



DEFENSE INFORMATION SYSTEMS AGENCY

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FORT MEADE, MARYLAND 20755-0549

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

MEMORANDUM FOR DISTRIBUTION

20 May 11

SUBJECT: Special Interoperability Test Certification of the Sonexis ConferenceManager Release 10.0

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 (e), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency, Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The Sonexis ConferenceManager Release 10.0 is hereinafter referred to as the System Under Test (SUT). The SUT meets all of its critical interoperability requirements and is certified as interoperable for joint use within the Defense Information System Network (DISN) as a conference bridge. The SUT is an audio and web conferencing bridging system that supports eight Digital Transmission Link Level 1 (T1s). The SUT supports from 12 to 192 ports for audio conferees. The SUT supports preset and Meet-Me conference types. Although the SUT supports web conferencing, this capability was not tested by JITC and is not covered under this certification. The SUT is certified with any switch on the Unified Capabilities (UC) Approved Products List (APL) that is certified interoperable within the Defense Switched Network (DSN) for a T1 Primary Rate Interface (PRI) interface. The SUT meets the critical interoperability requirements set forth in Reference (c), using test procedures derived from Reference (d). No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This certification expires upon changes that could affect interoperability, but no later than three years from the date the DISA Field Security Operations (FSO) provided a positive Certification and Accreditation (CA) Recommendation.

3. This finding is based on interoperability testing and FSO CA Recommendation. Testing was conducted at JITC's Global Information Grid Network Test Facility at Fort Huachuca, Arizona, from 7 through 8 February 2011. The FSO provided a positive CA Recommendation on 20 April 2011 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (e). Enclosure 2 documents the test results and describes the tested network and system configurations.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in table 1.

Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Met	UCR Paragraph
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes ¹	Yes	Preset Conferencing (R)	Met	5.2.1.6.1
			Conference Notification Recorded Announcement (R)	Met	5.2.1.6.1.1
			Conference Precedence Level (R)	Met	5.2.2.8.7.1
			Automatic Retrial and Alternate Address (R)	Met	5.2.1.6.1.2
			Bridge Release (R)	Met	5.2.1.6.1.3
			Lost Connection to Conferee or Originator (R)	Met	5.2.1.6.1.4
			Secondary Conferencing (R)	Met	5.2.1.6.1.5
			Meet-Me Conferencing (C)	Met	5.2.1.6.2
			Address Translation (R)	Met	5.2.1.7
			Alarms (R)	Met	5.2.11.3.4
Yes	See note 2.	Security (R)	Met	4.3.1.2	

NOTES:

1 In accordance with the UCR, the SUT can meet the external bridge requirements via one of the following interfaces: IP, ISDN PRI, T1 CAS, or E1 CAS. The SUT meets the critical interoperability Functional Requirements via a T1 ISDN PRI interface with DTMF signaling. Since T1 ISDN PRI is the only interface supported by this conference bridge, it is a critical interface.

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

LEGEND:

AMI	Alternate Mark Inversion	ISDN	Integrated Services Digital Network
B8ZS	Bipolar Eight Zero Substitution	Mbps	Megabits per second
C	Conditional	PRI	Primary Rate Interface
CAS	Channel Associated Signaling	R	Required
DISA	Defense Information Systems Agency	SF	Superframe
E1	European Basic Multiplex Rate (2.048 Mbps)	SUT	System Under Test
ESF	Extended Superframe	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IP	Internet Protocol	UCR	Unified Capabilities Requirements

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://jitic.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: ucco@disa.mil.

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Release 10.0

6. The JITC point of contact is Ms. Anita Mananquil, DSN 879-5164, commercial (520) 538-5164, FAX DSN 879-4347, or e-mail to anita.mananquil@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 1022401.

FOR THE COMMANDER:

2 Enclosures a/s


for BRADLEY A. CLARK
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):

Joint Staff J-6

Joint Interoperability Test Command, Liaison, TE3/JT1

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Department of the Army, Office of the Secretary of the Army, DA-OSA CIO/G-6 ASA (ALT),
SAIS-IOQ

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

DOT&E, Net-Centric Systems and Naval Warfare

U.S. Coast Guard, CG-64

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

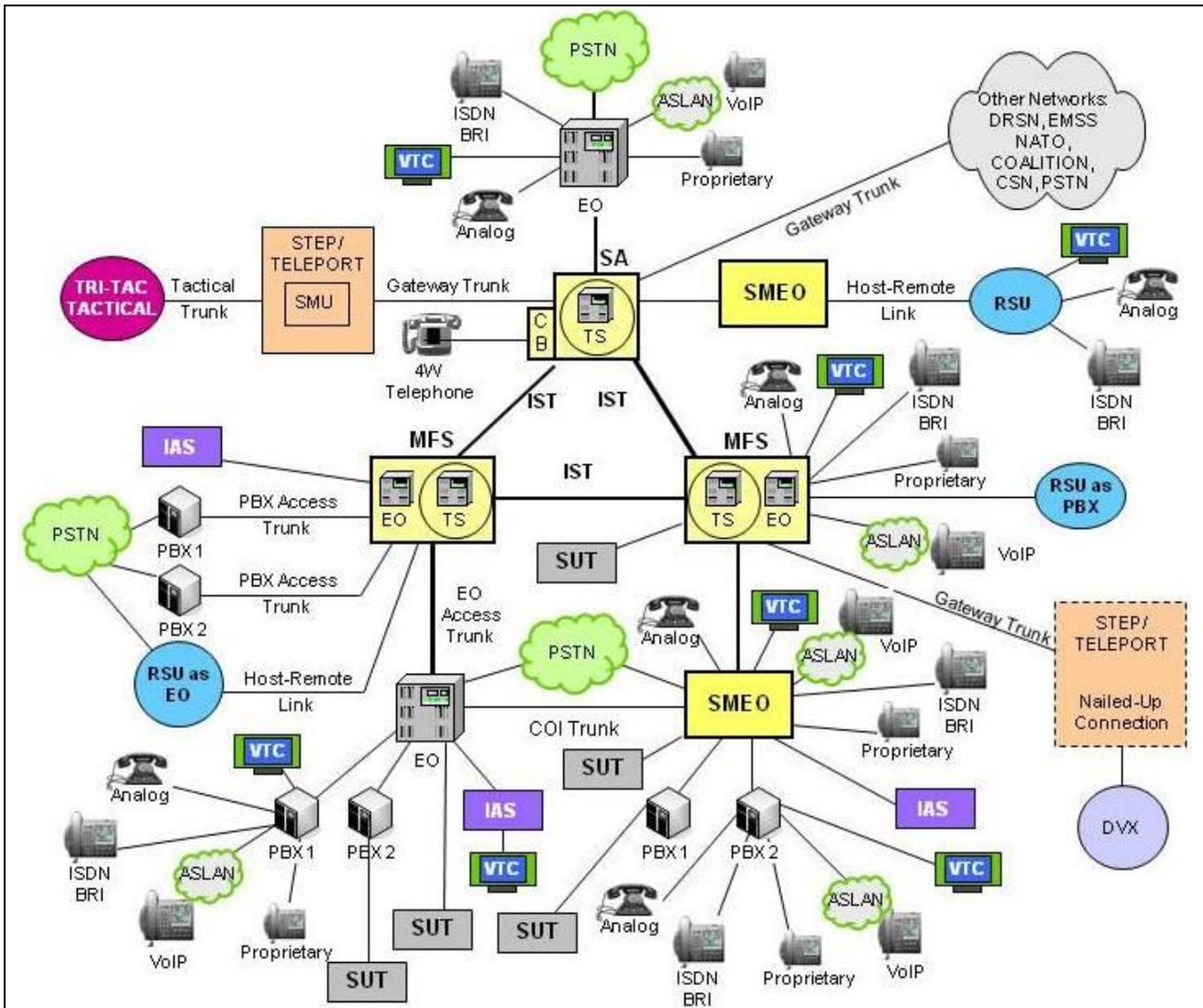
- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008," 22 January 2009
- (d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
- (e) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Sonexis Technology ConferenceManager Release (Rel.) 10.0 (Tracking Number 1022401)," Draft

CERTIFICATION TESTING SUMMARY

- 1. SYSTEM TITLE.** Sonexis ConferenceManager Release 10.0 is hereinafter referred to as the System Under Test (SUT).
- 2. PROPONENT.** Defense Information Systems Agency-Pacific Command (DISA-PAC)
- 3. PROGRAM MANAGER.** Mr. Adam McGeer, SCXP, 1901 Can Do Way, McGuire Air Force Base, New Jersey, 08641, e-mail: adam.mcgeer@mcguire.af.mil.
- 4. TESTER.** Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.
- 5. SYSTEM UNDER TEST DESCRIPTION.** The SUT is a secure audio and web Conferencing Bridge (CB) system that supports up to eight Digital Transmission Link Level 1s (T1). The SUT supports from 12 to 192 ports for audio conferees. The SUT supports preset and Meet-Me conference types. Although the SUT supports web conferencing, this capability was not tested by JITC and is not covered under this certification. The SUT is composed of three components: Sonexis ConferenceManager, custom Sonexis Audio Conference (AC)-1 Plus Peripheral Component Interconnect (PCI) Interface card, and a site-provided, Security Technical Implementation Guide (STIG)-compliant, Common Access Card (CAC)-enabled Personal Computer (PC).

The Sonexis ConferenceManager is a secure, web-based user application used for scheduling, conference management, account management, and real-time control of live audio and web conferences. The ConferenceManager consists of a rack-mountable 2-unit Intel® SR2600URLX server with Intel S5520UR motherboard with a Windows 2008 Server Operating System (OS) and a custom AC-1 Plus card, which provides T1 interface connectivity and audio conference mixing. The ConferenceManager is connected to a Public Switched Telephone Network (PSTN) telephony network or Private Branch Exchange (PBX) and is designed to work with existing voice and data networks. Users access the system using a site-provided, STIG-compliant, CAC-enabled Client PC. System Administrators (SA) access the server using a site-provided, STIG-compliant, CAC-enabled server. The SA can view, add, or remove users on the CB and is capable of viewing ongoing conferences.

- 6. OPERATIONAL ARCHITECTURE.** The Generic Switching Center Requirements (UCR) Defense Switched Network (DSN) architecture in Figure 2-1 depicts the relationship of the SUT to the DSN switches.



LEGEND:

4W	4-Wire Subscriber Line	NATO	North American Treaty Organization
BRI	Basic Rate Interface	PBX1	Private Branch Exchange (MLPP Capable)
CB	Channel Bank	PBX2	Private Branch Exchange (Non-MLPP Capable)
COI	Community of Interest	PSTN	Public Switching Telephone Network
CSN	Canadian Switched Network	RSU	Remote Switching Unit
DRSN	Defense RED Switch Network	SA	Stand-Alone Switch
DVX	Deployable Voice Exchange	SMEO	Small End Office
EMSS	Enhanced Mobile Satellite System	SMU	Switch Multiplex Unit
EO	End Office	STEP	Standard Tactical Entry Point
IAS	Integrated Access Switch	Tri-Tac	Tri-Service Tactical
ISDN	Integrated Services Digital Network	TS	Tandem Switch
IST	Interswitch Trunk	VoIP	Voice over Internet Protocol
MFS	Multifunction Switch	VTC	Video Teleconferencing
MLPP	Multilevel Precedence and Preemption		

Figure 2-1. DSN 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 were verified through JITC testing.

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Met	UCR Paragraph
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes ¹	Yes	Preset Conferencing (R)	Met	5.2.1.6.1
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			Automatic Retrial and Alternate Address (R)	Met	5.2.1.6.1.2
			Bridge Release (R)	Met	5.2.1.6.1.3
			Lost Connection to Conferee or Originator (R)	Met	5.2.1.6.1.4
			Secondary Conferencing (R)	Met	5.2.1.6.1.5
			Meet-Me Conferencing (C)	Met	5.2.1.6.2
			Address Translation (R)	Met	5.2.1.7
	Yes	See note 2.	Alarms (R)	Met	5.2.11.3.4
			Security (R)	Met	4.3.1.2

NOTES:

- In accordance with the UCR, the SUT can meet the external bridge requirements via one of the following interfaces: IP, ISDN PRI, T1 CAS, or E1 CAS. The SUT meets the critical interoperability Functional Requirements via a T1 ISDN PRI interface with DTMF signaling. Since T1 ISDN PRI is the only interface supported by this conference bridge, it is a critical interface.
- Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (e).

LEGEND:

AMI	Alternate Mark Inversion	ISDN	Integrated Services Digital Network
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C	Conditional	PRI	Primary Rate Interface
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DISA	Defense Information Systems Agency	SF	Superframe
E1	European Basic Multiplex Rate (2.048 Mbps)	SUT	System Under Test
ESF	Extended Superframe	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IP	Internet Protocol	UCR	Unified Capabilities Requirements

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

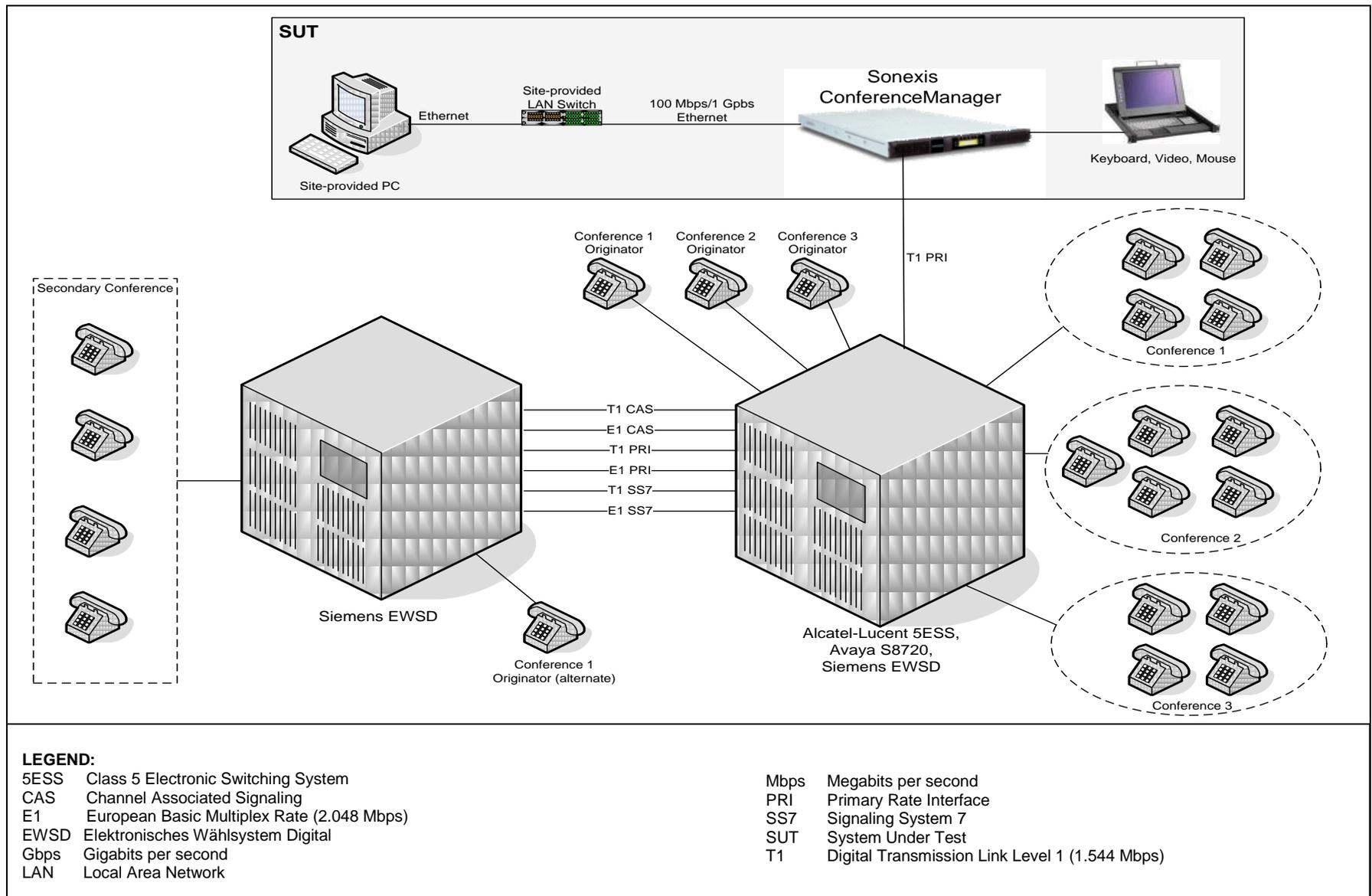


Figure 2-2. SUT Test Configuration

9. SYSTEM CONFIGURATIONS. 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 are certified with a T1 PRI interface.

Table 2-2. Tested System Configuration

System Name	Hardware/Software Release		
Avaya S8720	Communication Manager (CM) R014x.00.2.732.1: Super Patch 16538		
Siemens EWSD	Version 19d with Patch Set 46		
Alcatel-Lucent 5ESS	5E16.2, Software Update (SU) 09-0002		
Required Ancillary Equipment	Active Directory		
	Public Key Infrastructure		
Site-Provided	Hardware		Software/Firmware
	Client PC		Window XP SP3
Sonexis Technology ConferenceManager Rel. 10.0	Component	Sub-component	Software/Firmware
	Sonexis ConferenceManager	Intel © Intel SR2600URLX server with S5520UR motherboard	MS Windows Server 2008 SP2
			MS SQL Server 2008 SP2 10.0.4000
			MS Windows Media Encoder 9.0
			Sonexis ConferenceManager 10.0.23
	AC-1 Plus	Version 44	
Keyboard, Video, Mouse	N/A	N/A	
LEGEND:			
5ESS	Class 5 Electronic Switching System	PC	Personal Computer
AC	Audio Conference	Rel.	Release
EWSD	Elektronisches Wählsystem Digital	SP	Service Pack
MS	Microsoft	SQL	Structured Query Language
NA	Not Applicable	XP	Experience

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion

(1) Preset Conferencing. The SUT met the following requirements for preset conference as described in UCR, paragraph 5.2.1.6.1:

(a) Ten separate conference bridges with each bridge having the capacity for one originator and 20 conferees.

(b) The capability to function as the “Primary,” “Secondary,” or “Alternate” bridge that will interconnect to other bridges that support up to a maximum of 191 conferees using all ten bridges off the same switch for the same conference.

(c) Preset Conference (abbreviated pool of subscribers/bridges) assignment of abbreviated numbers not greater than 20 switch address numbers per

bridge. Such an address number could be a combination of subscriber lines and other conference bridge access.

(d) Preset conference network(s) that require more than 20 conferees uses the cascading bridge method of expanding the number of conferees beyond 20.

(e) Each preset conference bridge is capable of Multi-Level Precedence and Preemption (MLPP) access control and is fully interoperable with the serving switch to permit full MLPP access and control.

(f) When a conferee's telephone is not answered, an automatic disconnect takes place within an adjustable interval of 15 to 60 seconds after a bridge leg is first connected to the conferee line.

(g) Originators of the preset conference have the capability of adding up to five non-programmed conferees (within the 21 conferees capability) to the conference by sequentially keying each add-on address and connecting the conferee to the bridge.

(2) Conference Notification Recorded Announcement. When the conference equipment receives the first off-hook supervisory signal from an answering conferee, conference notification recording shall be applied, and shall continue as an audible announcement to answering conferees and to the originator until all conferees answer. The conference notification recording shall automatically be removed 2 seconds after the last conferee answers, indicating, by such removal, that the conferees have all answered and that the conference is ready to begin. The SUT met the following FRs for Origination and Recording as described in UCR, paragraph 5.2.1.6.1.1:

(a) Each bridge generates a notification recording that is audible only to those conferees on that bridge.

(b) When all conferees on a bridge have answered, the conference notification recording is removed automatically from the bridge two seconds after the last conferee answers.

(c) When the conference notification recording is removed automatically from a bridge, the notification recording from the adjacent bridge, if continuing, then becomes audible to the originator and to the conferees on the remaining bridge(s).

(d) When a conferee disconnects, a conference disconnect tone is sent to the originator and other conferees in the conference.

(3) Conference Precedence Level. The SUT met the following FRs for Conference Precedence Level as described in UCR, paragraph 5.2.2.8.7.1:

(a) When a preset conference is initiated, an idle bridge in the desired conference group is seized and the conference connections attempted.

(b) When all conference bridges are busy, ROUTINE conference call attempts are connected to a "Line Busy" tone and the call attempts at precedence levels above ROUTINE reexamine all conference bridges on a preemptive basis.

(c) When a conference bridge is busy at the lowest level of precedence stored for all units, it shall be preempted for a higher precedence conference call.

(d) When a conference bridge is preempted, a two-second burst of preempt tone is provided to the conferees on the existing conference. The existing connections to the bridge are dropped and the bridge automatically sends an on-hook signal to the associated switch ports to permit the new connections to be established.

(e) When the requested precedence level is equal to or lower than that of any existing conference, the connection is denied and the caller is provided a Blocked Precedence Announcement.

(4) Automatic Retrial and Alternate Address. The SUT met the following FRs for Automatic Retrial and Alternate Address as described in UCR, paragraph 5.2.1.6.1.2:

(a) Off-hook supervision is returned to the originator from each bridge when all conferees have answered or when the originator has forced the conference prior to all conferees answering.

(b) If answer supervision is not returned from any conferee location within an adjustable interval of 15 to 60 seconds, one automatic retrial is made to the primary conferee address.

(c) Conferees are provided with alternate addresses that the SUT tries when the call fails to complete to the primary address.

(d) When a call to a primary address fails to complete within two trials, the call is directed to an alternate address, if provided, and two call attempts are made to the alternate address.

(5) Bridge Release. The SUT met the following FRs for Bridge Release as described in UCR, paragraph 5.2.1.6.1.3:

(a) The primary bridge is released when on-hook supervision is received on the originating port of the primary bridge or on all of the other conference bridge ports.

(b) If on-hook supervision is received on the originating port of secondary or tertiary bridges, all subsequent connections and equipment are released.

(c) A conference bridge is released after all attempts at call completion are made and no answers are received on all ports.

(d) A release of conference bridges is such that it is impossible for the bridges to become locked together.

(6) Lost Connection to Conferee or Originator. The SUT met the following FRs for Lost Connection to Conferee or Originator as described in UCR, paragraph 5.2.1.6.1.4:

(a) If the originator is lost or preempted, the bridge is held up long enough for preempt tone to be given to all conferees.

(b) If a connection to a conferee is lost, due to disconnection or preemption, a distinctive disconnect signal, defined as a conference disconnect tone, is provided to the conference originator and all conferees.

(7) Secondary Conferencing. The UCR requirement states that a switch shall provide the capability of secondary conferencing, which is the ability to interconnect conference bridges located at separate DSN switches. The SUT, as an external bridge connected to the switch, met the following FRs for Secondary Conferencing as described in UCR, paragraph 5.2.1.6.1.5:

(a) When a conference is activated and two or more of the addressees require a secondary bridge, the address is processed in the normal manner and directed toward the office serving the secondary equipment.

(b) The conference equipment is designed so that it may be used alternatively for primary or secondary conferences.

(c) Identical operational features, such as application and removal of the conference notification recorded announcement, are provided for both primary and secondary conferences.

(8) Meet-Me Conferencing. The UCR requirement states that a switch shall meet the Meet-Me conference requirements with an internal or external conference bridge. The SUT, as an external bridge connected to the switch, met the following FRs for Meet-Me Conferencing as described in UCR, paragraph 5.2.1.6.2:

(a) Each Meet-Me conference bridge shall be fully capable of MLPP access and control as described in paragraph 5.2.2.1.4.

(b) When a precedence call above ROUTINE is placed to a Meet-Me conference bridge that is activated with no remaining idle resources, the switch shall conduct a preemptive search to determine the lowest active resource on the bridge, and

that resource shall receive a precedence notification tone and be preempted. All remaining conferees on the bridge shall receive a conference disconnect tone.

(9) Address Translations. The SUT met the following FRs for Address Translations as described in UCR, paragraph 5.2.1.7:

Translation of the seven-digit conference address is met as follows:

(a) The switch shall have the capability to translate three digits of the switch code.

(b) The first two digits of the four-digit line number are utilized to identify the switching center at which the conferencing equipment is located.

(c) The four-digit line number is translated to indicate the particular preset conference arrangement.

b. Test Summary. The SUT meets all of its critical interoperability requirements and is certified as interoperable for joint use within the Defense Information System Network (DISN) as a conference bridge. The SUT is certified with any switch on the UC APL that is certified interoperable within the DSN with a T1 PRI interface.

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: ucco@disa.mil.