



DEFENSE INFORMATION SYSTEMS AGENCY

P. O. BOX 4502
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IN REPLY

REFER TO: Joint Interoperability Test Command (JITE)

9 Feb 09

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Callware Technologies Callegra.UC™ Server with Software Release 6.14-Joint Interoperability Test Command (JITC)

References: (a) DoD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006
(c) through (g), see Enclosure

1. References (a) and (b) establish the Defense Information Systems Agency, JITC, as the responsible organization for interoperability test certification.
2. The Callware Technologies Callegra.UC™ Server with Software Release 6.14-JITC is hereinafter referred to as the System Under Test (SUT). The JITC suffix was attached to the SUT commercial software release 6.14 because it includes Defense Switched Network (DSN) military unique features. The SUT meets the interface requirements and all required functional capabilities and is certified for joint use within the DSN. The SUT met the interface and functional requirements for automated receiving devices set forth in appendix 7 of reference (c). The SUT offers integrated automated attendant (Auto Attendant) and voice messaging (Voicemail) functionality and included the following optional applications: CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The SUT also offers the Callegra.UC SDK™ application, which was not tested or certified and is not authorized for use on the DSN. All Callware applications run on the Callegra.UC™ Server and are administered using the included Microsoft Management Console (MMC) module. CallegraADMIN™ for MMC is an integral part of the SUT. The specific SUT applications certified on each interface are depicted in Table 1. Testing was conducted using test procedures derived from reference (d).

The SUT is certified to support DSN assured services over IP with any Assured Services Voice Application Local Area Network (ASVALAN) on the Unified Capabilities (UC) Approved Products List (APL). The SUT is also certified for joint use with any Voice Application Local Area Network (VALAN) on the UC APL. However, since VALANs do not support the Assured Services Requirements detailed in reference (e), Command and Control (C2) users and Special C2 users are not authorized to be served by the SUT connected to a VALAN. The SUT does not provide Class of Service (CoS) 802.1p/Q tags and is certified only when connected to the

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ASVALAN at Core Layer 3. No other configurations, features, or functions, except those cited within this report, are certified by the JITC, or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of the original memorandum (19 July 2007).

3. The extension of this certification is based upon interoperability testing of additional interfaces. The original certification is based on interoperability testing and review of the vendor's Letter of Compliance (LoC). Interoperability testing was conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona, from 30 April through 11 May 2007 and documented in reference (f). Review of the vendor's LoC was completed on 1 June 2007. A desktop review was requested to include Digital Transmission Link Level 1 (T1) Primary Rate Interface (PRI) Q Signaling (QSIG) and National Integrated Services Digital Network (ISDN) 2 (NI2) integration for voicemail, auto attendant and telephone notification functionality. The desktop review was denied because the additional interfaces required testing. Regression testing to include the additional interfaces was conducted from 5 through 8 January 2009. The T1 PRI QSIG and NI2 interfaces support all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The T1 PRI QSIG interface is certified with any Avaya S8400, S8500, or S87XX series switch on the UC APL. The T1 PRI NI2 interface is certified with any Alcatel-Lucent Class 5 Electronic Switching System (5ESS) and Siemens Elektronisches Wählssystem Digital (EWSD) on the UC APL.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in Table 1. The software upgrades and additional peripheral equipment are depicted in Table 2. This interoperability test status is based on the SUT's ability to meet:

a. Automated receiving device requirements specified in reference (c) verified through JITC testing and/or vendor submission of LoC.

b. The overall system interoperability performance derived from test procedures listed in reference (d).

c. Assured services as defined in reference (e).

d. Internet Protocol version 6 requirements specified in reference (c), paragraph 1.7, Table 1-4, by 30 June 2008 in accordance with reference (g) verified through vendor submission of LoC signed by the Vice President of the company.

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Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Functional Requirements	Met	GSCR Paragraph
EIA-232 Serial	No ¹	Yes	ANSI/TIA/EIA-232-F (C)	Met	A7.5
2-Wire Analog (GR-506-CORE) ² 2-Wire Digital Proprietary ³	No ¹	Yes	FCC Part15/Part 68 (R)	Met	A7.5
			DTMF outpulsing (C)	Met	A7.5, 5.4.1, 5.4.2
			DISR compliance as applicable (R)	Met	A7.5
			ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	Met	A7.5.5
T1 CAS (DTMF) (Wink Start) ⁴	No ¹	Yes	TIA/EIA-470-B (R)	Met	A7.5.1
			PCM-24 (R)	Met	A7.5.5 and 7.1
			DISR compliance as applicable (R)	Met	A7.5
T1 CAS (DTMF) (Ground Start) ⁵	No ¹	Yes	ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	Met	A7.5.5
			PCM-24 (R)	Met	A7.5.5 and 7.1
			DISR compliance as applicable (R)	Met	A7.5
IP 100BaseT (IEEE 802.3u) ⁶	No ¹	Yes	ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	Met	A7.5.5
			IPV6 in accordance with UCR, Section 1 (R)	Met ⁷	A1.7
			CoS (R)	Met	A3.3.2.1
			Traffic Prioritization (R)	Met	A3.3.2.2
			IEEE 802.3u (C)	Met	A7.5
T1 ISDN PRI NI 1/2 (ANSI T1.619a) ⁸	No	Yes	DISR compliance as applicable (R)	Met	A7.5
			ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	Met	A7.5.5
			PCM-24 (R)	Met	A7.5.5 and 7.1
T1 ISDN PRI Q-SIG (ISDN ITU-T Q.931) ⁹	No	Yes	DISR compliance as applicable (R)	Met	A7.5
			ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	Met	A7.5.5
			PCM-24 (R)	Met	A7.5.5 and 7.1
Security	Yes	See note 9.	Security (R)	See note 9.	A7.6

NOTES:

- The Automated Receiving Device requirements can be met via one of the following interfaces: 2-Wire Analog, 4-Wire Digital, PCM-24, or PCM-30.
- The SUT analog interface supports all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™.
- The digital proprietary interface supports the following SUT applications: Auto Attendant, Voicemail, CallegraVOICE™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The SUT digital proprietary interface emulates the Nortel Meridian1 M2616 and the Avaya 8434D.
- The SUT T1 CAS wink start interface supports all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The SUT is certified with this interface only with the Lucent 5ESS and Siemens EWSD switching systems listed on the DSN APL.
- The SUT T1 CAS ground start interface supports all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™.
- The SUT IP interface supports the following SUT applications: Auto Attendant, Voicemail, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The SUT is certified with this interface specifically with the CISCO CallManager PBX 1 switching systems listed on the DSN APL.
- An IPv6 capable system or product, as defined in the GSCR, paragraph 1.7, shall be capable of receiving, processing, and forwarding IPv6 packets and/or interfacing with other systems and protocols in a manner similar to that of IPv4. IPv6 capability is currently satisfied by a vendor Letter of Compliance signed by the Vice President of the company. The vendor must state, in writing, compliance to the following criteria by 30 June 2008:
 - Conformant with IPv6 standards profile contained in the DISR.
 - Maintaining interoperability in heterogeneous environments and with IPv4.
 - Commitment to upgrade as the IPv6 standard evolves.
 - Availability of contractor/vendor IPv6 technical support.

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

NOTES continued:			
8	This interface requires a serial SMDI link to function correctly. As depicted in the diagram in reference (f), all interfaces except for the 2-wire digital and T1 PRI QSIG require the serial SMDI link. The SUT T1 PRI NI2 interfaces support all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The T1 PRI NI2 interface is certified with any Alcatel-Lucent 5ESS and Siemens EWSD on the UC APL.		
9	The SUT T1 PRI QSIG interface supports all of the SUT applications which include: Auto Attendant, Voicemail, CallegraVOICE™, CallegraFAX™, CallegraINBOX™, CallegraWEB™, CallegraCOMMUNITY™, and CallegraTTS™. The T1 PRI QSIG interface is certified with any Avaya S8400, S8500, or S87XX series switch on the UC APL.		
10	Security is tested by DISA-led Information Assurance test teams and published in a separate report.		
LEGEND:			
5ESS	Class 5 Electronic Switching System	IP	Internet Protocol
100baseT	100 Mbps (Baseband Operation, Twisted Pair)	IPv4	Internet Protocol version 4
	Ethernet	IPv6	Internet Protocol version 6
802.3u	Standard for carrier sense multiple access with collision detection at 100 Mbps	ISDN	Integrated Services Digital Network
A	Appendix	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
ANSI	American National Standards Institute	LSSGR	Local Access and Transport Area (LATA)
APL	Approved Products List		Switching Systems Generic Requirements
C	Conditional	Mbps	Megabits per second
CAS	Channel Associated Signaling	MLPP	Multi-Level Precedence and Preemption
CoS	Class of Service	NII/2	National ISDN Standard 1 or 2
DISA	Defense Information Systems Agency	PBX 1	Private Branch Exchange 1
DISR	Department of Defense Information Technology Standards Registry	PCM-24	Pulse Code Modulation - 24 Channels
		PCM-30	Pulse Code Modulation - 30 Channels
DSN	Defense Switched Network	PRI	Primary Rate Interface
DTMF	Dual Tone Multi-Frequency	Q.931	Signaling Standard for ISDN
EIA	Electronic Industries Alliance	QSIG	an ISDN based signaling protocol
EIA-232	Standard for defining the mechanical and electrical characteristics for connecting Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) data communications devices	R	Required
		SMDI	Simple Message Desk Interface
		SS7	Signaling System 7
		SUT	System Under Test
EWSD	Elektronisches Wählsystem Digital	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	TIA	Telecommunications Industry Association
GR-506-CORE	LSSGR: Signaling for Analog Interfaces	TIA/EIA-470-B	Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
GSCR	Generic Switching Center Requirements		
IEEE	Institute of Electrical and Electronics Engineers	UC	Unified Capabilities

Table 2. SUT Software Upgrades and Additional Peripheral Equipment

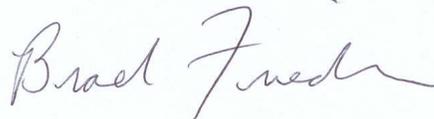
	Release	Hardware	Software/Firmware (See note.)
Callware Technologies Callegra.UC Servers	6.14-JITC	Callegra.UC Server 1	
		2.4 Gigahertz Pentium 4, 1 Gigabyte RAM	Microsoft Windows 2003 Server, Release 2 SQL Server ver 8.0 <u>Client Services ver 6.14.33.1</u> <u>Callware Call Center ver 6.14.33.1</u> <u>Callegra Data Center File ver 6.14.33.1</u> Nuance 8.5 RealSpeak 4.0
		Brooktrout TR1034 Analog Fax Board	Fax Driver: Brooktrout ver 4.8.0.0
		Dialogic Analog Card (D/120 JCT) Dialogic Digital Card (D/82)	SW rev 6.0 / FW rev 2 SW rev 6.0 / FW rev 2
		Callegra.UC Server 3	
		2.80 Gigahertz Pentium 4 Dual Core, 1 Gigabyte RAM	Microsoft Windows Server 2003, Release 2 Distributed File System <u>Callegra Data Center File ver 6.14.33.1</u> SQL Server Management Studio 2005 ver 9.00.3042.00 <u>Client Services ver 6.14.33.1</u> <u>CallegraWEB ver 6.14.33.1</u> <u>Callware Call Center Module ver 6.14.33.1</u> Nuance 8.5 RealSpeak 4.0
		Brooktrout TR1034 T-1 Fax Board	Fax Driver: Brooktrout ver 4.8.0.0
		Dialogic Analog Card (D/120 JCT) Dialogic Card (D/480JCT-2T1)	SW 6.0 / FW rev 2
Callware Technologies Callegra.UC Servers	6.14-JITC	Callegra.UC Client	
		Dell Deminsion 2.4 Gigahertz Pentium 4, 1 Gigabyte RAM	Windows XP SP2 Outlook XP/2003 <u>CallegraWEB ver. 6.14.33.1</u> CallegraINBOX for Outlook CallegraADMIN remote for MMC CallegraFAX
Peripheral Components	Component	Hardware	Firmware
	Telephone	<u>Lucent 8510</u>	Not Applicable
NOTE: The updated software and peripheral equipment is bolded and underlined. All other system information is identical to reference (f).			
LEGEND:			
FW	Firmware	SP	Service Pack
JITC	Joint Interoperability Test Command	SQL	Structured Query Language
MMC	Microsoft Management Console	SUT	System Under Test
RAM	Random Access Memory	SW	Software
Rev	Revision	ver	Version

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), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssj>.

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6. The JITC point of contact is Mr. Steven Lesneski, DSN 879-5400, commercial (520) 538-5400, FAX DSN 879-4347, or e-mail to steven.lesneski@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the IP interface Cisco solution is 0703102. The tracking number for the TDM Solution is 0703103. The tracking number for the additional interfaces is 0826001.

FOR THE COMMANDER:



for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Enclosure a/s

Distribution (electronic mail):

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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) Defense Information Systems Agency (DISA), "Defense Switched Network (DSN) Generic Switching Center Requirements (GSCR), Errata Change 2," 14 December 2006
- (d) Joint Interoperability Test Command, "Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
- (e) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01B, "Policy for Department of Defense Voice Services," 23 September 2001
- (f) JITC Memo, JTE, "Special Interoperability Test Certification of the Callware Technologies Callegra.UC™ Server with Software Release 6.14-Joint Interoperability Test Command (JITC)," 19 July 2007
- (g) Executive Office of the President, "Transition Planning for Internet Protocol version 6 (IPv6)," 2 August 2005