AVAYA

Avaya™ Communication Manager

on the

HP ProLiant DL380

Generation 2 Server

Highlights (with Installation and

Maintenance Notes)

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices operate within the following parameters:
- Maximum power output: -5 dBm to -8 dBm
- Center Wavelength: 1310 nm to 1360 nm

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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.

This equipment complies with Part 68 of the FCC Rules. On the rear 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.

The REN is used to determine the quantity of devices which 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 table.

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off/On premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
CO trunk	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, 1KN, 1SN	6.0F	RJ48C, RJ48M
120A2 channel service unit	04DU9-DN	6.0Y	RJ48C

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 Européénne*) 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。

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        Haverhill, MA 01835 USA
        Attention: Avaya Account Management

E-mail: totalware@gwsmail.com

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

Contents

Purpose of This Document

This document has two purposes:

- Provide an overview of Avaya™ Communication Manager on the HP ProLiant DL380 Generation 2 server

- Identify the relatively few differences that exist between Communication Manager on the ProLiant DL380 Generation 2 server and the S8700 IP Connect Configuration. These differences are primarily between the S8700 Media Server and the ProLiant DL380 Generation 2 server. The differences mostly affect installation and maintenance tasks.

⇒ **NOTE:**
    The S8700 IP Connect Configuration is also known as the Avaya™ S8700 Media Server with an Avaya™ G600 Media Gateway, though the configuration also can contain G700 Media Gateways.

This document's intended audience consists of customers, installers, and maintenance technicians. Installers and maintenance technicians should keep the differences itemized in this document in mind when installing, upgrading, or maintaining Communication Manager on the ProLiant DL380 Generation 2 server

Other Documentation to Use

Three other documents unique to Communication Manager on the ProLiant DL380 Generation 2 server are:

- *Getting Started with Avaya Communication Manager on the HP ProLiant DL380 Generation 2 Server Guide.* Use this document for hardware installation and cabling.

- *Compaq ProLiant DL380 Generation 2 Server Setup and Installation Guide*, 203844-001. Use Chapter 4 in this document for details on rack-mounting of the ProLiant DL380 Generation 2 server.

- *Compaq 9000 and 10000 Series Installation and Best Practices*, 129F-0400A-WWEN. Use this document to determine the best method for rack-mounting the ProLiant DL380 Generation 2 server.

For all other purposes, use the documentation for the S8700 IP Connect Configuration. This documentation is contained on the *Avaya S8300 and S8700 Media Server Library* CD-ROM, 555-233-825. This documentation includes the Administrator's Guide for Communication Manager, other various administration documents for Communication Manager, the S8700 IP Connect Configuration Overview, Installation, Upgrade, and Maintenance documentation, and a variety of other documents pertaining to telephones, adjuncts, and peripheral devices for connections to the S8700 Media Server. All of this information, except differing aspects noted in this document and the information in the previously-listed ProLiant DL380 Generation 2 server documents, applies to Communication Manager on the ProLiant DL380 Generation 2 server.

Other documents, as well as all documentation from the CD-ROM, are also available on the www.avaya.com/support Web site. Other documents include:

- *S8700 Media Server: Release Notes*, which provides late-breaking information that is not available for the regular documentation library.

- *Replacing the Avaya S8700 Media Server,* which describes how to replace the S8700 Media Server in the case of component failure.

What is Avaya™ Communication Manager on the HP ProLiant DL380 Generation 2 Server?

Avaya™ Communication Manager on the HP ProLiant DL380 Generation 2 server is an Internet Protocol (IP) telephony server solution that routes voice, data, and video traffic using a combination of IP and TDM endpoints such as digital, analog, and Integrated Services Digital Network (ISDN). It is most easily defined by the following characteristics:

- "Similarities with the S8700 IP Connect Configuration"
- "The HP ProLiant DL380 Generation 2 Server"
- "Differences from the S8700 Media Server"

Similarities with the S8700 IP Connect Configuration

The ProLiant DL380 Generation 2 server is a different computer, both inside and outside, from the S8700 Media Server (see "The HP ProLiant DL380 Generation 2 Server" later in this section). However, the capabilities and configuration of Communication Manager on the ProLiant DL380 Generation 2 server are almost identical to those of the S8700 IP Connect Configuration. The following section describes, at a high level, the similarities between these two configurations.

G600 and G700 Media Gateways

As with the S8700 IP Connect Configuration, the following media gateways can be used with the Communication Manager on the ProLiant DL380 Generation 2 server:

- Up to 64 Port Networks (PNs) using the G600 Media Gateway.
- Up to 250 G700 Media Gateways.

As with the S8700 IP Connect Configuration, the G600 Media Gateway connects to the ProLiant DL380 Generation 2 server through an Ethernet switch using an IP Server Interface (TN2312AP) or IPSI. The G600 Media Gateway connects to other IP devices using the CLAN (TN799DP) board for control information and the IP Media Processor (TN2302AP) circuit pack for inter-port network bearer communications.

The G700 Media Gateway is connected to the ProLiant DL380 Generation 2 server through the G600 Media Gateway. One ProLiant DL380 Generation 2 server can support a maximum of 250 G700 Media Gateways with up to 10 in one stack. The stack can be mixed with Avaya P330 devices such as the P333T, P333R, and P334.

Duplicated Servers with Duplicated Uninterruptible Power Supplies

Like the S8700 Media Server, Communication Manager on the ProLiant DL380 Generation 2 server uses duplicated servers running the Linux operating system. Both servers are connected to the port networks via the Ethernet switch and IPSI boards. The servers themselves are connected via cabling between the DAJ1 Duplication boards and a fiber ethernet direct connection.

The ProLiant DL380 Generation 2 servers should each have a dedicated Uninterruptible Power Supply (UPS). Power backup is required to avoid power problems. The customer may choose to use any appropriate UPS, including a Hewlett-Packard UPS or an Avaya UPS. An added advantage of an Avaya UPS is that it can also be configured to send SNMP traps to the Communication Manager software in the event that UPS power has been spent. This allows for a graceful shutdown of the software.

Like the S8700 IP Connect Configuration, Communication Manager on the ProLiant DL380 Generation 2 server does *not* support TDM forms of bearer network direct connections, Center Stage Switch (CSS) connections, and ATM-Port Network Connectivity (ATM-PNC). Also, TDM survivability options available with DEFINITY servers are *not* supported. Such options include the Survivable Remote Processor or the ATM WAN Spare Processor.

Example Hardware Configuration

See the following figure, "Communication Manager on the ProLiant DL380 Generation 2 Server Configuration".

Communication Manager on the ProLiant DL380 Generation 2 Server Configuration
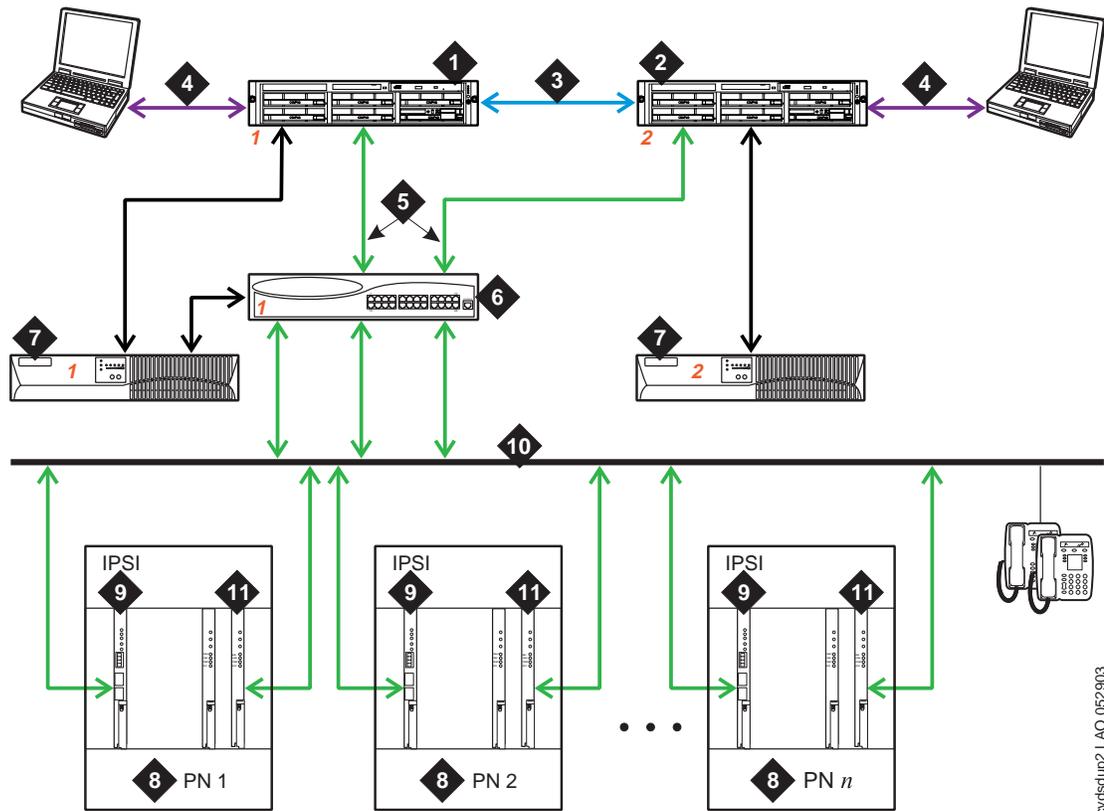
#	Description of Configuration
1 & 2	ProLiant DL380 Generation 2 server pair. One in a active mode and the other on standby.
3	Duplication Links: Ethernet connection default Ethernet 2 and fiber link
4	A dedicated Ethernet connection to a laptop. This connection is active only during on-site administration or maintenance and the services interface can link to the non-active server through a telnet session.
5	Connection from the servers to the Ethernet switch.
6	Ethernet Switch - A device that provides port multiplication on a local area network (LAN) by creating more than one network segment. With a ProLiant DL380 Generation 2 server configuration, the Ethernet switch should support 802.1 ip/Q, VLAN and 10/100 mbps.
7	Two UPS units

#	Description of Configuration
8	Port Network - An optional configuration of Media Gateways that provides increased port capacity.
9	IPSI - A circuit pack that transports control messages over IP. This IPSI circuit pack is used so the ProLiant DL380 Generation 2 server can communicate with the PNs.
10	Customer LAN
11	CLAN - A circuit pack that provides call control for all IP endpoints connected to the S8700 Media Server for IP Connect.

Capacities

The following table shows some high-level capabilities of Communication Manager on the ProLiant DL380 Generation 2 server. These capacities are identical to the S8700 IP Connect Configuration capacities. For more detailed system capacity information refer to the Avaya Communication Manager Solutions System Capacities Table (555-233-605). The Avaya Communication Manager Solutions System Capacities Table can be found on the http://support.avaya.com Web site.

Capability	Communication Manager on the ProLiant DL380 Generation 2 server
Supported Media Gateways	Maximum of 256 G600 Media Gateways
	Maximum of 250 G700 Media Gateways
Maximum number of Port Networks (PN)	64 PNs made up of four G600 Media Gateways in each PN
Survivability options	Local survivable processor (LSP) used with the G700 Media Gateway (maximum of 50)
Maximum locations	64
Port Networks per IPSI	One
IPSI per Port Network	One

The following table presents a subset of Busy Hour Call Completion (BHCC) capacities. These capacities also are identical to the S8700 IP Connect Configuration capacities. The values are based on current available data and may change as more accurate data becomes available.

Type	Number of Busy Hour Call Completions
All analog	342,000
General business - non-ISDN	300,800
General business - ISDN	192,300
Automatic Call Distribution (ACD)	140,500

Type	Number of Busy Hour Call Completions
Inbound Call Management (ICM)	112,100
Outbound Call Management (OCM)	230,500
General business - IP	53,400
Call center - IP	61,800

Software Features and Supported Adjuncts

Except where noted in <u>"Differences from the S8700 Media Server" on page 14</u>, Communication Manager on the ProLiant DL380 Generation 2 server supports all of the features supported by the S8700 IP Connect Configuration. These include:

- Avaya Integrated Management

- Maintenance Web Interface

- SNMP alarming

- Voice messaging systems such as INTUITY AUDIX R5.1

- IP-based Call Detail Recording with the use of a terminal server

- Automatic Call Distribution

- Voice Announcement over the LAN (VAL) announcements

- Remote access via modem

- Call Accounting Systems with the use of a terminal server

- The LSP/G700 Upgrade Tool

- Call center tools such as Avaya Call Management System, NICE Analyzer, Avaya Call Recording, Avaya Visual Vectors and Avaya Basic Call Management System Reporting Desktop

- Vectoring

- Adjunct-Switch Application Interface (ASAI)

- Interactive Response

The HP ProLiant DL380 Generation 2 Server

See the following figures for an example of the HP DL380 Generation 2 server.

ProLiant DL380 Generation 2 Server (Front View)

h2dsfrnt LAO 050603

ProLiant DL380 Generation 2 Server (Back View)

h2dsback LAO 051503
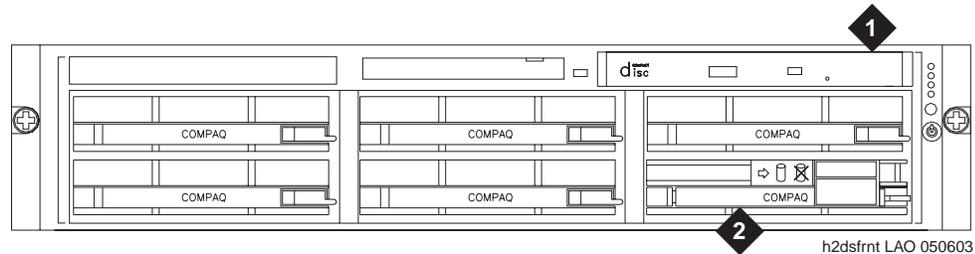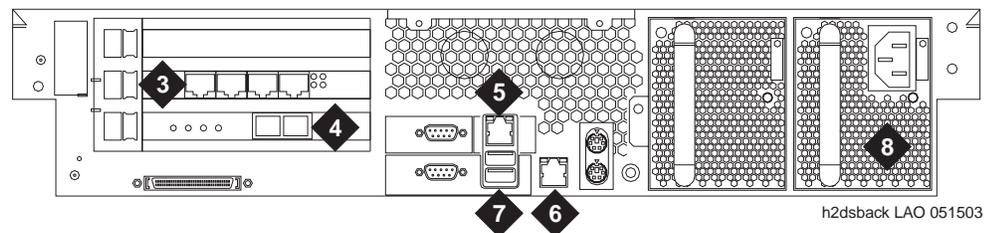
#	Description of Device
1	CD-ROM drive.
2	Hard Drive
3	COMPAQ Fast Ethernet Server Adapter NC3135 10/100 quad NIC card
4	DAJ1 Duplication board
5	Port 2 — services port for laptop connection.
6	Port 1 — port for ethernet switch connection
7	USB ports for modem
8	Power supply

Characteristics of the ProLiant DL380 Generation 2 server include:

- Pentium III processor
- 6 10/100 Ethernet ports (two on the motherboard and four on the COMPAQ Fast Ethernet Server Adapter NC3135 10/100 quad NIC card) to support IPSI network control links, services access, duplication, administration and alarming.

- A SCSI hard disk (can be replaced without removing power)

- A SCSI CD ROM

- A DAJ1 Duplication board for connections between duplicated servers.

  A DAJ1 board resides in a 5V PCI slot on both the active server and the standby server. The DAJ1 operates in either active or standby mode to match the mode of its server. When the active server saves data to its DAJ1 board, the data is also sent over the fiber link to the DAJ1 board on the standby server.

- A distance limitation of 10 kms between the ProLiant DL380 Generation 2 servers

- Support for global power ranging from 100V to 250V

- Two USB ports, one of which you use for a modem connection

The ProLiant DL380 Generation 2 server is normally mounted in a 4-post rack (for example an HP 9000 or HP 10000 series rack). It can, however, also be mounted in a 2-post rack if you use an adapter kit (see "Rack Mounting Options" on page 19).

Differences from the S8700 Media Server

The ProLiant DL380 Generation 2 server differs from the S8700 Media Server in a few important ways.

Difference	Description
Different Chassis	The ProLiant DL380 Generation 2 server has a different chassis than the S8700 Media Server. The ProLiant DL380 Generation 2 server is bigger and heavier and, therefore, normally requires installation in a four-post rack using rails. Normally, this is the HP 9000 or 10000 series rack, 29 inches deep.
Different Port Locations	The USB ports, Ethernet ports, and Duplication Cable ports of the ProLiant DL380 Generation 2 server are in different locations from those of the S8700 Media Server. See "ProLiant DL380 Generation 2 Server (Back View)" on page 13.
Different Hard Drive	The hard drive in the ProLiant DL380 Generation 2 server is SCSI-based and hot-swappable. As a result, it is "hot-swappable," which means you can remove it without shutting down power to the server. Additionally, if you replace the drive, you do not need to remove cables from the back.
Lower Power Requirement	The ProLiant DL380 Generation 2 server requires 260 W input power and 2.6 A input current, as compared to the S8700 Media Server's requirement of 360 W input power and 3.0 A input current.
Fewer LEDs	The ProLiant DL380 Generation 2 server has LEDs only on the DAJ1 Duplication board. As a result, there are no LEDs to tell you which server is active. You must log into one of the servers and use the View Summary Status Web page to see which server is active.

Difference	Description
No PCMCIA flash card	Unlike the S8700 Media Server, the ProLiant DL380 Generation 2 server does not support the PCMCIA flashcard. Therefore, for backups and restores on a ProLiant DL380 Generation 2 server, you must use the backup and restore options to an FTP server over the customer LAN.
Limited Shutdown command	Unlike the S8700 Media Server, the ProLiant DL380 Generation 2 server does not turn off power after completing the shutdown command. Instead, an amber system power light comes on after shutdown to tell you it is safe to turn off the power. You must then press the Power button to turn off power.
	As a result, you *cannot* turn off the ProLiant DL380 Generation 2 server remotely.
Reset button	**Do not use this button.** The ProLiant DL380 Generation 2 server has a reset button which, if pressed without first running the Shutdown command, can cause corruption of data.

Procedural Notes

The procedures for installing, upgrading, administering, and maintaining the Communication Manager on the ProLiant DL380 Generation 2 server are identical to those of the S8700 IP Connect Configuration, except as noted in the following section and in *Getting Started with Avaya Communication Manager on the HP ProLiant DL380 Generation 2 Server Guide*. Use the information in the following section to supplement the information provided on the *Avaya S8300 and S8700 Media Server Library* CD-ROM, 555-233-825.

Preinstallation

Prior to installing a Communication Manager on the ProLiant DL380 Generation 2 server, you must obtain the same type of items as with an S8700 IP Connect Configuration. However, these items must be specific for a Communication Manager on the ProLiant DL380 Generation 2 server. These items are as follows:

Item	Description
Server material code	The ProLiant DL380 Generation 2 server has a unique material code for ordering. See the appropriate product description.
License file	The ProLiant DL380 Generation 2 server is considered a different platform by the RFA Web site. Be sure to select the correct platform when creating a license file. The rest of license file creation is the same.

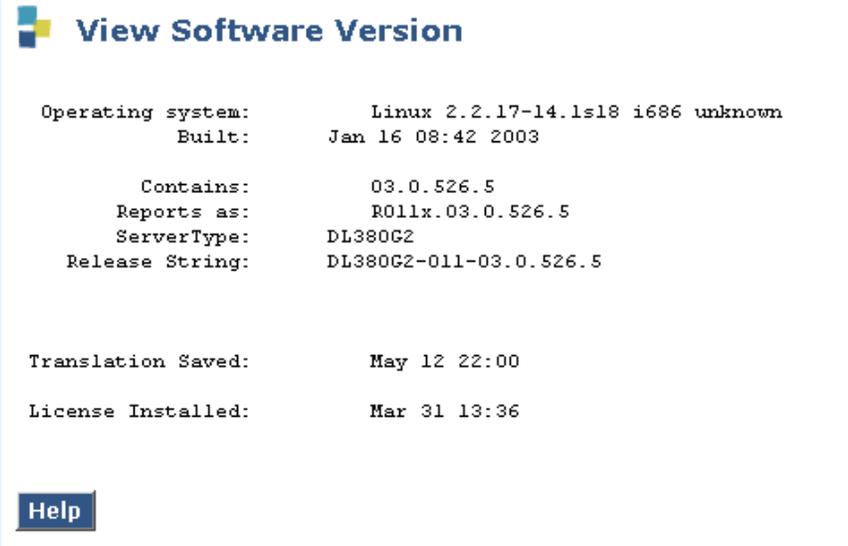| Item	Description
CD-ROM with .tar file	The .tar file for the ProLiant DL380 Generation 2 server differs from that for the S8700 Media Server. Therefore, the .tar file is shipped on a separate CD-ROM. The .tar file has a name similar to dl380g2-11.3-0318.3.tar.
Equipment rack	The rack must be rated at a minimum of 300 pounds (136 kilograms), *not* 200 pounds as with the S8700 Media Server. As a result, rack-mount options for the Communication Manager on the ProLiant DL380 Generation 2 server differ from those of the S8700 Media Server. See "Rack Mounting Options" on page 19.

NOTE:

The Communication Manager patch files for the ProLiant DL380 Generation 2 server may or may not differ from those of the S8700 Media Server and may also be shipped on a separate CD-ROM and downloaded. Check your release notes.

Installation

Generally, you follow the same steps to install Communication Manager on the ProLiant DL380 Generation 2 server as the steps you follow to install the S8700 IP Connect Configuration. Therefore, except where noted in the following table, use the procedures in *Installing the Avaya S8700 Media Server with G600 Media Gateway* on the *Avaya S8300 and S8700 Media Server Library* CD-ROM, 555-233-825, to install Communication Manager on the ProLiant DL380 Generation 2 server.

Item	Description
Rack Mounting and Cabling	Because they are bigger, the ProLiant DL380 Generation 2 servers differ from the S8700 Media Servers in the rack required and how you mount them in the rack (see "Rack Mounting Options" on page 19). Also, because the ProLiant DL380 Generation 2 servers have different port locations, they differ also in how you cable the servers to other devices (see *Getting Started with Avaya Communication Manager on the HP ProLiant DL380 Generation 2 Server Guide*). ⚠ **WARNING:** A ProLiant DL380 Generation 2 server weighs 60 pounds. Therefore, to avoid injury or to avoid damage to the server, it is strongly recommended that two people install each server in the rack.
Laptop Access Port	As with the S8700 Media Server, you can connect your laptop directly to the ProLiant DL380 Generation 2 server for software installation and administration. However, the services port location is different with ProLiant DL380 Generation 2 server (see "ProLiant DL380 Generation 2 Server (Back View)" on page 13). As with the S8700 Media Server, connect a crossover cable to the ethernet port on the ProLiant DL380 Generation 2 server labeled 2. In your laptop's browser, access the ProLiant DL380 Generation 2 server with an IP address of 192.13.11.6. Your laptop's Windows and browser settings for this connection are identical to those needed for the S8700 Media Server connection.
No LEDs to Indicate Active Server	On a ProLiant DL380 Generation 2 server, only the DAJ1 Duplication card has LEDs that show activity. There are no LEDs that specifically indicate which server is active. As a result, to determine which server is active and which is standby, log in to the Maintenance Web pages of either server and select **View Summary Status**. Alternatively, you can telnet to the ProLiant DL380 Generation 2 server and run the **Test Server LEDs** command. The LEDs on the DAJ1 card will then blink on the active server.

Item	Description
Server Type and Release String	When you select **View Software Version** from the Maintenance Web pages (see "Configuring the Hardware in the Rack" in the *Installing the Avaya S8700 Media Server with G600 Media Gateway* document), the ProLiant DL380 Generation 2 server Type is listed as **DL380G2**, with a Release String in the format **DL380G2-011-03.x.xxx.x**.

Item	Description
No PCMCIA Flashcard for Backups	See "No PCMCIA flash card" on page 15.
LEDs to Test Complete Configuration	Unlike the S8700 Media Server (see "Testing the Complete Configuration" in the *Installing the Avaya S8700 Media Server with G600 Media Gateway* document), the ProLiant DL380 Generation 2 server does not have Active/Standby and U2 LEDs to test. You, therefore, check only the transmit LED on the server's duplication card during the LED test.
Communication Manager Patches	Software patches for Communication Manager on the ProLiant DL380 Generation 2 server may or may not be different from those of the S8700 IP Connect Configuration. If they are different, the patches may appear in a location unique to the ProLiant DL380 Generation 2 server on the Avaya Web site.

Item	Description
Upgrade Patch	⚠ **CAUTION:** If you need to upgrade Communication Manager software (the **.tar** file) as part of a new installation, you must first download a specific patch for the ProLiant DL380 Generation 2 server into the **/var/home/ftp** directory. This patch will have a name similar to **03.1.526.6-DL380G2.tar.gz**. Once the patch is downloaded, you do not need to perform any other tasks to install it. The server software automatically installs the patch when you install the other upgrade software.
New Servers Automatically in Busy-Out Mode	Unlike the S8700 Media Server, when you first activate a ProLiant DL380 Generation 2 server at installation, it will be in busy-out mode. As a result, after you finish installing and configuring the server, you must click **Release Server** on the Maintenance Web pages to release the server from busy out mode. This step applies to the installation of both servers in the configuration.

Rack Mounting Options

The HP 9000 or 10000 series rack is a four-post rack that is 29 inches deep. This type of rack is normally used to support the size and weight of the ProLiant DL380 Generation 2 servers and easily meets the minimum rack requirements.

As with the S8700 IP Connect Configuration, the Ethernet switch(es) and the two UPSs are designed to be mounted in an open (not a cabinet), standard 19-inch (48-centimeter) equipment rack. These components, however, may also be mounted in the HP 9000 and 10000 series racks.

For additional details on rack-mounting, see *Compaq ProLiant DL380 Generation 2 Server Setup and Installation Guide*, 203844-001, which ships with the server. Also, see *Compaq 9000 and 10000 Series Installation and Best Practices*, 129F-0400A-WWEN on the HP Web site, at ftp://ftp.compaq.com/pub/products/servers/proliantstorage/racks/Best-Practice.pdf.

⇒ **NOTE:**
Make sure that the screws that come with the rack are available. Also, make sure that the rail kits, required to support the very heavy UPSs, are installed on the rack or available for installation. The customer must also provide AC power to the rack from a nonswitched outlet.

⚠ **CAUTION:**
A ProLiant DL380 Generation 2 server weighs 60 pounds. Therefore, to avoid injury or damage to the server, it is strongly recommended that two people install each server in the rack.

The following table lists the three basic rack-mounting options:

Rack Type	Mounting Considerations
HP 9000 or 10000 series rack	Servers: Use the slide-mount rails included with each server to install the servers in the rack. Use cage nuts/bolts included with the HP rack
	UPSs and Ethernet switch: Use the brackets included with the devices and the rails for the UPSs. Use cage nuts/bolts included with the HP rack to attach the brackets to the rack.
Standard two-post rack	Servers: Use 2-Post Telco Rail Kit from HP (part number 228892-B21) for each server
	UPSs and Ethernet switch: Use the brackets included with the devices and the rails for the UPSs.
Non-HP four-post rack	Servers: Use slide-mount rails included with server, if possible. Otherwise, order a third-party four-post sliding rail kit from HP (part number 228894-B21) for each server.
	UPSs and Ethernet switch: Use the brackets included with the devices and the rails for the UPSs.

Upgrade

Generally, you follow the same steps to upgrade Communication Manager on the ProLiant DL380 Generation 2 server as the steps you follow to upgrade the S8700 IP Connect Configuration. Therefore, except where noted in the following table, use the procedures in *Upgrading the Avaya S8700 Media Server Configurations* on the *Avaya S8300 and S8700 Media Server Library* CD-ROM, 555-233-825, to install Communication Manager on the ProLiant DL380 Generation 2 server.

| Item	Description
Upgrade Patch	⚠ **CAUTION:** If you need to upgrade Communication Manager software (the **.tar** file), you must first download a specific patch for the ProLiant DL380 Generation 2 server into the **/var/home/ftp** directory. This patch will have a name similar to **03.1.526.6-DL380G2.tar.gz**. Once the patch is downloaded, you do not need to perform any other tasks to install it. The server software automatically installs the patch when you install the other upgrade software.
No LEDs to Indicate Active Server	On a ProLiant DL380 Generation 2 server, only the DAJ1 Duplication card has LEDs that show activity. There are no LEDs to indicate which server is active. As a result, to determine which server is active and which is standby, log in to the Maintenance Web pages of either server and select **View Summary Status**.
Server Type and Release String	When you either select **View Software Version** from the Maintenance Web pages (see "Upgrading Software — Initial Installation" in the *Upgrading the Avaya S8700 Media Server Configurations* document) or run the **swversion** command from the Linux command line, the ProLiant DL380 Generation 2 server Type should be listed as **DL380G2**, with a Release String in the format **DL380G2-011-03.x.xxx.x**. swversion.
No PCMCIA Flashcard for Backups	See "No PCMCIA flash card" on page 15.

Maintenance

Generally, maintenance of Communication Manager on the ProLiant DL380 Generation 2 server is the same as maintenance of the S8700 IP Connect Configuration. Therefore, except where noted in the following table, use the procedures in *Maintenance for the Avaya S8700 Media Server with G600 Media Gateway* on the *Avaya S8300 and S8700 Media Server Library* CD-ROM, 555-233-825, to maintain Communication Manager on the ProLiant DL380 Generation 2 server.

Item	Description
Server comcode	The ProLiant DL380 Generation 2 server has a unique comcode. See the appropriate product description.
Limited Shutdown command	Unlike the S8700 Media Server (see Chapter 3, "Server Initialization, Recovery, and Alarms," in the *Maintenance for the Avaya S8700 Media Server with G600 Media Gateway* document), the ProLiant DL380 Generation 2 server does not turn off power after completing the **stop -r** and **stop -h** Linux shutdown commands. The same is true for the Shutdown command on the Maintenance Web page. Instead, you must press the Power button to turn off power. As a result, you *cannot* turn off the ProLiant DL380 Generation 2 server remotely.
View Temperature and Voltage	When you select **View Temperature/Voltage** from the Maintenance Web pages (see the online help), the Web pages lists different data than that of the S8700 Media Server. See "Displaying Temperature and Voltage" on page 23.
Environmental (ENV) Alarms	Because the configuration and components of the ProLiant DL380 Generation 2 server are different from those of the S8700 Media Server, the environmental alarms are different. See "New Environmental (ENV) Alarms" on page 25.
Server Replacement	In the event that a server must be replaced, the removal of the server is the reverse of that documented in the *Getting Started with Avaya Communication Manager on the HP ProLiant DL380 Generation 2 Server Guide.* However, there are many other logistical and software related steps that you must also perform. For these procedures, see *Replacing the Avaya S8700 Media Server*.

Displaying Temperature and Voltage

To check the temperature of the ProLiant DL380 Generation 2 server motherboard components and the server's fans, select **View Temperature/Voltage** from the ProLiant DL380 Generation 2 server's Maintenance Web page.

The system displays the following screen:
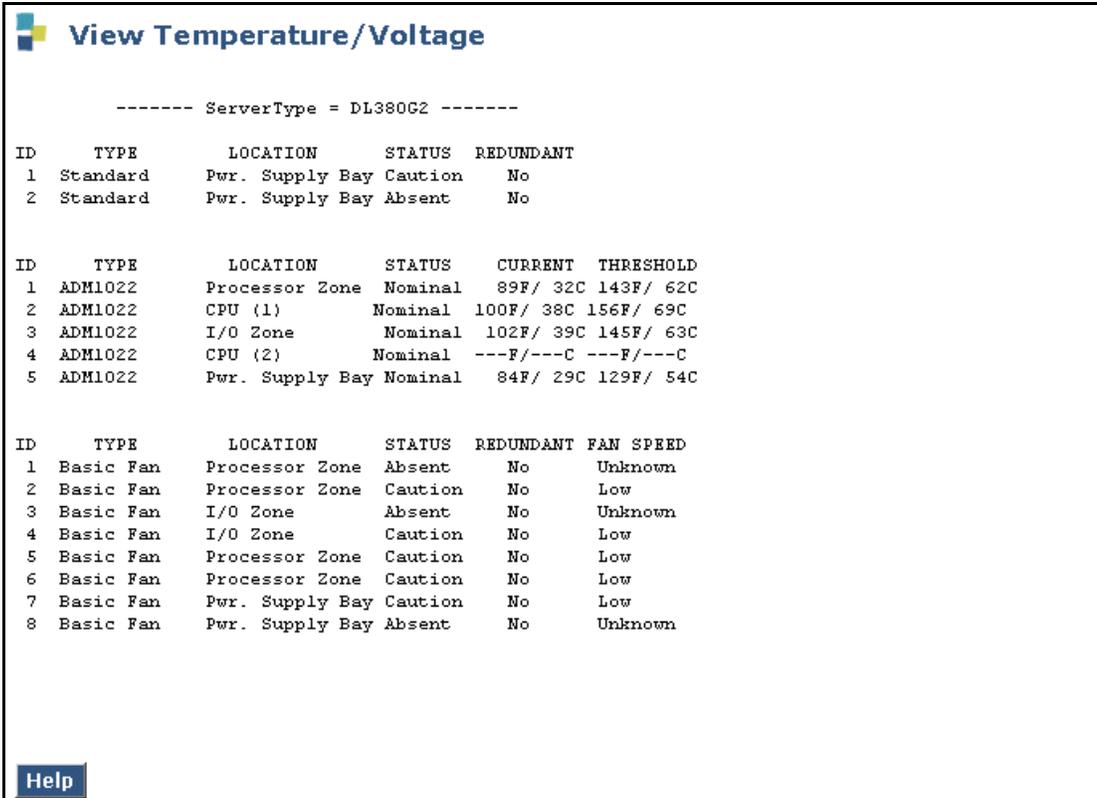
```
  View Temperature/Voltage


        ------- ServerType = DL380G2 -------

ID     TYPE          LOCATION       STATUS   REDUNDANT
 1  Standard      Pwr. Supply Bay Caution    No
 2  Standard      Pwr. Supply Bay Absent     No


ID     TYPE          LOCATION       STATUS    CURRENT   THRESHOLD
 1  ADM1022       Processor Zone  Nominal   89F/ 32C 143F/ 62C
 2  ADM1022       CPU (1)         Nominal  100F/ 38C 156F/ 69C
 3  ADM1022       I/O Zone        Nominal  102F/ 39C 145F/ 63C
 4  ADM1022       CPU (2)         Nominal  ---F/---C ---F/---C
 5  ADM1022       Pwr. Supply Bay Nominal   84F/ 29C 129F/ 54C


ID     TYPE          LOCATION       STATUS   REDUNDANT FAN SPEED
 1  Basic Fan     Processor Zone  Absent     No        Unknown
 2  Basic Fan     Processor Zone  Caution    No        Low
 3  Basic Fan     I/O Zone        Absent     No        Unknown
 4  Basic Fan     I/O Zone        Caution    No        Low
 5  Basic Fan     Processor Zone  Caution    No        Low
 6  Basic Fan     Processor Zone  Caution    No        Low
 7  Basic Fan     Pwr. Supply Bay Caution    No        Low
 8  Basic Fan     Pwr. Supply Bay Absent     No        Unknown




 Help
```

Use the descriptions in the following table to help you understand the data in the screen.

Field	Description
ID	An identification number automatically generated by the system for each expected power supply, motherboard device, and fan in the server.
Type	The type of device expected in the system: **Standard** appears for internal power supplies, **adm1022** for motherboard devices, and **Basic Fan** for fans.
Location	The location in the server where the system is expecting a device. For the type **adm1022,** locations identified are on the motherboard of the server.

Field	Description
Status	For the first section (for power supplies) and the last section (for fans), the status may display the following: **Absent**, **Caution**, or **Failed**. If the status is **Absent**, the device is not a required part of the server for Communication Manager functions and is, therefore, not installed. **Caution** status normally means there is no backup device to the type listed, which is the standard status for this configuration.
	For the center section (for motherboard devices), the status may display the following: **Nominal,** which means operation is normal, with the temperature at or under the threshold.
Redundant	**No** means there are no backup devices, which is the standard status for this configuration.
Current (center section of data)	The current temperature of the device, in both Fahrenheit and Celsius.
Threshold	The temperature for a device above which an alarm is generated. Temperature is displayed in both Fahrenheit and Celsius.
Fan Speed (last section of data)	The speed of the fan may appear as: • **Unknown** (not working or not present) • **Low** (less than 50% maximum speed) • **Medium** (less than 75% maximum speed) • **High** (above 75% maximum speed)

New Environmental (ENV) Alarms

The Environmental (ENV) maintenance object (MO) monitors environmental variables within the server, including temperature and fans. The following table describes the ENV MO's alarms and their troubleshooting procedures.

ENV Alarms in ProLiant DL380 Generation 2 Server (page 1 of 2)

Event ID	Alarm Level	Alarm Text, Cause/Description, Recommendation
40	MAJ	The power supply has failed. The server is using the backup power supply. **1** See if the alarmed condition is still present, either from the: — Web interface, by selecting the **View Temperature/Voltage** diagnostic — Linux command line, by entering **environment** **2** If not, manually clear the alarm, either from the: — Web interface, by selecting **Alarms and Notification**, the appropriate alarm, and **Clear** — Linux command line, by entering **almclear -n #id**
50	MAJ	CPU's temperature reached a critically high level. **1** Look for any obstructions blocking the server's fans. **2** Check for any fan alarms, and clear those alarms. **3** Shut down and restart the system. **4** See if the alarmed condition is still present, either from the: — Web interface, by selecting the **View Temperature/Voltage** diagnostic — Linux command line, by entering **environment** **5** If not, manually clear the alarm, either from the: — Web interface, by selecting **Alarms and Notification**, the appropriate alarm, and **Clear**. — Linux command line, by entering **almclear -n #id**

(page 1 of 2)

ENV Alarms in ProLiant DL380 Generation 2 Server   (page 2 of 2)

Event ID	Alarm Level	Alarm Text, Cause/Description, Recommendation
51	MIN	A processor, power supply zone, or I/O device has exceeded its temperature threshold. **1** See if the alarmed condition is still present, either from the: — Web interface, by selecting the **View Temperature/Voltage** diagnostic — Linux command line, by entering **environment** **2** If not, manually clear the alarm, either from the: — Web interface, by selecting **Alarms and Notification**, the appropriate alarm, and **Clear**. Linux command line, by entering **almclear -n #id**
60	MIN	The fan for a particular location has failed. **1** See if the alarmed condition is still present, either from the: — Web interface, by selecting the **View Temperature/Voltage** diagnostic — Linux command line, by entering **environment** **2** If not, manually clear the alarm, either from the: — Web interface, by selecting **Alarms and Notification**, the appropriate alarm, and **Clear**. Linux command line, by entering **almclear -n #id**

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Abbreviations and Acronyms Used in This Document

Abbreviation or Acronym	Meaning
ACD	Automatic Call Distribution
ASAI	Adjunct-Switch Application Interface
ATM	Asynchronous Transmission Mode
CLAN	Control Local Area Network (TN799D or later circuit pack)
ICM	Inbound Call Management
IP	Internet Protocol
IPSI	IP Server Interface
ISDN	Integrated Services Digital Network
LAN	Local Area Network
LED	Light-Emitting Diode
LSP	Local Survivable Processor
NIC	Network Interface Card
OCM	Outbound Call Management
PCI	Peripheral Component Interconnect
PCMCIA	Personal Computer Memory Card International Association
PN	Port Network
PNC	Port Network Connectivity
SCSI	Small Computer System Interface
SNMP	Simple Management Network Protocol
TDM	Time Division Multiplexed (bus)
UPS	Uninterruptible Power Supply
USB	Universal Serial Bus
VAL	Voice Announcements over the LAN
WAN	Wide Area Network