



# **Overview of the Avaya™ S8700 Media Server for Multi-Connect Configurations**

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**Notice**

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

**Warranty**

Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language as well as information regarding support for this product, while under warranty, is available through the following website:

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

**Preventing Toll Fraud**

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

**Avaya Fraud Intervention**

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, in the United States and Canada, call the Technical Service Center's Toll Fraud Intervention Hotline at 1-800-643-2353.

**How to Get Help**

For additional support telephone numbers, go to the Avaya Web site: <http://www.avaya.com/support/>

If you are:

- Within the United States, click *Escalation Lists*, which includes escalation phone numbers within the USA.
- Outside the United States, click *Escalation Lists* then click *Global Escalation List*, which includes phone numbers for the regional Centers of Excellence.

**Providing Telecommunications Security**

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)

- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

**Responsibility for Your Company's Telecommunications Security**

The final responsibility for securing both this system and its networked equipment rests with you - Avaya's customer system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products.

**TCP/IP Facilities**

Customers may experience differences in product performance, reliability and security depending upon network configurations/design and topologies, even when the product performs as warranted.

**Standards Compliance**

Avaya Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Avaya Inc. The correction of interference caused by such unauthorized modifications, substitution or attachment will be the responsibility of the user. Pursuant to Part 15 of the Federal Communications Commission (FCC) Rules, the user is cautioned that changes or modifications not expressly approved by Avaya Inc. could void the user's authority to operate this equipment.

**Product Safety Standards**

This product complies with and conforms to the following international Product Safety standards as applicable:

Safety of Information Technology Equipment, IEC 60950, 3rd Edition including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition

Safety Requirements for Customer Equipment, ACA Technical Standard (TS) 001 - 1997

One or more of the following Mexican national standards, as applicable: NOM 001 SCFI 1993, NOM SCFI 016 1993, NOM 019 SCFI 1998

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

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.

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**



Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Européenne*) 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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# Overview

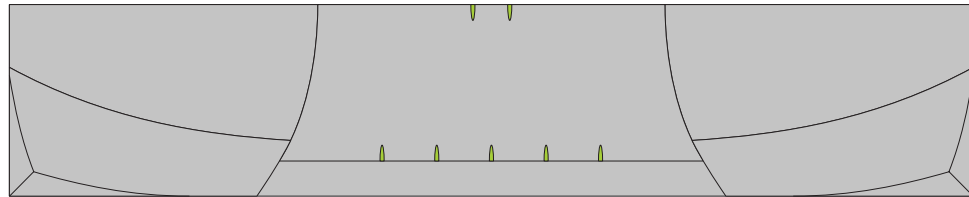
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The Avaya S8700 Media Server™ and an Avaya™ MCC1 Media Gateway, or an Avaya™ SCC1 Media Gateway uses a standard microprocessor engine with an Intel-based processor on a commercial server. The S8700 Media Server provides a foundation for a flexible, highly reliable Avaya™ Communication Manager solution that meets a variety of customer telephony needs. The S8700 Media Server converges voice, data, and video. The S8700 Media Server then uses high-speed connections to route the voice, data, and video between analog and digital trunks and data lines that are connected to host computers, data-entry terminals, personal computers, and internet addresses. From this point forward, the S8700 Media Server with the MCC1 Media Gateway, SCC1 Media Gateway or the G700 Media Gateway will be referred to as S8700 Multi-Connect.

See the following figure for an example of the S8700 Media Server.

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## S8700 Media Server



scds870a KLC 041102

## Detailed Description

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The S8700 Media Server uses a Linux platform on an Intel based server. The S8700 Media Server is derived from the current DEFINITY® processor, has fewer physical components, and provides most of the same features and functionality with increased capacity. The S8700 Media Server in a Multi-Connect configuration separates call control from the bearer network and uses a dedicated LAN to transport control data.

 **NOTE:**

The call control network **MUST** be on a dedicated network.

## Main Components

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The S8700 Multi-Connect uses the following main components:

- An Intel-based server
- An IP Server Interface (IPSI) circuit pack (TN2312AP)
- An Avaya Ethernet Switch P133 or P134 or P333 or P334
- An Avaya 700VA/1500VA online UPS
- An Abstract Control Model (ACM) compliant Universal Serial Bus (USB) modem
- An MCC1 or SCC1 Media Gateway
- Avaya™ Communication Manager: For information about Communication Manager, see the *Overview for Avaya™ Communication Manager*, 555-233-767.

## **S8700 Media Server**

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Characteristics of the S8700 Multi-Connect:

- 10/100 Ethernet ports to support IPSI network control links, services access, duplication, administration and alarming
- An IDE hard disk
- An IDE CD ROM
- Support for global power
- Storage media for the operating system, customer translations, and maintenance software
- Support for USB port connectivity for modem
- A 128 MB Flash Card for removable media
- Support for remote call out alarming from either server
- SNMP alarming

The S8700 Media Server must be mounted in an open 19-inch rack that is EIA-310-D compliant.

## High Level Capabilities

The S8700 Media Server provides a large scale solution with a high number of endpoints. Specifically, it supports the following high-level capabilities.

Capability	S8700 Multi-Connect
Call processing feature set	Communication Manager
Duplication options available	Duplex, high, and critical
Port Network (PN) Connectivity	Center Stage Switch (CSS), ATM, or Direct
Supported Media Gateways	SCC1, MCC1 and G700
Port Network quantity, maximum	44 – Center Stage Switch (CSS) or 64 – ATM-PNC
Survivability Options	SRP and LSP
Survivable Options	S8300 Media Server in a Local Survivable Processor (LSP) configuration
Remote Office Gateway	R300 is not supported
Locations - maximum	44
Port Networks per IPSI	Up to 5  Note: A high or critical reliability configuration requires two IPSIs per IPSI connected PN.
Modem calls	Supported
Wideband connections	Supported

For more detailed information concerning S8700 Media Server capacity information, see the Systems Capacities Table for the Avaya Communication Manager on Avaya Media Servers located at <http://www.avaya.com/support>.

## **Reliability for the S8700 Multi-Connect**

The S8700 Media Server when used with the MCC1, SCC1 or G700 Media Gateway has the following options for duplex-reliability, high-reliability, and critical-reliability.

### **Duplex-Reliability Configuration**

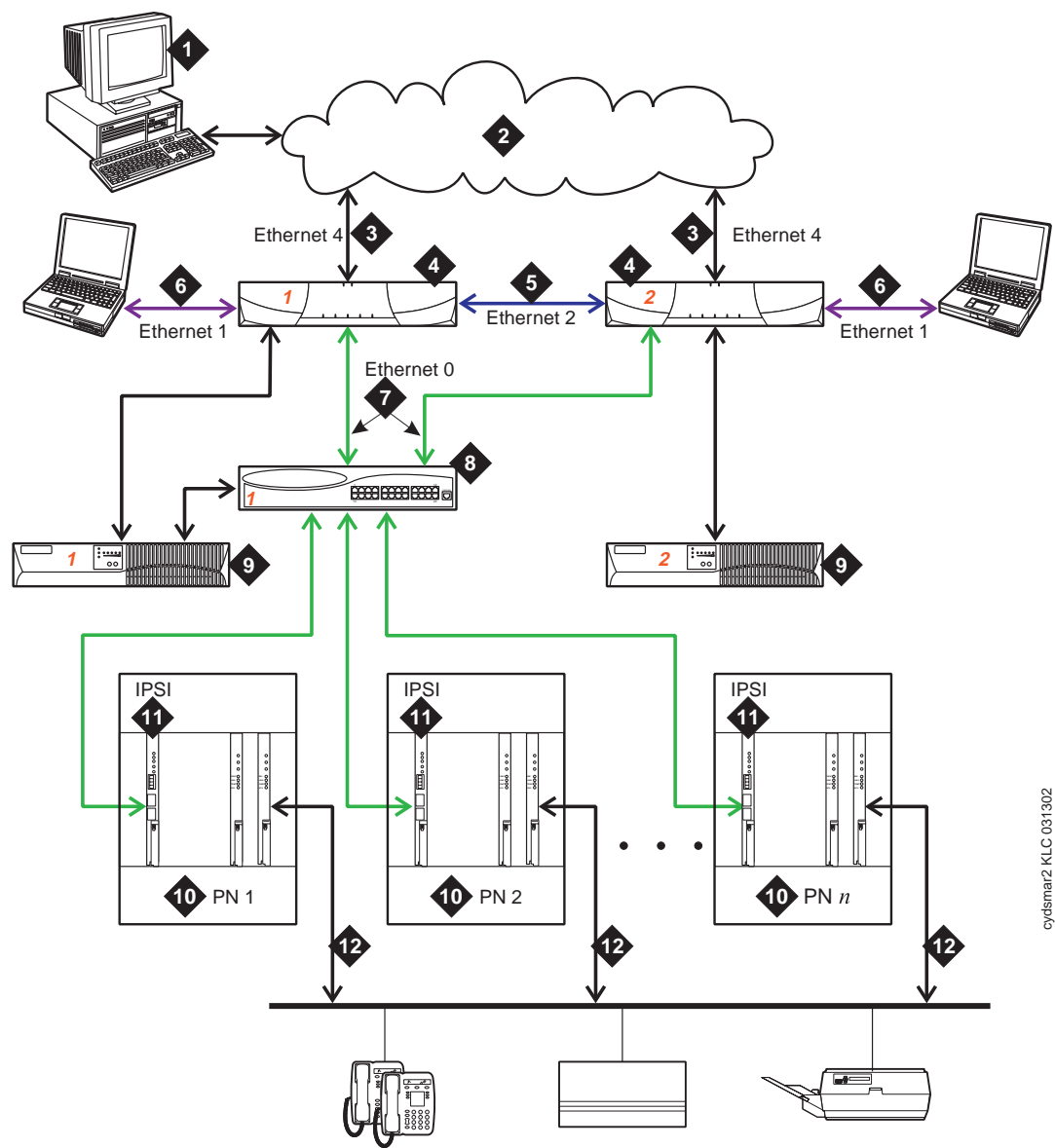
The duplex-reliability option is the most basic option. A duplex-reliability configuration consists of the following:

- Two S8700 Media Servers.
- One Ethernet switch.
- One UPS unit for each S8700 Media Server. The use of two UPS units ensures that a single UPS failure or repair operation will not disable the system.
- One IPSI in each IPSI-connected port network.

Voice and data bearer traffic between port networks is carried on a simplex network that is made up of one Expansion Interface (EI) in each port network. The EIs are cabled with lightguide fiber to either the Center Stage Switch (CSS) or an Asynchronous Transfer Mode (ATM) switch.

See the following figure for an example of a duplex-reliability configuration.

S8700 Multi-Connect Duplex Reliability Configuration



cydsmar2 KLC 031302

#	Description of Connection
1	The Administration PC is used to access the S8700 Media Server over the corporate LAN.
2	Corporate LAN
3	Corporate LAN interface: default Ethernet 4-The Ethernet link from the S8700 Media Server to the LAN. Used for administration Simple Network Message Protocol (SNMP) traps to the Initialization and Administration System (INADS).  The Ethernet connection to the corporate LAN in this figure is a non-dedicated network. IP addresses for the various components of the S8700 Multi-Connect Media Server must be administered with care to prevent conflicts with other equipment that shares the LAN. In the default S8700 Multi-Connect configuration, all other Ethernet connections are dedicated. Operating on their own closed LANs.
4	Two S8700 Media Servers are always present, one in active mode and the other on standby.
5	Duplication interface: default Ethernet 2-The dedicated Ethernet connection between the S8700 Media Servers.
6	Services interface: default Ethernet 1-The server's dedicated Ethernet connection from the S8700 Media Server to a laptop. This link is active only during on-site administration or on-site maintenance.
7	Network control A interface: default Ethernet 0-The server's Ethernet connection to one or two Ethernet switches. This private LAN carries the control signals for the S8700 Multi-Connect PNs.
8	Ethernet switch — at least one Ethernet switch is required to support the S8700 Multi-Connect control network. If many PNs are present, two Ethernet switches may be daisy-chained together to provide sufficient Ethernet connections to the IPSI boards in the PNs.
9	UPS — Keeps the S8700 Media Servers and Ethernet switches functional through brief power outages.
10	PN — Provides the telecommunications functions of the S8700 Multi-Connect Media Server.
11	The IPSI circuit pack carries the control network signals to the PNs. Provides tone-clock functionality.
12	Bearer Connectivity

## **High Reliability Configuration**

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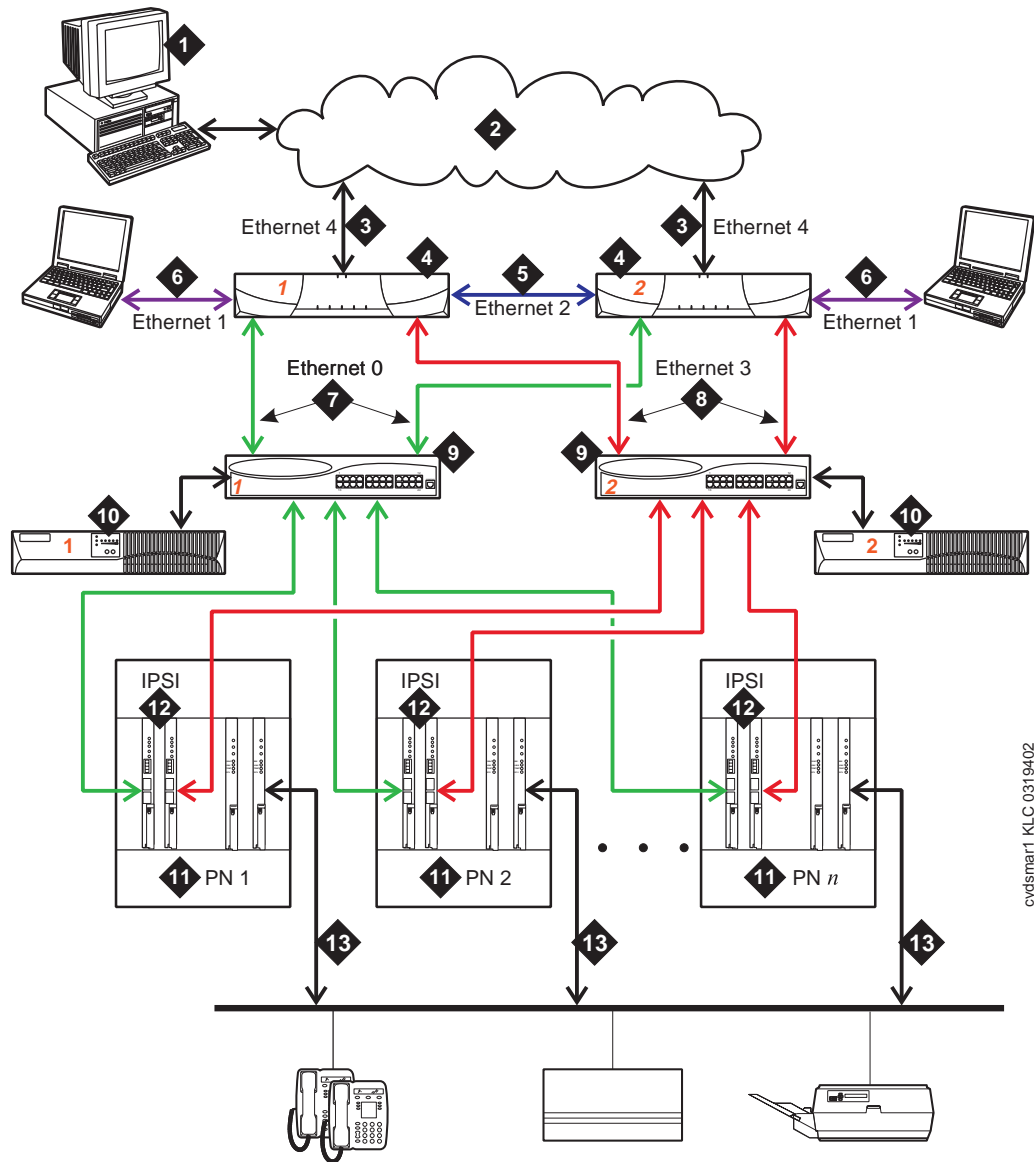
The high-reliability configuration option builds on the duplex reliability option. The high-reliability duplicates components so that no single point of failure exists in the control network. The high-reliability configuration consists of the following:

- Two S8700 Media Servers
- Two IPSI circuit packs in each IPSI-connected port network
- Two Ethernet switches
- Two UPS units

Voice and data bearer traffic between port networks is carried on a simplex network that is made up of one Expansion Interface (EI) in each port network. The EIs are cabled with lightguide fiber to either the Center Stage Switch (CSS) or an Asynchronous Transfer Mode (ATM) switch.

See the following figure for an example of a high-reliability configuration.

### S8700 Multi-Connect High Reliability Configuration



cydsmar1 KLC 0319402

#	Description of Connection
1	Administration PC — Used to access S8700 Media Server over the corporate LAN
2	Corporate LAN
3	Corporate LAN interface: default Ethernet 4-The Ethernet link from the S8700 Media Server to the LAN. Used for administration and can be used for alarming by way of the Simple Network Message Protocol (SNMP) traps to the Initialization and Administration System (INADS).
4	S8700 Media Server — Two are always present. One in active mode and the other on standby.
5	Duplication interface: default Ethernet 2-The dedicated Ethernet connection between the S8700 Media Servers.
6	Services interface: default Ethernet 1-The server's dedicated Ethernet connection from the S8700 Media Server to a Services laptop. This link is active only during on-site administration or maintenance.
7	Network control A interface: default Ethernet 0-The server's Ethernet connection to one or two Ethernet switches. This private LAN carries the control signals for the S8700 Multi-Connect PNs when possible. Control network A is considered the primary control network because it connects to the primary IPSI board in a PN.
8	<p>Network control B interface: default Ethernet 3-The S8700 Media Server's Ethernet connection to a duplicated set of Ethernet switches.</p> <p>This private LAN carries control signals for the PNs when the primary control network is unavailable.</p> <p>Control network B connects to the secondary IPSI board in a PN. When the problem is resolved, primary control is returned to control network A.</p>
9	Ethernet switch — At least one is required to support each control network.
10	UPS — Keeps the S8700 Media Servers and Ethernet switches functional during brief power outages. Usually, UPS one powers server one and the Ethernet switch associated with it. UPS two powers server two and the Ethernet switch associated with it.

#	Description of Connection (Continued)
11	<p>PN — Provides the telecommunications functions of the S8700 Media Server.</p> <p>For high reliability, each IPSI-connected PN contains a pair of IPSI circuit packs. This pair consists of, one primary circuit pack, and a duplicate secondary circuit pack as a backup.</p> <p>For critical reliability, the bearer network, among the port networks is also duplicated. Two EI circuit packs or two ATM circuit packs are present in each PN instead of just one.</p>
12	<p>IPSI — The IPSI circuit pack is duplicated in every IPSI-connected PN in a high reliability configuration or critical reliability configuration.</p> <p>The secondary IPSI is connected to control network B. The secondary IPSI takes over in case of problems with the primary control network. The S8700 Media Server regularly tests the duplicated IPSI to make sure it is ready for service.</p>
13	Bearer Connectivity

### **Critical Reliability Configuration**

The critical-reliability configuration option is similar to the high-reliability configuration option. In addition, the critical-reliability configuration duplicates the bearer network channels among the PNs. Like the high-reliability configuration, the critical-reliability configuration consists of the following:

- Two S8700 Media Servers
- Two IPSI circuit packs in each IPSI-connected port network
- Two Ethernet switches
- Two UPS units

But unlike the high-reliability configuration, it has two bearer networks.

Voice and data bearer traffic between port networks is carried on a duplicated network that is made up of two Expansion Interface (EI) in each port network. The EIs are cabled with lightguide fiber to either the Center Stage Switch (CSS) or an Asynchronous Transfer Mode (ATM) switch.

## Connectivity

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The S8700 Multi-Connect Media Server uses CSS and ATM networks to connect to port networks (PN).

### Port Networks

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With the S8700 Multi-Connect, all PNs are comprised of either the MCC1 Media Gateway or SCC1 Media Gateway. For migrations from the DEFINITY® Server to the S8700 Multi-Connect processor, the cabinet that was the Processor Port Network (PPN) will be converted to a PN by replacing the control carriers with port carriers.

The IPSI extends Ethernet control by connecting the S8700 Media Server processor to the PNs. The IPSI replaces the TN2182B tone clock in each of the PNs that are connected by an IPSI. Not all PNs require the IPSI board. One IPSI-connected PN can control up to four other PNs.

### CSS Network

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The CSS is a connection hub that provides PN communication. A CSS can be used when the Multi-Connect Solution is composed of more than three port networks. Often the CSS is incorporated into smaller configurations to allow for growth. The CSS consists of from one to three switch nodes (SN). SNs are composed of one or two switch node carriers, depending on whether the solution is being duplicated for critical reliability. PN expansion depends on internal SN-to-SN traffic, according to the following guidelines:

- One SN expands from 1 to up to 15 PNs.
- Two SNs expands to up to 29 PNs.
- Three SNs expands to up to 44 PNs.

### ATM Network

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The Asynchronous Transfer Mode (ATM) switch is a replacement option for the CSS or for the direct-connect switch. Several Avaya ATM switch types can provide port network connectivity. Non-Avaya ATM switches that comply with the ATM standards that are set by the European Union can also provide port network connectivity.

With S8700 Multi-Connect, ATM-Port Network Connectivity (ATM-PNC) allows any ATM switch or ATM network that complies with specified standards and capacities to serve as the means to connect to the PN. In this type of configuration, the ATM switch or network replaces the CSS. ATM-PNC is used to connect port networks within a single switch. The (WAN) spare processor is not supported.

## **S8700 Multi-Connect Recoverability**

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In addition to the high reliability of the duplicated S8700 Multi-Connect Media Servers, the S8300 Media Server in a Local Survivable Processor (LSP) configuration and a survivable remote EPN can be used to provide survivability. Additional recovery capability is embedded in Avaya Communication Manager that resides on the S8700 Media Server.

### **S8300 Media Server in an LSP Mode**

The LSP is located in the G700 Media Gateway and provides survivability when the S8700 Media Server is inaccessible. Each S8700 Media Server can have multiple LSPs. The LSP has a copy of the customer translations of the S8700 Media Server. The translations are updated regularly from the S8700 Media Server using a virtual link through an IP network. Typically, all LSPs are in idle mode, where the LSP is not processing any calls. When the Media Gateway's Processor (MGP) or IP endpoints perceive the S8700 Media Server to be unreachable, the MGP or IP endpoints will attempt to register with an LSP. The LSP does not actively take over when the primary controller becomes unreachable, but waits for MGPs and IP endpoints to register with it. Each LSP runs in license-normal mode until IP Phones or MGPs register with it which triggers the LSP to move into a license-error mode. The LSP runs in license-error mode for a maximum of six days before the LSP transitions into a no-license mode. Switchback from the LSP to the S8700 Media Server is a manual operation. A reset 3 command on the LSP forces devices registered with it to return to their primary controller. When the customer resets the LSP, the six-day license timer is reset after the primary controller, the S8700 Media Server, responds to a ping and no devices are registered with the LSP.

### **Power Outages**

In most cases an Avaya solution can recover from a power outage or other failure instantly, regardless of the source of the failure. Each PN includes a set of segmented, parallel buses. If one of the paired segments fails, the other bus segment continues to handle communications. The UPS units supply power to the control complex.

### **Survivable Remote EPN**

The Survivable Remote Expansion Port Network (SREPN) allows either an MCC1 PN or SCC1 PN to provide service to the customer when connectivity links fail. When the links to the PN are restored and stable, a logic switch in the SREPN is manually reset and the PN is reconnected to the links from the switch. The logic switch can either be reset locally at the SREPN or reset remotely by way of a dial-up connection to the SREPN.

The SREPN must be administered separately, not as a duplicated PN, to be able to recover after a failure. It does not function as a SREPN without the administration of stations, trunks, and features to support its operation. SREPN is not compatible with ATM Port Network Connectivity (ATM-PNC).

An SREPN cannot be an IPSI connected PN.

## System Capacity

The following table presents a subset of S8700 Multi-Connect Busy Hour Call Completion (BHCC) capacities. The values are based on current available data and may change as more data becomes available.

Type	S8700 Multi-Connect
All Analog	342,000
General Business - non-ISDN	300,800
General Business - ISDN	192,300
ACD	140,500
ICM	112,100
OCM	230,500
General Business - IP	53,400
Call Center - IP	61,800

### NOTE:

Any configuration that includes IP Solutions applications (such as Road warrior, Telecommuter or H.322 trunking) will impact the Busy Hour Call Completion system and processor capacity. If a customer is utilizing these applications in a high traffic system, it is recommended that the Avaya Technology and Consulting (ATAC) team be involved to review any potential traffic impact.

The information in this table represents the *maximum* number of calls the S8700 Media Server could execute, assuming it was unconstrained by other factors such as:

- TDM bus limitations
- Call duration
- Small number of telephones

We assume processor occupancy of 0.90, at which various delay criteria such as cut through is preserved, and is just at the threshold where call shedding would commence.

## Adjuncts

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This is a partial list of the adjuncts that Avaya provides:

- Voice messaging and response such as INTUITY AUDIX.
- 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.
- System printer is supported with the use of a terminal server.
- Journal printer is supported with the use of a terminal server.
- Call Accounting Systems is supported with the use of a terminal server.
- Call Detail Recording (CDR) is supported with the use of a terminal server.
- ASA is supported with the use of a terminal server.
- DEFINITY Network Management (DNM).
- DEFINITY Translator ATM Manager (DTA).

## Circuit Packs

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The following circuit packs can be used with S8700 Multi-Connect.

Code	Circuit Pack Name
TN429D	DIOD or Central Office Trunk (8 ports) need V2 for Japan
TN433	Speech Synthesizer for Italian
TN457	Speech Synthesizer for British English
TN459B	Direct Inward Dialing Trunk for the United Kingdom (8 ports)
TN464GP	DS1 Interface with echo cancellation, T1 (24 channel), E1 (32 channel)
TN465C	Central Office Trunk for Multiple Countries (8 Ports)
TN497 (w/PPM)	Tie Trunk for Italy TGU, TGE, and TGI (4 ports)
TN553	Packet Data
TN556D	ISDN-BRI 4-Wire S/T-NT Interface (12 ports)
TN568	DEFINITY Audix 4.0 Voice Mail System
TN570D	Expansion Interface
TN725B	Speech Synthesizer for United States English
TN744E	Global Call Classifier-Detector (with Tone Detection)
TN746B	Analog Line
TN747B	Co Trunk
TN753B	DID Trunk
TN754C	Digital Line
TN755B	Power Unit - NEON power unit
TN760E	Tie Trunk (4 wire with 4 ports)
TN762B	Hybrid Line (8 ports)
TN763D	AUX Trunk (4 ports)
TN767E	DS1 Interface T1 (24 Channels)
TN769	Analog Line (Neon)
TN771DP	Maintenance Test
TN775C	Maintenance Board (EPN)
TN780	Tone Clock
TN787K	Multimedia Interface
TN788C	Multimedia Voice Conditioner

<b>Code</b>	<b>Circuit Pack Name</b>
TN789B	Radio Controller
TN791	Analog Guest Line (16 ports) for International offers/Canada
TN793B	Analog Line with Caller ID (24 ports)
TN797	U.S. analog Trunk or Line Circuit Pack (8 ports)
TN799DP	Control LAN C-LAN Interface
TN801B	MAPD (LAN Gateway Interface for CTI, CallVisor, PC/LAN)
TN1654	DS1 Converter T1 (24-Channel) and E1 (32-Channel)
TN2140B	Tie Trunk for Hungary and Italy (4-wire, 4 ports)
TN2146	Direct Inward Dialing Trunk for Belgium and the Netherlands (8 ports)
TN2147C (w/o PP)	Central Office Trunk for Multiple Countries (8 Ports)
TN2181	DCP Digital Line (2-wire, 16 ports)
TN2182C	Tone-Clock, Tone Detector and Call Classifier (8 Ports)
TN2183/ TN2215	Analog Line for Multiple Countries (16 ports)
TN2184	DIOD trunk for Germany (4 ports)
TN2185B	ISDN-BRI S/T-TE Interface (4-wire, 8 ports)
TN2198B	ISDN-BRI U Interface (2-wire, 12 ports)
TN2199	Central Office Trunk for Russia (3 wire, 4 ports)
TN2202	Ring Generator for France
TN2204	Australian CIN board
TN2207	DS1 Interface, T1 (24 Channel) and E1 (32 Channel) for MMCH
TN2209	Tie Trunk for Russia (4-wire, 4 ports)
TN2214B	DCP Digital Line (2-Wire, 24 Ports) International Offers, Category B
TN2215/ TN2183	Analog Line for Multiple Countries (16 Ports)
TN2224CP	Digital Line (2-Wire, 24 Ports)
TN2242	Digital Trunk for Japan
TN2302AP	IP Media Processor
TN2305B	ATM-CES Trunk/Port-Network Interface for Multi-Mode Fiber
TN2306B	ATM-CES Trunk/Port-Network Interface for Single-Mode Fiber
TN2308	Direct Inward Dialing Trunk for Brazil (8 ports)
TN2312	IP Server Interface (IPSI)

Code	Circuit Pack Name
TN2313AP	DS1 Interface (24 Channel)
TN2464P	DS1 Interface with Echo Cancellation T1/E1
TN2501AP	Announcement (VAL)
TN2793B	Analog Line with Caller ID for International (24 Ports)
TN-CCSC-1	PRI to DASS Converter
TN-CCSC-2	PRI to DASS Converter
TN-C7	PRI to SS7 Converter
TN-CIN	Voice/Fax/Data Multiplexer



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