



DBDS Alarm Manager 1.0 Installation Instructions

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

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About This Guide

Introduction

This guide provides instructions for installing and configuring the Digital Broadband Delivery System (DBDS) Alarm Manager 1.0 software. The DBDS Alarm Manager 1.0 software runs on the DBDS Alarm Manager platform, which is simultaneously installed and configured.

Audience

This guide provides system operators and headend administrators of the DBDS with instructions for installing and configuring the DBDS Alarm Manager 1.0 software. Field service engineers can also use these instructions to increase their familiarity with the Alarm Manager product.

Related Publications

You may find the following publications useful as resources when you implement the procedures in this document.

- *DBDS Alarm Manager 1.0 Alarm Troubleshooting Help* (part number 749254)
- *DBDS Alarm Manager 1.0 Online Help* (part number 745259)

Read Me

Please read this entire guide before beginning the installation process. If you are uncomfortable with any of the procedures, contact Cisco Services at for assistance.

Important: Perform all of the procedures in this guide in the order in which they are presented. Failure to follow all of the instructions may lead to undesirable results.

UNIX vi Editor

These installation instructions require you to edit system files using the UNIX vi text editor. The UNIX vi text editor is not intuitive. The procedures provided in these upgrade instructions are not a substitute for an advanced working knowledge of vi. Do not attempt to edit any files if you are not an experienced vi user.

System Release Compatibility

DBDS Alarm Manager version 1.0, consisting of Alarm Manager Client 1.0.1.3, Alarm Manager Server 1.0.1.3, and Alarm Manager NMI 1.0.0.8, was tested and released for System Release (SR) 2.2 and SR 3.2 Service Pack 2. This product can be applied to a DBDS system running with Digital Network Control System (DNCS) application version 3.0.1.16p2.

For a complete configuration listing of DBDS Alarm Manager 1.0 or SR 2.2 and SR 3.2 Service Pack 2 software compatibility, please contact Cisco Services.

Prerequisites

Take note of the following prerequisites before you install the Alarm Manager software:

- Your DBDS must currently be operating with SR 2.2 or SR 3.2 Service Pack 2 or later, before installing the Alarm Manager software.
- If you are upgrading a site that already supports Alarm Manager software, be sure that you have a current backup of the Alarm Manager files and database. Refer to the **Backup and Restore EMS Database and Files** section of the Alarm Manager online Help for backup procedures.

Estimated Time to Complete These Procedures

If you are upgrading a site that already supports Alarm Manager software, you can usually back up the Alarm Manager files and database in 10 minutes, or less.

You can usually install and configure all of the Alarm Manager components in 1 hour, or less.

Naming Conventions

Some of the screens that appear during installation of the Alarm Manager 1.0 software use various names to refer to the Alarm Manager components. You may sometimes see the *Network Operations Center (NOC) Alarm Manager Server* referred to as the *NOC EMS Server* and the *Site Alarm Manager Server* referred to as the *Site EMS Server*. The term *EMS* is synonymous with *Alarm Manager*.

Note: The NOC Alarm Manager Server monitors one or more Site Alarm Manager Servers.

Document Version

This is the third release of this guide. In addition to minor text and graphic changes, the following table provides the technical changes to this guide.

Description	See Topic
The command used to install the NMI software has been changed from <code>install_nmi</code> to <code>install_pkg</code> .	This change is reflected in the following procedures: <ul style="list-style-type: none"> <li data-bbox="893 924 1378 997">■ <i>Install the NMI Software Directly Onto the DNCS</i> (on page 37) <li data-bbox="893 1008 1378 1113">■ <i>Install the NMI Software Remotely From the Alarm Manager Server</i> (on page 41)

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Alarm Manager Pre-Installation Checklist

Introduction

This chapter contains the following material for sites that plan to install the Alarm Manager software:

- A diagram that represents a typical network configuration of Alarm Manager equipment
- Several checklists that contain hardware and software requirements that must be met prior to the installation of Alarm Manager software

Before installing the Alarm Manager software, our engineers require that system operators supply the requested information on the diagram and the checklists and mail or fax them to the representative who manages their account. The representative will examine the responses and determine whether the site meets the configuration requirements for the Alarm Manager product.

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Pre-Installation Checklist Diagram

This section contains a diagram that represents a typical Alarm Manager configuration. The diagram is generic; the specific details of your configuration are likely to be different. Our engineers require that system operators who plan to install Alarm Manager software first fill out the information requested on the diagram (later in this section) and then mail or fax it, along with the checklists in the next section, to the representative responsible for handling their account. This representative, in conjunction with our engineers, will examine the responses and will determine whether the site meets the requirements for the installation of Alarm Manager software.

Definitions

The diagram that follows references two types of Alarm Manager installations, a Site Alarm Manager and a NOC Alarm Manager. To acquaint yourself with these two types of installations, note the following definitions:

- A Site Alarm Manager monitors one or more Digital Network Control Systems (DNCS) and all associated headend equipment.
- A NOC Alarm Manager monitors one or more Site Alarm Managers.

Note These Important Points

As you supply the information on the following diagram, note these points:

- If you have more than two Site Alarm Manager servers, be sure to supply the information for each. Make as many copies of the diagram as necessary.
- If you do not have a NOC Alarm Manager, you do not need to supply information for section (A) of the diagram.
- Information for section (B) and (C) of the diagram may be identical, depending upon your network configuration.
- Each "Interface" should be named something similar to **hme0**, **hme1**, **qfe0**, etc.
- Each hostname must correspond to the associated IP address.
- When the Alarm Manager software reports an alarm, the hostname or the IP address specified in section (D) of the diagram will be used in identifying the device name associated with the alarm.

Note: The choice of whether to use *hostname* or *IP address* is made during installation of the Network Management Interface (NMI) software, which is covered later in these instructions.

- The DNCS Site ID is unique for each DNCS and consists of the letter "L," followed by four or five numerals and possibly a hyphen and another numeral.
Example: L1234 or L12345-1
- The information in section (E) of the diagram must be a private network to the TED.

Diagram

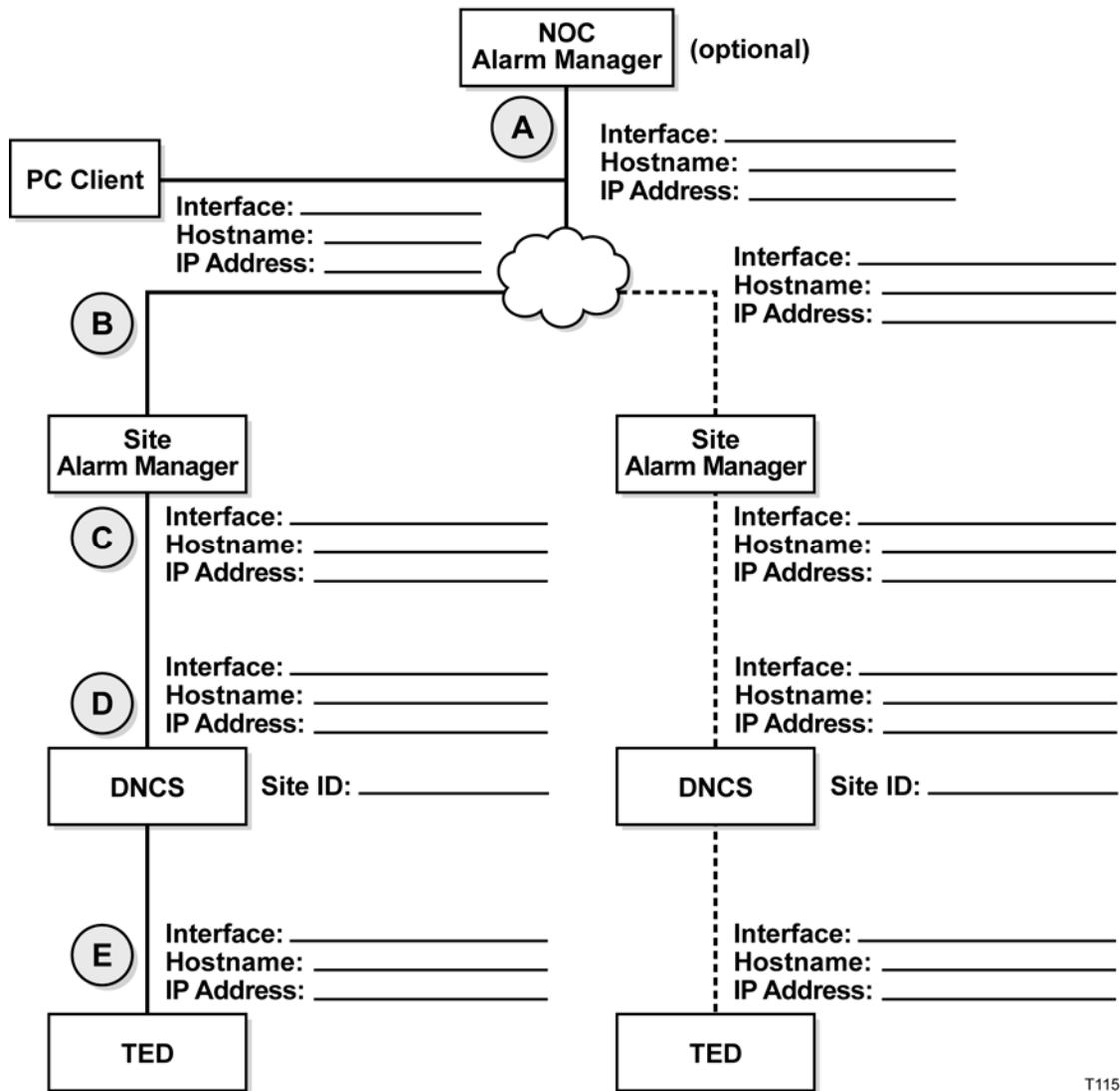
The following diagram represents a generic network configuration; your site is likely to be different. Note the following likely differences:

- The Site Alarm Manager can manage more than one DNCS server; this diagram shows each Site Alarm Manager managing only a single DNCS.
- A NOC Alarm Manager can manage more than one Site Alarm Manager. This diagram shows a NOC Alarm Manager managing two Site Alarm Managers.

Note: Not all systems include a NOC Alarm Manager.

Be sure to supply information for each DNCS server managed by each Site Alarm Manager. Be sure to supply information for each Site Alarm Manager managed by your NOC Alarm Manager (if applicable). Make as many copies of this diagram as necessary in order to supply your representative with the needed information.

Company Name: _____
 Contact Name: _____
 Contact Phone Number: _____



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Network Management Interface Software Checklist

Answer the questions in this section to ensure that your DNCS meets the minimum requirements to support the NMI software.

Important: If you respond No to any of these questions, you must correct the situation before you can install Alarm Manager software.

Requirement	Yes	No
<p>Follow these instructions to determine the current DNCS software version supported by your system.</p>		
<p>1 From an xterm window, type pkginfo -l SAIdncs and then press Enter.</p> <p>Note: The "l" is a lowercase L.</p> <p>Result: The system displays the version of software loaded on the DNCS.</p>		
<p>2 Record the DNCS software version here: _____</p>		
<p>3 Does the DNCS support SR 2.2 or SR 3.2 Service Pack 2 or later, system software?</p> <p>Note: If you have not already installed SR 2.2 or SR 3.2 Service Pack 2 or later software, you must do so before installing the Alarm Manager software.</p>		
<p>Follow these instructions to determine whether port 5161 on the DNCS is available for the NMI software to receive Simple Network Management Protocol (SNMP) requests.</p>		
<p>1 From an xterm window, type grep 5161 /etc/services and then press Enter.</p>		
<p>2 Is port 5161 available for the NMI software to receive SNMP requests?</p>		
<p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5161 does not appear in the output of the command, then the port is available for use to receive SNMP requests. ■ If an entry for this port does appear in the output, the port is available for use to receive SNMP requests as long as the comment portion of the entry indicates something similar to "Used by NMI". 		

Requirement	Yes	No
<p>Follow these instructions to determine whether port 5162 on the DNCS is available for the NMI software to receive SNMP traps.</p> <ol style="list-style-type: none"> 1 From an xterm window, type grep 5162 /etc/services and then press Enter. 2 Is port 5162 available for the NMI software to receive SNMP traps? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5162 does not appear in the output of the command, then the port is available for use to receive SNMP traps. ■ If an entry for this port does appear in the output, the port is available for use to receive SNMP traps as long as the comment portion of the entry indicates something similar to "Used by NMI". 		
<p>Follow these instructions to determine whether your DNCS is able to successfully ping each Alarm Manager server by IP address and hostname.</p> <ol style="list-style-type: none"> 1 From an xterm window, type ping [Alarm Manager server IP address] and then press Enter. 2 From an xterm window, type ping [Alarm Manager hostname] and then press Enter. 3 Repeat steps 1 and 2 for each Alarm Manager server. 4 Did a message similar to device is alive appear each time? If yes, then the ping command was successful. 		
<p>Do you have a recent backup of the DNCS database and filesystem?</p> <p>If you do not have a recent backup, refer to <i>DBDS Backup and Restore Procedures For SR 2.2 Through 4.2</i> (part number 4013779 Revision A) for instructions on backing up the DNCS database and filesystem.</p>		

Pre-Installation Checklist-Alarm Manager Server

The Alarm Manager server software can run on several Sun Microsystems platforms. When you choose the platform on which you will run the Alarm Manager software, base your decision upon the number of deployed DHCTs your system supports.

Note: You can run the Doctor Report on your DNCS and refer to the **DHCT Type Summary** section to determine how many DHCTs are deployed on your system.

Sites With Fewer Than 100,000 Deployed DHCTs

The following list contains the minimum hardware requirements for sites that support fewer than 100,000 deployed DHCTs:

- 256 MB of memory
- 400 MHz processor
- One 18-GB (or larger) disk drive
- Two Ethernet adapters
- Solaris 8 Operating System

Sites With More Than 100,000 Deployed DHCTs

The following list contains the minimum hardware requirements for sites that support more than 100,000 deployed DHCTs:

- 512 MB of memory
- Two 400 MHz processors
- Two 18-GB (or larger) disk drives
- Two Ethernet adapters
- Solaris 8 Operating System

Several checklists follow. Each checklist contains questions that can help you determine whether your system can support the Alarm Manager server software. Fill out the chart under *Fewer Than 100,000 Deployed DHCTs* (on page 8) if your system supports fewer than 100,000 deployed DHCTs. Fill out the chart under *More Than 100,000 Deployed DHCTs* (on page 15) if your system supports more than 100,000 deployed DHCTs.

Fewer Than 100,000 Deployed DHCTs

Answer the following questions to determine whether your system meets the minimum hardware and software requirements to support Alarm Manager server software.

Important: If you respond **No** to any of these questions, you need to correct the situation before you install Alarm Manager software.

Requirement	Yes	No
-------------	-----	----

Does each Alarm Manager server have at least 256 MB of memory?

Follow these instructions to determine whether you have a partition on each Alarm Manager server that has at least 145 MB of available disk space, plus an additional 10 MB for each DNCS system you will monitor.

Note: This is the partition where you will install the Alarm Manager server software.

- 1 From an xterm window on each Alarm Manager server, type **df -k** and then press **Enter**.

Result: The output that appears looks similar to the following:

Filesystem	1024-blocks	Used	Available	Capacity	Mounted on
/dev/dsk/c0t0d0s0	493688	170056	274264	39%	/
/dev/dsk/c0t0d0s6	1018382	589352	367928	62%	/usr
/proc	0	0	0	0%	/proc
fd	0	0	0	0%	/dev/fd
mnttab	0	0	0	0%	/etc/mnttab
/dev/dsk/c0t0d0s3	1018382	135060	822220	15%	/var
swap	952320	24	952296	1%	/var/run
swap	953536	1240	952296	1%	/tmp
/dev/dsk/c0t8d0s0	3002412	1696370	1245994	58%	/disk1
/dev/dsk/c0t0d0s7	5084639	2314024	2719769	46%	/export/home

Notes:

- Note that each of the listed filesystems in this example has enough space to install the Alarm Manager software.
 - Our engineers recommend that you install the Alarm Manager software in the /export/home directory.
- 2 Is there a partition on each Alarm Manager server that has at least 145 MB of available disk space, plus an additional 10 MB for each DNCS system you will monitor?

Does each Alarm Manager server have at least two Ethernet adapters?

Note: Ask your network administrator if you do not know how to determine this.

Requirement	Yes	No
<p>Follow these instructions to determine whether the Solaris 8 operating system is installed on each Alarm Manager server.</p> <ol style="list-style-type: none"> <li data-bbox="328 336 1234 483"> 1 From an xterm window on each Alarm Manager server, type uname -x and then press Enter. Result: The system displays the release number of operating system software on the server. <li data-bbox="328 483 1234 651"> 2 Is the release number 5.8? (Release number 5.8 is synonymous with Solaris 8.) Note: You need to install Solaris 8 before using the Alarm Manager product. 		
<p>Follow these instructions to determine whether the time zone of each site Alarm Manager server is set to the time zone where the server is physically located.</p> <ol style="list-style-type: none"> <li data-bbox="328 766 1234 892"> 1 From an xterm window on each Alarm Manager server, type cat /etc/TIMEZONE and then press Enter. Result: The contents of the /etc/TIMEZONE file are displayed. <li data-bbox="328 892 1234 976"> 2 Is the time zone of each Alarm Manager server set to the time zone where the server is located? 		
<p>Follow these instructions to determine whether the time zone of each NOC Alarm Manager server is set to the local time zone where the server is physically located.</p> <ol style="list-style-type: none"> <li data-bbox="328 1081 1234 1207"> 1 From an xterm window on each NOC Alarm Manager server, type cat /etc/TIMEZONE and then press Enter. Result: The contents of the /etc/TIMEZONE file are displayed. <li data-bbox="328 1207 1234 1302"> 2 Is the time zone of each NOC Alarm Manager server set to the time zone where the server is located? 		
<p>Follow these instructions to determine whether port 3050 on each Alarm Manager server is available for use.</p> <ol style="list-style-type: none"> <li data-bbox="328 1386 1234 1459"> 1 From an xterm window on each Alarm Manager server, type grep 3050 /etc/services and then press Enter. <li data-bbox="328 1459 1234 1512"> 2 Is port 3050 available for use? <p>Notes:</p> <ul style="list-style-type: none"> <li data-bbox="328 1554 1234 1627">■ If port 3050 <i>does not</i> appear in the output of the command, it is available for use. <li data-bbox="328 1638 1234 1743">■ If an entry for this port does appear in the output, the port is available for use as long as the comment portion of the entry indicates something similar to "Cisco EMS Interbase Server". 		

Requirement	Yes	No
<p>Follow these instructions to determine whether port 5161 on each Alarm Manager server is available for the NMI software to receive SNMP requests.</p> <ol style="list-style-type: none"> 1 From an xterm window on each Alarm Manager server, type grep 5161 /etc/services and then press Enter. 2 Is port 5161 available for the NMI software to receive SNMP requests? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5161 <i>does not</i> appear in the output of the command, then it is available to receive SNMP requests. ■ If an entry for this port <i>does</i> appear in the output, the port is available for use to receive SNMP requests as long as the comment portion of the entry indicates something similar to "Used by NMI". 		
<p>Follow these instructions to determine whether port 5162 on each Alarm Manager server is available for the NMI software to receive SNMP traps.</p> <ol style="list-style-type: none"> 1 From an xterm window on each Alarm Manager server, type grep 5162 /etc/services and then press Enter. 2 Is port 5162 available for the NMI software to receive SNMP traps? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5162 <i>does not</i> appear in the output of the command, it is available to receive SNMP traps. ■ If an entry for this port <i>does</i> appear in the output, the port is available for use to receive SNMP traps as long as the comment portion of the entry indicates something similar to "Used by NMI". 		
<p>If this is a site Alarm Manager server, follow these instructions to determine whether port 5901 is available for communications with the DNCS.</p> <ol style="list-style-type: none"> 1 From an xterm window on the server, type grep 5901 /etc/services and then press Enter. 2 Is port 5901 available for use? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5901 <i>does not</i> appear in the output of the command, it is available for use. ■ If an entry for this port <i>does</i> appear in the output, the port is available for communicating with the DNCS as long as the comment portion of the entry indicates something similar to "Used by NMI". 		

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager server can successfully ping each Alarm Manager client PC by IP address.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 350 1182 443">1 From an xterm window on each server, type ping [Alarm Manager client PC IP address] and then press Enter for each Alarm Manager client PC. <li data-bbox="337 459 1086 533">2 Did the message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		
<p>If this is a site Alarm Manager server, follow these instructions to determine whether the site Alarm Manager server can successfully ping each DNCS, as referenced by section (D) in the pre-installation checklist diagram, by IP address and hostname.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 707 1130 770">1 From an xterm window on the site Alarm Manager server, type ping [DNCS IP address] and then press Enter. <li data-bbox="337 787 1130 850">2 From an xterm window on the site Alarm Manager server, type ping [DNCS hostname] and then press Enter. <li data-bbox="337 867 1196 898">3 Repeat steps 1 and 2 for each DNCS and each Alarm Manager server. <li data-bbox="337 915 1076 980">4 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		
<p>If this is a site Alarm Manager server, follow these instructions to determine whether the site Alarm Manager server can successfully ping the NOC Alarm Manager server, as referenced by section (A) in the pre-installation checklist diagram, by IP address and hostname.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 1155 1203 1218">1 From an xterm window on the site Alarm Manager server, type ping [NOC Alarm Manager server IP address] and then press Enter. <li data-bbox="337 1234 1130 1297">2 From an xterm window on the site Alarm Manager server, type ping [NOC Alarm Manager hostname] and then press Enter. <li data-bbox="337 1314 1070 1381">3 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		
<p>If this is a NOC Alarm Manager server, follow these instructions to determine whether the NOC Alarm Manager server can successfully ping all site Alarm Manager servers, as referenced in section (B) of the pre-installation checklist diagram, by IP address and hostname.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 1556 1182 1619">1 From an xterm window on the NOC Alarm Manager server, type ping [site Alarm Manager server IP address] and then press Enter. <li data-bbox="337 1635 1151 1698">2 From an xterm window on the NOC Alarm Manager server, type ping [site Alarm Manager hostname] and then press Enter. <li data-bbox="337 1715 1049 1747">3 Repeat steps 1 and 2 for each site Alarm Manager server. <li data-bbox="337 1764 1070 1829">4 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		

Requirement	Yes	No
<p>Follow these instructions to determine whether the hostname of each Alarm Manager server is correctly associated with the IP address to which the Alarm Manager client PCs and the NOC Alarm Manager (if applicable) are connected.</p> <ol style="list-style-type: none"> 1 Log on to the Alarm Manager server as root user. 2 Type hostname and then press Enter. 3 Type arp [hostname] and then press Enter. 4 Repeat steps 1 through 3 for each site Alarm Manager server. 5 Is the hostname and IP address that is displayed each time associated with the IP address to which the Alarm Manager client PCs and the NOC Alarm Manager (if applicable) are connected, as referenced in section (B) of the pre-installation checklist diagram? <p>Follow these instructions to determine whether the hostname of the NOC Alarm Manager server is correctly associated with the IP address to which the Alarm Manager client PCs are connected.</p> <ol style="list-style-type: none"> 1 Log on to the NOC Alarm Manager server as root user. 2 Type hostname and then press Enter. 3 Type arp [hostname] and then press Enter. 4 Is the hostname and IP address that is displayed associated with the IP address to which the Alarm Manager client PCs are connected, as referenced in section (A) of the pre-installation checklist diagram? 		
<p>Follow these instructions to determine whether the <code>/etc/nodename</code> file for the Alarm Manager server contains the same hostname that results when you run the UNIX <code>hostname</code> command.</p> <ol style="list-style-type: none"> 1 From an xterm window on the Alarm Manager server, type cat /etc/nodename and then press Enter. Result: The contents of the <code>/etc/nodename</code> file are displayed. 2 From another xterm window on the Alarm Manager server, type hostname and then press Enter. 3 Repeat steps 1 and 2 for each site Alarm Manager. 4 Are the two hostname variables identical? 		

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager server contains an /etc/hostname.xxxx file, where xxxx corresponds to the Ethernet interface that has connectivity to the PC client(s) and NOC Alarm Manager server (if applicable).</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <ol style="list-style-type: none"> <li data-bbox="337 468 1101 527">1 From an xterm window on each Alarm Manager server, type ls -l /etc grep host and then press Enter. <p>Note: Each "l" is a lowercase L.</p> <ol style="list-style-type: none"> <li data-bbox="337 585 1227 680">2 Does the result from step 1 yield a file called hostname.xxxx where xxxx is the interface that has connectivity to the PC client(s) and NOC Alarm Manager server (if applicable)? 		
<p>Follow these instructions to determine whether the /etc/hostname.xxxx file of each Alarm Manager server contains the hostname associated with the Ethernet interface xxxx.</p> <ol style="list-style-type: none"> <li data-bbox="337 827 1084 886">1 From an xterm window on the Alarm Manager server, type cat /etc/hostname.xxxx and then press Enter. <p>Note: Substitute the actual Ethernet interface described above for xxxx.</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <p>Result: The contents of the /etc/hostname.xxxx file are displayed.</p> <ol style="list-style-type: none"> <li data-bbox="337 1031 1211 1089">2 Is the result from 1 the hostname that is associated with the IP address for Ethernet interface xxxx? 		
<p>Follow these instructions to determine whether each Alarm Manager server contains an /etc/hostname.xxxx file, where xxxx corresponds to the Ethernet interface that has connectivity to the DNCS?</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <ol style="list-style-type: none"> <li data-bbox="337 1283 1084 1341">1 From an xterm window on the Alarm Manager server, type ls -l /etc grep host and then press Enter. <p>Note: Each "l" is a lowercase L.</p> <ol style="list-style-type: none"> <li data-bbox="337 1404 1227 1463">2 Does the result from step 1 yield a file called hostname.xxxx where xxxx is the interface that has connectivity to the DNCS?. 		
<p>Follow these instructions to determine whether the /etc/hostname.xxxx file of each Alarm Manager server contains the hostname associated with the Ethernet interface that has connectivity to the DNCS.</p> <ol style="list-style-type: none"> <li data-bbox="337 1610 1084 1669">1 From an xterm window on the Alarm Manager server, type cat /etc/hostname.xxxx and then press Enter. <p>Note: Substitute the actual Ethernet interface described above for xxxx.</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <p>Result: The contents of the /etc/hostname.xxxx file is displayed.</p> <ol style="list-style-type: none"> <li data-bbox="337 1816 1167 1875">2 Is the result from step 1 the hostname that is associated with the IP address for Ethernet interface that has connectivity to the DNCS? 		

Chapter 1 Alarm Manager Pre-Installation Checklist

Requirement	Yes	No
If you are using the /etc/hosts file for your naming service, are the contents of the file accurate for all DNCS and Alarm Manager servers?		
If you are using a naming service other than the /etc/hosts file, are the settings accurate for all DNCS and Alarm Manager servers?		

More Than 100,000 Deployed DHCTs

Answer the following questions to determine whether your server meets the minimum hardware and software requirements to support Alarm Manager software on a system that supports more than 100,000 deployed DHCTs.

Important: If you respond **No** to any of these questions, you need to correct the situation before you install Alarm Manager software.

Requirement	Yes	No
Follow these instructions to determine whether each Alarm Manager server has at least 512 MB of memory.		
1 From an xterm window on each Alarm Manager server, type su - and then press Enter .		
2 Type the root password and then press Enter .		
3 Type /usr/platform/sun4u/sbin/prtdiag and then press Enter . Result: The system displays server diagnostic information.		
4 Does the server have at least 512 MB of memory? Note: System memory is located in the section labeled System Configuration .		

Requirement	Yes	No
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Follow these instructions to determine whether you have a partition on each Alarm Manager server that has at least 145 MB of available disk space, plus an additional 10 MB for each DNCS system you will monitor.

Note: This is the partition where you will install the Alarm Manager server software.

- 1 From an xterm window on each server, type **df -k** and then press **Enter**.

Result: The output that appears looks similar to the following:

Filesystem	1024-blocks	Used	Available	Capacity	Mounted on
/dev/dsk/c0t0d0s0	493688	170056	274264	39%	/
/dev/dsk/c0t0d0s6	1018382	589352	367928	62%	/usr
/proc	0	0	0	0%	/proc
fd	0	0	0	0%	/dev/fd
mnttab	0	0	0	0%	/etc/mnttab
/dev/dsk/c0t0d0s3	1018382	135060	822220	15%	/var
swap	952320	24	952296	1%	/var/run
swap	953536	1240	952296	1%	/tmp
/dev/dsk/c0t8d0s0	3002412	1696370	1245994	56%	/disk1
/dev/dsk/c0t0d0s7	5084639	2314024	2719769	46%	/export/home

Notes:

- Note that each of the listed filesystems in this example has enough space to install the Alarm Manager software.
 - Our engineers recommend that you install the Alarm Manager software in the /export/home directory.
- 2 Is there a partition on each server that has at least 145 MB of available disk space, plus an additional 10 MB for each DNCS system you will monitor?

Does each Alarm Manager server have at least two Ethernet adapters?

Note: Ask your network administrator if you do not know how to determine this.

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager server has two 18-GB hard drives:</p>		
<ol style="list-style-type: none"> <li data-bbox="337 352 1227 384">1 From an xterm window on each server, type su - and then press Enter. <li data-bbox="337 394 1227 426">2 Type the root password and then press Enter. <li data-bbox="337 436 1227 468">3 Type format < /dev/null and then press Enter. <ul style="list-style-type: none"> <li data-bbox="386 478 1227 535">Result: The system analyzes the disk configuration on the server and displays output similar to the following: <li data-bbox="386 556 690 588">Searching for disks...done <li data-bbox="386 598 787 630">AVAILABLE DISK SELECTIONS: <li data-bbox="435 640 1015 714">0. c0t0d0 <SUN18.0G cyl 4924 alt 2 hd 27 sec 133> /pci@1f,4000/scsi@3/sd@0,0 <li data-bbox="435 724 1015 798">1. c0t8d0 <SUN18.0G cyl 4924 alt 2 hd 27 sec 133> /pci@1f,4000/scsi@3/sd@8,0 <li data-bbox="386 808 1144 840">Note: This example shows a server with two 18-GB hard drives. <p data-bbox="337 856 933 890">4 Does each server have two 18-GB hard drives?</p>		
<p>Follow these instructions to determine whether the Solaris 8 operating system is installed on each Alarm Manager server.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 997 1235 1054">1 From an xterm window on each server, type uname -x and then press Enter. <ul style="list-style-type: none"> <li data-bbox="386 1075 1235 1131">Result: The system displays the release number of the operating system software on the server. <li data-bbox="337 1152 1235 1209">2 Is the release number 5.8? (Release number 5.8 is synonymous with Solaris 8.) <ul style="list-style-type: none"> <li data-bbox="386 1230 1235 1287">Note: You need to install Solaris 8 before using the Alarm Manager product. 		
<p>Follow these instructions to determine whether the time zone of each site Alarm Manager server is set to the time zone where the server is physically located.</p>		
<ol style="list-style-type: none"> <li data-bbox="337 1436 1248 1493">1 From an xterm window on each Alarm Manager server, type cat /etc/TIMEZONE and then press Enter. <ul style="list-style-type: none"> <li data-bbox="386 1514 1138 1545">Result: The contents of the /etc/TIMEZONE file are displayed. <li data-bbox="337 1556 1248 1614">2 Is the time zone of each Alarm Manager server set to the time zone where the server is located? 		

Requirement	Yes	No
<p>Follow these instructions to determine whether the time zone of the NOC Alarm Manager server is set to the local time zone where the server is physically located.</p> <ol style="list-style-type: none"> From an xterm window on the NOC Alarm Manager server, type cat /etc/TIMEZONE and then press Enter. Result: The contents of the /etc/TIMEZONE file are displayed. Is the time zone of the NOC Alarm Manager server set to the time zone where the server is located? 		
<p>Follow these instructions to determine whether port 3050 on each Alarm Manager server is available for use.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type grep 3050 /etc/services and then press Enter. Is port 3050 available for use? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 3050 does not appear in the output of the command, it is available for use. ■ If an entry for this port does appear in the output, the port is available for use as long as the comment portion of the entry indicates something similar to "Cisco EMS Interbase Server". 		
<p>Follow these instructions to determine whether port 5161 on each Alarm Manager server is available for the NMI software to receive SNMP requests.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type grep 5161 /etc/services and then press Enter. Is port 5161 available for use by the NMI software to receive SNMP requests? <p>Notes:</p> <ul style="list-style-type: none"> ■ If port 5161 does not appear in the output of the command, then it is available to receive SNMP requests. ■ If an entry for this port does appear in the output, the port is available for use to receive SNMP requests as long as the comment portion of the entry indicates something similar to "Used by NMI". 		

Requirement	Yes	No
<p>Follow these instructions to determine whether port 5162 on each Alarm Manager server is available for use by the NMI software to receive SNMP traps.</p>		
<ol style="list-style-type: none"> 1 From an xterm window on each Alarm Manager server, type grep 5162 /etc/services and then press Enter. 2 Is port 5162 available for use by the NMI software to receive SNMP traps? 		
Notes:		
<ul style="list-style-type: none"> ■ If port 5162 does not appear in the output of the command, then it is available to receive SNMP traps. ■ If an entry for this port does appear in the output, the port is available for use to receive SNMP traps as long as the comment portion of the entry indicates something similar to "Used by NMI". 		
<hr/> <p>If this is a site Alarm Manager server, follow these instructions to determine whether port 5901 is available for communications with the DNCS.</p>		
<ol style="list-style-type: none"> 1 From an xterm window on the server, type grep 5901 /etc/services and then press Enter. 2 Is port 5901 available for use? 		
Notes:		
<ul style="list-style-type: none"> ■ If port 5901 does not appear in the output of the command, it is available for use. ■ If an entry for this port does appear in the output, the port is available for use for communications with the DNCS as long as the comment portion of the entry indicates something similar to "Used by NMI". 		
<hr/> <p>Follow these instructions to determine whether each Alarm Manager server can successfully ping each Alarm Manager client PC by IP address.</p>		
<ol style="list-style-type: none"> 1 From an xterm window on each server, type ping [Alarm Manager client PC IP address] and then press Enter for each Alarm Manager client PC. 2 Did a message similar to device is alive appear each time? 		
Note: If yes , then each ping command was successful.		

Requirement	Yes	No
<p>If this is a site Alarm Manager server, follow these instructions to determine whether each site Alarm Manager server can successfully ping each DNCS, as referenced by section (D) in the pre-installation checklist diagram, by IP address and hostname.</p> <ol style="list-style-type: none"> 1 From an xterm window on each site Alarm Manager server, type ping [DNCS IP address] and then press Enter. 2 From an xterm window on each site Alarm Manager server, type ping [DNCS hostname] and then press Enter. 3 Repeat steps 1 and 2 for each DNCS. 4 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		
<p>If this is a site Alarm Manager server, follow these instructions to determine whether each site Alarm Manager server can successfully ping the NOC Alarm Manager server, as referenced by section (A) in the pre-installation checklist diagram, by IP address <i>and</i> hostname.</p> <ol style="list-style-type: none"> 1 From an xterm window on each site Alarm Manager server, type ping [NOC Alarm Manager server IP address] and then press Enter. 2 From an xterm window on each site Alarm Manager server, type ping [NOC Alarm Manager hostname] and then press Enter. 3 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		
<p>If this is a NOC Alarm Manager server, follow these instructions to determine whether the NOC Alarm Manager server can successfully ping all site Alarm Manager servers, as referenced by section (B) in the pre-installation checklist diagram, by IP address <i>and</i> hostname.</p> <ol style="list-style-type: none"> 1 From an xterm window on the NOC Alarm Manager server, type ping [site Alarm Manager server IP address] and then press Enter. 2 From an xterm window on the NOC Alarm Manager server, type ping [site Alarm Manager hostname] and then press Enter. 3 Repeat steps 1 and 2 for each site Alarm Manager server. 4 Did a message similar to device is alive appear each time? Note: If yes, then each ping command was successful. 		

Requirement	Yes	No
<p>Follow these instructions to determine whether the hostname of each Alarm Manager server is correctly associated with the IP address to which the Alarm Manager client PCs and the NOC Alarm Manager (if applicable) are connected.</p> <ol style="list-style-type: none"> 1 Log on to the Alarm Manager server as root user. 2 Type hostname and then press Enter. 3 Type arp [hostname] and then press Enter. 4 Repeat steps 1 through 3 for each site Alarm Manager server. 5 Is the hostname and IP address that is displayed each time associated with the IP address to which the Alarm Manager client PCs and the NOC Alarm Manager (if applicable) are connected, as referenced in section (B) of the pre-installation checklist diagram? 		
<p>Follow these instructions to determine whether the hostname of the NOC Alarm Manager server is correctly associated with the IP address to which the Alarm Manager client PCs are connected.</p> <ol style="list-style-type: none"> 1 Log on to the NOC Alarm Manager server as root user. 2 Type hostname and then press Enter. 3 Type arp [hostname] and then press Enter. 4 Is the hostname and IP address that is displayed associated with the IP address to which the Alarm Manager client PCs are connected, as referenced in section (A) of the pre-installation checklist diagram? 		
<p>Follow these instructions to determine whether the /etc/nodename file for each Alarm Manager server contains the same hostname that results when you run the UNIX hostname command.</p> <ol style="list-style-type: none"> 1 From an xterm window on each Alarm Manager server, type cat /etc/nodename and then press Enter. Result: The contents of the /etc/nodename file are displayed. 2 From another xterm window on each Alarm Manager server, type hostname and then press Enter. 3 Are the two hostname variables identical? 		

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager server contains an /etc/hostname.xxxx file, where xxxx corresponds to the Ethernet interface that has connectivity to the PC client(s) and NOC Alarm Manager server (if applicable).</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type ls -l /etc grep host and then press Enter. Note: Each "l" is a lower-case L. Does the result from step 1 yield a file called hostname.xxxx where xxxx is the interface that has connectivity to the PC client(s) and NOC Alarm Manager server (if applicable)? 		
<p>Follow these instructions to determine whether the /etc/hostname.xxxx file for each Alarm Manager server contains the hostname associated with the Ethernet interface xxxx.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type cat /etc/hostname.xxxx and then press Enter. Note: Substitute the actual Ethernet interface described above for xxxx. Example: hostname.hme1, hostname.qfe3, etc. Result: The contents of the /etc/hostname.xxxx file is displayed. Is the result from step 1 the hostname that is associated with the IP address for Ethernet interface xxxx? 		
<p>Follow these instructions to determine whether each Alarm Manager server contains an /etc/hostname.xxxx file, where xxxx corresponds to the Ethernet interface that has connectivity to the DNCS.</p> <p>Example: hostname.hme1, hostname.qfe3, etc.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type ls -l /etc grep host and then press Enter. Note: Each "l" is a lower-case L. Does the result from step 1 yield a file called hostname.xxxx where xxxx is the interface that has connectivity to the DNCS? 		
<p>Follow these instructions to determine whether the /etc/hostname.xxxx file for each Alarm Manager server contains the hostname associated with the Ethernet interface that has connectivity to each DNCS.</p> <ol style="list-style-type: none"> From an xterm window on each Alarm Manager server, type cat /etc/hostname.xxxx and then press Enter. Note: Substitute the actual Ethernet interface described above for xxxx. Example: hostname.hme1, hostname.qfe3, etc. Result: The contents of the /etc/hostname.xxxx file is displayed. Is the result from step 1 the hostname that is associated with the IP address for Ethernet interface that has connectivity to the DNCS? 		

Requirement	Yes	No
If you are using the /etc/hosts file for your naming service, are the contents of the file accurate for all DNCS and Alarm Manager servers?		
If you are using a naming service other than the /etc/hosts file, are the settings accurate for all DNCS and Alarm Manager servers?		

Pre-Installation Checklist-Alarm Manager Client

The following list contains the minimum hardware and operating system requirements for installing the Alarm Manager client software:

- Intel processor, single CPU
 - Important:** We do not support dual-CPU configurations; Alarm Manager client software will not run on a dual-CPU configuration.
- Pentium III (or equivalent) operating at 750 MHz
- 800 x 600 resolution on monitor
- 100 MB of available disk space
- 16-bit color display adapter
- Windows 98, Windows 2000, Windows NT 4.0, or Windows XP OS with the latest service pack and video driver for display adapter installed
- Network Connectivity
 - You must have secure network connectivity from the Alarm Manager client PC(s) to the site Alarm Manager server.
 - If you are using a Network Operations Center (NOC) Alarm Manager server to manage the site Alarm Manager, your Alarm Manager client PC must have secure network connectivity to the NOC Alarm Manager server and the site Alarm Manager server.

Be certain that your PC meets these minimum requirements before filling out the following checklist.

Alarm Manager Client Checklist

Answer the questions in this section to ensure that your PC meets the minimum requirements to support the Alarm Manager client software.

Important: If you respond **No** to any of these questions, you must correct the situation before you install Alarm Manager software.

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager client PC contains at least an Intel Pentium III processor operating at a minimum of 750 MHz.</p> <ol style="list-style-type: none"> 1 On the Windows desktop on each PC, click Start. 2 Click Programs. 3 Click Accessories. 4 Click System Tools. 5 Click System Information. <p>Result: The System Information window appears, which lists the configuration of various system components.</p> <ol style="list-style-type: none"> 6 Does the Processor field indicate that the client PC contains at least an Intel Pentium III processor operating at a minimum of 750 MHz? <p>Note: Keep the System Information window open; you will refer to it as you answer the following question.</p>		
<p>Is each Alarm Manager client PC configured with a single CPU?</p> <p>Important: Alarm Manager client software will not run on a PC with a dual-CPU configuration.</p> <p>Notes:</p> <ul style="list-style-type: none"> ■ The Processor field indicates how many CPUs are installed on the PC. ■ Keep the System Information window open; you will refer to it as you answer the following question. 		

Requirement	Yes	No
<p>Is each Alarm Manager client PC configured with one of the following operating systems?</p> <ul style="list-style-type: none"> ■ Windows 98 ■ Windows 2000 ■ Windows NT 4.0 ■ Windows XP <p>Notes:</p> <ul style="list-style-type: none"> ■ Examine the OS Name field to determine the operating system installed on the PC. ■ You can close the System Information window. 		
<p>Follow these instructions to determine whether the monitor attached to each Alarm Manager client PC supports a minimum resolution of 800 x 600 pixels.</p> <ol style="list-style-type: none"> 1 Click the right mouse button anywhere on the Windows desktop and then select Properties. Result: The Display Properties window opens. 2 Click Settings and examine the Screen Area field. 3 Does the Alarm Manager client PC support a minimum resolution of 800 x 600 pixels? <p>Note: Keep the Display Properties window open; you will use it to answer the next question.</p>		
<p>Examine the Colors field of the Display Properties window. Does each Alarm Manager client PC support at least 16-bit color?</p> <p>Note: You can now close the Display Properties window.</p>		

Requirement	Yes	No
<p>Follow these instructions to determine whether each Alarm Manager client PC has at least 100 MB of free disk space in which to install the Alarm Manager software.</p> <ol style="list-style-type: none"> 1 On the Windows desktop, click Start. 2 Click Programs. 3 Click Accessories. 4 Click Command Prompt. <p>Result: The Command Prompt window opens.</p> <ol style="list-style-type: none"> 5 Type dir and then press Enter. 6 Examine the last line of the output after completing step 5. 7 Does the Alarm Manager client PC have at least 100 MB of free disk space? <p>Note: Keep the Command Prompt window open; you will use it to answer the next question.</p>		
<p>Follow these instructions to determine whether each Alarm Manager client PC can successfully ping each Alarm Manager server, as referenced by section (B) in the pre-installation checklist diagram, by IP address and hostname:</p> <ol style="list-style-type: none"> 1 From the Command Prompt window, type ping [Alarm Manager server IP address] and then press Enter. 2 From the Command Prompt window, type ping [Alarm Manager server hostname] and then press Enter. 3 Did a message similar to device is alive appear each time? <p>Notes:</p> <ul style="list-style-type: none"> ■ The device is alive message indicates that the ping operation was successful. ■ Keep the Command Prompt window open; you will use it to answer the next question. 		

Requirement	Yes	No
<p>If you using a NOC Alarm Manager server, follow these instructions to determine whether each Alarm Manager client PC can successfully ping the NOC Alarm Manager server, as referenced by section (A) in the pre-installation checklist diagram, by IP address and hostname.</p> <ol style="list-style-type: none"> 1 From the Command Prompt window, type ping [NOC Alarm Manager server IP address] and then press Enter. 2 From the Command Prompt window, type ping [NOC Alarm Manager server hostname] and then press Enter. 3 Did a message similar to device is alive appear each time? <p>Notes:</p> <ul style="list-style-type: none"> ■ The device is alive message indicates that the ping operation was successful. ■ You can now type exit and then press Enter to close the Command Prompt window. 		

Pre-Installation Checklist-Network Connectivity

Network Connectivity Checklist

Answer the question in this section to verify secure network connectivity for the Alarm Manager software.

Important: If you respond **No** to this question, you must correct the situation before you install Alarm Manager software.

Requirement	Yes	No
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Can all Alarm Manager client PCs and the NOC Alarm Manager server (if applicable) communicate with each site Alarm Manager server through the same interface?		
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Note: This is the interface referenced by section (B) in the pre-installation checklist diagram.

Network Elements

To help assess potential troubleshooting and performance issues, our engineers would like to know how many of the following network elements your Alarm Manager system will monitor. You can run the Doctor Report on the DNCS and reference the numbers under the **Active Elements** section to determine the answers.

How many of each of the following network elements do you have on your system?

DNCS	_____
RNCS	_____
QAM	_____
MQAM	_____
GQAM	_____
GoQAM	_____
QPSK Modulator	_____
QPSK Demodulator	_____
Broadband Integrated Gateway	_____

2

Installing the Alarm Manager Software

Introduction

The Alarm Manager software is comprised of the following three components:

- Network Management Interface (NMI) software
- Alarm Manager server software
- Alarm Manager client software

The NMI software is installed on the DNCS and provides the necessary infrastructure for the DNCS to communicate with the Alarm Manager server. The Alarm Manager itself is comprised of a server component and a client component. The Alarm Manager server software is installed on the Alarm Manager server. The Alarm Manager client software provides the Graphical User Interface (GUI) and is installed on a personal computer (PC).

This chapter provides the procedures for installing the Alarm Manager software.

Important Notice to Installation Engineers

If any portion of the Alarm Manager software fails to install properly, call Cisco Services for assistance.

In This Chapter

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- Before You Begin..... 35
- Install the NMI Software Directly Onto the DNCS..... 37
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Hardware and Software Requirements

Before installing the Alarm Manager software, be sure that your system meets the following hardware and software requirements. These requirements were addressed when you filled out the diagram and checklist in Chapter 1. However, our engineers request that you reconfirm your system's eligibility by reviewing and verifying the software and hardware requirements listed in this section.

Network Management Interface Software

Your DNCS must meet the following requirements to support the NMI software:

- SR 2.2 or SR 3.2 Service Pack 2 or later, software installed
- Port 5161 available for use to receive Simple Network Management Protocol (SNMP) requests
- Port 5162 available for use to receive SNMP traps
- Can ping Alarm Manager server(s) by hostname and IP address

Alarm Manager Server Software

Before installing the Alarm Manager server software, be sure that your system meets the following minimum hardware and operating system (OS) requirements:

- Systems supporting fewer than 100,000 deployed DHCTs
 - 256 MB memory
 - 400 MHz CPU
 - One 18-GB (or larger) disk drive
 - 2 Ethernet adapters
 - Solaris 8 OS (end user installation preferred, must have X-Windows capability)
 - Port 3050 available for database use by the Alarm Manager server
 - Port 5161 available for use to receive SNMP requests
 - Port 5162 available for use to receive SNMP traps
 - Port 5901 available for communications with the DNCS

Note: The Alarm Manager server must have network connectivity to the Alarm Manager client PCs that connect to the server, as well as to the DNCS.

- Systems supporting more than 100,000 deployed DHCTs
 - 512 MB memory
 - Two 400-MHz CPUs
 - Two 18-GB (or larger) disk drives
 - 2 Ethernet cards
 - 18 GB hard drive
 - Solaris 8 OS (end user installation preferred, must have X-Windows capability)
 - Port 3050 available for database use by the Alarm Manager server
 - Port 5161 available for use to receive SNMP requests
 - Port 5162 available for use to receive SNMP traps
 - Port 5901 available for communications with the DNCS
- Note:** The Alarm Manager server must have network connectivity to the Alarm Manager client PCs that connect to the server, as well as to the DNCS.

Alarm Manager Client Software

Before installing the Alarm Manager client software, be sure that your system meets the following minimum hardware and operating system requirements:

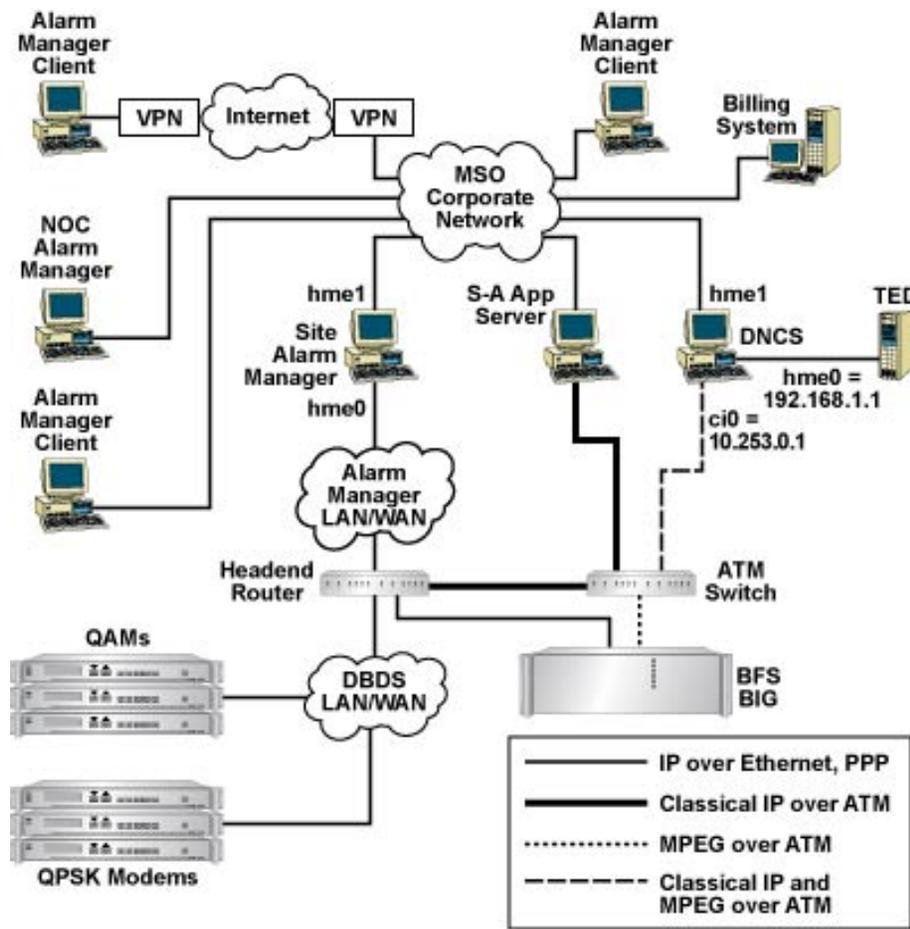
- Intel processor, single CPU
 - Important:** We do not support dual-CPU configurations; Alarm Manager client software will not run on a dual-CPU configuration.
- Pentium III (or equivalent) operating at 750 MHz
- 800 x 600 resolution on monitor
- 100 MB of available disk space
- 16-bit color display adapter
- Windows 98, Windows 2000, Windows NT 4.0, or Windows XP OS with the latest service pack and video driver for display adapter installed
- Network Connectivity
 - You must have secure network connectivity from the Alarm Manager client PC(s) to the site Alarm Manager server.
 - If you are using a Network Operations Center (NOC) Alarm Manager server to manage the site Alarm Manager, your Alarm Manager client PC must have network connectivity to the NOC Alarm Manager server and the site Alarm Manager server.

Before You Begin

Verify Your Network Configuration

Before installing your Alarm Manager software, verify that all components have the necessary network connectivity as specified in the Pre-Installation Checklist section of Chapter 1. One sample network architecture is shown in the following illustration.

Note: You do not have to design your network as shown in the following illustration; it is just an example.



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Sample Alarm Manager Network Architecture

Important: Connecting a computer to a network presents a potential security risk. This guide assumes you have network security measures in place (for example, to protect your DNCS servers, Alarm Manager servers, Alarm Manager clients, etc.), and does not provide information on network security.

Decide How You Will Install the NMI Software

The NMI software contains a Simple Network Management Protocol (SNMP) agent that allows the DNCS to transmit alarms and events to the Alarm Manager system. Installing the NMI software disables the Spectrum Network Management System (Spectrum) software on the DNCS, because the SNMP agent, as well as the Alarm Manager product, replaces the Spectrum functionality.

The following two methods exist for installing the NMI software onto the DNCS:

- You can install it directly onto the DNCS.
- You can install it onto the DNCS remotely from the Alarm Manager server.

Decide how you will install the NMI software and then choose one of the following options:

- If you plan to install the NMI software directly onto the DNCS from the DNCS, then follow the procedures in *Install the NMI Software Directly Onto the DNCS* (on page 37).
- If you plan to install the NMI software onto the DNCS from the Alarm Manager server, then follow the procedures in *Install the NMI Software Remotely From the Alarm Manager Server* (on page 41).

Install the NMI Software Directly Onto the DNCS

Follow these procedures if you are going to install the NMI software directly onto the DNCS from the DNCS.

Note: If you plan to install the NMI software onto the DNCS from a remote UNIX computer, then follow the procedures in *Install the NMI Software Remotely From the Alarm Manager Server* (on page 41).

Important:

- You must uninstall any existing version of NMI software before installing a new version. See **Uninstall the NMI Software** in Chapter 3 for the procedure to uninstall the NMI software.
- The DNCS must be running when you install NMI software.
- Be certain that no one else is currently logged in to the DNCS, and that no one else logs in until the NMI installation is complete. The NMI installation sets several new UNIX environment variables that will not take affect until NMI installation is complete.

Installing the NMI Software

Follow these instructions to install the NMI software on to the DNCS.

- 1 Close all graphical user interfaces (GUIs) and all windows that may already be open on the DNCS.

Important: The NMI installation is likely to fail unless you close all the GUIs.

Note: You may need to close the following windows on a typical system:

- DNCS Administrative Console window
- DNCS Administrative Console Status window
- DNCS Monitor window

- 2 Open an xterm window on the DNCS.
- 3 Complete the following steps to log on to the xterm window as **root** user.
 - a Type **su -** and press **Enter**. The password prompt appears.
 - b Type the root password and press **Enter**.
- 4 Type **ps -ef | grep _ | grep ui** and then press **Enter**.

Note: User interface processes usually begin with an underscore (_) and end with ui.

Result: The system checks for any DNCS user interface processes that are open.

- 5 Does the output from the command you executed in step 4 include any open user interface processes?
 - If **yes**, follow these instructions.
 - a Determine whether the open user interface processes can be terminated. Someone may be accessing the DNCS from a remote connection and should not have their work interrupted.
 - b If you determine that the user interface process should be terminated, as root user type **kill [process ID]** and then press **Enter**.
Note: Substitute the process ID of the user interface for [process ID].
Result: The system terminates the process.
 - c Repeat steps 4 and 5.
 - If **no**, go to step 6.
- 6 Type **. /dvs/dnCS/bin/dnCSSetup** and then press **Enter**. This command establishes the DNCS environment as a root user.
Important: Type the period followed by a space before typing /dvs.
Note: The message **-o: bad options** may appear. This message is normal and does not affect the installation.
- 7 Insert the **Alarm Manager CD** into the CD-ROM drive of the DNCS. The system automatically mounts the CD to /cdrom/cdrom0.
- 8 Type **df -n** and then press **Enter**. A list of the mounted filesystems appears.
Note: The presence of /**cdrom** in the output confirms that the system correctly mounted the CD.
- 9 Type **cd /cdrom/cdrom0** and then press **Enter**. The /cdrom/cdrom0 directory becomes the working directory.
- 10 Type **ls -la** and then press **Enter** to generate a list of the files on the CD.
Note: The "l" in this command is a lowercase L.
- 11 Type **/install_pkg** and then press **Enter**. The system displays a copyright message and prompts the operator to press **Enter** to continue.
- 12 Press **Enter**.
Result: One of the following results occurs:
 - If Spectrum is installed on your system, the system displays a **bold** message that seeks permission to disable Spectrum.
Note: Spectrum and Alarm Manager cannot run simultaneously.
 - If Spectrum is not installed on your system, the system displays the following message:
Enter the hostname or the IP address of the DNCS interface physically connected to the Alarm Manager server.

13 Is Spectrum installed on your system?

- If **yes**, type **y** (to disable Spectrum) and then press **Enter**.

Result: The system displays the following message:

Enter the hostname or the IP address of the DNCS interface physically connected to the Alarm Manager server

- If **no**, go to step 14.

14 Choose one of the following options:

- Type the hostname of the DNCS and then press **Enter** to use the hostname of the DNCS in alarm messages.
- Type the IP address of the DNCS and then press **Enter** to use the IP address of the DNCS in alarm messages.

Notes:

- Use the option with which you are most familiar. If you prefer to refer to the DNCS by hostname, choose the hostname of the DNCS for alarm messages. If you prefer to use the IP address of the DNCS, choose the IP address of the DNCS for alarm messages.
- You can change how alarm messages reference the DNCS at any time after installing the Alarm Manager software by following the instructions under the **DNCS Detail** topic in the DBDS Alarm Manager 1.0 online help.

Result: A confirmation message appears.

15 Verify your choice and then choose one of the following options:

- Press **Enter** (or type **y** and then press **Enter**) if you are sure you made the right choice in the previous step.

Results:

- The NMI software installs.
- The **Installation of < SAInmi > was successful** message appears when the software has been successfully installed.

Notes:

- Note that the NMI logfile is stored in the `/var/sadm/system/logs` directory. The logfile is named `nmi_install_log`. You can examine the log for detailed installation information.
- The message **xset: unable to open display " "** may appear. You can safely ignore this message.
- Type **n** and then press **Enter** if you want to change the choice you made in step 14.

Result: The installation script returns to step 14.

16 Follow these instructions to eject the CD.

- a Type **cd /** and then press **Enter**.
- b Type **eject cd** and then press **Enter**.

- 17 Close any xterm windows or other windows that may be open on the DNCS desktop.
- 18 Click **EXIT** on the toolbar at the bottom of the DNCS screen. A message appears seeking confirmation of your intent to log out of the DNCS.

Note: You need to log out of the DNCS and then log back in to activate the modified UNIX environment.

- 19 Click **OK**.

Results:

- You log out of the DNCS.
- The Common Desktop Environment (CDE) Login window opens.

- 20 Log in to the CDE as **dncs** user.

- 21 Verify that the NMI software installed by following these steps.

- a Open an xterm window.
- b Type **pkginfo -l SAInmi** and then press **Enter**.

Result: The system displays information pertaining to the NMI software that just installed.

- 22 Wait a few minutes and then begin the *Install the Alarm Manager Server Software* (on page 47) procedure.

Install the NMI Software Remotely From the Alarm Manager Server

Remote installation of the NMI software is accomplished in the following three steps.

- 1 Stage the compressed NMI files on the Alarm Manager server.
- 2 Transfer the files from the Alarm Manager server to the DNCS.
- 3 Telnet into the DNCS and install the NMI software.

The procedures in this section guide you through all the required steps to install the NMI software from the Alarm Manager server.

Important Notes Before Remotely Installing the NMI Software

Before remotely installing the NMI software, note these important points:

- Do not perform the steps in this section if you have already installed NMI software using the instructions in the previous section, **Install the NMI Software Directly onto the DNCS**.
- You must uninstall any existing version of NMI software before installing a new version. See **Uninstall the NMI Software** in Chapter 3 for the procedure to uninstall the NMI software.
- Before remotely installing the NMI software, be certain that no one else is currently logged in to the DNCS on which you will install the software, and that no one else logs in until the NMI installation is complete. The NMI installation sets several new UNIX environment variables that will not take affect until NMI installation is complete.

Staging the NMI Software on the Alarm Manager Server

Use the following procedure to stage the NMI software on the Alarm Manager server.

- 1 Open an xterm window on the Alarm Manager server.
- 2 Complete the following steps to log on to the xterm window as **root** user.
 - a Type **su -** and press **Enter**. The password prompt appears.
 - b Type the root password and press **Enter**.
- 3 Insert the **NMI CD** into the CD-ROM drive of the Alarm Manager server. The system automatically mounts the CD to `/cdrom/cdrom0`.

Note: On some systems the Auto Run window opens. You can close the Auto Run window.

- 4 Type **df -n** and then press **Enter**. A list of the mounted filesystems appears.
Note: The presence of **/cdrom** in the output confirms that the system correctly mounted the CD.
- 5 Type **cd /export/home** and then press **Enter**. The **/export/home** directory becomes the working directory.
- 6 Type **mkdir stageNMI** and then press **Enter**. The system creates the **stageNMI** directory.
- 7 Type **cd /cdrom/cdrom0** and then press **Enter**. The **/cdrom/cdrom0** directory becomes the working directory.
- 8 Type
tar -cvf /export/home/stageNMI/nmipackage.tar SAInmi install_nmi nmiadmin and then press **Enter**.
Result: The system creates the **nmipackage.tar** file in the **/export/home/stageNMI** directory.
- 9 Type **cd /export/home/stageNMI** and then press **Enter**. The **/export/home/stageNMI** directory becomes the working directory.
- 10 Type **eject cd** and then press **Enter**.
- 11 Go to *Transferring the NMI Software From the Alarm Manager Server to the DNCS* (on page 42).

Transferring the NMI Software From the Alarm Manager Server to the DNCS

After staging the NMI software onto the Alarm Manager server, follow these instructions to transfer the software from the Alarm Manager server to the DNCS.

- 1 Open an xterm window on the Alarm Manager server.
- 2 Type **telnet [IP address of the DNCS]** and then press **Enter**. A telnet session opens on the DNCS.
Note: Substitute the IP address of the DNCS for [IP address of the DNCS].
- 3 Log in to the DNCS as **dncs** user.
- 4 Type **cd /export/home** and then press **Enter**. The **/export/home** directory becomes the working directory.
- 5 Type **mkdir stageNMI** and then press **Enter**. The system creates the **stageNMI** directory.
- 6 Type **exit** and then press **Enter**. The telnet session into the DNCS closes and returns you to the Alarm Manager server.
- 7 Type **pwd** and then press **Enter** to confirm that you are in the **/export/home/stageNMI** directory of the Alarm Manager server.
- 8 Type **ftp [DNCS IP address]** and then press **Enter**. The system initiates an ftp session between the Alarm Manager server and the DNCS.
Note: Substitute the IP address of the DNCS for [DNCS IP address].

- 9 Log in to the DNCS as **dncs** user.
- 10 Type **bin** and then press **Enter**. The system enables binary transfer mode.
- 11 Type **hash** and then press **Enter**. The system configures itself to display hash marks that show the progress as the NMI file transfers from the Alarm Manager server to the DNCS.
- 12 Type **cd /export/home/stageNMI** and then press **Enter**. The /export/home/stageNMI directory on the DNCS becomes the working directory.
- 13 Type **put nmipackage.tar** and then press **Enter**. The NMI software transfers from the Alarm Manager server to the DNCS.
- 14 Type **bye** and then press **Enter**. The system closes the ftp session.
- 15 Go to *Extracting and Installing the NMI Software* (on page 43).

Extracting and Installing the NMI Software

Now that you have transferred the NMI software from the Alarm Manager server to the DNCS, follow these instruction to extract the NMI software.

Important: The DNCS must be running when you install the NMI software.

- 1 From an xterm window on the Alarm Manager server, type **telnet [IP address of the DNCS]** and then press **Enter**. A telnet session opens on the DNCS.
Note: Substitute the IP address of the DNCS for [IP address of the DNCS].
- 2 Log in to the DNCS as **root** user.
- 3 Type **cd /export/home/stageNMI** and then press **Enter**. The /export/home/stageNMI directory on the DNCS becomes the working directory.
- 4 Type **ls -l** and then press **Enter**. The system lists the contents of the /export/home/stageNMI directory.
Note: The "l" character is a lowercase L.
- 5 Does the output from the command in step 4 list the nmipackage.tar file?
 - If **yes**, go to step 6; you successfully transferred the nmipackage.tar file.
 - If **no**, something may have gone wrong when you tried to transfer the file from the Alarm Manager server to the DNCS. Follow these instructions.
 - a Type **exit** and then press **Enter**.
 - b Repeat the instructions in the previous procedure, **Transferring the NMI Software From the Alarm Manager Server to the DNCS**.
- 6 Type **tar -xvf nmipackage.tar** and then press **Enter**. The system extracts the nmipackage.tar file.

- 7 Type `ps -ef | grep _ | grep ui` and then press **Enter**. The system checks for any open DNCS user interface processes.

Note: User interface processes usually begin with an underscore (_) and end with **ui**.

Important: The installation of the NMI software is likely to fail unless you close any open user interface processes.

- 8 Does the output from the command you executed in step 7 include any open user interface processes?

■ If **yes**, follow these instructions.

- a Determine whether the open user interface processes can be terminated.

Notes:

■ Someone may be accessing the DNCS from a remote connection and should not have their work interrupted.

■ Consult with your headend or network manager if you are not sure.

- b If you determine that the user interface process should be terminated, as root user type `kill [process ID]` and then press **Enter**.

Note: Substitute the process ID of the user interface for [process ID].

Result: The system terminates the process.

- c Repeat steps 7 and 8.

■ If **no**, go to step 9.

- 9 Type `./dvs/dnCS/bin/dnCSSetup` and then press **Enter**. This command establishes the DNCS environment as a root user.

Important: Type the period followed by a space before typing `/dvs`.

Note: The message **-o: bad options** may appear. This message is normal and does not affect the installation.

- 10 Type `./install_pkg` and then press **Enter**. The system displays a copyright message and prompts the operator to press **Enter** to continue.

- 11 Press **Enter**.

Result: One of the following results occurs:

■ If Spectrum is installed on your system, the system displays a **bold** message that seeks permission to disable Spectrum.

Note: Spectrum and Alarm Manager cannot run simultaneously.

■ If Spectrum is not installed on your system, the system displays the following message:

Enter the hostname or the IP address of the DNCS interface physically connected to the Alarm Manager server.

12 Is Spectrum installed on your system?

- If **yes**, type **y** (to disable Spectrum) and then press **Enter**. The system displays the following message:

Enter the hostname or the IP address of the DNCS interface physically connected to the Alarm Manager server.

- If **no**, go to step 13.

13 Choose one of the following options:

- Type the hostname of the DNCS and then press **Enter** to use the hostname of the DNCS in alarm messages.
- Type the IP address of the DNCS and then press **Enter** to use the IP address of the DNCS in alarm messages.

Notes:

- Use the option with which you are most familiar. If you prefer to refer to the DNCS by hostname, choose the hostname of the DNCS for alarm messages. If you prefer to use the IP address of the DNCS, choose the IP address of the DNCS for alarm messages.
- You can change how alarm messages reference the DNCS at any time after installing the Alarm Manager software by following the instructions under the **DNCS Detail** topic in the DBDS Alarm Manager 1.0 online help.

Result: A confirmation message appears.

14 Verify your choice and then choose one of the following options:

- Press **Enter** (or type **y** and then press **Enter**) if you are sure you made the right choice in the previous step.

Results:

- The NMI software installs.
- The **Installation of <SAInmi> was successful** message appears when the software has been successfully installed.

Notes:

- Note that the NMI logfile is stored in the `/var/sadm/system/logs` directory. The logfile is named `nmi_install_log`. You can examine the log for detailed installation information.
- The message **xset: unable to open display " "** may appear. You can safely ignore this message.
- Type **n** and then press **Enter** if you want to change the choice you made in step 13. The installation script returns to the message displayed in step 12.

15 Type **exit** and then press **Enter** to log out the root user.

16 Click **EXIT** on the toolbar at the bottom of the DNCS screen. A message appears seeking confirmation of your intent to log out of the DNCS.

Note: You need to log out of the DNCS and then log back in to activate the modified UNIX environment.

17 Click **OK**.

Results:

- You log out of the DNCS.
- The Common Desktop Environment (CDE) Login window opens.

18 Log in to the CDE as **dncs** user.

19 Verify that the NMI software installed by following these steps.

- a Open an xterm window.
- b Type **pkginfo -l SAInmi** and then press **Enter**. The system displays information pertaining to the NMI software that just installed.

20 Wait a few minutes and then begin the *Install the Alarm Manager Server Software* (on page 47) procedure.

Install the Alarm Manager Server Software

The instructions in this section guide you through the steps to install the Alarm Manager server software. Choose one of the following options:

- If you are upgrading an existing Alarm Manager server with a newer version of Alarm Manager server software, you must first stop the server. Go to *Stopping the Alarm Manager Server* (on page 47).
- If you are installing Alarm Manager server software for the first time, go to *Installing the Alarm Manager Server Software* (on page 48).

Stopping the Alarm Manager Server

Follow these instructions to stop the Alarm Manager server.

- 1 Is the DBDS EMS Server Administration window displaying on the Alarm Manager server?
 - If **yes**, go to step 5.
 - If **no**, go to step 2.
- 2 From an xterm window on the Alarm Manager server, use the UNIX **cd** command to change to the directory into which you installed the Alarm Manager server software.

Example: If you installed the Alarm Manager software into the `/export/home` directory, type **cd /export/home** and then press **Enter**.

- 3 Type **./EMS** and then press **Enter**. The EMS Server Administration Login window opens.

Important: Be sure to type the dot before typing `/EMS`.

- 4 Follow these instructions to log in to the Alarm Manager server.
 - a In the **Login Name** field, type **System** and then press **Tab**.
 - b In the **Password** field, type the system password.
 - c Click **OK**.

Result: The DBDS EMS Server Administration window opens.

- 5 Is the Alarm Manager server running?
 - If **yes**, follow these instructions.
 - a Click **Stop** on the DBDS EMS Server Administration window. A confirmation message appears.
 - b Click **Yes** on the confirmation message and then go to *Installing the Alarm Manager Server Software* (on page 48).
 - If **no** (it is already stopped), follow these instructions.
 - a Click **Exit** on the DBDS EMS Server Administration window. A confirmation message appears.
 - b Click **Yes** on the confirmation message ad then go to *Installing the Alarm Manager Server Software* (on page 48).

Installing the Alarm Manager Server Software

Follow these instructions to install the Alarm Manager server software on the Solaris Alarm Manager server.

Important: You do not have to uninstall any existing versions of Alarm Manager server software before installing a newer version.

- 1 Log in to the Alarm Manager server as **root** user.
- 2 Open an xterm window on the Alarm Manager server.

Note: Since you are logged in to the server as root user, you will have root permissions in the xterm window.
- 3 Insert the **Alarm Manager CD** into the CD-ROM drive of the Alarm Manager server. The system automatically mounts the CD.

Note: On some systems, the File Manager window may appear. If the File Manager window opens on your system, close the window.
- 4 Type **df -n** and then press **Enter**. A list of the mounted filesystems appears.

Note: The presence of **/cdrom** in the output confirms that the system correctly mounted the CD.
- 5 Type **cd /cdrom/cdrom0** and then press **Enter**. The **/cdrom/cdrom0** directory becomes the working directory.

- 6 Type **ls** and then press **Enter**. The system lists the files and directories contained on the CD.

Examples:

- **EMS_Client_#.#.#.#.exe**
- **EMS_Server_#.#.#.#.bin**
- **NMI** (directory)

Notes:

- File names may be slightly different on your system.
 - The filename beginning with EMS_Client pertains to the Windows-based, Alarm Manager client software; the filename beginning with EMS_Server pertains to the UNIX-based Alarm Manager server software.
- 7 Follow these instructions to enable the installation process to record installation and error messages in a logfile.
 - a Type **LAX_DEBUG=true** and then press **Enter**.
 - b Type **export LAX_DEBUG** and then press **Enter**.

- 8 Type `sh EMS_Server_#.#.#.bin > /tmp/install.out 2>&1` and then press **Enter**.

Notes:

- Substitute the actual numbers used in the filename for `#.#.#.`
- This command may take several minutes to run if you are installing the software on an Ultra2 server.

Important: After typing `sh EMS_Server_#.#.#.bin`, you may see the following error message:

The specified scrollbar value is greater than the maximum scrollbar value minus the scrollbar slider size.

You can ignore this error. The error has no impact upon the installation process.

Results:

- The message **Preparing to install ...** appears.
 - The Introduction window opens.
- 9 Read the messages on the Introduction window and then click **Next**. The Software License Agreement window opens.
 - 10 On the Software License Agreement window, select the **I accept the terms of the License Agreement** option, and then click **Next**. The Choose Install Folder window opens.
 - 11 In the **Where Would You Like to Install?** text box, type the name of the directory into which you want to install the Alarm Manager server software.

Note: The default directory is `/EMS`. Our engineers, however, recommend that you install the Alarm Manager software into the `/export/home` directory of the Alarm Manager server.

Important: If this is an upgrade, rather than the initial installation, you must install the upgraded software into the directory where you installed the previous version of Alarm Manager server software.

- 12 In a new xterm window, type `df -k` and then press **Enter** to verify that you have sufficient space in the directory in which you want to install the Alarm Manager server software.

Notes:

- You need 145 MB plus an additional 10 MB for each DNCS system that you plan to monitor.
- If you need more space than what is available in the directory you have chosen, try these suggestions:
 - Delete unneeded files from the directory you have chosen.
 - Select another directory.
 - Call Cisco Services for assistance.

- 13 In the space provided, write the name of the directory where you chose to install the Alarm Manager server software.

Note: You may need this information should you ever have to uninstall the Alarm Manager server software.

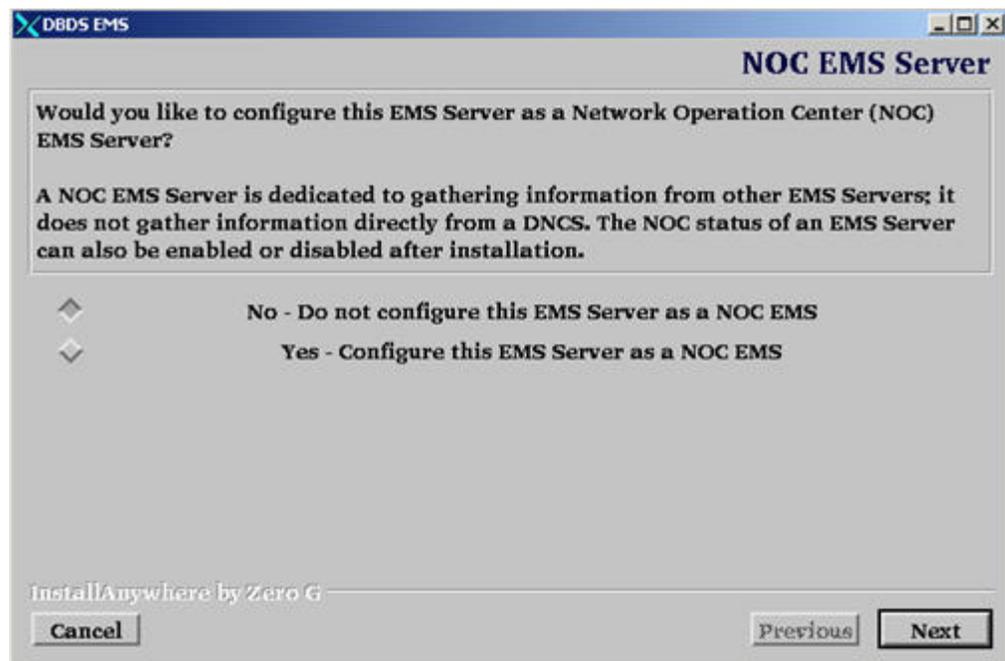
- 14 Click **Next**. The Pre-Installation Summary window opens.

- 15 Review the data on the Pre-Installation Summary window and then click **Install**. The Alarm Manager banner appears with an **Installing ...** message as the Alarm Manager server software installs.

Note: Click **Previous** if you want to change your installation folder or your shortcut folder.

Important: If your system does not have enough disk space, an error message may appear. If an error message appears, consider these options:

- Remove obsolete or unneeded files from your current folder or hard drive to obtain more disk space.
 - Select a folder or a hard drive with more disk space.
 - Call Cisco Services for advice.
- 16 Is this the first installation of the Alarm Manager server software (rather than an upgrade of an existing installation)?
 - If **yes**, go to step 17.
 - If **no**, go to step 20.
 - 17 Wait for the NOC EMS Server window to appear.



- 18 Choose one of the following options on the NOC EMS Server window.
 - If you know that you want to configure the Alarm Manager server as a Network Operations Center (NOC) Alarm Manager server, click **Yes**.
 - If you know that you do not want to configure the Alarm Manager server as a NOC Alarm Manager server, click **No**.

Note: A NOC Alarm Manager server does not communicate directly with the DNCS. Instead, a NOC Alarm Manager server gathers information from other Alarm Manager servers.

19 Click Next.

Results:

- The Alarm Manager server software finishes installing.
- The Install Complete window opens.

20 Read any error messages that may appear on the Install Complete window, and then choose one of the following options:

- If no error messages appear on the Install Complete window, click **Done**. The Install Complete window closes.
- If an error message appears, troubleshoot the error message to the best of your ability or call Cisco Services for assistance.

21 Follow these instructions to eject the CD.

- a Type **cd /** and then press **Enter**.
- b Type **eject cd** and then press **Enter**.

Result: The CD ejects.

22 Go to *Starting the Alarm Manager Server* (on page 56).

Starting the Alarm Manager Server

After installing the Alarm Manager server software or after the server has rebooted, wait at least one minute before starting the Alarm Manager server software. This is because the Alarm Manager server software cannot be started until the Alarm Manager daemon is running. Then, follow these instructions to start the Alarm Manager server.

Note: You should still be logged in to the Alarm Manager server as root user.

- 1 From an xterm window on the Alarm Manager server, use the UNIX **cd** command to change to the directory into which you installed the Alarm Manager server software.

Example: If you installed the Alarm Manager software into the `/export/home` directory, type **cd /export/home** and then press **Enter**.

Note: You selected and recorded the Alarm Manager server installation directory in steps 11 and 13 of the previous procedure, **Installing the Alarm Manager Server Software**.

- 2 Type **/EMS** and then press **Enter**. The DBDS EMS Server Administration Login window opens.

Important: Be sure to type the dot before typing `/EMS`.

- 3 Follow these instructions to log in to the Alarm Manager server.
 - a In the **Login Name** field, type **System** and then press **Tab**.
 - b In the **Password** field, type **System**.
 - c Click **OK**.

Result: The DBDS EMS Server Administration window opens.

- 4 Are you installing the Alarm Manager server software for the first time?
 - If **yes**, click **Create OM**. The following message appears:
This will destroy all data for the EMS system and exit this application. Are you certain. Yes No
 - If **no** (you are upgrading an existing version of Alarm Manager software), go to step 8.
- 5 Click **Yes**.

Results:

 - The Alarm Manager database initializes in about 30 seconds to 1 minute.
 - All open windows, except the xterm window, close.
- 6 Type **/EMS** and then press **Enter**. The DBDS EMS Server Administration Login window reopens.

Important: Be sure to type the dot before typing **/EMS**.
- 7 Follow these instructions to log in to the Alarm Manager server.
 - a In the **Login** field, type **System** and then press **Tab**.
 - b In the **Password** field, type **System**.
 - c Click **OK**.

Result: The DBDS EMS Server Administration window reopens and displays the message **The EMS is currently stopped**.
- 8 Click **Start** on the DBDS EMS Server Administration window. The Alarm Manager server starts.
- 9 Wait until the window displays the message **The EMS is currently STARTED**, and then click **Exit** to close the window. A confirmation message appears.

Note: Closing the window does not stop the Alarm Manager server software.
- 10 Click **yes** on the confirmation message. The DBDS EMS Server Administration window closes.
- 11 In the xterm window, type **exit** and then press **Enter** to log out as root user.

An Important Note About Offline Network Elements

The Alarm Manager server does not monitor network elements that are defined as **offline** in the DNCS database.

The Alarm Manager server will not attempt to ping or communicate with Broadband Integrated Gateways (BIGs), QAMs, MQAMs, GQAMs, or GoQAMs that are defined as offline. Therefore, if you have BIGs, QAMs, MQAMs, GQAMs, or GoQAMs that are not ready for use in your DBDS network, our engineers recommend that you define them as offline in the appropriate DNCS Network Provisioning window.

If one of these devices is defined as online in the DNCS database, but is not physically connected to the DNCS network, is powered off, or is not fully booted, the Alarm Manager server will generate an alarm stating that it could not communicate with the device.

A Quadrature Phase-Shift Keying (QPSK) modulator cannot be defined as offline. However, you may need to add QPSK modulators to your DNCS database that are not yet ready for use in your DBDS network. For each QPSK modulator that meets one of the following conditions, the Alarm Manager will generate an alarm stating it could not communicate with the QPSK modulator:

- QPSK modulator is not physically connected to the DBDS network
- QPSK modulator is powered off
- QPSK modulator is not fully booted

These connection alarms are generated once for each QPSK modulator. You can quickly remove these alarms from your alarm list by performing an acknowledge and clear operation. Refer to the *DBDS Alarm Manager 1.0 Online Help* (part number 745259) , if necessary, for instructions on acknowledging and clearing the alarms.

Install the Alarm Manager Client Software

You install the following four executable programs when you install the Alarm Manager client software:

- **Alarm Manager** – Software that supplies the functionality of the Alarm Manager GUI
- **Uninstall Alarm Manager** – Software that allows the user to remove the Alarm Manager client software from the PC
- **Alarm ManagerAdmin** – Software that allows Alarm Manager users with Administrator privileges to administer the Alarm Manager server from their PC
Note: Alarm ManagerAdmin software allows users to start and stop the Alarm Manager server software.
- **IBConsole** – Software that allows Alarm Manager users to back up and restore the Alarm Manager database

Installing the Alarm Manager Client Software

Follow these instructions to install the Alarm Manager client software on to the PC.

Important: If you are installing a new version of the Alarm Manager client software on to the PC, you do *not* have to uninstall the old version first.

- 1 Insert the **Alarm Manager CD** into the CD-ROM drive of the PC. If the AutoRun feature is enabled on your PC, the InstallAnywhere installation wizard program starts and the Introduction window opens.

- 2 Did the Introduction window appear?
 - If **yes**, go to step 3.
 - If **no**, follow these instructions.
 - a Right-click on the **My Computer** icon on your desktop and select **Open**.
 - b Right-click on the CD drive that contains the Alarm Manager CD and select **Open**.
 - c Double-click on the program called **EMS_Client_#.#.#.#.exe**.
Result: The InstallAnywhere installation wizard program starts and the Alarm Manager Introduction window opens.
- 3 Read the messages on the Introduction window and then click **Next**. The Software License Agreement window opens.
- 4 On the Software License Agreement window, select the **I accept the terms of the License Agreement** option, and then click **Next**.
Result: One of the following events happens:
 - If you are installing the Alarm Manager software for the first time, the Choose Install Folder window opens.
 - If you are upgrading an existing version of the Alarm Manager software, the **Previous DBDS EMS Install Found** message appears.
- 5 Did the **Previous DBDS EMS Install Found** message appear?
 - If **yes** (you are upgrading an existing version of the Alarm Manager software), go to step 9.
 - If **no** (you are installing the Alarm Manager software for the first time), go to step 6.
- 6 In the **Where Would You Like to Install?** text box, type the name of the directory into which you want to install the Alarm Manager software.
Note: The default directory is C:\Program Files\EMS.
- 7 In the space provided, write the name of the directory where you chose to install the Alarm Manager client software.

- 8 Click **Next**. The Choose Shortcut Folder window opens.
Notes:
 - The Choose Shortcut Folder window allows you to select the method you will use to start the Alarm Manager client software.
 - The system selects **In a new Program Group: EMS** by default.
- 9 Select how you would like to start the Alarm Manager software.
Note: If you select **On the Desktop**, the system creates the Alarm Manager icons on the desktop.
- 10 Click **Next**. The Pre-Installation Summary window opens.

- 11 Review the data on the Pre-Installation Summary window and then click **Install**. The Alarm Manager banner appears with an **Installing ...** message as the Alarm Manager client software installs.

Note: Click **Previous** if you want to change your installation folder or your shortcut folder.

Important: If your system does not have enough disk space, an error message may appear. If an error message appears, consider these options:

- Remove obsolete or unneeded files from your current folder or hard drive to obtain more disk space.
 - Select a folder or a hard drive with more disk space.
 - Call Cisco Services for advice.
- 12 Click **Done** when the Install Complete window opens. The Alarm Manager client software finishes installing.
 - 13 Eject the Alarm Manager CD from your PC.
 - 14 Did the Alarm Manager client software install without errors?

Note: If the Alarm Manager client software encountered errors while installing, the Install Complete window will indicate that errors were encountered during installation and will advise you to examine the Alarm Manager client logfile.

- If **yes**, go to step 15.
- If **no**, use a Windows text editor to examine the Alarm Manager client logfile.

Notes:

- The Alarm Manager client logfile resides in the same directory into which you installed the Alarm Manager client software.
- The Alarm Manager client logfile is called DBDS_EMS_InstallLog.log.
- Call Cisco Services if you need help troubleshooting any Alarm Manager client installation errors.
- Go to step 15 after resolving all error conditions.

15 Choose one of the following options:

- If your Alarm Manager client PC is on the same subnet as the Alarm Manager server, go to *Starting the Alarm Manager Client Software* (on page 65).
- If your Alarm Manager client PC is not on the same subnet as the Alarm Manager server and you want to access the Alarm Manager server by server name, follow these instructions.
 - a Open the C:\WINNT\system32\drivers\etc\hosts file in the Windows **Wordpad** utility.
 - b Locate the following line:
127. 0. 0. 1 localhost
 - c Beneath the line you located in step b), insert the following line:
###.###.###.### emshost

Notes:

 - Substitute the IP address of the Alarm Manager server for ###.###.###.###.
 - Substitute the hostname of the Alarm Manager server for emshost.
 - d Save and close the \hosts file.
 - e Go to *Starting the Alarm Manager Client Software* (on page 65).
- If your Alarm Manager client PC is not on the same subnet as the Alarm Manager server and you want to access the Alarm Manager server by IP address, go to *Starting the Alarm Manager Client Software* (on page 65).

Note: You will configure the Alarm Manager client PC for accessing the Alarm Manager server by IP address in the following procedure.

Starting the Alarm Manager Client Software

Follow these instructions to start the Alarm Manager client software on your PC.

Important: We support only a single instance of the Alarm Manager client software running on a PC at any time.

Example: Do not connect any terminal servers that run the Alarm Manager client software to your PC.

- 1 Start the Alarm Manager client software according to how you installed the Alarm Manager client software on your PC. The DBDS Alarm Manager 1.0 Login window opens.

Example: You can double-click the Alarm Manager icon if you elected to install an icon on your desktop, or you can start the software through the Windows **Start** menu.

- 2 Follow these instructions to begin logging in to the Alarm Manager client PC.
 - a In the **Login Name** field, type **System**.
 - b In the **Password** field, type **System**.

Notes:

- This login method exists for first-time log in only, and represents the user account for a privileged user. Create user accounts for all other users after initial log in.
 - Our engineers recommend that you change the System user password and save the new System user password in a secured location.
- 3 Click the arrow next to the **EMS Server** field. A list appears that contains previously configured server names and IP addresses.

- 4 Does the list include the server name or the IP address of your Alarm Manager server?
 - If **yes**, follow these instructions.
 - a Click to highlight the server name or IP address. The Login window opens.
 - b Click **OK** on the Login window. The Alarm Manager client software starts and the DBDS Alarm Manager 1.0 - System window opens.
 - c Go to step 13.
 - If **no**, go to step 5.
- 5 Click the icon next to the **EMS Server** field on the Login window. The EMS Servers window opens.



- 6 Click **Add**. The Add Server window opens.



- 7 Type the server name or IP address of your Alarm Manager server in the text box and then click **OK**. The Add Server window closes and the EMS Servers window reopens.

Note: If you type the name or IP address of a server that is not on your network or your naming device, an error message appears. Click **OK** and repeat steps 5 and 6.
- 8 Repeat steps 6 and 7 for each Alarm Manager server.
- 9 Click **OK** on the EMS Servers window. The EMS Servers window closes and the Login window reopens.
- 10 Click the arrow next to the **EMS Server** field. A list appears that contains previously configured server names and IP addresses.
- 11 Click to highlight the server name or IP address. The Login window opens.

- 12** Click **OK** on the Login window. The Alarm Manager client software starts and the DBDS Alarm Manager 1.0 - System window opens.
- 13** Click the Topology Manager icon on the DBDS Alarm Manager 1.0 - System window. The Topology Manager window opens.
Note: The Topology Manager icon is the middle icon on the illustration shown in step 12; the icon resembles a flow-chart tree.
- 14** On the Topology Manager window, click **Help** and then select **On Window**. The Alarm Manager online help for the Topology Manager opens.
- 15** Refer to the online help and begin setting up your Topology Manager function.

An Important Note About User Accounts

Our engineers recommend that all users of Alarm Manager have their own user account. If two or more users are logged on at the same time, and if one user logs out, the system will show that all users using that account have logged out, even though at least one user is still logged on. You avoid this condition by requiring that all users log on with their own account.

Verify Installed Software Versions

After installing the Alarm Manager software, take a few minutes to verify that the installation process installed the correct versions of software. The instructions in this section guide you through the steps of verifying the software.

Verifying Installed Software Versions

Follow these instructions to verify the installed software versions.

- 1 From an xterm window on the DNCS, type **pkginfo -l SAIdnCS** and then press **Enter**. The system displays the installed version of DNCS software.
 - 2 Is the version of installed DNCS software the same as the version you supported prior to installing the Alarm Manager software?
 - If **yes**, go to step 3.
 - If **no**, call Cisco Services for assistance in determining why your DNCS software version changed.
- Note:** Refer to *Network Management Interface Software Checklist* (on page 5) where you recorded the version of DNCS software that was installed on your system.
- 3 From an xterm window on the DNCS, type **pkginfo -l SAInmi** and then press **Enter**. The system displays the installed version of NMI software.
 - 4 Is the version of installed NMI software 1.0.0.8?
 - If **yes**, go to step 5.
 - If **no**, call Cisco Services for assistance in determining why the incorrect version of NMI software installed.
 - 5 Follow these instructions to verify the installed version of Alarm Manager server software.
 - a From the DBDS EMS Server Administration window, click **About**. The system displays the version number of the Alarm Manager server software.
 - b Is the version of the Alarm Manager server software version 1.0.1.3?
 - If **yes**, go to step 6.
 - If **no**, call Cisco Services for assistance in determining why the incorrect version of Alarm Manager server software installed.

3

Alarm Manager Uninstallation Procedures

Introduction

If your system appears unstable after installing the Alarm Manager software, call Cisco Services. Engineers at Cisco Services will guide you through steps necessary to troubleshoot your system. In rare circumstances, Cisco Services may instruct you to uninstall the Alarm Manager software. Follow the instructions in this chapter to uninstall the Alarm Manager software.

Important: Be sure you call Cisco Services before uninstalling the Alarm Manager software.

How Will You Uninstall the NMI Software?

You have two choices when uninstalling the NMI software.

- You can uninstall the NMI software directly from the DNCS. To uninstall the NMI software directly from the DNCS, follow the instructions in *Uninstall the NMI Software Directly From the DNCS* (on page 69).
- You can uninstall the NMI software remotely from the Alarm Manager server. To uninstall the NMI software remotely from the Alarm Manager server, follow the instructions in *Uninstall the NMI Software Remotely From the Alarm Manager Server* (on page 72).

Important Notice to Engineers

If any portion of the Alarm Manager software fails to uninstall properly, call Cisco Services for assistance.

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Manager Server 72
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Uninstall the NMI Software Directly From the DNCS

Follow these instructions to uninstall the NMI software directly from the DNCS.

Important: The DNCS must be running when you uninstall the NMI software.

1 Close all graphical user interfaces (GUIs) and open windows on the DNCS.

Note: You may need to close the following windows on a typical system:

- DNCS Administrative Console window
- DNCS Administrative Console Status window
- DNCS Monitor window

2 Open an xterm window on the DNCS.

3 Type `ps -ef | grep _ | grep ui` and then press **Enter**. The system checks for any DNCS user interface processes that are open.

Note: Open user interface processes begin with an underscore (`_`) and end with `ui`.

4 Does the output from the command you executed in step 3 include any open user interface processes?

- If **yes**, follow these instructions.
 - a Determine whether the open user interface processes can be terminated. Someone may be accessing the DNCS from a remote connection and should not have their work interrupted.
 - b If you determine that the user interface process should be terminated, as root user type `kill [process ID]` and then press **Enter**.

Note: Substitute the process ID of the user interface for `[process ID]`.

Result: The system terminates the process.
 - c Repeat steps 3 and 4.

- If **no**, go to step 5.

5 Complete the following steps to log on to the xterm window as **root** user.

a Type `su -` and press **Enter**. The password prompt appears.

b Type the root password and press **Enter**.

6 Type `./dvs/dnCS/bin/dnCSSetup` and then press **Enter**. This command establishes the DNCS environment as a root user.

Important: Type the period followed by a space before typing `/dvs`.

Note: The message **-o: bad options** may appear. This message is normal and does not affect the process.

- 7 Type **pkgrm SAIInmi** and then press **Enter**.

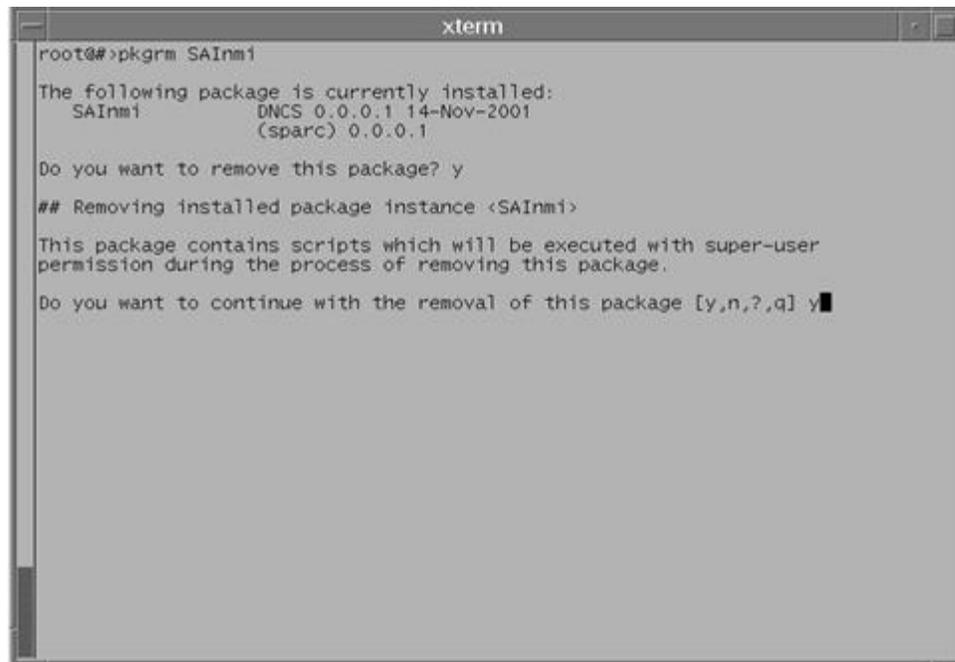
Results:

- The system displays a message that confirms that the SAIInmi software package is installed on the DNCS.
- The confirmation message **Do you want to remove this package?** appears.

- 8 Type **y** (for yes) and then press **Enter**.

Results:

- The system displays a message that states that scripts with super-user permission will be executed during the removal process.
- The confirmation message **Do you want to continue with the removal of this package** appears.



```
xterm
root@#>pkgrm SAIInmi
The following package is currently installed:
SAInmi          DNCS 0.0.0.1 14-Nov-2001
                (sparc) 0.0.0.1

Do you want to remove this package? y

## Removing installed package instance <SAInmi>

This package contains scripts which will be executed with super-user
permission during the process of removing this package.

Do you want to continue with the removal of this package [y,n,?,q] y
```

Note: The message **xset: unable to open display " "** may appear. You can safely ignore this message.

- 9 Type **y** (for yes) and then press **Enter**. The system removes the NMI software from the DNCS.

Note: The NMI software has been removed when the message **Removal of <SAInmi> was successful** appears.

- 10 Type **cd /dvs/dnCS/bin** and then press **Enter**. The **/dvs/dnCS/bin** directory becomes the working directory.
- 11 Type **rm -r dhM** and then press **Enter**. The system deletes the **/dvs/dnCS/bin/dhM** directory.

- 12 Close any open windows that may be open on the DNCS desktop.
- 13 Click **EXIT** on the toolbar at the bottom of the DNCS screen. A message appears seeking confirmation of your intent to log out of the DNCS.

Note: You must log out of the DNCS and then log back in to activate the modified UNIX environment.

- 14 Click **OK**.

Results:

- You log out of the DNCS.
 - The Common Desktop Environment (CDE) Login window opens.
- 15 Log in to the CDE as **dncs** user.

Uninstall the NMI Software Remotely From the Alarm Manager Server

Follow these instructions to uninstall the NMI software remotely from the Alarm Manager server.

Important:

- Before remotely uninstalling the NMI software, be certain that no one else is currently logged in to the DNCS from which you will uninstall the software, and that no one else logs in until the NMI uninstallation is complete.
 - The DNCS must be running when you uninstall the NMI software.
- 1 If necessary, open an xterm window on the Alarm Manager server.
 - 2 Type **telnet [IP address of DNCS]** and then press **Enter**. The system establishes a telnet session between the Alarm Manager server and the DNCS.
Note: Substitute the IP address of the DNCS for [IP address of DNCS].
 - 3 Log in to the DNCS as **root** user.
 - 4 Open an xterm window on the DNCS.
 - 5 Type **ps -ef | grep _ | grep ui** and then press **Enter**. The system checks for any DNCS user interface processes that are open.
Note: Open user interface processes begin with an underscore (_) and end with ui.
 - 6 Does the output from the command you executed in step 5 include any open user interface processes?
 - If **yes**, follow these instructions.
 - a Determine whether the open user interface processes can be terminated. Someone may be accessing the DNCS from a remote connection and should not have their work interrupted.
 - b If you determine that the user interface process should be terminated, as root user type **kill [process ID]** and then press **Enter**.
Note: Substitute the process ID of the user interface for [process ID].
Result: The system terminates the process.
 - c Repeat steps 5 and 6
 - If **no**, go to step 7.
 - 7 Type **./dvs/dnCS/bin/dnCSSetup** and then press **Enter**. This command establishes the DNCS environment as a root user.
Important: Type the period followed by a space before typing /dvs.
Note: The message **-o: bad options** may appear. This message is normal and does not affect the process.

- 8 Type **pkgrm SAIInmi** and then press **Enter**.

Results:

- The system displays a message that confirms that the SAIInmi software package is installed on the DNCS.
 - The confirmation message **Do you want to remove this package?** appears.
- 9 Type **y** (for yes) and then press **Enter**. The system removes the NMI software from the DNCS.
Note: The NMI software has been removed when the message **Removal of <SAIInmi> was successful** appears.
 - 10 Type **cd /dvs/dnCS/bin** and then press **Enter**. The `/dvs/dnCS/bin` directory becomes the working directory.
 - 11 Type **rm -r dhM** and then press **Enter**. The system deletes the `/dvs/dnCS/bin/dhM` directory.
 - 12 Type **exit** and then press **Enter**. The telnet session closes.

Uninstall the Alarm Manager Server Software

Follow these instructions to uninstall the Alarm Manager server software.

Important: You must be root user on the Alarm Manager server to complete these procedures.

- 1 Is the DBDS Alarm Manager Server Administration window displaying on the Alarm Manager server?
 - If **yes**, go to step 5.
 - If **no**, go to step 2.
- 2 From an xterm window on the Alarm Manager server, use the UNIX **cd** command to change to the directory into which you installed the Alarm Manager server software.

Example: If you installed the Alarm Manager software into the /export/home directory, type **cd /export/home** and then press **Enter**.

- 3 Type **./EMS** and then press **Enter**. The DBDS Element Management System Server Administration window opens.

Important: Be sure to type the dot before typing /EMS.

- 4 Follow these instructions to log in to the Alarm Manager server.
 - a In the **Login** field, type **System** and then press **Tab**.
 - b In the **Password** field, type the system password.
 - c Click **OK**.

Result: The DBDS EMS Server Administration window opens.

- 5 Is the Alarm Manager server running?
 - If **yes**, click **Stop** on the DBDS EMS Server Administration window and then click **Yes** on the confirmation message. The Alarm Manager server stops and the DBDS EMS Server Administration window closes.
 - If **no**, click **Exit** on the DBDS EMS Server Administration window and then click **Yes** on the confirmation message. The DBDS EMS Server Administration window closes.
- 6 From an xterm window on the Alarm Manager server, type **cd /[Alarm Manager installation directory]/UninstallerData** and then press **Enter**. The /[Alarm Manager installation directory]/UninstallerData directory becomes the working directory.

Notes:

- Substitute the directory into which you installed the Alarm Manager server software for [Alarm Manager installation directory].
- You wrote down the Alarm Manager installation directory in step 13 of the *Install the Alarm Manager Server Software* (on page 47) procedure.

Example: If you installed the Alarm Manager server software into the /EMS directory, type **cd /EMS/UninstallerData**.

- 7 Follow these instructions to enable the system to record uninstall and error messages in a logfile.
 - a Type **LAX_DEBUG=true** and then press **Enter**.
 - b Type **export LAX_DEBUG** and then press **Enter**.
- 8 Type **sh Uninstall_EMS_UNIX > /tmp/uninstall.out 2>&1** and then press **Enter**. The InstallAnywhere Uninstaller window opens.
- 9 Click **Uninstall**. The system uninstalls the Alarm Manager server software.
- 10 When the Uninstall Complete message appears, click **Quit**.
- 11 Type **cd /** and then press **Enter**. The root directory becomes the working directory.
- 12 From an xterm window on the Alarm Manager server, type **rm -rf /[Alarm Manager installation directory]** and then press **Enter**. The system deletes the directory into which you installed the Alarm Manager server software.

Note: Substitute the directory in which you installed the Alarm Manager software for [Alarm Manager installation directory].

Example: If you installed the Alarm Manager server software into the /export/home directory, type **rm -rf /export/home**.
- 13 Will you continue to use the Alarm Manager server as a trusted host?
 - If **yes**, you are finished; do nothing else to the Alarm Manager server configuration.
 - If **no**, follow these instructions.
 - a Type **vi /etc/hosts.equiv** and then press **Enter**.

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- b** Delete the line from the `/etc/hosts.equiv` file that contains **localhost+**.
- c** Save and close the `/etc/hosts.equiv` file.

Uninstall the Alarm Manager Client Software

Follow these instructions to uninstall the Alarm Manager client software.

- 1 Does your system have an Uninstall EMS icon on the desktop?
 - If **yes**, double-click the Uninstall EMS icon and then go to step 2.
 - If **no**, follow these instructions.
 - a Right-click on the **My Computer** icon on the desktop and then select **Open**.
 - b Right-click on the hard drive that contains the Alarm Manager client software and then select **Open**.
 - c Right-click on the **Program Files** folder and then select **Open**.
 - d Select **Show Files**.
 - e Right-click on the **EMS** folder and then select **Open**.
 - f Right-click on the **UninstallerData** folder and then select **Open**.
 - g Double-click **Uninstall EMS.exe**.

Result: The InstallAnywhere Uninstaller window opens.
- 2 Click **Uninstall**. The system removes the Alarm Manager client software from the PC.

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- 3 When the Uninstall Complete message appears, click **Quit**. The InstallAnywhere Uninstaller window closes.

Note: If the InstallAnywhere Uninstaller window lists Alarm Manager client components that it was unable to uninstall, remove these components manually from the PC.

- 4 Delete the EMS folder from your PC.

4

Customer Information

Introduction

This chapter provides contact information to obtain product support.

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- Customer Support 80

Customer Support

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



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