



**DEFENSE INFORMATION SYSTEMS AGENCY**  
**JOINT INTEROPERABILITY TEST COMMAND**  
**2001 BRAINARD ROAD**  
**FORT HUACHUCA, ARIZONA 85613-7051**

IN REPLY  
REFER TO:

Networks, Transmission and  
Integration Division (JTE)

**11 Dec 03**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Joint Interoperability Test Certification of the SecureLogix Enterprise  
Telephony Management System with Software Release 4.1

- References:
- (a) DOD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 11 January 2002
  - (b) CJCSI 6212.01B, "Interoperability and Supportability of National Security Systems and Information Technology Systems," 8 May 2000

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. Additional references are provided in enclosure 1.

2. The SecureLogix Enterprise Telephony Management System (ETM)®, including the ETM 1010 and ETM 2100 hardware platforms, with Software Release 4.1; hereafter referred to as the System Under Test (SUT), meets all of the critical interoperability requirements for the Defense Switched Network (DSN) and is certified for joint use. The SecureLogix ETM 3200 platform with the same software release, which JITC determined to be functionally identical to the ETM 2100 for interoperability certification purposes, is also certified for joint use in the DSN. The SecureLogix ETM® Application Suite consists of TeleWall® Telecommunications Firewall, TeleView® Infrastructure Manager, TeleAudit® Usage Manager, Authentication, Authorization and Accounting (AAA) Services for the TeleWall® Firewall, and the TeleVPN® Call Shield. Each application within the SUT application suite was tested primarily to determine that it had no adverse affect on the critical interoperability requirements per reference (c). All the applications met the critical interoperability requirements except for the TeleVPN® Call Shield application. The TeleVPN® Call Shield application is not a critical requirement; therefore there is no operational impact. The TeleVPN® Call Shield application is not covered by this certification. JITC tested the SUT as set forth in reference (c) using test procedures derived from reference (d). This certification expires upon changes that affect interoperability, but no later than three years from the date of this memorandum.

JITC Memo, Networks, Transmission and Integration Division (JTE), Joint Interoperability Test Certification of the SecureLogix Enterprise Telephony Management System with Software Release 4.1

3. This certification is based on interoperability testing conducted by the JITC from 13 October through 24 October 2003 at the JITC Network Engineering and Integration Lab, Fort Huachuca, AZ in an operationally realistic environment that is similar to that of the DSN. The Certification Testing Summary (enclosure 2) documents the test results and describes the test network. Users should verify interoperability before deploying the SUT in an environment that varies significantly from that described.

4. The SUT was tested using the ETM 2100 and ETM 1010 SecureLogix platforms. The SecureLogix ETM 3200 platform employs the same software and card sets as the ETM 2100 with a larger chassis. JITC analysis determined the SecureLogix ETM 3200 to be functionally identical to the ETM 2100 for interoperability certification purposes. The certification of the SUT is based upon evaluation of the platforms using the Exchange Requirements (ERs) derived from reference (c). The ERs used to evaluate the interoperability of the application are listed in table 1. The interoperability status of the SUT is indicated in table 2.

**Table 1. SUT Exchange Requirements**

Platform	Interface	Exchange Requirement																				
<b>ETM 2100 ETM 3200</b>	<b>T1 CAS (B8ZS/ESF) (AMI/SF)</b>	<ul style="list-style-type: none"> <li>- Alarms</li> <li>- Asynchronous Data</li> <li>- MLPP Preempt Signals</li> <li>- Non-secure FAX</li> <li>- POTS Voice Calls</li> <li>- Secure FAX</li> <li>- STU-III/STE Secure Voice</li> <li>- STU-III/STE Secure Data</li> <li>- Synchronous Data</li> <li>- T1 Electrical Characteristics</li> <li>- Video Conferencing</li> </ul>																				
	<b>T1 ISDN PRI (B8ZS/ESF)</b>																					
	<b>PCM-24 T1 (B8ZS/ESF) SS7</b>																					
	<b>E1 ISDN PRI (HDB3)</b>																					
	<b>PCM-30 E1 (HDB3) SS7</b>																					
<b>ETM 1010</b>	<b>2 Wire Loop Analog</b>	<ul style="list-style-type: none"> <li>- POTS Voice Calls</li> <li>- Asynchronous Data</li> <li>- Non-secure FAX</li> <li>- Secure FAX</li> <li>- STU-III/STE Secure Voice</li> <li>- STU-III/STE Secure Data</li> </ul>																				
<b>Legend:</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">AMI - Alternate Mark Inversion</td> <td style="width: 33%;">MLPP - Multi-Level Precedence and Preemption</td> </tr> <tr> <td>B8ZS - Bipolar Eight Zero Substitution</td> <td>PCM - Pulse Code Modulation – 24 or 30 channels</td> </tr> <tr> <td>CAS - Channel Associated Signaling</td> <td>POTS - Plain Old Telephone Service</td> </tr> <tr> <td>E1 - European Basic Rate (2.048 Mbps)</td> <td>PRI - Primary Rate Interface</td> </tr> <tr> <td>ESF - Extended Super Frame</td> <td>SF - Super Frame</td> </tr> <tr> <td>ETM - Enterprise Telephony Management</td> <td>SS7 - Signaling System 7</td> </tr> <tr> <td>FAX - Facsimile</td> <td>STE - Secure Terminal Equipment</td> </tr> <tr> <td>HDB3 - High Density Bipolar Three</td> <td>STU-III - Secure Telephone Unit-III</td> </tr> <tr> <td>ISDN - Integrated Services Digital Network</td> <td>SUT - System Under Test</td> </tr> <tr> <td>Mbps - Megabits per second</td> <td>T1 - Digital Transmission Link level 1 (1.544 Mbps)</td> </tr> </table>			AMI - Alternate Mark Inversion	MLPP - Multi-Level Precedence and Preemption	B8ZS - Bipolar Eight Zero Substitution	PCM - Pulse Code Modulation – 24 or 30 channels	CAS - Channel Associated Signaling	POTS - Plain Old Telephone Service	E1 - European Basic Rate (2.048 Mbps)	PRI - Primary Rate Interface	ESF - Extended Super Frame	SF - Super Frame	ETM - Enterprise Telephony Management	SS7 - Signaling System 7	FAX - Facsimile	STE - Secure Terminal Equipment	HDB3 - High Density Bipolar Three	STU-III - Secure Telephone Unit-III	ISDN - Integrated Services Digital Network	SUT - System Under Test	Mbps - Megabits per second	T1 - Digital Transmission Link level 1 (1.544 Mbps)
AMI - Alternate Mark Inversion	MLPP - Multi-Level Precedence and Preemption																					
B8ZS - Bipolar Eight Zero Substitution	PCM - Pulse Code Modulation – 24 or 30 channels																					
CAS - Channel Associated Signaling	POTS - Plain Old Telephone Service																					
E1 - European Basic Rate (2.048 Mbps)	PRI - Primary Rate Interface																					
ESF - Extended Super Frame	SF - Super Frame																					
ETM - Enterprise Telephony Management	SS7 - Signaling System 7																					
FAX - Facsimile	STE - Secure Terminal Equipment																					
HDB3 - High Density Bipolar Three	STU-III - Secure Telephone Unit-III																					
ISDN - Integrated Services Digital Network	SUT - System Under Test																					
Mbps - Megabits per second	T1 - Digital Transmission Link level 1 (1.544 Mbps)																					

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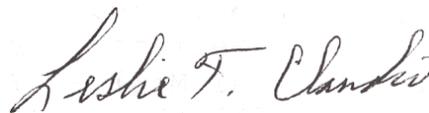
**Table 2. SUT Interface Interoperability Status**

Interface Requirement	Critical	Status	Remarks
<b>ETM 2100/3200</b>			
T1 CAS (B8ZS/ESF)(AMI/SF)	Yes	Certified	All Exchange Requirements of table 1 met
T1 ISDN PRI (B8ZS/ESF)	Yes	Certified	All Exchange Requirements of table 1 met
T1 SS7 (B8ZS/ESF)	Yes	Certified	All Exchange Requirements of table 1 met
E1 ISDN PRI (HDB3)	Yes	Certified	All Exchange Requirements of table 1 met
E1 SS7 (HDB3)	Yes	Certified	All Exchange Requirements of table 1 met
<b>ETM 1010</b>			
2 Wire Loop Analog	Yes	Certified	All Exchange Requirements of table 1 met
<b>Legend:</b>			
AMI - Alternate Mark Inversion		ISDN - Integrated Services Digital Network	
B8ZS - Bipolar Eight Zero Substitution		Mbps - Megabits per second	
CAS - Channel Associated Signaling		PRI - Primary Rate Interface	
E1 - European Basic Rate (2.048 Mbps)		SF - Super Frame	
ESF - Extended Super Frame		SS7 - Signaling System 7	
ETM - Enterprise Telephony Management		SUT - System Under Test	
HDB3 - High Density Bipolar Three		T1 - Digital Transmission Link level 1 (1.544 Mbps)	

5. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system -- ERD uses unclassified (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/tssi>.

6. The JITC point of contact is LCDR Michael Wojcik, DSN 879-6787 or commercial (520) 538-6787. The e-mail address is [wojcikm@fhu.disa.mil](mailto:wojcikm@fhu.disa.mil).

FOR THE COMMANDER:



LESLIE F. CLAUDIO  
 Chief  
 Networks, Transmission and  
 Integration Division

- 2 Enclosures:
- 1 Additional References
- 2 Certification Testing Summary

Distribution:

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- Joint Staff J6E, Room-1E834, Pentagon, Washington, DC 20318-6000
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JITC Memo, Networks, Transmission and Integration Division (JTE), Joint Interoperability Test Certification of the SecureLogix Enterprise Telephony Management System with Software Release 4.1

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Commander, Defense Information Systems Agency (DISA), ATTN: NS53 (Mr. Osman), Room 5w23, 5275 Leesburg Pike (RTE 7) Falls Church, VA 22041

## ADDITIONAL REFERENCES

- (c) Defense Information Systems Agency (DISA), Joint Interoperability and Engineering Organization (JIEO), Technical Report 8249, "Defense Information System Network (DISN) Circuit Switched Subsystem, Defense Switched Network (DSN) Generic Switching Center Requirements (GSCR)," March 1997
- (d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP)," 17 June 1999

## CERTIFICATION TESTING SUMMARY

- 1. SYSTEM TITLE.** SecureLogix Enterprise Telephony Management System (ETM)®, including the ETM 1010 and ETM 2100 hardware platforms with Software Release 4.1.
- 2. PROPONENT.** Defense Information Systems Agency (DISA) / SecureLogix Corporation.
- 3. PROGRAM MANAGERS.** Mr. Howard Osman, NS53, Room 5W23, 5275 Leesburg Pike, Falls Church, VA, 22041, e-mail: Osmanh@ncr.disa.mil. Jane Byrne, Product Manager, SecureLogix Corporation, 13750 San Pedro, Suite 230, San Antonio, TX, 78232, (210) 402-9669, e-mail: jbyrne@securelogix.com.
- 4. TESTERS.** Joint Interoperability Test Command (JITC), Ft. Huachuca, AZ.
- 5. SYSTEM UNDER TEST DESCRIPTION.** The SecureLogix Enterprise Telephony Management System (ETM)®; hereafter referred to as the System Under Test (SUT), Application Suite consists of TeleWall® Telecommunications Firewall, TeleView® Infrastructure Manager, TeleAudit® Usage Manager, Authentication, Authorization and Accounting (AAA) Services for the TeleWall® Firewall, and the TeleVPN® Call Shield, including the ETM 1010 and ETM 2100 hardware platforms. The SecureLogix ETM 3200 platform has a larger chassis, but uses the same software and card sets. JITC determined the ETM 3200 to be functionally identical to the ETM 2100 for interoperability certification purposes and is also certified for joint use in the DSN. Each application within the SUT application suite was tested primarily to determine that it had no adverse affect on the critical interoperability requirements per reference (c). The SUT is designed to solve legacy voice security and management issues and meet security challenges of converging networks. The SUT supports telecom security and management applications through a Private Branch Exchange-independent, centrally managed multi-service platform. All the applications met the critical interoperability requirements except for the TeleVPN® Call Shield application. Therefore, the TeleVPN® Call Shield application is not covered by this certification.
- 6. OPERATIONAL ARCHITECTURE.** The Generic Switching Center Requirements (GSCR) Defense Switched Network (DSN) operational architecture is depicted in figure 2-1. The SUT is currently deployed at various camps, posts, or stations, within the continental United States.
- 7. REQUIRED SYSTEM INTERFACES.** Table 2-1 details the interfaces and Exchange Requirements (ERs) derived from reference (c) required for interoperability certification of the SUT. Interoperability certification of the interfaces is based on meeting criteria from the ERs.
- 8. TEST NETWORK DESCRIPTION.** The test network is depicted in figure 2-2. The SUT was tested at JITC's Network Engineering and Integration Laboratory in a manner



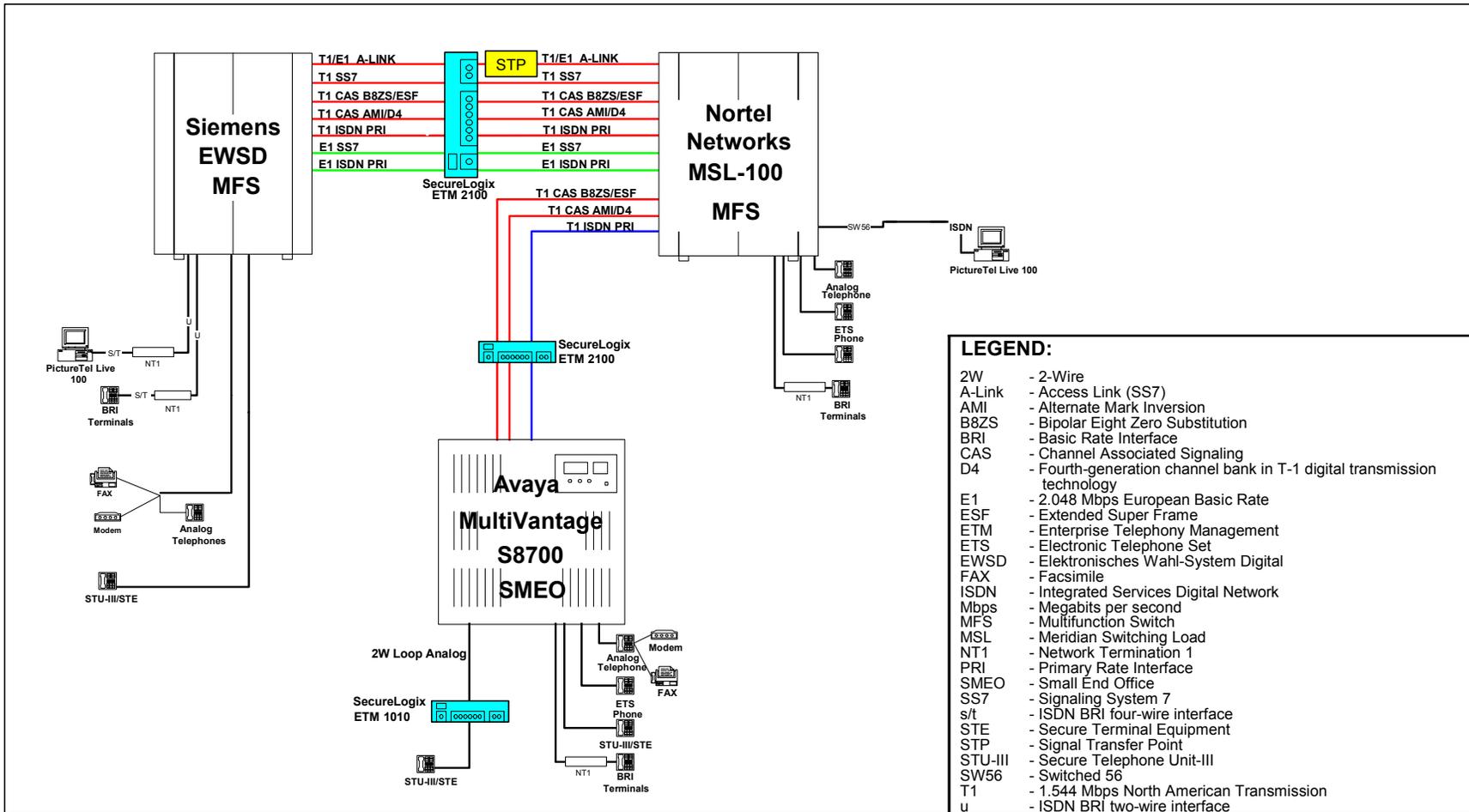


Figure 2-2. Test Network Configuration

**Table 2-1. SUT Exchange Requirements**

Interface Requirement	Exchange Requirements	Exchange Method	Critical	References
<b>SecureLogix ETM 2100/3200</b>				
T1 CAS	Alarms Asynchronous Data MLPP Preempt Signals Non-secure FAX POTS Voice Calls Secure FAX STU-III/STE Secure Voice STU-III/STE Secure Data Synchronous Data T1 Electrical Characteristics Video Teleconferencing	AMI/SF B8ZS/ESF	Yes	GSCR Mar 97 GSTP Jun 99
T1 ISDN PRI		B8ZS/ESF	Yes	
T1 SS7		B8ZS/ESF	Yes	
E1 SS7		HDB3	Yes	
E1 ISDN PRI		HDB3	Yes	
<b>SecureLogix ETM 1010</b>				
2 Wire Loop Analog	POTS Voice Calls Asynchronous Data Non-secure FAX Secure FAX STU-III/STE Secure Voice STU-III/STE Secure Data	2 Wire POTS	Yes	GSCR Mar 97 GSTP Jun 99
<b>Legend:</b>				
AMI	- Alternate Mark Inversion	Mbps	- Megabits per second	
B8ZS	- Bipolar Eight Zero Substitution	MLPP	- Multi-Level Precedence and Preemption	
CAS	- Channel Associated Signaling	POTS	- Plain Old Telephone Service	
E1	- European Basic Rate (2.048 Mbps)	PRI	- Primary Rate Interface	
ESF	- Extended Super Frame	SF	- Super Frame	
ETM	- Enterprise Telephony Management	SS7	- Signaling System 7	
FAX	- Facsimile	STE	- Secure Terminal Equipment	
GSCR	- Generic Switching Center Requirements	STU-III	- Secure Telephone Equipment-III	
GSTP	- Generic Switch Test Plan	SUT	- System Under Test	
HDB3	- High Density Bipolar Three	T1	- Digital Transmission Link level 1 (1.544 Mbps)	
ISDN	- Integrated Services Digital Network			

**9. SYSTEM CONFIGURATIONS.** Table 2-2 lists the hardware and software configurations associated with the systems used during the test.

**Table 2-2. Tested System Configurations**

System Name	Hardware	Software Release
SecureLogix ETM System	ETM 1010 ETM 2100	4.1
Nortel Networks MSL-100	RISC Processor	SE06
Avaya MultiVantage S8700	Linux Processor	R012x.00.0.218.1
Siemens EWSD	CP 113C	19d with patch set 39
<b>Legend:</b>		
CP	- Central Processor	
EWSD	- Elektronisches Wahl-System Digital	
ETM	- Enterprise Telephony Management	
MSL	- Meridian Switching Load	
RISC	- Reduced Instruction Set Computer	
SE06	- Succession Enterprise Version 06	

**10. TEST LIMITATIONS.** None.

## 11. TEST RESULTS

### a. Discussion

(1) T1 Channel Associated Signaling (CAS) Alternate Mark Inversion (AMI)/Super Frame (SF) and Bipolar Eight Zero Substitution (B8ZS)/Extended Super Frame (ESF). The SUT has the ability to automatically or manually enter a bypass mode. In this mode, the input and output connections of the T1 CAS AMI/SF and B8ZS/ESF circuits are electronically connected, bypassing the monitoring functionality of the SUT. Testing included call loading the SUT with approximately 2000 calls per hour over both the T1 CAS AMI/SF and B8ZS/ESF circuits. The call load scenario included a 56 kilobits per second (kbps) Bit Error Rate Test (BERT) using a 2047 pattern for approximately 30 seconds per call. The power was disconnected and the SUT automatically entered the bypass mode. There was no adverse impact on the call load results except for the TeleVPN® Call Shield application. When the TeleVPN® Call Shield application is configured for Triple Data Encryption Standard High Assurance (3DES (HA)), all established encrypted calls failed during manual and automatic bypass mode. The TeleVPN® application is not a critical requirement; therefore there is no operational impact. Furthermore, there was no adverse effect on call load results when the power was reconnected to the SUT in modes other than 3DES (HA). The SUT appears transparent to the circuit during a power failure condition. The SUT was also placed in the manual bypass mode during call loading via software, producing the same results as recorded during the automatic mode.

(a) Alarms. Red and yellow (Remote) Carrier Group Alarms passed in accordance with reference (c). All alarms propagated through the SUT transparently.

(b) Asynchronous Data Calls. All asynchronous modem calls were placed over the T1 CAS AMI/SF and B8ZS/ESF circuits with a 100-percent success rate. The SUT had no adverse effect on asynchronous data calls and appeared transparent to the circuit under test.

(c) Multi-Level Precedence and Preemption (MLPP). The four types of MLPP call scenarios listed below were tested over the T1 CAS AMI/SF and B8ZS/ESF interfaces. Each preemption scenario met the MLPP preemption signal requirements in accordance with the GSCR paragraph 6.3.1. The SUT transparently passed A/B signaling bit transitions and did not alter the MLPP preempt signals sent by the switch.

- (1) Answered Call; Circuit to be Reused
- (2) Unanswered Call; Circuit to be Reused
- (3) Answered Call; Circuit not to be Reused
- (4) Unanswered Call; Circuit not to be Reused

(d) Non-Secure Facsimile (FAX). Automated FAX calls were placed over the T1 CAS AMI/SF and B8ZS/ESF circuits using the Abacus Spirent call loader with a 100-percent success rate. The SUT had no adverse effect on non-secure FAX calls and appeared transparent to the circuit under test.

(e) Plain Old Telephone Service (POTS) Voice Calls. Manual calls were placed over the T1 CAS AMI/SF and B8ZS/ESF circuits. All calls received a subjective voice call quality mean opinion score of 4 or better on the International Voice Quality scale. The SUT had no adverse effect on POTS voice calls and appeared transparent to the circuit under test.

(f) Secure FAX. Secure FAX calls were placed over the T1 CAS AMI/SF and B8ZS/ESF circuits with a 100-percent success rate. The SUT had no adverse effect on secure FAX calls and appeared transparent to the circuit under test.

(g) Secure Telephone Unit-III (STU-III)/Secure Terminal Equipment (STE) Secure Voice Calls. The following secure voice call scenarios were conducted with a 100-percent success rate. The SUT had no adverse effect on STU-III/STE secure voice calls and appeared transparent to the circuit under test.

- (1) STU-III to STU-III calls @ 9.6 kbps
- (2) STE to STE calls @ 6.4 & 32 kbps
- (3) STU-III to STE calls @ 4.8 kbps

(h) STU-III/STE Secure Data Calls. The Sunset T10 test set was used to conduct an asynchronous BERT using a 511 test pattern in the secure data mode for a period of 30 minutes per call. The SUT had no adverse effect on STU-III/STE secure data calls and appeared transparent to the circuit under test. The following secure data call scenarios were conducted with a 100-percent success rate.

- (1) STU-III to STU-III calls @ 9.6 kbps
- (2) STE to STE calls @ 19.2 kbps
- (3) STU-III to STE calls @ 9.6 kbps

(i) Synchronous 56 kbps Data Calls. The Sunset T10 and ADTRAN ISU 2x64-S test sets were used to conduct switched 56 kbps synchronous BERT calls using a 2047 test pattern. Calls completed with a 100-percent success rate. Furthermore, switched 56 kbps calls were also placed over the T1 CAS AMI/SF and B8ZS/ESF circuits using the Ameritec AM2D call loaders. There were 72,626 switched 56 kbps data calls using a 2047 pattern for a period of 25 seconds per call placed over a 24-hour period producing a 99.99-percent success rate. A successful call requires a completed BERT with no bit errors per call. The SUT had no adverse

effect on switched 56 kbps data calls and appeared transparent to the circuit under test.

(j) T1 Electrical Interface Characteristics. A pulse mask analysis was conducted on both the T1 CAS AMI/SF and B8ZS/ESF interfaces to verify the SUT met the required T1 electrical interface characteristics. The Pulse Mask analysis passed in accordance with the GSCR paragraph 7.1. The SUT had no adverse effect on T1 electrical interface characteristics and appeared transparent to the circuit under test.

(k) Video Teleconferencing (VTC). There were 336 Kbps Bonding 1 VTC calls placed over T1 CAS AMI/SF and B8ZS/ESF interfaces with a 100-percent call completion rate. The SUT had no adverse effect on VTC calls and appeared transparent to the circuit under test.

(2) The same test scenarios conducted over T1 CAS above were also conducted over the following interfaces with the same results. The SUT had no adverse effect on any of the interfaces and appeared transparent to the circuit under test.

- T1 Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI)
- T1 Signaling System 7 (SS7)
- E1 ISDN PRI
- E1 SS7

(3) 2 Wire Loop Analog

(a) Normal Mode. The following call types were successfully completed.

- (1) POTS voice calls
- (2) Asynchronous data calls
- (3) Non-secure FAX
- (4) Secure FAX
- (5) STU-III/STE secure voice calls
- (6) STU-III/STE secure data calls

(b) Bypass Mode. As with the T1 CAS, T1 ISDN PRI, T1 SS7, E1 ISDN PRI, and E1 SS7 interfaces, the SUT also has the ability to automatically bypass (caused by power failure) or manually bypass (applied in software) the analog and digital interfaces creating a physical metallic connection. Both bypass modes were

invoked while the following call types were established: POTS voice calls, synchronous data calls, STU-III/STE secure voice calls, and STU-III/STE secure data calls, and automated call loading. The SUT had no adverse impact on established calls with any of the applications

**b. Summary.** The SUT is certified for joint use in the DSN in accordance with the requirements set forth in reference (c). When connected to the interfaces certified in this letter, the SUT and its associated applications were transparent to the switching systems or lines interfaced causing no degradation of service or negative impact, and met all the critical interoperability requirements except for the TeleVPN® Call Shield. The SUT Interoperability Status is shown in table 2-3.

**12.** JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system -- ERD uses unclassified (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/tssi>.

**Table 2-3. SUT Interoperability Status**

Interface	Critical Interface	Interface Status	ER/Criteria	Result
T1 CAS (B8ZS/ESF) (AMI/SF) T1 ISDN PRI T1 SS7	Yes	Certified	Alarms must be propagated in accordance with GSCR Para. 10.2	ER met
			Asynchronous Data must pass in accordance with GSCR Para. 10.2	ER met
			MLPP Preempt Signals/Messages must be propagated in accordance with GSCR Para. 6.3.1	ER met
			Non-secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			POTS Voice calls must pass in accordance with GSCR Para. 10.1	ER met
			Secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			STU-III/STE Secure Voice calls must pass in accordance with GSCR Para. 10.2	ER met
			STU-III/STE Secure Data calls must pass in accordance with GSCR Para. 10.1	ER met
			Synchronous Data calls must pass in accordance with GSCR Para. 10.2	ER met
			T1 Electrical Interface Characteristics in accordance with GSCR Para. 7.1	ER met
Video Conferencing in accordance with GSCR Para. 10.2	ER met			
E1 ISDN PRI E1 SS7	Yes	Certified	Alarms must be propagated in accordance with GSCR Para. 10.2	ER met
			Asynchronous Data must pass in accordance with GSCR Para. 10.2	ER met
			MLPP Preempt Signals/Messages must be propagated in accordance with GSCR Para. 6.3.1	ER met
			Non-secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			POTS Voice calls must pass in accordance with GSCR Para. 10.1	ER met
			Secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			STU-III/STE Secure Voice calls must pass in accordance with GSCR Para. 10.2	ER met
			STU-III/STE Secure Data calls must pass in accordance with GSCR Para. 10.1	ER met
			Synchronous Data calls must pass in accordance with GSCR Para. 10.2	ER met
			T1 Electrical Interface Characteristics in accordance with GSCR Para. 7.1	ER met
Video Conferencing in accordance with GSCR Para. 10.2	ER met			
2 Wire Loop Analog	Yes	Certified	POTS Voice Calls must pass in accordance with GSCR Para. 10.1	ER met
			Asynchronous Data must pass in accordance with GSCR Para. 10.2	ER met
			Non-secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			Secure FAX calls must pass in accordance with GSCR Para 10.1	ER met
			STU-III/STE Secure Voice calls must pass in accordance with GSCR Para. 10.2	ER met
STU-III/STE Secure Data calls must pass in accordance with GSCR Para. 10.1	ER met			
<b>Legend:</b>				
AMI	- Alternate Mark Inversion	MLPP	- Multi-Level Precedence and Preemption	
B8ZS	- Bipolar Eight Zero Substitution	POTS	- Plain Old Telephone Service	
CAS	- Channel Associated Signaling	PRI	- Primary Rate Interface	
E1	- European Basic Rate (2.048 Mbps)	SF	- Super Frame	
ER	- Exchange Requirements	STE	- Secure Terminal Equipment	
ESF	- Extended Super Frame	STU-III	- Secure Telephone Equipment-III	
FAX	- Facsimile	SS7	- Signaling System 7	
GSCR	- Generic Switching Center Requirements	SUT	- System Under Test	
ISDN	- Integrated Services Digital Network	T1	- Digital Transmission Link level 1 (1.544 Mbps)	
Mbps	- Megabits per second			