



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 Local Session Controller (LSC) or Small End Office (SMEO) Platforms

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 (f), 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. 6.0.1 LSC and SMEO platforms. 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 6.0.1 LSC or SMEO. Additionally, the SUT was tested on the S8800 server. JITC analysis determined the Hewlett Packard (HP) DL360-G7, Dell R610, and Core Systems M223 servers are functionally identical to the S8800 server. Therefore, they are also certified for joint use as server platforms for the SUT. 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 21 May 2014, which is three years from the date of the UC APL memorandum for the Aura CM Rel. 6.0.1.

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 including ACD functionality was conducted by JITC, Fort Huachuca, Arizona, from 2 August through 17 September 2010 and

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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 Reference (e). Review of the vendor’s LoC was completed on 20 May 2012. The DISA CA provided a positive Recommendation on 20 July 2012 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (f). 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) | Met | 5.3.5 |
| | Yes | Yes | Security (R) | Met ⁴ | 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. Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (f). | | | | | |

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

| LEGEND: | | | |
|----------------|---|---------|---|
| 802.3u | Standard for carrier sense multiple access with collision detection at 100 Mbps | IP | Internet Protocol |
| ACD | Automatic Call Distribution | IPv6 | Internet Protocol version 6 |
| ACTA | Administrative Council for Terminal Attachments | ISDN | Integrated Services Digital Network |
| ADIMSS | Advanced Defense Switched Network Integrated Management Support System | LSSGR | Local Access and Transport Area (LATA) Switching Systems Generic Requirements |
| ANSI | American National Standards Institute | Mbps | Megabits per second |
| APL | Approved Products List | MFR1 | Multi-Frequency Recommendation 1 |
| BRI | Basic Rate Interface | MLPP | Multi-Level Precedence and Preemption |
| C | Conditional | NA/SS | Network Appliances and Simple Servers |
| CAS | Channel Associated Signaling | NI 1/2 | National ISDN 1 or 2 |
| CPE | Customer Premise Equipment | PCM-24 | Pulse Code Modulation - 24 Channels |
| DISA | Defense Information Systems Agency | PCM-30 | Pulse Code Modulation - 30 Channels |
| 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 |
| | | 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 1211401.

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 Local Session Controller (LSC) or Small End Office (SMEO) Platforms

Distribution (electronic mail):

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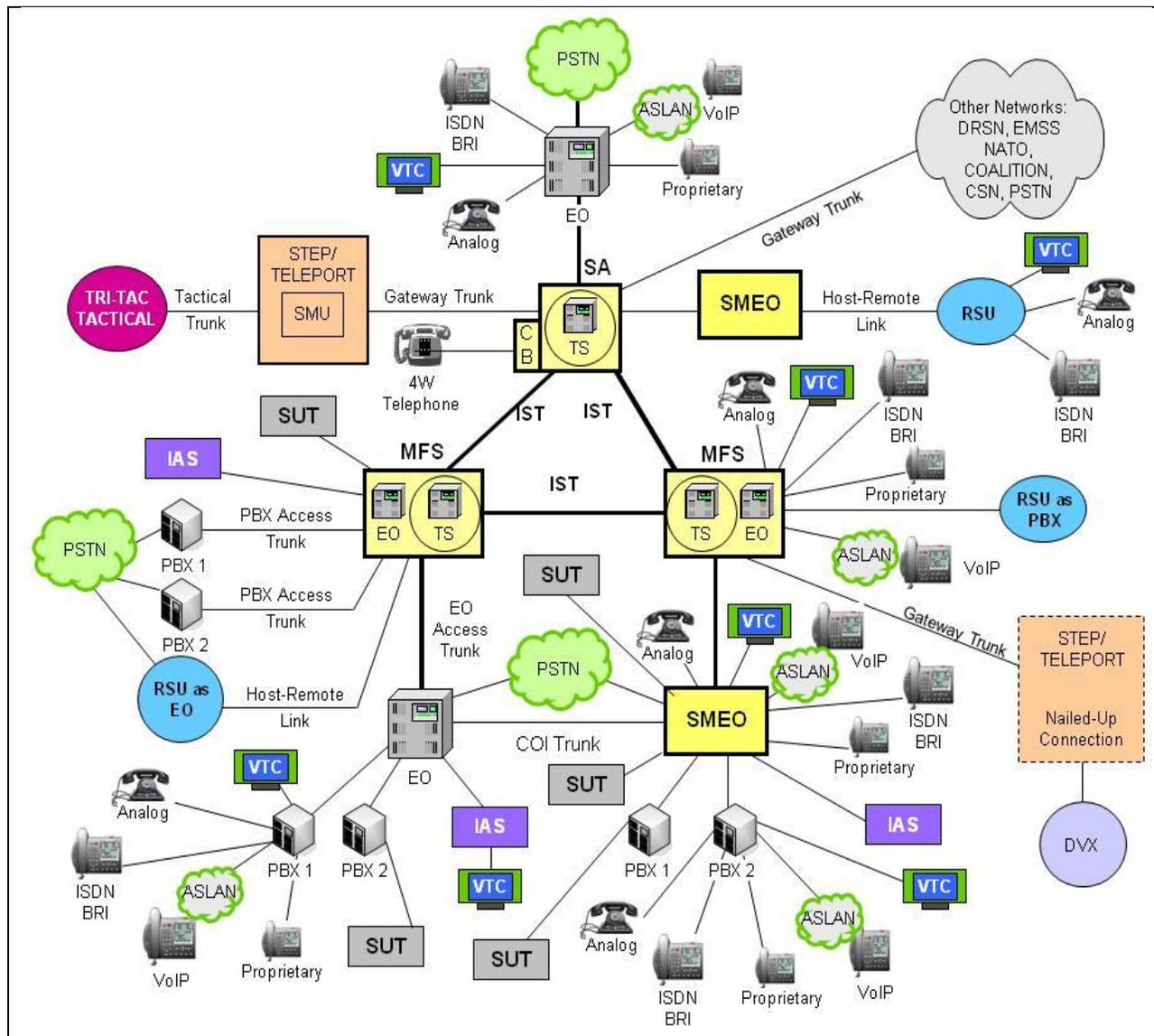
Defense Information Systems Agency, GS23

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 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
- (f) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Avaya Aura[®] Call Center (CC) Elite Release (Rel.) 6.0 for specified Local Session Controller/Small End Office (LSC/SMEO) Platforms (Tracking Number 1211401)," Draft

CERTIFICATION TESTING SUMMARY

- 1. SYSTEM TITLE.** Avaya Aura[®] Call Center (CC) Elite with Software Release (Rel.) 6.0 for specified Local Session Controller (LSC) or Small End Office (SMEO) Platforms; 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 Avaya Aura Communications Manager (CM) Rel. 6.0.1 LSC and SMEO platforms. 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) | Met | 5.3.5 |
| | Yes | Yes | Security (R) | Met ⁴ | 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. Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (f).

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 | IP | Internet Protocol |
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| ACTA | Administrative Council for Terminal Attachments | ISDN | Integrated Services Digital Network |
| ADIMSS | Advanced Defense Switched Network Integrated Management Support System | LSSGR | Local Access and Transport Area (LATA) Switching Systems Generic Requirements |
| ANSI | American National Standards Institute | Mbps | Megabits per second |
| APL | Approved Products List | MFR1 | Multi-Frequency Recommendation 1 |
| BRI | Basic Rate Interface | MLPP | Multi-Level Precedence and Preemption |
| C | Conditional | NA/SS | Network Appliances and Simple Servers |
| CAS | Channel Associated Signaling | NI 1/2 | National ISDN 1 or 2 |
| CPE | Customer Premise Equipment | PCM-24 | Pulse Code Modulation - 24 Channels |
| DISA | Defense Information Systems Agency | PCM-30 | Pulse Code Modulation - 30 Channels |
| 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-CORELSSGR | Signaling for Analog Interfaces | UC | Unified Capabilities |
| IEEE | Institute of Electrical and Electronics Engineers | UCR | Unified Capabilities Requirements |
| | | VoIP | Voice over 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.

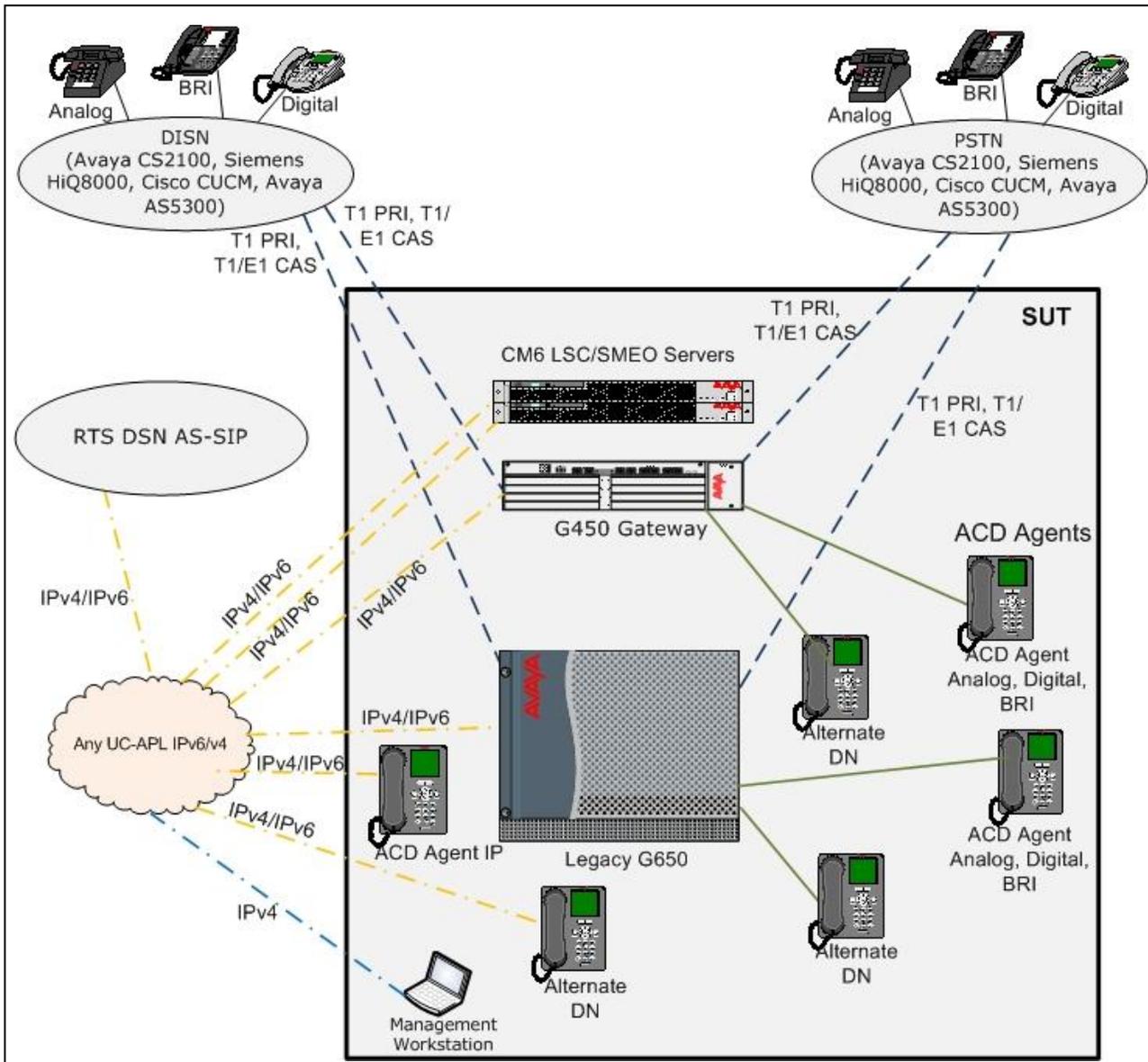


Figure 2-2. SUT Test Configuration

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 | | | |
|---|---|--|---|-------------------|--------|
| Avaya CS2100 w/ AS5300 (MFSS) | | CS2100 Release SE09.1 w/AS5300 Release 2.0 (Patch Bulletin 12) | | | |
| Avaya AS5300 (LSC) | | AS5300 Release 2.0 (Patch Bulletin 12) | | | |
| Cisco Unified Communications Manager (LSC) | | 8.0 (2) with Gateway IOS 15.1.(1)T | | | |
| Nokia Siemens Networks HiQ8000 | | Software Release 13.90.02.10 Patch Set (PS) 14, Patch (P) 102 | | | |
| Component | Hardware | Component | OS/Software | Firmware/Software | |
| SUT | CMM (IPv4 & IPv6) | Core | CentOS | 5.4 | |
| | | Virtual Controller | XEN Hypervisor | 3.4.2 | |
| | | Virtual Machine | CDOM CentOS | 5.4 | |
| | | | Tomcat | 6.0.29 | |
| | | Virtual Machine | CMM Redhat Linux | 5.3 | |
| | | | Apache | 2.2.3 | |
| | | Avaya S8800 ¹ CM SVR-1 (IPv4 & IPv6) | Core | CentOS | 5.4 |
| | | | Virtual Controller | XEN Hypervisor | 3.4.2 |
| | | | Virtual Machine | CDOM CentOS | 5.4 |
| | | | | Tomcat | 6.0.29 |
| | Virtual Machine | | Redhat Linux | 5.3 | |
| | G450-1 (IPv4 and IPv6) | MM710 | VxWorks 6.8 Firmware g450_sw_31_17_2 | HW11, FW050 | |
| | | MM712 | | HW07, FW011 | |
| | | MM716 | | HW06, FW094 | |
| | | MM720 | | HW06, FW08 | |
| | | MM721 | | HW101, FW01 | |
| | | MM711 | | HW33, FW094 | |
| | | MM717 | | HW11, FW05 | |
| | | MM717 | | HW05, FW011 | |
| | G650-1 (IPv4 Only) ³ | TN2312BP | N/A | HW36, FW050 | |
| | | TN799DP | | HW16, FW037 | |
| | | TN793CP | | HW17, FW010 | |
| | | TN2224CP | | HW11, FW05 | |
| | | TN2602AP | | HW28, FW054 | |
| | | TN464HP | | HW04, FW019 | |
| | | TN464HP | | HW13, FW024 | |
| | | TN2198BP | | HW3, FW01 | |
| | Avaya Site Administration-1 (IPv4 Only) | Site-provided PC | Windows XP SP3 or Vista SP2 | | |
| | | | Avaya Site Administration | 4.0 | |
| | | | Version | 4.0.12 | |
| | IP Agent-2 (IPv4 Only) | Site-provided PC | Windows XP SP3 or Vista SP2 | | |
| | | | Avaya One-X Communicator | R5.2300-SP3-22584 | |
| Product Version | | | 5.2.0.8 | | |
| Signaling Protocol | | | H.323 | | |
| .NET | | | 3.5 SP1 | | |
| Avaya CC Elite Release 6 for the LSC/SMEO platforms: Aura [®] Communication Manager Release 6.0.1 (00.1.510.1 Service Pack 19211) | | | | | |

Table 2-2. SUT Tested System Configurations (continued)

| Telephones | | | |
|---|----------------------------|--|-------------------------------|
| Interface Type | Model | Firmware | |
| SUT | ITU-T H.323 IPv4 & IPv6 | 9641, 9621 | S9621_41HALBR6_0_16T_V452.var |
| | ITU-T H.323 IPv4 & IPv6 | 9608, 9611 | S9608_11HALBR6_0_16T_V452.var |
| | ITU-T H.323 IPv4 & IPv6 | 9610, 9620, 9620L, 9620C, 9630, 9640, 9650 | ha96xxua3_0_21r02St.bin |
| | 2-Wire Analog | Panasonic KX-TS15-W | NA |
| | 2-Wire Digital Proprietary | 6402D, 2420, 6408D, 6416D+M, 6402, 8410D | NA |
| | Attendant Console | 302C | NA |
| | ISDN BRI | Avaya 8510T | NA |
| Tone Commander phones : 6210U, 6210T, 6220U, 6220T, and 6220T TSG | | 01.07.22 | |

NOTES:

- The SUT was tested with the Avaya S8800 Core server. JITC analysis determined that the Hewlett Packard DL-360 G7, Dell R610, and Core Systems M223 servers are functionally identical to the tested S8800 server and that past JITC experience with functionally identical hardware present minimal risk to interoperability. Therefore, they are also certified for joint use as platforms for the SUT.
- The SUT G650 gateways are IPv4 only. The G450 gateways provided IPv4 to IPv6 intra- and inter-switch translations between dual stack phones and components and non-IPv6 components.

LEGEND:

| | | | |
|-------|---|------|--------------------------|
| CM | Communication Manager | LSC | Local Session Controller |
| CMM | Communication Manager Messenger | MM | Media Module |
| FW | Firmware | OS | Operating System |
| G | Gateway | PC | Personal Computer |
| HW | Hardware | SMEO | Small End Office |
| IP | Internet Protocol | SP | Service Pack |
| ITU-T | International Telecommunication Union - Telecommunication Standardization Sector | SUT | System Under Test |
| JITC | Joint Interoperability Test Command | Surv | Survivability |
| | | SVR | Server |

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.

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

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/tssj>. 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.