



DEFENSE INFORMATION SYSTEMS AGENCY

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

21 May 13

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Avaya Aura® Application Server (AS) 5300 Wide Area Network (WAN) Softswitch (SS), Version 2.0 (with specified patch releases) from Patch Bundle 23 to Patch Bundle 28

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. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.
2. The Avaya Aura® AS 5300, Version 2.0 (with specified patch releases), hereinafter referred to as the System Under Test (SUT) was originally certified as a WAN SS (TN 1031901), Reference (c). The vendor submitted a Desktop Review (DTR) to update the SUT software from Patch Bundle 23 to Patch Bundle 28 to resolve interoperability issues that were identified in the operational environment. Patch Bundle 28 is a rollup of all the fixes in Patch Bundles 24, 25, 26, 27, and 28. JITC conducted testing using product requirements derived from the Unified Capabilities Requirements (UCR), Reference (d) and test procedures, Reference (e). The SUT's certification status will be evaluated during operational deployment. Any new discrepancy noted in the operational environment will be evaluated for impact on the existing certification. These discrepancies will be adjudicated to the satisfaction of Defense Information Systems Agency (DISA) via a vendor Plan of Action & Milestones (PoAM), which will address all new critical Test Discrepancy Reports (TDRs) within 120 days of identification. JITC does not certify any other configurations, features, or functions, except those cited in this memorandum. This certification expires upon changes that affect interoperability, but no later than three years from 19 April 2011, which is the date the SUT was posted on the Unified Capabilities (UC) Approved Products List (APL).
3. JITC approves the extension of this certification for DTR 8 submitted to add Patch Bundle 28. All the interoperability fixes in Patch Bundle 28 were regression tested by JITC, Fort Huachuca, Arizona, from 15 through 18 January 2013. Release notes for the Patch Bundles can be found on the Approved Products List Integrated Tracking System (APLITS). As decided as part of the TDR adjudication, the SUT will be retired from the UC APL immediately after the UC APL memorandum including Patch Bundle 28 is posted.

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JITC determined this DTR would require interoperability and Information Assurance (IA) Verification and Validation (V&V) testing. JITC conducted DTR testing from 15 through 18 January 2013. There were no new interoperability discrepancies found during testing for this DTR. The six interoperability discrepancies mentioned in the subparagraphs below were closed as a result of this V&V test.

- a. The SUT softphones on Microsoft Vista and Windows 7 platforms did not properly support Differentiated Services Code Point (DSCP) tagging.
- b. The SUT to Avaya Media Application Server (MAS) video calls did not complete.
- c. Any interswitch attended call transfers failed with the SUT transferring the call.
- d. All call features (transfer, conference, three-way call, etc) involving an Internet Protocol version 6 (IPv6) preferred End Instrument (EI) experienced one-way audio (no receive) at the IPv6 preferred EI for approximately 20-30 seconds at the IPv6 EI after the called party answers.
- e. There was only one-way audio after a call was transferred from an analog EI to an Internet Protocol (IP) EI on the SUT.
- f. The SUT did not properly failover to the secondary Provisional Server (PROV) when the Transport Layer Security (TLS) was lost between the primary PROV and MAS, which caused intermittent call failures.

The DISA CA provided a positive recommendation for these DTRs on 16 April 2013, based on the security testing completed DISA-led IA test teams and published in a separate report, Reference (f). Therefore, JITC approves this DTR.

4. Table 1 depicts the SUT summary. Table 2 lists the interface status of the SUT. Table 3 lists the Capability Requirements (CR) and Functional Requirements (FR), and component status of the SUT. The threshold CR and FR for LSCs are established by Sections 5.3.2, 5.3.4, 5.3.5, and 5.4 of Reference (d) and were used to evaluate the interoperability of the SUT.

Table 1. Tested System Configurations

| SUT Softswitch | | |
|-----------------------|--|--------------------------|
| Avaya AS 5300 | AS 5300 Release 2.0 with Patch Bundle 28 Load: MCP_13.0.0.0_2010-05-05-2108 Patch: MCP_13.0.0.28_2012-11-21-1436 | |
| SUT Components | | |
| Switch Expert | | |
| Part Number | Part Description | Firmware/Software |
| NTVW02DP | AS 5300 R2.0 Switch Expert MFSS Software CD | Version 7.0, Build 360 |
| NTVW02DQ | AS 5300 R2.0 Switch Expert Small Package Software CD | Version 7.0, Build 360 |
| NTVW02DN | AS 5300 Release 2.0 Switch Expert MFSS Package | Version 7.0, Build 360 |
| NTVW02DO | AS 5300 Release 2.0 Switch Expert Small Package | Version 7.0, Build 360 |

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Table 1. Tested System Configurations (continued)

| SIP Core OAM&P | | |
|------------------------------------|---|--|
| Part Number | Part Description | Firmware/Software |
| NTVW02AD | AS 5300 Release 2.0 SIP Core New System Software Package | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 Oracle version: 10.2.0.4.0, patch level 28 |
| NTVW02AF | AS 5300 R1.0 to R2.0 Upgrade w/SRS PrePaid | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 Oracle version: 10.2.0.4.0, patch level 28 |
| NTVW02AG | AS 5300 R1.0 to R2.0 Upgrade and Expansions | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 Oracle version: 10.2.0.4.0, patch level 28 |
| NTVW02DE | AS 5300 Release 2.0 OS Software Kit - CDROM and DVD | Version: 13.0.36 |
| NTVW02DD | AS 5300 Release 2.0 Core Apps Software Kit CDROM and DVD | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 Oracle version: 10.2.0.4.0, patch level 28 |
| SIP Core SS Session Manager | | |
| Part Number | Part Description | Firmware/Software |
| NTVW02AD | AS 5300 Release 2.0 SIP Core New System Software Package | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 |
| NTVW02AF | AS 5300 R1.0 to R2.0 Upgrade w/SRS PrePaid | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 |
| NTVW02AG | AS 5300 R1.0 to R2.0 Upgrade and Expansions | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 |
| NTVW02DE | AS 5300 Release 2.0 OS Software Kit - CDROM and DVD | Version: 13.0.36 |
| NTVW02DD | AS 5300 Release 2.0 Core Apps Software Kit CDROM and DVD | Load: MCP_13.0.0.5_2010-10-07-1208 Patch: MCP_13.0.0.28_2012-11-21-1436 |
| Media Application Server | | |
| Part Number | Part Description | Firmware/Software |
| NTVW02AE | AS 5300 Release 2.0 MAS New System Software Package | Version: 6.6.0.99 |
| NTVW02AF | AS 5300 R1.0 to R2.0 Upgrade w/SRS PrePaid | Version: 6.6.0.99 |
| NTVW02AG | AS 5300 R1.0 to R2.0 Upgrade and Expansions | Version: 6.6.0.99 |
| NTVW02DF | AS 5300 R1s 2.0 MAS Base and Applications | Version: 6.6.0.99 |
| NTVW02DE | AS 5300 Release 2.0 OS Software Kit - CDROM and DVD | Version: 13.0.36 |
| Audio Codes M3K Gateway | | |
| Part Number | Part Description | Firmware/Software |
| NTVW02CF | AS 5300 Release 2.0 Audiocodes M3K PRI GW 8 Span Bundle DC | Version: 5.80A.061 |
| NTVW02CG | AS 5300 Release 2.0 Audiocodes M3K PRI GW 8 Span Bundle AC | Version: 5.80A.061 |
| NTVW02CH | AS 5300 Release 2.0 Audiocodes M3K PRI GW 12 Span Bundle DC | Version: 5.80A.061 |
| NTVW02CI | AS 5300 Release 2.0 Audiocodes M3K PRI GW 12 Span Bundle AC | Version: 5.80A.061 |
| NTVW02CJ | AS 5300 Release 2.0 Audiocodes M3K PRI GW 16 Span Bundle DC | Version: 5.80A.061 |
| NTVW02CK | AS 5300 Release 2.0 Audiocodes M3K PRI GW 16 Span Bundle AC | Version: 5.80A.061 |
| NTVW02CL | AS 5300 Release 2.0 Audiocodes M3K PRI GW 42 Span Bundle DC | Version: 5.80A.061 |
| NTVW02CM | AS 5300 Release 2.0 Audiocodes M3K PRI GW 42 Span Bundle AC | Version: 5.80A.061 |
| NTVW02DG | AS 5300 Release 2.0 Audiocodes M3K PRI GW Software CD | Version: 5.80A.061 |
| NTVW02CN | AS 5300 Release 2.0 Audiocodes M3K PRI GW OC3 Bundle DC | Version: 5.80A.061 |
| NTVW02CO | AS 5300 Release 2.0 Audiocodes M3K PRI GW OC3 Bundle AC | Version: 5.80A.061 |
| NTVW02DH | AS 5300 Release 2.0 Audiocodes M3K/6310 PRI GW Software CD | Version: 5.80A.061 |

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Table 1. Tested System Configurations (continued)

| Audiocodes Element Management System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|---|-----------------------|-------|---|----|--------------|----|------------------|-------|-------------------------------|----|-------------------|-----|-----------------------------|-----|------------------------|-----|--------------------|---|---------|-----|---------------------------|-----|-----------------------------|----|---------|-----|------------------------|-----|--------------------------|----|------------|-----|--------------|------|--|-----|--------------------------|-----|-------------------|-----|--------------------------------|----|----------------------|------|-----------------------------|--|--|------|---------------------------|--|--|
| Part Number | Part Description | Firmware/Software | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTVW02AY | AS 5300 Audiocodes EMS Server Package AC | Version: 5.8.96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTVW02AZ | AS 5300 Audiocodes EMS Server Package DC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTVW02DK | AS 5300 Release 2.0 Audiocodes EMS Application SW on Sun Netra T2000 Server with Oracle 9.2 and Solaris 10 and JAVA ES installed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Client Workstations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Device Name | | Firmware/Software | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPE AS 5300 UC Client (previously MMPC Client) | | Version: 7.2.3097_20121120 (See note 1.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Management Workstation | | Customer Provided STIG'd PC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Avaya Aura AS 5300 LSC Software release 2.0 (with specified patch bundle) (See note 2.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Notes:</p> <p>1. The UC client is certified with Windows XP, Vista, and Win7 operation systems</p> <p>2. Refer to the Avaya Aura AS 5300 with software version 2.0 LSC Interoperability Certification Letter and Test Summary Report and associated Desktop Review extensions listed on the UC APL, Reference (g). The Avaya Aura AS 5300 LSC is an optional component of the SUT and the SUT can be purchased with or without the Avaya Aura AS 5300 LSC.</p> <p>LEGEND:</p> <table border="0"> <tr> <td>APL</td> <td>Approved Product List</td> <td>OAM&P</td> <td>Operations, Administration, Maintenance, and Provisioning</td> </tr> <tr> <td>CD</td> <td>Compact Disc</td> <td>OS</td> <td>Operating System</td> </tr> <tr> <td>CDROM</td> <td>Compact Disc Read Only Memory</td> <td>PC</td> <td>Personal Computer</td> </tr> <tr> <td>CPE</td> <td>Customer Provided Equipment</td> <td>PRI</td> <td>Primary Rate Interface</td> </tr> <tr> <td>DVD</td> <td>Digital Video Disc</td> <td>R</td> <td>Release</td> </tr> <tr> <td>EMS</td> <td>Element Management System</td> <td>SIP</td> <td>Session Initiation Protocol</td> </tr> <tr> <td>GW</td> <td>Gateway</td> <td>SRS</td> <td>Seamless Roaming Phase</td> </tr> <tr> <td>LSC</td> <td>Local Session Controller</td> <td>SS</td> <td>Softswitch</td> </tr> <tr> <td>M3K</td> <td>Mediant 3000</td> <td>STIG</td> <td>Security Technical Implementation Guides</td> </tr> <tr> <td>MAS</td> <td>Media Application Server</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>MCP</td> <td>Media Communications Processor</td> <td>UC</td> <td>Unified Capabilities</td> </tr> <tr> <td>MMPC</td> <td>Modular Messaging PC Client</td> <td></td> <td></td> </tr> <tr> <td>MFSS</td> <td>Multi-Function Softswitch</td> <td></td> <td></td> </tr> </table> | | | APL | Approved Product List | OAM&P | Operations, Administration, Maintenance, and Provisioning | CD | Compact Disc | OS | Operating System | CDROM | Compact Disc Read Only Memory | PC | Personal Computer | CPE | Customer Provided Equipment | PRI | Primary Rate Interface | DVD | Digital Video Disc | R | Release | EMS | Element Management System | SIP | Session Initiation Protocol | GW | Gateway | SRS | Seamless Roaming Phase | LSC | Local Session Controller | SS | Softswitch | M3K | Mediant 3000 | STIG | Security Technical Implementation Guides | MAS | Media Application Server | SUT | System Under Test | MCP | Media Communications Processor | UC | Unified Capabilities | MMPC | Modular Messaging PC Client | | | MFSS | Multi-Function Softswitch | | |
| APL | Approved Product List | OAM&P | Operations, Administration, Maintenance, and Provisioning | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CD | Compact Disc | OS | Operating System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CDROM | Compact Disc Read Only Memory | PC | Personal Computer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPE | Customer Provided Equipment | PRI | Primary Rate Interface | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DVD | Digital Video Disc | R | Release | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMS | Element Management System | SIP | Session Initiation Protocol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GW | Gateway | SRS | Seamless Roaming Phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LSC | Local Session Controller | SS | Softswitch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M3K | Mediant 3000 | STIG | Security Technical Implementation Guides | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAS | Media Application Server | SUT | System Under Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCP | Media Communications Processor | UC | Unified Capabilities | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MMPC | Modular Messaging PC Client | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MFSS | Multi-Function Softswitch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table 2. SUT Interface Interoperability Status

| Interface | Critical | UCR Reference | Threshold CR/FR (See note 1.) | Status | Remarks (See note 2.) |
|----------------------------|-----------------|----------------------|--|---------------|---|
| External Interfaces | | | | | |
| 10Base-X | Yes | 5.3.2.4.2 | 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, and 14 | Certified | Met threshold CRs/FRs for IEEE 802.3i and 802.3j for the AS-SIP trunk. |
| 100Base-X | Yes | 5.3.2.4.2 | 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, and 14 | Certified | Met threshold CRs/FRs for IEEE 802.3u for the AS-SIP trunk. |
| 1000Base-X | Yes | 5.3.2.4.2 | 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, and 14 | Certified | Met threshold CRs/FRs for IEEE 802.3z and 802.3ab. Applies to AS-SIP trunk interface. |
| ISDN T1 PRI ANSI T1.619a | Yes | 5.3.2.4.3 | 2, 3, 6, 7, 9, 11, and 14 | Certified | Met threshold CRs/FRs. This interface provides legacy DSN and TELEPORT connectivity. |
| ISDN T1 PRI NI-2 | Yes | 5.3.2.4.3 | 2, 3, 6, 7, 9, 11, and 14 | Certified | Met threshold CRs/FRs. This interface provides PSTN connectivity. |
| E1 PRI ITU-T Q.931 | No | 5.3.2.12.10 | 2, 3, 6, 7, 9, 11, and 14 | Certified | Met threshold CRs/FRs for this interface. This interface provides PSTN connectivity. |
| SONET OC-3 | No | 5.3.2.8.4 | 2, 3, 6, 7, 9, 11, and 14 | Certified | Met threshold CRs/FRs for this interface. |

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Table 2. SUT Interface Interoperability Status (continued)

| Interface | Critical | UCR Reference | Threshold CR/FR (See note 1.) | Status | Remarks (See note 2.) |
|---|--|--------------------------|-------------------------------|--|---|
| NM | | | | | |
| 10Base-X | Yes | 5.3.2.4.4 5.3.2.7.2.8 | 15 | Certified | Met threshold CRs/FRs for this interface. Verified via LoC. |
| 100Base-X | Yes | 5.3.2.4.4 5.3.2.7.2.8 | 15 | Certified | Met threshold CRs/FRs for this interface. Verified via LoC. |
| NOTES: | | | | | |
| 1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 3. These high-level CR/FR requirements refer to a detailed list of requirements provided in Reference (c). | | | | | |
| 2. Detailed information pertaining to open TDRs and associated operational impacts is in Reference (c). | | | | | |
| LEGEND: | | | | | |
| 10Base-X | 10 Mbps Ethernet | | JITC | Joint Interoperability Test Command | |
| 100Base-X | 100 Mbps Ethernet | | LoC | Letter of Compliance | |
| 1000Base-X | 1000 Mbps Ethernet | | Mbps | Megabits per second | |
| 802.3i | 10 Mbps twisted pair media for 10Base-X networks | | MLPP | Multi-Level Precedence and Preemption | |
| 802.3j | 10 Mbps fiber media for 10Base-X networks | | NI-2 | National ISDN Standard 2 | |
| 802.3u | 100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with auto negotiation | | NM | Network Management | |
| ANSI | American National Standards Institute | | OC-3 | Optical Carrier Level 3 (155 Mbps) | |
| APL | Approved Products List | | PRI | Primary Rate Interface | |
| AS-SIP | Assured Services Session Initiation Protocol | | PSTN | Public Switched Telephone Network | |
| CAS | Channel Associated Signaling | | Q.931 | Signaling Standard for ISDN | |
| CCS7 | Common Channel Signaling Number 7 | | Q.955.3 | ISDN Signaling Standard for E1 MLPP | |
| CR | Capability Requirement | | SONET | Synchronous Optical Network | |
| DSN | Defense Switched Network | | SS | Softswitch | |
| E1 | European Basic Multiplex Rate (2.048 Mbps) | | SS7 | Signaling System 7 | |
| FR | Functional Requirement | | SUT | System Under Test | |
| ID | Identification | | T1 | Digital Transmission Link Level 1 (1.544 Mbps) | |
| IEEE | Institute of Electrical and Electronics Engineers | | T1.619a | SS7 and ISDN MLPP Signaling Standard for T1 | |
| ISDN | Integrated Services Digital Network | | TDR | Test Discrepancy Reports | |
| ITU-T | International Telecommunication Union – Telecommunication Standardization Sector | | UC | Unified Capabilities | |
| | | | UCR | Unified Capabilities Requirements | |
| | | | WAN | Wide Area Network | |

Table 3. SUT CR and FR Status

| CR/FR ID | Capability/Function | Applicability (See note 1.) | UCR Reference | Status |
|----------|---|-----------------------------|-----------------|------------------------------------|
| 1 | Assured Services Product Features and Capabilities | | | |
| | DSCP Packet Marking | Required | 5.3.2.2.1.4 | Met |
| | Voice Features and Capabilities | Required | 5.3.2.2.2.1 | Partially Met (See notes 2 and 3.) |
| | Public Safety Features | Required | 5.3.2.2.2.2 | Met |
| | ASAC Voice | Required | 5.3.2.2.2.3.1.2 | Met |
| | ASAC Video | Required | 5.3.2.2.2.3.2 | Met |
| | Signaling Protocols | Required | 5.3.2.2.2.3 | Met |
| | Signaling Performance | Required | 5.3.2.2.2.4 | Met |
| 2 | Registration, Authentication, and Failover | | | |
| | Registration | Required | 5.3.2.3.1 | Met |
| | Failover | Required | 5.3.2.3.2 | Met |
| 3 | Product Physical, Quality, and Environmental Factors | | | |
| | Availability | Required | 5.3.2.5.2.1 | Met |
| | Maximum Downtimes | Required | 5.3.2.5.2.2 | Met |
| | Loss of Packets | Required | 5.3.2.5.4 | Met |

Table 3. SUT CR and FR Status (continued)

| CR/FR ID | Capability/Function | Applicability (See note 1.) | UCR Reference | Status |
|---|--|-----------------------------|--------------------------|------------------------------------|
| 4 | Global Location Server | | | |
| | Global Location Server Requirements | Required | 5.3.2.8.2.2 | Met |
| 5 | LSC Requirements for WAN Softswitch | | | |
| | LSC Requirements | Conditional | 5.3.2.7 | Partially Met (See note 4.) |
| 6 | Call Connection Agent Requirements | | | |
| | CCA IWF Component | Required | 5.3.2.9.2.1 | Met |
| | CCA MGC Component | Required | 5.3.2.9.2.2 | Met |
| | SG Component | Conditional | 5.3.2.9.2.3 | Not Tested (See note 5.) |
| | CCA-IWF Support for AS-SIP | Required | 5.3.2.9.5.1 | Met |
| | CCA-IWF Support for SS7 | Conditional | 5.3.2.9.5.2 | Not Tested (See note 5.) |
| | CCA-IWF Support for PRI via MG | Required | 5.3.2.9.5.3 | Met |
| | CCA-IWF Support for CAS Trunks via MG | Conditional | 5.3.2.9.5.4 | Not Tested (See note 5.) |
| | CCA-IWF Support for VoIP and TDM Protocol Interworking | Required | 5.3.2.9.5.6 | Met |
| | CCA Preservation of Call Ringing State during Failure Conditions | Required | 5.3.2.9.6 | Not Met (See note 6.) |
| | CCA Interactions with Transport Interface Functions | Required | 5.3.2.10.3 | Met |
| | CCA Interactions with the EBC | Required | 5.3.2.10.4 | Met |
| | CCA Support for Admission Control | Required | 5.3.2.10.5 | Met |
| | CCA Support for UFS | Required | 5.3.2.10.6 | Met |
| | CCA Support for IA | Required | 5.3.2.10.7 | Met |
| | CCA Support for AS Voice and Video | Required | 5.3.2.10.11 | Partially Met (See notes 7 and 8.) |
| CCA Interactions with Service control Functions | Required | 5.3.2.10.12 | Met | |
| CCA Interworking between AS-SIP and SS7 | Conditional | 5.3.2.11 | Not Tested (See note 5.) | |
| 7 | MG Requirements | | | |
| | Role of MG In SS | Required | 5.3.2.12.3.2.1 | Met |
| | MG Support for ASAC | Required | 5.3.2.12.4.1 | Met |
| | MG and IA Functions | Required | 5.3.2.12.4.2 | Met |
| | MG Interaction with Service Control Function | Required | 5.3.2.12.4.3 | Met |
| | MG Interactions with IP Transport Interface Functions | Required | 5.3.2.12.4.4 | Met |
| | MG-EBC interactions | Required | 5.3.2.12.4.5 | Met |
| | MG IP-Based PSTN Interface Requirements | Conditional | 5.3.2.12.4.7 | Not Tested (See note 5.) |
| | MG support for User Features and Services | Required | 5.3.2.12.4.9 | Met |
| | MG Interface to TDM | Required | 5.3.2.12.5 | Met (See note 5.) |
| | MG Interface to TDM Allied and Coalition | Conditional | 5.3.2.12.6 | Not Tested (See note 5.) |
| | MG Interface to TDM PSTN in U.S | Required | 5.3.2.12.7 | Met |
| | MG Interfaces to TDM PSTN OCONUS | Required | 5.3.2.12.8 | Met |
| | MG Support for CCS7 | Conditional | 5.3.2.12.9 | Not Tested (See note 5.) |
| | MG Support for ISDN PRI Trunks | Required | 5.3.2.12.10 | Met |
| | MG Support for CAS Trunks | Conditional | 5.3.2.12.11 | Not Tested (See note 5.) |
| | MG Echo Cancellation | Required | 5.3.2.12.13 | Met |
| | MG Clock Timing | Required | 5.3.2.12.14 | Met |
| MGC-MG CCA Functions | Required | 5.3.2.12.15 | Met | |
| MG V.150.1 | Required | 5.3.2.12.16 | Not Met See note 9.) | |
| MG Preservation of Call Ringing during Failure | Required | 5.3.2.12.17 | Not Tested (See note 6.) | |

Table 3. SUT CR and FR Status (continued)

| CR/FR ID | Capability/Function | Applicability (See note 1.) | UCR Reference | Status |
|----------|---|-----------------------------|---------------|--------------------------------------|
| 8 | SG Requirements | | | |
| | SG and CCS7 Network Interactions | Conditional | 5.3.2.13.5.1 | Not Tested (See note 5.) |
| | SG Interactions with CCA | Conditional | 5.3.2.13.5.2 | Not Tested (See note 5.) |
| | SG Interworking Functions | Conditional | 5.3.2.13.5.3 | Not Tested (See note 5.) |
| 9 | WWNDP Requirements | | | |
| | WWNDP | Required | 5.3.2.16 | Met |
| | DSN WWNDP | Required | 5.3.2.16.1 | Met |
| 10 | Commercial Cost Avoidance | | | |
| | Commercial Cost Avoidance | Required | 5.3.2.23 | Met (See note 10.) |
| 11 | Precedence Call Diversion | | | |
| | Precedence call Diversion | Conditional | 5.3.2.25 | Met |
| 12 | AS-SIP Requirements | | | |
| | AS-SIP General Requirements | Required | 5.3.4 | Partially Met (See note 8.) |
| | SIP Session Keep-Alive Timer | Required | 5.3.4.8 | Met |
| | Session Description Protocol | Required | 5.3.4.9 | Met |
| | Precedence and Preemption | Required | 5.3.4.10 | Met |
| | Video Telephony – General Rules | Required | 5.3.4.12 | Partially Met (See note 8.) |
| | Calling Services | Required | 5.3.4.13 | Met |
| | SIP Translation Requirements for Inter-working AS-SIP Signaling Appliances | Required | 5.3.4.14 | Met |
| | Relevant Timers for the Terminating Gateway and the Originating Gateway | Required | 5.3.4.15 | Met |
| | SIP Requirements for Interworking AS-SIP Signaling Appliance | Required | 5.3.4.16 | Met |
| | Keep-Alive Timer Requirements for Interworking AS-SIP Signaling Appliances | Required | 5.3.4.17 | Met |
| | Precedence and Preemption Extensions for Interworking AS-SIP Signaling Appliances | Required | 5.3.4.18 | Met |
| | Supplementary Services | Required | 5.3.4.19 | Met |
| 13 | IPv6 Requirements | | | |
| | Product Requirements | Required | 5.3.5.4 | Partially Met (See note 11.) |
| 14 | Information Assurance | | | |
| | Information Assurance Requirements | Required | 5.4 | Met (See note 12.) |
| 15 | Network Management | | | |
| | General Management Requirements | Required | 5.3.2.17.2 | Partially Met (See note 13.) |
| | VVoIP NMS Interface Requirements | Required | 5.3.2.4.4 | Partially Met (See note 13.) |
| | Requirement for FCAPS Management | Required | 5.3.2.17.3 | Partially Met (See notes 13 and 14.) |
| | NM requirements of Appliance Functions | Required | 5.3.2.18 | Partially Met (See note 13.) |
| | Accounting Management | Required | 5.3.2.19 | Partially Met (See note 13.) |

NOTES:

1. The annotation of ‘required’ refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (c).
2. The SUT had outstanding open TDRs at the completion of testing, which were adjudicated by DISA to have a minor operational impact. The vendor has submitted a POA&M to address the open TDRs. Reference (c) provides additional details. The DTR 6 request resulted in V&V testing conducted from 8 through 23 March 2012. During this test, a discrepancy was noted in which an unattended transfer with a subsequent attended transfer with the REDCOM LSC results in one-way audio. The vendor submitted a POA&M stating they will work with REDCOM to resolve the issue within 180 days. The one-way audio is cleared if the user puts the second “attended” transferred call on hold, then off hold, which results in two-way audio. This was adjudicated by DISA to have a minor operational impact.

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Table 3. SUT CR and FR Status (continued)

NOTES (continued):

3. The SUT IP EIs when placed on hold by a subscriber on a CUCM Release 8.0(2) cannot be retrieved, which affects call transfers and 3-way calls. This issue does not exist with the CUCM 8.6. This anomaly occurs when the initial call is placed to or from the CUCM. This discrepancy has been fixed in the SUT Release 3.0. Since this issue is unrelated to Patch Bundle 28, DISA adjudicated this discrepancy as minor with no PoAM for the SUT Release 2.0 with Patch Bundle 28 with the caveat that the SUT Release 2.0 will be retired from the UC APL immediately after the UC APL memorandum including Patch Bundle 28 is posted.
4. The LSC is an optional integrated component of the SUT and; therefore, the SUT is certified for joint use with or without the LSC. The SUT was certified with noted minor operational discrepancies. The LSC Special Interoperability Certification letter and test summary report is posted on the UC APL under TN# 0911801. The SUT partially met PEI requirements (no video). The AEI and Operator Console requirements were not tested; this requirement represents a new UCR requirement (Jan 2010) at the time of the APL interoperability testing and therefore compliance is not mandatory at that time, based on allowance of an 18-month development cycle for new requirements.
5. This capability or interface is a conditional requirement for a WAN SS. The SUT met all the interfaces requirements for a T1 ISDN PRI (ANSI T1.619a and ANSI T1 607 NI2) and E1 ISDN PRI (ETSI PSTN interface only).
6. This requirement represents a new UCR requirement (Jan 2010) at the time of the APL interoperability testing and therefore compliance is not mandatory at that time, based on allowance of an 18-month development cycle for new requirements.
7. The SUT PEI hardphone met the UCR requirements for voice only. During the original test, the PEI softphone met both voice and video requirements with one exception: The softphone could assign any DSCP value from 0-63 to media and signaling but could not assign a unique DSCP value for each precedence level per the UCR when running on Windows Vista or Windows 7. This discrepancy was fixed and successfully tested with DTR 8, which included an update on the SUT from Patch Bundle 23 to Patch Bundle 28.
8. The vendor did not support AEI video or voice capability. This was adjudicated by DISA to have a minor operational impact since there were no certified AEI video end instruments on the UC APL and furthermore, AEIs are a new UCR 2008, Change 1 requirement and therefore compliance is not mandatory at the time of APL interoperability testing, based on allowance of an 18-month development cycle for new requirements.
9. The vendor did not demonstrate V.150.1 support. This requirement represents a new UCR requirement (Jan 2010) at the time of the APL interoperability testing and therefore compliance is not mandatory at that time, based on allowance of an 18-month development cycle for new requirements.
10. The SUT met this requirement with a Lightweight Directory Access Protocol server which is covered under a separate Interoperability Certification listed separately on the UC APL.
11. The DISA adjudicated all open TDRs to have a minor operational impact. The fielding of the SUT is limited to IPv4 across the DISN based on the fielding environment, IPv6 partial compliance and POA&M addressing critical IPv6 discrepancies in their next major release in 2012. DISA retains the authority to remove this product from the Department of Defense (DoD) Unified Capabilities (UC) Approved Products List (APL) as follow-on products are fielded with full IPv6 capability. The SUT was tested and met IPv6 interoperability requirements with its optional LSC intra-enclave only with the following discrepancies which were adjudicated by DISA as having a minor operational impact:
 - a. POA&M. The SUT does not meet RFC 4007 for IPv6 Scoped Address Architecture.
 - b. The SUT does not support IPv6 (Signaling or Media) with the MP112 and MP124 analog IADs.
 - c. The SUT SESM Core supports IPv4 only for signaling inter-enclave (WAN).
 - d. The SUT Audio Codes MG3K supports IPv4 only for signaling and both IPv4 and IPv6 dual stack for media intra and interenclave.
12. Information Assurance was tested by a DISA-led Information Assurance test team and published in a separate report, Reference (f).
13. The vendor submitted a NM LoC with noted discrepancies. The following open TDRs were adjudicated by DISA to have a minor operational impact with a vendor submitted POA&M:
 - a. The SUT does not fully support SNMP and MIBs IAW IETF Standards 58 and 62.
 - b. The SUT is not fully compliant with NM call detail records formats.
 - c. SUT does not support management requirements for ASAC.
14. The SUT does not support destination code controls. The SUT does not have the capability of setting the percentage of calls to be blocked to the designated destination(s). This was adjudicated by DISA to have a minor operational impact.

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Table 3. SUT CR and FR Status (continued)

| LEGEND: | | | |
|----------------|---|--------|--|
| AEI | Assured Services End Instrument | Mbps | Megabits per second |
| APL | Approved Products List | MG | Media Gateway |
| ASAC | Assured Services Admission Control | MGC | Media Gateway Controller |
| AS | Assured Services | MIB | Management Information Base |
| ASD/NII | Assistant Secretary of Defense for Networks and Information Integration | NM | Network Management |
| AS-SIP | Assured Services Session Initiation Protocol | NMS | Network Management System |
| CAS | Channel Associated Signaling | OCONUS | Outside the Continental United States |
| CCA | Call Connection Agent | PEI | Proprietary End Instrument |
| CCS7 | Common Channel Signaling Number 7 | POA&M | Plan of Action and Milestones |
| CR | Capability Requirement | PRI | Primary Rate Interface |
| CM | Configuration Management | PSTN | Public Switched Telephone Network |
| CUCM | Cisco Unified Communications Manager | RFC | Request for Comment |
| DISA | Defense Information Systems Agency | SESM | Subscriber Edge Services Manager |
| DISN | Defense Information System Network | SG | Signaling Gateway |
| DoD | Department of Defense | SIP | Session Initiation Protocol |
| DSCP | Differentiated Services Code Point | SNMP | Simple Network Management Protocol |
| DSN | Defense Switched Network | SNMPv2 | Simple Network Management Protocol version 2 |
| E1 | European Basic Multiplex Rate (2.048 Mbps) | SNMPv3 | Simple Network Management Protocol version 3 |
| EI | End Instrument | SS | Softswitch |
| EMS | Element Management System | SS7 | Signaling System 7 |
| FR | Functional Requirement | SUT | System Under Test |
| IA | Information Assurance | T1 | Digital Transmission Link Level 1 (1.544 Mbps) |
| IAW | In accordance with | TDR | Test Discrepancy Report |
| IETF | Internet Engineering Task Force | TDM | Time Division Multiplexing |
| IP | Internet Protocol | UC | Unified Capabilities |
| IPSec | Internet Protocol Security | UCR | Unified Capabilities Requirements |
| IPv6 | Internet Protocol version 6 | V&V | Verification and Validation |
| ISDN | Integrated Services Digital Network | VoIP | Voice over Internet Protocol |
| IWF | Interworking Function | VVoIP | Voice and Video over Internet Protocol |
| LDAP | Lightweight Directory Access Protocol | WAN | Wide Area Network |
| LoC | Letter of Compliance | WWNDP | World Wide Numbering and Dialing Plan |
| LSC | Local Session Controller | | |

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). 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). 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. All associated data is available on the DISA UCCO website located at website located at <http://www.disa.mil/Services/Network-Services/UCCO>.

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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.fm@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The UCCO tracking number for the SUT is 1031901.

FOR THE COMMANDER:



for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Enclosure a/s

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ISG Secretariat, DISA, JTA

U.S. Strategic Command, J665

US Navy, OPNAV N2/N6FP12

US Army, DA-OSA, CIO/G-6 ASA(ALT), SAIS-IOQ

US Air Force, A3CNN/A6CNN

US Marine Corps, MARCORSSYSCOM, SIAT, A&CE Division

US Coast Guard, CG-64

DISA/TEMC

DIA, Office of the Acquisition Executive

NSG Interoperability Assessment Team

DOT&E, Netcentric Systems and Naval Warfare

Medical Health Systems, JMIS IV&V

HQUSAISEC, AMSEL-IE-IS

UCCO

ADDITIONAL REFERENCES

- (c) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of the Avaya Aura™ AS5300 Wide Area Network (WAN) Softswitch (SS), Version 2.0 (with specified patch releases)," 12 December 2011
- (d) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010
- (e) Joint Interoperability Test Command, "Unified Capabilities Test Plan (UCTP)," Draft
- (f) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Avaya Application Server (AS) 5300 Release (Rel.) 2.0 (TN 1031901)," Draft