**DEFENSE INFORMATION SYSTEMS AGENCY**
JOINT INTEROPERABILITY TEST COMMAND
P.O. BOX 12798
FORT HUACHUCA, ARIZONA 85670-2798

IN REPLY REFER TO:

Networks and Transport Division (JTE) 6 February 2006

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the SecureLogix Enterprise Telephony Management (ETM)® System with Software Version 5.0 (Includes hardware appliances ETM® 1010, 1012, and 1024 with firmware version 5.0.40)

References: (a) DOD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01C, "Interoperability and Supportability of Information Technology and National Security Systems," 20 November 2003

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 ETM® System with Software Version 5.0 (includes hardware appliances ETM® 1010 and 1012 with firmware version 5.0.40) is hereinafter referred to as the System Under Test (SUT). The SUT meets all of the critical interoperability requirements for the Defense Switched Network (DSN) and is certified for joint use. The ETM® 1024 platform has the same hardware and software as the ETM® 1012. JITC analysis determined the ETM® 1024 to be functionally identical for interoperability certification purposes, and it is also certified for joint use within the DSN. The SUT also includes the ETM® 1060 appliance which does not interface directly to the DSN. The ETM® 1060 is a call recorder that records audio calls and automatically uploads the recorded calls to a target server drive. The SUT Application Suite consists of Telecom Firewall, Performance Manager, and the Usage Manager. Each application of the SUT application suite was tested to insure that it had no adverse effect on the critical interoperability requirements when inserted within the DSN. When the SUT was inserted within the DSN, it was transparent and all critical Capability and Functional Requirements were met in accordance with reference (c) using test procedures derived from reference (d). The SUT Telecom Firewall application has the capability to terminate DSN calls based on "policies" regardless of the precedence level of the call. As a result, assured services mandated by reference (e) cannot be guaranteed. Therefore the SUT is certified within the DSN only in the following configuration: The terminate policy "Allow Call Terminations" block must be unchecked, which is optioned under the edit spans/firewall tab. This certification expires upon changes that affect interoperability, but no later than three years from the date of this memorandum.

JITC Memo, Special Interoperability Test Certification of the SecureLogix Enterprise Telephony Management (ETM®) System with Software Version 5.0 (Includes hardware appliances ETM 1010, 1012, and 1024 with firmware version 5.0.40)

3. This certification is based on interoperability testing conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona from 29 August through 2 September 2005 and review and analysis of test data completed on 30 September 2005. 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 Interoperability Test Summary is shown in table 1 and the Capability and Functional Requirements used to evaluate the interoperability of the SUT are indicated in table 2.

**Table 1. SUT Interoperability Test Summary**

| DSN Line Interface | | | | |
|---|---|---|---|---|
| **Hardware Appliance** | **Interface & Signaling** | **Critical** | **Status** | **Remarks** |
| ETM® 1010<br>ETM® 1012<br>ETM® 1024[1] | 2-Wire Analog<br>GR-506-CORE | Yes | Certified | Met all critical CRs and FRs when intrusively inserted via this interface.[2] |

**LEGEND:**

| | | | |
|---|---|---|---|
| CRs | - Capability Requirements | GR | - Generic Requirement |
| DSN | - Defense Switched Network | GR-506-CORE | - Telcordia Signaling for Analog Interface Generic Requirement |
| ETM® | - Enterprise Telephony Management | JITC | - Joint Interoperability Test Command |
| FRs | - Feature Requirements | SUT | - System Under Test |

**NOTES:**

1 The ETM® 1024 platform has the same hardware and software as the ETM® 1012. JITC analysis determined the ETM® 1024 to be functionally identical for interoperability certification purposes.

2 The SUT Telecom Firewall application has the capability to terminate DSN calls based on "policies" regardless of the precedence level of the call. As a result, assured services mandated by reference (e) cannot be guaranteed. Therefore the SUT is certified within the DSN only in the following configuration: The terminate policy "Allow Call Terminations" block must be unchecked, which is optioned under the edit spans/firewall tab.

**Table 2. SUT Capability and Feature Interoperability Requirements**

| Interface | Critical | Requirements Required or Conditional | | References |
|---|---|---|---|---|
| **DSN Line Interface** | | | | |
| 2-Wire Analog (GR-506-CORE) | Yes | Access | • DN Identification (R)<br>• Line signaling (R)<br>• Alerting Signals and Tones (R)<br>• WWNDP (R)<br>• Call Treatments(R)<br>• 2W user access (R)<br>• Analog busy/idle (R) | • GSCR Sect. 2.1.1<br>• GSCR Sect. 5.2<br>• GSCR Sect. 5.5<br>• GSCR Sect. 4.5<br>• GSCR Sect. 4.1<br>• GSCR Sect. 4.3.3<br>• GSCR Sect. 4.3.4.1 |
| | | Voice | • MOS (R)<br>• MLPP (R)<br>• Secure Calls (R) | • CJCSI 6215.01B<br>• GSCR Sect. 3.4.3/3.9<br>• CJCSI 6215.01B |
| | | Facsimile | • Analog: TIA-EIA-465-A (R) | • DISR |
| | | Data | • Modem (VBD) (R)<br>• Secure data (STE/STU-III) (R) | • CJCSI 6215.01B<br>• CJCSI 6215.01B |

**Table 2. SUT Capability and Feature Interoperability Requirements (continued)**

| | | | |
|---|---|---|---|
| **LEGEND:** | | | |
| 2W | - 2-Wire | MOS | - Mean Opinion Score |
| CJCSI | - Chairman of the Joint Chiefs of Staff Instruction | R | - Required |
| DISR | - Department of Defense Information Technology Standards Registry | Sect. | - Section |
| DN | - Directory Number | STE | - Secure Terminal Equipment |
| DSN | - Defense Switched Network | STU- III | - Secure Telephone Unit – 3rd Generation |
| EIA | - Electronic Industries Alliance | SUT | - System Under Test |
| GR | - Generic Requirement | TIA | - Telecommunications Industry Association |
| GR-506-CORE | - Telcordia Signaling for Analog Interface Generic Requirement | TIA/EIA-465-A | - Group 3 Facsimile Apparatus for Document Transmission |
| GSCR | - Generic Switching Center Requirement | VBD | - Variable Bit Data |
| MLPP | - Multi-Level Precedence and Preemption | WWNDP | - Worldwide Numbering and Dialing Plan |

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/tssi.

6. The JITC point of contact is Capt. Michel Roy, DSN 821-8575, commercial (520) 533-8575, FAX DSN 879-4347, or e-mail to michel.roy.ca@disa.mil.

FOR THE COMMANDER:

2 Enclosures a/s

RICHARD A. MEADOR
Chief
Networks and Transport Division

JITC Memo, Special Interoperability Test Certification of the SecureLogix Enterprise Telephony Management (ETM®) System with Software Version 5.0 (Includes hardware appliances ETM 1010, 1012, and 1024 with firmware version 5.0.40)

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Office of Under Secretary of Defense, OUSD(AT&L), Room 3E144, 3070 Defense Pentagon, Washington, DC 20301
US Joint Forces Command, J6I, C4 Plans and Policy, 1562 Mitscher Ave, Norfolk, VA 23551-2488
Defense Intelligence Agency, ATTN: DS-CIO, Bldg 6000, Bolling AFB, Washington, DC 20340-3342
National Security Agency, ATTN: DT, Suite 6496, 9800 Savage Road, Fort Meade, MD 20755-6496
Defense Information Systems Agency (DISA), ATTN: GS23 (Mr. Osman), Room 5w23, 5275 Leesburg Pike (RTE 7), Falls Church, VA 22041

ADDITIONAL REFERENCES

(c) Defense Information Systems Agency (DISA), "Defense Switched Network (DSN) Generic Switching Center Requirements (GSCR), Change 1," 1 March 2005
(d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP)," 23 April 2004
(e) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01B, "Policy for Department of Defense Voice Services," 23 September 2001

## CERTIFICATION TESTING SUMMARY

**1. SYSTEM TITLE.** SecureLogix Enterprise Telephony Management (ETM®) System with Software Version 5.0 (Includes hardware appliances ETM® 1010, 1012, and 1024 with firmware version 5.0.40), hereinafter referred to as the System Under Test (SUT).

**2. PROPONENTS.** Defense Information Systems Agency (DISA) / SecureLogix Corporation.

**3. PROGRAM MANAGER.** Mr. Howard Osman, GS23, Room 5W23, 5275 Leesburg Pike, Falls Church, VA, 22041, e-mail: Howard.Osman@disa.mil.

**4. TESTER.** Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.

**5. SYSTEM UNDER TEST DESCRIPTION.** The SUT includes expandable, managed appliances, which are deployed as customer premise devices on analog lines. These appliances, which are controlled by remote servers, support a number of existing security and management applications. The SUT is managed from a remote client, which can be used to manage multiple servers and appliances.

- **ETM® Platform Appliances -** The ETM® Platform Appliances are rack-mountable in-line devices, which are deployed on analog lines between the customer premise equipment (i.e., telephone, modem, facsimile) and the digital switching system. The ETM® Platform Appliances continuously monitor signaling and use an expandable policy engine to examine calls and take actions based upon user-defined rules. The ETM® Platform Appliances are remotely managed and can be remotely upgraded with new software and applications. There are several versions of the ETM® Platform Appliance to suit a variety of different telephone signaling types (e.g., Channel Associated Signaling, Primary Rate Interface, Signaling System 7, and Analog). Only the analog appliances (ETM® 1010, 1012 and 1024) are covered under this certification. The ETM® 1024 platform has the same hardware and software as the ETM® 1012. JITC analysis determined the ETM® 1024 to be functionally identical for interoperability certification purposes, and is also certified for joint use within the Defense Switch Network (DSN). The digital appliances (ETM® 1090, 2100, and 3200) are covered under a separate certification letter.

- **ETM® Applications -** The ETM® Server consists of processes that collect data from ETM® Appliances, maintain system configuration and policy data, provide a Graphical User Interface (GUI), store all call data in a database, generate reports, and provide an anchor point for the GUI client. The ETM® Server consists of the ETM® Management Server, an Oracle Relational Database Management System server, and the ETM® Report Server. These processes can run on multiple physical servers to allow the system to be configured to meet customer requirements. The Infrastructure Manager is the client GUI used to monitor and control the ETM® System. The ETM® 1060 appliance is a call recorder that caches audio at a rate of fifty-seven Megabits per hour from up to thirty-two simultaneous calls yielding roughly 2000 hours capacity, and

automatically uploading the recorded calls to a target server drive. All security, management, and real-time visibility functions are available via this client. The client includes a visual representation of all ETM® System hardware and each monitored circuit. Additional "drill down" features are available for status review and diagnosis of problems. The client also includes tools for appliance and server administration, log review, call monitoring, viewing of real-time alerts, and user configuration.

**6. OPERATIONAL ARCHITECTURE.** The Generic Switching Center Requirements (GSCR) DSN operational architecture is depicted in figure 2-1. The SUT is currently deployed at various camps, posts, or stations within the DSN.

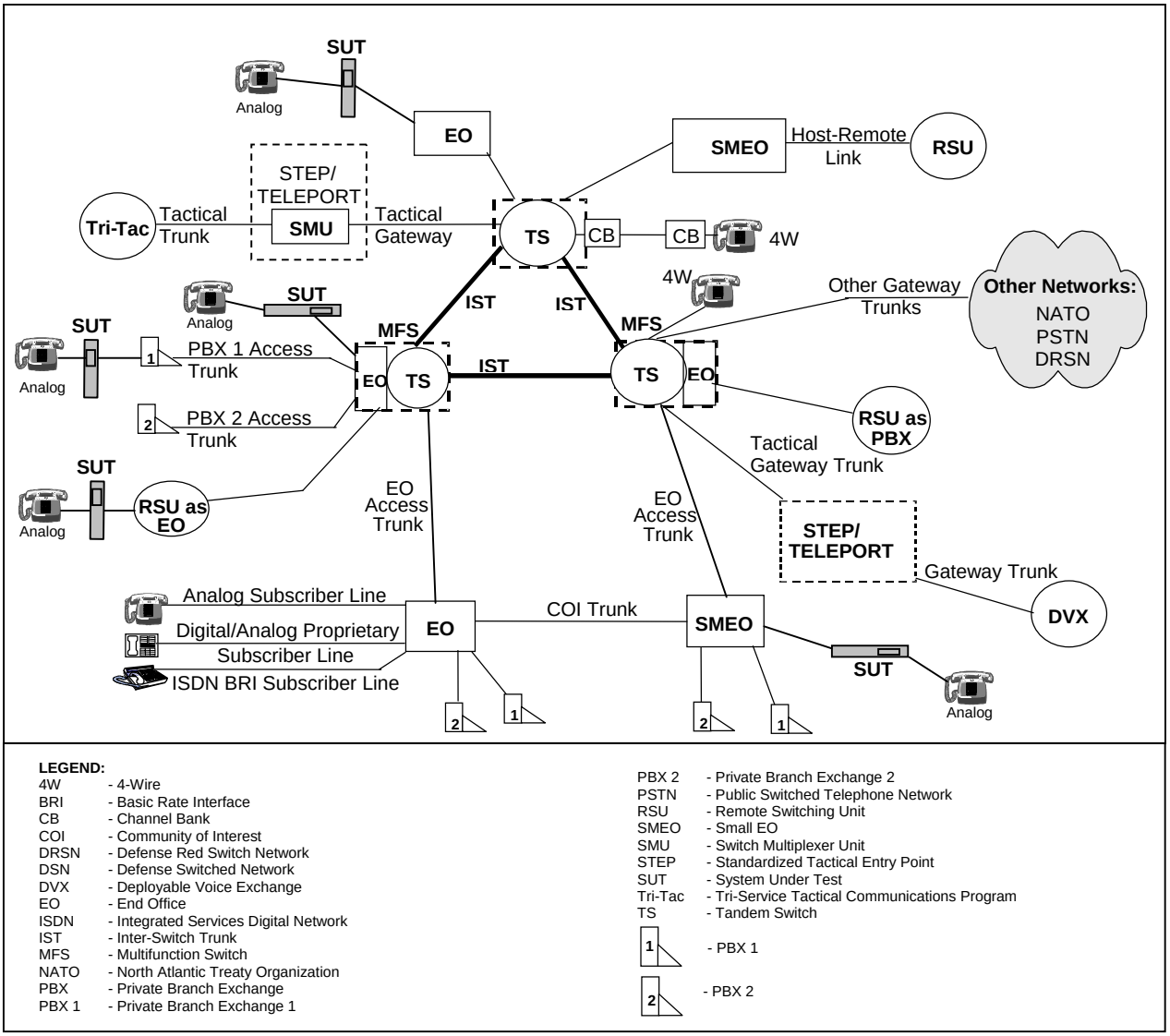



**Figure 2-1. DSN Architecture**

**7. REQUIRED SYSTEM INTERFACES**. The SUT Interoperability Test Summary is shown in table 2-1 and the Capability and Functional Requirements used to evaluate the interoperability of the SUT are indicated in table 2-2.

## Table 2-1. SUT Interoperability Test Summary

| DSN Line Interface | | | | |
|---|---|---|---|---|
| **Hardware Appliance** | **Interface & Signaling** | **Critical** | **Status** | **Remarks** |
| ETM® 1010<br>ETM® 1012<br>ETM® 1024[1] | 2-Wire Analog<br>GR-506-CORE | Yes | Certified | Met all critical CRs and FRs when intrusively inserted via this interface.[2] |

**LEGEND:**

| | | | |
|---|---|---|---|
| CRs | - Capability Requirements | GR | - Generic Requirement |
| DSN | - Defense Switched Network | GR-506-CORE | - Telcordia Signaling for Analog Interface Generic Requirement |
| ETM® | - Enterprise Telephony Management | JITC | - Joint Interoperability Test Command |
| FRs | - Feature Requirements | SUT | - System Under Test |

**NOTES:**

1 The ETM® 1024 platform has the same hardware and software as the ETM® 1012. JITC analysis determined the ETM® 1024 to be functionally identical for interoperability certification purposes.

2 The SUT Telecom Firewall application has the capability to terminate DSN calls based on "policies" regardless of the precedence level of the call. As a result, assured services mandated by reference (e) cannot be guaranteed. Therefore the SUT is certified within the DSN only in the following configuration: The terminate policy "Allow Call Terminations" block must be unchecked, which is optioned under the edit spans/firewall tab.

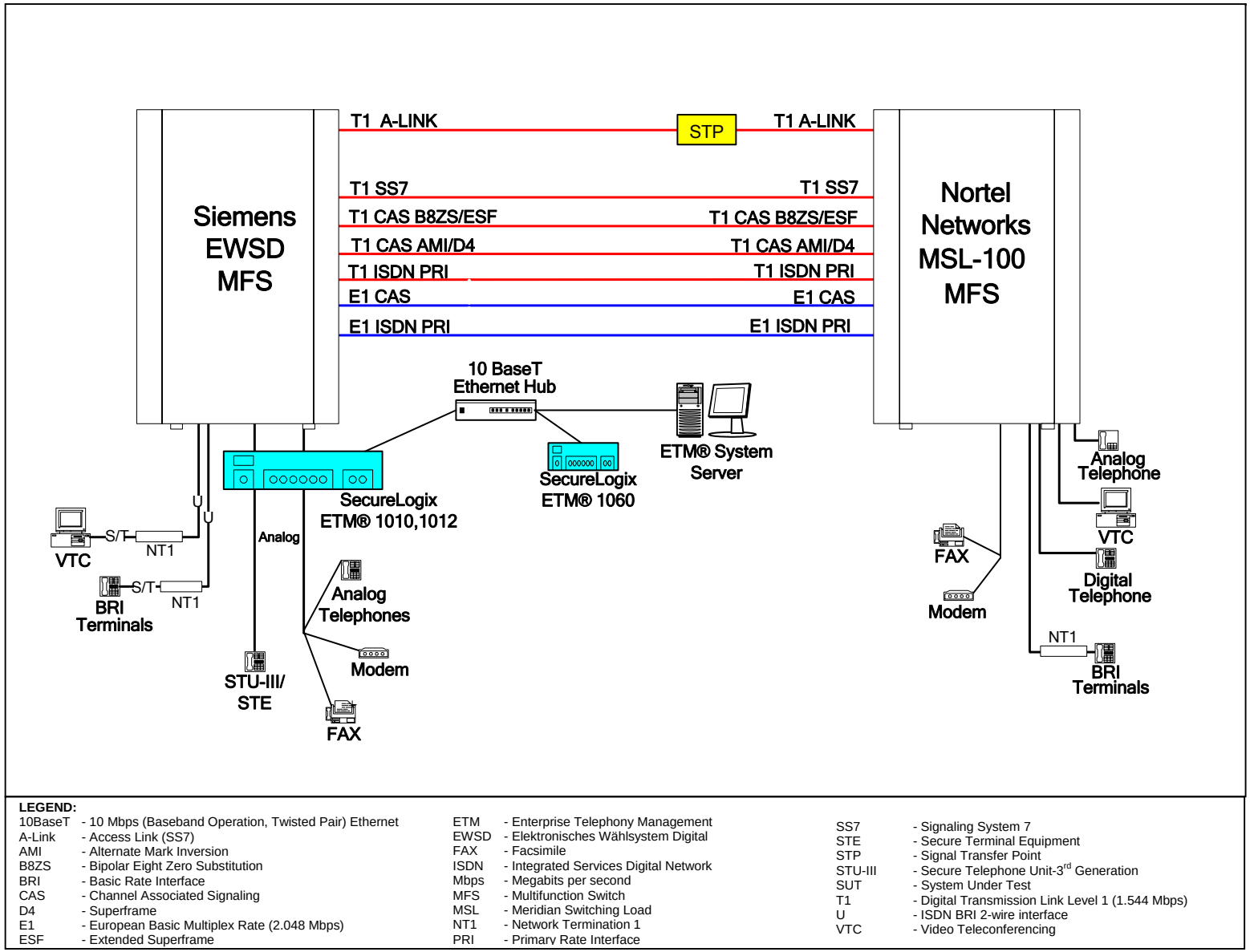
## Table 2-2. SUT Capability and Feature Interoperability Requirements

| Interface | Critical | Requirements Required or Conditional | | References |
|---|---|---|---|---|
| **DSN Line Interface** | | | | |
| 2-Wire Analog (GR-506-CORE) | Yes | Access | • DN Identification (R)<br>• Line signaling (R)<br>• Alerting Signals and Tones (R)<br>• WWNDP (R)<br>• Call Treatments(R)<br>• 2W user access (R)<br>• Analog busy/idle (R) | • GSCR Sect. 2.1.1<br>• GSCR Sect. 5.2<br>• GSCR Sect. 5.5<br>• GSCR Sect. 4.5<br>• GSCR Sect. 4.1<br>• GSCR Sect. 4.3.3<br>• GSCR Sect. 4.3.4.1 |
| | | Voice | • MOS (R)<br>• MLPP (R)<br>• Secure Calls (R) | • CJCSI 6215.01B<br>• GSCR Sect. 3.4.3/3.9<br>• CJCSI 6215.01B |
| | | Facsimile | • Analog: TIA-EIA-465-A (R) | • DISR |
| | | Data | • Modem (VBD) (R)<br>• Secure data (STE/STU-III) (R) | • CJCSI 6215.01B<br>• CJCSI 6215.01B |

**LEGEND:**

| | | | |
|---|---|---|---|
| 2W | - 2-Wire | MOS | - Mean Opinion Score |
| CJCSI | - Chairman of the Joint Chiefs of Staff Instruction | R | - Required |
| DISR | - Department of Defense Information Technology Standards Registry | Sect. | - Section |
| | | STE | - Secure Terminal Equipment |
| DN | - Director Number | STU- III | - Secure Telephone Unit – 3rd Generation |
| DSN | - Defense Switched Network | SUT | - System Under Test |
| EIA | - Electronic Industries Alliance | TIA | - Telecommunications Industry Association |
| GR | - Generic Requirement | TIA-EIA-465-A | - Group 3 Facsimile Apparatus for Document Transmission |
| GR-506-CORE | - Telcordia Signaling for Analog Interface Generic Requirement | VBD | - Variable Bit Data |
| GSCR | - Generic Switching Center Requirement | WWNDP | - Worldwide Numbering and Dialing Plan |
| MLPP | - Multi-Level Precedence and Preemption | | |

**8. TEST NETWORK DESCRIPTION.** The SUT was tested at JITC's Global Information Grid Network Test Facility in a manner and configuration similar to that of the DSN operational environment. This test was conducted using test configuration as shown in figure 2-2.




**LEGEND:**

| | |
|---|---|
| 10BaseT | - 10 Mbps (Baseband Operation, Twisted Pair) Ethernet |
| A-Link | - Access Link (SS7) |
| AMI | - Alternate Mark Inversion |
| B8ZS | - Bipolar Eight Zero Substitution |
| BRI | - Basic Rate Interface |
| CAS | - Channel Associated Signaling |
| D4 | - Superframe |
| E1 | - European Basic Multiplex Rate (2.048 Mbps) |
| ESF | - Extended Superframe |
| ETM | - Enterprise Telephony Management |
| EWSD | - Elektronisches Wählsystem Digital |
| FAX | - Facsimile |
| ISDN | - Integrated Services Digital Network |
| Mbps | - Megabits per second |
| MFS | - Multifunction Switch |
| MSL | - Meridian Switching Load |
| NT1 | - Network Termination 1 |
| PRI | - Primary Rate Interface |
| SS7 | - Signaling System 7 |
| STE | - Secure Terminal Equipment |
| STP | - Signal Transfer Point |
| STU-III | - Secure Telephone Unit-3rd Generation |
| SUT | - System Under Test |
| T1 | - Digital Transmission Link Level 1 (1.544 Mbps) |
| U | - ISDN BRI 2-wire interface |
| VTC | - Video Teleconferencing |

**Figure 2-2. SUT Test Configuration**

**9. SYSTEM CONFIGURATIONS.** Table 2-3 lists the system configurations used in the test.

**Table 2-3. Tested System Configurations**

| System Name | Software Release | | |
|---|---|---|---|
| | | **Hardware Appliance** | **Firmware** |
| SecureLogix ETM® System | 5.0 | **ETM® 1010 and 1012 (SUT)** | 5.0.40 |
| | | ETM® 1024[1] | 5.0.40 |
| | | ETM® 1060[2] | 5.0.40 |
| | | ETM® System Server | MS Win 2003 with SP1 |
| Nortel Networks MSL-100 | SE06 | | |
| Siemens EWSD | 19d with Patch Set 44 | | |

**LEGEND:**
DSN - Defense Switched Network
EWSD - Elektronisches Wählsystem Digital
ETM® - Enterprise Telephony Management
MS - Microsoft
MSL - Meridian Switching Load
SE06 - Succession Enterprise Version 06
SP1 - Service Pack 1
Win - Windows

**NOTES:**
1 The ETM® 1024 platform has the same hardware and software as the ETM® 1012. JITC analysis determined the ETM® 1024 to be functionally identical for interoperability certification purposes.
2 The ETM® 1060 Appliance is a data device that supports call recording and is not directly connected to the DSN as depicted in figure 2-2.

**10. TEST LIMITATIONS.** None.

**11. TEST RESULTS**

**a. Discussion**

**(1) Call Loading.** The AMERITEC analog call loader was used to simulate analog calls within the DSN through the SUT, with a 100-percent call completion rate with no adverse effects.

**(2) Asynchronous Data Calls.** Asynchronous modem calls were placed through the SUT with a 100-percent call completion rate with no adverse effects.

**(3) Multi-Level Precedence and Preemption (MLPP).** The four types of MLPP call scenarios listed below were tested over the analog interface. Each preemption scenario met the GSCR MLPP requirements with no adverse effects.

(a) Answered Call; Circuit to be Reused

(b) Unanswered Call; Circuit to be Reused

(c) Answered Call; Circuit not to be Reused

(d) Unanswered Call; Circuit not to be Reused

**(4) Non-Secure Facsimile (FAX)**. Manual FAX calls were placed through the SUT with a 100-percent call completion rate with no adverse effects.

**(5) Voice Calls.** All voice calls placed through the SUT were measured with the SAGE 935AT test set received a Mean Opinion Score of 4.0 or better with no adverse effects.

**(6) Secure FAX.** Secure FAX calls were placed through the SUT with a 100-percent call completion rate with no adverse effects.

**(7) Secure Telephone Unit - 3rd Generation (STU-III)/Secure Terminal Equipment (STE) Secure Voice Calls (analog mode only).** The following secure voice call scenarios were conducted through the SUT with no adverse effects.

(1) STU-III to STU-III calls @ 9.6 kilobits per second (kbps)

(2) STE to STE calls @ 6.4 kbps

(3) STU-III to STE calls @ 4.8 kbps

**(8) STU-III/STE Secure Data Calls.** The Sunrise Sunset T10 test set was used to conduct an asynchronous Bit Error Rate Test using a 511 test pattern in the secure data mode for a period of 30 minutes per call through the SUT with no adverse effects. The following secure data calls scenarios were conducted with a 100 percent success rate:

(1) STU-III to STU-III calls @ 9.6 kbps

(2) STE to STE calls @ 9.6 kbps

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

**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 interfaced causing no degradation of service or negative impact, and met all the critical interoperability requirements. The SUT Telecom Firewall application has the capability to terminate DSN calls based on “policies” regardless of the precedence level of the call. As a result, assured services mandated by reference (e) cannot be guaranteed. Therefore the SUT is certified for joint use within the DSN only in the following configuration: With the terminate policy “Allow Call Terminations” block unchecked, which is optioned under the edit spans/firewall tab.

**12. TEST AND ANALYSIS REPORT**. No detailed test report was developed in accordance with the Program Manager’s request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More

comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), 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.