Changes to UCR 2008, Change 2 made by UCR 2008, Change 3 for Section 5.1, Requirements Categories and Language and 5.2, Customer Premise Equipment and Legacy Interfaces

SECTION	CORRECTION	EFFECTIVE DATE
5.2	Added statement to clarify that there are circumstances where TDM products may require continued testing by the JITC	Immediate
5.2	Removed requirements for Specific CPE Devices previously contained in Sections 5.2.1.2.1–5.2.1.2.6	Immediate

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SECTION 5
UNIFIED CAPABILITIES PRODUCT REQUIREMENTS

5.1 REQUIREMENTS CATEGORIES AND LANGUAGE

Section 5 of UCR identifies the minimum functional and performance requirements for products to be placed on the UC APL. Requirements are specified in terms of two categories: Minimum requirements and Conditional requirements.

5.1.1 Minimum Requirements

Minimum requirements are features and capabilities considered necessary for a particular product to support warfighter missions in the DoD. These features and capabilities will require certification before introduction into the DISN.

5.1.2 Conditional Requirements

Conditional requirements are features and capabilities that are not considered critical for DoD mission support based on DoD policies. Nevertheless, it is recognized that such features do have utility for some users or for specific operations. To ensure interoperability and consistency of the Assured Services (AS) across all platforms, these features and capabilities are specified with set parameters. If these features and capabilities are provided, the UC product shall perform and meet the requirements as identified in the UCR.

5.1.3 Operational Control over Features and Capabilities

Some features and capabilities are dependent on permission for implementation control.

Vendors shall provide features and functions in accordance with Telcordia Technologies, the Internet Engineering Task Force (IETF), and/or other commercial standards unless specifically altered (i.e., added, modified, or deleted) by the UCR. Also, those features and functions that are not specified in Telcordia Technologies, IETF, and/or other commercial standards shall be optionally either parameter(s) and/or software controlled whenever practical, especially if the UCR requirement used is conditional, to either permit or not use.

The permission to use these features and capabilities may come from DoD policy, service CIO policy, and/or installation Commander decision and shall not be limited by the vendor.

Vendors shall include identification of the industry standards and specifications that their OAM&P products and services comply.

5.1.4 General Requirement Language

The word “REQUIRED” or the term “MUST” or “SHALL” means the definition is an absolute requirement of the product.

The word “CONDITIONAL” or the term “MAY” means an item is optional.

The phrase “MUST NOT” or “SHALL NOT” means the definition is an absolute prohibition of the item.

The word “RECOMMENDED” means the reference is given as guidance and is not a testable requirement.

The phrase “THE NETWORK,” referenced in Telcordia Technologies *Local Access and Transport Area (LATA) Switching Systems Generic Requirements (LSSGR)*, shall mean the DSN network.

5.1.5 AS-SIP Requirement Adheres to IETF Specification Language

The AS-SIP requirement of the UCR is built on IETF Requests for Comment (RFCs). The AS-SIP requirement therefore adheres to the IETF terminology that uses terms or key words including: “MUST,” “MUST NOT,” “REQUIRED,” “SHALL,” “SHALL NOT,” “SHOULD,” “SHOULD NOT,” “RECOMMENDED,” “NOT RECOMMENDED,” “MAY,” and “OPTIONAL.” These terms indicate requirement levels for compliant SIP implementations and are to be interpreted as described in IETF BCP 14, RFC 2119.

5.2 CUSTOMER PREMISE EQUIPMENT AND LEGACY INTERFACES

Circuit-switched/TDM products will no longer be tested for APL status. Once their existing 3-year APL status expires, they will be placed on the retired APL list. There may be circumstances under which TDM products on the retired list will be subject to interoperability testing. This would include APL products that require new software in response to an IAVA, or when deficiencies are discovered when the product is deployed. The new software will not extend the APL certification, even if a complete APL test occurs as part of the validation. Exceptions to this policy will be submitted through the appropriate channels for ASD(NII) consideration. TDM products and systems will continue to be allowed to operate in the network until replaced by IP products.

5.2.1 Customer Premise Equipment Requirements

5.2.1.1 General Description

A wide variety of customer premises equipment (CPE) manufactured and sold by many sources was connected to the line (subscriber) side of a DSN switching center. Such varieties include industry "ANSI-ETSI Standards" based digital and analog devices and non-standards based proprietary digital devices. During the transition period between TDM and IP-based technologies, some locations may have a requirement to interface the legacy CPE to an LSC. As a result, most LSC vendors provide an optional Integrated Access Device (IAD) to permit the use of CPE until it is replaced.

The CPE devices may include answering machines, voice mail, automated call distributors, proprietary telephone sets, standards-based telephone sets, facsimile machines, voice band modems, ISDN network termination 1 (NT1) devices and terminal adapters (TAs), and certain devices that are deemed mandatory for local or host nation telecommunications network compliance (i.e., 911 emergency service).

5.2.1.2 Requirements

All CPE devices are required to meet the following requirements:

1. **[Conditional]** All CPE devices that support MLPP shall do so in accordance with the requirements listed in Section 5.3.2.31.3, Multilevel Precedence and Preemption, and shall not affect the DSN interface features and functions associated with line supervision and control.

2. **[Required]** All DSN CPE, as a minimum, must meet the requirements of Part 15 and Part 68 of the FCC Rules and Regulations, and the Administrative Council for Terminal Attachments (ACTA).

3. **[Conditional]** A device(s) that supports autoanswer shall have an "autoanswer" mode feature allowing the autoanswer mode to be set to a "time" more than the equivalency of four ROUTINE precedence ring intervals in accordance with Section 5.3.2.31.3, Multilevel Precedence and Preemption, before "answer" supervision is provided.

4. **[Conditional]** Devices that are required to support precedence calls above ROUTINE precedence shall respond properly to an incoming alerting (ringing) precedence call cadence as described in Section 5.3.2.6.1.1.1, UC Ringing Tones, Cadences, and Information Signals.

5. **[Conditional]** A device(s) that can "out dial" DTMF and/or DP digits (automatic and/or manual) shall comply with the requirements as specified in Telcordia Technologies GR-506-CORE, *LSSGR: Signaling for Analog Interfaces*, Issue 1, June 1996, paragraph 10 and be capable of outpulsing and interpretation of DTMF digits on outgoing or two-way trunks as specified in Telcordia Technologies GR-506-CORE, *LSSGR: Signaling for Analog Interfaces*, Issue 1, June 1996, paragraph 15, and Table 5.2.1.2-1.

Table 5.2.1.2-1. DTMF Generation and Reception from Users and Trunks

		HIGH GROUP FREQUENCIES NOMINAL FREQUENCY IN Hz			
Low Group Frequencies Nominal Frequency in Hz		**1209 Hz**	**1336 Hz**	**1477 Hz**	**1633 Hz**
	697 Hz	1	2	3	FO (A)
	770 Hz	4	5	6	F (B)
	852 Hz	7	8	9	I (C)
	941 Hz	*	0	A or #	P (D)

6. **[Conditional]** Modems and facsimile machines shall be compatible with ITU and Telcordia standards, as applicable.

7. **[Conditional]** Facsimile devices, as a minimum, shall meet the requirements in accordance with applicable DISR standards.

8. **[Conditional]** If Configuration Management and/or Fault Management are/is provided by the CPE device so that it can be managed by the ADIMSS or other management systems, then the management information shall be provided by one or more of the following serial or Ethernet interfaces:

a. Serial interfaces shall be in accordance with one of the following standards:

(1) ITU-T Recommendation V.35
(2) TIA-232-F
(3) EIA-449-1
(4) TIA-530-A

b. Ethernet interfaces shall be in accordance with IEEE 802.3-2002.

9. **[Conditional]** As a minimum, the 911 and the E911 (tandem) emergency service shall have the capability to "hold" the originating subscriber or caller from releasing the call via the switch supervision interaction for line and trunk control by the "called-party" feature, in accordance with Telcordia Technologies GR-529-CORE. Additionally, the FCC regulations regarding 911 and E911 must be considered.

5.2.2 DoD Secure Communications Devices

5.2.2.1 General Description

This section describes the requirements that will be used to certify DoD Secure Communications Devices (DSCDs) when directly connected to or otherwise traversing the DSN, the PSTN, or the DRSN Gateway to or from the DSN.

This section applies to the secure mode operation of any DSCD that either directly connects to the DSN, the PSTN, or the DRSN Gateway, or traverses these networks in the course of conducting a secure communications session, regardless of where the telephone call originates or terminates. The certification test environment for DSCDs shall include configurations that realistically simulate fixed networks (i.e., DSN, DRSN via the DSN Gateway, PSTN) and deployed networks, such as DVX systems and other configurations as defined by the Executive Agent for Theater Joint Tactical Networks, or any combination thereof.

5.2.2.2 Requirements

The JITC will validate all the features and capabilities of a DSCD device, to include voice, data, and facsimile transmission.

1. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The enabled DSCD shall be only those that are Type Approved by NSA and are listed on the NSA Secure Product web site. Each DSCD must support at least one NSA-approved secure protocol. If the DSCD supports more than one secure protocol, it must meet all the requirements for at least one of the secure protocols, and must minimally support the other protocols that are provided on the DSCD.

2. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The DSCD devices that use a 2-wire analog or BRI interface shall meet the EI requirements as specified in Section 5.2.1, Customer Premises Equipment Requirements. The DSCD devices that use an IP interface shall meet the EI requirements as specified in Section 5.3.2, Assured Services Requirements. DSCD devices that support DSN trunk interfaces (PRI or IP (AS-SIP)) shall meet the interface requirements defined in 5.3.2.12.10, MG Support for ISDN PRI Trunks, for PRI and 5.3.4 for AS-SIP.

3. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** A DSCD device that supports one of the required signaling modes shall interoperate with and establish secure sessions with other compatible devices with at least an 85 percent secure call completion rate.

4. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The DSCD shall be capable of using the protocol(s) provided to establish a secure session within 60 seconds and must maintain secure communications for the duration of the secure portion of the call.

5. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The DSCD shall operate in a network that has an E2E latency of up to 600 milliseconds.

6. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The DSCD shall achieve and maintain a secure voice connection with a minimum MOS of 3.0.

7. **[Required: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** Once connected to the rekey center, the DSCD shall obtain a new key and properly process that new key with a 95 percent rekey completion rate.

8. **[Conditional: STE Enabled DSCD, FNBDT/SCIP Enabled DSCD]** The DSCDs that establish secure sessions on a Continuously Variable Slope Delta (CVSD) switch and terminate on a CVSD switch, without ever traversing or otherwise interacting with the DSN, DRSN, or PSTN must do so with a 50 percent completion rate.

9. **[Conditional: FNBDT/SCIP enabled DSCD]** The DSCDs that establish secure sessions on IP networks using FNBDT/SCIP shall satisfy all the end point requirements described SCIP-215 and SCIP-216.

10. **[Conditional: STE and FNBDT/SCIP Enabled DSCD]** The DSCD devices shall support a minimum data rate and facsimile transmission rate of 9.6 kbps.