



MITEL NETWORKS™

6110

*Contact Center
Management*

Installation Guide

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Getting started

Mitel Networks™ 6110 CCM (Contact Center Management) provides data collection, analysis and storage, security, forecasting, real-time monitoring, reporting, and wall sign programming for use in call center management.

Using the Microsoft® Distributed interNet Applications (DNA) Architecture, 6110 CCM passes information from a client through the Internet/intranet, to a Windows® server through an SQL Server database, and back again.

Microsoft products support 6110 CCM in the following ways. 6110 CCM uses Microsoft Internet Information Server (IIS) to provide data to clients over the Internet. IIS is a Web-based server that allows call center information to be displayed in a Web browser. Using IIS, you can check the status of company operations and program your call center from anywhere, at anytime. 6110 CCM uses a Windows server operating and security system for the computer running as the 6110 CCM Enterprise server, and SQL Server 2000 as the database engine. 6110 CCM uses Excel 97, Excel 2000, or Excel XP to present and customize historical and forecast report tables and charts.

prairieFyre uses the Microsoft BackOffice Server family of products—notably Windows NT, Windows 2000 Server, or Windows 2000 Professional, SQL Server 2000, and IIS 5.0—to provide 6110 CCM, an Internet/intranet application that provides access to data on a Web browser.

6110 CCM is designed for the SX-2000, SX-200 with real-time (SX-200 EL/ML LIGHTWARE 17 Release 4.0 and greater), SX-200, and soon to be released SX-2000 MiTAI telephone systems.

SX-2000 ACD

The SX-2000 ACD system runs with ACD Telemarketer 2000 (ACD-2) software. It has SMDR and ACD real-time data streams delivered over RS-232 or TCP/IP.

SX-2000 UCD

The SX-2000 UCD system runs without ACD Telemarketer 2000 (ACD-2) software. It has a single SMDR data stream delivered over RS-232 or TCP/IP. It does not provide agent real-time information. All data is derived from the SMDR stream.

SX-200 EL/ML LIGHTWARE 17 Release 4.0 and greater

The SX-200 post LIGHTWARE 17 Release 4.0 (SX-200 with real-time) system has both SMDR and ACD real-time data streams delivered over RS-232 or TCP/IP.

SX-200

The SX-200 system does not have an ACD real-time data stream. It has SMDR and Agent Shift records delivered over a single data connection, either RS-232 or TCP/IP. It does not provide agent real-time information. A separate data set provides real-time data using the VT-100 connection to the SX-200 telephone system.

SX-2000 MiTAI

The SX-2000 MiTAI is an SX-2000 ACD system. It has a MiTAI AFC sub-system installed on the NT Server from which 6110 CCM runs.

3200ICP/3300 ICP (Integrated Communications Platform)

The 3300 ICP is newly released. It is a Windows NT based system that provides unified messaging and Web-based management.

Hardware and software requirements

NOTE: Microsoft Windows 2000 Professional and Microsoft XP are workstation platforms and are not recommended for contact centers that have the requirements below. Windows 2000 Professional and Windows XP support SQL Server 2000 Desktop Engine (MSDE), but do not support SQL Server 2000 Standard Edition Software (reference SQL part number 9146-600-412-NA). If you have SQL Server 2000 Standard Edition, then Microsoft Windows 2000 Server is required. For more details, please read **Microsoft SQL (Basic versus Advanced)** located on the prairieFyre Web site at <http://www.prairiefyre.com/files/sql.pdf>.

- Contact centers with a multi-site configuration
- Contact centers with 5+ supervisors requiring reporting capabilities
- Contact centers that plan to store 2+ years of summarized historical data
- Contact centers that share enterprise data

6110 CCM server hardware and software requirements

Before you install 6110 CCM, ensure the server meets the minimum hardware and software requirements listed in the following table. The 6110 CCM server is referred to as the Enterprise server. See **6110 hardware and software requirements** located on the prairieFyre Web site at <http://www.prairiefyre.com/files/requirements.pdf>.

Table 1: 6110 CCM server hardware and software requirements

Component	Required
Operating system	Windows NT 4.0 server, with Service Pack 5 or greater, Windows 2000 Server with Service Pack 2, or Windows 2000 Professional (MSDE support only) with Service Pack 2, or Windows XP (MSDE support only)
Processor	Pentium II-350 MHz
Memory (RAM)	128 megabytes (MB) RAM
Monitor	SVGA or better, 800 x 600 resolution, video card with 65,000 colors or greater
CD-ROM drive	x 4 or greater
Hard drive	8-gigabyte (GB) hard disk drive or greater (10-GB hard disk drive recommended)
Communication ports for ACD and SMDR data streams	2 dedicated comports (3 if you have a Reader Board) 2 or 4-port PCI Digi card (or 2 or 4 port USB card)
Network card	Yes
Mouse	Yes

6110 CCM runs over the Web in Internet Explorer; you install it on your server and it automatically deploys to all intranet and Internet users.

NOTE: If you intend to use the 6110 CCM Enterprise server as both a server and a client, you require Excel 97 Office Service Packs 1 and 2, Excel 2000, or Excel XP on the server.

NOTE: Ensure the date and time are correct on the 6110 CCM Enterprise server computer. The calendar year set on this computer is used in naming raw data files.

Mitel Networks 6115 ICC (Interactive Contact Center) server hardware and software requirements

Before you install 6115 ICC, ensure your server meets the hardware and software requirements listed in the following table. See **6110 hardware and software requirements** located on the prairieFyre Web site at <http://www.prairiefyre.com/files/requirements.pdf>.

Table 2: 6115 ICC server hardware and software requirements

Component	Required
Operating system	Windows NT 4.0, with Service Pack 5 or greater, Windows 2000 Server with Service Pack 2, or Windows 2000 Professional (MSDE support only) with Service Pack 2, or Windows XP (MSDE support only)
Processor	Pentium II-350 MHz
Motherboard	1 available ISA slot (if you have an SX-2000 system)
Memory (RAM)	128 MB RAM
Monitor	SVGA or better, 800 x 600 resolution, video card with 65,000 colors or greater
CD-ROM drive	x 4 or greater
Hard drive	8-gigabyte (GB) hard disk drive or greater (10-GB hard disk drive recommended)
Communication ports for ACD and SMDR data streams	2 dedicated comports (3 if you have a Reader Board) 2 or 4-port PCI Digi card (or 2 or 4 port USB card)
Network card	Yes
Mouse	Yes
Telephone system-specific requirements	SX-2000: SX-2000/Server Connectivity Kit-100 Sessions, SX-2000 MiTAI Runtime 7.5.3 or 8.0 3300 ICP: 1 network card and 1 MiTAI runtime 7.5.3 or 8.0

6110 CCM Enterprise Node hardware and software requirements

Before you install the 6110 CCM software, ensure your system meets the hardware and software requirements listed in the following table.

Table 3: Enterprise Node hardware and software requirements

Component	Required
Operating system	Windows NT 4.0 Workstation, or Windows 2000 Server with Service Pack 2, or Windows 2000 Professional with Service Pack 2, or Windows XP
Processor	Pentium II - 350 MHz
Memory (RAM)	64 MB RAM for Windows NT 4.0 Workstation OR 128 MB RAM for Windows XP, Windows 2000 Professional
Hard drive	2 GB or greater
Comports	2 dedicated comports
Network card	Yes
Mouse	Yes

Concurrent applications hardware and software requirements

The hardware and software requirements change when you combine 6110 CCM with add-on applications.

6110 CCM/Enterprise Node and 6115 ICC

If you installed an AFC card for 6115 ICC on the 6110 CCM Enterprise server, and you intend to collect SMDR and ACD real-time data over RS-232 ports (as is the case for 1103 and 2103 datasets), you *must* install a PCI based Digiboard serial port co-processor.

6110 CCM and 6115 ICC on an 3300 ICP

If 6110 CCM, and 6115 ICC are working in conjunction with an 3300 ICP, then the MiTAI link, SMDR, and ACD data collection are provided over a network connection. prairieFyre recommends you have a dedicated NIC interface between the 3300 ICP and 6110 CCM over a private network connection. This guarantees network delivery of SMDR, ACD real-time, and MiTAI data without having to traverse the customer's corporate network.

6110 CCM, 6115 ICC, and 6150 MCC

If you are running 6110, 6115, and 6150 concurrently on the same server, prairieFyre recommends you have the following requirements.

Table 4: 6110 ICC, 6115 ICC, and 6150 MCC concurrently hardware and software requirements

Component	Required
Server software	Windows 2000 Server, Service Pack 2 Microsoft Exchange 2000 Microsoft Outlook 2000 or greater Microsoft SQL 2000 6110 CCM Internet Explorer 6
Processor	Pentium III -800 MHz
Memory (RAM)	512 MB RAM (1 GB recommended)
Monitor	SVGA or better, 800 x 600 resolution, video card with 65,000 colors or greater
CD-ROM drive	x 4 or greater
Hard drive	20-GB hard disk drive or greater
Communication ports for ACD and SMDR data streams	2 dedicated comports (3 if you have a Reader Board) 2 or 4-port PCI Digi card (or 2 or 4 port USB card)
Network card	Yes
Mouse	Yes
Motherboard	1 available ISA slot on the motherboard (if you have an SX-2000 system)

6110 CCM, Enterprise Node, 6115 ICC, and 6160

If you are running 6110 CCM, 6115 ICC, and 6160 concurrently on the same server, prairieFyre recommends you have the following hardware.

Table 5: 6110 CCM, Enterprise Node, 6155 ICC, and 6160 concurrently requirements

Component	Required
Operating system	Windows NT 4.0, with Service Pack 5, or Windows 2000 Server with Service Pack 2, or Windows 2000 Professional (MSDE support only) with Service Pack 2, or Windows XP (MSDE support only)
Processor	Pentium III -800 MHz
Memory (RAM)	256 MB RAM
Monitor	SVGA or better, 800 x 600 resolution, video card with 65,000 colors or greater
CD-ROM drive	x 4 or greater
Hard drive	20-GB hard disk drive or greater
Communication ports for ACD and SMDR data streams	2 dedicated comports (3 if you have a Reader Board) 2 or 4-port PCI Digi card (or 2 or 4 port USB card)
Network card	Yes
Mouse	Yes
Motherboard	1 available ISA slot (if you have an SX-2000 system)
PCI Dialogic card	4 or 12-port 5 vold PCI slots on the motherboard for each PCI Dialogic card

Before installing 6110 CCM

Before you install 6110 CCM you *must* perform the following steps:

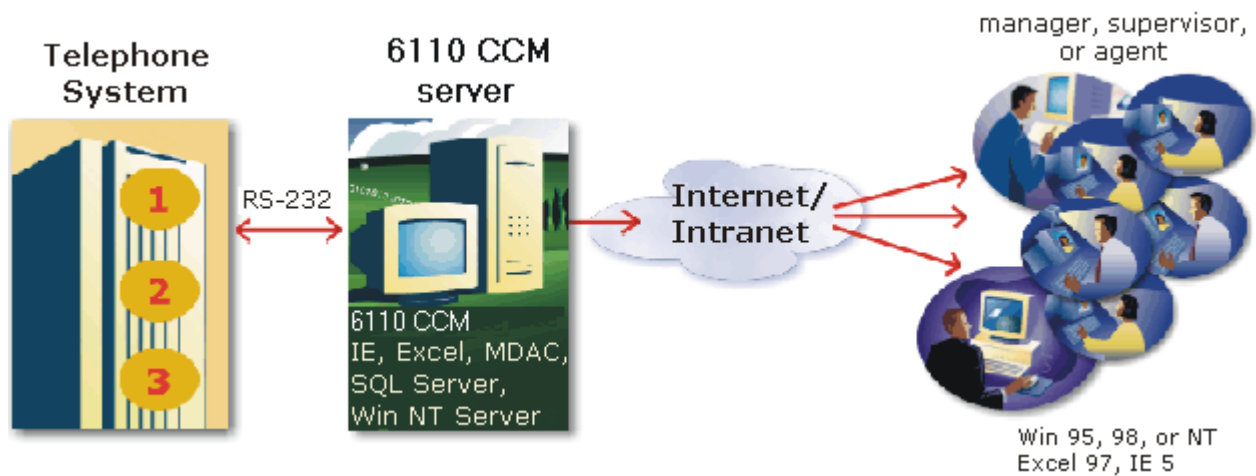
1. Install a network card and verify that it works.
2. Install TCP/IP networking and verify that it is enabled.
3. Install a Digiboard (optional) and verify that it works.
4. Verify that the comports work.
5. Install a video driver with 65,000 colors and verify it works.
6. Program the telephone system so that data can flow from the telephone system to the 6110 CCM Enterprise server. (See "*Programming SX-2000/3300 ICP assignment forms*" on page 87, "*Programming SX-200 with real-time assignment forms*" on page 106, or "*Programming SX-200 assignment forms*" on page 119.)

Installing the server

You must install Windows NT 4.0 Service Pack 5 with NT Option Pack, Windows 2000 Server with Service Pack 2, or Windows 2000 Professional (MSDE support only) with Service Pack 2 on your server *prior* to installing 6110 CCM and supporting applications. The 6110 CCM Setup automatically installs Microsoft SQL Server 2000 Desktop Engine (MSDE) and Microsoft Internet Explorer 5.5. You must install Microsoft SQL Server 2000 Standard Edition following the 6110 CCM installation (if you purchased SQL Server 2000 Standard Edition).

The following figure illustrates the setup.

Figure 1 6110 CCM setup



The 6110 CCM setup installs the 6110 CCM User Guide.

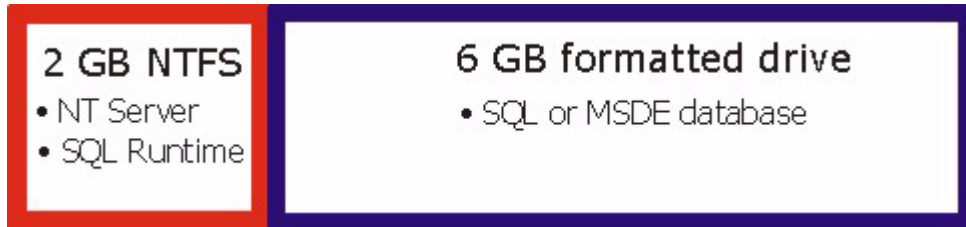
To open the guide

- On the 6110 CCM user interface (UI), click **Help=>User Guide**.

Installing Windows NT as a server

Formatting your hard drive prior to installing Windows NT Server

Before you install Windows NT Server, you must format your hard drive. An example follows using an 8-GB hard drive.



To format your hard drive:

1. Using FDisk.exe, create a 2-GB (2048-MB) NTFS partition.
2. Open Disk Administrator in Windows NT and format the remaining 6 GB.
3. Install the Windows NT operating system on the NTFS partition.
4. Install the SQL or MSDE database on the 6-GB drive because it requires room for growth.

Installing Windows NT server

Please refer to the Microsoft Windows NT Installation Guide while performing the Windows NT setup. The following steps augment the Windows NT Installation Guide by specifying 6110 CCM requirements:

1. Lock the hard disk drive.
2. Start the Windows NT server setup.
3. Gather information on your computer.
4. Install Windows NT networking.
5. Finish the windows NT server setup.

Locking the hard disk drive

You must lock the hard drive so that it can be used exclusively for the Windows NT setup.

To lock the hard disk drive:

1. You can start the hard drive from the CD ROM or the floppy disk. If you want to start the system from the CD ROM you must load the CD ROM drivers.
2. Alternately, use a boot disk that boots to DOS and connects to the CD ROM drive.
3. Open your CD ROM drive in DOS (that is, D:\> or E:\>).
4. Type **cd i386** to open the **i386** directory and press **Enter**.
5. Type **lock c:** and press **Enter**.
6. Type **y** to lock in c and press **Enter**.

You have locked the hard drive for exclusive use for Windows NT setup.

Starting the Windows NT server setup

NOTE: prairieFyre recommends you create NT boot floppy disks and use them to start the Windows NT server setup. Also, have several pre-formatted blank floppies on hand.

To start the Windows NT server setup from the NT boot floppy disks:

1. Type **winnt** at the D:\i386> prompt and press **Enter**.
2. Alternatively, if you are not using the NT boot floppy disks to boot, type */b* following *winnt* and press **Enter**.
3. Press **Enter** to accept the default location for the Windows NT Server files.

The system copies files to your hard drive.

4. Remove the NT boot floppy disk from the disk drive.
5. Press **Enter** to restart your computer.
6. Press **Enter** after you read the information on the Welcome screen.
7. Press **Enter** when setup recognizes your hard disk.
8. Read the software license agreement and press **F8** to accept the agreement.

Using the up arrow select **Auto Detect** and press **Enter**. The setup lists the hardware it has detected on your computer. You can change some of the hardware entries. To ensure the setup runs smoothly, prairieFyre recommends you specify the monitor as Standard VGA. After the setup is complete you can upgrade your video driver (to match the video card installed) using the CD provided by the video card manufacturer.

9. Select the **Standard VGA** check box and press **Enter**.
10. Locate **No Changes: The above list matches my computer** and press **Enter**.
11. Select the default partition (where Window NT Server is to be installed) and press **Enter**.
12. Select the **Convert the file to NTFS** check box to format your hard drive as an NT file system.
13. Type **C** to confirm the conversion to NTFS.
14. Press **Enter** to select the default directory for installing Windows NT Server files.

NOTE: prairieFyre recommends you conduct the hard drive examination. However, you can optionally press ESC to omit this step.

15. Press **Enter** to begin an exhaustive examination of your hard drive for corruption.

You have configured Windows NT Server on a low level.

16. Press **Enter** to restart your computer and continue the Windows NT Server Setup.

The remaining steps are performed in the Windows NT Server Setup. Your computer will automatically restart several times during the remaining stages of the setup.

Gathering information on your computer

To type user information and specify the server configuration:

1. Click **Next** after you read the information presented on the screen.
2. Type your user name and company name and click **Next**.
3. Type your 10 digit CD key and click **Next**.
4. Select your licensing method and type the number of current connections you have (client access licenses you have purchased) and click **Next**.
5. Assign a name to the computer running Windows NT Server and click **Next**.

You must indicate whether the server is a Primary Domain Controller (PDC) or a Member Server (Stand-Alone) in the next step. Do *not* install a Backup Domain Controller (BDC); installing a BDC slows down your NT Server operations considerably.

In PDC and Member Server Setups the administrator manually adds users to pre-defined user groups in the NT security module. (There are no default domain users on the network.) You can then control which users have access to various 6110 CCM applications.

NOTE: If a trust is established between the 6110 CCM Enterprise server PDC and an existing PDC, users on the existing PDC will be available to add to user groups in the NT security module.

6. Select **Primary Domain Controller** or **Stand-Alone**, and click **Next**.
7. Type a password for the administrator account.
8. Click **Yes** to create an emergency repair disk and click **Next**.
9. Click **Next** to select the default **NT Software Components** setting.

Installing the network card

To install the network card:

1. Click **Next** to indicate that your computer is wired to the network.
2. Clear the **Install Microsoft Internet Information Server** check box.
3. Click **Start Search** to detect your network card.

NOTE:

- If the setup cannot detect your network card, or it detects it incorrectly, click **Select** and pick the network card from the list.
 - If the card is not listed, click **Have Disk**, insert the floppy disk that came with your network card, and then type the location of your NT driver files.
4. When your network card model is shown in the Network Adapters list with a check mark beside it, click **Next**.
 5. Select the **TCP/IP** check box and any additional protocols used on your network.
 6. Click **Next** three times.

A Save Network Card message might appear.

NOTE: 6110 CCM requires a static IP address. If you have a Dynamic Host Configuration Protocol (DHCP) server, be sure to have your system administrator reserve an IP address.

7. Click **Yes** if your network has a DHCP server or **No** if it does not.
 - If you select Yes correctly because you have a DHCP server, NT auto loads DHCP settings.
 - If you select No erroneously because you have a DHCP server, you will have to enter DHCP server settings manually.
 - If you select Yes erroneously because you do not have a DHCP server, networking will not be available.

The Default Network Settings screen appears. If you are unsure of what settings to type, please contact your network administrator.

8. Depending on what you are running, respond appropriately:
 - If you are running TCP/IP only, type the IP address, Subnet Mask and DNS.
 - If you are running TCP/IP with Microsoft Proxy Server, only configure the IP address in Subnet Mask.
 - If you are running a WINS Server, configure WINS on the WINS tab.
9. Click **Next** to select the default network bindings.
10. If you have installed the setup as a Primary Domain Controller, type a domain name to inform the setup of which domain it controls.
11. To join an existing domain, type the name of the domain, select **Create Computer Account**, and type a user name and password.

The setup creates the domain structure.

12. Click **Finish** to complete the setup.
13. Select a time zone and click **Close**.
14. Click **OK** twice.

Finishing the Windows NT Server Setup

To complete the Windows NT Server Setup:

1. Type the password you defined for the administrator account during the Windows NT server setup.
2. Consult your video card user documentation for details on setting up your video card drivers.

NOTE: You might have to install Windows NT Service Pack 5 prior to installing 6110 CCM because of video card requirements. It is sometimes necessary to perform step 3 of “Installing 6110 CCM and Supporting Applications” prior to changing your display resolution.

3. Set your display resolution to **800 x 600** dpi.
4. Insert your video card CD.
5. If the setup does not automatically begin, run it from your CD ROM drive.

Enabling remote access (to avoid RDS errors):

1. Click **Start=>Programs=>Administrative Tools=>Internet Services Manager**.
2. Expand the **Internet Services Manager** tree.
3. Expand the **Default Website** tree.
4. Right-click **MSADC** and click **Properties**.
5. Click the **Directory Security** tab.
6. Under **IP address and domain name restrictions**, click **Edit**.
7. Click **Granted Access**.
8. Click **OK**.
9. Run the following registry. You can use Windows Explorer.
c:\Program Files\Common Files\System\msadc\handunsf.reg
10. Double-click **handunsf.reg**
11. Click **Yes**.
12. Click **OK**.
13. Restart your computer.

Installing Windows 2000 Server

Please refer to the appropriate Microsoft installation guide while performing the server setup. The following steps augment the Windows installation guide by specifying 6110 CCM requirements:

1. Create boot floppy disks.
2. Format your hard disk drive.
3. Start the server setup.
4. Enable remote access.

Creating boot floppy disks

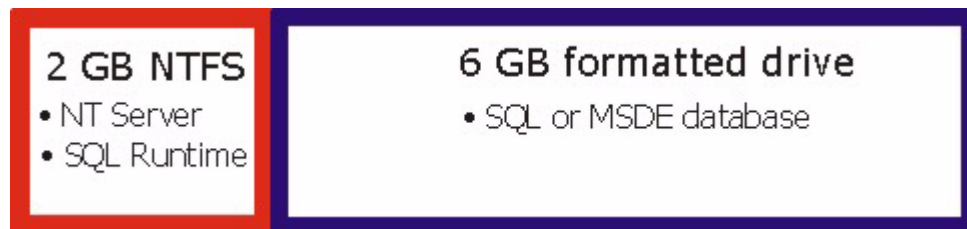
To create boot floppy disks from the Windows installation CD:

1. On the root of the CD, double-click the **Bootdisk** folder.
2. Double-click **Makeb32.exe**.
3. Select the floppy drive to which you will copy the files.
4. Insert the first of four disks and press **Enter**.
5. When the setup has finished copying files to the disk, remove the disk and label it.
6. Repeat steps 4 and 5 to copy files to the other disks.

Formatting your hard disk drive

On the 6110 CCM Enterprise server computer, format your hard disk drive for the Windows server. (Partitioning is optional.) An example follows using an 8-GB hard drive.

Figure 2 Formatting your hard disk drive



To format your hard drive:

1. Using FDisk.exe, create a 2-GB (2048-MB) NTFS partition.
2. Open Disk Administrator in Windows NT and format the remaining 6 GB.
3. Install the Windows NT operating system on the NTFS partition.
4. Install the SQL or MSDE database on the 6-GB drive because it requires room for growth.

Starting the setup

To start the setup:

1. Insert the first disk in the 6110 CCM Enterprise server computer and press **Enter**.
2. Insert the second disk when the setup prompts you to do so and press **Enter**.
3. Repeat step 2 to transfer the information from the remaining two disks to the 6110 CCM Enterprise server hard drive.
4. Press **Enter** to start the setup.

The Windows Licensing Agreement screen appears.

5. Press **Enter**.
6. Read the software license agreement and press **F8** to accept the agreement.

Windows 2000 Professional and Windows 2000 Server all support large disc drive sizes and both FAT and NTFS partitions.

7. Press **Enter** to proceed with the installation.

The setup restarts your computer.

8. Press **Enter** after you read the information on the Welcome screen.

The setup detects and installs devices on your computer.

The Regional Settings screen appears.

9. Click **Customize** and select system or user locale settings.
10. Click **Customize** and select keyboard layout settings.
11. Click **Next**.

The Personalize Your Software screen appears.

12. Type your name and the name of your organization.

For the Windows 2000 Server setup only, the Licensing Modes screen appears.

13. Select a per server or per seat licensing mode and click **Next**.

The Computer Name and Administrator Password screen appears.

14. Type a password for the administrator account.
15. Confirm the password and click **Next**.

For the Windows 2000 Server setup only, the Windows 2000 Components screen appears.

16. Click **Next** to accept the default component settings.

The Date and Time Settings screen appears.

17. Set the current date, time, and time zone for your computer and click **Next**.

Wait while Windows installs networking components.

The Network Settings screen appears.

18. Click **Next** to accept typical network settings.

The Workgroup or Computer Domain screen appears.

19. Specify a workgroup or computer domain configuration and click **Next**.

The Join Computer to Domain screen appears.

20. Type the administrator user name and password and click **OK**.

Wait while the setup installs Windows components.

The Performing Final Tasks Screen appears.

21. After setup has completed, click **Next**.
22. Click **Finish**.

The setup restarts your computer.

The Network Identification Wizard screen appears.

23. Click **Next** to connect your computer to a network.

The Connecting to the Network screen appears.

24. Click **Next** to accept the default setting.
25. Select the option that best describes your company network and click **Next**.
26. Click **Next** after the setup gathers network information.
27. Enter your user name, password, and domain and click **Next**.
28. Enter your computer name and computer domain and click **Next**.

Enabling remote access (to avoid RDS errors):

1. Click **Start=>Programs=>Administrative Tools=>Internet Services Manager**.
2. Expand the **Internet Services Manager** tree.
3. Expand the **Default Website** tree.
4. Right-click **MSADC** and click **Properties**.
5. Click the **Directory Security** tab.
6. Under **IP address and domain name restrictions**, click **Edit**.
7. Click **Granted Access**.
8. Click **OK**.
9. Run the following registry. You can use Windows Explorer.
c:\Program Files\Common Files\System\msadc\handunsf.reg
10. Double-click **handunsf.reg**
11. Click **Yes**.
12. Click **OK**.
13. Restart your computer.

Configuring Power Options

1. Click **Start=>Settings=>Control Panel**.
2. Select **Power Options**.
The Power Options Properties window appears.
3. After **Turn off hard drives**, click **Never**.
4. After **System standby**, select **Never**.
5. Click **OK**.
6. Close the **Control Panel**.

Installing Windows 2000 Professional

Please refer to the appropriate Microsoft installation guide while performing the server setup. The following steps augment the Windows installation guide by specifying 6110 CCM requirements:

1. Create boot floppy disks.
2. Format your hard disk drive.
3. Start the server setup.
4. Enable remote access.

Creating boot floppy disks

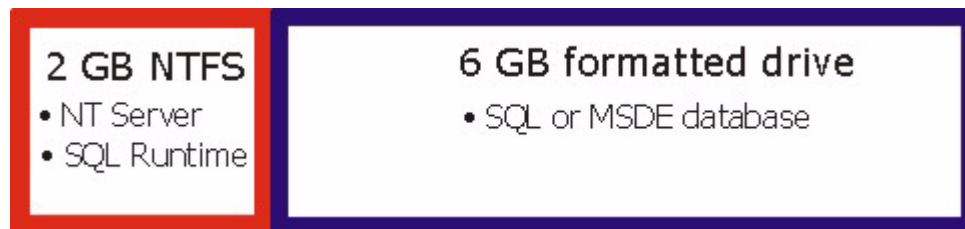
To create boot floppy disks from the Windows installation CD:

1. On the root of the CD, double-click the **Bootdisk** folder.
2. Double-click **Makeb32.exe**.
3. Select the floppy drive to which you will copy the files.
4. Insert the first of four disks and press **Enter**.
5. When the setup has finished copying files to the disk, remove the disk and label it.
6. Repeat steps 4 and 5 to copy files to the other disks.

Formatting your hard disk drive

On the 6110 CCM Enterprise server computer, format your hard disk drive for the Windows server. (Partitioning is optional.) An example follows using an 8-GB hard drive.

Figure 3 Formatting your hard disk drive



To format your hard drive:

1. Using FDisk.exe, create a 2-GB (2048-MB) NTFS partition.
2. Open Disk Administrator in Windows NT and format the remaining 6 GB.
3. Install the Windows NT operating system on the NTFS partition.
4. Install the SQL or MSDE database on the 6-GB drive because it requires room for growth.

Starting the setup

To start the setup:

1. Insert the first disk in the 6110 CCM Enterprise server computer and press **Enter**.
2. Insert the second disk when the setup prompts you to do so and press **Enter**.
3. Repeat step 2 to transfer the information from the remaining two disks to the 6110 CCM Enterprise server hard drive.
4. Press **Enter** to start the setup.

The Windows Licensing Agreement screen appears.

5. Press **Enter**.
6. Read the software license agreement and press **F8** to accept the agreement.

Windows 2000 Professional and Windows 2000 Server all support large disc drive sizes and both FAT and NTFS partitions.

7. Press **Enter** to proceed with the installation.

The setup restarts your computer.

8. Press **Enter** after you read the information on the Welcome screen.

The setup detects and installs devices on your computer.

The Regional Settings screen appears.

9. Click **Customize** and select system or user locale settings.
10. Click **Customize** and select keyboard layout settings.
11. Click **Next**.

The Personalize Your Software screen appears.

12. Type your name and the name of your organization.

For the Windows 2000 Server setup only, the Licensing Modes screen appears.

13. Select a per server or per seat licensing mode and click **Next**.

The Computer Name and Administrator Password screen appears.

14. Type a password for the administrator account.
15. Confirm the password and click **Next**.

For the Windows 2000 Server setup only, the Windows 2000 Components screen appears.

16. Click **Next** to accept the default component settings.

The Date and Time Settings screen appears.

17. Set the current date, time, and time zone for your computer and click **Next**.

Wait while Windows installs networking components.

The Network Settings screen appears.

18. Click **Next** to accept typical network settings.

The Workgroup or Computer Domain screen appears.

19. Specify a workgroup or computer domain configuration and click **Next**.

The Join Computer to Domain screen appears.

20. Type the administrator user name and password and click **OK**.

Wait while the setup installs Windows components.

The Performing Final Tasks Screen appears.

21. After setup has completed, click **Next**.
22. Click **Finish**.

The setup restarts your computer.

The Network Identification Wizard screen appears.

23. Click **Next** to connect your computer to a network.

The Connecting to the Network screen appears.

24. Click **Next** to accept the default setting.
25. Select the option that best describes your company network and click **Next**.
26. Click **Next** after the setup gathers network information.
27. Enter your user name, password, and domain and click **Next**.
28. Enter your computer name and computer domain and click **Next**.

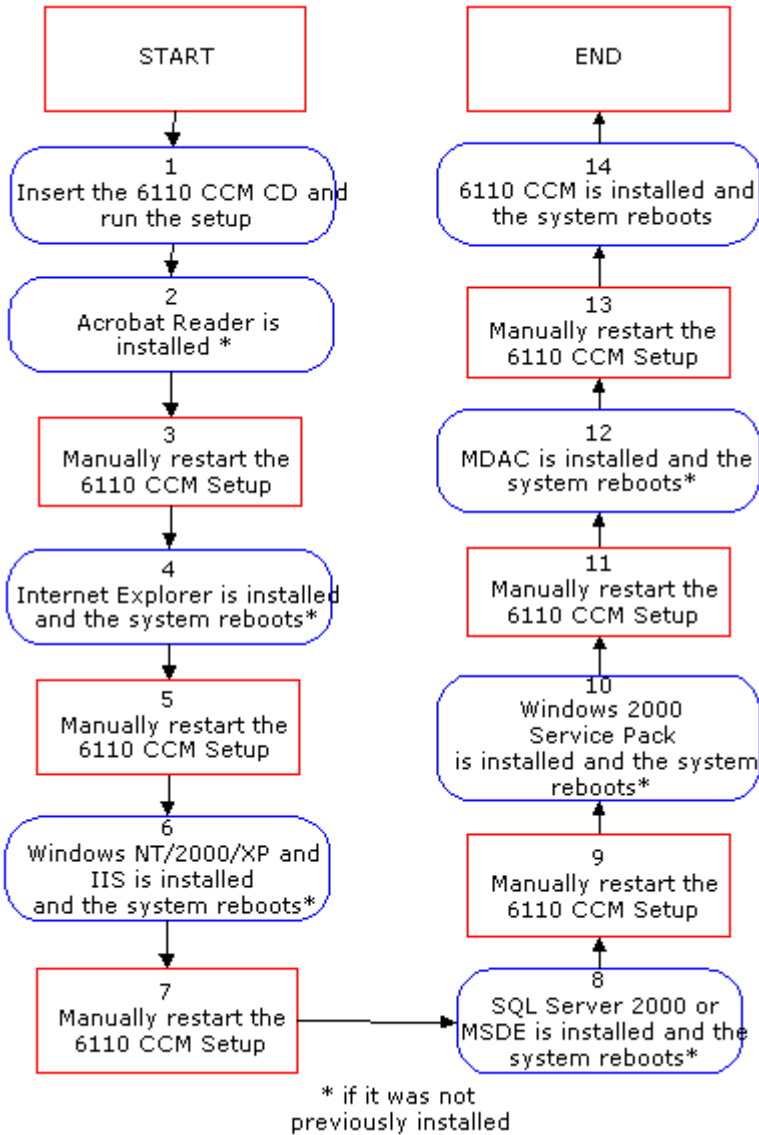
Enabling remote access (to avoid RDS errors):

1. Run the following registry. You can use Windows Explorer.
c:\Program Files\Common Files\System\msadc\handunsf.reg
2. Double-click **handunsf.reg**
3. Click **Yes**.
4. Click **OK**.
5. Restart your computer.

Installing 6110 CCM

The following figure outlines the steps required to install 6110 CCM:

Figure 4 6110 CCM installation flowchart



Installing 6110 CCM

When you install 6110 CCM, if the setup detects that a supporting application is not installed on your system, it will install it and restart your computer.

NOTE:

- If you have not done so, enable remote access now. See “Enabling remote access (to avoid RDS errors):” on page 15.
- If you are performing a first time install, the process should take between 5 and 10 minutes. If you are performing an upgrade, the process can take up to 1 hour.
- If you have installed Windows 2000 Professional/Server, some of the following components may already be installed.

To install 6110 CCM and supporting applications on the 6110 CCM server:

1. Insert the 6110 CCM CD in the CD ROM drive.
2. Click **Setup.exe**.

The setup prompts you to install Acrobat Reader v4.05 if it was not previously install.

3. Click **Yes** to install Acrobat Reader 4.05.
4. Click **Setup.exe**.

The setup prompts you to view the 6110 CCM Installation Guide.

NOTE: If you click Yes that you do want to view the 6110 CCM Installation Guide and click Next, and then you decide that you do not want to view it, do not click Back and select No. You must reboot and restart the setup.

5. Click **No**. Only when you are sure that all supporting applications have been installed should you view the 6110 CCM Installation Guide.

The setup prompts you to install Microsoft Data Access Components (MDAC) 2.6 if you did not previously install it.

6. Click **Yes** to install MDAC 2.6.
7. Select **Yes, I accept all of the terms of the proceeding license agreement** and click **Next**.
8. Click **Next**.
9. Click **Finish** to begin installation.
10. Click **Let setup restart the system now**.
11. Click **Finish**.

Your computer quits and restarts.

12. Log on using the administrator password.
13. Browse to 6110 CCM in the CD ROM Drive.
14. Click **Setup.exe**.

The setup prompts you to view the 6110 CCM Installation Guide.

15. Click **No**. Only when you are sure that all supporting applications have been installed should you view the 6110 CCM Installation Guide.

The setup prompts you to install the 6110 CCM Client Download

16. Click **Yes** to run the 6110 CCM Client Download installation.
17. Click **Next** to start installing client download components.
18. Click **Yes, I want to restart my computer now** and click **Finish**.

Your computer quits and restarts.

19. Log on using the administrator password.
20. Browse to 6110 CCM in the CD ROM Drive.
21. Click **Setup.exe**.

The setup prompts you to view the 6110 CCM Installation Guide.

22. Click **Yes** to view the 6110 CCM Installation Guide.
23. Click **Next**.
24. Type the **User Name, Company Name, and Serial Number**.
25. Click **Next**.
26. View the prairieFyre Software license and then click **Yes** to agree with all the terms.

The 6110 CCM server installation begins.

27. Click **Next**.
28. Click **Next** to select the default destination of the main 6110 CCM application directory.
29. Alternatively, click **Browse** to select an alternative destination of the main 6110 CCM application directory, and then click **Next**.

A caution box will appear if it is determined that the location of the main 6110 CCM application directory is not large enough to contain the directory.

30. Click **Next** to select the default destination of the SQL database that stores all reporting information.
31. Alternatively, click **Browse** to select an alternative destination of the SQL database that stores all reporting information, and then click **Next**.
32. Click **6110 CCM Server** and **6110 CCM Enterprise Node**.
33. Click **Next**.
34. Click **Next** to select the default folder for the program icons.
35. Alternatively, select an alternative folder for the program icons, and then click **Next**.

The setup prompts you to install the 6110 CCM Documentation.

36. Click **Yes** to **Do you want to run the 6110 CCM Documentation Installation Now?**
37. Click **Next**.
38. Click **Finish**.

NOTE: If you are performing a first time install, the process should take between 5 and 10 minutes. If you are performing an upgrade, the process can take up to 1 hour.

39. Click **OK**.
40. Click **OK to start the Management Console application**.

The setup starts the Management Console application. You must configure the following settings in Management Console prior to starting the prairieFyre services:

- Sign Comport
 - HTTP Server
 - Data Alarms Schedule
 - Data Alarm Time Out Minutes
 - Auto Restart Data Ports
 - Low Disk Space Threshold
 - Time Maintenance Manager Runs
 - Stop and Start SQL Server Once During Maintenance
 - Enable MDR SMDR Buffering
 - MiTAI Runtime Version
 - Enable SMDR Trace Reports
 - Stop and Start IIS Once During Maintenance
41. Verify the server IP address and IP port number and set configuration parameters. (see "Verifying that your server IP address and IP port number are correct" on page 28.)
 42. Click **Finish**.
6110 CCM server installation has now finished.

Upgrading to 6110 CCM version 3.0

NOTE: Upgrading from version 2.xx to version 3.xx can take up to one hour.

Backing up your database

Before you upgrade, you must backup your database.

1. On the 6110 CCM server, copy **c:\Program Files\Mitel Networks\CyberACD\ACDManager\DataDirectory\Node_1**
2. Paste these files to another computer.
3. Repeat step 1-2 for each node.
4. On the 6110 CCM server, copy the backup files with the most recent date, for example, copy **c:\Program Files\Mitel Networks\CyberACD\ACDManager\DataDirectory\PFBK_2001-12-16**
5. Paste these files to another computer.

The DataDirectory\Node_1, and other node directories, contain the raw data collected from the telephone switch. The data is in the form of .txt, .zip, and .sql files. The .sql files are backups of the YourSite Configuration. You do not have to backup the actual SQL database itself as these .sql files are the source of the data.

Upgrading

1. Insert the 6110 CCM Installation CD in the CC-ROM.
2. See "Installing 6110 CCM" on page 21.

NOTE: The upgrade can take up to one hour.

3. At the end of the server components you will be prompted to upgrade your old database. Respond **Yes**.
4. Close the dialog box.
5. Close **Management Console**.
6. Finish the installation.

Re-summarizing

You will need to resummarize the data to create reports with data prior to the upgrade, since the database has moved.

1. Click **Start=>Programs=>Mitel Networks=>prairieFyre Console Management**
2. Select the **Database** menu.
3. Select **Summarize Date**.
4. Type the **Start** date.
5. Type the **End** date.
6. Click **Summarize**.

After re-summarizing

After you upgrade from a previous version of 6110 CCM, you must update some of the supporting applications on client computers. (See "Installing Critical Component Pack and Client Component Pack on the server" on page 34.)

Automatic Synchronization - Automatic update of the database with 6115 ICC

Automatic Synchronization is only available if you have Mitel Networks 6115 Interactive Contact Center (ICC). Automatic Synchronization reads the PBX Agent ID/Names, Agent groups/Names, and Paths/Names (only if you have DNIS*), then it dynamically updates the YourSite database.

*If you do not have DNIS, you can enter the Path Dialable and Reporting numbers, and then the Paths/Names will be automatically synchronized.

NOTE: Ensure you have licenses for each employee before you begin. If you have more employees than you have licenses for, the Automatic Synchronization will not add employees to the database. You will have to add the employees and then associate them to the agents.

To configure your database you must

1. Set the MiTAI node.
2. Enter the Queue dialable and reporting numbers, and enable Interactive in the database.
3. Wait approximately five minutes for Automatic Synchronization.
4. Refresh the screen.
5. Set the re-synchronization time.

Your database will be updated. See “Automatic Synchronization with 6115 ICC” on page 85 of the *Mitel Networks 6110 Contact Center Management User Guide* for more details.

New security model

The security model changed in version 2.8. You will find the new security model more flexible and easier to maintain than the previous permissions model. Mitel Networks 6110 user accounts and permissions are now managed as part of security. That means that you cannot create users on the Management Console. You must now create users on the Web site, under YourSite=>Security. The User Manager and the Permissions link found on the Web site are no longer offered.

How do I log onto the site after an install to create or manage users?

Every time the new install is run a default user is created. The default gives both prairieFyre staff and the installer the assurance that there is at least one account with which to access the Web site.

- Username: _Admin
- Password: _Password
- Security Role: Not Restricted, may do anything

NOTE: You must change the account password from the default to a unique password after EACH installation of Mitel Networks 6110 CCM.

How do I create new users?

You create users on the Web site under YourSite=>Security.

What happened to my existing users from pre-2.8 releases?

Existing users were copied to the new user structure. The username and password remain the same, however, any security settings relating to the previous versions have been lost. Every migrated user is now associated with the default Not Restricted security role.

What happened to my permissions settings from pre-2.8 releases?

These settings have been lost as they are not compatible with the new security model.

If you need help

If you have questions concerning setup, configuration, or customization, please refer to the online Help or the 6110 CCM User Guide. If you require technical support, call us at 613-599-0045, Monday to Friday, from 8:00 A.M. to 5:00 P.M. Eastern Standard Time, or e-mail us at support@prairiefyre.com. For proposals, pricing, competitive information, on-site setup, or training please call our sales support group at 770-447-1350, or e-mail them at sales@prairiefyre.com.

After installing 6110 CCM

Complete the following steps in preparation for using 6110 CCM:

1. Verify that your server IP address and IP port number are correct.
2. Verify the configuration of your data collection points.
3. Installing Microsoft Data Access Components MDAC 2.6
4. Verify ACD/Agent Shift and SMDR data is streaming.
5. Install supporting applications (Client Component Pack) on the 6110 CCM Enterprise server.
6. Install ActiveX controls on the server.
7. Configure 6110 CCM with the YourSite Configuration Database.
8. Set up 6110 CCM security.
9. Re-configure the default password in SQL.
10. Set up a disaster recovery backup for the data directory.
11. Specify wall sign comport settings.
12. Install AgentAdvisor.
13. Install CyberTerminal.

Verifying that your server IP address and IP port number are correct

Before you use 6110 CCM, you must verify that your 6110 CCM Enterprise server IP address and port number are correct in Management Console. You must then configure 6110 CCM data collection points for each telephone system in your Enterprise.

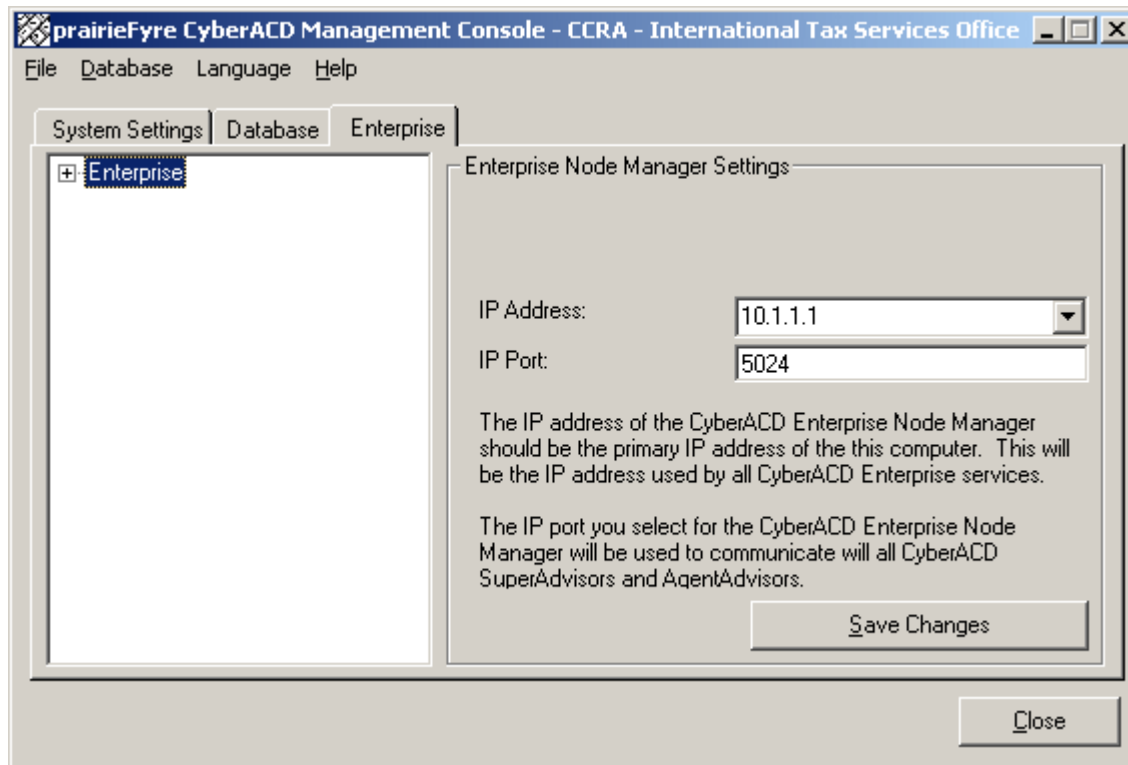
1. Click the **Enterprise** tab.
2. In the left pane, click **Enterprise**.

The Enterprise tab displays the 6110 CCM Enterprise server computer IP address and IP port number. This is the IP address and IP port number over which the server communicates with all clients.

3. Verify that the server IP address and IP port number are correct.

To change the IP address and IP port number, see “Performing diagnostics with Management Console” on page 135.

Figure 5 Management Console: Enterprise tab



Verifying the configuration of your data collection points

Verifying the primary data collection point

A node is a data collection point for a single SX-2000 or SX-200 telephone system. Local nodes reside in call centers that have 6110 CCM Enterprise server software installed. When you install 6110 CCM Enterprise server software, a local collector is automatically installed on the *same* computer.

Remote nodes, or 6110 CCM Enterprise Nodes (CENs), reside in call centers within your Enterprise that do *not* have 6110 CCM Enterprise server software installed. You manually install remote collector software on computers running Windows NT with Service Pack 5 or greater, Windows 2000 Server, or Windows 2000 Professional. (See “6110 CCM Enterprise Node” on page 64 for information on configuring remote nodes).

NOTE: Local nodes share the same IP address as the 6110 CCM Enterprise server, but have unique IP port numbers.

1. On the **Enterprise** tab, expand the **Enterprise** tree.
2. Right-click **Local Node 1** and assign it a meaningful name.
3. Take note of the IP port number assigned to the collector. This is the port over which the collector will talk to the 6110 CCM Enterprise server service.
4. Verify the telephone system type for the node.
5. Click the **Operates 24 hours a day** check box if your call center operates over the midnight hour.
6. Click the **Credit Non Answered Outbound Calls** check box if you want to include non-answered outbound calls in the data collected for reporting.
7. Verify the SMDR and ACD comports settings for the node.
8. If you have a wall sign, on the **System Settings** tab double-click **Sign Comport** and specify wall sign comport settings.
9. Click **Save Changes**.

Configuring the secondary data collection point

You must configure the data collection point for each telephone system within your call center. If you have a second telephone system in your call center, contact prairieFyre for the license number required for 6110 CCM to collect data for this node, and configure the node.

1. Right-click **Local Nodes** and click **Add Local**.
2. Type a meaningful name for the node.

NOTE: Ensure that this second local IP port number is unique.

3. Take note of the IP port number assigned to the collector. This is the port over which the collector will talk to the 6110 CCM Enterprise server service.
4. Verify the telephone system type for the node.
5. Select the **Operates 24 hours a day** check box if your call center operates over the midnight hour.
6. Select the **Credit Non Answered Outbound Calls** check box if you want to include non-answered outbound calls in the data collected for reporting.
7. Specify SMDR (com 1) and ACD (com 2) comport settings.
8. Click **Save Changes**.

Installing Microsoft Data Access Components MDAC 2.6

Using the 6110 CCM Setup to install MDAC 2.6

1. Start the 6110 CCM Setup.
2. Click **Yes** to install MDAC 2.6.
3. Select **Yes, I accept all of the terms of the proceeding license agreement** and click **Next**.
4. Click **Next** to start installing MDAC 2.6 components.
5. Click **Finish** when the setup is complete.

Your computer restarts.

6. Log on using the administrator password.
7. Manually restart the 6110 CCM Setup.
8. Click **Yes** to run the 6110 CCM Client Download installation.
9. Click **Next** to start installing client download components.
10. Click **Finish** when the setup is complete.

The Service Pack 2 Not Found screen appears if Service Pack 2 was not previously installed.

11. Click **Yes** to install Service Pack 2.
12. Click **Next** after you read the information on the Welcome screen.
13. Click **Yes** after you read the software license agreement.

The Connect to Server screen appears.

14. Click **Next** to accept the Windows account information.
15. Click **Next** to start copying files.
16. Click **Finish** when the Service Pack 2 Setup is complete.

Using the 6110 CCM Setup to upgrade SQL scripts

If the 6110 CCM Setup detects an existing SQL database you will be asked if it is okay to install or upgrade SQL scripts. Otherwise, it installs the necessary 6110 CCM scripts automatically.

To install 6110 CCM scripts:

1. Log on using the administrator password.
2. Manually restart the 6110 CCM Setup.

The setup prompts you to install components the 6110 CCM Enterprise server requires to run under Windows NT, Windows 2000 Server, or Windows Professional.

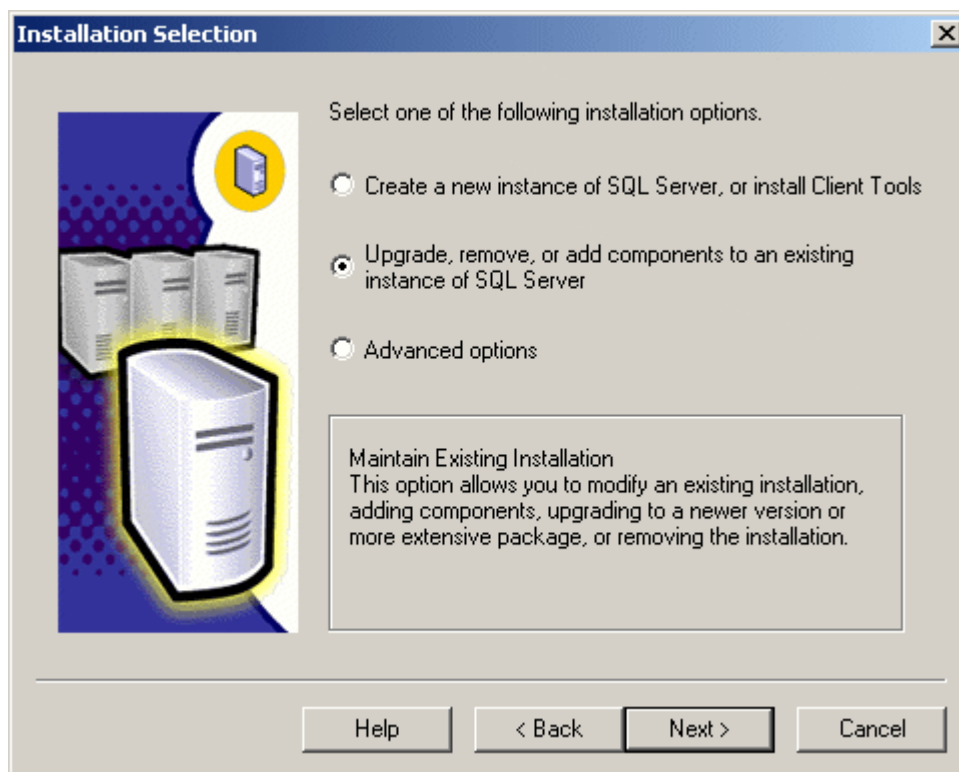
3. Click **Next** to start installing necessary 6110 CCM Enterprise server components.
4. Click **Next** after you review your 6110 CCM license information.
5. Click **Yes** after you read the software license agreement.
6. Click **Next** after you read the information on the Welcome screen.
7. Click **Next** after choosing the destination for the 6110 CCM application files.
8. Click **Next** to specify where the SQL database will be created and maintained.
9. Click the **6110 CCM Enterprise server** and **6110 CCM Enterprise Node (Local PBX Data Collector)** check boxes and click **Next**.
10. Click **Next** to accept the default naming for the folder containing program icons.

If you are running Windows 2000 Server and did not perform the steps required to enable remote access to Windows 2000 Server, do so now. (See *Enabling remote access to the Windows 2000 server*, page 16.)

To upgrade SQL scripts:

NOTE:

- When you purchase the SQL Server 2000 Standard Edition software, prairieFyre provides it on a separate installation CD. If you purchased the SQL Server 2000 Standard Edition software, install it now.
- If you currently have SQL Server 7.0 installed, the setup prompts you to install service packs.
- SQL Server 2000 Standard Edition supports multiple instances on the same computer. However, 6110 CCM runs on the default instance of SQL Server 2000 only.
 1. Quit any applications currently running on your computer.
 2. Insert the SQL Server 2000 Standard Edition CD.
 3. Click **SQL Server 2000 Components**.
 4. Click **Next** after you read the Welcome screen.
 5. Click **Next** to accept the local computer default location.
 6. Click **Update, remove or add components to an existing instance of SQL Server**.

Figure 6 Upgrading SQL scripts

7. Click **Next**.
8. Type the 10-digit ID key provided by the Microsoft SQL run-time license and click **Next**.
9. Click **Next** to upgrade the existing instance of the SQL database.
10. Click **Next** to upgrade your existing SQL Server.
11. Click the **Yes, upgrade my program** (to Standard Edition) check box and click **Next**.
12. Under **Per Seat for**, type **5** for the number of devices and click **Continue**.
13. Click **Yes** to install additional components.
14. Select the **Management Tools** and **Book Online** check boxes to install these components (in addition to the Server Component and Client Connectivity components already selected) and click **Next**.
15. Click **Next** to start copying files.
16. If the setup presents you with the **Shutting Down Tasks** screen, click **Next** as you will need to restart your computer anyhow.
17. Click **Finish** to complete the SQL Server 2000 Standard Edition setup.
18. Restart you computer.

Verifying that ACD/Agent Shift and SMDR data is streaming

Ensure your telephone system is connected to the 6110 CCM Enterprise server as follows:

- SX-2000 = two RS-232 links for SMDR (Comport 1) and ACD (Comport 2) data streams
- SX-200 = one RS-232 link for SMDR and Agent Event streams (Comport 1) and one RS-232 link for an 1103 Dataset (Comport 2)

The cable specifications are as follows:

- From switch to 6110 CCM Enterprise server: GENERIC RS-232; 9M/9F SERIAL STRAIGHT THRU
- From dataset to 6110 CCM Enterprise server: GENERIC RS-232; 9F/25M SERIAL STRAIGHT THRU

To view real-time data collection for all nodes (collection points):

1. Click **Start=>Programs=>Mitel Networks=>6110 CCM Network Monitor.**



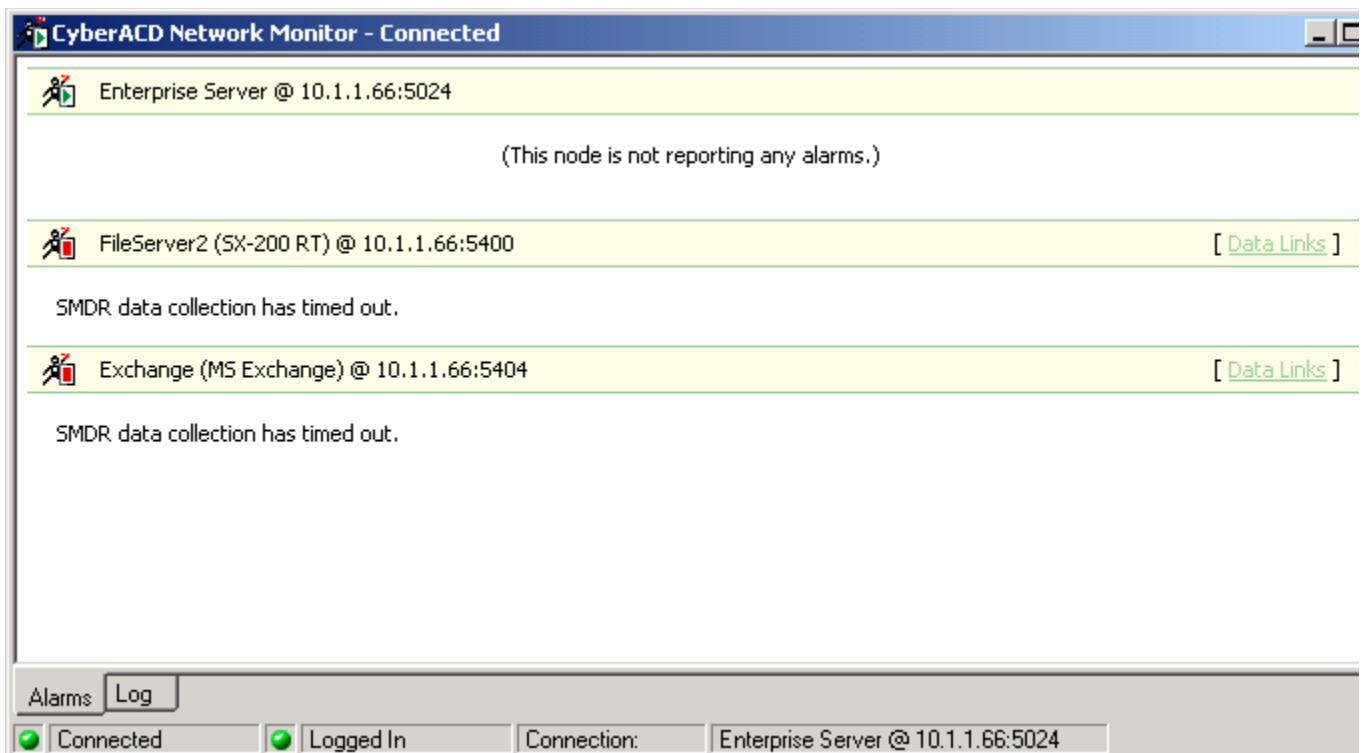
The prairieFyre Network Monitor (a black figure) appears in the system tray on your desktop. The prairieFyre Network Monitor communicates with the collector to which you are connected. If the data is not streaming, an alarm will show.

To view data and system alarms for a node:

- Double-click the **6110 CCM Network Monitor.**

The Network Monitor displays the status of all alarms for the node currently selected.

Figure 7 Network Monitor



To view more detailed alarm information:

- Click **Data links**.

The Data links informs you if/of

- The current time of the Collector Service computer as derived from the telephone system data stream
- The number of error records received by the Collector Service
- The Collector Service is not receiving SMDR or ACD data
- The telephone system is truncating agent IDs and extension numbers that exceed four characters (must be enabled on the phone switch, see “Common SX-2000 programming errors” on page 87).

Management Console

These two items were on the Network Monitor and are now located on the Management Console.

- The disk space is low on the disk housing the text files
- The time interval during which the system raises data alarms if it detects the Collector Service is not receiving data

Enabling pop-up alerts

You can enable pop-up alerts that display system and data alarm information.

To enable pop-up alerts:

1. Right-click the 6110 CCM Network Monitor icon and click **Popup on Alarms**.

If a system or data alarm occurs, the Network Monitor appears on top of all open applications.

This message informs you that the Collector Service for the node has been disconnected from the telephone system.

Re-Initializing the Collector Service

The ReInitialize Collector command reconnects the ACDLink application to the Collector Service. If you accidentally disconnect the ACDLink monitor from the Collector Service, or the system detects Collector Service errors, the 6110 CCM Network Monitor icon turns red and blinks. You can select the Summary of Alarm Status screen to see a summary of the errors.

To re-initialize the Collector Service:

1. Click **Start=>Programs=>Mitel Networks=>6110 CCM Network Monitor**.

The 6110 CCM Network Monitor (a black figure) appears in the system tray on your desktop. It communicates with the collector to which you are connected.

2. Right-click the **Network Monitor** icon and click **Node Information**.
3. Right-click the **Network Monitor** window and click **ReInitialize Server**.
4. Log on with your user name and password and click **OK**.

Installing Critical Component Pack and Client Component Pack on the server

If you intend to use the 6110 CCM Enterprise server as both a server and a client, you must install supporting applications first (the Critical Component Pack), and then optional applications (the Client Component Pack).

Installing the Critical Component Pack

The 6110 CCM Critical Component Pack consists of the following supporting applications: Microsoft Visual Basic Version 6 Runtimes, Microsoft MFC 6.2 Version Runtimes, Microsoft MDAC 2.6 Runtimes, Microsoft Standard OCX and DLL Redistributables, and Third Party Licensed Redistributables required by 6110 CCM/6150 MCC Programs.

To install the Critical Component Pack on the server:

1. On the client computer, start Internet Explorer in the browser.
2. Type in your 6110 CCM Enterprise server IP address *http://[your 6110 CCM Enterprise server address]/6110 CCM/*. Alternatively, double-click the **6110 CCM** desktop icon.
3. Click **Help=>Client Download**.
4. Click **Critical Component Pack** to install the critical applications.
5. Select the **Run this program from its current location** check box.
6. Click **Next** after you read the Welcome screen.
7. Click **Yes** to accept the license agreement.
8. Click **Next** after you read the information presented.
9. Click **Finish** after the 6110 CCM Critical Component Pack setup has finished installing on your computer.

Installing the Client Component Pack

The 6110 CCM Client Component Pack consists of the following optional applications: AgentAdvisor, Excel Report Templates, Report Distributor, Network Monitor, AutoUpdate, and Mitel Networks 6150 MCC (Multimedia Contact Center) Outlook Extensions.

NOTE: The Client Component Pack applications all offer configuration options which can be changed at any time.

To install the Client Component Pack on the 6110 CCM Enterprise server:

1. On the 6110 CCM Enterprise server, start Internet Explorer 5.5 in the browser.
2. Type in your 6110 CCM Enterprise server IP address *http://[your 6110 CCM Enterprise server address]/6110 CCM/*. Alternatively, double-click the **6110 CCM** desktop icon.
3. Click **Help=>Client Download**.
4. Click **Client Component Pack** to install the client applications.
5. Click **Next** after you read the Welcome screen.
6. Click **Yes** if you have high level access rights.
7. Click **Next** after you read the second Welcome screen.
8. Click **Yes** to accept the license agreement.
9. Click **Next** after you read the information presented.
10. Click **Next** to select the default destination of the Client Component Pack.
11. Alternatively, click **Browse** to select an alternative destination of the Client Component Pack, and then click **Next**.

NOTE: All users of 6110 CCM client software must have full permissions to this directory.

12. Click **Next** to select the default destination of the Configuration Data Directory.
13. Alternatively, click **Browse** to select an alternative destination of the Configuration Data Directory, and then click **Next**.

NOTE: When selecting the destination of the Configuration Data Directory, ensure that the space available is greater than the space required.

14. Select the components you want to install, and clear the components you do not want to install, and then click **Next**.
15. Type the **IP Address** of the 6110 CCM server which these client applications will be connecting to.
16. Type the **IP Address**, the **IP Port**, and the **Employee** for Your AgentAdvisor Configuration, and then click **Next**.
17. Click **English** or **French** for **Your AgentAdvisor**, and then click **Next**.
18. Configure the **Report Distributor SMTP Mail Settings**, and then click **Next**.
19. Click **English** or **French** for the Report Distributor, and then click **Next**.
20. Type the name of the Configure Report Distributor Default Site, and then click **Next**.
21. Type the **IP Address**, the **Username**, and the **Password** for the Configure Report Distributor Default Site, and then click **Next**.
22. Click **Yes** or **No** in response to whether the Web server associated with this site uses **Secure Sockets Layer (SSL)**.
23. Type the **Name**, **IP Address**, and the **IP Port** for the Network Monitor Configuration, and then click **Next**.
24. Click **English** or **French** for the Network Monitor, and then click **Next**.

NOTE: AutoUpdate settings will be shared by all users of this machine.

25. Type the **Proxy** for the AutoUpdate settings, and then click **Next**.
26. Type **Yes** or **No** in response to whether the Web server on the 6110 CCM server uses **Secure Sockets Layer (SSL)**, and then click **Next**.
27. Click **Finish**.

Installing ActiveX controls on the server

ActiveX provides you with a security warning when attempting to download files. You then have the choice of continuing to download the file or aborting the download.

To install ActiveX controls on the server:

1. On the 6110 CCM UI, click each 6110 CCM application and click **Yes** to accept the Versing digital signature certification.

Configuring 6110 CCM

There are now three ways to configure Mitel Networks 6110 CCM: the quick configuration tool (for those with SX-2000 or the 3300 ICP), the Automatic Synchronization (for those with 6110 CCM version 3.x and 6115 ICC version 3.x), or manual configuration.

Quick Configuration Tool

The Quick Configuration Tool works only for the SX-2000 and 3300 ICP.

prairieFyre created the Quick Configuration Tool to help our customers configure Mitel Networks 6110 CCM quickly and accurately.

First, you must convert the Mitel Assignment forms to .txt files. The Agent Group Assignment Form and the Path Assignment Form are found on the PBX. Then you configure Agents, Agent Groups, and Queues with the Quick Configuration Tool.

Converting Mitel forms to a .txt file:

1. Click **Start=>Programs=>Accessories=>Communications=>Hyper Terminal**.
2. On the **Connection Description** window, under **Name**, type the name of this connection (e.g. Connection1).
3. Click **OK**.
4. After **Connect using**, select the comport (e.g. COM1)
5. Click **OK**.

The COM1 Properties window appears.

6. Verify that the bits per second, data bits, parity, stop bits, and flow control are correct.
7. Click **OK**.

The Connection1 HyperTerminal window appears.

8. Click **File Properties**.
9. Select the **Settings** tab.
10. Under **Emulation**, select **VT-100**.
11. Click **OK**.
12. On your keyboard, press **Ctrl** and **w** simultaneously.

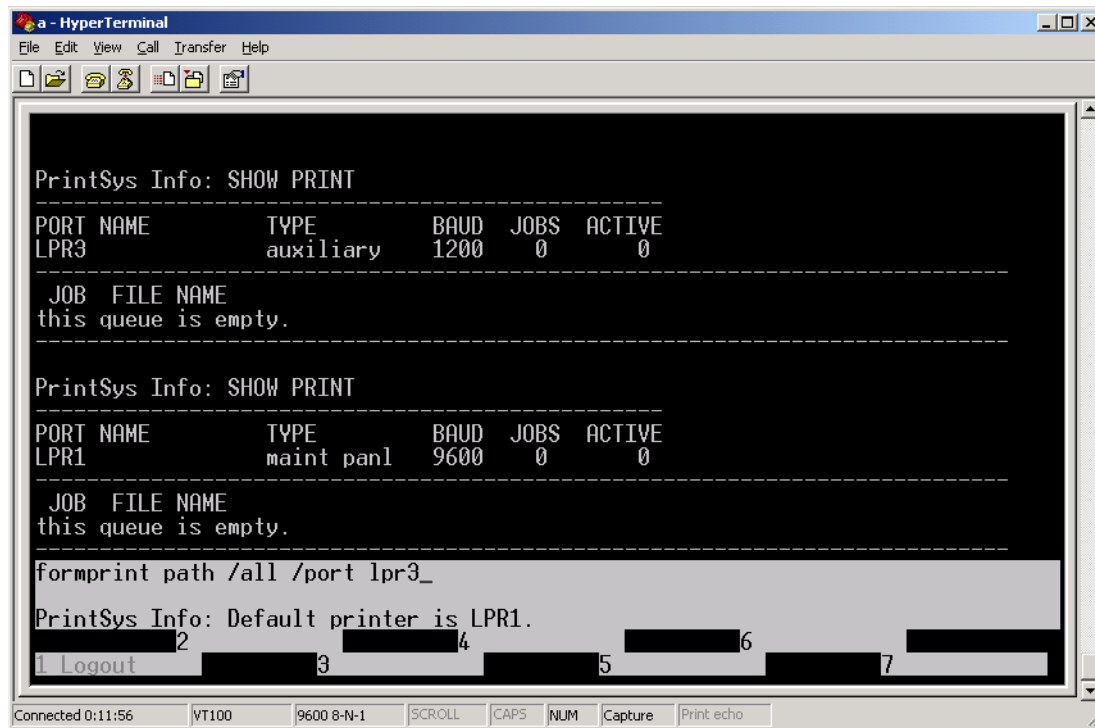
The SX-2000 terminal session page refreshes.

13. Log on to the PBX with a username that permits installer privileges.

14. Type **formprint path /all /port lpr3** to convert the Path Assignments Form to text.

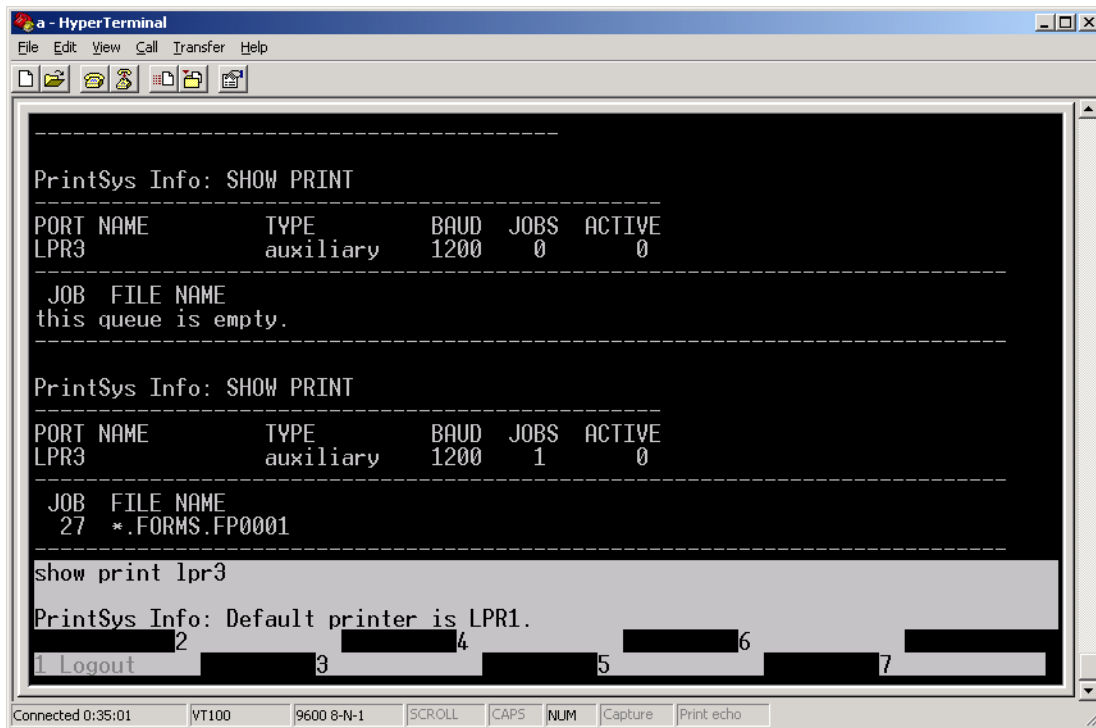
NOTE: The lpr3 printer is not the default printer.

Figure 8 Hyperterminal: Path Assignments Form



```
a - HyperTerminal
File Edit View Call Transfer Help
PrintSys Info: SHOW PRINT
-----
PORT NAME      TYPE      BAUD  JOBS  ACTIVE
LPR3           auxiliary 1200   0     0
-----
JOB  FILE NAME
this queue is empty.
-----
PrintSys Info: SHOW PRINT
-----
PORT NAME      TYPE      BAUD  JOBS  ACTIVE
LPR1           maint panl 9600   0     0
-----
JOB  FILE NAME
this queue is empty.
-----
formprint path /all /port lpr3_
PrintSys Info: Default printer is LPR1.
Logout 2 3 4 5 6 7
Connected 0:11:56 VT100 9600 8-N-1 SCROLL CAPS NUM Capture Print echo
```

15. Type **show print lpr3** to confirm that formprint is queued.

Figure 9 Hyperterminal: Show print

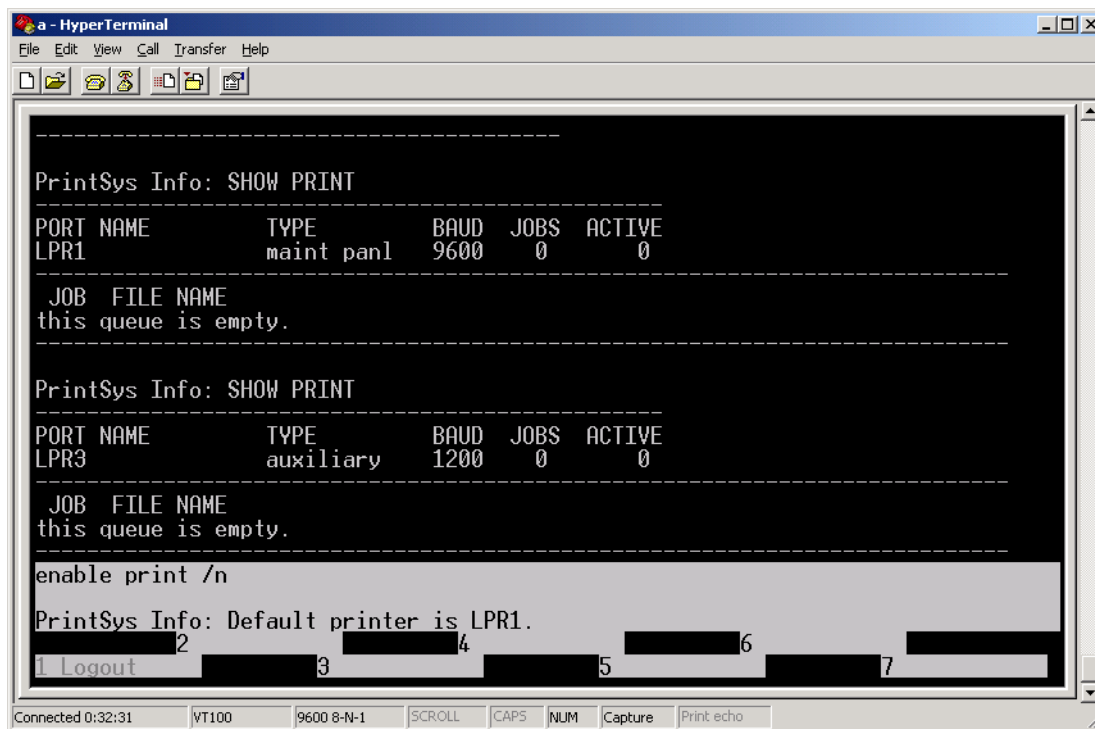
16. Click **Transfer=>Capture Text**.

The Capture Text window appears.

17. Click **Browse** and select the destination of the text file.
18. Click **Start**.
19. To enable printing, type **enable print /n**.

When printing is completed, the Mitel main screen appears.

20. Click **Transfer=>Capture Text=>Stop**.

Figure 10 Hyperterminal: Enable print

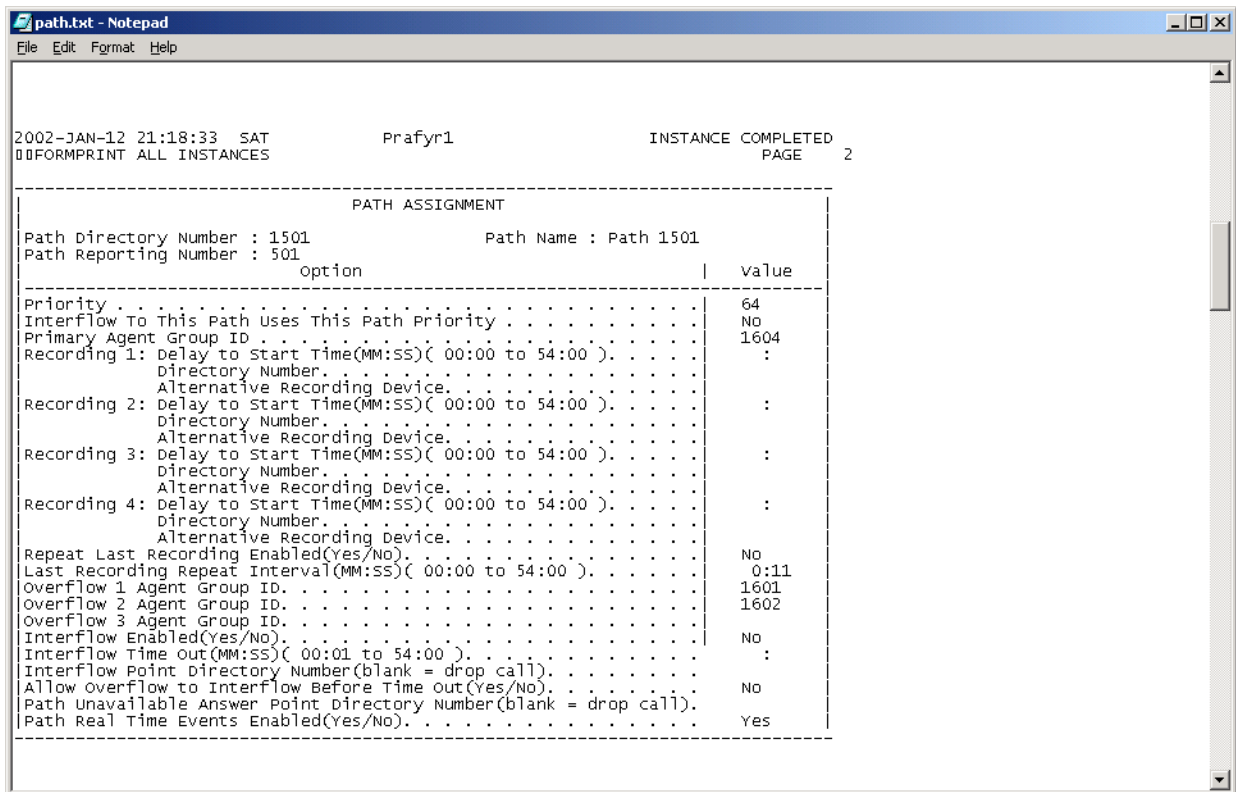
```
a - HyperTerminal
File Edit View Call Transfer Help
-----
PrintSys Info: SHOW PRINT
-----
PORT NAME      TYPE      BAUD  JOBS  ACTIVE
LPR1           maint panl 9600   0     0
-----
JOB  FILE NAME
this queue is empty.
-----
PrintSys Info: SHOW PRINT
-----
PORT NAME      TYPE      BAUD  JOBS  ACTIVE
LPR3           auxiliary 1200   0     0
-----
JOB  FILE NAME
this queue is empty.
-----
enable print /n
PrintSys Info: Default printer is LPR1.
Logout
```

Connected 0:32:31 | VT100 | 9600 8-N-1 | SCROLL | CAPS | NUM | Capture | Print echo

21. Type **formprint agent group /all/port lpr3** to convert the Agent Group Assignment Form to text.
22. Repeat steps 15-20
23. When both the Mitel forms are converted to text, close the Connection1 HyperTerminal window.

NOTE: If you open the .txt file, it will look similar to the file below.

Figure 11 Text file



On the PBX, you now send all valid Agent Group Assignments and Path Assignment to the file. Save the text file and proceed to Configuring Agents, Agent Groups, and/or Queues.

Configuring Agents, Agent Groups, and/or Queues:

1. Click **Start=>Programs=>Mitel Networks=>prairieFyre Management Console.**
2. Click **Database=>Import Configuration from Mitel Assignment Forms.**

The Interpret Mitel Assignment Forms window appears.

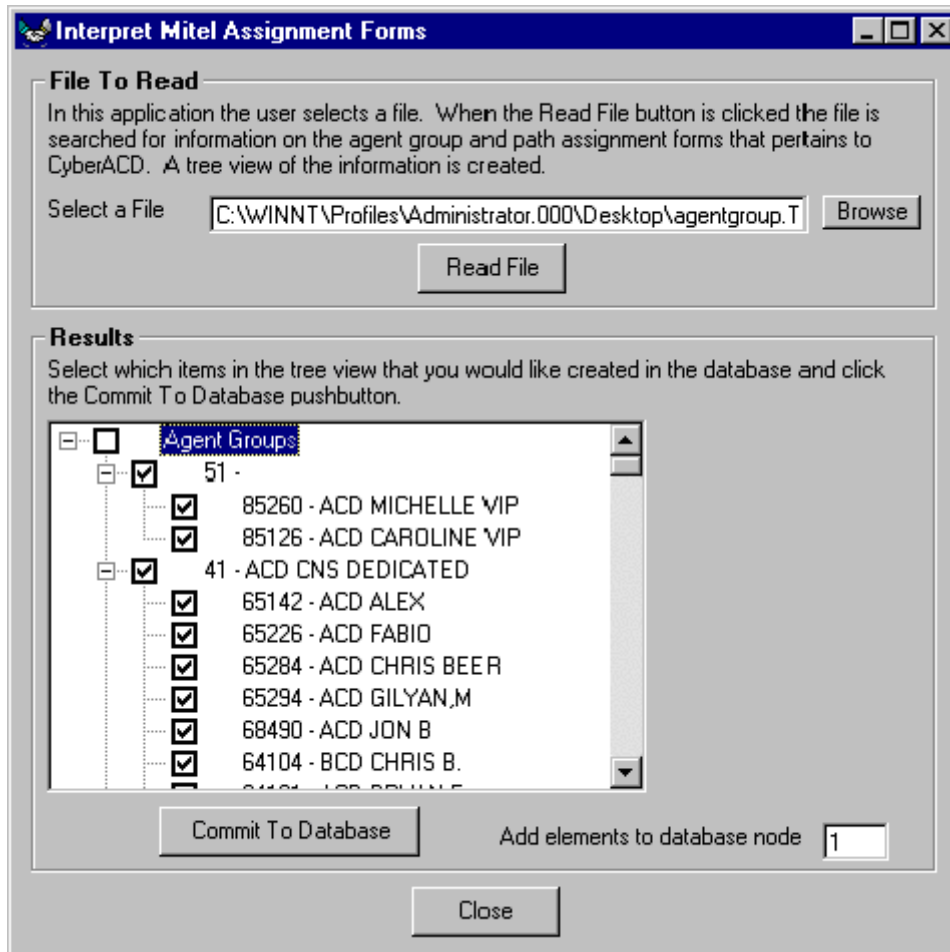
3. After **Select a File**, click **Browse.**
4. Select the data file created by the SX-2000 telephone switch.
5. Click **OK.**

The Interpret Mitel Assignment Forms window reappears.

6. Click **Read File.**

Under Results, the information retrieved from the forms is displayed.

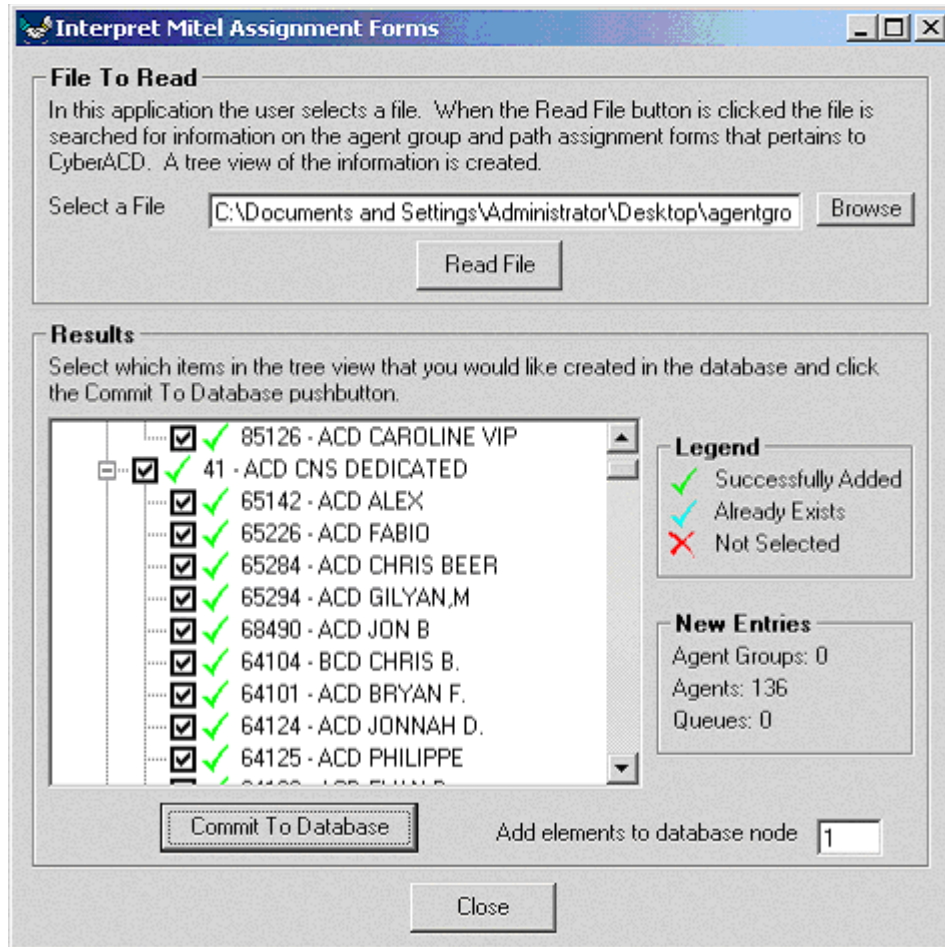
7. Select **Agents, Agent Groups, and Queues.**
8. Click **Commit to Database.**

Figure 12 Interpret Mitel Assignment Forms: Agent Groups

A legend appears that indicates if the data has been successfully added, if it already exists, or if it was not selected.

9. Click **Close**.

Figure 13 Interpret Mitel Assignment Forms: Results



Automatic Synchronization with 6115 ICC

Automatic Synchronization is only available if you have Mitel Networks 6115 Interactive Contact Center. Automatic Synchronization reads the PBX Agent ID/Names, Agent groups/Names, and Paths/Names (only if you have DNIS*), then it dynamically updates the YourSite database.

*If you do not have DNIS, you can enter the Path Dialable and Reporting numbers, and then the Paths/Names will be automatically synchronized.

NOTE: Ensure you have licenses for each employee before you begin. If you have more employees than you have licenses for, the Automatic Synchronization will not add employees to the database. You will have to add the employees and then associate them to the agents.

To configure your database you must

1. Set the MiTAI node.
2. Enter the Queue dialable and reporting numbers, and enable Interactive in the database.
3. Wait approximately five minutes for Automatic Synchronization.
4. Refresh the screen.
5. Set the re-synchronization time.

Your database will be updated.

The effects of Automatic Synchronization

Employee IDs/Agent IDs

The Employee name and ID (Identification number) will now be the same as the Agent name and ID.

Reporting numbers/Dialable numbers

Reporting numbers that are known to 6110 CCM will remain unchanged.

Reporting numbers that are unknown to 6110 CCM will appear in the following format: MDialable Number (M1600). For example, M1600 is the reporting number for the agent group with the dialable number 1600.

New Queues

As new queues are entered into the switch, MiTAI will automatically update the database to include them.

Changing Device names

You can change the name of any device and Automatic Synchronization will not attempt to overwrite the name. That means that a single agent might be referred to as Agent1 on the PBX and referred to as Kevin in 6110 CCM.

Setting the MiTAI Node

1. Click **Start=>Programs=>Mitel Networks=>Management Console.**
2. Click **Enterprise.**
3. Expand the **Local Nodes** and select the MiTAI node. (For example, select Toronto.)
4. After **Switch Type**, select the MiTAI switch.
5. Type the **Node, Name, IP Address, and IP Port.**
6. Click **Save Changes.**

Figure 14 Management Console: Setting the MiTAI Node

The screenshot shows the Management Console interface with the following configuration for the Toronto node:

- Enterprise** (selected in the left sidebar)
 - Local Nodes
 - Toronto (selected)
 - Remote Nodes
- Toronto** (selected in the right pane)
 - Node: 1
 - Name: Toronto
 - IP Address: 10.1.1.27
 - IP Port: 5400
 - Switch Type: SX-2000 Mitai
 - Operates 24 hours a day
 - Active
 - Credit Non Answered Outbound Calls
 - This node is part of an SX-2000 Cluster
 - Area Code: 416
 - Specific Local Node Settings:
 - Local Node ID: 0
 - SMDR Comport: COM;2;9600;8;N;1;None;
 - ACD Comport: COM;1;9600;8;N;1;None;

Buttons: [Save Changes](#)

Entering the Queue dialable and reporting numbers

1. Click **YourSite=>Configuration**.
2. Click the **Queue** tab.
3. Select a queue.

The Queue window appears.

Figure 15 Queue window

Queue

Dialable	Reporting	Name	Service	Short Abd	Interactive	Properties
1500	P150	Kevin	120	6	Disabled	

Print Quick Setup Notify Realtime Clients 1

P150 - Kevin Available Members

Reporting	Name

Select All 0 >>

P150 - Kevin Members

Reporting	Name	AnsBy
M1600	[MAgent Group 1600]	1
M1602	[MAgent Group 1602]	2
M1601	[MAgent Group 1601]	3

<< 3 Select All

Employee Employee Group Agent Agent Group Team Queue Queue Group Extension Extension Group
Trunk Trunk Group Account Code ANI DNIS DNIS Group Make Busy Reason Codes

- Under **Dialable**, right-click and select **Add**.

The Add Queue window appears.

- Under **Dialable**, type the dialable number.
- Under **Reporting**, type the reporting number.
- Under **Name**, type the name.
- Under **Service**, type the service.
- Under **Short Abd**, type the duration for short abandon.
- Under **Interactive**, select **Enabled**.
- Click **Insert**.
- Repeat steps 5-7 until you have typed all dialable and reporting numbers, and enabled Interactive for the queue, then click **Add All**.

Figure 16 Queue window: Entering dialable and reporting numbers

The screenshot displays the 'Queue' window with an 'Add Queue' dialog box open. The dialog box contains a table with the following columns: Dialable, Reporting, Name, Service, Short Abd, and Interactive. Below the table are four buttons: Insert, Remove, Close, and Add All. The background window shows a table with the following columns: Dialable, Reporting, Name, Service, Short Abd, Interactive, and Properties. The background table has one row with the following values: 1500, P150, Kevin, 120, 6, Disabled, ...

Dialable	Reporting	Name	Service	Short Abd	Interactive	Properties
1500	P150	Kevin	120	6	Disabled	...

The 'Add Queue' dialog box table is currently empty.

Below the dialog box, there are four buttons: **Insert**, **Remove**, **Close**, and **Add All**.

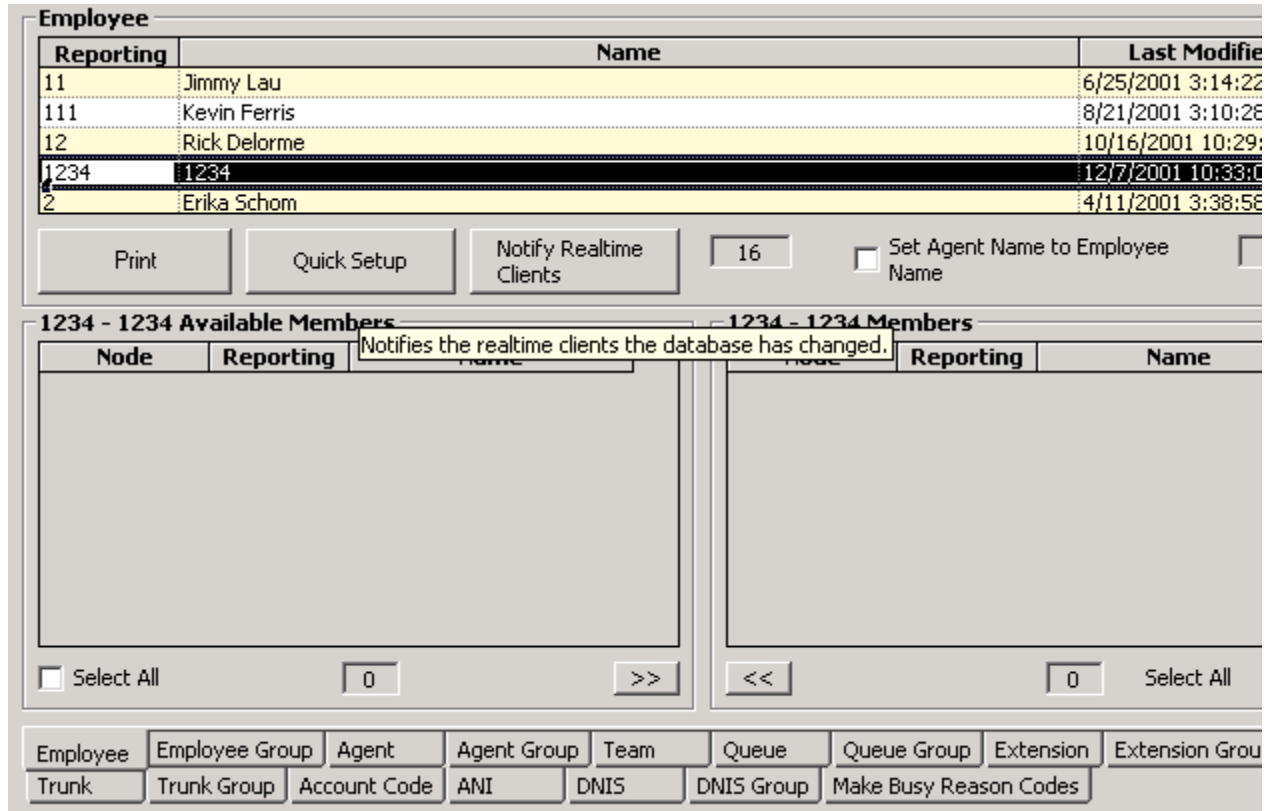
At the bottom of the window, there is a navigation bar with a 'Select All' checkbox, a '0' value, '>>' and '<<' buttons, a '3' value, and another 'Select All' checkbox.

At the very bottom, there is a menu bar with the following items: Employee, Employee Group, Agent, Agent Group, Team, Queue, Queue Group, Extension, Extension Group, Trunk, Trunk Group, Account Code, ANI, DNIS, DNIS Group, and Make Busy Reason Codes.

You must update the real-time clients.

13. Click **Notify Realtime Clients**.

Figure 17 Employee window: Updating real-time clients



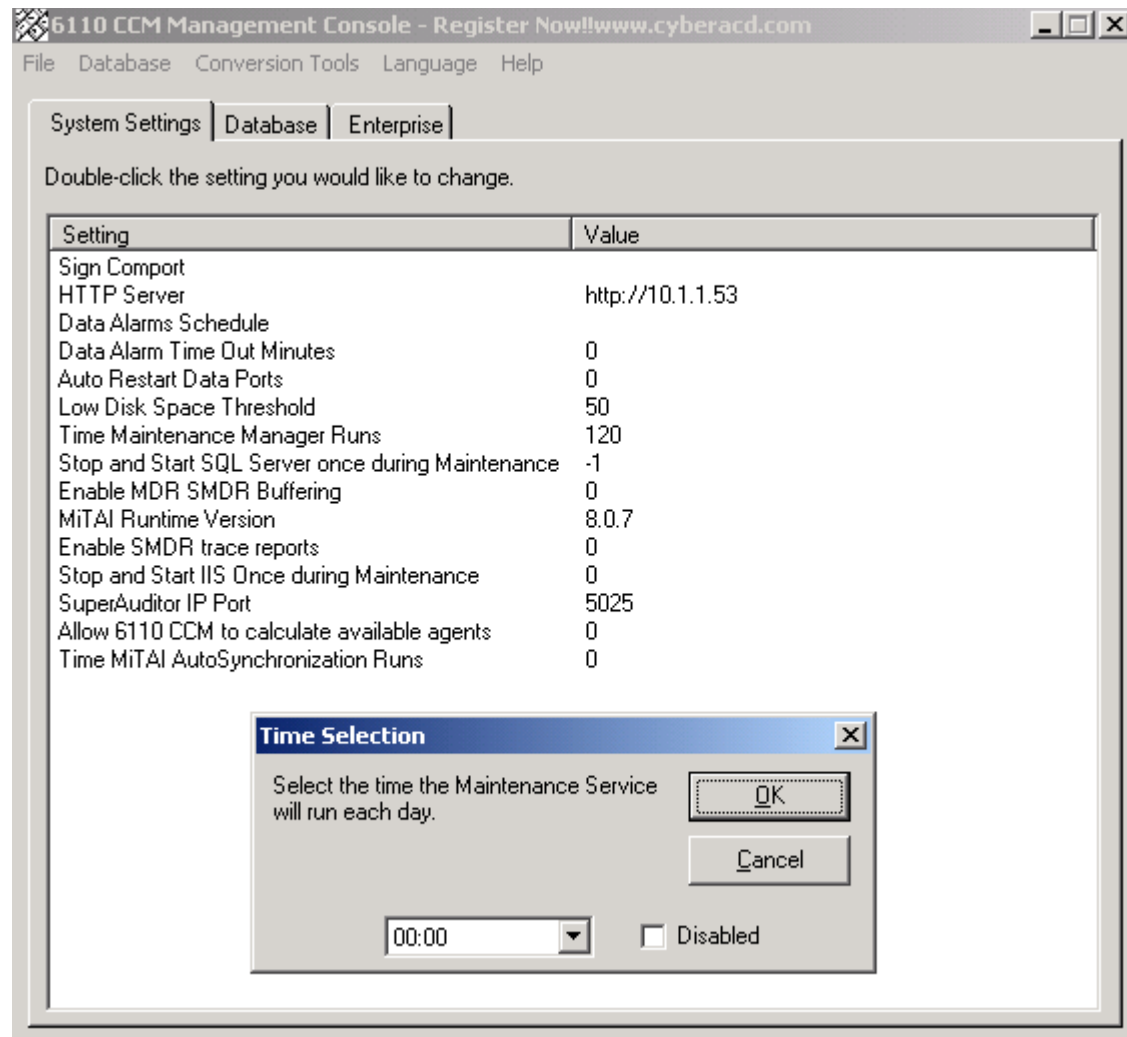
Setting the re-synchronization time

1. Click **Start=>Programs=>Mitel Networks=>Management Console.**
2. Click **Time MiTAI AutoSynchronization Runs.**

The Time Selection window appears.

3. Select the time for the automatic synchronization to occur.
4. Click **OK.**
5. Close the Management Console.

Figure 18 Management Console: Setting the re-synchronization time



Manual configuration

If you have the SX-200 with real-time or the SX-200, you must configure the database manually.

To configure 6110 CCM:

1. Print a copy of your telephone system assignment forms to use as a guide for programming the YourSite Configuration Database.
2. Start the YourSite Configuration Database application and configure it to reflect your telephone system programming and 6110 CCM licensing parameters.
3. Set up a disaster recovery backup for the data directory.

NOTE: 6110 CCM security is based on database teams and groups. When you configure the YourSite Database, you must create agent IDs and associate the agents to employees and to agent groups. You must associate the agent groups to the queues for which they answer calls. You must associate the employees to employee groups and the queues to queue groups. You must create these associations in the database in order to view real-time data and report on these devices. If you are reporting on extensions, trunks, DNIS numbers, and account codes, you must add these devices to the YourSite Database and associate the extensions to extension groups, trunks to trunk groups, and DNIS numbers to DNIS groups.

For example, suppose your 6110 CCM Enterprise server has an SX-200 system installed. It has eight agents, three agent groups, and three queues. The PBX was programmed to include Agent IDs 100 to 103, and 200 to 207, Agent Group IDs 1 to 3, and Queue/Path IDs P500, P600, and P700.

Agents 100 to 103 answer calls for only one queue: English (P500). These agents belong to Agent Group 1. Agents 200, 202, 204, and 206 belong to Agent Group 2, and Agents 201, 203, 205, and 207 belong to Agent Group 3. The remaining agents answer calls for two queues: French (P600) and Spanish (P700). Each of these agents has two agent IDs (reporting numbers). The first agent uses Agent Reporting Number 200 to log into P600 and 201 to log into P700. The second agent uses Agent Reporting Number 202 to log into P600 and 203 to log into P700, and so on.

You must program the YourSite Database to mirror the programming of the PBX. In addition, you must assign each agent a single employee number, and associate the call centre queues to queue groups, employees to employee groups, and queues to agent groups.

NOTE: For reporting purposes, the trunk, extension, agent, agent group, queue, dialable, and account code numbers you program in the 6110 CCM YourSite Database must be identical to those of the telephone system. Where people get confused is in the programming of queue numbers. The telephone system path reporting number is referred to as the queue number in the YourSite Database. When you program the telephone system with a path reporting number such as 6, you must enter this number in the YourSite Database as queue number P006.

NOTE: An employee is a physical person being tracked in your call center. Employees can have multiple agent IDs. The number of employees you program in the YourSite Database must be consistent with your software license. If you have more employees programmed than your license permits, “[License Is In Violation of Max Agents Allowed]” will appear in place of your company name on the 6110 CCM user interface (UI) and on any reports you generate.

The following table outlines the YourSite Database programming required

Table 6: YourSite Database programming

8 Agents	Agent IDs	Employee Numbers	Agent Groups	Employee Groups	Queues	Queue Groups
1. Carol	100	100	1	3	P500	1
2. Sherry	101	101	1	3	P500	1
3. Jeff	102	102	1	3	P500	1
4. Brian	103	103	1	3	P500	1
5. Debbie	200	200	2	4	P600	1
“	201	200	3	4	P700	1
6. Carl	202	201	2	4	P600	1
“	203	201	3	4	P700	1
7. Sue	204	202	2	4	P600	1
“	205	202	3	4	P700	1
8. Jim	206	203	2	4	P600	1
“	207	203	3	4	P700	1

If you want to run reports on extensions, trunks, or DNIS numbers, you must add them to the database and associate the extensions to extension groups, trunks to trunk groups, and DNIS numbers to DNIS groups.

Determining which call center devices to configure in the YourSite Database

Before you program devices and device groups in the YourSite Database you must consider your needs.

Reporting

- Will you need to report on all devices and device groups, or only on agents, agent groups, queues, and queue groups? You must configure the devices you will use for reporting in the YourSite Database and associate them to groups.

Real-time

- SuperAdvisor and AgentAdvisor display statistics on agents, agent groups, queues, queue groups, employees, and employee groups. You must configure these devices in the YourSite Database and associate them to groups in order to view data on them in real-time.

Online chat

- Agents log on to the chat module using employee IDs: you must configure employee IDs in the YourSite Database and associate them to employee groups in order to chat online.

Setting up 6110 CCM security

Recent viruses (last updated January 18, 2002 and are subject to change)

- Maldad.G worm, aka Zacker
- ClickTillUWin, aka Dlder
Antivirus software vendors are now including detection and removal code for both the new Zacker worm and the new Trojan horse.
<http://www.secadministrator.com/articles/index.cfm?articleid=23667>
- W32/Vote
<http://63.88.172.96/panda/index.cfm?fuseaction=virus&virusid=1111>
- W32.Nimda.A@mm
<http://www.symantec.com/avcenter/venc/data/w32.nimda.a@mm.html>
- CodeRed II
<http://www.sarc.com/avcenter/venc/data/codered.ii.html>
- CodeRed Worm
<http://www.sarc.com/avcenter/venc/data/codered.worm.html>

Best practices

- apply all Microsoft Critical Update packs on the 6110 CCM server. To determine if you have the latest packs, go to <http://corporate.windowsupdate.microsoft.com>
- subscribe to the MS Security Mailing List found at <http://microsoft.com/technet/treeview/default.asp?url=/technet/security/bulletin/notify.asp>
- check how up-to-date your system is with Microsoft Personal Security Advisor (MPSA): (Only for Windows NT Workstation and Windows 2000 Professional) found at <http://microsoft.com/technet/mpsa/start.asp>
- check the update status on the Windows NT Server and Windows 2000 with the Hfnetchk.exe tool available at <http://microsoft.com/technet/mpsa/start.asp>
- install Windows updates at <http://windowsupdate.microsoft.com/>
- view Microsoft's list of best practices at <http://microsoft.com/technet/treeview/default.asp?url=/technet/security/bestprac/bestprac.asp>
- use virus scanning software that has been built-in virus definition update capabilities found at <http://www.symantec.com>, <http://www.mcafee.com>

Restricting access

After you install 6110 CCM, you must grant users access to the 6110 CCM Web site. When users browse to the 6110 CCM Enterprise server to start 6110 CCM, security requires they provide a valid user name and password. 6110 CCM security challenges users a second time if they attempt to run an application to which they are not permitted access.

Starting with version 2.8, Mitel Networks 6110 CCM has new security features. The security can now be as basic or as flexible (advanced) as you need it.

With security roles, you can define what you want users to have access to. By default the security role is Not Restricted (to the Web site). However, when you have the Not Restricted Security Role you have the option of creating a more customized security role and then assign users to it.

NOTE: Every time the new install is run a default user is created. The default gives both prairieFyre staff and the installer the assurance that there is at least one account with which to access the Web site.

- Username: _Admin
- Password: _Password
- Security Role: Not Restricted, may do anything

You must change the account password from the default to a unique password after EACH installation of Mitel Networks 6110 CCM.

Creating a Basic Security Role

There are two levels of Security Role. A Basic Security Role restricts user access to specific applications. An Advanced Security Role restricts user access to customized lists of devices (for example, extensions) and customized list of reports.

NOTE: See the *Mitel Networks 6110 CCM User Guide* for information on the advanced Security Role.

By default the security role is Not Restricted (to the Web site). If you want some users to have access to the Web site, but do not want them to have access to everything (for example, you do not want them to administer security) then you must create a Security Role with that characteristic.

1. Click **YourSite=>Security**.
2. Click **Security Roles**.
3. Click **Add**.
4. On the **Basic** tab, select from the list that which the user is **not permitted** to access. For example, if agents are not permitted to administer security, select Not allowed to administer CyberACD security.
5. After **Role name**, type the name of this security role.
6. After **Role description**, type the description of this security role.
7. Click **Save**.

NOTE: For you to assign security roles, you must have a security role that does not restrict you from administering security.

Assigning a Security Role

1. Click **YourSite=>Security**.
2. Click **Users**.
3. Click **Add**.
4. Type the user information into the text boxes.
5. After **Security Role**, select the Security Role you just created.

When you create new Security Roles, they will be listed here. With Security Roles, you can customize what the user has access to on the Web site.

6. After **Associated Employee**, select the employee.

The Associated Employee list will include all configured 6110 CCM employees. You must associate the user with the employee if that employee is an agent who answers the telephones. If the employee is not an agent who answers the telephone, then select No associated employee.

7. Click **Save**.

Re-configuring the default password in SQL

You can optionally reconfigure the default password for the administrator account to prevent unauthorized users from gaining access.

You must log on to the SQL Server to gain access to all database menu options.

To log on

- Click **Database=>Load SQL Databases**.

The first time you log on to the SQL Server, you use the following credentials:

Username: sa

Password:

If you have SQL Server installed, to change the administrator password:

1. On the 6110 CCM Enterprise server, click **Start=>Programs=>Microsoft SQL Server 7.0=>Enterprise Manager**.
2. On the Console Root, locate **Security**.
3. Double-click **Security** and click **Logins**.
4. Double-click **sa** in the right pane.
5. Type a new password and click **OK**.

If you have SQL Server or MSDE installed, to change the administrator password:

1. On the 6110 CCM Enterprise server, start the Management Console application.
2. Click **Database=>Load SQL Databases**.
3. Click **Database=>Change SQL System Administrator Password** and change the password.
4. Quit Management Console.

Specifying wall sign comport settings

To specify comport settings for wall signs connected to the 6110 CCM Enterprise server:

1. Log on to the 6110 CCM server with an account that has administrative privileges.
2. Click **Start=>Programs=>Mitel Networks=6110 CCM Management Console** to start the Management Console application.
3. Click the **System Settings** tab.
4. Double-click **Sign Comport** and type comport values for the comport that connects the wall sign to the 6110 CCM Enterprise server.
5. Click **OK**.

Installing AgentAdvisor

AgentAdvisor is a stand-alone application designed for the SX-2000 and SX-200 with real-time telephone systems. AgentAdvisor is not displayed in a Web browser. It is one of the optional applications available on the Client Component Pack.

On agent computers that have Internet Explorer 5.5 installed, to install AgentAdvisor:

1. Start Internet Explorer 5.5 and browse to the 6110 CCM Web application.
2. Log on to the 6110 CCM Enterprise server using your 6110 CCM user name and password.
3. On the 6110 CCM user interface, click **Help=>Client Download**
4. Select and run the **Client Component Pack**.
5. When running the **Client Component Pack**, select **AgentAdvisor** and keep selected any other optional applications you are currently using.

AgentAdvisor is now loaded on your system.

6. Click **Start=>Programs=>Mitel Networks=>6110 CCM AgentAdvisor** to open the AgentAdvisor application.

On agent computers that have a browser other than Internet Explorer 5.5 installed, to install AgentAdvisor:

1. Browse to the 6110 CCM Web application.
2. On the 6110 CCM user interface, click **Help=>Client Download**
3. Select and run the **Client Component Pack**.
4. When running the **Client Component Pack**, select **AgentAdvisor** and keep selected any other optional applications you are currently using.

AgentAdvisor is now loaded on your system.

5. Click **Start=>Programs=>Mitel Networks=>6110 CCM AgentAdvisor** to open the AgentAdvisor application.

On agent computers that do *not* have a browser installed, to install AgentAdvisor:

1. In the **OtherWebDownloads** folder of the 6110 CCM Installation CD, click the **CyberACD_client_component_pack.exe** file to run the AgentAdvisor Setup.

AgentAdvisor is now loaded on your system.

2. Click **Start=>Programs=>Mitel Networks=>6110 CCM AgentAdvisor** to open the AgentAdvisor application.

Installing CyberTerminal

If you have an SX-200 telephone system, you can install the CyberTerminal application on an unlimited number of client computers.

To install CyberTerminal:

1. Start Internet Explorer 5.5 and browse to the 6110 CCM Web application.
2. Log on to the 6110 CCM Enterprise server using your 6110 CCM user name and password.
3. Select and run the **Client Component Pack**.
4. When running the **Client Component Pack**, select **CyberTerminal** and keep selected any other optional applications you are currently using.

Beginning to use 6110 CCM

Complete the following steps to begin using 6110 CCM:

1. Set up the client computer to use 6110 CCM.
2. Start 6110 CCM on the client computer.
3. Install Critical Component Pack and Client Component Pack on the client computer.
4. Install ActiveX controls on the client computer.
5. Configure Report Distributor.
6. Configure 6110 CCM from the client computer.
7. Test 6110 CCM.

NOTE: The date format for 6110 CCM is tied to the regional settings on your client computer. For example, if you configure your computer to display the date as mm/dd/yyyy, when you browse to the 6110 CCM Web UI, the 6110 CCM applications and any reports you generate display the date as mm/dd/yyyy.

Setting up the client computer to use 6110 CCM

The system administrator must provide all 6110 CCM users with a user name and password.

To gain access to 6110 CCM applications from a client computer:

1. Log on to your computer with a password that allows you to
 - Write to the registry=>hkey=>local=>machine=>software=>prairieFyre
 - Install applications on your c:\winnt\system32 or c:\windows\system directory
 - Install executable applications under Start=>Program Files=>Mitel Networks=>6110 CCM
2. Obtain a 6110 CCM user account from your system administrator.
3. Start Internet Explorer 5.5 in your browser.
4. Click **Tools=>Internet Options=>Connections=>LAN Settings**.
5. Select **Automatically detect settings** and click **OK**.

This enables your computer to automatically detect all of your local area network settings.

6. Check with your network administrator to verify if you have any special proxy settings to configure.

Starting 6110 CCM on the client computer

To start 6110 CCM on the client computer:

1. In the browser, type in the 6110 CCM Enterprise server IP address *http://[your 6110 CCM Enterprise server address]/6110 CCM/*. Alternatively, double-click the **6110 CCM** desktop icon.
2. Click **Add to Favorites** to add the 6110 CCM Enterprise server IP address to your list of favorite addresses and click **OK**.
3. Click **Favorites**, locate the prairieFyre 6110 CCM entry (at the bottom of the list) and move it to the top of the list using a drag-and-drop operation.
4. Optionally click **Make Home Page** to set the 6110 CCM Enterprise server IP address as your home page.
5. Enter your username and password and click **Submit**.
6. Click **Change Password** and change your 6110 CCM password.

When you add 6110 CCM to your list of favorites, you can run multiple instances of 6110 CCM simultaneously. For example, you can perform multiple searches for event records or have two 6110 CCM applications open simultaneously.

You access the first instance of 6110 CCM by clicking the 6110 CCM desktop icon (on the Server computer) or by starting Windows Explorer and typing in the 6110 CCM Enterprise server address (on a client computer).

You access the second (and subsequent) copies of 6110 CCM by clicking the Internet Explorer icon on the Windows Taskbar and selecting 6110 CCM from your list of favorites. Alternatively, you can set your home page to the 6110 CCM application (your 6110 CCM Enterprise server IP address) and run multiple instances of 6110 CCM simultaneously.

Installing the Critical and Client Component Packs on the client computer

When installing supporting applications on the client computer, you must install both the Critical Component Pack and the Client Component Pack. You must install the Critical Component Pack before you install the Client Component Pack.

Installing the Critical Component Pack

The 6110 CCM Critical Component Pack consists of the following supporting applications: Microsoft Visual Basic Version 6 Runtimes, Microsoft MFC 6.2 Version Runtimes, Microsoft MDAC 2.6 Runtimes, Microsoft Standard OCX and DLL Redistributables, and Third Party Licensed Redistributables required by 6110 CCM/6150 MCC Programs.

To install the Critical Component Pack on the client computer:

1. On the client computer, start Internet Explorer 5.5 in the browser.
2. Type in your 6110 CCM Enterprise server IP address *http://[your 6110 CCM Enterprise server address]/6110 CCM/*. Alternatively, double-click the **6110 CCM** desktop icon.
3. Click **Help=>Client Download**.
4. Click **Critical Component Pack** to install the critical applications.
5. Select the **Run this program from its current location** check box.
6. Click **Next** after you read the Welcome screen.
7. Click **Yes** to accept the license agreement.
8. Click **Next** after you read the information presented.
9. Click **Finish** after the 6110 CCM Critical Component Pack setup has finished installing on your computer.

Installing the Client Component Pack

The 6110 CCM Client Component Pack consists of the following optional applications: AgentAdvisor, Excel Report Templates, Report Distributor, Network Monitor, AutoUpdate, and 6150 MCC Outlook Extensions.

NOTE: All of the client components are optional. They all offer configuration options which can be changed at any time.

To install the Client Component Pack on the client computer:

1. On the client computer, start Internet Explorer 5.5 in the browser.
2. Type in your 6110 CCM Enterprise server IP address *http://[your 6110 CCM Enterprise server address]/6110 CCM/*. Alternatively, double-click the **6110 CCM** desktop icon.
3. Click **Help=>Client Download**.
4. Click **Client Component Pack** to install the client applications.
5. Click **Next** after you read the Welcome screen.
6. Click **Yes** if you have high level access rights.
7. Click **Next** after you read the Welcome screen.
8. Click **Yes** to accept the license agreement.
9. Click **Next** after you read the information presented.
10. Click **Next** to select the default destination of the Client Component Pack.
11. Alternatively, click **Browse** to select an alternative destination of the Client Component Pack, and then click **Next**.

NOTE: All users of 6110 CCM client software must have full permissions to this directory.

12. Click **Next** to select the default destination of the Configuration Data Directory.
13. Alternatively, click **Browse** to select an alternative destination of the Configuration Data Directory, and then click **Next**.

NOTE: When selecting the destination of the Configuration Data Directory, ensure that the space available is greater than the space required.

14. Select the components you want to install, and clear the components you do not want to install, and then click **Next**.
15. Type the **IP Address** of the 6110 CCM server which these client applications will be connecting to.
16. Type the **IP Address**, the **IP Port**, and the **Employee** for Your AgentAdvisor Configuration, and then click **Next**.
17. Click **English** or **French** for Your AgentAdvisor, and then click **Next**.
18. Configure the Report Distributor SMTP Mail Settings, and then click **Next**.
19. Click **English** or **French** for the Report Distributor, and then click **Next**.
20. Type the name of the Configure Report Distributor Default Site, and then click **Next**.
21. Type the **IP Address**, the **Username**, and the **Password** for the Configure Report Distributor Default Site, and then click **Next**.
22. Click **Yes** or **No** the Web server associated with this site uses Secure Sockets Layer (SSL).
23. Type the **Name**, **IP Address**, and the **IP Port** for the Network Monitor Configuration, and then click **Next**.
24. Click **English** or **French** for the Network Monitor, and then click **Next**.

NOTE: AutoUpdate settings will be shared by all users of this machine.

25. Type the **Proxy** for the AutoUpdate settings, and then click **Next**.
26. Type **Yes** or **No** the Web server on the 6110 CCM server uses Secure Sockets Layer (SSL), and then click **Next**.
27. Click **Finish**.

Updating optional applications

The next time you start Report Distributor or Network Monitor your system will check the registry to verify you have the most up-to-date software version. If you do not have the most up-to-date software version, 6110 CCM will prompt you to download it.

NOTE: We strongly recommend you quit all open applications before you install Report Distributor or Network Monitor. Ensure you type the correct 6110 CCM Server IP address during the update process.

Installing ActiveX controls on the client computer

ActiveX provides you with a security warning when attempting to download files. You then have the choice of continuing to download the file or aborting the download.

To install ActiveX controls on the client computer:

1. On the 6110 CCM UI, click each 6110 CCM application to install it.

Configuring Report Distributor

The Report Distributor application prints and e-mails your reports and displays the status of your printing and mailing jobs. It runs in the system tray on your computer and must be running at all times in order to print and e-mail reports automatically.

The Report Distributor runs under the identity of the logged on user and prints to the default printer as defined by the logged on user. A user who logs on but does not have a default printer setup, or does not have adequate permissions to use the default printer, causes the Report Distributor to fail each print job that it attempts to action. Users must have a mail client installed in order for the Report Distributor to e-mail reports.

In order to e-mail reports to other users your network requires a properly configured MAPI mail client.

To automate the printing of reports and e-mails (if you have not already configured Report Distributor on your client computer):



1. On your system tray, right-click the **Report Distributor** icon and select **Restore**.
2. If the Report Distributor icon is not displayed on the system tray, click **Start=>Mitel Networks=>6110 CCM Report Distributor** to start the Report Distributor.
3. Click **Options**.
4. Right-click **6110 CCM Sites** and click **Add**.
5. Type a descriptive name, type a valid 6110 CCM URL, and press **Enter**.
6. Optionally repeat steps 2 and 3 to add a second URL.
7. Click **Set Default** to specify the default server address and click **OK**.

Configuring 6110 CCM from the client computer

To configure 6110 CCM:

1. If you have not already configured the YourSite Configuration Database to reflect your telephone system programming and 6110 CCM licensing parameters, do so now. See "Configuring 6110 CCM" on page 37.
2. If you have an SX-2000 or SX-200 with real-time telephone system, start the SuperAdvisor application and monitor call center activities in real-time.
3. Start the Reporter application and generate reports on call center activities.

NOTE: During the nightly maintenance routine, the telephone system raw data for the entire day is re-summarized from the local hard drive into the SQL database. In the event the SQL database is stopped and restarted during the day, re-summarizing the data ensures the SQL database has the entire set of raw data files.

Multi-site call centers

Testing 6110 CCM

You can demonstrate the complete functionality of 6110 CCM using a simulation mode. To run the simulation, you must perform a complete installation of the 6110 CCM production version software (preferably your FREE in house demonstration software).

With a typical installation, prairieFyre automatically provides a sample database, PBX simulation data files, and a SuperAdvisor real-time profile.

To locate these files

- Click <drive:>\program files\prairiefyre software\CyberACD\acd manager\demo.

Create the 6110 CCM Database

To restore the demo database:

1. Click **Start=>Programs=>Mitel Networks=>prairieFyre Management Console**.
2. Click **Database=>Restore Database** and navigate through the restore wizard. Ensure you select the directory where the demo database files reside: <drive:>\program files\prairiefyre software\CyberACD\acd manager\demo\demodb.
3. Click **Finish**.

Before you generate example reports, you must summarize the demo data into the recently restored database.

To summarize the data:

1. Start **Management Console** and click **Database=>Summarize Data**.
2. Select **March 16, 2001** and click **Summarize**.

To run 6110 CCM in simulation mode:

1. In Management Console, configure the comports to "read from a file", and select the **A20010316.txt** and **S20020010316.txt** files included in the **DemoData** folder.
2. Click **File=>Local Node Simulation Settings**.
3. In the **Local Node Simulation Settings** dialog box, select the following settings:
 - The **Run in simulation mode** check box enables the 6110 CCM simulation mode.
 - The **Enable 6110 CCM InterActive simulation mode** check box allows you demonstrate the 6115 ICC functionality without a MiTAI link to the PBX.

The next two settings specify the intervals during the day for which you read data.

- The **Run fast from midnight until this time** option skips through the file, starting at midnight and ending at the time call center activity begins. In this case, **select 8 A.M.**
- The **Run fast from this time to midnight option** specifies the point in time you would like to stop reading data (because call center activity has stopped) and fast forward to midnight. In this case, **select 5 P.M.**

Additional simulation options

The **Run simulator for this many days** option replays the same SMDR and ACD files repeatedly for x number of days. It dynamically changes the date in the SMDR and ACD files displayed in the real-time and report applications.

The **Run simulator at this time multiplier** option varies the speed at which the ACD and SMDR files are read. For example, if you choose 10, the simulator will run through 10 seconds of the ACD and SMDR files for each second of time that elapses.

To stop or start the real-time simulation

- Navigate to the **Services** window, and stop and start the prairieFyre Collector Service.

To log on to 6110 CCM

- Type **demo** for the username and **demo** for the password.

6110 CCM Enterprise Node

6110 CCM Enterprise Node (CEN) is an add-on application that provides multi-site call center capabilities for a single-server configuration. CEN provides centralized reporting for geographically dispersed call centers.

A node is a data collection point for a single SX-2000 or SX-200 telephone system. Local nodes reside in call centers that have 6110 CCM Enterprise server software installed. When you install 6110 CCM Enterprise server software, a local collector is automatically installed on the *same* computer.

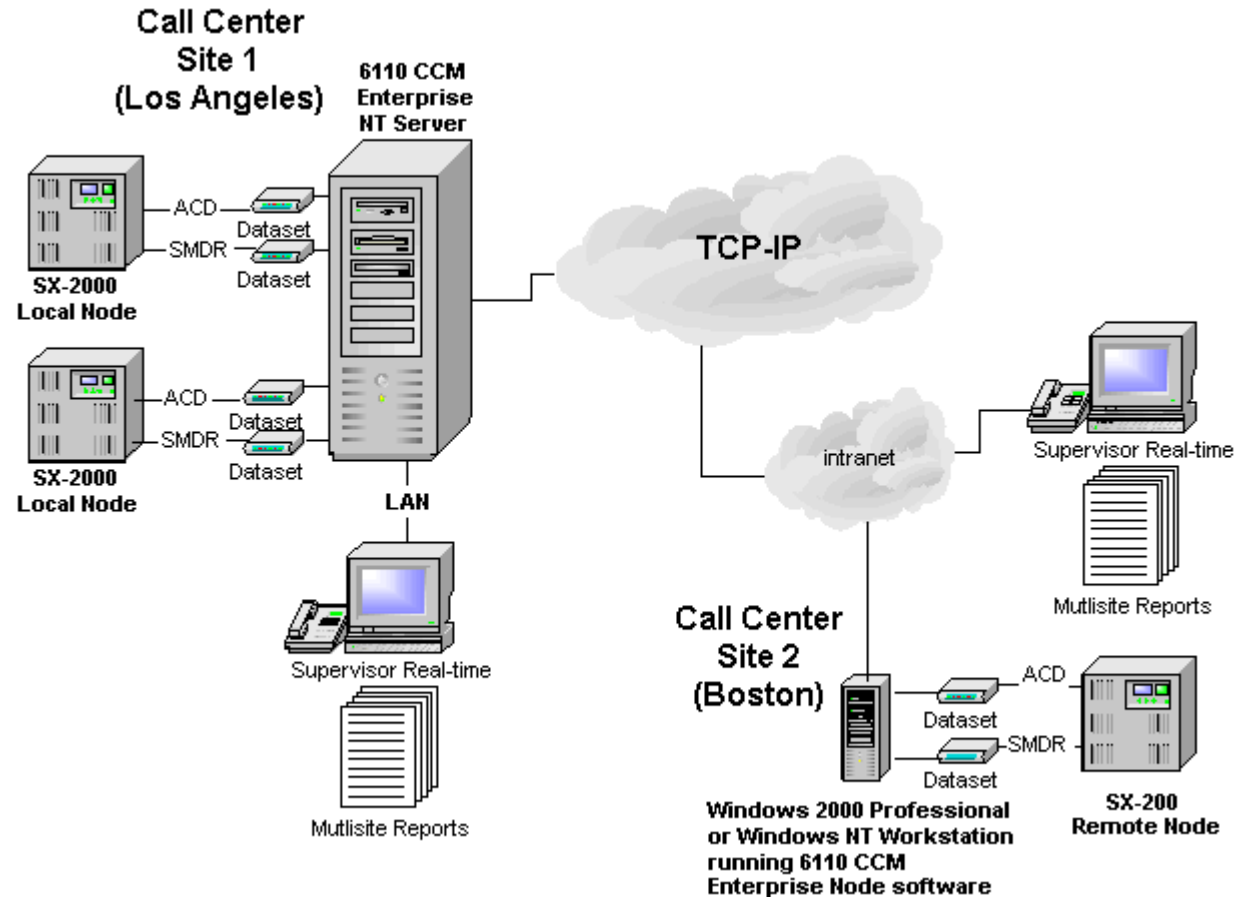
Remote nodes, or CENs, reside in call centers within your Enterprise that do *not* have 6110 CCM Enterprise server software installed. You manually install remote collector software on computers running NT Workstation or Windows 2000 Professional.

CEN provides the following functions:

- Collects ACD and SMDR data from SX-2000 and SX-200 telephone systems
- Files ACD and SMDR data to the hard drive on the local computer
- Streams real-time ACD and SMDR data to the 6110 CCM Enterprise server for Enterprise-wide, real-time statistics
- Automatically synchronizes and stores all call center statistics at the 6110 CCM Enterprise server for accurate multi-site historical reporting
- Provides PBX-neutral data collection so you can produce reports on call centers with different Mitel telephone systems

Consider the Enterprise setup illustrated in the following figure.

Figure 19 Enterprise setup



This Enterprise example consists of two call centers and three telephone systems. The 6110 CCM Enterprise server resides at Site 1 in Los Angeles. Two local nodes provide data collection for the two telephone systems at the Los Angeles site. The 6110 CCM Enterprise server and the local nodes reside on the same computer. The third telephone system resides at Site 2 in Boston. The Boston node runs CEN software and NT Workstation or Windows 2000 Professional. It collects and stores data locally on the Boston system.

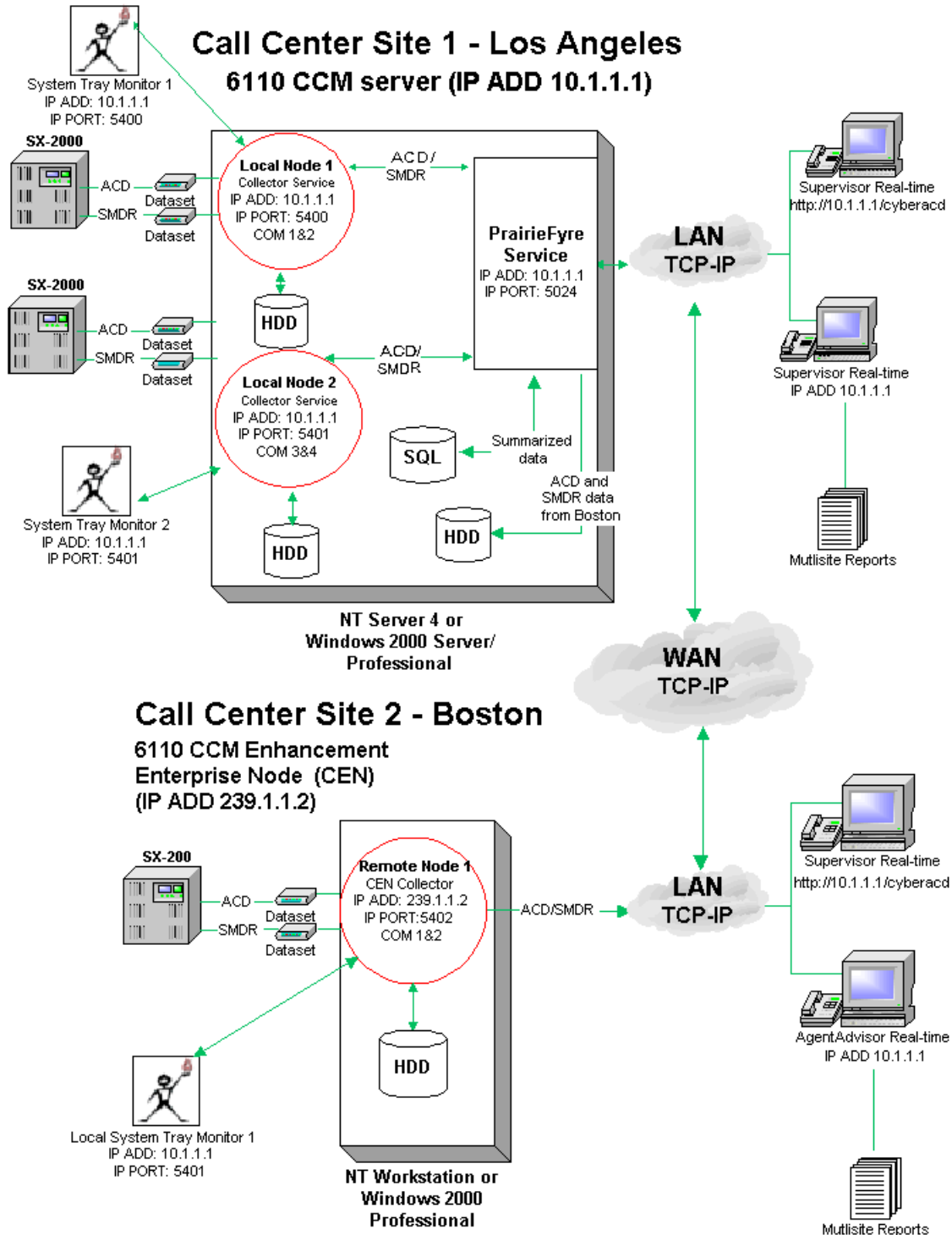
The 6110 CCM Enterprise server in Los Angeles collects real-time data from the Boston node and files it to the SQL database and local hard drive. This enables call center managers in Los Angeles to monitor real-time activities and run reports on the site in Boston. During the nightly maintenance routine, the 6110 CCM Enterprise server synchronizes its data with the Boston database to ensure it has all of the data generated at the remote node for the day.

In order to monitor call center activities and run reports, the supervisors at the Boston site must browse to the 6110 CCM Enterprise server IP address in Internet Explorer 5.5. If the Wide Area Network (WAN) link between Los Angeles and Boston goes down, the supervisors in Boston cannot view real-time data on their site until the WAN connection is restored.

Setting up Enterprise services

The following figure illustrates the local and remote collector services.

Figure 20 Call Center Site 1 - Los Angeles



At the Los Angeles site, the manager logs on to the 6110 CCM site and starts the Management Console application. The manager selects the Enterprise tab and configures the IP addresses and IP port numbers for the two local nodes (IP Address: 10.1.1.1, IP Port: 5400, and IP Address: 10.1.1.1, IP Port: 5401) and for the remote node (IP Address: 239.1.1.2, IP Port: 5402) in the Enterprise. At the Boston site, the manager logs on to the 6110 CCM Enterprise server and starts the Management Console application. The manager selects the Nodes tab and configures the IP address and IP port number (IP Address: 239.1.1.2, IP Port: 5402) for the Boston node. Both sites must type the same values in order for data transfer to occur.

Configuring 6110 CCM Enterprise nodes

You configure collection points (nodes) in the Management Console application. There are two versions of Management Console software: Management Console Enterprise and Management Console Node. Call Centers that have 6110 CCM Enterprise server software installed use Management Console Enterprise. Remote call centers that have remote collector software installed (on a computer running NT Workstation or Windows 2000 Professional) use Management Console Node.

In a call center that has 6110 CCM Enterprise server software installed, you start the Management Console application on the 6110 CCM Enterprise server only.

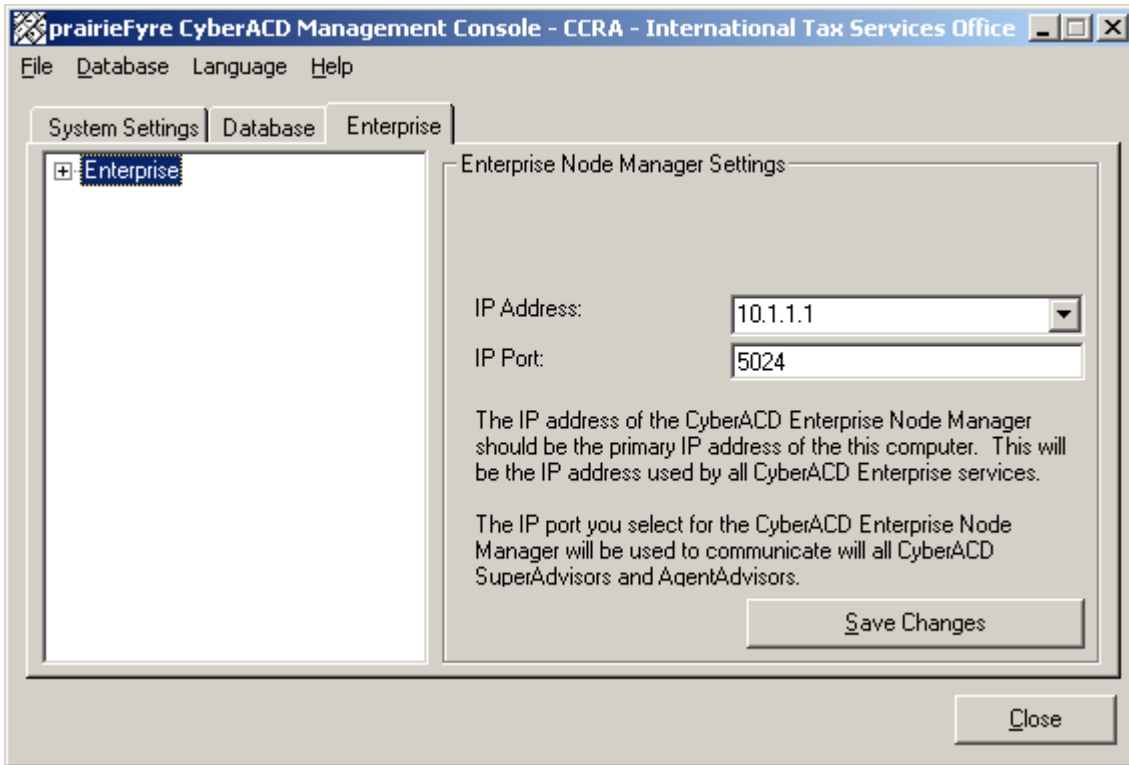
Configuring local and remote nodes on the 6110 CCM Enterprise server (Los Angeles in this example)

To configure the two local Enterprise nodes on the 6110 CCM Enterprise server computer:

1. Log on to the Windows server with an account that has administrative privileges.
2. Click **Start=>Programs=>Mitel Networks=>prairieFyre Management Console** to start the Management Console (Enterprise) application.
3. Click the **Enterprise** tab.
4. In the left pane, click **Enterprise**.

You use the Enterprise tab to configure your nodes for multi-site monitoring and reporting. It is illustrated in the following figure.

Figure 21 Management Console: CEN settings



IP Address

The IP Address box specifies the IP address for the 6110 CCM Enterprise server Web application.

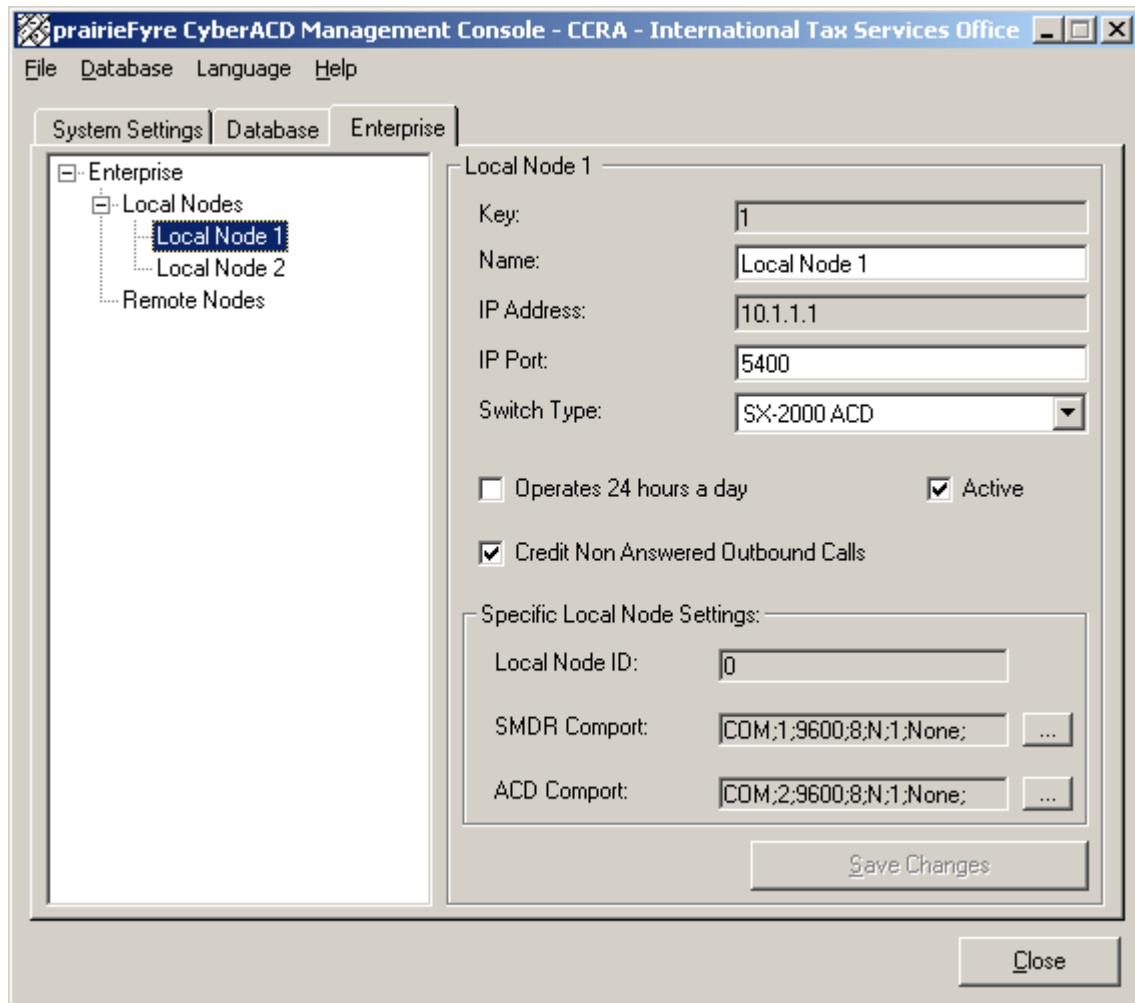
IP Port

The IP Port box specifies the port number over which the 6110 CCM Enterprise server communicates all with real-time clients.

5. Expand the **Enterprise** tree.
6. Right-click **Local Nodes** and click **Add Local**.

The following figure depicting Los Angeles Local Node 1 settings appears.

Figure 22 Management Console: local node settings for Los Angeles example



IP Address

The IP Address box specifies the IP address of the local computer where data collection occurs.

IP Port

The IP Port box specifies the port number over which the 6110 CCM Enterprise server service communicates with local data collection mechanisms. For remote nodes, both parties must use type the same port number in order for communication to be successful.

Switch Type

The Switch Type setting specifies the type of telephone system used at the node.

Operates 24 hours a day

The Operates 24 hours a day option ensures proper reporting for call centers that operate over the midnight hour.

Credit Non Answered Outbound Calls

The Credit Non Answered Outbound Calls option includes non-answered outbound calls in the data collected for reporting.

Specific Local Node Settings

You must specify the comports for the SX-2000, SX-200 with real-time, and SX-200.

You must specify the TCP-IP for the 3300 ICP.

Setting the SMDR and ACD Comport TCP-IP settings

The SMDR Comport/TCP-IP setting specifies the SMDR comport setting for the local telephone system.

The ACD Comport/TCP-IP setting specifies the ACD comport setting for the local telephone system.

7. For Local Node 1, type a name (Local Node 1).
8. Verify the IP address number (the 6110 CCM Enterprise server IP address 10.1.1.1).
9. Type a unique IP port number (in this case 5400) over which the collector will talk to the 6110 CCM Enterprise server service.
10. Select the **Operates 24 hours a day** check box if your call center operates over the midnight hour.
11. Select the **Credit Non Answered Outbound Calls** check box if you want to include non-answered outbound calls in the data collected for reporting.
12. For the SX-2000, the SX-200 with real-time, and the SX-200, specify SMDR (com 1) and ACD (com 2) comport settings.
For the 3300 ICP, specify the SMDR and the ACD TCP-IP settings.

The 3300 ICP, by default, has the open SMDR TCP-IP port of 1752 and the ACD TCP-IP port of 15373.

13. Click **Save Changes**.
14. Right-click **Local Nodes** and click **Add Local** to add additional local nodes.
15. For Local Node 2, type a name (Local Node 2).
16. Type an IP address number (the 6110 CCM Enterprise server IP address 10.1.1.1).
17. Type an IP port number (5401).

NOTE: Ensure the second local IP port number is unique.

18. Select a telephone system type (SX-2000).
19. Optionally select the **Operates 24 hours a day** check box.
20. Optionally select the **Credit Non Answered Outbound Calls** check box.
21. Specify SMDR (com 3) and ACD (com 4) comport settings.
For the 3300 ICP, specify the SMDR and the ACD TCP-IP settings.

The 3300 ICP, by default, has the open SMDR TCP-IP port of 1752 and the ACD TCP-IP port of 15373.

22. Click **Save Changes**.

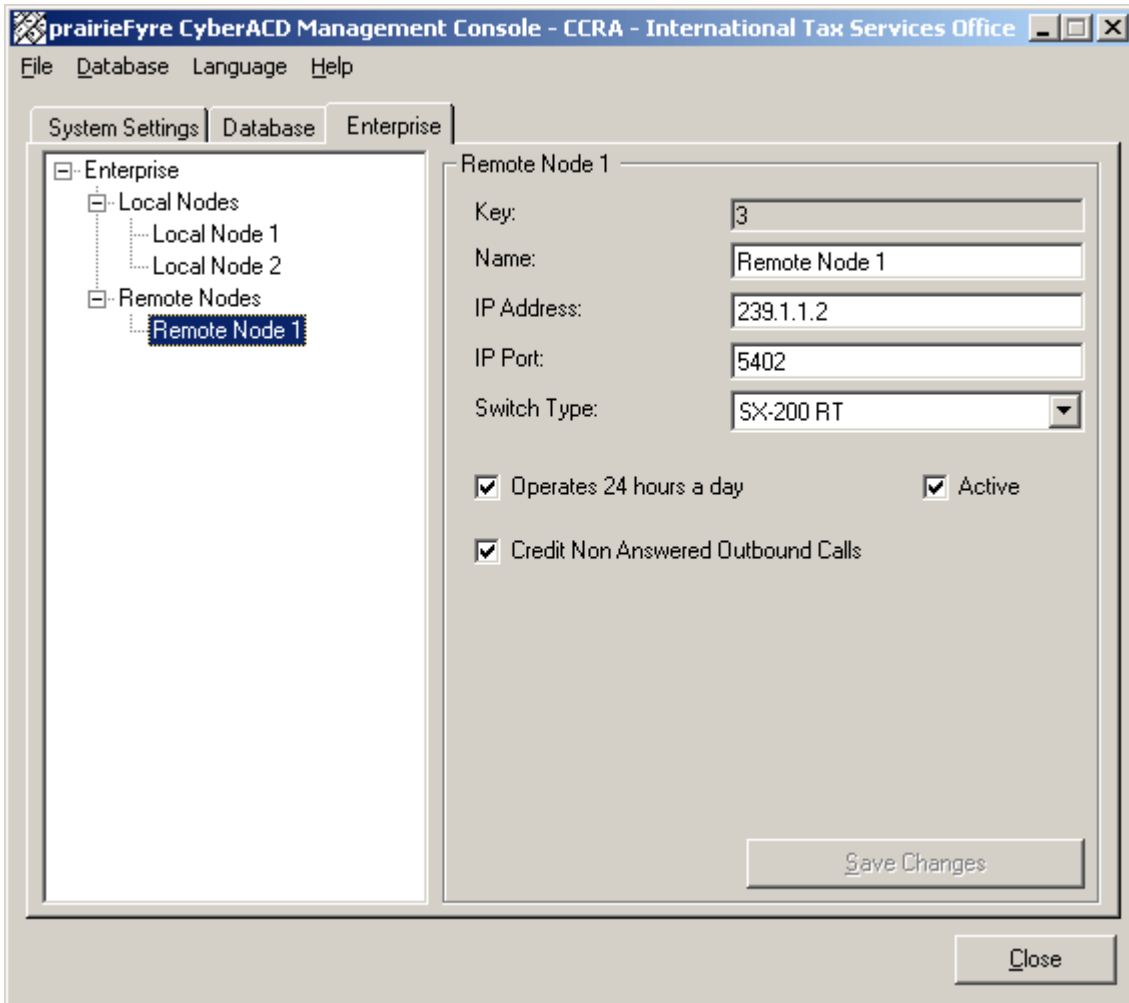
To configure the remote Boston node on the 6110 CCM Enterprise server computer:

1. Right-click **Remote Nodes** and click **Add Remote**.
2. For remote Node 1, type a name (Remote Node 1).
3. Type an IP address number (239.1.1.2).

4. Type an IP port number (5402).
5. Select a telephone system type (in this case SX-200 RT).
6. Optionally select the **Operates 24 hours a day** check box .
7. Optionally select the **Credit Non Answered Outbound Calls** check box.
8. Click **Save Changes**.

The configuration for the Los Angeles remote node should resemble the following figure.

Figure 23 Management Console: remote node settings (Los Angeles example)



Installing and configuring CEN software

In multi-site call centers that use 6110 CCM, it is necessary to install 6110 CCM Enterprise Node (CEN) software at all remote sites. CEN enables supervisors at remote sites to monitor call center activities in real-time and run reports on their sites *without* having to install 6110 CCM Enterprise server at the remote site.

To install CEN at a remote site:

1. Start Internet Explorer 6.0 and browse to the 6110 CCM Enterprise server by typing **http://[your 6110 CCM Enterprise server IP address]/6110 CCM/**.
2. Obtain a user's account from your system administrator and log on to the 6110 CCM Enterprise server.

The 6110 CCM Enterprise Web application appears.

3. Click **Help=>Client Download**.
4. Click **6110 CCM Client Download** to install the 6110 CCM client software.
5. Click **6110 CCM Enterprise Node (CEN)** to install the CEN software.

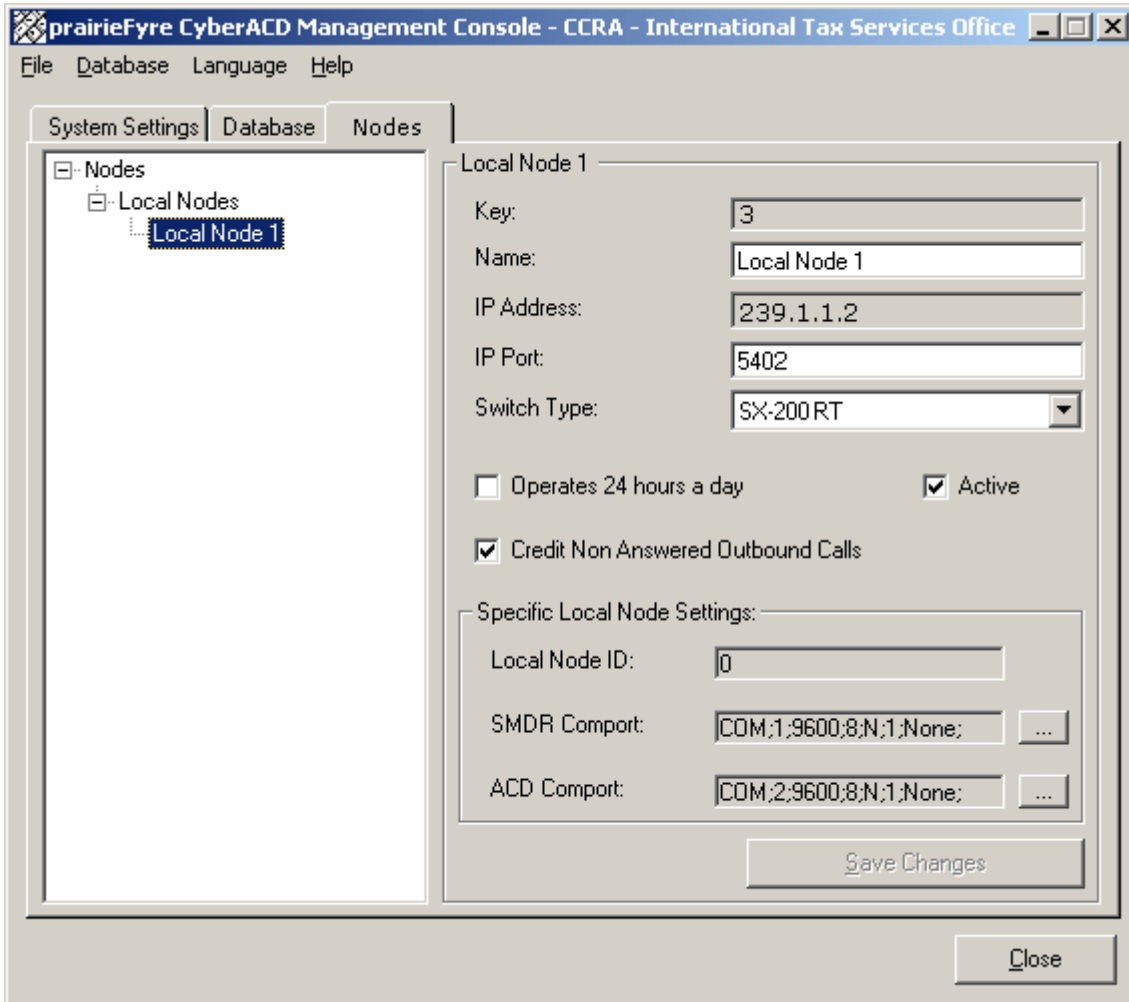
Configuring CEN with Management Console Node

To configure the Boston node:

1. Click **Start=>Programs=>Mitel Networks=>Management Console**.
2. Click the **Nodes** tab and expand the **Nodes** tree.
3. Right-click **Local Nodes** and click **Add**.
4. For the (Boston) Local Node 1, type a name (Local Node 1).
5. Type an IP address number (239.1.1.2).
6. Type an IP port number (5402).
7. Select a telephone system type (in this case SX-200 RT).
8. Optionally select the **Operates 24 hours a day** check box .
9. Optionally select the **Credit Non Answered Outbound Calls** check box.
10. Specify SMDR (com 1) and ACD (com 2) comport settings.
11. Click **Save Changes**.

The configuration for the Boston local node should resemble the following figure.

Figure 24 Management Console: Boston local node example



PBX hardware requirement for the MiTAI Gateway

The following table lists the PBX hardware and software components required for a fiber connection.

Table 7: PBX hardware requirements for the MiTAI Gateway

Component	Requirement	
PBX	SX-2000 PBX	3300 ICP
MiTAI/HCI - Basic Telephony Feature package software option	Yes	Yes
MiTAI/HCI - Advanced Telephony Feature package software option	Yes	Yes
Fiber Interface Module	one for each 6110 CCM platform-to-PBX MiTAI/HCI link installed in a DSU slot	Nil
Mitel Applications Capacity Level (MiTAI/HCI Traffic) option	Yes	Yes
Applications Fiber controller	one for each 6110 CCM platform-to-SX-2000 entered as a MITEL Communications Processor card installed in a DSU slot	N/A
Fiber Interface Module	one for fiber connection	N/A

Installing the MiTAI Gateway for 6115 ICC with an SX-2000

The installation consists of two parts: installing the Fiber HCI Link and installing MiTAI software. The fiber link is installed for the SX-2000 only. The 3300 ICP does not need the fiber link.

Steps for installing the Fiber HCI Link:

1. Program the SX-2000 MiTAI/HCI options package.
2. Program the Interrupt Request Level, I/O Base Address, and the Clock Termination.
3. Install the physical fiber link from the 6110 CCM platform to the SX-2000.
4. Check the MiTAI/HCI installation and programming.

Installing MiTAI

You can either:

- Install MiTAI with remote PBX access (for the 3300 ICP).
- Install MiTAI with an AFC Card (for the SX-2000 PBX).

Installing the Fiber HCI Link

This section describes the SX-2000 data features and the commissioning you must perform for the Fiber MiTAI/HCI link that allows data to be exchanged between the 6110 CCM platform and the SX-2000.

You can program the MiTAI/HCI link without removing the SX-2000 from service if the SX-2000 options are already installed.

Programming the SX-2000 MiTAI/HCI options package

To program the SX-2000 for MiTAI/HCI functionality, program these CDE forms in the following order:

1. Cabinet Assignment
2. System Configuration

This section describes how to program the CDE forms. If examples are provided, the values apply to a 4-cabinet SX-2000.

For more information on CDE programming, refer to the Mitel SX-2000 INTEGRATED COMMUNICATION SYSTEM Customer Data entry documentation.

Cabinet Assignment Form

Table 8: Cabinet Assignment Form

Main Control Fiber Interface			Peripheral/DSU Fiber Interface				
Cabinet	Shelf	Slot	Type	Cabinet	Shelf	Slot	Comments
1	2	3	FD_DSU	4	1	1	MAP PC

System Configuration Form

You need a Communications Processor card and a DNI line card for the MiTAI/HCI link. These cards are identified by name in the System Configuration Form.

Enter the name of the card type on the line that defines its location in the SX-2000. The card locations in the table are examples; the actual locations could vary. The form shown is for the SX-2000 PBX.

Table 9: System Configuration Form

Cabinet	Shelf	Slot	Programmed Card Type	Installed Card Type
4	1	1	Fiber Interface	Fiber Interface
4	1	2	Communication Processor	Communication Processor

Table 10: Class of Service Options Assignment for agent sets

Class of service number: 3

Option	Select
HCI Call Control Allowed	No
HCI Monitor Allowed	Yes
Do Not Disturb	Yes

Table 11: Class of Service Options Assignment for agents

Class of service number: 4

Option	Select
HCI Call Control Allowed	Yes
HCI Monitor Allowed	Yes
Do Not Disturb	Yes

Programming the Interrupt Request Level, I/O Base Address, and the Clock Termination

The ACD Card has jumpers and DIP switches which allow you to program the Interrupt Request Level (IRQ), I/O Base Address, and Clock Termination.

IRQ and Base Address settings ensure communication channels with the motherboard and the ISA Interconnect Board are established. The AFC drivers are designed with the assumption that the AFC Card will be set to a particular I/O Base address.

Table 12: IRQ and I/O Base Address Programming

Card Type	IRQ Level	Base Address	I/O Address
Ethernet NIC	10	C8000-C9FFF	280
AFC	9	D0000-D7FFF	A300
Serial port			
Parallel Port			

Setting the IRQ levels

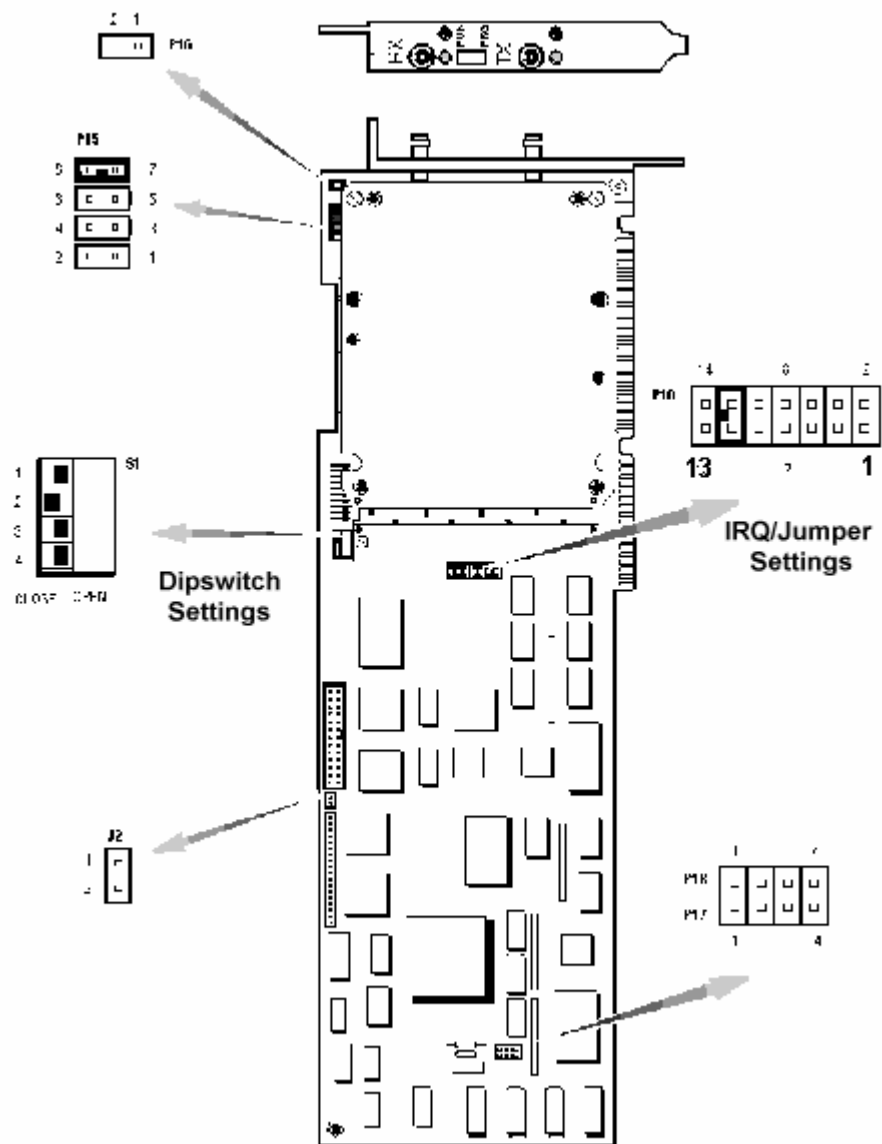
The IRQ Levels on the AFC Card can be set using the P10 jumpers. The following table lists all of the possible IRQ settings on the AFC card.

Table 13: All possible IRQ settings on the AFC card

IRQ Level	Header	Jumper Position
5	P10	13-14
7	P10	9-10
9	P10	11-12
10	P10	1-2
11	P10	3-4
12	P10	5-6
15	P10	7-8

Please refer to the following diagram for jumper positions.

Figure 25 Jumper positions



Installing the physical fiber link from the 6110 CCM platform to the SX-2000

WARNING:

Fiber optic sources emit infrared light invisible to the human eye which can damage the retina. Never look directly into a source or into the end of a fiber energized by a source.

Establishing the miTAI/HCI link involves

- connecting the fiber optic cables between the Fiber Interface Module (FIM) on the Application Fiber Control (AFC) card in the 6110 CCM platform and the FIM on the SX-2000.

To complete the fiber MiTAI/HCI Link:

1. Route the fiber optic cables from the control node to the 6110 CCM platform.
2. At the control node and at the 6110 CCM platform, remove the black plastic dust caps from the fiber cable connectors.
3. Remove the black plastic dust caps from the connector ferrules on the faceplate of each FIM in the control node and in the 6110 CCM platform.
4. Connect the two connectors of one cable to the two connectors of each FIM faceplate.

The fiber cable connectors have a small key that you must align with a slot on the FIM connectors. Lock each connector into position by pushing its metal collar forward and clipping it onto the FIM connector.

5. Check the green LEDs on each FIM at the rear of the control cabinet and the 6110 CCM platform.

The LEDs on each FIM should be on steadily. If the LEDs on a FIM are flashing, swap the Tx and Rx fiber cables to that FIM. Accidentally reversing transmit and receive will not damage the AFC or the SX-2000.

Checking the MiTAI/HCI installation and programming

After you install the physical link from the 6110 CCM platform to the SX-2000, you should check that

- HCI programming is correct
- Communications Processor card, DNI line card, and dataset are installed correctly

To check MiTAI/HCI installation and programming

1. To check the Communications Processor card, type **state 1 2 17**, where 1 2 17 is the cabinet, shelf, and slot number of the Communication Processor card.

This location is an example.

Table 14: State of the Communication Processor card

If the state is:	This means that:
busy	the MiTAI link and DNI line are communicating correctly
unassigned OR out of service	the MiTAI/HCI link is not correctly installed or programmed, or both
idle	the associated directory number is not programmed OR the link is not complete

The following table provides an example of the correct results of the state command for the Communications Processor card.

Table 15: Communications Processor card state command results

Location	Device	State	Owner	ID	Status
1 2 17 1	HCI	Busy	Call Process	3B00	Wait
1 2 17 2	HCI	Idle			
1 2 17 3	HCI	Idle			
1 2 17 4	HCI	Idle			

Installing MiTAI software

You can install MiTAI in one of two ways, depending on which card connection you are using: AFC card or remote PBX Access.

Installing MiTAI with an Application Fiber Controller (AFC) Card (for the SX-2000 PBX)

To install MiTAI with an AFC card:

1. If this is the first time you are installing MiTAI, jump to step 5.
2. Click **Start=>Settings=>Control Panel** and double-click the **Add/Remove Programs** icon.
3. On the **Install/Uninstall** tab, locate and double-click **Mitel Telephony Application Interface**.
4. On the **Confirm File Deletion** window, click **Yes**.
5. On the **Remove Programs** window, click **OK** when the uninstall process is complete.
6. Insert the Mitel Imprensa ND Installation Disc.
7. Upon inserting the disk, your computer will likely start the Install Wizard on its own. If this occurs, jump to step 10. If it does not, click **Start=>Settings=>Control Panel** and double-click the **Add/Remove Programs** icon.
8. On the **Add/Remove Programs Properties** window, click the **Install** button on the **Install/Uninstall** tab.
9. On the **Install Program from Floppy Disk or CD-ROM** window, click **Next**.
10. When the **Run Installation Program** window appears, accept the default setting and click **Finish**.

NOTE: If Windows is unable to locate your installation program, click Browse in the Run Installation Program window. Click the arrow beside the Look in: dialog box to access the drop-down menu and click your CD-ROM drive. Double-click the MiTAI folder and double-click the Setup.EXE icon. In the Run Installation Program window, click Finish.

11. Read the information on the **Welcome** window and click **Next**.
12. Read the Software License Agreement and click **Yes**.
13. On the **System Information** window, click **Next**.
14. When you are asked to initialize settings, accept the default settings and click **Next**.
15. Make note of the destination folder for the setup file and click **Next**.
16. Select **Application Fiber Controller (AFC)** card and click **Next**.
17. Make note of the destination folder for the MiTAI program icon and click **Next**.
18. On the **Start Copying Files** window, click **Next** to begin copying files.
19. When the **Setup Complete** window appears, click **Finish**.

Depending on which PBX software version you have, you must copy the correct .nob and .bch files from the CD.

1. Copy the .nob and .bch files from the AFC Drivers directory of the CD to the \Program Files\Mitel\Afc_Pbx directory on your hard drive.

Table 16: Drivers (.nob files)

Driver (.nob file)	Corresponds with
Q2600000	SX-2000 LW29 Q26.0 and above
Q2607001	SX-2000 LW29 Q26.7 and above
Q4000001	SX-2000 LW29 Q40.0 and above
R0105001	SX-2000 LW30

2. After you copy the files, click **Start=>Settings=>Control Panel=>Mitel Fiber Controller Settings**.

The AFC screen appears, displaying the Software tab.

3. In the **AFC PBX Load Status** list, select the driver (.nob file) to be used for communication.

NOTE: Ensure your fiber cables are securely plugged into the back of the AFC card. If the lights on the back of your AFC card are flickering, you have the cables reversed. Exchange them. The indicator should change to solid green.

4. Click **Start**.

The AFC Loader, AFC Server, and Telephony Server lights should turn green in a few seconds. The status bar below the AFC Loader should move across the screen and change from blue to green to indicate the Telephony Link is active.

5. Click the **Hardware** tab.

NOTE: The Hardware tab reports any hardware conflicts. For example, a message may appear stating the IO Address 0xA300 conflicts with atirage on your video controller. On the Software tab, under Windows NT Service, if the indicators adjacent to all four services are green, disregard this message as it is incorrect.

6. Ensure the PBX is programmed to use the HCI/MiTAI functionality: HCI cabinet, HCI agent sets, and HCI agents COS.
7. Use the MiTAI diagnostic program provided to conduct tests against the extensions, agent IDs, and paths that are HCI enabled.
8. Click **Start=>Programs=>Mitel Telephony Application Interface=>MiTIAX Program**.

You can install MiTAI in one of two ways, depending on which card connection you are using: remote PBX Access (3300 ICP) or AFC card (SX-2000).

Installing MiTAI with Remote PBX Access (for the 3300 ICP)

To install MiTAI with remote PBX access:

1. If this is the first time you are installing MiTAI, jump to step 6.
2. Click **Start=>Settings=>Control Panel** and double-click the **Add/Remove Programs** icon.
3. On the **Install/Uninstall** tab, locate and double-click Mitel Telephony Application Interface.
4. On the **Confirm File Deletion** window, click **Yes**.
5. On the **Remove Programs** window, click **OK** when the uninstall process is complete.
6. Insert the Mitel Impresa ND Installation Disc.
7. Upon inserting the disk, your computer will likely start the Install Wizard on its own. If this occurs, jump to step 10. If it does not, click **Start=>Settings=>Control Panel** and double-click the **Add/Remove Programs** icon.
8. On the **Add/Remove Programs Properties** window, click the **Install** button on the **Install/Uninstall** tab.
9. On the **Install Program from Floppy Disk or CD-ROM** window, click **Next**.
10. When the **Run Installation Program** window appears, accept the default setting and click **Finish**.

NOTE: If Windows is unable to locate your installation program, click Browse in the Run Installation Program window. Click the arrow beside the Look in: dialog box to access the drop-down menu and click your CD-ROM drive. Double-click the MiTAI folder and double-click the Setup.EXE icon. In the Run Installation Program window, click Finish.

11. Read the information on the **Welcome** window and click **Next**.
12. Read the Software License Agreement and click **Yes**.
13. On the **System Information** window, click **Next**.
14. When you are asked to initialize settings, accept the default settings and click **Next**.
15. Make note of the destination folder for the setup file and click **Next**.
16. Select **Remote PBX Access** and click **Next**.
17. Make note of the destination folder for your MiTAI program icon and click **Next**.
18. In the **Start Copying Files** window, click **Next** to begin copying files.
19. When the **Setup Complete** window appears, click **Finish**.
20. Browse to **c:\winnt\system33\Drivers\etc\Hosts.txt**.
21. After **localhost**, press **Enter**.
22. Type the IP Address of the computer that has the gateway (already installed), followed by the computer name.
23. Save the **Hosts.txt** file.

Figure 26 Hosts.txt

```

# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10      x.acme.com              # x client host

127.0.0.1       localhost
10.1.1.72      mitai-inhouse

```

24. Click **Start=>Settings=>Control Panel**.
25. Select **Mitel Remote Access**.
26. After **Machine Name of Remote PBX**, type the name of the computer that has the gateway.

NOTE: Do not change the default port number.

27. To test the connection, click **Start=>Settings=>Control Panel**.
28. Select **Mitel Telephony Application Interface**.
29. Select **MiTAI X**.
30. Type either an Agent ID or a Queue number (for example, 1500).
31. Press **Enter**.

Successful appears on your screen if the connection was successful.

Figure 27 Testing the MiTAI connection

```

Select MTAIX Program
MTAIX

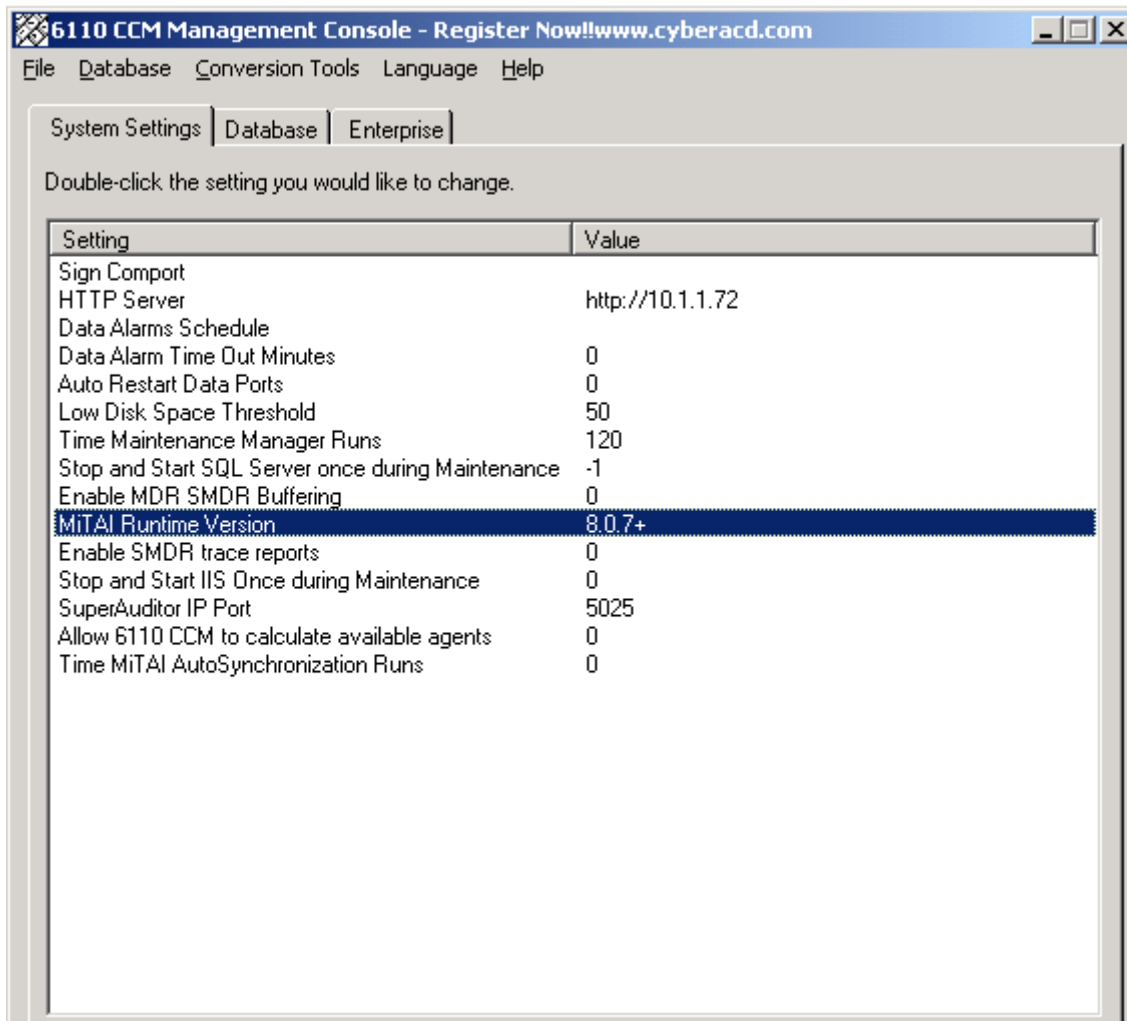
Welcome to MTAIX, the Interactive Test Tool for verifying the MiTAI link
to your PBX. This program will allow you to monitor and control the activity
of up to three phonesets or other devices attached to your PBX. You may enter
"help" at any time for a list of available commands.

To begin, enter at least one extension number of a phoneset attached to your
PBX, or else enter a longer string indicating up to three devices. Devices
other than phonesets which may be monitored include trunks
(enter "trunk #"), ACD path members (enter "<path ext.#> <member #>") or
feature events (enter "agents").

Phoneset(s) to monitor: 1500

```

For MiTAI version 10, the MiTAI Runtime Version must be set to 8.0.7+.

Figure 28 MiTAI version

Programming SX-2000/3300 ICP assignment forms

The following section describes the SX-2000 architecture and how to program telephone system assignment forms. You must program the forms in order to receive telephone system data records and generate reports.

Connectivity to the 6110 CCM Enterprise server

Common SX-2000 programming errors

NOTE: When you program the SX-2000, it is imperative you perform the following steps.

1. If your site runs with Agent IDs that are longer than 4 digits, you *must* enable *Extended SMDR* on the SMDR Options Assignment Form or the SX-2000 will truncate your call record data.
2. You *must* enable *Report All Transfers* on the SMDR Options Assignment Form.
3. You *must* enable *Path Real Time events* on the Path Assignment Form or you will not get any calls waiting information in real-time.
4. If a significant part of your call center provides service for internal extensions to your telephone system, you *must* enable *Internal SMDR* on the SMDR Options Assignment Form to track the queue information for these calls.
5. You *must* enable *SMDR tracking* in the Class of Service forms for all devices that can touch a call during call routing.

SX-2000 connectivity to the 6110 CCM Enterprise server

Generally the SX-2000 telephone system is co-located with the 6110 CCM Enterprise server as illustrated in the following figure. By default, 6110 CCM configures Comport 2 to accept the ACD data stream, and Comport 1 to accept the SMDR data stream. All components are connected over RS-232 serial cable.

The default comport configuration settings are as follows:

- Baud rate = 9600
- Data bits = 8
- Parity = N
- Stop bits = 1

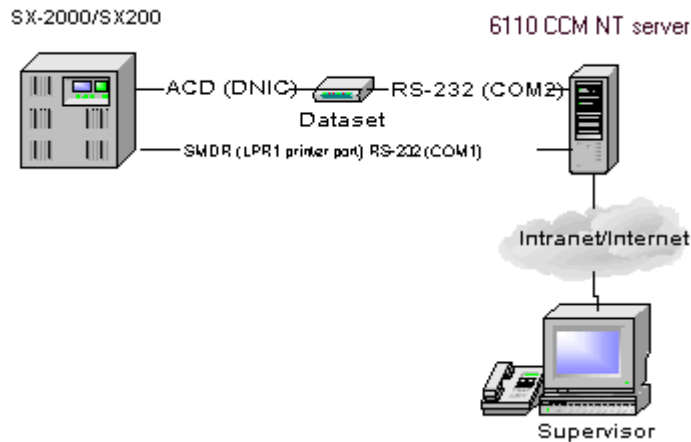
You can alter these settings in the Management Console application.

Typically, the ACD stream is delivered from the telephone system DNIC circuit over a 2100 or 1100 Dataset to Comport 2.

The SMDR stream is delivered in one of two ways:

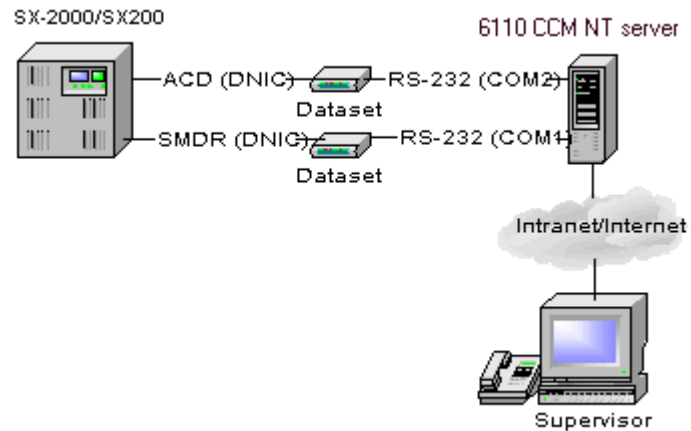
- From the telephone system LPR1 port to Comport 1

Figure 29 SMDR stream delivered from LPR1 port



- From the telephone system DNIC circuit over a 2100 or 1100 Dataset to Comport 1

Figure 30 SMDR stream delivered from DNIC circuit



You use a dataset to boost the SMDR data transmission if the 6110 CCM Enterprise server is located over 50 feet from the telephone system.

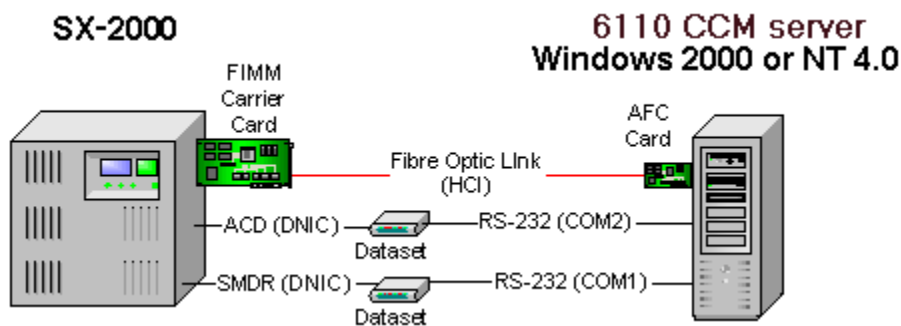
SX-2000 connectivity to the 6110 CCM Enterprise server with 6115 ICC

If you have an SX-2000, to install 6115 ICC on the 6110 CCM Enterprise server, you require one available ISA slot on the motherboard, SX-2000/Server Connectivity Kit-100 Sessions, and an SX-2000 MiTAI Runtime 7.5.3/8.0.

If you installed an AFC card for 6115 ICC on the 6110 CCM Enterprise server, and you intend to collect SMDR and ACD real-time data over RS-232 ports (as is the case for 1103 and 2103 datasets), prairieFyre recommends you install a PCI-based Digiboard serial port co-processor.

The FIMM card on the SX-2000 communicates with the AFC card on the 6110 CCM Enterprise server over an HCI fiber optic link. (See *Installing MiTAI* for detailed steps on how to install the MiTAI software.)

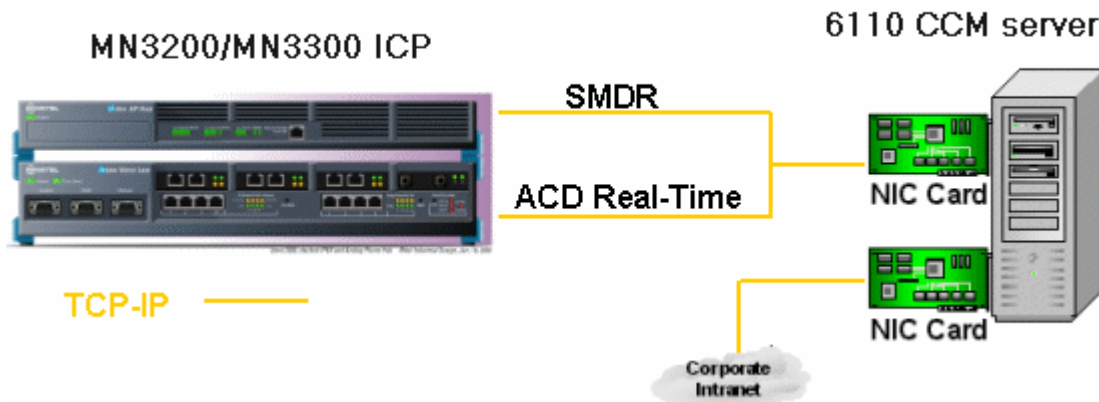
Figure 31 SX-2000 connectivity



3300 ICP connectivity to the 6110 CCM Enterprise server

If 6110 CCM is working in conjunction with an 3300 ICP, then the MiTAI link, SMDR, and ACD data collection are provided over a network connection. prairieFyre recommends you use the NIC interface between the 3300 ICP and 6110 CCM over a TCP/IP connection. This guarantees network delivery of SMDR, ACD real-time, and MiTAI data without having to traverse the customer corporate network.

Figure 32 3300 ICP connectivity to 6110 CCM

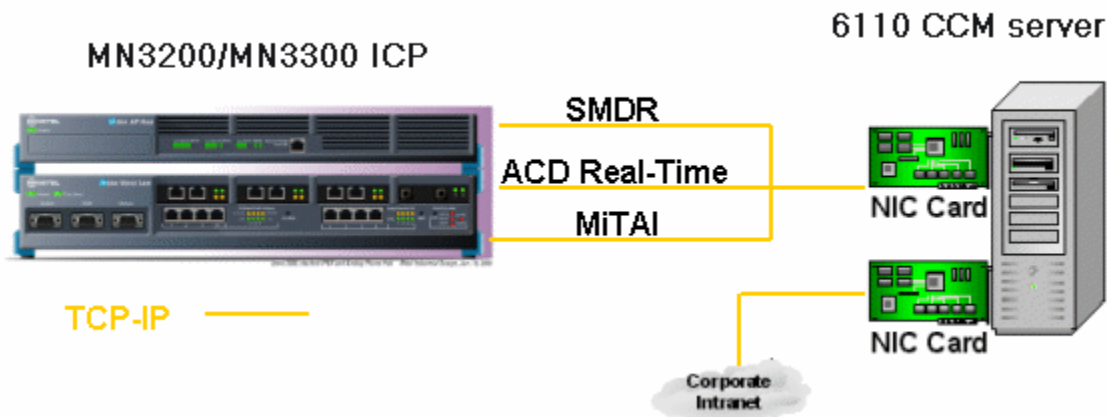


3300 ICP connectivity to the 6110 CCM Enterprise server with 6115 ICC

If you have an 3300 ICP, to install 6115 ICC on the 6110 CCM Enterprise server, you require one network card and 1 MiTAI runtime 7.5.3 or 8.0.

If 6110 CCM, and 6115 ICC are working in conjunction with an 3300 ICP, then the MiTAI link and SMDR and ACD data collection are provided over a TCP/IP network connection. prairieFyre recommends you use the NIC interface between the 3300 ICP and 6110 CCM over a private network connection. This guarantees network delivery of SMDR, ACD real-time, and MiTAI data without having to traverse the customer corporate network.

Figure 33 3300 ICP connectivity to 6110 CCM with 6115 ICC



Setting the MiTAI Node for the 3300 ICP connectivity

You must specify the TCP-IP for the 3300 ICP.

1. Click **Start=>Programs=>Mitel Networks=>Management Console**.
2. Click **Enterprise**.
3. Expand the **Local Nodes** and select the MiTAI node. (For example, select Toronto.)
4. After **Switch Type**, select the MiTAI switch.
5. Type the **Node, Name, IP Address**, and **IP Port**.
6. Under **Specific Local Node Settings**, type the SMDR and the ACD TCP-IP settings.

The 3300 ICP, by default, has the open SMDR TCP-IP port of 1752 and the ACD TCP-IP port of 15373.

7. Click **Save Changes**.

Figure 34 Management Console: Setting the MiTAI Node for 3300 ICP

The screenshot shows the Management Console interface with the following configuration for the Toronto node:

- Enterprise** (selected)
 - Local Nodes**
 - Toronto (selected)
 - Remote Nodes
- Toronto**
 - Node: 1
 - Name: Toronto
 - IP Address: 10.1.1.27
 - IP Port: 5400
 - Switch Type: SX-2000 Mitai
 - Operates 24 hours a day
 - Active
 - Credit Non Answered Outbound Calls
 - This node is part of an SX-2000 Cluster
 - Area Code: 416
 - Specific Local Node Settings:**
 - Local Node ID: 0
 - SMDR Comport: COM;2;9600;8;N;1;None;
 - ACD Comport: COM;1;9600;8;N;1;None;

Buttons: Save Changes

Installing a DigiBoard

prairieFyre recommends you install a Digiboard on the computer running as the 6110 CCM Enterprise server if you handle more than 2000 calls per hour. A Digiboard is a serial communication card you insert in the Windows NT Server computer.

To install the Digiboard (if you require one):

1. Install the Digi card on a free slot on the motherboard.
2. Start your computer.
3. Click **Start=>Settings=>Control Panel**.
4. Click the **Network** icon and Click **Add**.
5. Select **Adapters** and click **Add**.
6. Select the 2 port **DigiPC/2e(8k)** Digiboard.

You have configured the Digiboard as a network device.

NOTE: Ensure the values you select for the I/O Address, Memory Address, and Interrupt (IQR) are not currently used by any other device on the computer.

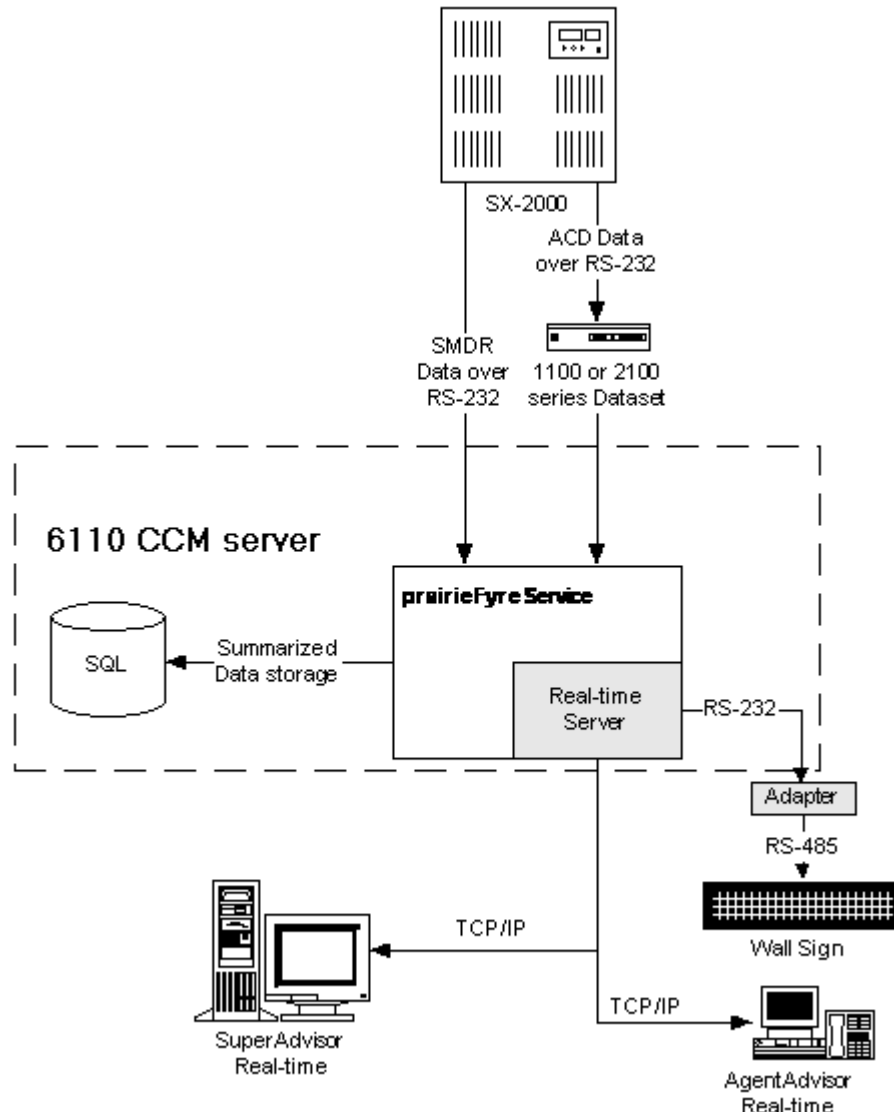
7. Configure the properties of the adapter and click **Next**.
8. Highlight a port and click **Properties**.
9. Associate a communication port number to the port on the card and click **Next**.
10. Click **OK** and restart Windows.

SX-2000 real-time architecture

The prairieFyre Service continuously updates the SX-2000 SuperAdvisor, AgentAdvisor, and WallBoarder displays with SMDR and ACD telephone system records. It simultaneously updates the Structured Query Language (SQL) database over Transmission Control Protocol-Internet Protocol (TCP/IP).

The following diagram illustrates the connectivity between the telephone system, the prairieFyre Service, and the 6110 CCM real-time applications.

Figure 35 SX-2000 architecture



External and Internal SMDR

External SMDR and internal SMDR are separate applications. External SMDR is included with all SX-2000 base packages; internal SMDR is an optional feature package you purchase from Mitel Corporation.

External SMDR

External SMDR collects data for outgoing and incoming trunk calls. You can use the data to determine the cost of external telephone calls. Typically, external SMDR is used for

- Billing external calls back to individuals, customers or departments
- Evaluating the system trunks (e.g. number, type and traffic)

Internal SMDR

Internal SMDR collects data for calls made between stations. You can use internal SMDR call data to

- Bill internal calls back to departments.
- Determine station usage.
- Track hoax calls that originate from a station.
- Keep a record of all internal calls that involve a particular station.

You can enable the system with either external SMDR, internal SMDR or both. When both are enabled, external SMDR takes precedence over Internal SMDR. Therefore, if system programming allows for both an external SMDR record and an internal SMDR record to be made for a call, only the external SMDR record will be generated.

Programming dataset connections

In order to get ACD and SMDR data flowing from the SX-2000 telephone system to the 6110 CCM Enterprise server the following assignment forms must be programmed. Program them in the following order:

- Data Circuit Descriptor
- DNI Circuit
- Dataset
- System Port
- Application Logical Port

The Data Circuit Descriptor, DNI Circuit, and Dataset assignment forms contain ACD settings. The System Port and Application Logical Port assignment forms contain SMDR settings.

Basic information on telephone system forms, and form headings is derived from the Mitel "SX-2000 Applications Package" on the "SX-2000 Technical Documentation CD-ROM" (PN 9125-080-205).

Data Circuit Descriptor Assignment Form

The Dataset Circuit Descriptor Assignment Form assigns common data communications parameters to groups of dataset line circuits. It completes the definition of dataset circuits by specifying the parameters used with the various datasets supported by the SX-2000 system. One circuit descriptor is assigned to each similarly configured group of dataset circuits. You can use Default dataset descriptors for specified device classes and usage types, or individual parameters programmed using the rules specified in the following tables. You can program a total of 32 dataset circuit descriptors. The circuit descriptor numbers are referenced in the Dataset Assignment Form.

Form headings

Form headings provide a description of the different fields in a form. The description states what information is required in these fields and what rules to follow when entering the data. The Dataset Circuit Descriptor Assignment Form has the following form headings.

Table 17: Dataset Circuit Descriptor Assignment Form headings

Circuit Descriptor Number	identifies the characteristics of the data circuit. You can define up to 32 circuit descriptors.
Descriptor	a list of the options available. Type the required values for each class of data circuit that is required.

NOTE: For the purpose of this example we assume the setup uses a 2103 Dataset with a circuit descriptor number of 5.

To program the dataset connection settings for the 1100 and 2100 Dataset series:

1. Type the following Dataset Circuit Descriptor Assignment Form settings.

Table 18: Dataset Circuit Descriptor Assignment Form settings

Connection timers	
Guard Timer	0
Connect Confirmation Timer	0
Session Inactivity Timer	0
Interface characteristics	
Interface Type	RS-232
Int. Cont. Active Indicator	DTR On
Int. Cont. Active Indicator to CTS Delay Timer	1
Int. Cont. Originate Indicator	User Action
Int. Cont. Disconnect Indicator	Active on>off
Int. Cont. Disconnect Indicator OFF Timer	0
Incoming Call Action	Accept
Int. Cont. Call Accepted Indicator	None
DTE Min Baud Rate	1200
DTE Max Baud Rate	19200
DCD Fixed High	Yes
Maintenance parameters	
Dataset Auditing	No
Attached Device Loopback	No
Async DNIC dataset parameters	
First PBX Attention Char.	(blank)
Second PBX Attention Char.	(blank)
Attention Via BREAK Key DTE-to-	End
Parity to Attached Device	Transparent
Flow Control	None
XON Flow Control Char.	17
XOFF Flow Control Char.	19

Table 18: Dataset Circuit Descriptor Assignment Form settings

Autobaud	No
First Autobaud Char. to Host	(blank)
Second Autobaud Char. to Host	(blank)
Third Autobaud Char. to Host	(blank)
Forth Autobaud Char. to Host	(blank)
Delay Before 1st Autobaud Char.	5
Autobaud Inter-Char. Delay	20
Sync DNIC dataset parameters	
Operating Mode	(blank)
Timing Mode	(blank)
Rate Adaption Scheme	Async
Data Buffering	32
Idle Data Pattern	0

DNI Circuit Descriptor Assignment Form

The Digital Network Interface (DNI) Circuit Assignment Form assigns DNI circuits to various DNI-based devices.

Form headings

The DNI Assignment Form has the following Form headings.

Table 19: DNI Assignment Form headings

Cabinet, Shelf, Slot	a system-generated, protected field indicating the card PLID
Circuit	a system-generated, protected field indicating the hybrid circuit on the card
Card Type	a system-generated, protected field indicating the type of card on which the circuit exists
Device Type	composed of two programmable sub-fields indicating the device type attached to the PLID, such as DS1103 or DS2103
Channel #1	type the attached device type
Channel #2	type the attached device type

2. On the DNI Circuit Assignment Form, type **DS2103** (assuming you have a 2103 Dataset) for assigned channels.

Dataset Assignment Form

The Dataset Assignment Form is used to assign a data directory number and dataset circuit descriptor number to all dataset line circuits in the system. The directory numbers defined in this form are used in the Telephone Directory and Dataset Hunt Group Assignment Forms.

Form headings

The Dataset Assignment Form has the following form headings.

Table 20: Dataset Assignment Form headings

Cabinet, Shelf, Slot, Circ	a system-generated, protected fields indicating the location of data circuits in the system. These fields are presented in ascending order of cabinet/shelf/slot/circuit
Chn	a system-generated, protected field indicating the channel number that the device is associated with. For dataset line card circuits the field is blank
Card Type	a system-generated, protected field indicating the type of card to which the data circuit is attached

3. On the Dataset Assignment Form, type Yes in the Port field to designate the port as the output printer port.
4. Type the instance number of the dataset circuit device previously defined (5) in the Circuit Descriptor Number field.

System Port Assignment Form

The System Port Assignment Form provides a centralized means of associating logical names to the PLID of each RS-232 port on the SX-2000 system. The form also displays the baud rate and parity for each port.

Form headings

The System Port Assignment Form has the following form headings.

Table 21: System Port Assignment Form headings

Port Address	contains six columns which are system-generated, protected fields. The Cab, Shlf, Slot, Circ, Chan, Port fields indicate the PLID of the RS-232 port.
Flow	a system-generated, protected field indicating the direction of data flow for the device named in the Port Type field
Port Type	a system-generated, protected field indicating the device type to which the port is attached
Port Name	a programmable field used to assign a logical name to the physical port. The first two port names cannot be changed
Baud Rate	a system-generated, protected field indicating the operating speed of the port
Parity	a system-generated, protected field indicating the character protocol the attached device is using. The Parity field is broken down as follows: the first character is the number of data bits; the second character is the parity; the third character is the number of stop bits.

5. On the System Port Assignment Form, type **LPR1** in the Port Name field for the Maintenance port.
6. Type **ACDREALTIME** in the Port Name field for the output DNIC port.

Application Logical Port Assignment Form

The Application Logical Port Assignment Form allows the system manager to assign port names to each of the physical ports which service the input and output requirements of application, such as Message Center or Hotel/Motel, that are running on the SX-2000 system.

The Application Logical Port Assignment Form has the following form headings.

Table 22: Application Logical Port Assignment Form headings

Port Logical Names	a system-generated, protected field containing the name of each application that requires printing facilities
Port Use	<p>a system-generated, protected field indicating the nature of the connection between the application and the attached device</p> <ul style="list-style-type: none"> • dedicated indicates that the application expects to have a dedicated resource • demand indicates that the application must request use of the port by entering a command • continuous indicates that applications use the port only when there is information to process. If two or more applications are assigned to the same port, the output is sometimes interleaved. <p>The values assigned to this field are guidelines for the system manager to follow when assigning ports to applications.</p>
Port Physical Name	the name of the port, defined by the Port Physical Name field of the System Port Assignment Form, that is to serve the application named in the Port Logical Name field. This links the application port to a particular PLID

7. On the Application Logical Port Assignment Form, type **LPR1** in the Port Physical Name field for the SMDR Logs port.
8. Verify that **ACDREALTIME** appears in the Port Physical Name field for the ACD Report port.

Programming reporting options

In order to generate reports, you must select telephone system reporting options on the following forms:

- SMDR Options
- Class of Service Options
- Path Assignment
- Agent Group Assignment

SMDR Options Assignment Form

The SMDR Options Assignment Form is used to select SMDR parameters, and has the following form headings.

Table 23: SMDR Options Assignment Form headings

Option	a pre-printed list of available SMDR options. The system default values for all Options is “No”
Value	type the required values as indicated below

NOTE: Do not select the FTP SMRD option in conjunction with the Realtime SMRD option. If FTP SMRD is selected in conjunction with Realtime SMRD, the SMRD output becomes buffered. This buffer causes a delay of the Realtime information. Agent call statistics can become out of date by a big margin on a busy switch. Also, if both options are selected in conjunction, then the SMDR records will be duplicated.

To specify telephone system reporting options:

1. On the SMDR Options Assignment Form, type *Yes* in the value field for the Extended Digit Length option, if your extension and agent numbers exceed 4 digits.

This provides the Called, Calling, Duration of Call, and Third Party fields space for 7-digit extension numbers.

2. In the value field for the MCD - Report Transfers option, type *All*.

This ensures all transfers including attendant transfers are reported.

3. Type *Yes* in the value field for the Report Account Codes option to ensure account codes are included in the SMDR Reports (that is, if you are using account codes).
4. Type *Yes* in the value field for the Report Incoming Calls option to ensure incoming calls are included in the SMDR Reports.
5. Type *Yes* in the value field for the Report Internal Calls option to ensure internal calls are included in the SMDR Reports (if Internal SMDR is a purchased option).
6. Type *Yes* in the value field for the Report Outgoing Calls option to ensure outgoing calls are included in the SMDR Reports.
7. Type *Yes* in the value field for the SMDR Real-Time option to select SMDR real-time reporting.

Class of Service Options Assignment Form

The Class of Service Options Assignment Form is used to select the classes of service (COS) and the options which constitute each COS for stations or trunks. The form has two columns: the first lists all available COS options and the other is used to select the required options for the Class of Service. The class of service number which identifies the individual COS is located at the top of the form. The classes of service defined by this form are referenced in the Station Service Assignment and Trunk Service Assignment forms. The telephony options listed in the form are selected by entering Yes next to the required option, under the correct COS number. Entering No or leaving the entries blank will disallow the options.

The Class of Service Options Assignment Form has the following headings.

Table 24: Class of service Assignment Form headings

Class of service number	the identification numbers for the various COS. Refer to the Class of Service entry in the <i>Product Specification, Engineering Information, MITEL Feature Resource Dimensions</i> , for the maximum number allowed.
Option	a pre-printed list of all possible COS options, and their range of values
Select	a programmable field which is used to indicate whether or not the corresponding COS option is selected

NOTE: It is vital you select the following settings for *every* active COS programmed in the telephone system—each voice mail port, each trunk, and each agent. For SMDR records to be generated, all parties in the call must have COS selected for SMDR.

8. On the Class of Service Assignment Form, type Yes in the Select field for the Non-Verified Account Code option (if you are using call reasoning/account codes). This permits the entry of an account code from 2 to 12 digits that can be used for billing purposes.

9. Type Yes in the Select field for the SMDR - External option.

This option will activate trunking SMDR. External SMDR is given precedence over internal SMDR when the feature is selected for the trunk in the call.

10. Type Yes in the Select field for the SMDR - Internal option. This option will activate station-to-station (internal) SMDR.

Path Assignment Form

The Path Assignment Form is used to configure ACD paths. The path contains the information necessary to control an incoming call through the ACD system. It specifies the resources used, the order in which they are encountered, and the timing of the steps.

The Path Assignment Form has the following headings.

Table 25: Path Assignment Form headings

Path Directory Number	is similar to the hunt group number in the system. Type a number from 1 to 7 digits in length
Path Reporting Number	a mandatory, programmable field that specifies the path number of the agent group. It is a required field for SMDR. The path reporting number must also be unique. Type a 3-digit number in the range of 1 to 999.
Path Name	a read-only field that displays the telephone directory name for the path directory number. This field is up to 20 characters long.
Option	displays the list of available path options
Value	the required values as indicated below

NOTE: The Real Time Events setting needs to be selected on the Path Assignment Form for all paths programmed in the switch for which you want real-time call waiting information.

11. On the Path Assignment Form, type *Yes* in the Value field for the Path Real Time Events Enabled option to generate statistics for the path.

The Path Assignment Form lists path directory and reporting numbers programmed in the telephone system. The path directory number is referred to as the dialable number in the 6110 CCM YourSite Database. When you type a path directory number, such as 6900, in the telephone system you must also type it in the YourSite Database as 6900.

The path reporting number is referred to as the queue number in the YourSite Database. When you program the telephone system with a path reporting number such as 6, you must type this number in the YourSite Database as P006, as summarized in the following table.

Table 26: Path Reporting Numbers and the corresponding database entry

Path Assignment Form entries	YourSite Database entries
Path Directory Number = 6900	Dialable Number = 5000
Path Reporting Number = 6	Queue Number = P006

Agent Group Assignment Form

The Agent Group Assignment Form is used to configure agent groups and has the following headings.

Table 27: Agent Group Assignment Form headings

Group ID Number	is similar to directory numbers in the system. Type a number from 1 to 7 digits in length.
Group Reporting Number	a mandatory, programmable field that specifies the reporting number of the agent group. It is a required field for SMDR. The group reporting number must also be unique. Type a 3-digit number in the range of 1 to 999.
Group Name	a read-only field that displays the telephone directory name for the path directory number. This field is up to 20 characters long.
Member	a system generated, protected field that identifies the member number
Agent ID	identifies the agent IDs that are members of the group. Type a number in the range of 1 to 7 digits.
Agent Name	a system generated, protected field that indicates the name corresponding to the agent ID number as entered in the telephone directory

NOTE: The Real Time Events setting needs to be selected on the Agent Group Assignment Form for every agent group you have programmed in the telephone system.

12. On the Agent Group Assignment Form, type Yes in the Value field for the Group Real Time Events Enabled option to generate statistics for the agent group.

The Agent Group Assignment Form lists the group ID and reporting numbers programmed in the telephone system. The group ID number is referred to as the agent ID in the YourSite Database. When you type a group ID number, such as 5000, in the telephone system you must also type it in the YourSite Database as 5000.

When you program the telephone system with a group reporting number such as 1, you must type this number in the YourSite Database as 1, as summarized in the following table.

Table 28: Group Reporting Numbers and the corresponding database entry

Agent Group Form entries	YourSite Database entries
Group ID Number = 5000	Dialable Number = 5000
Group Reporting Number = 1	Agent Group Number = 1

Linking LPR1 to the Maintenance port

The SMDR output logs need to be tied continuously to LPR1.

To link LPR1 to the Maintenance port:

1. Log on to the SX-2000 VT100 maintenance terminal.
2. Use the baud command to set the baud rate for any newly existing ports to **9600**.
3. Type the logical port name.

Programming SX-200 with real-time assignment forms

SX-200 EL/ML LIGHTWARE 17 Release 4.0 and greater

The following section describes the SX-200 with real-time architecture and how to program telephone system assignment forms. You must program the forms in order to receive telephone system data records and generate reports.

NOTE: The new real-time ACD stream is an option you can purchase for the SX-200. This option must be enabled on the SX-200 switch before you proceed to program these forms.

Common SX-200 with real-time programming errors

NOTE: When you program the SX-200 with real-time, it is imperative you perform the following steps.

1. If your site runs with Agent IDs that are longer than 4 digits, you *must* enable *5-Digit SMDR* on the System Option Form or the SX-200 will truncate your call record data.
2. You *must* enable *SMDR - Records Incoming Calls* for all COSs programmed in the telephone system (currently in use).
3. You must enable *SMDR Reporting* on the Trunk Groups Form for outbound calls.
4. You must enable *ACD Reports* on the System Option Form in order to produce SMDR records that are marked as ACD calls.

Figure 36 CyberTerminal window

The screenshot shows a window titled "CyberTerminal Client - Connected to 10.1.1.99". The window has a menu bar with "File", "View", and "Help". The main display area shows the time "15:06" and date "13-MAR-01" on the left, and "alarm status = NO ALARM" on the right. Below this is a table of system options.

System Options <Displaying ENABLED Options>	STATUS	OPTION NUM		
Five Digit SMDR	ENABLED	08		
Discriminating Ringing	ENABLED	17		
Incoming to Outgoing Call Forward	ENABLED	21		
Last Party Clear - Dial Tone	ENABLED	22		
No Overlap Outpulsing	ENABLED	26		
Telephone Last Number Redial	ENABLED	29		
> Switch-Hook Flash	ENABLED	38		
ACD Silent Monitoring	ENABLED	42		
ACD Reports	ENABLED	44		
Digit Translation Plan 0-3	0	46		
ARS Unknown Digit Length Time-out 2-60 seconds	5	47		
Limited Wait For Dial Tone 1-15 seconds	5	48		
Switch-Hook Flash	ENABLED	38		
1-DISABLE	2-	3-	4-TOP	5-BOTTOM
6-QUIT	7-OPTION NUM	8-SHOW DISABLE	9-	0-ENTER

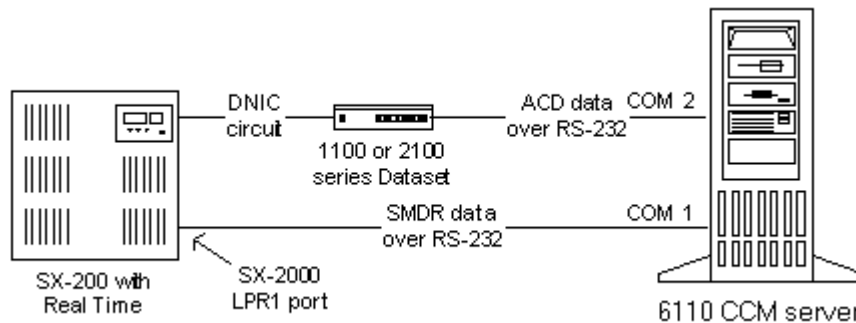
SX-200 with real-time connectivity to the 6110 CCM Enterprise server

Generally the SX-200 with real-time telephone system is co-located with the 6110 CCM Enterprise server as illustrated in the following figure. By default, 6110 CCM configures Comport 2 to accept the ACD data stream, and Comport 1 to accept the SMDR data stream. All components are connected over RS-232 serial cable.

The default comport configuration settings are as follows:

- Baud rate = 9600
- Data bits = 8
- Parity = N
- Stop bits = 1

You can alter these settings in the Management Console application.

Figure 37 SX-200 with real-time connectivity

Typically, the ACD stream is delivered from the telephone system DNIC circuit over a 2100 or 1100 Dataset to Comport 2.

The SMDR stream is delivered in one of two ways:

- From the telephone system LPR1 port to Comport 1
- From the telephone system DNIC circuit over a 2100 or 1100 Dataset to Comport 1

You use a dataset to boost the SMDR data transmission if the 6110 CCM Enterprise server is located over 50 feet from the telephone system.

DigiBoard installation

prairieFyre recommends you install a DigiBoard on the computer running as the 6110 CCM Enterprise server if you handle more than 2000 calls per hour. A DigiBoard is a serial communication card you insert in the Windows NT Server computer.

To install the DigiBoard (if you require one):

1. Install the Digi card on a free slot on the motherboard.
2. Start your computer.
3. Click **Start=>Settings=>Control Panel**.
4. Click the **Network** icon and Click **Add**.
5. Select **Adapters** and click **Add**.
6. Select the 2 port **DigiPC/2e(8k)** DigiBoard.

You have configured the DigiBoard as a network device.

NOTE: Ensure the values you select for the I/O Address, Memory Address, and Interrupt (IQR) are not currently used by any other device on the computer.

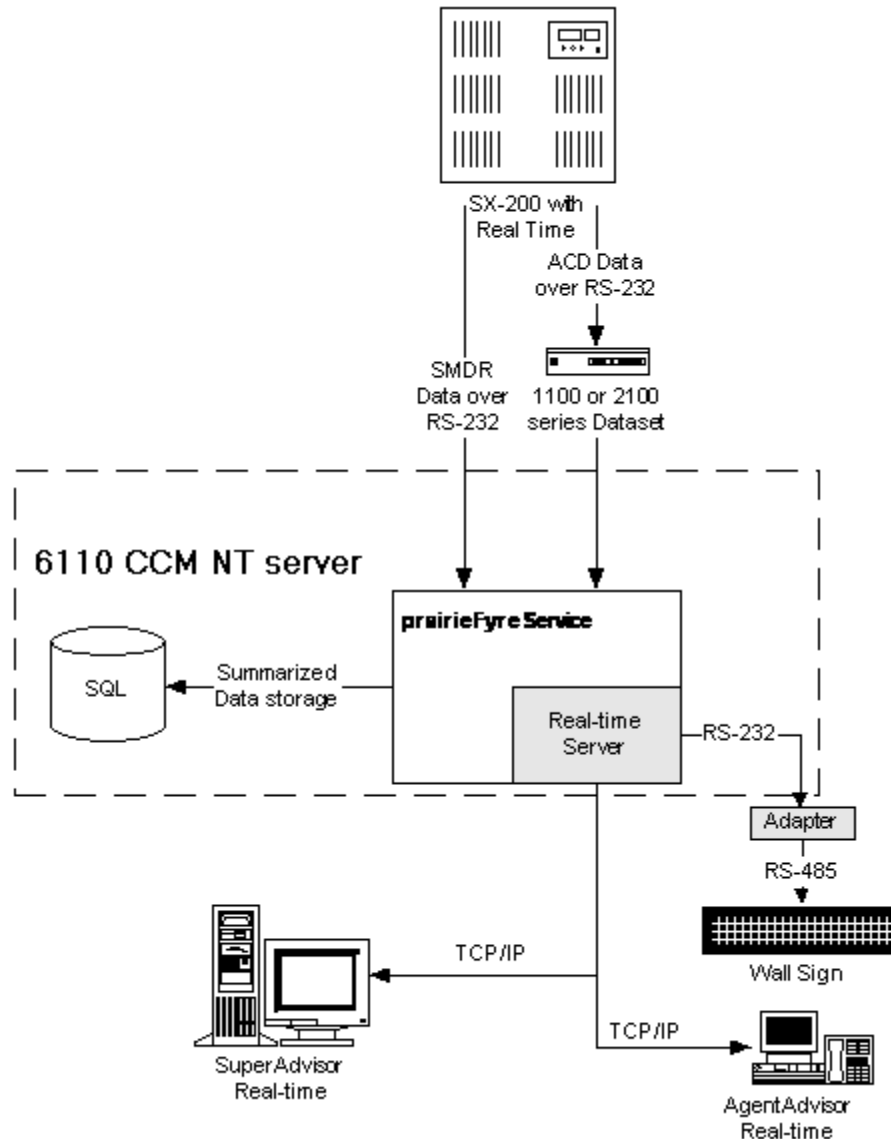
7. Configure the properties of the adapter and click **Next**.
8. Highlight a port and click **Properties**.
9. Associate a communication port number to the port on the card and click **Next**.
10. Click **OK** and restart Windows.

SX-200 with real-time architecture

The prairieFyre Service continuously updates the SX-200 with real-time SuperAdvisor, AgentAdvisor, and WallBoarder displays with SMDR and ACD telephone system records. It simultaneously updates the Structured Query Language (SQL) database over Transmission Control Protocol-Internet Protocol (TCP/IP).

The following diagram illustrates the connectivity between the telephone system, the prairieFyre Service, and the 6110 CCM real-time applications.

Figure 38 SX-200 with real-time architecture



Programming dataset connections

In order to get SMDR and ACD data flowing from the SX-200 with real-time to the 6110 CCM Enterprise server the following forms must be programmed. You must program them in the following order:

1. Data Circuit Descriptor
2. Data Assignment
3. Directed I/O

Basic information on telephone system forms and form headings is derived from the Mitel "ACD TELEMARKETERS Applications Package" on the "SX-200 EL/ML LIGHTWARE 17 Release 4.0 Technical Documentation CD-ROM" PN 9109-953-081-NA).

NOTE: For the purpose of this example we assume the setup uses a circuit descriptor number of 1. You program the dataset connection settings for the 1103 Dataset as described in the following section.

Data Circuit Descriptor Form

A data circuit descriptor specifies the parameters the data processing software and attached DTE (Data Terminal Equipment) require. This form provides 25 programmable descriptors. The main form displays the descriptor numbers and the number of circuits associated with each descriptor. The system generates the data in this form based on the entries in Form 12, Data Assignment. The user can modify only the COMMENTS field. A softkey provides access to the individual parameters of each descriptor via a sub-form.

Form headings

Form headings provide a description of the different fields in a form. The description states what information is required in these fields and what rules to follow when entering the data. The Dataset Circuit Descriptor Form has the following form headings.

Table 29: Dataset Circuit Descriptor Form headings

DESCRIPTOR	a list of the options available. Type the required values for each class of data circuit that is required.
NUMBER OF DATA circuitS ASSIGNED	the number of devices assigned to each descriptor

To program the dataset connection settings for the 1103 Dataset:

1. Type the following Dataset Circuit Descriptor Assignment Form settings.

Table 30: Dataset Circuit Descriptor Form settings

Guard Timer (0-99 seconds)	2
Minimum Baud Rate	110
Default Baud Rate	9600

Table 30: Dataset Circuit Descriptor Form settings

Maximum Baud Rate	19200
Always Use Default Baud Rate When Called	Yes
DTR Off Disconnect Timer	5
DTR to CTS Delay Timer	100
DTR Forced High	Yes
RTS Forced High	Yes
DSR Is Held High When Device is Idle	No
CTS Is Held High When Device is Idle	No
Originate a DTRX Call With A Low->High Transition of DTR	No
Action Taken If The Idle DTE Has DTR Low (Auto Answer)	Refuse
Pooled Modem Communication Established Indicator	DCD
First Modem Tone	2025 Hz
Second Modem Tone	2225 Hz
ASYNC: Keyboard Origination Allowed	Yes
ASYNC: ADL Auto Baud	No
ASYNC: Flow Control	None
ASYNC: XON Character	17
ASYNC: XOFF Character	19
ASYNC: Break Key Function	Trans
ASYNC: PBX Attention Character	4
ASYNC: Parity	None
ASYNC: Character Length	8
ASYNC: Number of Stop Bits	1
ASYNC: Autobaud To Host Character 1	13
ASYNC: Autobaud To Host Character 2	0
ASYNC: Delay Between Autobaud Characters	100
DS2100: Operating Mode	Asynch
SYNC: Rate Adaption Scheme	Minet
SYNC: Clock Source	Internal

Data Assignment Form

When a Digital Line Card is programmed in the System Configuration Form, the system creates an entry line for each of its circuits in Form 09, Stations/SUPERSET Telephones, Form 45, Key System Telephones and in Form 12, Data Assignment.

Form headings

The Data Assignment Form has the following form headings.

Table 31: Data Assignment Form headings

BAY/SLT/CCT/	specifies the physical location of each device. This list is generated by the system based on what was entered in the programmed field of Form 01, System Configuration. This field cannot be modified.
TYP	identifies the type of data device programmed. The available devices are: DS1101, DS1102, DS1103, DS2102, DS2103, DSCONS and 1101M.
TEN	the tenant group for each device is specified in this field
EXT NUM	displays the assigned extension number of a data line
COS	lists the Class-of-Service number specification of each device (1 to 50)
COR	lists the Class-of-Restriction number specification of each device (1 to 25)
CDN	lists the Circuit Descriptor Number assigned to a device (1 to 25)
DTE	lists the Data Terminal Equipment Profile number (1 to 25). A data device must have a DTE Profile number to access a DTRX. Otherwise, leave this field blank.
AVL	lists the Associated Voice Line (directory number) used to associate a DATASET with a Voice set, so the ADL (Associated Data Line) can be used.
HOTLINE	lists the directory number of the destination DTE
COMMENTS	reserved for additional data (a maximum of 15 characters). It is stored by the system but not used

2. On the Data Assignment Form, type the instance number of the dataset circuit device previously defined (1) in the DTE field.

This ties the internal adapter back to the dataset circuit descriptor.

Directed I/O Form

This form allows the user to specify the location of the system printer ports, designate the type of printout for each printer, and define whether the printout is guaranteed or not (will or will not print). Data outputs such as Traffic Measurement, SMDR, Hotel/Motel can be routed to any data port with an asynchronous dataset. If no new point is specified, printouts continue to default to the system printer RS-232 port.

If the printer specified is currently active, then any request to print is queued. The system can support 7 different printers. When the form is entered for the first time the default printer routing is displayed for all valid printouts.

Form headings

The Directed I/O Form has the following form headings.

Table 32: Directed I/O Form headings

EXT NUM	lists printer ports and extension numbers of programmed datasets. This form is linked to Form 12, Data Assignment.
PRINTOUT	lists the specified data outputs, such as Traffic Measurement, SMDR, Hotel/Motel, DATA SMDR, etc., for each programmed printer. Values in this field are entered through softkey commands. Note that the PMS (Property Management System) softkey is displayed only if the PMS system option is selected.
PRINTOUT TYPE	lists the type of printout provided for each data output such as Autoprint, Directed and Monitor. Values in this field are entered through softkeys. The softkeys displayed will depend upon the data output programmed in the PRINTOUT field.
GUARANTEED	only modifiable for SMDR and Data SMDR printouts. The field defaults to NO in all other cases. If this field is set to YES, SMDR records are guaranteed to print without losing records.

3. On the Directed I/O Form, set the printer port to Autoprint to automatically print SMDR and ACD Events records.
4. Type Yes in the GAURANTEED field for the SMDR entry.

Activating ACD Reporting

The ACD Real Time Event option allows a computer to report real-time events of ACD activities.

To activate ACD reporting:

1. On the Directed I/O Form, select **Add**.
2. Enter the extension number of the dataset.
3. Tab to the **PRINTOUT** column and select **MORE**.
4. Select **ACD EVENTS**.
5. Tab to the **PRINTOUT TYPE** column and select **AUTOPRINT**.

This programs the new data stream to the dataset.

Programming reporting options

In order to generate reports, you must select reporting options on the following assignment forms:

- COS Define
- System Options
- ACD Path
- ACD Group
- Trunk Group

COS Define Form

This form defines the Classes of Service for the system. Classes of Service group together stations with common feature operations and restrictions. The telephone system accommodates a maximum of 50 Classes of Service. Each device (including attendants, data devices and all trunks) are supplied with a Class of Service. COS options are listed in groups.

The COS Define Form has the following headings.

Table 33: COS Define Form headings

OPTION	lists the option titles. The actual option names cannot be modified. The option names are classified into two groups: enabled options and disabled options. When RESERVED appears as the option name, the option is not available.
STATUS	displays the status of each option; either DISABLED, ENABLED or a timer value
OPTION NUM	displays the number of each Class of Service option. The actual option number cannot be modified.

The header line indicates the Class of Service being programmed and which set of options are selected for either the enabled or disabled options list. The command line displays the current indexed option. When Form 03 - COS Define is selected, the command line displays the first enabled option of the first Class of Service.

To specify report options:

1. On the COS Define Form, type *ENABLED* in the Status field for the SMDR - Records Incoming Calls option for all COSs programmed in the telephone system (currently in use).

System Options Form

This form specifies the system options and timers that are system wide.

The System Options Form has the following headings.

Table 34: System Options Form headings

SYSTEM OPTIONS	lists the system option names. The option names cannot be modified. The option names are classified into two groups: enabled options and disabled options. When RESERVED appears as the option name, the option is not available.
STATUS	specifies which options are enabled, disabled or the value of the timers
OPTION NUM	lists the option number for each option or timer

The header line indicates which set of options are selected; either the enabled or disabled options. Note that the system timers are included with the enabled options.

1. On the System Options Form, type *ENABLED* in the Status field for the ACD Reports option.

ACD Path Form

The ACD Path Form defines routing for ACD calls. It cannot be accessed unless a “Maximum ACD Agents” system option is selected. Each path has its own form.

The ACD Path Form has the following headings.

Table 35: ACD Path Form headings

OPTIONS	lists programmable timers and options for the ACD path
STATUS	the only field that can be edited; however, no fields on an ACD path can be edited without first assigning the “Access Code For This ACD Path”, and the “Primary ACD Agent Group” (the first two lines on the form).
PATH NAME	The PATH NAME softkey displays ENTER PATH NAME: on the command line. When the name (up to 8 characters) is entered, it appears on the form top line, beside the path number. This softkey appears only after the first two lines of the form are both filled.
ACD PATH	Pressing the ACD PATH softkey displays ENTER ACD PATH NUMBER: on the command line. This softkey appears whenever the first two lines of the form are either both filled or both empty.
DELETE PATH	Pressing the DELETE PATH softkey displays the CANCEL and CONFIRM softkeys. Pressing CONFIRM deletes the ACD path. Pressing CANCEL restores the softkeys without deleting the ACD path.
DELETE FInternet ExplorerLD	blanks the current status field

Table 35: ACD Path Form headings

DROP CALL	appears only when the cursor is in the “Interflow Point Access Code” line - the STATUS will be set to “DROP CALL”
YES/NO	enables / disables the “Allow Overflow to Interflow Point Before Timeout” or “Interflow Enabled” parameters

2. On the Path Assignment Form, make note of the access codes for all paths programmed in the telephone system.

The path access code is referred to as the queue number in the prairieFyre YourSite Database. When you type an access code, such as 72, in the telephone system you must type it in the YourSite Database as queue number P0072. You must also type it in the YourSite Database as tillable number 72, as summarized in the following table.

Table 36: ACD Path Number and the corresponding database entries

ACD Path Assignment Form entries	YourSite Database entries
Access Code = 72	Dialable Number = 72 Queue Number = P0072

ACD Agent Group Form

The ACD Agent Group Form lists the agents in each ACD group. It cannot be accessed unless a “Maximum ACD Agents” system option is selected. The title line contains the agent group number and name. Entries in this form are sorted by ID.

The ACD Agent Group Form has the following headings.

Table 37: ACD Agent Group Form headings

AGENT ID	lists the agent ID. This is an access code that identifies the agent to the system. The form lists the agents in numerical order by agent ID.
AGENT NAME	lists the agent name. Use of this field is optional, but recommended.
COS	lists the agent class of service

3. On the ACD Agent Group Form, make note of the ACD Group numbers and Agent IDs programmed in the telephone system.

The telephone system ACD group number is referred to as the agent group number in the YourSite Database. When you program the telephone system with an ACD group number such as 6, you must type this number in the YourSite Database as agent group 6.

Trunk Group Form

The Trunk Group Form specifies the members of each trunk group by trunk numbers. The system supports a maximum of 50 trunk groups and each group supports a maximum of 50 members.

The Trunk Group Form has the following headings.

Table 38: Trunk Group Form headings

TK NUM	lists the members of each trunk group according to their trunk number. Members are added by entering a valid trunk number (1 to 200) when the cursor is at the TK NUM field on the command line. The trunk group is displayed on the header line.
BAY, SLT, CCT and COMMENTS	these are informational fields only. They cannot be modified in this form. When a trunk number is added to the trunk group, the physical identification (BAY, SLT and CCT) and the COMMENTS fields from Form 14 (Non-Dial-In Trunks) or Form 15 (Dial-In Trunks) are automatically displayed.

4. On the Trunk Group Form, select the SMDR option so SMDR records will be collected for your outbound calls.

The telephone system ACD group number is referred to as the agent group number in the YourSite Database. When you program the telephone system with an ACD group number such as 6, you must type this number in the YourSite Database as agent group 6.

Programming SX-200 assignment forms

EL/ML LIGHTWARE 17 Release 4.0 and greater

The following section describes the SX-200 real-time architecture and how to program SX-200 telephone system assignment forms. You must program the forms in order to receive telephone system data records and generate reports.

For the SX-200 (prior to EL/ML LIGHTWARE 17 Release 4.0) you use the CyberTerminal application to view a VT100 session. Real-time data generated by your SX-200 system is displayed in a series of ACD Monitors on a standard VT100™ compatible terminal. The ACD Monitors act as a “window” to the ACD system by giving supervisors an event-display that is updated after the completion of each ACD activity.

NOTE: prairieFyre strongly recommends you upgrade to LIGHTWARE 17, Release 4 or greater for your SX-200 telephone system. Release 4 provides enhanced functionality for real-time monitoring and historical reporting, and is easier to learn and use.

With release 4, 6110 CCM receives the ACD data stream directly and provides the following features and enhancements:

- 6110 CCM updates the prairieFyre real-time monitors every second regardless of the number of monitors open.
- You can view an unlimited number of agents simultaneously in the 6110 CCM monitors.
- You can view multiple 6110 CCM real-time agent and queue monitors simultaneously.
- Enhanced Agent and Agent Group Reports include Login-Logout Date/Time, Shift Time, Idle Time, Total ACD Call Time/Average/Count, NonACD Talk Time/Count, OutBound Time/Count, Hold Time, Make Busy Time/Average/Count, DND Time/Count, and extension statistics.

Common SX-200 programming errors

NOTE: When you program the SX-200, it is imperative you perform the following steps.

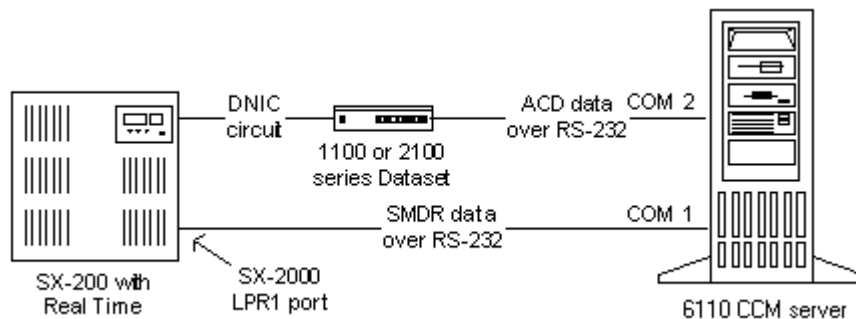
1. If your site runs with Agent IDs that are longer than 4 digits, you *must* enable Extended SMDR on the COS define Form or the SX-200 will truncate your call record data.
2. You *must* enable the SMDR - Records Incoming Calls option for all COSs programmed in the telephone system (currently in use).
3. You must enable SMDR reporting on the trunk groups for outbound calls.
4. After you program the Directed I/O Form you must also enable the report from the Maintenance Console application so it will be generated.

SX-200 connectivity to the 6110 CCM Enterprise server

Generally the SX-200 is co-located with the 6110 CCM Enterprise server as illustrated in the following figure. By default, 6110 CCM configures Comport 2 to accept the ACD data stream generated by the 1103 Dataset, and Comport 1 to accept the SMDR data stream. All components are connected over RS-232 serial cable.

Call centers that have only one 1103 Dataset and one DNIC port on the SX-200 system have a single VT100 terminal session available on the CyberTerminal Server for viewing real-time System Activity, Path Summary, Agent Group Summary, and Agent Information ACD Monitor sessions. In order to view more than one session simultaneously, additional 1103 Datasets and DNIC ports are required.

Figure 39 SX-200 connectivity to 6110 CCM



DigiBoard installation

prairieFyre recommends you install a Digiboard on the computer running as the 6110 CCM Enterprise server if you handle more than 2000 calls per hour. A Digiboard is a serial communication card you insert in the Windows NT Server computer.

To install the Digiboard (if you require one):

1. Install the Digi Card on a free slot on the motherboard.
2. Start your computer.
3. Click **Start=>Settings=>Control Panel**.
4. Click the **Network** icon and Click **Add**.
5. Select **Adapters** and click **Add**.
6. Select the 2 port **DigiPC/2e(8k)** Digiboard.

You have configured the Digiboard as a network device.

NOTE: Ensure the values you select for the I/O Address, Memory Address, and Interrupt (IQR) are not currently used by any other device on the computer.

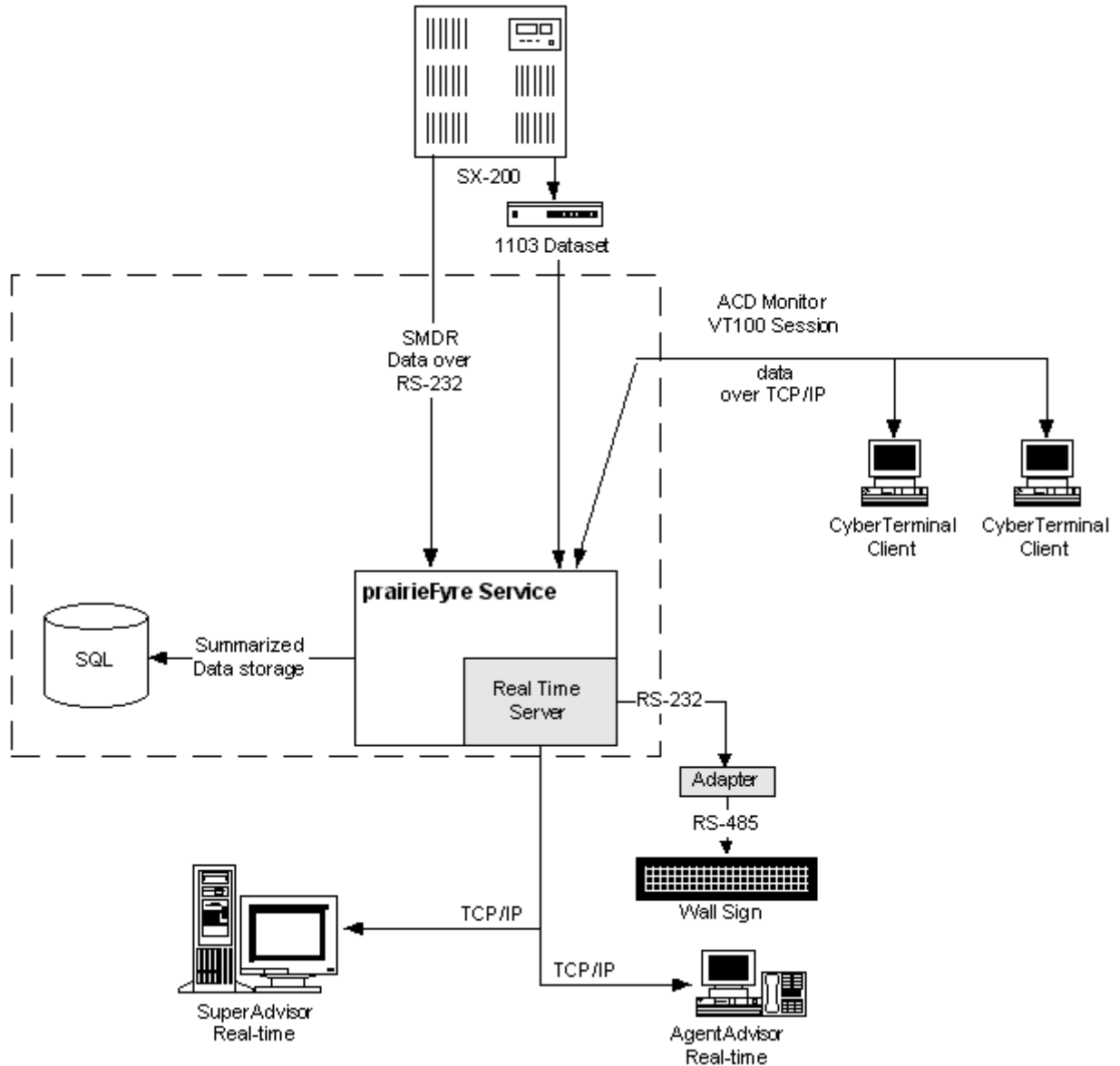
7. Configure the properties of the adapter and click **Next**.
8. Highlight a port and click **Properties**.
9. Associate a communication port number to the port on the card and click **Next**.
10. Click **OK** and restart Windows.

SX-200 architecture

CyberTerminal has server and client applications. You can install the CyberTerminal Server application on the 6110 CCM Enterprise server or on a client computer. When it is installed on the 6110 CCM Enterprise server, the architecture resembles the following figure.

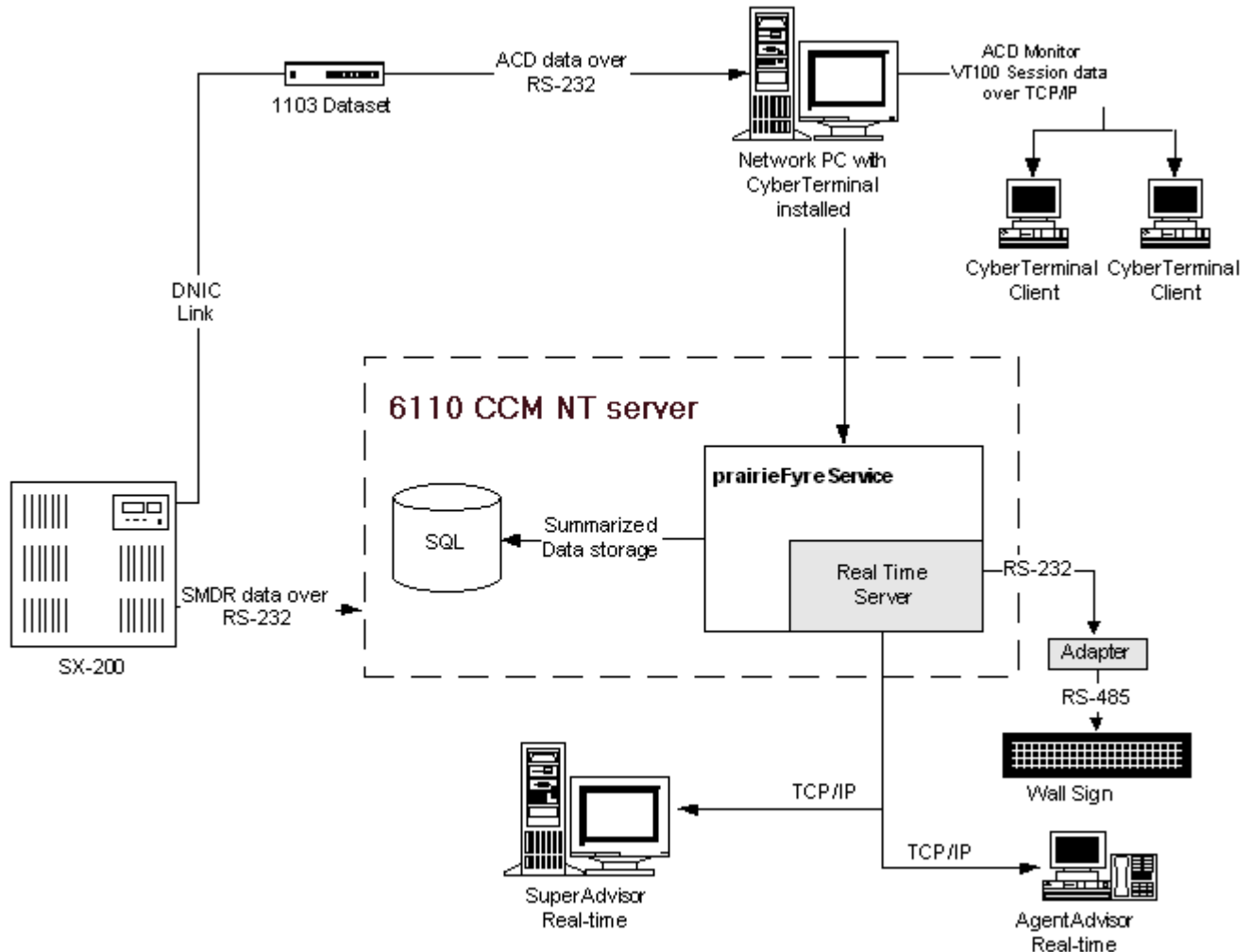
The CyberTerminal Server sends data (from the currently selected VT100 session) to all clients who have the CyberTerminal client software installed. Clients receive data that is updated every 7 seconds.

Figure 40 SX-200 architecture when installed on the 6110 CCM server



When you install the CyberTerminal server application on a computer other than the 6110 CCM Enterprise server, the configuration resembles the following figure. The CyberTerminal Server application updates all clients who have the CyberTerminal client version installed.

Figure 41 SX-200 architecture when not installed on the 6110 CCM server



CyberTerminal allows multiple clients to view a VT100 session simultaneously. Clients view the session over the LAN or WAN, and can control which session is currently being viewed. They can connect to an existing VT100 display or create a new one if not all displays are already open. Clients have the same memory image as the server. All subsequent updates are sent to all connected clients.

Programming dataset connections

In order to get SMDR, ACD, and Agent Shift data flowing from the SX-200 telephone system to the 6110 CCM Enterprise server the following forms must be programmed. You must program them in the following order:

1. Data Circuit Descriptor
2. Data Assignment
3. Directed I/O

Basic information on telephone system forms and form headings is derived from the Mitel “ACD TELEMARKETERS Applications Package” on the “SX-200 EL/ML Technical Documentation CD-ROM” (PN 9109-098-100-NA).

NOTE: For the purpose of this example we assume the setup uses a circuit descriptor number of 1. You program the dataset connection settings for the 1103 Dataset as described in the following section.

Data Circuit Descriptor Form

A data circuit descriptor specifies the parameters the data processing software and attached DTE (Data Terminal Equipment) require. This form provides 25 programmable descriptors. The main form displays the descriptor numbers and the number of circuits associated with each descriptor. The system generates the data in this form based on the entries in Form 12, Data Assignment. The user can modify only the COMMENTS field. A softkey provides access to the individual parameters of each descriptor via a sub-form.

Form headings

Form headings provide a description of the different fields in a form. The description states what information is required in these fields and what rules to follow when entering the data. The Dataset Circuit Descriptor Form has the following form headings.

Table 39: Dataset Circuit Descriptor Form headings

DESCRIPTOR	a list of the options available. Type the required values for each class of data circuit that is required.
NUMBER OF DATA circuitS ASSIGNED	the number of devices assigned to each descriptor

To program the dataset connection settings for the 1103 Dataset:

1. Type the following Dataset Circuit Descriptor Assignment Form settings.

Table 40: Dataset Circuit Descriptor Form settings

Guard Timer (0-99 seconds)	2
Minimum Baud Rate	110
Default Baud Rate	9600
Maximum Baud Rate	19200
Always Use Default Baud Rate When Called	Yes

Table 40: Dataset Circuit Descriptor Form settings

DTR Off Disconnect Timer	5
DTR to CTS Delay Timer	100
DTR Forced High	Yes
RTS Forced High	Yes
DSR Is Held High When Device is Idle	No
CTS Is Held High When Device is Idle	No
Originate a DTRX Call With A Low->High Transition of DTR	No
Action Taken If The Idle DTE Has DTR Low (Auto Answer)	Refuse
Pooled Modem Communication Established Indicator	DCD
First Modem Tone	2025 Hz
Second Modem Tone	2225 Hz
ASYNC: Keyboard Origination Allowed	Yes
ASYNC: ADL Auto Baud	No
ASYNC: Flow Control	None
ASYNC: XON Character	17
ASYNC: XOFF Character	19
ASYNC: Break Key Function	Trans
ASYNC: PBX Attention Character	4
ASYNC: Parity	None
ASYNC: Character Length	8
ASYNC: Number of Stop Bits	1
ASYNC: Autobaud To Host Character 1	13
ASYNC: Autobaud To Host Character 2	0
ASYNC: Delay Between Autobaud Characters	100
DS2100: Operating Mode	Asynch
SYNC: Rate Adaption Scheme	Minet
SYNC: Clock Source	Internal

Data Assignment Form

When a Digital Line Card is programmed in the System Configuration Form, the system creates an entry line for each of its circuits in Form 09, Stations/SUPERSET Telephones, Form 45, Key System Telephones and in Form 12, Data Assignment.

Form headings

The Data Assignment Form has the following form headings.

Table 41: Data Assignment Form headings

BAY/SLT/CCT/	specifies the physical location of each device. This list is generated by the system based on what was entered in the programmed field of Form 01, System Configuration. This field cannot be modified.
TYP	identifies the type of data device programmed. The available devices are: DS1101, DS1102, DS1103, DS2102, DS2103, DSCONS and 1101M.
TEN	the tenant group for each device is specified in this field
EXT NUM	displays the assigned extension number of a data line
COS	lists the Class-of-Service number specification of each device (1 to 50)
COR	lists the Class-of-Restriction number specification of each device (1 to 25)
CDN	lists the Circuit Descriptor Number assigned to a device (1 to 25)
DTE	lists the Data Terminal Equipment Profile number (1 to 25). A data device must have a DTE Profile number to access a DTRX. Otherwise, leave this field blank.
AVL	lists the Associated Voice Line (directory number) used to associate a DATASET with a Voice set, so the ADL (Associated Data Line) can be used.
HOTLINE	lists the directory number of the destination DTE
COMMENTS	reserved for additional data (a maximum of 15 characters). It is stored by the system but not used

2. On the Data Assignment Form, type the instance number of the dataset circuit device previously defined (1) in the DTE field.

This ties the internal adapter back to the dataset circuit descriptor.

Directed I/O Form

This form allows the user to specify the location of the system printer ports, designate the type of printout for each printer, and define whether the printout is guaranteed or not (will or will not print). Data outputs such as Traffic Measurement, SMDR, Hotel/Motel can be routed to any data port with an asynchronous dataset. If no new point is specified, printouts continue to default to the system printer RS-232 port. If the printer specified is currently active, then any request to print is queued. The system can support 7 different printers. When the form is entered for the first time the default printer routing is displayed for all valid printouts.

Form headings

The Directed I/O Form has the following form headings.

Table 42: Directed I/O Form headings

EXT NUM	lists printer ports and extension numbers of programmed datasets. This form is linked to Form 12, Data Assignment.
PRINTOUT	lists the specified data outputs, such as Traffic Measurement, SMDR, Hotel/Motel, DATA SMDR, etc., for each programmed printer. Values in this field are entered through softkey commands. Note that the PMS (Property Management System) softkey is displayed only if the PMS system option is selected.
PRINTOUT TYPE	lists the type of printout provided for each data output such as Autoprint, Directed and Monitor. Values in this field are entered through softkeys. The softkeys displayed will depend upon the data output programmed in the PRINTOUT field.
GUARANTEED	only modifiable for SMDR and Data SMDR printouts. The field defaults to NO in all other cases. If this field is set to YES, SMDR records are guaranteed to print without losing records.

3. On the Directed I/O Form, set the printer port to Autoprint to automatically print SMDR and ACD Agent Summary records.
4. Type Yes in the GAURANTEED field for the SMDR entry.

Programming reporting options

In order to generate reports, you must select reporting options on the following assignment forms:

- COS Define
- System Options
- ACD Path
- ACD Group
- Trunk Group

COS Define Form

This form defines the Classes of Service for the system. Classes of Service group together stations with common feature operations and restrictions. The telephone system accommodates a maximum of 50 Classes of Service. Each device (including attendants, data devices and all trunks) are supplied with a Class of Service. COS options are listed in groups.

The COS Define Form has the following headings.

Table 43: COS Define Form headings

OPTION	lists the option titles. The actual option names cannot be modified. The option names are classified into two groups: enabled options and disabled options. When RESERVED appears as the option name, the option is not available.
STATUS	displays the status of each option; either DISABLED, ENABLED or a timer value
OPTION NUM	displays the number of each Class of Service option. The actual option number cannot be modified.

The header line indicates the Class of Service being programmed and which set of options are selected for either the enabled or disabled options list. The command line displays the current indexed option. When Form 03 - COS Define is selected, the command line displays the first enabled option of the first Class of Service.

To specify report options:

1. On the COS Define Form, type *ENABLED* in the Status field for the SMDR - Records Incoming Calls option for all COSs programmed in the telephone system (currently in use).

System Options Form

This form specifies the system options and timers that are system wide.

The System Options Form has the following headings.

Table 44: System Options Form headings

SYSTEM OPTIONS	lists the system option names. The option names cannot be modified. The option names are classified into two groups: enabled options and disabled options. When RESERVED appears as the option name, the option is not available.
STATUS	specifies which options are enabled, disabled or the value of the timers
OPTION NUM	lists the option number for each option or timer

The header line indicates which set of options are selected; either the enabled or disabled options. Note that the system timers are included with the enabled options.

2. On the System Options Form, type *ENABLED* in the Status field for the ACD Reports option.

ACD Path Form

The ACD Path Form defines routing for ACD calls. It cannot be accessed unless a “Maximum ACD Agents” system option is selected. Each path has its own form.

The ACD Path Form has the following headings.

Table 45: ACD Path Form headings

OPTIONS	lists programmable timers and options for the ACD path
STATUS	the only field that can be edited; however, no fields on an ACD path can be edited without first assigning the “Access Code For This ACD Path”, and the “Primary ACD Agent Group” (the first two lines on the form).
PATH NAME	The PATH NAME softkey displays ENTER PATH NAME: on the command line. When the name (up to 8 characters) is entered, it appears on the form top line, beside the path number. This softkey appears only after the first two lines of the form are both filled.
ACD PATH	Pressing the ACD PATH softkey displays ENTER ACD PATH NUMBER: on the command line. This softkey appears whenever the first two lines of the form are either both filled or both empty.
DELETE PATH	Pressing the DELETE PATH softkey displays the CANCEL and CONFIRM softkeys. Pressing CONFIRM deletes the ACD path. Pressing CANCEL restores the softkeys without deleting the ACD path.

Table 45: ACD Path Form headings

DELETE FInternet ExplorerLD	blanks the current status field
DROP CALL	appears only when the cursor is in the “Interflow Point Access Code” line - the STATUS will be set to “DROP CALL”
YES/NO	enables / disables the “Allow Overflow to Interflow Point Before Timeout” or “Interflow Enabled” parameters

3. On the Path Assignment Form, make note of the access codes for all paths programmed in the telephone system.

The path access code is referred to as the queue number in the prairieFyre YourSite Database. When you type an access code, such as 72, in the telephone system you must type it in the YourSite Database as queue number P0072. You must also type it in the YourSite Database as dialable number 72, as summarized in the following table.

Table 46: Access Code Number and the corresponding database entries

ACD Path Assignment Form entries	YourSite Database entries
Access Code = 72	Dialable Number = 72 Queue Number = P0072

ACD Agent Group Form

The ACD Agent Group Form lists the agents in each ACD group. It cannot be accessed unless a “Maximum ACD Agents” system option is selected. The title line contains the agent group number and name. Entries in this form are sorted by ID.

The ACD Agent Group Form has the following headings.

Table 47: ACD Agent Group Form headings

AGENT ID	lists the agent ID. This is an access code that identifies the agent to the system. The form lists the agents in numerical order by agent ID.
AGENT NAME	lists the agent name. Use of this field is optional, but recommended.
COS	lists the agent class of service

4. On the ACD Agent Group Form, make note of the ACD Group numbers and Agent IDs programmed in the telephone system.

The telephone system ACD group number is referred to as the agent group number in the YourSite Database. When you program the telephone system with an ACD group number such as 6, you must type this number in the YourSite Database as agent group 6.

Trunk Group Form

The Trunk Group Form specifies the members of each trunk group by trunk numbers. The system supports a maximum of 50 trunk groups and each group supports a maximum of 50 members.

The Trunk Group Form has the following headings.

Table 48: Trunk Group Form headings

TK NUM	lists the members of each trunk group according to their trunk number. Members are added by entering a valid trunk number (1 to 200) when the cursor is at the TK NUM field on the command line. The trunk group is displayed on the header line.
BAY, SLT, CCT and COMMENTS	these are informational fields only. They cannot be modified in this form. When a trunk number is added to the trunk group, the physical identification (BAY, SLT and CCT) and the COMMENTS fields from Form 14 (Non-Dial-In Trunks) or Form 15 (Dial-In Trunks) are automatically displayed.

5. On the Trunk Group Form, select the SMDR option so SMDR records will be collected for your outbound calls.

The telephone system ACD group number is referred to as the agent group number in the YourSite Database. When you program the telephone system with an ACD group number such as 6, you must type this number in the YourSite Database as agent group 6.

Activating Agent Shift reporting on the Maintenance port

To activate Agent Shift reporting:

1. Log on to the SX-200 VT100 maintenance terminal.
2. Select **ACD Reports**, **Agent Shift on**, and **Show** (status).
3. Set the Agent Shift status to **ON**.

NOTE: Agent Shift records are generated for an agent when the agent logs out. SMDR records are generated when calls are completed.

Database maintenance and restoration procedures

The following section contains information on database maintenance and restoration procedures. We strongly recommend you back up the YourSite Configuration Database and the raw telephone system data files. You require these files to restore your call center history and configuration in the event of hard drive failure.

prairieFyre Maintenance Service

The prairieFyre Maintenance Service runs every night at a time you specify on the System Settings tab of the Management Console application. It performs the following nightly routines.

- Backs up the YourSite Database to the local data directory
- Shrinks and truncates the SQL transaction log
- Purges the ANI database table and retains only 10,000 records or 30 days worth of ANI data
- Re-summarizes the previous days data into the SQL database
- Zips data files in the data directory
- Deletes old files in the data directory as required (when the disk space is low)

It is important you schedule the NT backup to occur at least half an hour following the prairieFyre Maintenance Service routines.

Implementing NT backup for data file protection

NOTE: prairieFyre strongly recommends you perform frequent tape backups of your data directory. You can back up the data to your disc drive or to a tape. If your disc drive space is limited, backing up to tape is your best option.

To implement the NT backup, you must log on to the 6110 CCM NT Server with an account that has administrative privileges, and complete the following steps.

Installing and modifying the PFNTBackup.bat file

To install and modify the PFNBackup.bat file:

1. Insert the 6110 CCM installation CD and locate the **PFNTBackup.bat** file on the **Support** Directory.
2. Copy the **PFNTBackup.bat** file to the **ACD Manager** subdirectory on the **6110 CCM** installation directory.
3. Right-click the **PFNTBackup.bat** file and click **Edit** to view its contents.

The following text appears:

```
@echo off
REM /* Batch file to backup critical telephone switch data */
REM /* Use this batch file in absence of proper backup software */
REM /* Depends upon the prairieFyre data directory being in */
REM /* c:\program files\Mitel Networks\6110 CCM\ACD Manager\DataDirectory */
REM /* Modify directory path accordingly */
ntbackup backup "c:\program files\Mitel Networks\6110 CCM\ACD Manager\DataDirectory" /v
/d "prairieFyre DataDirectory Backup" /t copy /l "c:\program files\Mitel Networks\6110
CCM\ACD Manager\DataDirectory\NTBackup.log"
```

The following line appears twice in the preceding text:

```
c:\program files\Mitel Networks\6110 CCM\ACD Manager\DataDirectory
```

4. Edit this line in both spots to reflect the location of your 6110 CCM data directory.

Deciding how to schedule the backup

Two options are available, depending on what software is installed on the NT server. The Task Scheduler application has a user interface (UI) and is easy to work with, but may not be installed on all NT servers. The AT application is a command line based utility that is installed on all NT servers. prairieFyre recommends you use the AT command as it is available on all NT servers.

To determine if Task Scheduler is available on your NT server, double-click the My Computer desktop icon. If you see an entry for Scheduled Tasks then Task Scheduler is installed on the server.

Skip to "Scheduling the NT backup using Task Scheduler" if you decide to use Task Scheduler instead of the AT command.

Scheduling the PFNTBackup.bat to run every night using the AT command

To schedule the PFNTBackup.bat file to run:

1. Click **Start=>Run dialog** and type *cmd*.
2. Click **OK**.
3. Type the following command, ensuring that the directory path accurately reflects where the ACD Manager directory lives. You must replace `<windows_system_directory>` with your fully qualified windows system path. In most cases this is `c:\winnt\system32`.

```
<windows_system_directory>\at 03:00 /every:M,T,W,Th,F,S,Su "c:\Mitel Networks\6110  
CCM\ACD Manager\PFNTBackup.bat"
```

Ensuring the Scheduler Service is running with the proper credentials

NOTE: the Schedule Service will not be listed if you have the Task Scheduler installed.

To ensure the Scheduler Service is running with the proper credentials:

1. Click **Start=>Settings=>Control Panel=>Services** to access the Services Manager.
2. Scroll, and click **Schedule Service**.
3. Click **Startup**.
4. In the **Startup Type** pane, click **Automatic**.
5. In the **Log On As** pane, click **This Account**.
6. Click **Browse** and click **Administrator account**.
7. Type the Administrator password and confirm it is correct.
8. Click **OK**.
9. Click **Start** to start the service.

Scheduling the NT Backup using the Task Scheduler

Disregard this step if you scheduled the backup using the AT command.

To schedule the NT Backup using the Task Scheduler:

1. Double-click the **My Computer** desktop icon.
2. Double-click the **Scheduled Tasks** icon.
3. Double-click **Add Scheduled Task**.
4. Click **Next**.
5. Browse to, and select the PFNTBackup.bat file you previously installed.
6. In the **Perform this task** list, select **Daily**.
7. Click **Next**.
8. Select **3:00 A.M.** as the start time.
9. Ensure that every day is selected.
10. Ensure that tomorrow is selected as the start date.
11. Click **Next**.
12. Type the Administrator account name as the user name.
13. Type the Administrator password and confirm it is correct.
14. Click **Next**.
15. Click **Finish**.

NOTE: It is critical that the administrator, or another qualified user, confirm that all backups are completed as scheduled. Use the NT Backup utility found in the Administrative Tools folder to inspect the contents of the tape.

prairieFyre recommends you use at least five tapes in your tape rotation. Label the tapes Monday, Tuesday, Wednesday, Thursday, and Friday. In an organization that does not work over the weekend, Friday's backup is overwritten with Saturday's, and Saturday's is overwritten with Sunday's as you do not change the tape over the weekend. Store the last used tape off site at a secure location.

Contact prairieFyre technical support at 613-599-0045 if you have any questions regarding backups.

If you followed all of the recommended backup procedures then you can expect the following sequence of events to occur on a nightly basis.

Table 49: Backup sequence

Time	Task description	Source
2:00 A.M.	SQL database table growth check	prairieFyre Maintenance Service (Users do not implement or control this service. It is installed during the 6110 CCM Setup.)
3:00 A.M.	Data files backup	NT backup

Appendix A

Appendix A contains information on setting up a proxy server and using the Management Console application.

Performing diagnostics with Management Console

There are two versions of the Management Console application: Management Console Enterprise and Management Console Node. Call centers that have 6110 CCM Enterprise server software installed use Management Console Enterprise. Call centers that do not have 6110 CCM Enterprise server software installed use Management Console Node.

You use the Management Console application for troubleshooting problems, SQL database management, and SQL database object inspection. You can verify the existence of all critical 6110 CCM Database objects, change your IP address and comport settings, and back up and restore the 6110 CCM Database, or critical portions of the database. You also use Management Console to configure multi-site monitoring and reporting.

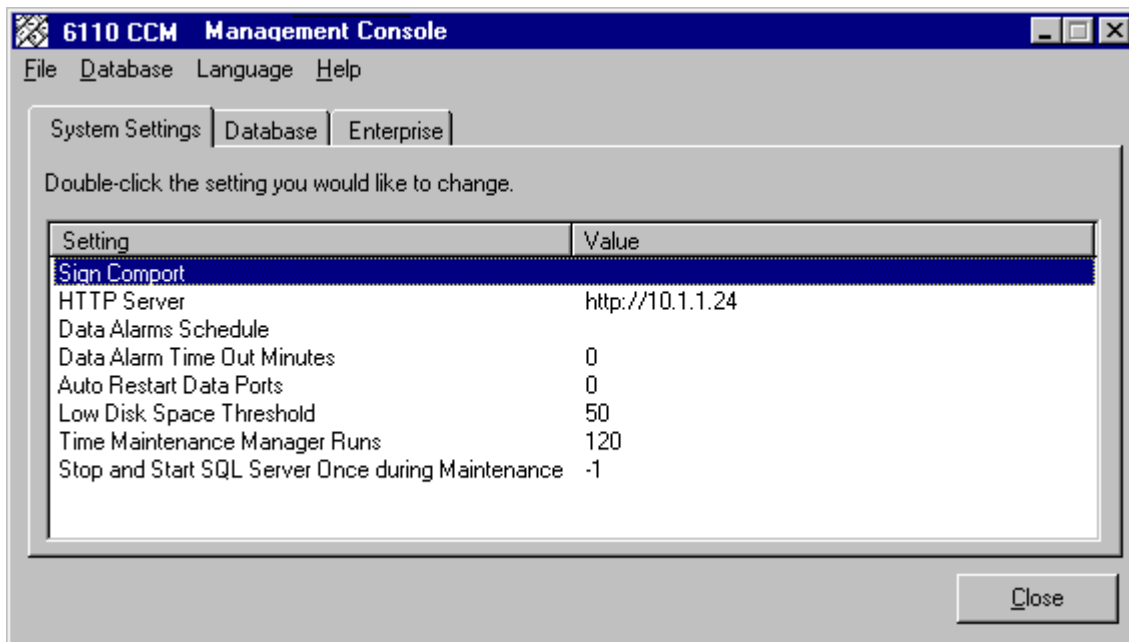
You start the Management Console program on the 6110 CCM Enterprise server. Before you start Management Console you must log on to the Windows NT Server with an account that has administrative privileges.

Using Management Console

To start Management Console:

1. Log on to the Windows NT Server with an account that has administrative privileges.
2. Click **Start=>Programs=>Mitel Networks=>prairieFyre Management Console** to start Management Console.

The following figure appears.

Figure 42 Management Console

Management Console consists of the System Settings, Enterprise/Nodes, and Database (Management Console Enterprise version only) tabs. You use the System Settings and Enterprise tabs to change settings in the registry. You use the Database tab to view 6110 CCM Database records and perform diagnostics.

Management Console has the following menus.

File menu

The Reload System Settings command refreshes the values displayed on the System Settings tab.

The Force Collector Settings Reload command forces the main NT Enterprise Service on the 6110 CCM Enterprise server to reinitialize the local Enterprise nodes.

The Force Node Synchronization command synchronizes the raw data from remote nodes (CENs) with the data stored on the local hard drive of the 6110 CCM Enterprise server.

The Exit command quits Management Console.

Database menu (Management Console Enterprise version only)

The **Change SQL System Administrator Password** command edits the default SQL Administrator password.

The default SQL Administrator follow:

Username: sa

Password:

To change the default password

1. Click **Database=>Load SQL Databases.**
2. Click **Change 6110 CCM Login Password.**

The Truncate SQL Transaction Log and Shrink Database Files command manually shrinks the transaction logs and SQL database files on the 6110 CCM Enterprise server. This action is performed by the prairieFyre Maintenance Service during the nightly maintenance routine.

The SQL transaction log is a critical part of the SQL Server. It is used for disaster recovery and up-to-the-second restorations. If the SQL database transaction log reaches the 100 MB maximum without a backup being done, then the SQL server will stop working. Therefore, ensure the prairieFyre Maintenance Service is always enabled.

During the prairieFyre Maintenance Service nightly routine SQL writes a checkpoint into the transaction log. The log marks a certain amount of space as available to ensure it operates continuously. The Truncate and Shrink SQL Transaction Log function programmatically causes a checkpoint to be written into the log. Although this function helps move 6110 CCM towards a zero-maintenance model, it is not a substitute for implementing and following a regular backup plan.

The Re-Index Database Tables command manually re-indexes the SQL database tables. This action is performed by the prairieFyre Maintenance Service during the nightly maintenance routine.

The Start SQL Server and Stop SQL Server commands manually stop and restart the SQL Server. These actions are performed by the prairieFyre Maintenance Service during the nightly maintenance routine. The Back Up YourSite Configuration command backs up the current programming in the YourSite Database to a file in your Temp directory. The naming syntax is MMDDYYYYY.sql.

The Restore YourSite Configuration command restores the YourSite Database to the time of your last database backup.

The Back Up 6110 CCM Database command backs up the current 6110 CCM Database configuration to a file in your Temp directory. The naming syntax is PFDB_BackupMMDDYYYYY.bak.

The Restore 6110 CCM Database command restores the 6110 CCM Database to the time of your last database backup. Call prairieFyre technical support at (613) 599-0045 before you restore the 6110 CCM Database.

The Summarize Data command uploads historical data from the telephone system to the prairieFyre Service and SQL database for a particular date range.

If you run a report and notice that data for a particular device is missing from the report output, verify the device is programmed in the telephone system and in the YourSite Database. If you determine the device is missing from the database, add it to the database and use the Summarize Data command to update the prairieFyre Service and the SQL database with the complete raw telephone system data (stored on the local hard drive). You can then produce reports on the device.

The Notify Realtime Clients command updates the SuperAdvisor, AgentAdvisor, Reporter, and Scheduled Reports applications with any changes you make to the YourSite Database.

The Delete Data from Database command deletes all data files from the database tables.

NOTE: Ensure the prairieFyre Maintenance Service is always enabled. The SQL transaction log is a critical part of the SQL Server. It is used for disaster recovery and up-to-the-second restorations. If the SQL database transaction log reaches the 100 MB maximum without a backup being done, then the SQL server will stop working.

Conversion Tools Menu (Management Console Enterprise version only)

The Convert V2 6110 CCM Data Files to V2.5 command updates the raw 6110 CCM data files from version 2 to version 2.5.

To update the raw data files:

1. Click **Database=>Import V2 6110 CCM Data Files to V2.5**.
2. Click **Move Files** to move the source data from the DataDirectory directory to the Node_01 destination directory.
3. Click **OK**.

The Convert V5 Toolbox Database command exports your existing database to ACCESS and converts it to a format 6110 CCM can use.

To convert the database:

1. Click **Database=>Convert V5 Toolbox Data**.
2. Click **Browse** and select the directory housing your existing database data.
3. Click **Convert** and click **Close**.

The Convert V5 Toolbox Text Files command converts your existing text files to a format 6110 CCM can use.

To convert the text files:

1. Click **Convert V5 Toolbox Text Files**.
2. Click **Move Files** to move the source data from the Desktop directory to the 6110 CCM Desktop destination directory.
3. Click **OK** and click **Exit**.

The Convert V2 6110 CCM Database to V2.5 command updates the version 2 6110 CCM Database to version 2.5.

To update the database:

1. Click **Convert V2 6110 CCM Database to V2.5**.
2. Click **Convert** to convert the database and update all users and schedules.
3. Click **Close**.

Help menu

The Contents and Index option provides access to the current Help file. The About option provides Management Console licensing information.

Gaining access to database menu options

You must log on to the Windows NT Server with an account that has administrative privileges. You do not need to log on a second time if you only want to change system settings, such as the wall sign comport value. You do not need to log on to the SQL Server to back up or restore the YourSite Configuration database: SQL Server uses your current credentials.

You must log on to the SQL Server to gain access to all database menu options.

To log on

- Click **Database=>Load SQL Databases**.

The first time you log on to the SQL Server, you use the following credentials:

Username: sa

Password:

To change the password

- Click **Database=>Change SQL System Administrator Password**.

Be sure to record the new password for your records. Do not disclose the password to anyone who does not absolutely require it.

Viewing 6110 CCM Database objects

You use the Database tab to view 6110 CCM Database objects and perform diagnostics. All objects are read-only. The objects are comprised of tables, stored procedures, and database users.

Editing data alarm and nightly maintenance settings

You can edit the following registry settings on the System Settings tab:

- Sign Comports
- HTTP Server
- Data Alarms Schedule
- Data Alarm Time Out Minutes
- Auto Restart Data Ports
- Low Disk Space Threshold (MB)
- Time Maintenance Manager (Maintenance Service nightly routine) Runs
- Stop and Start SQL Server Once During Maintenance

You click File=>Reload System Settings to refresh the values displayed on the System Settings tab.

Editing registry settings

NOTE: Your IP address can be found under Network Properties. When 6110 CCM is installed, the IP address is automatically entered on the Management Console. If you subsequently change your IP address, it will then be available on the Management Console in the drop-down list.

When 6110 CCM is installed, your port address is also automatically picked up. It is available by right-clicking the 6110 CCM Network Monitor in your system tray. A list appears. Select **Node Information**. Your IP address and port address will appear.

The Enterprise default port is 5024. The local default port is 5400. The 3300 ICP default port for SMDR is 1752. The 3300 default port for real-time is 15373.

You can edit the following registry settings on the Enterprise/Nodes tab for local and remote nodes:

- IP address for the node
- IP port number for the node
- Switch type
- Site operates 24 hours a day option
- SMDR Comport setting
- ACD Comport setting

Loading the SQL database

You click Database=>Load SQL Databases to update the settings displayed on the Database tab.

Backing up the YourSite Configuration database

You click Database=>Back Up YourSite Configuration to back up the current programming in the YourSite Configuration database to a file in your Temp directory. The naming syntax is *MMDDYY.sql*. If required, you can later recover the YourSite Configuration data exclusively, rather than restoring the entire SQL database.

This backup offers protection in case you program the database incorrectly, or a careless user reconfigures it. prairieFyre recommends you perform this backup weekly, in addition to regular database maintenance. (See “Setting up SQL database backups.”)

Restoring the YourSite Configuration database

You click Database=>Restore YourSite Configuration to restore the configuration database to the time of your last database backup.

NOTE: Restoring the YourSite Configuration database deletes all current database table entries and replaces them with the entries defined at the time of your last database backup. Any changes made to the database in the interim are lost. Backing up the YourSite Configuration database also deletes all report permissions defined for users in the Report Permissions component of YourSite.

Backing up the 6110 CCM Database

You click Database=>Back Up 6110 CCM Database to back up the current 6110 CCM Database configuration to a file in your Temp directory. The naming syntax is *PFDB_BackupMMDDYY.bak*. If required, you can later recover the 6110 CCM Database information exclusively, rather than restoring the entire SQL database.

You use this backup for disaster recovery. prairieFyre recommends you perform this backup weekly, in addition to regular database maintenance. (See “Setting up SQL database backups.”)

Restoring the 6110 CCM Database

Clicking Database=>Restore 6110 CCM Database restores the configuration database to the time of your last database backup.

NOTE: Call prairieFyre *before* you restore the 6110 CCM Database! Restoring the 6110 CCM Database deletes the *entire* 6110 CCM Database, which is the core of the 6110 CCM application. After you restore the database, you need to take further steps to re-type the telephone system data in the database.

Setting up Microsoft Proxy Server 2.0

You can protect your 6110 CCM Enterprise server by putting it behind a firewall or proxy server. This note explains how to get your 6110 CCM Enterprise server up and running from behind the Microsoft Proxy Server 2.0. To set up other firewalls or proxy servers, please consult the manufacturer's documentation.

Microsoft Proxy Server 2.0 uses reverse proxying to make a server behind it visible to the outside world. The Proxy Server handles requests from all Internet and intranet users so there are some configuration issues to deal with. In this example, we will assume that only the Proxy Server and the 6110 CCM Enterprise server are involved, and not a third Web server.

Consider the following scenarios when you enable the 6110 CCM Enterprise server with Microsoft Proxy Server:

- You do not have a Web server currently running on port 80.
- You have a Web server currently running on port 80.

What to do if you do not currently have a Web server running on port 80

This section explains how to get your 6110 CCM Enterprise server working from behind the Microsoft Proxy Server 2.0 when you do *not* currently have a Web server running on port 80. In this example port 80 is used.

NOTE: All the following operations are performed on the 6110 CCM Enterprise server—*not* the Proxy Server. Do not make any changes to the Proxy Server.

To get your 6110 CCM Enterprise server working from behind the Microsoft Proxy Server 2.0:

1. Install the Microsoft Proxy Client on the 6110 CCM Enterprise server.
2. Create a new file in Notepad or another text editor and type the following information.

```
[INETINFO]
ServerBindTcpPorts=80
KillOldSession=1
Persistent=1
```

3. Save the file as wspcfg.ini in the \winnt\system32\inetsrv directory on the drive where you installed Windows NT.

This instructs the Proxy Server to forward any requests on port 80 to the 6110 CCM Web Server.

4. Create a new file in Notepad or any other text editor and type the following information.

```
[PFMainSrvr]
ServerBindTcpPorts=5024
KillOldSession=1
Persistent=1
```

5. Save the file as wspcfg.ini in the Program Files\Mitel Networks\6110 CCM\6110 CCM directory on the drive where you installed the prairieFyre software.

This instructs the Proxy Server to forward any requests on port 5024 to the prairieFyre Service that communicates with the telephone system.

6. Start Notepad.
7. Open the global.asa file located in the \inetpub\wwwroot\6110 CCM directory on the drive where you installed IIS.
8. Locate Application.value("sHTTPServer") = "http://<prairieFyre_server_ip_address>" and change this file to Application.value("sHTTPServer") = "http://<proxy_server_external_ip_address>"
9. Locate Application.Value("IPADDRESS") = "prairieFyre_server_ip_address" and change this file to Application.Value("IPADDRESS") = "proxy_server_external_ip_address"
10. Save the file.

The WWW variable Application.Value ("IPADDRESS") normally holds the IP address of the 6110 CCM Enterprise server. However, because the 6110 CCM Enterprise server is behind the Proxy Server direct communication with the 6110 CCM Enterprise server is not allowed. By changing the IP address to that of the Proxy, you are telling the 6110 CCM SuperAdvisor to connect to the 6110 CCM Enterprise server via the Proxy Server.

11. Click **Start=>Run** on your task bar to launch the registry editor.
12. Type *regedit*, and click **Enter**.
13. Change the value HKEY_LOCAL_MACHINE\SOFTWARE\Mitel Networks\6110 CCM\Common\HTTPServer from http://<prairieFyre_server_IP_address> to http://<proxy_server_external_IP_address>
14. Close the registry editor.
15. restart the 6110 CCM Enterprise server.

Additional actions and considerations

You must change the desktop 6110 CCM icon properties to reflect the proper URL.

16. Right-click the **6110 CCM** desktop icon and select **Properties**.
17. Click the **Web Document** tab and change the URL from http://localhost/6110 CCM to http://<proxy_server_external_ip_address>.

What to do if you already have an existing Web server running on Port 80

You must select a port number that is not currently in use on your network. In this example port 81 is used. If your company already has a Web server behind the Proxy Server on port 81, you must change the port that the prairieFyre WWW Server uses to something other than 81. You can't have more than one system trying to listen on the same port.

NOTE: All the following operations are performed on the 6110 CCM Enterprise server—*not* the Proxy Server. Do not make any changes to the Proxy Server.

To change the port number:

1. Install the Microsoft Proxy Client on the 6110 CCM Enterprise server.
2. Create a new file in Notepad or any other text editor and type the following information.

```
[INETINFO]
ServerBindTcpPorts=81
KillOldSession=1
Persistent=1
```

3. Save the file as wspcfg.ini in the \winnt\system32\inetsrv directory on the drive where you installed Windows NT.

This instructs the Proxy Server to forward any requests on port 81 to the 6110 CCM Web Server.

4. Open the Internet Service Manager.
5. Click **Start=>Programs=>Windows NT 4 Options Pack=>Microsoft Internet Information Server** group.
6. Expand the Internet Information Server tree node, expand the computer name tree node—this name will be the 6110 CCM server computer name.
7. Select the Default Web site tree node by clicking on it once.
8. Right-click and select **Properties**.
9. Change the TCP Port to 81, and click **OK**.
10. Close the Internet Service Manager, and select **Yes** to save the settings.
11. Create a new file in Notepad or any other text editor and type the following information.

```
[PFMainSrvr]
ServerBindTcpPorts=5024
KillOldSession=1
Persistent=1
```

12. Save the file as wspcfg.ini in the program files\Mitel Networks\6110 CCM\6110 CCM directory on the drive where you installed the prairieFyre software.
13. Start Notepad.
14. Open the global.asa file located in the \inetpub\wwwroot\6110 CCM directory on the drive where you installed IIS.
15. Locate Application.value("sHTTPServer") = "http://<prairieFyre_server_ip_address>" and change this file to Application.value("sHTTPServer") = "http://<proxy_server_external_ip_address>.81"
16. Locate Application.Value("IPADDRESS") = "prairieFyre_server_ip_address" and change this file to Application.Value("IPADDRESS") = "proxy_server_external_ip_address"
17. Save the file.

The WWW variable Application.Value (“IPADDRESS”) normally holds the IP address of the 6110 CCM Enterprise server. However, because the 6110 CCM Enterprise server is behind the Proxy Server direct communication with the 6110 CCM Enterprise server is not allowed. By changing the IP address to that of the Proxy, you are telling the 6110 CCM SuperAdvisor to connect to the 6110 CCM Enterprise server via the Proxy Server.

18. Click **Start=>Run** on your task bar to launch the registry editor.
19. Type *regedit*, and click **Enter**.
20. Change the value HKEY_LOCAL_MACHINE\SOFTWARE\Mitel Networks\6110 CCM\Common\HTTPServer from http://<prairieFyre_server_IP_address> to http://<proxy_server_external_IP_address>:81
21. Close the registry editor.
22. Restart the 6110 CCM Enterprise server.

Additional actions and considerations

You must change the desktop 6110 CCM icon properties to reflect the proper URL.

23. Right-click the **6110 CCM** desktop icon and select **Properties**.
24. Click the **Web Document** tab and change the URL from http://localhost/6110 CCM to http://prairiefyre_server_ip_address:81/6110 CCM

Internal clients wishing to access the 6110 CCM Web site must use http://prairiefyre_server_ip_address:81/6110 CCM as the URL for the site.

External clients must use http://proxy_server_external_ip_address:81/6110 CCM to connect to the site.

Notes that apply to both scenarios

One additional change must be made to the Internet Explorer configuration on the 6110 CCM Enterprise server and on all client computers that need to access the 6110 CCM Web site.

To change the Automatically Detect Settings option:

1. Start Internet Explorer 5.5.

If Internet Explorer 5.5 is not installed then use the 6110 CCM CD to install it. It is a minimum requirement for 6110 CCM.

2. Click **Tools=>Internet Options**.
3. Click the **Connections** tab and click **Lan Setting**.

Ensure that only the Automatically Detect Settings option is checked.

4. Click **OK** and click **Apply** (if not dimmed).
5. Close the dialog box.
6. Quit Internet Explorer.

Special note for external clients

External clients who connect to the Internet using a corporate Internet connection or a private ISP Internet connection will not be able to access the 6110 CCM Web site if the Internet provider is also running a proxy server.

Appendix B

Modifying the InstallShield 6.0 Setup

The following section describes the sub-directories InstallShield creates on your computer and the operations InstallShield performs in addition to copying files and registering COM components.

1. During the 6110 CCM installation, InstallShield sets up a sub-directory on C:\Program Files called InstallShield Installation Information. It has a series of sub-directories that are Globally Unique Identifiers (GUID), such as C:\Program Files\InstallShield Installation Information\{C412DA82-AA07-4B2B-94DA-2D00E97C3DDD}.

Every installation you build, such as the 6110 CCM NT Server installation or the Client Download installation, has a unique number generated at the time the installation script is built. The sub-directories contain the actual installation script that is run *after* a successful installation. For example, if you start the Control Panel Add/Remove Programs utility and double-click a particular 6110 CCM software component to remove it, UNInstallShield locates the sub-directory on the hard drive (that contains the script for the software component) and removes it. The setup.ini file in the subdirectory contains the name of the application associated with the directory and GUID.

2. InstallShield creates an entry in the registry (HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall) that has the GUID number mentioned in step 1. This is the key that the Add/Remove Programs utility uses to indicate what software is installed on the computer. When you double-click the Add/Remove Programs icon this key tells Windows NT where to find the software that can do the Modify, Repair, or Remove sequence for the installed application. The Display name sub-key has the name of the prairieFyre installation associated with the GUID.

3. InstallShield builds a series of registry keys under HKEY_LOCAL_MACHINE\Software\Mitel Networks that register *all* versions of each of the 6110 CCM application downloads, such as the 6110 CCM NT Server application download, and the 6110 CCM Client Excel Template download. If you install a *newer* version of the software without removing the previous version, you will see multiple installation versions under the program key.

When you use Control Panel to modify or repair an application, you must place the original installation CD into the CD-ROM drive that was used in the original installation. In addition to locating the InstallShield script, the NT installation requires components to be in their original locations for the Modify and Repair functions to do a re-installation. If you are only removing an application, you do not need the original CD.

If InstallShield appears to be messed up from a failed installation, delete the sub-directory for its GUID, delete the Registry un-install key for its GUID, and delete the version key for the application as outlined in step 3.

You can determine if software is installed on the computer, and what version it is from the registry keys found under HKEY_LOCAL_MACHINE\Software\Mitel Networks\6110 CCM. Under this key there are items such as ClientDownloadVersion=2.00.009 and ClientDownloadDirectory=C:\Program Files. Each installation has two keys: one key specifies the location where the software was last installed; the other key specifies the current version of the software. If the software component is removed the version tag is deleted. The directory tag remains to allow you to re-install to the same location.

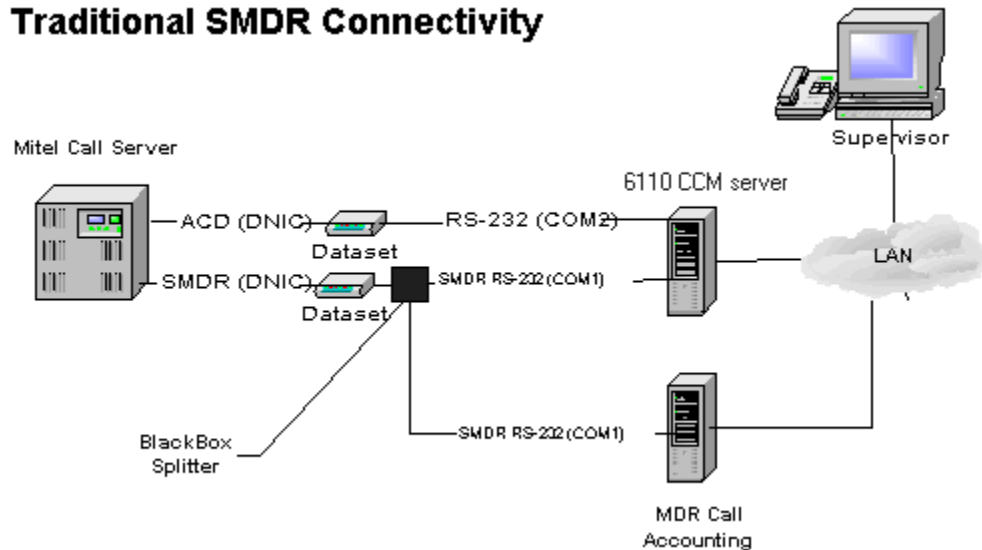
NOTE: On installation, you *must* have WRITE access to the hive of the registry key. When running *any* 6110 CCM application you must be running under an account that can READ this hive.

Appendix C

The MDR Millennium Telecom Billing System

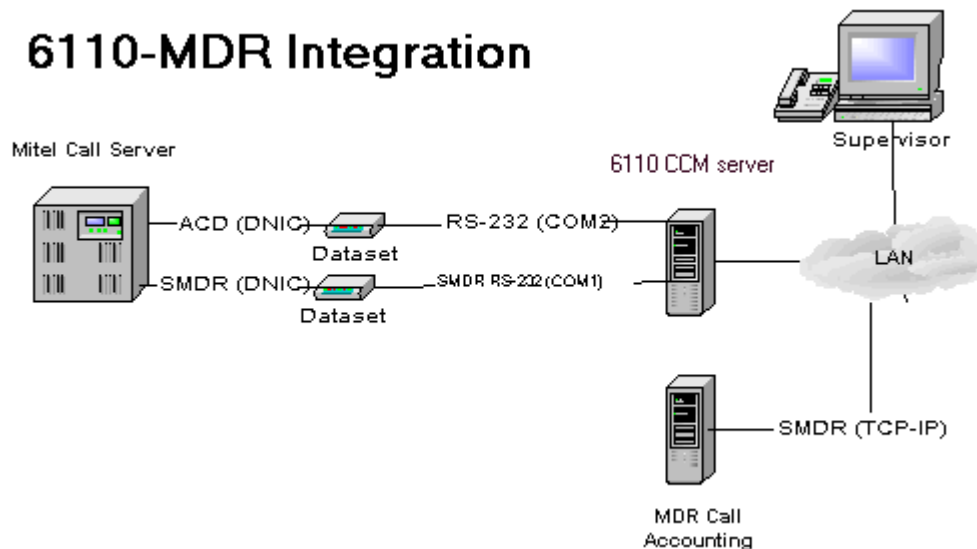
The MDR call costing application relies on the SMDR data stream. Traditionally, the setup required a black box splitter to split the SMDR stream from the Mitel Call Server into two paths: a path feeding the MDR call accounting application and a path feeding 6110 CCM. The following figure illustrates the setup.

Figure 43 Traditional SMDR Connectivity
Traditional SMDR Connectivity



6110-MDR integration

With the optional 6110 CCM-MDR integration, 6110 CCM provides the MDR call costing application with the SMDR data stream. The SMDR stream travels directly to 6110 CCM and 6110 CCM buffers the SMDR (CDR - Call Detail Records) data on the hard drive. This data is retrieved by the Millennium TBS software. 6110 CCM synchronizes SMDR with MDR over TCP/IP through a specific port. The following figure illustrates the setup.

Figure 44 6110 CCM and MDRA integration**6110-MDR Integration****6110 CCM and MDRA integration procedures**

When 6110 CCM and MDRA integrate properly, a CDR (Call Detail Reporting) file is created in the local machine, (for example, PFMDRGetSMDR (“216.221.220.55”, 5400, 10, “C:\MDR\SCRIPT”, “CyberACDout.CDR”, 1, TRUE), where 216.221.220.55 is the IP address, 5400 is the IP port, 10 is the TimeOut, C:\MDR\SCRIPT is the FilePath, CyberACDout.CDR is the FileName, 1 is the Mode, and TRUE is the CreateLog.

For the 6110 CCM and the MDR to integrate properly, you must ensure Millennium TBS is able to retrieve data, set up the MDR Collector, and enable buffering.

Ensuring Millennium TBS is able to retrieve data

With two specific .dll files copied to the MDR\Execs directory, 6110 CCM can retrieve data.

- Ensure Dunzip32.dll and PFMDR.dll are in the MDR\Execs directory.

MDR should automatically install these files. If they were not installed, see your MDR documentation.

Setting up the MDR Collector (to get CDR from 6110 CCM)

1. Select the **Ethernet** connection.
2. Select the **6110 CCM extend** or **6110 CCM non-extended** CDR collection script.

NOTE: The IP port is configurable. The default IP port is 5400 on the primary node, and is defined in the prairieFyre Management Console.

3. Type the IP address and the IP port of the 6110 CCM server.

For example, type “216.221.220.219:5400.”

Enabling buffering

With buffering enabled, 6110 CCM can send the CDR to MDR.

1. On the 6110 CCM Enterprise server, click **Start=>Programs =>Mitel Networks=>prairieFyre Management Console.**
2. Click the **System Settings** tab.
3. Double-click **Enable MDR SMDR Buffering.**

An Enable MDR SMDR Buffering window appears.

4. Click **Yes.**
5. Click **OK.**

