AVAYA

Avaya Integrated Management Release 2.0

Advanced Converged Management
Installation and Upgrade

The LASER devices operate within the following parameters:

- Maximum power output: -5 dBm to -8 dBm
- Center Wavelength: 1310 nm to 1360 nm

Luokan 1 Laserlaite

Klass 1 Laser Apparat

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11
- Powerline Harmonics IEC 61000-3-2
- Voltage Fluctuations and Flicker IEC 61000-3-3

Federal Communications Commission Statement

Part 15:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

REN Number

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

Canadian Department of Communications (DOC) Interference Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Declarations of Conformity

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC)

Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria.

Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids.

Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: http://www.part68.org by conducting a search using "Avaya" as manufacturer.

European Union Declarations of Conformity

CE

Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Europeénne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC). This equipment has been certified to meet CTR3 Basic Rate Interface (BRI) and CTR4 Primary Rate Interface (PRI) and subsets thereof in CTR12 and CTR13, as applicable.

Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

To order copies of this and other documents:

Call:	Avaya Publications Center Voice 1.800.457.1235 or 1.207.866.6701 FAX 1.800.457.1764 or 1.207.626.7269
Write:	Globalware Solutions 200 Ward Hill Avenue Haverhill, MA 01835 USA Attention: Avaya Account Management
E-mail:	totalware@gwsmail.com

For the most current versions of documentation, go to the Avaya support Web site: http://www.avaya.com/support.

Table of Contents

1 Introduction

Purpose

The purpose of this book is to provide the following information:

- Hardware and software requirements for Linux, Solaris, and Microsoft® Windows® servers, and Windows client PCs.

- Pre-installation tasks that must be completed prior to installation.

- Procedure to install the products in the Advanced Converged Management offer. If any of the products included in the Advanced offer are already installed on your system, those products will be upgraded during this installation.

Prerequisites

System administrators who install the Integrated Management Advanced Converged Management software should be experienced in installing software on Linux, Solaris, and Windows operating systems in a converged network environment.

Intended Audience

This book is written for system administrators who are responsible for installing software on Linux, Solaris, and Windows servers.

Conventions Used in This Book

The following typographical conventions are used:

- **Bold** type is used to indicate information that you type, buttons in a window, and the **Enter** key on the keyboard. It is also used for emphasis.

- `Courier` font is used for any information that the computer screen displays.

- Arrows indicate options that you select from cascading menus; for example, "Select File > Open" means choose the "Open" option from the "File" menu.

Support Resources

Avaya provides a variety of planning, consulting, and technical services. The following sections describe the resources and services that are available.

Avaya Technology and Consulting (ATAC)

Avaya Technology and Consulting (ATAC) works with client teams to develop detailed solutions for connectivity to Avaya Communication Manager solutions. The ATAC also designs network configurations. Due to configuration complexities, we strongly recommend that you contract for professional implementation services for the following Avaya Integrated Management products:

- Avaya MultiSite Administration (formerly named Avaya MultiVantage Configuration Manager)

- Avaya Fault and Performance Manager

- Avaya Proxy Agent

- Avaya Directory Enabled Management

Avaya Remote Network Integration Services (RNIS)

Avaya Remote Network Integration Services (RNIS) offers customers the following services:

- Platform readiness verification

- Remote implementation and installation

- Network management server configuration

- Customer acceptance verification

- Custom on-site services

The RNIS provides support on a contract basis. You can purchase various implementation offers from the RNIS in Tampa, Florida. See Table 1-1 on page 3 for contact information.

RNIS does *not* handle technical support questions on Avaya Integrated Management installations from customers who do not purchase a contract.

Avaya Technical Service Organization (TSO)

The Avaya Technical Service Organization (TSO) provides support to the Avaya Integrated Management client teams, field technicians, and customers. The TSO will bill customers for support on a time and materials basis if the following conditions exist:

- Customers do not provide remote access.

- Customers do not have a current maintenance agreement.

- Customers do not procure and install the required systems and software as defined in the Avaya Integrated Management Services Support Plan.

- Customers request support that is outside the purchase agreement.

The TSO does *not* support hardware or software that customers purchase from third-party vendors.

Avaya Network Management Software Systems Support Group (NMSSS)

The Avaya Network Management Software Systems Support Group (NMSSS) in Tampa Bay, Florida answers customer calls about products in Avaya Integrated Management. NMSSS will either answer your questions directly or connect you with an associate who can answer questions about the products.

Avaya Contact Information

Table 1-1 and Table 1-2 provide contact information that you may use if you need assistance during the process of installing and setting up Avaya Integrated Management.

Table 1-1. Customer-Accessible Resources

Resource	Contact Information
Avaya Support Center	http://www.avaya.com/support
Network Management Software Systems Support (NMSSS)	+1 800 237-0016
Remote Network Integration Services (RNIS)	+1 800 730-9108, prompt 3 http://www1.avaya.com/enterprise/brochures/svc1369.pdf
Toll Fraud Intervention	+1 800 643-2353, prompt 1

Table 1-2. Avaya Internal Resources

Resource	Contact Information
Avaya System Management Support	http://aem-support.dr.avaya.com
Avaya Technology and Consulting (ATAC)	+1 888 297-4700, prompt 2,6 http://forum.avaya.com (requires a password)
Remote Network Integration Services (RNIS)	http://associate2.avaya.com/sales_ market/products/data-implementation-services/
Integrated Management Services Support Plan	http://associate2.avaya.com/solution/support_plans/#Enterprise
AIM001 Form	http://associate2.avaya.com/sales_ market/products/data-implemntation-services Click Avaya Integrated Management Configuration Request Form #1.

Product Documentation

The configuration books for all of the Avaya Integrated Management products are available on the Avaya Integrated Management Home Page. The configuration books provide tasks that must be completed after the products are installed.

The latest version of installation, configuration, and other user books for products included in Avaya Integrated Management offers are available from the Avaya Support Web site. The latest version of this book is also available. To view or download these books from the Web, you must have access to the Internet, an Internet browser, and Adobe Acrobat Reader, version 5.0 or later. Adobe Acrobat Reader is provided on both the Windows and Linux Server CDs and is also available from http://www.adobe.com. See "How to Access Books on the Web" for instructions on how to view or download these books.

How to Access Books on the Web

To view or download books before the products are installed, follow these steps:

1. Access http://www.avaya.com/support.

2. In the left column, click **System and Network Management**.

3. Scroll to **Integrated Management**, locate the product name, and click the link corresponding to the software release to display a list of available books for that product.

To view or download books after the products are installed, follow these steps:

1. Use your Web browser to go to the Integrated Management Home page.

2. In the left column, click **User Documents**.

3. At the User Documents page, scroll to the product name and click the book title.

Tell Us What You Think!

Let us know how this book measured up to your expectations. Your opinions are crucial to helping us meet your needs! Please send us your comments by mail, fax, or e-mail as follows:

Mail: Avaya Inc.
       Avaya Integrated Management Documentation Team
       Room 3C-313
       307 Middletown Lincroft Rd.
       Lincroft, NJ 07738
       USA

Fax: Avaya Integrated Management Documentation Team
       + 1 732 852-2469
E-mail: document@avaya.com
Subject: Avaya Integrated Management Documentation Team

Tell Us What You Think!

2   Overview

Advanced Converged Management

Advanced Converged Management is the premier solution to manage large converged networks. This offer includes all of the products in Avaya Integrated Management and supports Linux, Windows, and HP OpenView on Solaris and Windows. You can use a variety of products to administer the myriad of features in the Avaya Communication Manager; monitor your entire voice and data network from a central location; and manage the Avaya network switches and IP endpoints.

Advanced Converged Management CDs

The Advanced Converged Management offer is provided on the following CDs:

- Linux Server CD

- Solaris Server CD

- Windows Server CD

- Avaya ATM WAN Survivable Processor Manager Windows Server CD

- Avaya Directory Enabled Management Windows Server CD (This product is installed on a different Windows server from the other Windows products. See *Avaya Directory Enabled Management Release 2.0 Installation and Implementation*, document number 555-038-101, for instructions on how to install this product.)

- Windows Client CD

Integrated Management Products

The Integrated Management products provided in the Advanced Converged Management offer are listed in Table 2-1. The table identifies the servers on which the products are installed and identifies the products that are installed on the Windows client.

Table 2-1. Products in Advanced Converged Management

Product Name	Linux Server	Solaris Server	Windows Server	Windows Client
Avaya MultiSite Administration	✓			
Avaya Fault and Performance Manager	✓			
Network Management System Integration (NMSI)[1]		✓	✓	
Avaya Proxy Agent	✓			
Avaya Network Management Console with System View[2]			✓	
Avaya Network Configuration Manager		✓	✓	
Avaya Software Update Manager		✓	✓	
Avaya SMON™ Manager[3]		✓	✓	
Avaya Address Manager		✓	✓	
Avaya VLAN Manager		✓	✓	
Avaya QoS Manager		✓	✓	
Avaya VoIP Monitoring Manager			✓	✓[4]
Avaya Device Managers		✓	✓	
Avaya ATM WAN Survivable Processor Manager			✓	
Avaya Site Administration				✓
Avaya Voice Announcement Manager				✓
Avaya Directory Enabled Management			✓	
Avaya Terminal Configuration			✓	

1. Integrates Fault and Performance Manager on Linux server with HP OpenView on Windows or Solaris server.
2. The Console with System View is not available when HP OpenView is installed on the server.
3. SMON Manager 90-day trial version. Customers can purchase a license key to fully activate the SMON Manager beyond the 90-day trial period.
4. The Windows Client contains both the VoIP Monitoring Manager 90-day trial version and the VoIP Monitoring Manager client component. You should install the client component only if the server component is installed on the Windows server.

Avaya SMON Manager License Key

Customers have the option of purchasing the SMON Manager license key. This key is required to fully activate the SMON Manager beyond the 90-day trial period. The license key is available as an add-on option for the Enterprise Converged Management, Enhanced Converged Management, and Advanced Converged Management offers.

HP OpenView Integration

The Network Management applications can integrate with HP OpenView on the Windows and Solaris servers. HP OpenView must be installed on the server *before* the Network Management applications are installed.

Avaya Fault and Performance Manager can also integrate with HP OpenView on the Windows and Solaris servers. To activate the integration, you must select the Network Management System Integration (NMSI) component during the installation process.

The user documentation for Network Management and for Avaya Fault and Performance Manager provide the procedures to configure the integration and HP OpenView.

HP OpenView is not included in any of the Integrated Management offers. Customers must purchase and maintain HP OpenView separately. Avaya Services does not support HP OpenView or other third party products.

Pre-Installation Tasks

Before installing Avaya Integrated Management products, you must complete the following pre-installation tasks.

1. Check the minimum hardware and software requirements for the following:

    - Linux server (see "Linux Server Requirements" on page 14).

    - Solaris server (see "Solaris Server Requirements" on page 26).

    - Windows server (see "Windows Server Requirements" on page 35).

    - Windows client PC (see "Windows Client PC Requirements" on page 46).

2. Check that all previous sequential upgrades and/or major releases were installed before installing this release. If the Linux, Solaris, or Windows installation wizards detect a software upgrade that is not sequential, the wizard will stop and display a message to install the skipped releases. The wizard will then abort the installation.

3. Carefully review *Avaya Integrated Management Release 2.0 Planning and Implementation*, document number 555-233-680. This document is available on the Avaya Support Web site (see "How to Access Books on the Web" on page 5). This document describes server configuration requirements and provides pre-installation forms that must be completed before you begin installing the Avaya Integrated Management products.

4. If you are installing Avaya Integrated Management Release 2.0 products on a Linux server for the first time, the Red Hat Linux Enterprise Server (ES) 2.1 is required. Upgrade installations can be installed on a Red Hat Linux 7.3 server. See "Integrated Management Upgrade Installations" on page 15 for more information.

   Note: Refer to *Configuring Red Hat Linux,* document number 555-233-152 on the Avaya Support web site for information about upgrading the Linux server. For additional support, refer to your Red Hat operating system documentation or contact your Red Hat support vendor.

5. If you want Avaya Services to have remote access to your system, you must install the following files:

   • mgetty (install first)

   • mgetty-sendfac

   • ppp

   • vnc

   • vnc-server

   If these files are not installed, you must provide another way to allow Avaya Services remote access. In addition, you must install the **uucp** file if you plan to set up Proxy Agent for modem alarming.

6. For Solaris server installations, you must install HP OpenView on the Solaris server **before** installing the Solaris Server CD, as described in Chapter 4 Solaris Server Installation.

7. Network Management System Integration (NMSI) integrates Avaya Fault and Performance Manager on the Linux server with HP OpenView 6.2 or 6.4 on the Windows or Solaris server. Note the following:

   • To use the OpenView Web client, the user must properly install and configure an appropriate web server (Apache, IIS, etc.). Consult HP OpenView document for information on setting up the web server and using OpenView Web.

   • For optimal performance, it is suggested that HP OpenView for System View be set up by selecting the following options from within OpenView:

     — **Map > Properties...> View > Show Connection Labels**

     — **Map > Properties... > Status Propagation > Propagate Most Critical**

8. If a previous release of any product included in the Advanced Converged Management offer is already installed (except for the Network Management applications on the Solaris Server CD), those products will be upgraded to the current release when you install Avaya Integrated Management 2.0 installation CDs. For products being upgraded, you must back up the files that contain system configuration settings, database files, and other custom information before installing the new release.

   Note: The Network Management applications and Device Managers on the Solaris Server CD cannot be upgraded from a previous release. See Chapter 4 Solaris Server Installation for more information.

9. Carefully review this entire book before you start the installations on the servers and client PCs.

Upgrade Installations

If you are upgrading from VisAbility Management Suite Release 1.3 to Integrated Management Release 2.0, and you are installing VoIP Monitoring Manager, Network Management applications, or the Integrated Management Home Page, do the following:

1. Close the VoIP Monitoring Manager client and stop the VoIP Monitoring Manager server.

2. Go to **Add or Remove Programs** and uninstall the VoIP Monitoring Manager client and the VoIP Monitoring Manager server.

3. Stop the Apache 1.3.2x server.

4. Go to **Add or Remove Programs** and uninstall the Apache 1.3.2x server.

In addition, go to **Add or Remove Programs** and uninstall the following:

- Avaya VisAbility Required Components

- Avaya VisAbility Homepage

- JDK 1.3.1_02 (if not used by another program)

- JRE 1.3.1_02 (if not used by another program)

Integrated Management Server

In Avaya Integrated Management Release 2.0, the server, instead of the client, contains the IP addresses of all the products on the various servers. The server containing this information is called the Integrated Management server. You have the option of designating either the Linux server or the Windows server as the Integrated Management server.

During the installation, the wizard prompts you for the IP address of the Integrated Management server. This prompt appears during the installation of Linux server products, Windows server products, and Windows client products. You must enter the same IP address each time you are prompted for the IP address of the Integrated Management server. Without the correct IP address, users will be unable to access the Integrated Management Home Page where they can download and launch products from their browser.

In addition, the only **internal** access to the product documents is from the Integrated Management Home Page. If the home page is not properly installed and configured, users will have to access the product documents from the **external** Avaya Support web site.

3   Linux Server Installation

Linux Server CD

The Linux Server CD contains the following Integrated Management products:

- Avaya MultiSite Administration

- Avaya Proxy Agent

- Avaya Fault and Performance Manager

The Linux Server CD also contains the following components:

- Integrated Management Database

- PostgreSQL Database System

- PHP support for PostgreSQL

- Integrated Management Linux Maintenance Package

- Avaya Integrated Management Home Page

- Java Runtime Environment

- Apache Tomcat Web Server

- Adobe Acrobat Reader (required to view documents)

Linux Server Requirements

Table 3-1 provides the minimum requirements for the Linux servers.

> **WARNING**
> **You must install the latest bug fixes and security patches in order to keep your Linux operating system up to date. Failure to do so may leave your server vulnerable to attack and possible compromise.**

Table 3-1. Linux Server Requirements

Component	Recommended	Comments
Operating System	Red Hat Linux ES 2.1	Red Hat Linux ES 2.1 is required for new installations. Red Hat Linux 7.3 is supported for upgrades only.
Processor	1.3 GHz Pentium® 4	1.3 GHZ Pentium 3 is acceptable. A maximum of two processors is supported.
Hard drive	40 GB	
Memory	1.5 GB RAM	
Network Connectivity	TCP/IP 100 Mbit Network Card	
Modem	56K external modem connected to COM1 for remote access	
Web Browser	Not required	Linux web client is **not** supported.
CD-ROM Drive	Required	Needed for installation.

Integrated Management Upgrade Installations

If Avaya MultiSite Administration, Avaya Fault and Performance Manager, or Avaya Proxy Agent are already installed on the Linux server, the Linux Server CD will upgrade those products to the current release. There are two possible scenarios for an upgrade installation:

- You are upgrading the Integrated Management products to the current release on the same operating system, Red Hat Linux 7.3.

- You are upgrading the Integrated Management products to the current release and the Linux Enterprise Server (ES) 2.1 operating system needs to be installed.

For both scenarios, database and configuration information for any product already installed must be backed up. Database files for some products require conversion between upgrades from Release 1.3 to Release 2.0, and configuration data needs to be converted and imported. The Linux Server CD provides the mechanism to perform these tasks during installation.

For installations that require upgrading the Linux operating system to Red Hat Linux ES 2.1, you must send a server backup via FTP to an alternate machine prior to the operating system upgrade. After the server backup is completed, you will:

1. Remove the Linux Server CD from the drive.

2. Install the Red Hat Linux ES 2.1 operating system.

3. Re-insert the Linux Server CD and resume the Integrated Management upgrade installation.

Recommendation:
It is recommended that you install Linux-based products on Red Hat Linux 7.3 or Red Hat Linux ES 2.1 servers, as described in the following supported configurations:

- Avaya MultiSite Administration, Avaya Fault and Performance Manager, and Avaya Proxy Agent installed on one Linux server can support 10 voice systems.

- Avaya MultiSite Administration and Avaya Fault and Performance Manager installed on one Linux server, and Avaya Proxy Agent installed on a second Linux server can support 100 voice systems.

Installing the Linux Server Products

SECURITY ALERT
During the installation, the installation wizard turns off the internal firewall around the Linux server. This allows internal users to telnet to the Linux server and to use their web browser to access the Windows clients. Do *not* turn on the internal Linux firewall after the installation. Your network firewall provides the needed security to prohibit access to the Linux server from outsiders.

The procedure to install or to upgrade the Integrated Management products on the Linux server is generally the same, except new installations do not require an application database backup and restore.

1. Ask all users to log off the system.

2. Log in as **root** on the Linux server.

3. Insert the **Avaya Integrated Management 2.0, Linux Server** CD into the CD-ROM drive.

4. On the Red Hat Linux toolbar, click the **Terminal Emulation** icon to open a terminal emulation window.

5. In the terminal emulation window, type **mount /mnt/cdrom** and press **Enter**.

6. In the terminal emulation window, type **cd /mnt/cdrom** and press **Enter**.

7. In the terminal emulation window, type **./im2.0_setup.bin** and press **Enter**.

   The Welcome dialog box appears.

8. Click the **Next** button.

   • If the previous version of a Linux product is installed on the server, the Upgrade Release 1.3 Data dialog box appears. Go to **Step 9**.

   • If the current version of an Integrated Management Linux product is already installed on the server, the Backup Integrated Management Data dialog box appears. Click **Yes** to back up the Integrated Management 2.0 data, and then go to **Step 10**.

   • If no Linux products are installed, the Select the Setup Type dialog box appears. Go to **Step 16**.

9. Perform one of the following steps:

   • To retain existing data and upgrade to Integrated Management Database 2.0, click **Upgrade the existing data to Integrated Management Database 2.0**, and then click the **Next** button.

     A dialog box appears stating the size of the data file. Go to **Step 10**.

   • If you do not want to retain existing data, but want to overwrite existing data, click **Do NOT upgrade the existing data**, and then click the **Next** button.

     The Install Integrated Management 2.0 dialog box appears. Go to **Step 14**.

10. Click the **Next** button.

    The Back up Location dialog box appears.

11. Perform one of the following steps:

    • To store the data locally, click **Store the data locally on this computer**.

    • To store the data on another PC, click **Store the data remotely on another computer**.

        Note: If you choose to store this data to another computer, make sure there is sufficient space on the PC.

12. Click the **Next** button.

    • If you stored the data locally, go to **Step 14**.

    • If you stored the data on another computer, go to **Step 13**.

13. In the Remote Computer Information dialog box, enter the following information:

    a. Enter the IP address for the remote computer.

    b. Enter the FTP login name for the remote computer.

    c. Enter the FTP password for the login name.

    d. Enter the Destination path where the data will be stored on the remote computer.

        Note: The Destination folder must exist. If access restriction applies, make sure you specify the full path.

    e. Click the **Next** button when you are finished entering the remote computer information.

    The Install Integrated Management 2.0 dialog box appears.

14. Perform one of the following steps:

    • To install Integrated Management 2.0, click **Install Integrated Management 2.0**.

    • To upgrade the Linux operating system, click **Exit installation**, and then do the following:

        a. Click the **Next** button. The Finish dialog box appears.

        b. Click the **Finish** button. See *Configuring Red Hat Linux*, document number 555-233-152 for information about upgrading the Linux operating system.

        c. After the Linux operating system is upgraded, begin the Linux server products installation again.

        Note: Linux Enterprise Server (ES) 2.1 is required for new installations.

15. Click the **Next** button.

    A dialog box appears and shows the installation options.

16. Perform one of the following steps:

    • If you want to install all of the products, click **All**, and then click the **Next** button.

    The Location of the Integrated Management Database 2.0 dialog box appears.

    • If you do not want to install all of the products, click **Custom** and then do the following:

    a. Click the **Next** button.

    b. In the Select the Products You Want to Install dialog box, click the products you want to install, and then click the **Next** button.

    The Location of the Integrated Management Database 2.0 dialog box appears.

17. Perform one of the following steps:

    • To install the Integrated Management Database on this computer, click **Install the database locally on this computer**, and then click the **Next** button.

    • If the Integrated Management Database is installed on a remote computer, click **Install the database remotely on another computer,** enter the IP address of the remote computer, and then click the **Next** button.

    Note: Selecting this option does NOT install the Integrated Management Database on a remote computer. However, the wizard will prompt you for the IP address of the remote computer so that the products on this computer can connect to the Integrated Management Database on the remote computer.

    An Installation Summary dialog box appears and shows the directory where Integrated Management 2.0 will be installed and lists the products.

18. Click the **Next** button.

    The Avaya Linux Server License Types dialog box appears.

19. Read the license types. Click **I accept the terms of the Linux Server license types**, and then click the **Next** button.

    Note: You must accept the terms of the license types in order to continue with the installation.

    The Java 2 Software Development Kit license agreement dialog box appears.

20. Read the license agreement. Click **I accept the terms of the license agreement**, and then click the **Next** button.

    The Apache Software license agreement dialog box appears.

21. Read the license agreement. Click **I accept the terms of the license agreement**, and then click the **Next** button.

    The Apache Copyright license agreement dialog box appears.

22. Read the license agreement. Click **I accept the terms of the license agreement**, and then click the **Next** button.

- If you selected the Integrated Management Home Page to be installed on the Linux server, (as described in **Step 16**) the Location of Products Installed on the Windows Server dialog box appears. If the Network Management applications and/or VoIP Monitoring Manager is installed on a Windows server, perform the following steps:

  a. Enter the IP Address of the Windows server running the Network Management applications.

  b. Enter the IP Address of the Windows server running the VoIP Monitoring Manager.

  c. Click the **Next** button.

  d. Go to **Step 23**.

- If you did not select the Integrated Management Home Page to be installed on the Linux server, go to **Step 23**.

23. Perform one of the following steps:

- If you chose to install **All** products (as described in **Step 16**), a progress message appears while Integrated Management is being installed. When this portion of the installation is complete, the Post Installation Summary dialog box appears. Go to **Step 24**.

- If you chose a **Custom** installation (as described in **Step 16**), and chose to install Integrated Management Home Page and Avaya Proxy Agent, perform the following steps:

  a. Enter the IP Address of the Linux server running Avaya Fault and Performance Manager.

  b. Enter the IP Address of the Linux server running Avaya MultiSite Administration.

  c. Enter the IP Address of the Linux server running Avaya Proxy Agent.

  d. Click the **Next** button.

  A progress message appears while Integrated Management is being installed. When this portion of the installation is complete, the Post Installation Summary dialog box appears. Go to **Step 24**.

24. Click the **Next** button.

A progress message appears showing the installation of the selected products and required components.

25. Click the **Next** button.

If you installed Proxy Agent, the Proxy Agent configuration dialog box appears.

26. Click **Configure the Proxy Agent now**, and then click the **Next** button.

The terminal emulation window appears. See "Running the Avaya Proxy Agent Configuration Script" in *Avaya Proxy Agent Release 2.0 Configuration,* document number 555-233-139, to configure Proxy Agent.

If you installed Fault and Performance Manager, the Fault and Performance Manager configuration dialog box appears.

27. Click **Configure the Fault and Performance Manager now**, and then click the **Next** button.

   The terminal emulation window appears. See *Avaya Fault and Performance Manager Release 2.0 Configuration*, document number 555-233-130, to configure Fault and Performance Manager.

   After the Fault and Performance Manager is configured, the Restore dialog box appears.

28. Perform one of the following steps:

   • If you upgrade Release 1.3 data, click **Restore now,** and then click the **Next** button.

      The Backup Location dialog box appears. Go to **Step 29**.

   • If you did not back up application data or you do not want to restore the backup now, click **Restore later/No backup data,** and then click the **Next** button.

      The Finish dialog box appears. Go to **Step 31**.

29. If you are restoring data, perform one of the following steps in the Backup Location dialog box, depending on where you stored the backup:

   • Click **Local Computer**, and then click the **Next** button.

      A message appears stating the backup database is restored.

   • Click **Remote Computer**, and then enter the same information you entered in **Step 13**. Then click the **Next** button.

      A message appears stating the backup database is restored.

30. If this is an upgrade installation for Avaya MultiSite Administration, the Avaya MultiSite Administration Voice System Initialization dialog box appears. Click **Yes** for Avaya MultiSite Administration to perform voice system initialization automatically after it is started, and then click the **Next** button.

   Note: Voice system initialization takes a long time to complete. This task can be performed after the installation is complete. See "Initializing Voice Systems" in *Avaya MultiSite Administration Release 2.0 Configuration*, document number 555-233-137.

31. Click **Finish** to exit the installation wizard.

   The terminal emulation window appears.

32. In the terminal emulation window, type the following commands:

   • Type **cd** and press **Enter**.

   • Type **eject** and press **Enter** to remove the CD from the drive.

   • Type **reboot** and press **Enter** to reboot the computer.

33. Refer to the Avaya Integrated Management Home Page for documentation on the applications you installed. Also, the latest versions of these books are available on the Avaya Support Web Site. See "How to Access Books on the Web" on page 5. The documents are in PDF format. To view a PDF, you must install Adobe Acrobat Reader on your computer. Adobe Acrobat Reader is provided on the Windows Server CD.

Note: Regularly check the Avaya Support Web Site for software updates.

Configuring the Integrated Management Database

In Avaya Integrated Management Release 2.0, the device data (such as configurations of voice systems, messaging systems, system adjuncts, and managed applications) is stored in the Integrated Management Database (IMD) and shared by Integrated Management applications (for example, Avaya MultiSite Administration and Avaya Fault and Performance Manager). You must configure the Integrated Management database before you can use these Integrated Management applications. See *Avaya Integrated Management Database Configuration* for the procedures you must perform.

Backing Up Integrated Management on Linux

To back up Integrated Management 2.0 data on the Linux server, follow these steps:

1. Ask all users to log off the system.

2. Log in as **root** on the Linux server.

3. Perform one of the following steps:

   - To back up all Integrated Management application data, type **/usr/sbin/IMbackup <backup_file> all** in the terminal emulation window and press **Enter**.

   - To back up specific Integrated Management application data, type **/usr/sbin/IMbackup <backup_file> [app1 app2 app3 app4]** in the terminal emulation window and press **Enter**.

     Designate the specific Integrated Management application for **app1, app2, app3, or app4** as follows:

     — **FPM** for Avaya Fault and Performance Manager

     — **MSA** for Avaya MultiSite Administration

     — **IMD** for Avaya Integrated Management Database

     — **PA** for Avaya Proxy Agent

     For example, to back up Integrated Management Database and MultiSite Administration data, you would type: **/usr/sbin/IMbackup/var/avaya/IM2.0/IMD_MSA_Data_ MMDDYY IMD MSA** and press **Enter.**

Restoring Integrated Management on Linux

When you restore Integrated Management data, the data is read from the backup input file and then imported in the applications. You can restore selective applications from the backup input file. For example, if you backed up all Integrated Management applications, you can restore specific applications or restore all applications from the backup file.

To restore Integrated Management 2.0 data on the Linux server, follow these steps:

1. Ask all users to log off the system.

2. Log in as **root** on the Linux server.

3. Perform one of the following steps:

    * To restore all Integrated Management application data, type **/usr/sbin/IMrestore <backup_file> all** in the terminal emulation window and press **Enter**.

    * To restore specific Integrated Management application data, type **/usr/sbin/IMrestore <backup_file> [app1 app2 app3 app4]** in the terminal emulation window and press **Enter**.

        Designate the specific Integrated Management application for **app1, app2, app3, or app4** as follows:

        — **FPM** for Avaya Fault and Performance Manager

        — **MSA** for Avaya MultiSite Administration

        — **IMD** for Avaya Integrated Management Database

        — **PA** for Avaya Proxy Agent

Uninstalling Integrated Management on Linux

To uninstall Integrated Management 2.0 on the Linux server, follow these steps:

1. Ask all users to log off the system.

2. Log in as **root** on the Linux server.

3. In the terminal emulation window, type **cd /opt** and press **Enter**.

4. In the command line, type **./avaya/uninstall/uninstaller.bin** and press **Enter**.

    The Integrated Management 2.0 Linux Server Uninstaller dialog box appears.

5. Click the **Next** button.

    The Select Products to uninstall dialog box appears.

6. Select the products you want to uninstall, and click the **Next** button.

The Uninstall Summary dialog box appears.

7. Click the **Next** button.

When the products have been uninstalled, the Post Uninstall Summary dialog box appears.

8. Click the **Next** button.

The Finish window appears.

9. Click the **Finish** button.

4 Solaris Server Installation

Solaris Server CD

The Solaris Server CD contains the following products and components:

- Network Management System Integration (NMSI) (for integration between HP OpenView running on the Solaris server and Fault and Performance Manager running on the Linux server)

- Network Management applications:

    — Avaya Network Configuration Manager

    — Avaya Software Update Manager

    — Avaya SMON Manager

    — Avaya Address Manager

    — Avaya VLAN Manager

    — Avaya QoS Manager

- Device Managers

The Solaris Server CD also contains the following components:

- Java Runtime Environment

- Adobe Acrobat Reader for Windows (required to view documents)

Solaris Server Requirements

Table 4-1 provides the minimum requirements for the Solaris server.

Table 4-1. Solaris Server Requirements

Component	Recommended	Comments
Operating System	Solaris 9	Solaris 9 is required for new installations. Solaris 8 is also supported.
Network Management System	HP OpenView 6.4 for Solaris	**Required**. HP OpenView 6.2 is also supported. HP OpenView is **not** included on the Solaris server CD. Customers must purchase, install, and maintain HP OpenView. Avaya Services does not support HP OpenView in any Integrated Management offer.
Processor	SPARC architecture 500MHz	
Hard Drive	40 GB	
Memory	1 GB RAM	
Network Connectivity	TCP/IP 100 Mbit Network Card	
Web Browser	Not required	Solaris client is not supported.
CD-ROM Drive	Required	Needed for installation.

Installing the Solaris Server Products

HP OpenView must be installed on the Solaris server **before** you install the Solaris Server CD. HP OpenView is **not** provided on the CD and Avaya Services does **not** support it.

Avaya Network Management applications for Solaris are integrated with HP OpenView Network Node Manager (HP-OV NNM) which serves as the framework in which the applications operate. The installation script installs multiple Network Management applications under HP-OV NNM. These applications provide comprehensive management of the Avaya devices in your network. The Network Management setup program allows you to intall all of the Network Management applications or individual applications.

1. Ask all users to log off the system.

2. Log in as **root** on the Solaris server.

3. Insert the **Avaya Integrated Management 2.0, Solaris Server** CD into the CD-ROM drive.

4. Open a terminal emulation window.

5. In the terminal emulation window, type **mount /mnt/cdrom** and press **Enter**.

6. In the terminal emulation window, type **cd /cdrom/cdrom0** and press **Enter**.

    a. Set the display environment so that the installation script is visible on your monitor. In the terminal emulation window, perform one of the following procedures:

        - For csh and tcsh environments, type **setenv DISPLAY** *ipaddress***:0.0** where *ipaddress* is the IP address of your machine.

        - For sh, bash, and ksh environments:

            1   Type **DISPLAY=***ipaddress***:0.0** where *ipaddress* is the IP address of your machine.
            2   Type **export DISPLAY**.

    b. In the terminal emulation window, type **./install.sh** and press **Enter**.

        The prompt to install Network Management (NM) appears.

    c. Perform one of the following steps:

        - Type **y** and press **Enter** to install the Network Management applications and Device Managers.

            See "Installing Network Management for the First Time" on page 29 for the installation procedure.

        - Type **n** and press **Enter** if you want to skip installation of the Network Management applications and Device Managers.

            The prompt to install the next component appears.

    d. After Network Management installation is completed (or skipped), the prompt to install Network Management System Integration (NMSI) appears.

    e. Perform one of the following steps:

        • Type **y** and press **Enter** to install NMSI.

          The Welcome dialog box for NMSI installation appears. Go to **Step 7**.

        • Type **n** and press **Enter** if you want to skip installation of NMSI.

7. Click the **Next** button.

    The Installer dialog box appears.

8. In the Installer dialog box, enter the following information:

    a. Enter the IP address or fully qualified DNS name of the server running Avaya Fault and Performance Manager.

    b. Enter the TCP Port Number to communicate with the NMSI server port on the server.

    c. Enter the IP address or fully qualified DNS name of the computer running Avaya MultiSite Administration.

9. Click the **Next** button.

    An information dialog box appears and shows the directory where NMSI will be installed and the total size of the application.

10. Click the **Next** button.

    The Avaya License Types dialog box appears.

11. Read the Avaya license types. Click **I accept the terms of the license types**, and click the **Next** button.

    A message appears stating the Wizard has successfully installed NMSI.

12. Click the **Next** button.

    The Finish window appears.

13. Click the **Finish** button.

    The terminal emulation window appears.

14. In the terminal emulation window, type **eject** and press **Enter** to remove the CD from the drive.

Installing Network Management for the First Time

This section provides instructions to install Network Management on a workstation where it has never been installed. To install Avaya Integrated Management 2.0 – Network Management for Solaris, follow these steps:

1. Start the installation script for Network Management from the Solaris Server CD. See "Installing the Solaris Server Products" on page 27.

2. Select a directory in which to install Network Management.

3. Perform one of the following steps to select an Installation Setup Type:

   • Select **Typical Setup Type**. Go to **Step 5**.

   • Select **Custom Setup Type**. Go to **Step 4**.

4. Select the components to install.

   • To toggle the selection of all the components, type **a**.

   • To toggle the selection of specific components, type the component numbers and/or ranges separated by commas. For example, to select components 1, 3, 5, 6, and 7, type **1,3,5-7**.

5. Confirm your selections.

6. Press **Enter**.

   The installation program installs Avaya Integrated Management 2.0 – Network Management for Solaris.

7. Perform any necessary post-installation procedures. For information about post-installation procedures, see the *Network Management and Device Managers Configuration Guide*.

Updating the Network Management Installation

You can update your installation of Avaya Integrated Management 2.0 – Network Management for Solaris by running the installation program. The update is necessary if you want to install an application that was not originally installed, or reinstall an application whose files have been accidentally deleted or corrupted.

To install additional Network Management applications, or reinstall a Network Management application, follow these steps:

1. Start the installation script for Network Management from the Solaris Server CD. See "Installing the Solaris Server Products" on page 27.

2. Select **Custom Setup Type**.

3. Select the components to install.

    • To toggle the selection of all the components, type **a**.

    • To toggle the selection of specific components, type the component numbers and/or ranges separated by commas. For example, to select components 1, 3, 5, 6, and 7, type **1,3,5-7**.

4. The selected applications are updated.

    Note: When updating Avaya Integrated Management 2.0 – Network Management for Solaris:

        • All network settings are saved.

        • You cannot change the installation directory.

Uninstalling Network Management on Solaris

To remove components from Avaya Integrated Management 2.0 – Network Management for Solaris, follow these steps:

1. Log in to the system as **root**. If you are logging in from the command line, use the command **su - root**. You must have root permissions to uninstall the software.

2. Set the display environment so that the remove script is visible on your monitor. In the terminal emulation window, perform one of the following procedures:

   • For csh and tcsh environments, type **setenv DISPLAY** *ipaddress***:0.0** where *ipaddress* is the IP address of your machine.

   • For sh, bash, and ksh environments:

      a. Type **DISPLAY=***ipaddress***:0.0** where *ipaddress* is the IP address of your machine.

      b. Type **export DISPLAY**.

3. Insert the **Avaya Integrated Management 2.0, Solaris Server** CD into the CD-ROM drive.

4. If the CD drive is not mounted automatically, mount the CD drive.

5. At the command line prompt, change to the **root** directory of the CD-ROM drive.

6. At the command line prompt, type **cd nm** to change to the nm directory.

   Note: As an alternative to steps 3 through 6, you can change to the **/opt/avaya/nm/REMOVE** directory by typing **cd /opt/avaya/nm/REMOVE** at the command line prompt.

7. At the command line prompt, type **./remove** and press **Enter**.

   The Avaya Integrated Management 2.0 – Network Management for Solaris remove script starts.

8. Select the components to remove.

   • To toggle the selection of all the components, type **a**.

   • To toggle the selection of specific components, type the component numbers and/or ranges separated by commas. For example, to select components 1, 3, 5, 6, and 7, type **1,3,5-7**.

   The remove script removes the selected components.

5   Windows Server Installation

The Windows Server CDs

There are three Windows Server CDs. They are as follows:

- Windows Server CD

- Avaya ATM WAN Survivable Processor Manager, Windows Server CD

- Avaya Directory Enabled Management, Windows Server CD

The products on the first two CDs — the Windows Server CD and the Avaya ATM WAN Survivable Processor Manager, Windows Server CD — can be installed on a single Integrated Management Windows server. The products on the third CD — Avaya Directory Enabled Management, Windows Server CD — should be installed on a separate Windows server.

This chapter lists the products contained on the Windows Server CD, describes the minimum hardware requirements for the Windows server, and provides the procedure to install the Windows Server CD. For the other Windows Server CDs, see the following:

- Chapter 6 for the procedure to install the Avaya ATM WAN Survivable Processor Manager, Windows Server CD.

- *Avaya Directory Enabled Management Release 2.0 Installation and Implementation*, document number 555-038-101, for the procedure to install the Avaya Directory Enabled Management, Windows Server CD.

Windows Server CD

The Windows Server CD contains the following Integrated Management products:

- Network Management applications:

    — Avaya Network Management Console with System View

    — Avaya Network Configuration Manager

    — Avaya Software Update Manager

    — Avaya SMON Manager (90-day trial) – Customers can purchase the license key to activate the SMON Manager beyond the 90-day trial.

    — Avaya Address Manager

    — Avaya VLAN Manager

    — Avaya QoS Manager

    — Avaya VoIP Monitoring Manager (server component)

- Avaya Device Managers

- Network Management System Integration (NMSI) for Windows (integrates Avaya Fault and Performance Manager with HP OpenView)

The Windows Server CD also contains the following components:

- Avaya Integrated Management Home Page

- Java Runtime Environment

- Apache2 Web Server

- Adobe Acrobat Reader (required to view documents)

Windows Server Requirements

Table 5-1 provides the minimum requirements for the Windows server.

Table 5-1. Windows Server Requirements

Component	Recommended	Comments
Operating System	Microsoft Windows 2000 server	
Processor	1.3 GHz Pentium® 4	1.3 GHz Pentium 3 is acceptable. A maximum of two processors is supported.
Hard Drive	40 GB	
Memory	1.5 GB RAM	
Network Connectivity	TCP/IP 100 Mbit Network Card	
Modem	56K for remote access	
CD-ROM Drive	Required	Needed for installation.
Extra Software	Anti-virus software pcAnywhere	Required for Avaya support. pcAnywhere is needed for remote access by Avaya Services.
Web Browser	Internet Explorer 6.0	Needed for access to the Integrated Management Home Page and web-based clients.
Network Management System	HP OpenView 6.4 for Windows	**Optional**. HP OpenView 6.2 is also supported. HP OpenView is **not** included on the Windows server CD. Customers must purchase, install, and maintain HP OpenView. Avaya Services does not support HP OpenView in any Integrated Management offer.
Java Runtime Environment	1.4.2	Needed to support web-based applets and Java applications.

Installing the Windows Server Products

The procedure to install or to upgrade the Integrated Management products on the Windows server is generally the same. If an earlier release of an Integrated Management product on the Windows Server CD is already installed on the server, you are given the option to uninstall it prior to installing the current release.

Note: The products on the Windows Server CD and the Avaya ATM WAN Survivable Processor Manager, Windows Server CD can be installed on a single Integrated Management Windows server. The products on the Avaya Directory Enabled Management, Windows Server CD should be installed on a separate Windows server.

1. Ask all users to log off the system.

2. Close all open windows and applications.

3. Insert the **Avaya Integrated Management 2.0, Windows Server** CD into the CD-ROM drive.

   The Avaya Integrated Management Windows Server window appears. It provides a main menu.

   Note: Install Acrobat Reader if it is not already installed on the computer.

4. Click **Install Java Runtime Environment (Required)**.

   The License Agreement dialog box appears.

   Note: Java Runtime Environment (JRE) is required for a new computer that does not have JRE already installed. If you select this option and the installation wizard detects JRE, the wizard displays a message that JRE is already installed and aborts the JRE installation. Go to **Step 10**.

5. Read the license agreement. If you accept the license agreement, click **I accept the terms in the license agreement**, and then click the **Next** button.

   Note: You must accept the terms of the license agreement in order to continue with the installation.

   The Setup Type dialog box appears.

6. You are required to install the JRE version on this CD in order to run the Integrated Management products. However, to avoid conflicts with other installed JRE versions, you need to turn off this version as the default. Therefore, select the **Custom** option, and then click the **Next** button.

   The Custom Setup dialog box appears.

7. Make sure **Java 2 Runtime Environment** is selected, and then click the **Next** button.

   The Browser Registration dialog box appears. **Microsoft Internet Explorer** appears with a check mark.

8. Click the **Microsoft Internet Explorer** check box to deselect this option and then click the **Next** button. Leaving this option checked can potentially prevent other applications from launching properly.

    The JRE software is installed. A message box shows the status of the installation.

    When the installation is complete, the InstallShield Wizard Completed dialog box appears.

9. Click the **Finish** button.

    The Avaya Integrated Management Windows Server window appears.

10. Click **Install Server Products**.

    The Welcome dialog box appears.

11. Click the **Next** button.

    The Information dialog box appears.

12. Click the **Next** button.

    The Avaya License Types dialog box appears.

13. Read the license types. To accept the license types, click the **Yes** button.

    Note: You must accept the terms of the license types in order to continue with the installation.

    The Apache License Agreement dialog box appears.

14. Read the license agreement. To accept the license agreement, click the **Yes** button.

    The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Avaya**.

15. Perform one of the following steps:

    •   To install the files in the default folder, click the **Next** button.

    •   To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

    The Select Components dialog box appears. This dialog box displays the applications and components you can install.

    Note: Apache2, Required Components, and Home Page are grayed out. This indicates that the wizard automatically installs the required components. They cannot be deselected.

16. Make sure the applications you want to install are selected, and then click the **Next** button.

    A dialog box appears stating that you need to disable IIS to continue the installation.

17. Click the **Yes** button to disable IIS.

    The Apache HTTP Server Information dialog box appears.

18. Enter the following information:

    • In the **Network** field, enter the network name.

    • In the **Server** field, enter the server IP address.

    • In the **Administrator's e-mail** field, enter the e-mail address of the administrator. This allows the system to notify the administrator if problems occur during the Apache installation.

19. Click the **Next** button.

    The Enter Integrated Management Home Page Server IP Address dialog box appears.

20. Enter the IP address of the Integrated Management Home Page server, and click the **Next** button.

    • If HP OpenView is already installed on the server, the Installation Mode dialog box appears. Perform one of the following steps:

      — If you do **not** plan to run HP OpenView, select **Network Management in Standalone Mode** (default), and then click the **Next** button. The Enter Network Management Server IP Address dialog box appears. Go to **Step 21**.

      — If you plan to run HP OpenView, select **Network Management in HP OpenView mode**, and then click the **Next** button. The Enter Network Management Server IP Address dialog box appears. Go to **Step 21**.

    • If HP OpenView is not installed on the server, the Enter Network Management Server IP Address dialog box appears. Go to **Step 21**.

21. Enter the IP address of the Network Management server and click the **Next** button.

    The Enter VoIP Monitoring Manager Server IP Address dialog box appears.

22. Enter the IP address of the VoIP Monitoring Manager server, and click the **Next** button.

    The Enter VoIP Monitoring Manager Server Port dialog box appears.

23. Enter the number of the RTCP Listen Port, and click the **Next** button.

    The Network Management System Integration Server IP Address dialog box appears.

24. Enter the IP Address of the Network Management System Integration Server, and then click the **Next** button.

    The Enter Avaya MultiSite Administration Server IP Address dialog box appears.

25. If you installed MultiSite Administration on the Linux server, enter the IP address of the Avaya MultiSite Administration server, and then click the **Next** button.

    The Enter Avaya Fault and Performance Manager Server IP Address dialog box appears.

26. If you installed Fault and Performance Manager on the Linux server, enter the IP address of the Avaya Fault and Performance Manager server, and then click the **Next** button.

    The Avaya Proxy Agent IP Address dialog box appears.

27. If you installed Proxy Agent on the Linux server, enter the IP address of the Avaya Proxy Agent, and then click the **Next** button.

The Enter Avaya Integrated Management Database IP Address dialog box appears.

28. Enter the IP address of the Avaya Integrated Management Database, and then click the **Next** button.

The Setup Summary dialog box appears. It lists the applications that you selected to install.

29. Click the **Next** button.

The installation status bar appears. When the installation is complete, the InstallShield Wizard Complete dialog box appears. By default, **Yes, I want to restart my computer now** is selected. Go to **Step 30**.

If VoIP Monitoring Manager (trial) was installed and the SNMP service is not installed on the server, the Insert Disk dialog box appears. Perform the following steps:

   a. Remove the Windows Server CD from the CD-ROM drive.

   b. Insert the Microsoft Windows 2000 Operating System CD into the CD-ROM drive and click **OK**.

   c. Follow the installation wizard prompts. When completed, **Installation Wizard Complete** appears.

   d. Remove the Microsoft Windows 2000 Operating System CD from the CD-ROM drive.

   e. On the InstallShield Wizard Complete dialog box for Integrated Management, click the **Finish** button to restart the Windows server. Go to **Step 31**.

30. Remove the CD from the drive, and then click the **Finish** button to restart the Windows server.

31. Refer to the Avaya Integrated Management Home Page for documentation on the applications you installed. Also, the latest versions of these books are available on the Avaya Support Web Site. See "How to Access Books on the Web" on page 5. The documents are in PDF format. To view a PDF, you must install Adobe Acrobat Reader on your computer. Adobe Acrobat Reader is provided on the Windows Server CD.

Note: Regularly check the Avaya Support Web Site for software updates.

6 Avaya ATM WAN Survivable Processor Manager Installation

Installing Avaya ATM WAN Survivable Processor Manager

Avaya ATM WAN Survivable Processor Manager is provided on a separate Windows Server CD. You can install this product on the designated Integrated Management Windows server. To install Avaya ATM WAN Survivable Processor Manager, you must use a Windows login that has Administrator privileges. Then, complete the following steps:

1. Shut down all applications running on the computer.

2. Insert the **Avaya ATM WAN Survivable Processor Manager, Windows Server** CD into the CD drive.

   Wait a moment for the ATM WAN Survivable Processor Manager window to appear.

3. Click **Install ATM WAN Survivable Processor Manager**.

   If the Java 2 Runtime Environment, SE v1.4.2 is not installed, the Java 2 Runtime Environment, SE v1.4.2 License Agreement dialog box appears. Go to **Step 4**.

   If the Java 2 Runtime Environment, SE v1.4.2 is installed, the Integrated Management Required Components Setup Welcome dialog box appears. Go to **Step 9**.

4. Read the license agreement. If you accept the license agreement, click **I accept the terms in the license agreement**, and then click the **Next** button.

   Note: You must accept the terms of the license agreement in order to continue with the installation.

   The Setup Type dialog box appears.

5. You are required to install the JRE version on this CD in order to run the Integrated Management products. However, to avoid conflicts with other installed JRE versions, you need to turn off this version as the default. Therefore, select the **Custom** option, and then click the **Next** button.

   The Custom Setup dialog box appears.

6. Make sure **Java 2 Runtime Environment** is selected, and then click the **Next** button.

   The Browser Registration dialog box appears. **Microsoft Internet Explorer** appears with a check mark.

7. Click the **Microsoft Internet Explorer** check box to deselect this option and then click the **Next** button. Leaving this option checked can potentially prevent other applications from launching properly.

The JRE software is installed. A message box shows the status of the installation.

When the installation is complete, the InstallShield Wizard Completed dialog box appears.

8. Click the **Finish** button.

The Integrated Management Required Components Setup Welcome dialog box appears.

9. At the Welcome dialog box, click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Avaya**.

10. Perform one of the following steps:

— To install the files in the default folder, click **Next**.

— To change the folder where the files will be installed, click **Browse**, specify the folder you want to use, and then click the **Next** button.

The Check Setup Information dialog box appears.

11. Click the **Next** button.

The ATM WAN Survivable Processor Manager Setup Welcome dialog box appears.

12. Click the **Next** button.

The Avaya License Types dialog box appears.

13. Read the license types. To accept the license types, click **Yes**.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Avaya\ATM WAN Survivable Processor Manager**.

14. Perform one of the following steps:

— To install the files in the default folder, click the **Next** button.

— To change the folder where the files will be installed, click **Browse**, specify the folder you want to use, and then click the **Next** button.

The Select Components dialog box appears.

15. Put a check mark by the Avaya Integrated Management components you want to install and click the **Next** button.

— Client: This can be installed on one or more computers. It is installed on the server computer automatically when you install the server software.

— Server: This must be installed on a single computer only.

If you plan to install both client and server, click **Server**. This installs both.

16. Click the **Next** button.

    The Enter Text dialog box appears.

17. Enter the computer name, host name, IP address, or fully-qualified domain name (FQDN) of the
    ASPM Server Service host machine.

    The FQDN is the host name followed by the IP domain name. For example:
    dnapc1.department.company.com. If you do not know the IP address, you can find it as follows:
    choose **Start>Settings>Control Panel**, double-click **Network**, click the **Protocols** tab, select
    TCP/IP, click the **Properties** button, and then click the **IP address** tab.

18. Click the **Next** button.

    The Enter Text dialog box appears.

19. Enter the number of the port through which the ATM WAN Survivable Processor Manager
    server software will communicate with the ATM WAN Survivable Processor Manager clients
    and other devices.

20. Click the **Next** button.

    The Check Setup Information dialog box appears.

21. Click the **Next** button.

    The InstallShield Wizard Complete dialog box appears.

22. Click **Yes, I want to restart my computer**, and then click **Finish**.

    When the computer restarts, the Avaya Integrated Management server software will start
    automatically. When the client is first started, it displays the first screen that must be completed
    to configure Avaya Integrated Management. See "Specifying the Main Server" in Chapter 7 of
    Avaya ATM WAN Survivable Processor Manager Configuration, document number
    555-233-223.

23. Click **OK**.

24. You can now install the ATM WAN Survivable Processor Manager client on other computers in
    your network, using the same process.

Note: Regularly check the Avaya Support Web Site for software updates.

7   Windows Client Installation

Windows Client CD

The Windows Client CD contains products that you install directly onto the PCs. After the Windows server installation is completed (see Chapter 5 Windows Server Installation), you can also download and install the same products provided on this CD from the Avaya Integrated Management Home Page.

The Windows Client CD contains the following Integrated Management products:

- Avaya Site Administration

- Avaya Voice Announcement Manager

- Avaya VoIP Monitoring Manager (90-day trial)

- Avaya VoIP Monitoring Manager (client)

The Windows Client CD also contains the following components:

- Java Runtime Environment

- Adobe Acrobat Reader (required to view documents)

Windows Client PC Requirements

Table 7-1 provides the requirements for the Windows client PC.

Table 7-1. Windows Client PC Requirements

Component	Recommended	Comments
Operating System	Microsoft Windows 2000 and XP Professional	
Processor	600 MHz Pentium®	
Hard Drive	1 GB	Required to install all of the client components.
Memory	256 MB RAM	
Monitor	SVGA	Required for Avaya support.
Network Connectivity	TCP/IP 10/100 Network Card	
Modem	56K Modem	**Optional**. May be needed for remote access to the client PC.
CD-ROM Drive	Required	Needed for installation.
Web Browser	Internet Explorer 6.0	Required to access the Integrated Management Home Page and web-based clients.

Installing the Windows Client Products

The procedure to install or upgrade the contents of the Windows Client CD is generally the same.

1. Close all open windows and applications.

2. Insert the **Avaya Integrated Management 2.0, Windows Client** CD into the CD-ROM drive.

    The Avaya Integrated Management Windows Client window appears. It provides a main menu.

    Note: Install Acrobat Reader if it is not already installed on the computer.

3. Click **Install Java Runtime Environment (Required)**.

    The License Agreement dialog box appears.

    Note: Java Runtime Environment (JRE) is required for a new computer that does not have JRE already installed. If you select this option and the installation wizard detects JRE, the wizard displays a message that JRE is already installed and aborts the JRE installation. Go to **Step 9**.

4. Read the license agreement. If you accept the license agreement, click **I accept the terms in the license agreement**, and then click the **Next** button.

    Note: You must accept the terms of the license agreement in order to continue with the installation.

    The Setup Type dialog box appears.

5. You are required to install the JRE version on this CD in order to run the Integrated Management products. However, to avoid conflicts with other installed JRE versions, you need to turn off this version as the default. Therefore, select the **Custom** option, and then click the **Next** button.

    The Custom Setup dialog box appears.

6. Make sure **Java 2 Runtime Environment** is selected, and then click the **Next** button.

    The Browser Registration dialog box appears. **Microsoft Internet Explorer** appears with a check mark.

7. Click the **Microsoft Internet Explorer** check box to deselect this option and then click the **Next** button. Leaving this option checked can potentially prevent other applications from launching properly.

    The JRE software is installed. A message box shows the status of the installation.

    When the installation is complete, the InstallShield Wizard Completed dialog box appears.

8. Click the **Finish** button.

    The Avaya Integrated Management Windows Client window appears.

9. Click **Install Client Products**.

    The Welcome dialog box appears.

10. Click the **Next** button.

The Avaya License Types dialog box appears.

11. Read the license types. If you accept the license types, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

> **Note:** You cannot install the Avaya Integrated Management products unless you accept the license types.

The Choose Destination Location dialog box appears. By default, the applications will be installed in **c:\Program Files\Avaya**.

12. Perform one of the following steps:

- To install the applications in the default folder, click the **Next** button.

- To change the folder where the applications will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Select Components dialog box appears. This dialog box displays the applications and components you can install.

> **Note:** Select **VoIP Monitoring Manager Trial** to install the client and server components that allow you to preview the product for 90 days. Select **VoIP Monitoring Manager Client** if the VoIP Monitoring Manager server components are installed on the Windows server.

13. Make sure the applications you want to install are selected, and then click the **Next** button.

14. Perform one of the following steps:

- If you are installing the VoIP Monitoring Manager, the Enter VoIP Monitoring Manager Server IP Address dialog box appears. Go to **Step 15**.

- If you are not installing the VoIP Monitoring Manager, the Enter Avaya Integrated Management Server IP Address dialog box appears. Go to **Step 17**.

15. In the Enter VoIP Monitoring Manager Server IP Address dialog box, enter the IP address of the VoIP Monitoring Manager server, and then click the **Next** button.

- If you are installing **VoIP Monitoring Manager Trial**, the Enter VoIP Monitoring Manager Server Port dialog box appears. Go to **Step 16**.

- If you are installing **VoIP Monitoring Manager Client**, the Avaya Integrated Management Server IP Address dialog box appears. Go to **Step 17**.

16. Enter the number of the RTCP Listen Port, and then click the **Next** button.

The Enter Avaya Integrated Management Server IP Address dialog box appears.

17. In the Enter Avaya Integrated Management Server IP Address dialog box, enter the IP address of the Avaya Integrated Management Home Page server, and then click the **Next** button.

The Ready to Install the Program dialog box appears.

18. Click the **Install** button.

   The Setup Status message box appears showing the status of the installation. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

19. Click the **Finish** button and then remove the CD from the drive.

20. If you are installing Avaya VoIP Monitoring Manager on a PC that does not have Windows SNMP Service running, a request for the Windows Operating System CD will appear at the end of the installation. Finish this installation and then install the SNMP Service from the Windows Operating System CD.

You can access the products by selecting **Start > Programs > Avaya**. For more information about an Avaya Integrated Management product, access the online help after you start the application.

Note: Regularly check the Avaya Support Web Site for software updates.

8   Avaya Mailbox Manager

About Mailbox Manager

Avaya Mailbox Manager for the Avaya S3400 Message server is a Windows interface for performing moves, adds, and changes on the Message Storage Server (MSS) component. The software maintains an off-line database of your subscriber and class of service data. You make your changes to subscribers and classes of service in this interface, and it sends the changes to your MSS.

For more information about Avaya Mailbox Manager, see the following books:

- Getting Started Guide

- User Guide

These books are available from the User Documents page, which is on the Avaya Integrated Management Home Page.

Launching Mailbox Manager

The Avaya Mailbox Manager option is available from the Launch Products page, which is on the Avaya Integrated Management Home Page. In order to launch Mailbox Manager from the Launch Products page, you must:

- Install Avaya Site Administration and/or Avaya Voice Announcement Manager which are provided on the Windows Client CD (see Chapter 7 Windows Client Installation). The installation of at least one of these products automatically installs the components required to launch the Mailbox Manager from the Avaya Integrated Management Home Page.

- Install Avaya Mailbox Manager on your PC. Installation software for Mailbox Manager is included on the Avaya Modular Messaging Installation CD that comes with the Avaya S3400. Follow the single-user instructions provided in the *Mailbox Manager Getting Started Guide*.

- Complete the licensing procedure as described in "Licensing Mailbox Manager."

Licensing Mailbox Manager

When you install Avaya Mailbox Manager, a single-user license is created. If your organization also manages other Avaya legacy message servers that are supported by Mailbox Manager (for example, Octel 250/350, Octel 200/300, or Intuity AUDIX) you may already have Mailbox Manager licenses for those as well. You can combine the licenses for these systems into one license and manage them from one interface if you upgrade those licenses to Mailbox Manager 5.0.

Note: If you plan to use the Mailbox Manager to manage your Messaging Services system along with Octel 250/350, Octel 200/300, or Intuity AUDIX system, then you cannot run Mailbox Manager from the Messaging Application software.

To get a combined license for all of your Avaya message servers, do the following:

1. Install Mailbox Manager for your Avaya S3400 by following the single-user instructions provided in the *Mailbox Manager Getting Started Guide*.

2. Locate your license file **C:\MBMData\Config\Config.2nl**.

3. Send an e-mail to **license@unimax.com** requesting the license. You will need to include a copy of your license file and identifying numbers for your legacy systems, as follows:

   • Octel 200/300 with system software 2.0 or newer — system serial number and current system software version.

   • Octel 250/350 with system software 2.0 or newer — system serial number (also known as VPMOD serial number) and current system software version.

   • Intuity AUDIX with system software 4.4 or newer — system serial number, current system software version, and model type. (MAP 40 and MAP 100 were sold with bundled licenses. MAP 5 is supported by Mailbox Manager but did not include a license.)

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