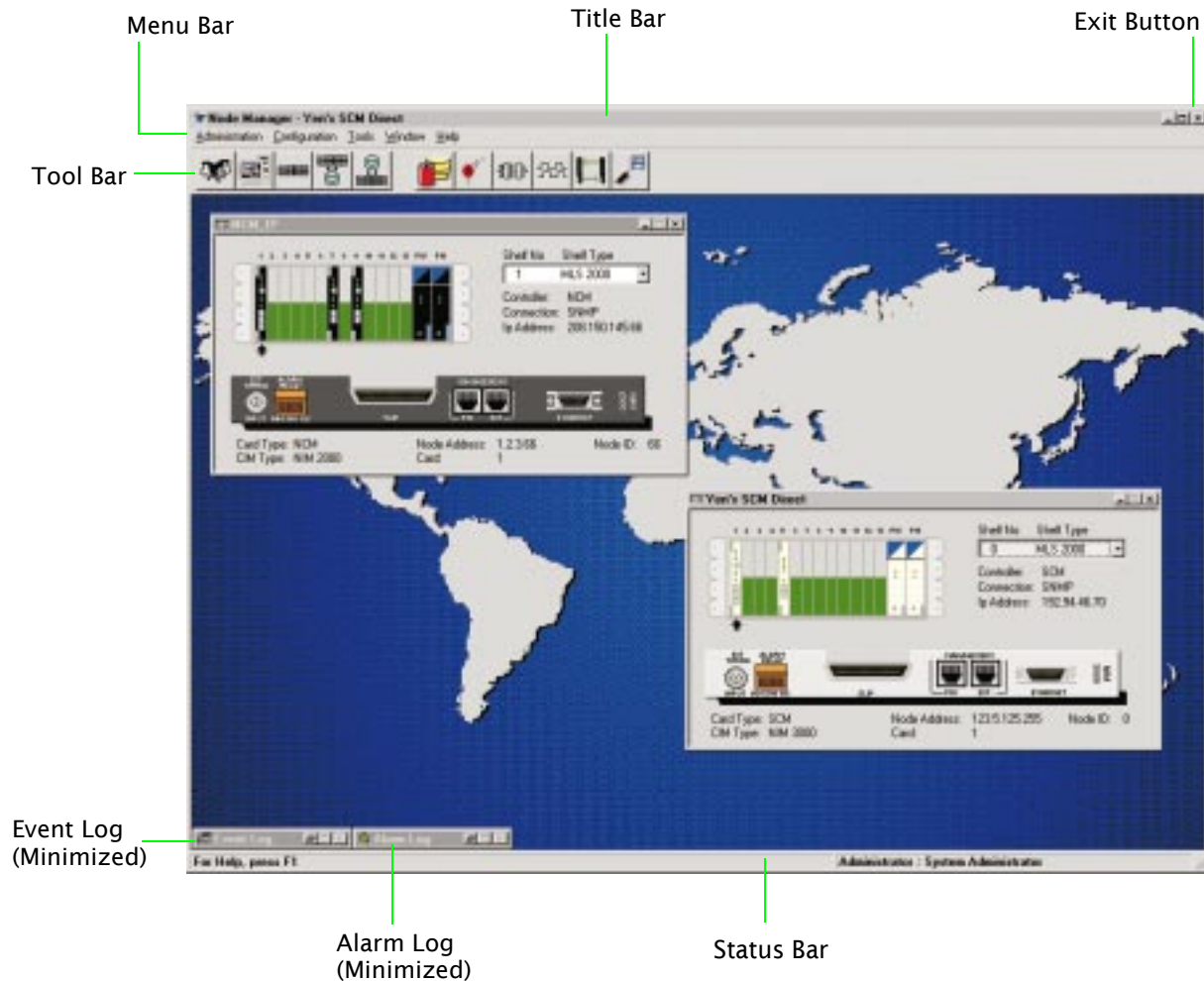
Figure 5-1 Node Manager Configuration Dialog Box



Node Manager Main Window

The Node Manager Main Window (Figure 5-2) displays when you first log on. It contains a title bar, a menu bar, a tool bar, a status bar, and the event and alarm logs (minimized).

Figure 5-2 Node Manager Main Window



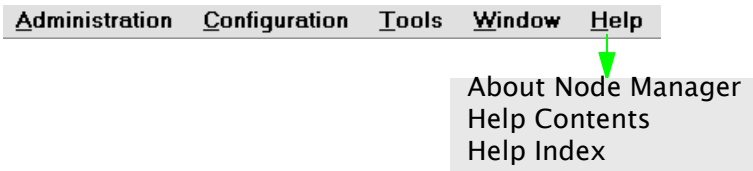
Database Only Checkbox

The Database Only checkbox is found in many dialog boxes. When this field is checked, the data is stored only within the database and not to the equipment. When it is unchecked, it is still stored within the database but the application modules are also updated.

Help Menu

The Help option on the Menu Bar is a standard Windows function that provides access to the Node Manager Online help system.

Figure 5-3 Help Pull-Down Menu



Select About Node Manager to display an information box with the copyright notice and the release version of your Node Manager application program.

The Table of Contents option displays the help topics organized by top level menu options. Help topics are available for most Node Manager menus, windows, and dialog boxes. Most include links to related topics and reference information.

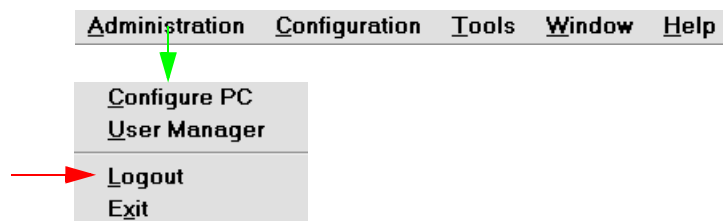
The Online Help Index is another way of accessing help topics.

Still another way to access Online Help is to press the F1 key. This displays the help topic for the current window.

Logging Out

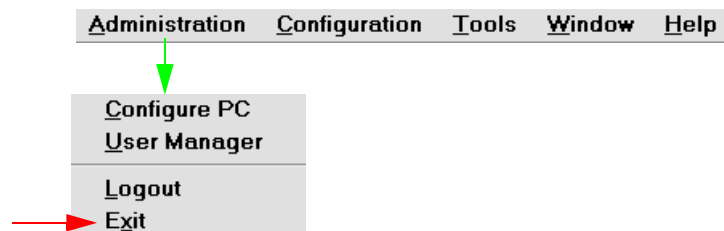
Use the Logout option on the **Administration** pull-down menu to keep Node Manager running and available for the next user.

Figure 5-4 Logout from Administration Pull-Down Menu



To shut down Node Manager, use the Exit option from the **Administration** pull-down menu.

Figure 5-5 Quitting Node Manager from Administration Pull-Down Menu



Node Manager can also be shut down by clicking the Exit button (X) on the far right corner of the Node Manager title bar (see [Figure 5-2](#), "Node Manager Main Window").

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