



DEFENSE INFORMATION SYSTEMS AGENCY

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

21 Jul 10

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

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 (f), see Enclosure

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 Nortel CS1000M-SG with Software Release 5.0w and Product Enhancement Packages is hereinafter referred to as the System Under Test (SUT). The SUT met all of its critical interoperability requirements and is certified as interoperable for joint use within the DSN. The SUT is certified for Voice over Internet Protocol (VoIP) with certified Assured Services Local Area Networks (ASLANs) on the Unified Capabilities (UC) Approved Products List (APL). The JITC also determined, through analysis, that the Nortel CS1000M-MG with VoIP, is also certified for joint use within the DSN. The analysis determined the CS1000M-MG employs the same software and trunk/line card hardware as the Nortel CS1000M-SG, and therefore is functionally identical to the Nortel CS1000M-SG. The difference between the two switches is scalability. The CS1000M-SG supports up to a maximum of 2000 ports and the CS1000M-MG supports a maximum of 16,000 ports. When the SUT is fielded without VoIP, it is certified for joint use within the DSN as well. The SUT without VoIP is referred to and marketed within the Department of Defense (DoD) as the Nortel DSN M1 Option 61C. Additionally, the CS1000M-MG without VoIP is also certified for joint use within the DSN via the same analysis done on the CS1000M-MG with VoIP. The CS1000M-MG without VoIP is referred to and marketed within the DoD as the Nortel DSN M1 Option 81C. The listed test discrepancies shown in the SUT Interoperability Test Summary, have an overall minor operational impact. The SUT was tested and met the critical interoperability requirements for the following DSN switch types: Small End Office (SMEO), Private Branch Exchange (PBX) 1, and PBX 2. No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

certification expires upon changes that could affect interoperability, but no later than three years from the date of the original memorandum (21 October 2008).

3. The extension of this certification is based upon Desktop Review (DTR) 2. The original certification is based on interoperability testing conducted by JITC, DISA adjudication of open test discrepancy reports, and a review of the vendor's Letters of Compliance (LoC). Testing was conducted at JITC's Global Information Grid Network Test Facility at Fort Huachuca, Arizona, from 10 March through 25 April 2008 and documented in Reference (c). Review of the vendor's LoC was completed on 24 July 2008, and DISA adjudication of open test discrepancy reports was completed on 22 September 2008. This DTR was requested to include the Digital Transmission Link Level 1 (T1) Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) QSIG interface for voicemail. The JITC approved this DTR based on JITC analysis of data collected on SUT with ISDN PRI QSIG interface card installed. The DSAWG accreditation for this DTR was granted on 29 October 2010.

4. The interoperability test summary of the SUT is contained in Table 1. The SMEO required and conditional Capability Requirements (CRs) and Feature Requirements (FRs) are listed in Table 2. This interoperability test status is based on the SUT's ability to meet:

- a. DSN services for Network and Applications specified in Reference (d).
- b. SMEO interface and signaling requirements for trunks/lines specified in Reference (e) verified through JITC testing and/or vendor submission of LoC.
- c. SMEO CRs/FRs specified in Reference (e) verified through JITC testing and/or vendor submission of LoC.
- d. The overall system interoperability performance derived from test procedures listed in Reference (f).

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 1. SUT Interoperability Test Summary

DSN Trunk Interfaces			
Interface & Signaling	Critical	Status	Remarks
T1 CAS (DTMF, DP)	Yes	Certified	Met all critical CRs and FRs with the following minor exceptions: The SUT recognizes a wink start signal greater than the specified maximum limit. ¹ The SUT does not support glare hold resolution for their CAS trunks. ²
T1 CAS (MFR1)	No	Not Tested	T1 CAS (MFR1) is not supported by the SUT. This is not a required interface for a SMEO. There is no risk associated with the SUT not supporting this interface.
E1 CAS (DTMF, DP)	Yes (Europe only)	Certified	Met all critical CRs and FRs with the following minor exceptions: The SUT does not support glare hold resolution for their CAS trunks. ¹ The on/off hook pulse that frames the preemption signal on the E1 CAS is intermittently out of the required tolerance of 100ms (+/-5ms). ³
E1 CAS (MFR1)	No	Not Tested	E1 CAS (MFR1) is not supported by the SUT. This is not a required interface for a SMEO. There is no risk associated with the SUT not supporting this interface.
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes	Certified	Met all critical CRs and FRs.
E1 PRI (ITU-T Q.955.3)	No (Europe only)	Certified	Met all critical CRs and FRs.
T1 SS7 (ANSI T1.619a)	No	Not Tested	T1 SS7 is not supported by the SUT. This is not a required interface for a SMEO. There is no risk associated with the SUT not supporting this interface.
E1 SS7 (ANSI T1.619a)	No	Not Tested	E1 SS7 is not supported by the SUT. This is not a required interface for a SMEO. There is no risk associated with the SUT not supporting this interface.
DSN Line Interfaces			
Interface & Signaling	Critical	Status	Remarks
2-Wire Analog (GR-506-CORE)	Yes	Certified	Met all critical CRs and FRs.
ISDN BRI NI 1/2	Yes	Certified	Met all critical CRs and FRs with the following minor exceptions: The SUT does not support NI2 BRI. ⁴ The precedence above ROUTINE ringing cadence that the SUT applies to BRI phones does not meet the specifications. ⁵ The BRI instruments do not support precedence call waiting. ⁶
2-Wire Proprietary Digital	No	Certified	Met all critical CRs and FRs.
VoIP (ITU-T H.323 Proprietary)	No	Certified	Met all critical CRs and FRs. Precedence call waiting indication is unique on VoIP phones. ⁷
Voicemail			
Interface	Critical	Status	Remarks
Voice Messaging System via proprietary high-density serial connection	No	Certified	The SUT met all critical CRs and FRs for voicemail with this interface. The SUT is certified with any Nortel CallPilot on the UC APL which is certified for this interface.
Voice Messaging System 201i card via backplane	No	Certified	The SUT met all critical CRs and FRs for voicemail with this interface. The SUT is certified with any Nortel CallPilot on the UC APL which is certified for this interface.
2-Wire Proprietary Digital	No	Certified	The SUT met all critical CRs and FRs for voicemail with this interface. The SUT is certified with any voicemail device on the UC APL, which is certified with a Nortel Meridian1 M2616 Meridian Business Set digital proprietary interface.
T1 ISDN PRI QSIG (ITU-T Q.931)	No	Certified	The SUT met all critical CRs and FRs for voicemail with this interface. The SUT is certified with any Callware Technologies Callegra.Unified Communications (UC) TM Server on the UC APL, which is certified with this interface.

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 1. SUT Interoperability Test Summary (continued)

Automated Call Distributor				
Interface		Critical	Status	Remarks
2-Wire Proprietary Digital		No	Certified	The SUT met all critical CRs and FRs for ACD with this interface. The SUT is certified with any ACD on the UC APL, which is certified with a Nortel Meridian1 M2616 Meridian Business Set digital proprietary interface.
DSN Features and Capabilities				
Features and Capabilities		Critical	Status	Remarks
Common Features		Yes	Certified	Met all critical CRs and FRs with the following minor exception: The SUT does not correctly support the call forwarding variable feature. ⁸ The conference disconnect tone that is provided by the SUT does not meet the specifications. ⁹
Attendant		No	Certified	Met all critical CRs and FRs with the following minor exceptions: Stations cannot be classmarked to prohibit the attendant console from performing a busy override to an active call. ¹⁰
Public Safety		Yes	Certified	Met all critical CRs and FRs with the following exception: The SUT cannot perform a tandem call trace of a specified distant office directory number. ¹¹
Conferencing	Preset	No	Not Tested	Preset conferencing is not supported by the SUT. This is not a required feature for a SMEO. There is no risk associated with the SUT not supporting this feature.
	Meet-me	Yes	Not Tested	Prior to UCR 2007, Meet-me conferencing was conditional for a SMEO. The UCR 2007 changed this feature to required for a SMEO, and the vendor has 18 months (until July 2009) to develop this capability.
	Progressive	No	Certified	Met all critical CRs and FRs for Progressive Conferencing.
Nailed-up Connections		No	Not Tested	This feature is not supported by the SUT. This is not a required feature for a SMEO. There is no risk associated with the SUT not supporting this feature.
DSN Hotline Services		Yes	Certified	Met all critical CRs and FRs with the following minor exceptions: The SUT does not support a protected hotline specified list. ¹²
MLPP		Yes	Certified	Met all critical CRs and FRs with the following minor exceptions: The SUT will not permit a BRI station to be a member of a multiline hunt group. ¹³ The SUT does not support the loss of Command and Control announcement. ¹⁴
Call Processing		Yes	Certified	Met all critical CRs and FRs.
Network Management		Yes	Certified	Met all critical CRs and FRs with a serial EIA-232 interface.
ISDN Services		Yes	Met	Met all critical CRs and FRs.
Synchronization		Yes	Certified	Met all critical CRs and FRs.
Reliability		Yes	Certified	Met all critical CRs and FRs.
Security		Yes	See note 15.	See note 15.
VoIP System		No	Certified	The SUT is certified for VoIP with any certified ASLAN posted on the UC APL. See note 16.
Network Gateways				
Gateway	Interface & Signaling	Critical	Status	Remarks
PSTN	T1 CAS (DTMF, DP)	Yes	Certified	Met all critical CRs and FRs.
	E1 CAS (DTMF, DP)	No (Europe only)	Certified	Met all critical CRs and FRs.
	T1 ISDN PRI NI 1/2 (ANSI T1.607)	No	Certified	Met all critical CRs and FRs.
	E1 PRI (ITU-T Q.931)	No (Europe only)	Certified	Met all critical CRs and FRs.
	Ground Start Line	Yes	Certified	Met all critical CRs and FRs.
Tactical	T1 CAS (DTMF, DP)	No	Certified	Met all critical CRs and FRs.

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 1. SUT Interoperability Test Summary (continued)

NOTES:

- 1 T1 CAS wink start signals greater than the specified maximum limit are recognized as valid by the SUT. The UCR, section 5.3.3.3.1 and UCR Figure 3-2 define the wink start recognition limits between 100 ms and 350 ms. The SUT recognizes wink start signals from 100 ms to 925 ms in duration. Since all certified switches within the DSN must generate the wink start signal within 140-290 ms, this anomaly has no operational impact.
- 2 The SUT does not support glare hold resolution on CAS trunks. It only supports glare release. The SUT is a subtending switch off of a MFS and all MFS support glare hold, which complements the SUT's capability to support glare release. Therefore, the operational impact is minor.
- 3 The on/off hook pulse that initiates the preemption signal on the E1 CAS is intermittently out of the required tolerance of 100 ms (+/-5 ms). The pulse width was measured to be greater than 100 ms (the highest at 128 ms) about 20 percent of the time, but never had any impact on the ability of the SUT to support call preemption. Therefore, this anomaly has no operational impact.
- 4 The SUT does not support an NI2 BRI interface. The SUT does support an NI1 BRI interface. The NI2 BRI interface is required for SMEO operation as specified by UCR, section 2.3.3. The primary differences between NI1 and NI2 are supplemental features which currently are not fielded within the DSN nor are there plans to field them in the future. This anomaly has a minor operational impact.
- 5 The precedence above ROUTINE ringing cadence that the SUT applies to BRI phones does not meet the specifications as detailed in the UCR, section 5.5.1. The precedence above ROUTINE cadence is distinct from the ROUTINE cadence when it is configured properly; therefore this anomaly has no operational impact.
- 6 The SUT does not support precedence call waiting for their BRI instruments; however the SUT does support precedence call waiting for all other phone types. Also, this requirement is has been changed from conditional to required in the 2007 UCR and the vendor has 18 months (until July 2009) to develop this feature. The operational impact is minor.
- 7 The SUT supports the "call waiting" indication on VoIP telephones with visual indicators in lieu of audible tones as specified by the UCR. When call waiting is invoked on a VoIP phone, the phone displays call waiting text along with a flashing symbol. The call waiting symbol flashes twice for a ROUTINE call and three times for precedence above ROUTINE call. Since the requirement for audible tone is conditional, and there are two visual indicators to alert the VoIP user of a waiting call, there is no operational impact.
- 8 When CFV is assigned to any station on the SUT (except BRI, which does not support CFV) and CFV is invoked by the user, all precedence calls placed to that instrument are forwarded to the DSN or PSTN. Additionally, any station with CFV invoked does not receive a "ping" ring when calls are being forwarded. In accordance with the UCR, only ROUTINE precedence calls will be forwarded and precedence calls above are diverted to the attendant console, night service or alternate directory number. Therefore this feature is not certified by JITC or authorized by the DSN PMO for use within the DSN. This is a new UCR requirement and the vendor has 18 months (until July 2009) to develop this feature.
- 9 The conference disconnect tone that is provided by the SUT does not meet the specifications designated in UCR, section 5.5.2. The SUT conference disconnect tone is distinguishable from other DSN tones and cadences; therefore, this anomaly has a minor operational impact.
- 10 Stations cannot be classmarked to prohibit the attendant console from performing a busy override to an active call, as specified in the UCR, section 2.2.4. The proper override tone; however, is given to a station active with a call prior to the attendant's bridging into the active call. Since attendants rarely bridge into calls and active calls remain connected when an attendant does bridge into a call, the operational impact is minor.
- 11 The SUT cannot perform a tandem call trace of a specified distant office directory number as specified in the UCR. This anomaly was adjudicated by DISA, and determined to have a minor operational impact.
- 12 The SUT will not allow the protection of a hotline call originator through the use of a hotline list as required by the UCR. However, this capability can be accomplished with the SUT by classmarking authorized hotline users for receiving only calls from other hotline callers. The operational impact is minor.
- 13 The SUT will not permit an ISDN BRI station to be a member of a multi-line hunt group. All other phone types can be configured as members of a multiline hunt group. Since ISDN BRI voice users are rarely used within the DSN and this feature can be accomplished on the SUT with analog and digital proprietary stations, this anomaly has a minor operational impact.
- 14 The SUT does not support the loss of Command and Control announcement. This is a new UCR requirement and the vendor has 18 months (until July 2009) to develop this capability.
- 15 Security is tested by DISA-led Information Assurance test teams and published in a separate report.
- 16 An IPv6 capable system or product, as defined in the UCR, paragraph 1.7, shall be capable of receiving, processing, and forwarding IPv6 packets and/or interfacing with other systems and protocols in manner similar to that of IPv4. IPv6 capability is currently satisfied by a vendor Letter of Compliance signed by the Vice President of their respective company. The vendor stated, in writing, compliance to the following criteria:
 - a. Conformant with IPv6 standards profile contained in the DoD IT Standards Registry (DISR).
 - b. Maintaining interoperability in heterogeneous environments and with IPv4.
 - c. Commitment to upgrade as the IPv6 standard evolves.
 - d. Availability of contractor/vendor IPv6 technical support.

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 1. SUT Interoperability Test Summary (continued)

LEGEND:					
ANSI	American National Standards Institute	GR-506-CORE	LSSGR: Signaling for Analog Interfaces	NI2	National ISDN Standard 2
ASLAN	Assured Services Local Area Network	H.323	Standard for multi-media communications on packet-based networks	PAT	Precedence Access Threshold
BRI	Basic Rate Interface			PBX	Private Branch Exchange
CAS	Channel Associated Signaling	IPv4	Internet Protocol version 4	PRI	Primary Rate Interface
CFV	Call Forwarding Variable	IPv6	Internet Protocol version 6	PSTN	Public Switched Telephone Network
CRs	Capability Requirements	ISDN	Integrated Services Digital Network	Q.931	Signaling Standard for ISDN
DISA	Defense Information Systems Agency			Q.955.3	ISDN signaling standard for E1 MLPP
DoD	Department of Defense	ITU-T	International Telecommunication Union - Standardization Sector	QSIG	an ISDN based signaling protocol
DP	Dial Pulse			SMEO	Small End Office
DSN	Defense Switched Network			SS7	Signaling System 7
DSS1	Digital Subscriber Signaling 1	JITC	Joint Interoperability Test Command	SUT	System Under Test
DTMF	Dual Tone Multi-Frequency			T1	Digital Transmission Link Level 1 (1.544 Mbps)
E1	European Basic Multiplex Rate (2.048 Mbps)	LSSGR	Local Access and Transport Area (LATA) Switching Systems Generic Requirements	T1.607	ISDN – Layer 3 Signaling Specification for Circuit Switched Bearer Service for DSS1
EIA	Electronic Industries Alliance			T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
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	Mbps	Megabits per second	TPC	Twisted Pair Copper
		MFR1	Multi-Frequency Recommendation 1	UC	Unified Capabilities
		MLPP	Multi-Level Precedence and Preemption	UCR	Unified Capabilities Requirements
		ms	millisecond	VoIP	Voice over Internet Protocol
FRs	Feature Requirements	NI1	National ISDN Standard 1		
GR	Generic Requirement	NI 1/2	National ISDN Standard 1 or 2		

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements

DSN Trunk Interfaces				
Interface	Critical	Requirements Required or Conditional	References	
T1 SS7 (ANSI T1.619a)	No	Trunking	<ul style="list-style-type: none"> • Direct Inward Dialing (C) • National ISDN 1/2 Primary Access (R) • ISDN ANSI MLPP Service Capability (R) • ITU-T ISDN Primary Access (Europe only) (C) • ITU-T ISDN Primary Access Digital Subscriber Signaling System Number 1 MLPP (Europe only) (C) • Normal Wink Start Operations (R) • Glare Operation (R) • Abnormal Wink Start (R) • Glare Resolution (R) • Call for Service Timing (R) • Guard Timing (R) • Satellite Timing (R) • Disconnect Control (R) • Reselect and Retrial (R) • Off-Hook Supervision Transition (R) • Dial-Pulse Signals (R) • DTMF Signaling (R) • Standard Digit Format for Precedence (C) • MFR1 2/6 Signaling (C) • Alerting Signals and Tones (R) • Common Channel Signaling 7 (C) • DSN ISDN User-to-Network Signaling (R) 	<ul style="list-style-type: none"> • UCR Section 2.3.2 • UCR Section 2.3.4.1 • UCR Section 2.3.4.1.1 • UCR Section 2.3.4.2 • UCR Section 2.3.4.2.1
E1 SS7 (ITU-T Q.735.3)	No (Europe only)		<ul style="list-style-type: none"> • Normal Wink Start Operations (R) • Glare Operation (R) • Abnormal Wink Start (R) • Glare Resolution (R) • Call for Service Timing (R) • Guard Timing (R) • Satellite Timing (R) • Disconnect Control (R) • Reselect and Retrial (R) • Off-Hook Supervision Transition (R) • Dial-Pulse Signals (R) • DTMF Signaling (R) • Standard Digit Format for Precedence (C) • MFR1 2/6 Signaling (C) • Alerting Signals and Tones (R) • Common Channel Signaling 7 (C) • DSN ISDN User-to-Network Signaling (R) 	<ul style="list-style-type: none"> • UCR Section 5.3.3.1.1 • UCR Section 5.3.3.1.2 • UCR Section 5.3.3.2.1 • UCR Section 5.3.3.2.2 • UCR Section 5.3.5 • UCR Section 5.3.6 • UCR Section 5.3.7 • UCR Section 5.3.8 • UCR Section 5.3.9 • UCR Section 5.3.10 • UCR Section 5.4.1 • UCR Section 5.4.2 • UCR Section 5.4.2.1 • UCR Section 5.4.3 • UCR Section 5.5 • UCR Section 5.6
T1 CAS (MFR1)	No		<ul style="list-style-type: none"> • DSN ISDN User-to-Network Signaling (R) • Application (R) • Physical Layer (R) • S/T Reference Point (R) • Data Link Layer (R) • Data Link Connection (R) • Peer-to-Peer Procedures of Data-Link Layer (R) • Layer 3 DSN User-to-Network Signaling (R) • DSN User-to-Network Signaling for Circuit-Switched Bearer Services (R) 	<ul style="list-style-type: none"> • UCR Section 5.7.1 • UCR Section 5.7.1.1 • UCR Section 5.7.1.2 • UCR Section 5.7.1.2.1 • UCR Section 5.7.1.3 • UCR Section 5.7.1.3.1 • UCR Section 5.7.1.3.2 • UCR Section 5.7.1.4 • UCR Section 5.7.1.4.2
T1 CAS (DTMF, DP)	Yes		<ul style="list-style-type: none"> • Sequence of Messages for DSN Circuit-Switched Calls (R) • Message Functional Definition and Content (R) • General Message Format and Information Elements Coding (R) 	<ul style="list-style-type: none"> • UCR Section 5.7.1.4.3 • UCR Section 5.7.1.4.4 • UCR Section 5.7.1.4.5
E1 CAS (MFR1)	No (Europe only)		<ul style="list-style-type: none"> • Supplementary Services (C) • PCM-24 Digital Trunk Interface (R) • PCM-30 Digital Trunk Interface (Europe only) (R) • Interoperation of PCM-24 and PCM-30 (R) • Analog Trunk Interface (C) • Integrated Digital Loop Carrier (C) • Local Office Test Line (C) • Outside Plant Test Lines (C) • Test Incoming Trunks Tandem or Local State (C) • Manual Test of Trunks (R) 	<ul style="list-style-type: none"> • UCR Section 5.7.1.4.6 • UCR Section 7.1 • UCR Section 7.2 • UCR Section 7.3 • UCR Section 7.4 • UCR Section 7.5 • UCR Section 2.5.1 • UCR Section 2.5.2 • UCR Section 2.5.3 • UCR Section 2.5.4.2
E1 CAS (DTMF, DP)	Yes (Europe only)			
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes			
E1 ISDN PRI (ITU-T Q.955.3)	No (Europe Only)			

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Table 2. SMEO Requirements (continued)

DSN Trunk Interfaces				
Interface	Critical	Requirements Required or Conditional		References
T1 SS7 (ANSI T1.619a)	No	Trunking continued	<ul style="list-style-type: none"> Trunk Group-Remove from Service (R) Trunk Group-Restore to Service (R) Carrier Group Alarm (R) Software Carrier Group Alarm (C) 	<ul style="list-style-type: none"> UCR Section 2.5.5 UCR Section 2.5.6 UCR Section 2.5.7 UCR Section 2.5.7.1
E1 SS7 (ITU-T Q.735.3)	No (Europe only)		Voice	<ul style="list-style-type: none"> MOS (R) Secure calls (R)
T1 CAS (MFR1)	No	Facsimile	<ul style="list-style-type: none"> Analog: ITU-T T.4 (R) 	<ul style="list-style-type: none"> DISR
T1 CAS (DTMF, DP)	Yes	Data	<ul style="list-style-type: none"> Modem (VBD) (R) 56 kbps switched data (R: PRI only) 64 kbps switched data (R: PRI only) NX56 synchronous BER (R: PRI only) NX64 synchronous BER (R: PRI only) Secure data (STE/STU-III) (R) 	<ul style="list-style-type: none"> CJCSI 6215.01C UCR Section 3.10 UCR Section 3.10 UCR Section 3.10 UCR Section 3.10 CJCSI 6215.01C
E1 CAS (MFR1)	No (Europe only)			
E1 CAS (DTMF, DP)	Yes (Europe only)			
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes	VTC	<ul style="list-style-type: none"> ITU-T H.320 (R: PRI only) 	<ul style="list-style-type: none"> FTR 1080B-2002
E1 ISDN PRI (ITU-T Q.955.3)	No (Europe Only)			
DSN Line Interfaces				
2-Wire Analog	Yes	Access	<ul style="list-style-type: none"> Directory Number Identification (R) PBX Line (C) National ISDN 1/2 Basic Access (R) Analog Line (R) Basic Line Test Capabilities (R) Advanced Line Test Capabilities (C) Network Power Systems for External Interfaces (R) Loop Start Line (R: 2-Wire Analog only) Reverse Battery (R) Alerting Signals and Tones (R) 	<ul style="list-style-type: none"> UCR Section 2.1.1 UCR Section 2.3.1 UCR Section 2.3.3 UCR Section 2.3.5 UCR Section 2.5.4.1.1 UCR Section 2.5.4.1.2 UCR Section 5.1 UCR Section 5.2.1 UCR Section 5.3.1 UCR Section 5.5
ISDN BRI NI 1/2 (ANSI T1.619a)	Yes		Voice	<ul style="list-style-type: none"> MOS (R) Secure Calls (R)
2W Digital Proprietary	No	Facsimile	<ul style="list-style-type: none"> Analog: ITU-T T.4 (R) 	<ul style="list-style-type: none"> DISR
VoIP	No	Data	<ul style="list-style-type: none"> Modem (VBD) (R) 56 kbps switched data (R) 64 kbps switched data (R: BRI only) NX56 synchronous BER (R: BRI only) NX64 synchronous BER (R: BRI only) Secure data (STE/STU-III) (R) 	<ul style="list-style-type: none"> CJCSI 6215.01C UCR Section 3.10 UCR Section 3.10 UCR Section 3.10 UCR Section 3.10 CJCSI 6215.01C
		VTC	<ul style="list-style-type: none"> ITU-T H.320 (R: BRI only) 	<ul style="list-style-type: none"> FTR 1080B-2002
SUT Voice Mail Interfaces				
Interface	Critical	Requirements Required or Conditional		References
2 Wire Digital Proprietary	No	<ul style="list-style-type: none"> TIA/EIA-470-B (C) ROUTINE precedence only in accordance with UCR, Section 3.3 (R) 		<ul style="list-style-type: none"> UCR A7.5 .2 UCR 3.3

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements (continued)

Automated Call Distributor Interfaces			
Interface	Critical	Requirements Required or Conditional	References
2 Wire Digital Proprietary	No	<ul style="list-style-type: none"> • TIA/EIA-470-B (C) • ROUTINE precedence only in accordance with UCR, Section 3.3 (R) 	<ul style="list-style-type: none"> • UCR A7.5 .2 • UCR 3.3
DSN Features & Capabilities			
Feature/ Capability	Critical	Requirements Required or Conditional	References
Common Features	Yes	<ul style="list-style-type: none"> • Individual Lines (R) • Selective call rejection (C) • Denied originating service (C) • Code restriction and diversion (R) • Call waiting (R) • Three-way calling (R) • Add-on transfer, conference calling, and call hold (C) • Call Transfer Individual – All calls (R) • Call Transfer - Internal Only (R) • Call Transfer – Individual – Incoming Only/Add-On Consultation Hold – Incoming Call (R) • Call Transfer – Outside (R) • Call Transfer – Add-On Restricted Station (C) • Call Transfer – Attendant (C) • Call Hold (R) • Conference Calling – Six Way Station Controlled (C) • Call forwarding Variable (R) • Call Forward Busy Line (R) • Call Forwarding – Don't Answer – All Calls (R) • Selective Call Forwarding (C) • Call pick-up (C) • Address Translation (C) • Assured Dial Tone (R) 	<ul style="list-style-type: none"> • UCR Section 2.1 • UCR Section 2.1.2 • UCR Section 2.1.3 • UCR Section 2.1.4 • UCR Section 2.1.5 • UCR Section 2.1.6 • UCR Section 2.1.7 • UCR Section 2.1.7.1 • UCR Section 2.1.7.2 • UCR Section 2.1.7.3 • UCR Section 2.1.7.4 • UCR Section 2.1.7.5 • UCR Section 2.1.7.6 • UCR Section 2.1.7.7 • UCR Section 2.1.7.8 • UCR Section 2.1.8.1 • UCR Section 2.1.8.2 • UCR Section 2.1.8.3 • UCR Section 2.1.8.4 • UCR Section 2.1.9 • UCR Section 2.7 • UCR Section 2.9
Attendant	No	<ul style="list-style-type: none"> • Attendant Features (C) 	<ul style="list-style-type: none"> • UCR Section 2.2
Public Safety	Yes	<ul style="list-style-type: none"> • Basic Emergency Service (911) Caller (R) • Emergency Service (911) Public Safety Answering Point (C) • Enhanced Emergency Service (E911) (R) • Trace of terminating calls (R) • Outgoing call trace (R) • Tandem call trace (R) • Trace of a call in progress (R) 	<ul style="list-style-type: none"> • UCR Section 2.4.1.1 • UCR Section 2.4.1.2 • UCR Section 2.4.1.3 • UCR Section 2.4.2 • UCR Section 2.4.3 • UCR Section 2.4.4 • UCR Section 2.4.5
Conferencing	Yes	<ul style="list-style-type: none"> • Preset Conferencing (C) • Meet-Me Conferencing (R) • Progressive Conferencing (C) 	<ul style="list-style-type: none"> • UCR Section 2.6. • UCR Section 2.6.2 • UCR Section 2.6.3
Nailed-up Connections	No	<ul style="list-style-type: none"> • Nailed-Up Connection (C) 	<ul style="list-style-type: none"> • UCR Section 2.8
DSN Hotline Services	Yes	<ul style="list-style-type: none"> • DSN Analog Hotline Service (R) 	<ul style="list-style-type: none"> • UCR Section 2.12

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements (continued)

DSN Features & Capabilities			
Feature/ Capability	Critical	Requirements Required or Conditional	References
MLPP	Yes	<ul style="list-style-type: none"> • MLPP Overview (R) • Preemption in the Network (R) • Network Facility with Lower Precedence Calls (R) • Cancel to / Cancel from (C) • Network Facility with Equal or Higher Precedence Calls (R) • MLPP Trunk Selection (R) • Hunt Sequence for Trunks (R) • ROUTINE Precedence Calls (R) • Precedence Calls Above ROUTINE Precedence (R) • Method 1 (R) • Method 2 (C) • MLPP Internetworking with other Networks (R) • Precedence Call Diversion (R) • Channel Associated Signaling (R) • Primary Rate Interface (R) • Common Channel Signaling Number 7 (C) • Analog Line MLPP (R) • ISDN MLPP Basic Rate Interface General Description (R) • Single B Channel, Single Appearance, Single DN (R) • Line Active with a Lower Precedence Call (R) • Line Active with a Equal or Higher Precedence Call (R) • Single B Channel, Multiple Appearances, Single DN (C) • Two B Channels, Multiple Appearances, Single DN (C) • Two B Channel, Two DN (Data Mode Only) (R) • ISDN Primary Rate Interface (R) • Precedence Call Waiting (R) • Call Forwarding (R) • Call Transfer (R) • Call Hold (R) • Three-Way Calling (R) • Call Pickup (C) • Conferencing (C) • Multiline Hunt Group (C) • Community of Interest (C) • MLPP Common Channel Signaling Number 7 (C) • CAS to CCS Trunk Network in a Mixed Media Network (C) • MLPP Interaction with EKTS features (C) 	<ul style="list-style-type: none"> • UCR Section 3.1 • UCR Section 3.2 • UCR Section 3.2.1 • UCR Section 3.2.1.1 • UCR Section 3.2.2 • UCR Section 3.2.3 • UCR Section 3.2.3.1 • UCR Section 3.2.3.1.1 • UCR Section 3.2.3.1.2 • UCR Section 3.2.3.1.2.1 • UCR Section 3.2.3.1.2.2 • UCR Section 3.2.4 • UCR Section 3.3 • UCR Section 3.4.1 • UCR Section 3.4.2 • UCR Section 3.4.3 • UCR Section 3.5 • UCR Section 3.6.1 • UCR Section 3.6.2 • UCR Section 3.6.2.1 • UCR Section 3.6.2.2 • UCR Section 3.6.3 • UCR Section 3.6.4 • UCR Section 3.6.5 • UCR Section 3.7 • UCR Section 3.8.1 • UCR Section 3.8.2 • UCR Section 3.8.3 • UCR Section 3.8.4 • UCR Section 3.8.5 • UCR Section 3.8.6 • UCR Section 3.8.7 • UCR Section 3.8.8 • UCR Section 3.8.9 • UCR Section 3.9 • UCR Section 3.10 • UCR Section 3.11

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements (continued)

DSN Features & Capabilities			
Feature/ Capability	Critical	Requirements Required or Conditional	References
Call Processing	Yes	<ul style="list-style-type: none"> • Call Treatments (R) • Primary and Alternate Routing (R) • E&M Lead Signaling States (C) • 4-Wire Analog User Access Lines (C) • 2-Wire User Access Lines (R) • Termination of Analog Lines (R) • DSN Interswitch Trunk Call Processing (NON-CCS/ISDN) (R) • DSN User Dialing (R) • Interswitch and Intraswitch Dialing (R) • Seven-Digit Dialing (R) • Ten-Digit Dialing (R) • Access Code (R) • Access Digit (R) • Precedence Digit (R) • Service Digit (R) • Route Code (R) • Area Code (R) • Switch Code (R) • Line Number (R) • Calling Name Delivery (C) • Calling Number Delivery (R) • Emergency Service 911 Conflict Resolution (R) • DSN Switch Outpulsing Digit Formats (C) • Standard Directory Number (R) • Standard Test Numbers (C) • Base Services – Abbreviated Numbers (R) • Digit Reception Requirements (R) • Digit Registration Capacity (R) • Screening (R) 	<ul style="list-style-type: none"> • UCR Section 4.1 • UCR Section 4.2 • UCR Section 4.3.1 • UCR Section 4.3.2 • UCR Section 4.3.3 • UCR Section 4.3.4 • UCR Section 4.4 • UCR Section 4.5.1.1 • UCR Section 4.5.1.2 • UCR Section 4.5.1.2.1 • UCR Section 4.5.1.2.2 • UCR Section 4.5.1.3 • UCR Section 4.5.1.3.1 • UCR Section 4.5.1.3.2 • UCR Section 4.5.1.3.3 • UCR Section 4.5.1.4 • UCR Section 4.5.1.5 • UCR Section 4.5.1.6 • UCR Section 4.5.1.7 • UCR Section 4.5.1.8.1 • UCR Section 4.5.1.8.2 • UCR Section 4.5.1.9 • UCR Section 4.5.2 • UCR Section 4.5.3 • UCR Section 4.5.4 • UCR Section 4.5.5 • UCR Section 4.5.6 • UCR Section 4.5.7 • UCR Section 4.5.8
Network Management	Yes	<ul style="list-style-type: none"> • Interfaces (R) • Data Quality (R) • Traffic Measurements (R) • Reference Data (C) • Line Servicing (C) • Trunk Groups (C) • Call Processors (C) • Switch Services (C) • Special Studies (C) • Remote Switching Studies (C) • Features (C) • Common Channel Signaling Network Measurements (C) • ISDN Measurements (C) • Traffic Capacity (R) • Fault management (R) • Configuration management (R) • Call Detail Recording Data Retention (C) • Performance management (R) • Network Management controls (C) • Remote access (R) 	<ul style="list-style-type: none"> • UCR Section 9.1 • UCR Section 9.2.1 • UCR Section 9.2.2.1.1 • UCR Section 9.2.2.1.2 • UCR Section 9.2.2.2 • UCR Section 9.2.2.3 • UCR Section 9.2.2.4 • UCR Section 9.2.2.5 • UCR Section 9.2.2.6 • UCR Section 9.2.2.7 • UCR Section 9.2.2.8 • UCR Section 9.2.3 • UCR Section 9.2.4 • UCR Section 9.2.5 • UCR Section 9.3 • UCR Section 9.4 • UCR Section 9.5.2 • UCR Section 9.6 • UCR Section 9.7 • UCR Section 9.8

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements (continued)

DSN Features & Capabilities (continued)			
Feature/ Capability	Critical	Requirements Required or Conditional	References
ISDN Services	Yes	<ul style="list-style-type: none"> • BRI Access, Call Control and Signaling (R) • Uniform Interface Configuration for BRIs (R) • Electronic Key Telephone Systems (EKTS) (C) • PRI Access, Call Control and Signaling (R) • PRI Features (R) • Packet Data Features and Capabilities (C) 	<ul style="list-style-type: none"> • UCR Section 10, Table 10-1 • UCR Section 10, Table 10-2 • UCR Section 10, Table 10-3 • UCR Section 10, Table 10-4 • UCR Section 10, Table 10-5 • UCR Section 10, Table 10-6
Synchronization	Yes	<ul style="list-style-type: none"> • External Timing Mode (C) • Line timing mode (R) • General (C) • Internal Stratum 4 (R) • Synchronization Performance Monitoring Criteria (C) • DS1 Traffic Interfaces (C) • DS0 Traffic Interconnects (C) 	<ul style="list-style-type: none"> • UCR Section 11.1.1.1 • UCR Section 11.1.1.2 • UCR Section 11.1.2.1 • UCR Section 11.1.2.2 • UCR Section 11.2 • UCR Section 11.3 • UCR Section 11.4
Reliability	Yes	<ul style="list-style-type: none"> • Reliability Requirements (R) • Backup Power (R) • Power Components (R) • UPS Requirements (R) • UPS Load Capacity (R) • Backup Power (Environmental) (R) • Alarms (R) 	<ul style="list-style-type: none"> • UCR Section 12.1 • UCR Section 12.3 • UCR Section 12.3.1 • UCR Section 12.3.2 • UCR Section 12.3.2.1 • UCR Section 12.3.3 • UCR Section 12.3.4
Security	Yes	<ul style="list-style-type: none"> • GR-815, STIGs, and DoDI 8510.bb (DIACAP) (R) 	<ul style="list-style-type: none"> • UCR Section 13
VoIP			
VoIP System	No	<p>VoIP function is conditional. If VoIP is provided, all of the following requirements must be met:</p> <ul style="list-style-type: none"> • Voice Quality with MOS of 4.0 or better (R) • ITU-T G.711 PCM CODEC (R) • MLPP • Security (R) • Network management (R) • System timing (R) • Latency ≤ 60 milliseconds (R) • IPv6 capable (R) • Service Class Tagging (R) • VoIP System Downtime (IP network 35 min/yr Subscriber 12 min/yr) (R) 	<ul style="list-style-type: none"> • UCR App. 3, para. A3.2.1 • UCR App. 3, para. A3.2.2 • UCR App. 3, para. A3.2.3 • UCR App. 3, para. A3.2.4 • UCR App. 3, para. A3.2.5 • UCR App. 3, para. A3.2.6 • UCR App. 3, para. A3.2.7 • UCR App. 3, para. A3.2.8 • UCR App. 3, para. A3.2.9 • UCR App. 3, para. A3.2.10

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

Table 2. SMEO Requirements (continued)

Network Gateways																																																																																																																																																																																									
Interface	Critical	Requirements Required or Conditional			References																																																																																																																																																																																				
PSTN (See note 1.)	Yes	Trunking	<ul style="list-style-type: none"> • Positive Identification Control (C) • On-Netting (C) • Off-Netting (C) • Ground Start Line (R) • Immediate Start (C) • Delay Dial (C) 		<ul style="list-style-type: none"> • CJCSI 6215.01C • CJCSI 6215.01C • CJCSI 6215.01C • UCR Section 5.2.2 • UCR Section 5.3.2 • UCR Section 5.3.4 																																																																																																																																																																																				
Tactical (See note 2.)	No	Trunking	<ul style="list-style-type: none"> • Trunk Groups (C) • Call Processing (C) 		<ul style="list-style-type: none"> • UCR Section 2.5.5 & 2.5.6 • UCR Section 4 																																																																																																																																																																																				
		Voice	<ul style="list-style-type: none"> • MLPP (C) • Secure calls (C) 		<ul style="list-style-type: none"> • UCR Section 3 • CJCSI 6215.01C 																																																																																																																																																																																				
		Facsimile	<ul style="list-style-type: none"> • Analog: ITU-T T.4 (C) 		<ul style="list-style-type: none"> • DISR 																																																																																																																																																																																				
<p>NOTES:</p> <p>1 Voice, facsimile, data, and VTC service requirements for PSTN are identical to DSN with the exception of MLPP.</p> <p>2 Data and VTC services are not provided via the DSN to tactical interface.</p> <p>LEGEND:</p> <table border="0"> <tr> <td>2W</td> <td>2-Wire</td> <td>FTR 1080B-2002</td> <td>Video Teleconferencing Services</td> <td>PCM-24</td> <td>Pulse Code Modulation - 24 Channels</td> </tr> <tr> <td>ANSI</td> <td>American National Standards Institute</td> <td>G.711</td> <td>Standard for PCM of Voice Frequencies</td> <td>PCM-30</td> <td>Pulse Code Modulation - 30 Channels</td> </tr> <tr> <td>BER</td> <td>Bit Error Ratio</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BRI</td> <td>Basic Rate Interface</td> <td>GR</td> <td>Generic Requirement (Telcordia)</td> <td>PRI</td> <td>Primary Rate Interface</td> </tr> <tr> <td>C</td> <td>Conditional</td> <td></td> <td></td> <td>PSTN</td> <td>Public Switched Telephone Network</td> </tr> <tr> <td>CAS</td> <td>Channel Associated Signaling</td> <td>GR-815</td> <td>Generic Requirements For Network</td> <td>Q.735.3</td> <td>SS7 Signaling Standard for E1</td> </tr> <tr> <td>CCS</td> <td>Common Channel Signaling</td> <td></td> <td>Element/Network System</td> <td></td> <td>MLPP</td> </tr> <tr> <td>CJCSI</td> <td>Chairman of the Joint Chiefs of Staff Instruction</td> <td>H.320</td> <td>(NE/NS) Security Standard for Narrowband VTC</td> <td>Q.955.3</td> <td>ISDN Signaling Standard for E1 MLPP</td> </tr> <tr> <td>CODEC</td> <td>Coder/Decoder</td> <td></td> <td></td> <td>R</td> <td>Required</td> </tr> <tr> <td>DIACAP</td> <td>DoD Information Assurance Certification and Accreditation Process</td> <td>IP</td> <td>Internet Protocol</td> <td>SMEO</td> <td>Small End Office</td> </tr> <tr> <td></td> <td></td> <td>IPv6</td> <td>Internet Protocol version 6</td> <td>SS7</td> <td>Signaling System 7</td> </tr> <tr> <td>DISR</td> <td>DoD IT Standards Registry</td> <td>ISDN</td> <td>Integrated Services Digital Network</td> <td>STE</td> <td>Secure Terminal Equipment</td> </tr> <tr> <td>DoD</td> <td>Department of Defense</td> <td>IT</td> <td>Information Technology</td> <td>STIGs</td> <td>Security Technical</td> </tr> <tr> <td>DoDI</td> <td>Department of Defense Instruction</td> <td>ITU-T</td> <td>International Telecommunication Union - Telecommunication Standardization Sector</td> <td>STU-III</td> <td>Secure Telephone Unit - 3rd Generation</td> </tr> <tr> <td>DP</td> <td>Dial Pulse</td> <td></td> <td></td> <td>S/T</td> <td>ISDN BRI 4- wire interface</td> </tr> <tr> <td>DN</td> <td>Directory Number</td> <td></td> <td></td> <td>T1</td> <td>Digital Transmission Link Level 1 (1.544 Mbps)</td> </tr> <tr> <td>DS0</td> <td>Digital Signal Level 0 (64 kbps)</td> <td>kbps</td> <td>kilobits per second</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>Mbps</td> <td>Megabits per second</td> <td>T.4</td> <td>Standardization of Group 3 facsimile terminals for document transmission</td> </tr> <tr> <td>DS1</td> <td>Digital Signal Level 1 (1.544 Mbps) (2.048 Mbps European)</td> <td>MFR1</td> <td>Multi-Frequency Recommendation 1</td> <td></td> <td>SS7 and ISDN Signaling Standard for T1</td> </tr> <tr> <td></td> <td></td> <td>min</td> <td>minute</td> <td>T1.619a</td> <td></td> </tr> <tr> <td>DSCP</td> <td>Differentiated Services Code Point</td> <td>MLPP</td> <td>Multi-Level Precedence and Preemption</td> <td>TIA</td> <td>Telecommunications Industry Association</td> </tr> <tr> <td>DSN</td> <td>Defense Switched Network</td> <td>MOS</td> <td>Mean Opinion Score</td> <td></td> <td></td> </tr> <tr> <td>DTMF</td> <td>Dual Tone Multi-Frequency</td> <td>NI 1/2</td> <td>National ISDN Standard 1 or 2</td> <td>TIA/EIA-470-B</td> <td>Performance and Compatibility Requirements for Telephone Sets with Loop Signaling</td> </tr> <tr> <td>E&M</td> <td>Ear and Mouth</td> <td></td> <td></td> <td></td> <td>Unified Capabilities Requirements</td> </tr> <tr> <td>E1</td> <td>European Basic Multiplex Rate (2.048 Mbps)</td> <td>NX56</td> <td>Data format restricted to multiples of 56 kbps</td> <td>UCR</td> <td></td> </tr> <tr> <td>EIA</td> <td>Electronic Industries Alliance</td> <td>NX64</td> <td>Data format restricted to multiples of 64 kbps</td> <td>UPS</td> <td>Uninterruptible Power Supply</td> </tr> <tr> <td>EKTS</td> <td>Electronic Key Telephone System</td> <td>para</td> <td>paragraph</td> <td>VBD</td> <td>Variable bit data</td> </tr> <tr> <td></td> <td></td> <td>PBX</td> <td>Private Branch Exchange</td> <td>VoIP</td> <td>Voice over Internet Protocol</td> </tr> <tr> <td>FTR</td> <td>Federal Telecommunications Recommendation</td> <td>PCM</td> <td>Pulse Code Modulation</td> <td>VTC</td> <td>Video Teleconferencing</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>yr</td> <td>year</td> </tr> </table>						2W	2-Wire	FTR 1080B-2002	Video Teleconferencing Services	PCM-24	Pulse Code Modulation - 24 Channels	ANSI	American National Standards Institute	G.711	Standard for PCM of Voice Frequencies	PCM-30	Pulse Code Modulation - 30 Channels	BER	Bit Error Ratio					BRI	Basic Rate Interface	GR	Generic Requirement (Telcordia)	PRI	Primary Rate Interface	C	Conditional			PSTN	Public Switched Telephone Network	CAS	Channel Associated Signaling	GR-815	Generic Requirements For Network	Q.735.3	SS7 Signaling Standard for E1	CCS	Common Channel Signaling		Element/Network System		MLPP	CJCSI	Chairman of the Joint Chiefs of Staff Instruction	H.320	(NE/NS) Security Standard for Narrowband VTC	Q.955.3	ISDN Signaling Standard for E1 MLPP	CODEC	Coder/Decoder			R	Required	DIACAP	DoD Information Assurance Certification and Accreditation Process	IP	Internet Protocol	SMEO	Small End Office			IPv6	Internet Protocol version 6	SS7	Signaling System 7	DISR	DoD IT Standards Registry	ISDN	Integrated Services Digital Network	STE	Secure Terminal Equipment	DoD	Department of Defense	IT	Information Technology	STIGs	Security Technical	DoDI	Department of Defense Instruction	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector	STU-III	Secure Telephone Unit - 3 rd Generation	DP	Dial Pulse			S/T	ISDN BRI 4- wire interface	DN	Directory Number			T1	Digital Transmission Link Level 1 (1.544 Mbps)	DS0	Digital Signal Level 0 (64 kbps)	kbps	kilobits per second					Mbps	Megabits per second	T.4	Standardization of Group 3 facsimile terminals for document transmission	DS1	Digital Signal Level 1 (1.544 Mbps) (2.048 Mbps European)	MFR1	Multi-Frequency Recommendation 1		SS7 and ISDN Signaling Standard for T1			min	minute	T1.619a		DSCP	Differentiated Services Code Point	MLPP	Multi-Level Precedence and Preemption	TIA	Telecommunications Industry Association	DSN	Defense Switched Network	MOS	Mean Opinion Score			DTMF	Dual Tone Multi-Frequency	NI 1/2	National ISDN Standard 1 or 2	TIA/EIA-470-B	Performance and Compatibility Requirements for Telephone Sets with Loop Signaling	E&M	Ear and Mouth				Unified Capabilities Requirements	E1	European Basic Multiplex Rate (2.048 Mbps)	NX56	Data format restricted to multiples of 56 kbps	UCR		EIA	Electronic Industries Alliance	NX64	Data format restricted to multiples of 64 kbps	UPS	Uninterruptible Power Supply	EKTS	Electronic Key Telephone System	para	paragraph	VBD	Variable bit data			PBX	Private Branch Exchange	VoIP	Voice over Internet Protocol	FTR	Federal Telecommunications Recommendation	PCM	Pulse Code Modulation	VTC	Video Teleconferencing					yr	year
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		IPv6	Internet Protocol version 6	SS7	Signaling System 7																																																																																																																																																																																				
DISR	DoD IT Standards Registry	ISDN	Integrated Services Digital Network	STE	Secure Terminal Equipment																																																																																																																																																																																				
DoD	Department of Defense	IT	Information Technology	STIGs	Security Technical																																																																																																																																																																																				
DoDI	Department of Defense Instruction	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector	STU-III	Secure Telephone Unit - 3 rd Generation																																																																																																																																																																																				
DP	Dial Pulse			S/T	ISDN BRI 4- wire interface																																																																																																																																																																																				
DN	Directory Number			T1	Digital Transmission Link Level 1 (1.544 Mbps)																																																																																																																																																																																				
DS0	Digital Signal Level 0 (64 kbps)	kbps	kilobits per second																																																																																																																																																																																						
		Mbps	Megabits per second	T.4	Standardization of Group 3 facsimile terminals for document transmission																																																																																																																																																																																				
DS1	Digital Signal Level 1 (1.544 Mbps) (2.048 Mbps European)	MFR1	Multi-Frequency Recommendation 1		SS7 and ISDN Signaling Standard for T1																																																																																																																																																																																				
		min	minute	T1.619a																																																																																																																																																																																					
DSCP	Differentiated Services Code Point	MLPP	Multi-Level Precedence and Preemption	TIA	Telecommunications Industry Association																																																																																																																																																																																				
DSN	Defense Switched Network	MOS	Mean Opinion Score																																																																																																																																																																																						
DTMF	Dual Tone Multi-Frequency	NI 1/2	National ISDN Standard 1 or 2	TIA/EIA-470-B	Performance and Compatibility Requirements for Telephone Sets with Loop Signaling																																																																																																																																																																																				
E&M	Ear and Mouth				Unified Capabilities Requirements																																																																																																																																																																																				
E1	European Basic Multiplex Rate (2.048 Mbps)	NX56	Data format restricted to multiples of 56 kbps	UCR																																																																																																																																																																																					
EIA	Electronic Industries Alliance	NX64	Data format restricted to multiples of 64 kbps	UPS	Uninterruptible Power Supply																																																																																																																																																																																				
EKTS	Electronic Key Telephone System	para	paragraph	VBD	Variable bit data																																																																																																																																																																																				
		PBX	Private Branch Exchange	VoIP	Voice over Internet Protocol																																																																																																																																																																																				
FTR	Federal Telecommunications Recommendation	PCM	Pulse Code Modulation	VTC	Video Teleconferencing																																																																																																																																																																																				
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JITC Memo, JTE, Extension of the Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages

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 TSSI website at <http://jitc.fhu.disa.mil/tssi>.

6. The JITC point of contact is Mr. Khoa Hoang, DSN 879-4376, commercial (520) 538-4376, FAX DSN 879-4347, or e-mail to khoa.hoang@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0725001.

FOR THE COMMANDER:

Enclosure a/s


for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):

Joint Staff J-6

Joint Interoperability Test Command, Liaison, TE3/JT1

Office of Chief of Naval Operations, CNO N6F2

Headquarters U.S. Air Force, Office of Warfighting Integration & CIO, AF/XCIN (A6N)

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

U.S. Marine Corps MARCORSSYSCOM, 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) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of Nortel Communication Server (CS) 1000M-Single Group (SG), CS1000M-Multi Group (MG), Defense Switched Network (DSN) Meridian 1 (M1) Option 61C, and DSN M1 Option 81C with Software Release 5.0w and Product Enhancement Packages," 21 October 2008
- (d) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01C, "Policy for Department of Defense Voice Services with Real Time Services (RTS)," 9 November 2007
- (e) Defense Information Systems Agency, "Department of Defense Networks Unified Capabilities Requirements," 21 December 2007
- (f) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006