



DEFENSE INFORMATION SYSTEMS AGENCY

P. O. BOX 549
FORT MEADE, MARYLAND 20755-0549

IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

27 July 12

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the Avaya Aura[®] Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (g), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency (DISA), Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.
2. The Avaya Aura[®] CC Elite with Software Rel. 6.0 is hereinafter referred to as the System Under Test (SUT). The SUT met the interface and functional requirements as an Automatic Call Distribution (ACD) under the Unified Capabilities (UC) product category of Customer Premise Equipment (CPE) when configured on the Avaya Aura Communications Manager (CM) Rel. 6.0 PBX platform. Therefore, the SUT is certified for joint use within the Defense Information System Network (DISN) as a CPE ACD with any switching system on the UC Approved Products List (APL) which offers the same certified interfaces as the Aura CM 6.0 PBX. The SUT met the interface and functional requirements for an ACD system as set forth in Reference (c) using test procedures derived from Reference (d). No other configurations, features, or functions, except those cited within this memorandum, are certified by JITC. This certification expires upon changes that could affect interoperability, but no later than 10 May 2014, which is two years from the date of the UC APL memorandum for the Avaya S8300D with Gateway 450 (G450).
3. This finding is based on interoperability testing conducted by JITC, review of the vendor's Letters of Compliance (LoC), and DISA Certifying Authority (CA) Recommendation of the Information Assurance (IA) configuration. Interoperability testing was conducted by JITC, Fort Huachuca, Arizona, from 2 July through 26 August 2011 for the Avaya S8300D with G450 CM Rel. 6.0 (R16x.00.1.510.1) with Service Pack 19211 and documented in Reference (e). Interoperability testing including ACD functionality was conducted by JITC, Fort Huachuca, Arizona, from 2 August through 17 September 2010 and 4 through 8 July 2011 on the Avaya Aura S8800 with Release CM 6.0.1 (00.1.510.1 Service Pack 19211) and documented in

JITC Memo, JTE, Special Interoperability Test Certification of the Avaya Aura® Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform

Reference (f). Review of the vendor’s LoC was completed on 20 May 2012. The DISA CA provided a positive Recommendation on 12 July 2012 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (g). The acquiring agency or site will be responsible for the DoD Information Assurance Certification and Accreditation Process (DIACAP) accreditation. Enclosure 2 documents the test results and describes the tested network and system configurations including specified patch releases.

4. The interface, Capability Requirement (CR) and Functional Requirement (FR), and component status of the SUT are listed in Table 1. The threshold CR/FRs for CPE ACDs are established by Section 5.3.2.1 of Reference (c) and were used to evaluate the interoperability of the SUT. Enclosure 3 provides a detailed list of the interface, capability, and functional requirements.

Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Status	UCR Paragraph
T1/E1 CAS (DTMF, MFR1, DP) T1 ISDN PRI NI 1/2 (ANSI T1.619a) 2-Wire Analog Loop Start (GR-506-CORE) ISDN BRI NI 1/2 (ANSI T1.619a) 2-Wire Proprietary Digital VoIP (Ethernet IEEE 802.3u)	No ¹	Yes ²	MLPP in accordance with requirements listed in Section 5.3.2.31.3. (C)	Met	5.2.1.2(1)
			FCC Part 15/Part 68 and ACTA. (R)	Met	5.2.1.2(2)
			Auto Answer mode settable to more than the equivalency of 4 ROUTINE rings. (C)	Not Tested ³	5.2.1.2(3)
			MLPP precedence call alerting. (C)	Not Tested ³	5.2.1.2(4)
			DTMF Outpulsing in accordance with GR-506-CORE (Analog only). (C)	Met	5.2.1.2(5)
			If Configuration Management and/or Fault Management are/is provided by the CPE device so that it can be managed by the ADIMSS or other management systems, then the management information shall be provided by one or more serial or Ethernet interfaces. (C)	Not Tested ³	5.2.1.2(8)
			Calls above ROUTINE placed to the SUT shall divert to a designated Directory Number. (R)	Met	5.3.2.2.2.1.2.5
			If CPE has an IP interface, the CPE must be IPv6-capable. Use guidance in Table 5.3.5-4 for NA/SS. (R)	Partially Met ⁴	5.3.5
	Yes	Yes	Security (R)	Met ⁵	5.4

NOTES:

1. The ACD requirements can be met via one of the following interfaces: 2-Wire Analog, 2-Wire Digital, 4-Wire Digital, PCM-24, PCM-30, or IP.
2. The SUT is certified with any switching system on the UC APL which offers the same certified interface.
3. This feature is conditional for a CPE and is not supported by the SUT.
4. All Dual Stack IP End Instruments fail to meet VoIP System Latency requirements when IPv6 is Preferred. This was adjudicated by DISA for Reference (e) as minor with the vendor’s POA&M to fix this anomaly by 9 August 2012.
5. Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (g).

JITC Memo, JTE, Special Interoperability Test Certification of the Avaya Aura® Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform

Table 1. SUT Functional Requirements and Interoperability Status (continued)

LEGEND:			
802.3u	Standard for carrier sense multiple access with collision detection at 100 Mbps	IPv6	Internet Protocol version 6
ACD	Automatic Call Distribution	ISDN	Integrated Services Digital Network
ACTA	Administrative Council for Terminal Attachments	LSSGR	Local Access and Transport Area (LATA) Switching Systems Generic Requirements
ADIMSS	Advanced Defense Switched Network Integrated Management Support System	Mbps	Megabits per second
ANSI	American National Standards Institute	MFR1	Multi-Frequency Recommendation 1
APL	Approved Products List	MLPP	Multi-Level Precedence and Preemption
BRI	Basic Rate Interface	NA/SS	Network Appliances and Simple Servers
C	Conditional	NI 1/2	National ISDN 1 or 2
CAS	Channel Associated Signaling	PCM-24	Pulse Code Modulation - 24 Channels
CPE	Customer Premise Equipment	PCM-30	Pulse Code Modulation - 30 Channels
DISA	Defense Information Systems Agency	POA&M	Plan of Actions and Milestones
DP	Dial Pulse	PRI	Primary Rate Interface
DTMF	Dual Tone Multi-Frequency	R	Required
E1	European Basic Multiplex Rate (2.048 Mbps)	SUT	System Under Test
FCC	Federal Communications Commission	T1	Digital Transmission Link Level 1 (1.544 Mbps)
GR	Generic Requirement	T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
GR-506-CORE	LSSGR: Signaling for Analog Interfaces	UC	Unified Capabilities
IEEE	Institute of Electrical and Electronics Engineers	UCR	Unified Capabilities Requirements
IP	Internet Protocol	VoIP	Voice over Internet Protocol

5. No detailed test report was developed in accordance with the Program Manager’s request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: disa.meade.ns.list.unified-capabilities-certification-office@mail.mil.

6. The JITC point of contact is Capt Stéphane Arsenault, DSN 879-5269, commercial (520) 538-5269, FAX DSN 879-4347, or e-mail to stephane.p.arsenault@mail.mil. The JITC’s mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 1211402.

FOR THE COMMANDER:

2 Enclosures a/s


for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

JITC Memo, JTE, Special Interoperability Test Certification of the Avaya Aura[®] Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform

Distribution (electronic mail):

Joint Staff J-6

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U.S. Marine Corps MARCORSYSCOM, SIAT, MJI Division I

DOT&E, Net-Centric Systems and Naval Warfare

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Defense Intelligence Agency

National Security Agency, DT

Defense Information Systems Agency, TEMC

Office of Assistant Secretary of Defense (NII)/DOD CIO

U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68

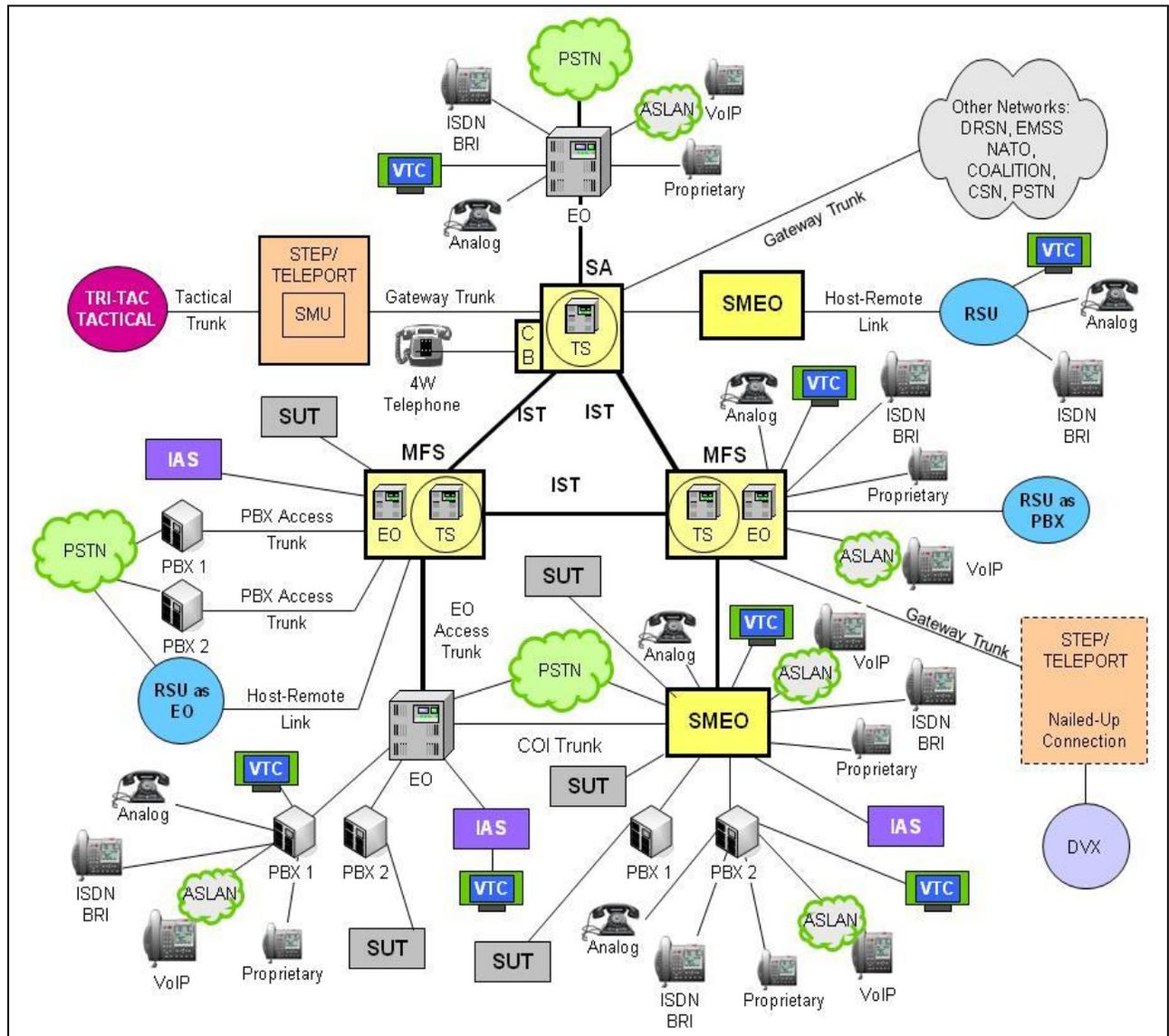
Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

- (c) Office of the Assistant Secretary of Defense, “Department of Defense Unified Capabilities Requirements 2008, Change 3,” September 2011
- (d) Joint Interoperability Test Command, “Defense Switched Network Generic Switch Test Plan (GSTP), Change 2,” 2 October 2006
- (e) Joint Interoperability Test Command, Memo, JTE, “Special Interoperability Test Certification of Avaya S8300D with Gateway 450 (G450) Release Communications Manager (CM) 6.0 (R16x.00.1.510.1) with Service Pack 19211,” 17 April 2012
- (f) Joint Interoperability Test Command, Memo, JTE, “Special Interoperability Test Certification of the Avaya Aura S8800 and Hewlett Packard (HP) DL-360 G7 with Release (Rel.) Communication Manager (CM) 6.0.1 (00.1.510.1 Service Pack 19211),” 2 September 2011
- (g) Joint Interoperability Test Command, “Information Assurance (IA) Assessment of Avaya Aura[®] Call Center (CC) Elite Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform (Tracking Number 1211402),” Draft

CERTIFICATION TESTING SUMMARY

- 1. SYSTEM TITLE.** Avaya Aura® Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Private Branch Exchange (PBX) Platform; hereinafter referred to as the System Under Test (SUT).
- 2. SPONSOR.** Headquarters United States Army Information Systems Engineering Command (HQUSAISEC), Mr. Steven D. Pursell, USAISEC ELIE-ISE-ES, Building 53301, Fort Huachuca, Arizona 85613, e-mail: steven.d.pursell.civ@mail.mil.
- 3. SYSTEM POC.** Ms. Nakia Brice, 12730 Fair Lakes Circle, Fairfax, Virginia 22033, e-mail: nakia.brice@avayagov.com.
- 4. TESTER.** Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.
- 5. SYSTEM UNDER TEST DESCRIPTION.** The SUT is an Automatic Call Distribution (ACD) application on the S8300D server and Gateway 450 (G450) Communications Manager (CM) Rel. 6.0 PBX platform. The SUT is a communication server software feature that processes high-volume incoming, outgoing, and internal calls and distributes them to groups of extensions called hunt groups or splits. The communication server also sends information about the operation of the ACD to the Call Management System (CMS), which stores and formats the data and produces real-time and historical reports on ACD activity. The ACD is used by a call center to route incoming calls to specifically assigned splits/skills and agents and allows a system administrator to create an efficient call management environment. This administrator can add or remove splits/skills from the system, add or remove announcements, add or remove agents, add trunk groups and route calls to the appropriate splits/skills. The administrator can also specify ACD measurement criteria and use an optional CMS package to provide reports on ACD efficiency.
- 6. OPERATIONAL ARCHITECTURE.** The Unified Capabilities Requirements (UCR) Defense Information System Network (DISN) architecture in Figure 2-1 depicts the relationship of the SUT to the DISN switches.



LEGEND:

- | | | | |
|-------|-------------------------------------|---------|---|
| 4W | 4-Wire | NATO | North Atlantic Treaty Organization |
| ASLAN | Assured Services Local Area Network | PBX | Private Branch Exchange |
| BRI | Basic Rate Interface | PBX 1 | Private Branch Exchange 1 |
| CB | Channel Bank | PBX 2 | Private Branch Exchange 2 |
| COI | Community of Interest | PSTN | Public Switched Telephone Network |
| CSN | Canadian Switch Network | RSU | Remote Switching Unit |
| DISN | Defense Information System Network | SA | Standalone |
| DRSN | Defense Red Switch Network | SMEO | Small End Office |
| DSN | Defense Switched Network | SMU | Switched Multiplex Unit |
| DVX | Deployable Voice Exchange | STEP | Standardized Tactical Entry Point |
| EMSS | Enhanced Mobile Satellite System | SUT | System Under Test |
| EO | End Office | Tri-Tac | Tri-Service Tactical Communications Program |
| IAS | Integrated Access Switch | TS | Tandem Switch |
| ISDN | Integrated Services Digital Network | VoIP | Voice over Internet Protocol |
| IST | Interswitch Trunk | VTC | Video Teleconferencing |
| MFS | Multifunction Switch | | |

Figure 2-1. DISN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from the UCR Interface and Functional Requirements (FRs) and verified through JITC testing and review of vendor’s Letters of Compliance (LoC).

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Status	UCR Paragraph
T1/E1 CAS (DTMF, MFR1, DP)	No ¹	Yes ²	MLPP in accordance with requirements listed in Section 5.3.2.31.3. (C)	Met	5.2.1.2(1)
T1 ISDN PRI NI 1/2 (ANSI T1.619a)			FCC Part 15/Part 68 and ACTA. (R)	Met	5.2.1.2(2)
2-Wire Analog Loop Start (GR-506-CORE)			Auto Answer mode settable to more than the equivalency of 4 ROUTINE rings. (C)	Not Tested ³	5.2.1.2(3)
ISDN BRI NI 1/2 (ANSI T1.619a)			MLPP precedence call alerting. (C)	Not Tested ³	5.2.1.2(4)
2-Wire Proprietary Digital			DTMF Outpulsing in accordance with GR-506-CORE (Analog only). (C)	Met	5.2.1.2(5)
VoIP (Ethernet IEEE 802.3u)			If Configuration Management and/or Fault Management are/is provided by the CPE device so that it can be managed by the ADIMSS or other management systems, then the management information shall be provided by one or more serial or Ethernet interfaces. (C)	Not Tested ³	5.2.1.2(8)
			Calls above ROUTINE placed to the SUT shall divert to a designated Directory Number. (R)	Met	5.3.2.2.2.1.2.5
			If CPE has an IP interface, the CPE must be IPv6-capable. Use guidance in Table 5.3.5-4 for NA/SS. (R)	Partially Met ⁴	5.3.5
	Yes	Yes	Security (R)	Met ⁵	5.4

NOTES:

1. The ACD requirements can be met via one of the following interfaces: 2-Wire Analog, 2-Wire Digital, 4-Wire Digital, PCM-24, PCM-30, or IP.
2. The SUT is certified with any switching system on the UC APL which offers the same certified interface.
3. This feature is conditional for a CPE and is not supported by the SUT.
4. All Dual Stack IP End Instruments fail to meet VoIP System Latency requirements when IPv6 is Preferred. This was adjudicated by DISA for Reference (e) as minor with the vendor’s POA&M to fix this anomaly by 9 August 2012.
5. Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (g).

Table 2-1. SUT Functional Requirements and Interoperability Status (continued)

LEGEND:			
802.3u	Standard for carrier sense multiple access with collision detection at 100 Mbps	IPv6	Internet Protocol version 6
ACD	Automatic Call Distribution	ISDN	Integrated Services Digital Network
ADIMSS	Advanced Defense Switched Network	LSSGR	Local Access and Transport Area (LATA) Switching Systems Generic Requirements
	Integrated Management Support System	Mbps	Megabits per second
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BRI	Basic Rate Interface	NI 1/2	National ISDN 1 or 2
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CAS	Channel Associated Signaling	PCM-30	Pulse Code Modulation - 30 Channels
CPE	Customer Premise Equipment	POA&M	Plan of Actions and Milestones
DISA	Defense Information Systems Agency	PRI	Primary Rate Interface
DP	Dial Pulse	R	Required
DTMF	Dual Tone Multi-Frequency	SUT	System Under Test
E1	European Basic Multiplex Rate (2.048 Mbps)	T1	Digital Transmission Link Level 1 (1.544 Mbps)
FCC	Federal Communications Commission	T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
GR	Generic Requirement	UC	Unified Capabilities
GR-506-CORE	LSSGR: Signaling for Analog Interfaces	UCR	Unified Capabilities Requirements
IEEE	Institute of Electrical and Electronics Engineers	VoIP	Voice over Internet Protocol
IP	Internet Protocol		

8. TEST NETWORK DESCRIPTION. The SUT was tested at JITC's Global Information Grid Network Test Facility in a manner and configuration similar to that of the DISN operational environment. Testing the system's required functions and features was conducted using the test configurations depicted in Figure 2-2.

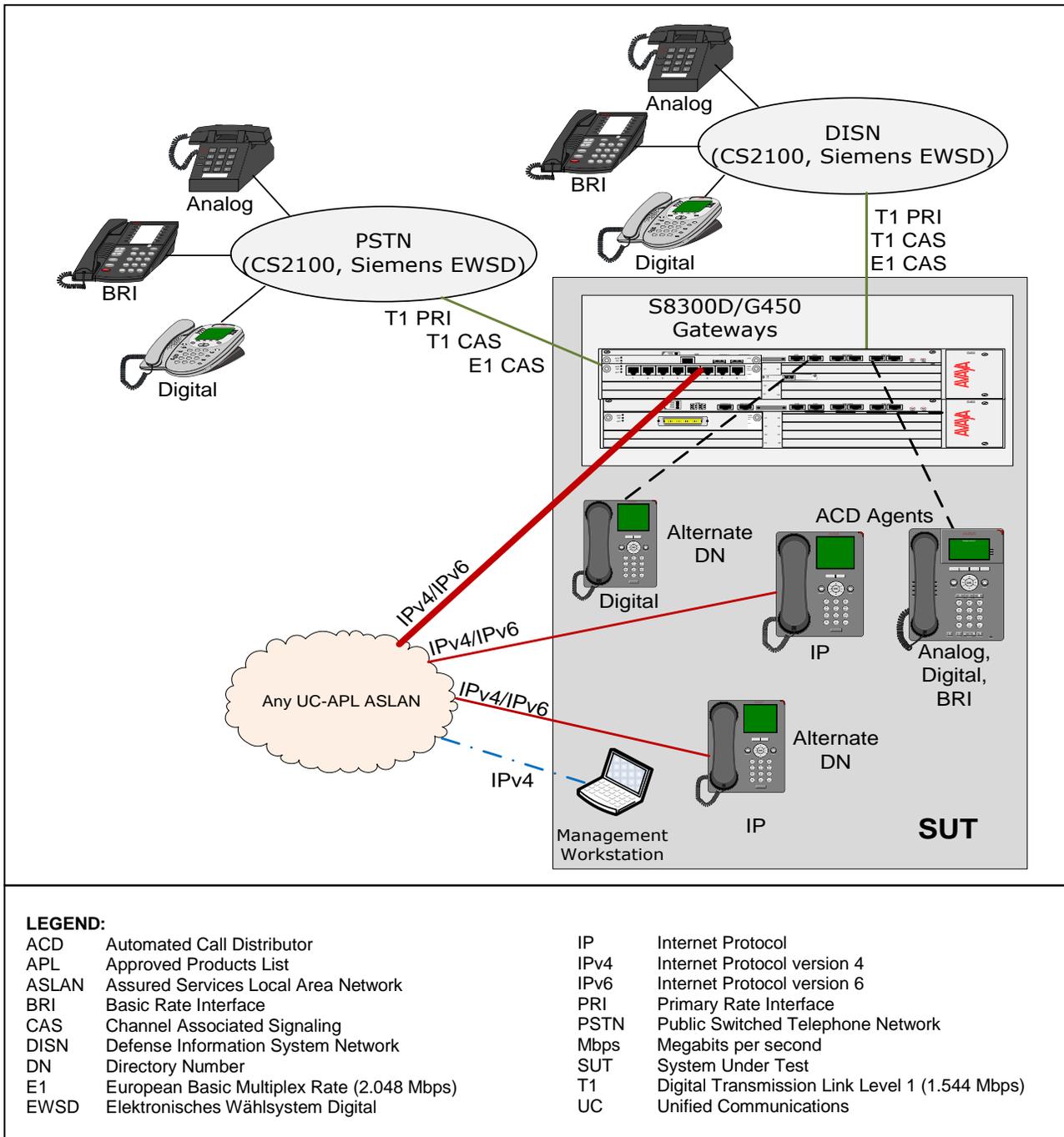


Figure 2-2. SUT Test Configuration

9. TESTED SYSTEM CONFIGURATION. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in Table 2-2. Table 2-2 lists the DSN switches which depict the tested configuration and is not intended to identify the only switches that are certified with the SUT. The SUT is certified with switching systems listed on the

Unified Capabilities (UC) Approved Products List (APL) that offer the same certified interfaces.

Table 2-2. Tested System Configurations

System Name		Software Release																																													
Siemens EWSD		Release 19d with Patch Set 46																																													
Avaya CS2100		SE09.1																																													
SUT	Component	Hardware/Software Release																																													
Avaya CC Elite Release 6 for the PBX platform: Aura® Communication Manager Release 6.0 (R16x.00.1.510.1) with Service Pack 19211	Management Workstation (Site-provided)	Windows XP SP3	ASA 6.0.07																																												
			Symantec Anti-Virus 15.5.0.23																																												
	S8300D w/G450 VxWorks 6.8 FW31.17.2	S8300D ICC/LSP Processor	Firmware C V2																																												
			Communications Manager 4.0.2-732																																												
			Red Hat Linux Enterprise Server 5.5 4-2.6.11																																												
			Apache Web Server 2.2.3																																												
			MM711 Analog Media Module	VH 27																																											
			MM710/ E1/T1 Media Module	VH 11																																											
			MM710B E1/T1 Media Module	VH 11																																											
			MM720 BRI Media Module (See note.)	VH 7																																											
MM717 DCP Media Module	VH 27																																														
MM716 Analog Media Module	VH 27																																														
MM712 DCP Media Module	VH 27																																														
MM710B/ E1/T1 Media Module	V 11																																														
SUT Telephone Instruments																																															
Telephone type	Model (s)	Software/Firmware																																													
ISDN BRI	Avaya 8510T	N/A																																													
ISDN BRI	8810U and 8810T	Release 02.07.22																																													
Digital Proprietary	6402D, 2420, 6408D, 6416D+M, 6402	N/A																																													
IP	9608	S9608_11HALBR6_0_20Sr03_V452																																													
IP	9611	S9608_11HALBR6_0_20Sr03_V452																																													
IP	9620 (IPv4 only)	Ha 96XXr3_171bs.bin																																													
IP	9621	S9621_41HALBR6_0_20Sr03_V452																																													
IP	9641	S9621_41HALBR6_0_20Sr03_V452																																													
<p>NOTE: The MM720 was tested; however, it is an End of Life Product. The MM721, which has been designated by Avaya as the replacement, has similar hardware and the same firmware. JITC analysis determined it to be functionally identical for interoperability certification purposes.</p> <p>LEGEND:</p> <table> <tr> <td>ACD</td> <td>Automatic Call Distribution</td> <td>JITC</td> <td>Joint Interoperability Test Command</td> </tr> <tr> <td>CC</td> <td>Call Center</td> <td>LSP</td> <td>Local Survivable Processor</td> </tr> <tr> <td>E1</td> <td>European Basic Multiplex Rate (2.048 Mbps)</td> <td>Mbps</td> <td>Megabits per second</td> </tr> <tr> <td>EWSD</td> <td>Elektronisches Wählsystem Digital</td> <td>N/A</td> <td>Not Applicable</td> </tr> <tr> <td>ICC</td> <td>Integrated Call Control</td> <td>PBX</td> <td>Private Branch Exchange</td> </tr> <tr> <td>IE</td> <td>Internet Explorer</td> <td>R</td> <td>Release</td> </tr> <tr> <td>IIS</td> <td>Internet Information Server</td> <td>SP</td> <td>Service Pack</td> </tr> <tr> <td>IP</td> <td>Internet Protocol</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>IPv4</td> <td>Internet Protocol version 4</td> <td>T1</td> <td>Digital Transmission Link Level 1 (1.544 Mbps)</td> </tr> <tr> <td>ISDN</td> <td>Integrated Services Digital Network</td> <td>v</td> <td>Version</td> </tr> <tr> <td></td> <td></td> <td>XP</td> <td>Experience</td> </tr> </table>				ACD	Automatic Call Distribution	JITC	Joint Interoperability Test Command	CC	Call Center	LSP	Local Survivable Processor	E1	European Basic Multiplex Rate (2.048 Mbps)	Mbps	Megabits per second	EWSD	Elektronisches Wählsystem Digital	N/A	Not Applicable	ICC	Integrated Call Control	PBX	Private Branch Exchange	IE	Internet Explorer	R	Release	IIS	Internet Information Server	SP	Service Pack	IP	Internet Protocol	SUT	System Under Test	IPv4	Internet Protocol version 4	T1	Digital Transmission Link Level 1 (1.544 Mbps)	ISDN	Integrated Services Digital Network	v	Version			XP	Experience
ACD	Automatic Call Distribution	JITC	Joint Interoperability Test Command																																												
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ICC	Integrated Call Control	PBX	Private Branch Exchange																																												
IE	Internet Explorer	R	Release																																												
IIS	Internet Information Server	SP	Service Pack																																												
IP	Internet Protocol	SUT	System Under Test																																												
IPv4	Internet Protocol version 4	T1	Digital Transmission Link Level 1 (1.544 Mbps)																																												
ISDN	Integrated Services Digital Network	v	Version																																												
		XP	Experience																																												

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion. The SUT met all critical CRs and FRs for the Digital Transmission Link Level 1 (T1) Integrated Services Digital Network (ISDN) Primary Rate Interface

(PRI) National ISDN Standard 1 or 2 (NI 1/2) (American National Standards Institute (ANSI) T1.619a), T1 Channel Associated Signaling (CAS), and European Basic Multiplex Rate (E1) CAS trunk interfaces. The SUT met all critical interoperability certification requirements for 2-Wire Loop Start Analog (GR-506-CORE), 2-Wire Proprietary Digital, ISDN Basic Rate Interface (BRI), and Voice over Internet Protocol (VoIP) DISN line interfaces.

(1) The UCR 2008, Change 3, paragraph 5.2.1.2(1), states that all Customer Premise Equipment (CPE) devices that support Multilevel Precedence and Preemption (MLPP) shall do so in accordance with the requirements listed in Section 5.3.2.31.3, and shall not affect the Defense Switched Network (DSN) interface features and functions associated with line supervision and control. The SUT as a CPE ACD is required to divert all precedence calls above ROUTINE placed to the ACD to a designated directory number (DN) in accordance with UCR 2008, Change 3, paragraph 5.3.2.2.1.2.5. The SUT met this requirement with testing by routing all calls above ROUTINE to an alternate DN.

(2) The UCR 2008, Change 3, paragraph 5.2.1.2(2), states that all DSN CPE, as a minimum, must meet the requirements of Part 15 and Part 68 of the Federal Communications Commission (FCC) Rules and Regulations and the Administrative Council for Terminal Attachments (ACTA). The SUT met this requirement with the vendor's LoC.

(3) The UCR 2008, Change 3, paragraph 5.2.1.2(3), states that a device(s) that supports autoanswer shall have an autoanswer mode feature allowing the autoanswer mode to be set to a time more than the equivalency of four ROUTINE precedence ring intervals in accordance with Section 5.3.2.31.3, before answer supervision is provided. This is a conditional requirement and is not supported by the SUT.

(4) The UCR 2008, Change 3, paragraph 5.2.1.2(4), states that devices that are required to support precedence calls above ROUTINE precedence, shall respond properly to an incoming alerting (ringing) precedence call cadence as described in UCR, section 5.3.2.6.1.1.1. This is a conditional requirement and is not supported by the SUT. The SUT diverts all calls above ROUTINE to a designated DN.

(5) The UCR 2008, Change 3, paragraph 5.2.1.2(5), states that a device(s) that can "out dial" Dual Tone Multi-Frequency (DTMF) and/or Dial Pulse digits (automatic and/or manual) shall comply with the requirements as specified in Telcordia Technologies GR-506-CORE, *LSSGR: Signaling for Analog Interfaces*, Issue 1, June 1996, paragraph 10 and be capable of outpulsing and interpretation of DTMF digits on outgoing or two-way trunks as specified in Telcordia Technologies GR-506-CORE, *LSSGR: Signaling for Analog Interfaces*, Issue 1, June 1996, paragraph 15, and Table 5.2.1.2-1. This requirement was met with testing and the vendor's LoC.

(6) The UCR 2008, Change 3, paragraph 5.2.1.2(8), states that if Configuration Management and/or Fault Management are/is provided by the CPE device so that it can

be managed by the Advanced DSN Integrated Management Support System (ADIMSS) or other management systems, then the management information shall be provided by one or more of the following serial or Ethernet interfaces:

(a) Serial interfaces shall be in accordance with one of the following standards:

- International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) Recommendation V.35
- Telecommunications Industry Association (TIA-232-F)
- Electronic Industries Alliance (EIA)-449-1
- TIA-530-A

(b) Ethernet interfaces shall be in accordance with IEEE 802.3-2002.

Configuration Management and/or Fault Management are conditional requirements and are not provided by the SUT.

(7) Internet Protocol version 6 (IPv6). The UCR 2008, Change 3, section 5.3.5, states that if CPE has an Internet Protocol (IP) interface, the CPE must be IPv6-capable in accordance with the guidance in Table 5.3.5-4 for Network Appliances and Simple Servers. The SUT met all IPv6 requirements through testing and the vendor's LoC with the following minor exception. All Dual Stack IP End Instruments fail to meet VoIP System Latency requirements when IPv6 is Preferred. This was adjudicated by DISA for Reference (e) as minor with the vendor's Plan of Actions and Milestones to fix this anomaly by 9 August 2012.

(8) Security is tested and met by DISA-led Information Assurance test teams and is published in a separate report, Reference (g).

b. Test Summary. The SUT met the interface and functional requirements for a CPE ACD as set forth in Reference (c) and is certified for joint use within the DISN, with any switching system on the UC APL which offers the same certified interfaces.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: disa.meade.ns.list.unified-capabilities-certification-office@mail.mil.