APPENDIX C

DETAILED REQUIREMENTS

C-1 OVERVIEW. Tables C-1 through C-8 outline requirements as specified in the detailed Generic Switching Center Requirements (GSCR) document. For tables C-1 and C-2, each requirement is annotated whether it is a test item (T), letter of compliance (LoC) item (L), or both (L/T).

Table C-1. GSCR Requirements by Switch Type

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
SECTION 2 - Capabilities and Features									
2.1.1	Individual Line	T	NA	R	R	R	R	R	E-2
2.1.2	CLASS Feature: Selective Call Rejection	T	NA	C	C	C	C	C	E-3.1
2.1.3	Denied Originating Service	T	NA	C	C	C	C	C	E-3.1
2.1.4	Code Restriction and Diversion	T	NA	R	R	R	C	C	E-3.1
2.1.5.1	Call Waiting (CW)	L	NA	C	C	C	C	C	NA
2.1.5.2	Cancel Call Waiting	L	NA	C	C	C	C	C	NA
2.1.6	Three-Way Calling (TWC)	L	NA	C	C	C	C	C	NA
2.1.7	Add-On Transfer and Conference Calling Features	L	NA	C	C	C	C	C	NA
2.1.7.1	Call Transfer Individual - All Calls	L	NA	C	C	C	C	C	NA
2.1.7.2	Call Transfer - Internal Only	L	NA	C	C	C	C	C	NA
2.1.7.3	Call Transfer - Incoming Only/Add-on Consultation Hold	L	NA	C	C	C	C	C	NA
2.1.7.4	Call Transfer - Outside	L	NA	C	C	C	C	C	NA
2.1.7.5	Call Transfer-Add-on to Fully Restricted Station	L	NA	C	C	C	C	C	NA
2.1.7.6	Call Transfer Attendant	L	NA	C	C	C	C	C	NA
2.1.7.7	Call Hold	L	NA	C	C	C	C	C	NA
2.1.7.8	Conference Calling - Six Way Station Controlled	L	NA	C	C	C	C	C	NA
2.1.8.1	Call Forwarding Variable	L	NA	C	C	C	C	C	NA
2.1.8.2	Call Forwarding Busy Line (CFBL)	L	NA	C	C	C	C	C	NA
2.1.8.3	Call Forwarding Don't Answer All Calls	L	NA	C	C	C	C	C	NA
2.1.8.4	CLASS Feature: Selective Call Forwarding	L	NA	C	C	C	C	C	NA
2.1.9.1	Call Pick-Up	L	NA	C	C	C	C	C	NA
2.1.9.2	Directed Call Pick-Up	L	NA	C	C	C	C	C	NA
2.1.9.3	Directed Call Pick-Up without Barge-In	L	NA	C	C	C	C	C	NA
2.2.1	Precedence and Preemption	T	NA	R	R	C	C	C	E-3.2
2.2.2	Call Display	T	NA	R	R	C	C	C	E-3.2
2.2.3	Class of Service Override	T	NA	R	R	C	C	C	E-3.2
2.2.4	Busy Override and Busy Verification	T	NA	R	R	C	C	C	E-3.2
2.2.5	Night Service	T	NA	R	R	C	C	C	E-3.2
2.2.6	Automatic Recall of Attendant	T	NA	R	R	C	C	C	E-3.2
2.2.7	Calls in Queue to the Attendant	T	NA	R	R	C	C	C	E-3.2
2.2.8	Release to Pivot for Operator Services	L	NA	R	R	C	C	C	NA
2.3.1	PBX Line	L	NA	R	R	C	C	C	NA
2.3.2	Direct Inward Dialing (DID)	T	NA	R	R	C	C	C	E-2
2.3.3	National ISDN 1/2 Basic Access	L/T	NA	R	R	R	R	C	E-2
2.3.4	National ISDN 1/2 Primary Access	L/T	R	R	R	R	R	C	E-2
2.3.5	Analog Line	L/T	NA	R	R	R	R	C	E-2
2.4.1	Basic Emergency Service (911)	T	NA	C	C	C	C	C	E-3.3
2.4.2	Tracing of Terminating Calls	T	NA	R	R	R	C	C	E-3.3
2.4.3	Outgoing Call Tracing	T	NA	R	R	R	C	C	E-3.3

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
2.4.4	Tandem Call Trace	T	R	R	R	R	C	C	E-3.3
2.4.5	Trace of A Call in Progress	T	R	R	R	R	C	C	E-3.3
2.5.1.1	100-Type Test Line	L	R	R	R	C	C	C	NA
2.5.1.2	101-Type Test Line	L	R	R	R	C	C	C	NA
2.5.1.3	102-Type Test Line	L	R	R	R	C	C	C	NA
2.5.1.4	105-Type Test Line	L	R	R	R	C	C	C	NA
2.5.1.5	Synchronous Test Line	L	R	R	R	C	C	C	NA
2.5.1.6	Non-synchronous Test Line	L	R	R	R	C	C	C	NA
2.5.1.7	Permanent Busy Test Line	L	R	R	R	C	C	C	NA
2.5.1.8	108-Type Test Line	L	R	R	R	C	C	C	NA
2.5.2.1	Dialable Cable Pair Locator Tone	L	NA	C	C	C	C	C	NA
2.5.2.2	DTMF Station Test Circuit	L	NA	R	R	C	C	C	NA
2.5.3	Test Incoming Trunks in Tandem or Local State	L	C	C	C	C	C	C	NA
2.5.4.1	Manual Test of Line	L	NA	R	R	C	C	C	NA
2.5.4.2	Manual Test of Trunks	L	R	R	R	R	C	C	NA
2.5.5	Trunk Group - Remove from Service (Make Busy)	T	R	R	R	R	C	C	E-2
2.5.6	Trunk Group - Restore to Service (Make Idle)	T	R	R	R	R	C	C	E-2
2.5.7	Carrier Group Alarm (CGA)	T	R	R	R	R	C	C	E-2
2.5.7.1	Software Carrier Group Alarm	L	C	C	C	C	C	C	NA
2.6	Preset Conferencing	T	R	R	R	C	C	C	E-3.4
2.6.1	Conference Notification Recorded Announcement	T	R	R	R	C	C	C	E-3.4
2.6.2	Automatic Retrial and Alternate Address	T	R	R	R	C	C	C	E-3.4
2.6.3	Bridge Release	T	R	R	R	C	C	C	E-3.4
2.6.4	Lost Connection to Conferee or Originator	T	R	R	R	C	C	C	E-3.4
2.6.5	Secondary Conferencing	T	R	R	R	C	C	C	E-3.4
2.7	Address Translation	T	R	R	R	C	C	C	E-3.4
2.8	Nailed-Up Connections	T	R	R	R	C	C	C	E-3.5
2.9	Assured Dial Tone	L	R	R	R	R	C	C	NA
2.10	Remote Switching Unit (RSU)	T	NA	C	C	C	C	C	E-4
2.11	Control Of Precedence Calls	T	C	C	C	C	C	C	E-3.6
2.11.1	Precedence Access Threshold (PAT)	T	C	C	C	C	C	C	E-3.6
2.11.1.1	Call Screening	T	C	C	C	C	C	C	E-3.6
2.11.1.2	Functional Structure	T	C	C	C	C	C	C	E-3.6
2.11.1.3	Simultaneous Calls Limitation	T	C	C	C	C	C	C	E-3.6
2.11.1.4	Overflow Process	T	C	C	C	C	C	C	E-3.6
2.11.1.5	Decrementing the Calls-In-Progress Count	T	C	C	C	C	C	C	E-3.6
2.11.1.6	Call Treatment	T	C	C	C	C	C	C	E-3.6
2.11.1.7	Queuing	T	C	C	C	C	C	C	E-3.6
2.11.1.8	Attendant Calls	T	C	C	C	C	C	C	E-3.6
2.11.1.9	Operational Measurement Registers	T	C	C	C	C	C	C	E-3.6
2.11.1.10	Maintenance and Administration of Thresholds	T	C	C	C	C	C	C	E-3.6
2.12	DSN ISDN Hotline Service	T	C	R	R	R	C	C	E-3.7
2.12.1	Protected Hotline Calling	T	C	R	R	R	C	C	E-3.7
2.12.2	Pair Protected Hotline Calling	T	C	R	R	R	C	C	E-3.7
2.12.3	Unprotected Hotline Receiving	T	C	R	R	R	C	C	E-3.7
2.12.4	Protected Hotline Receiving	T	C	R	R	R	C	C	E-3.7
2.12.5	User Interoperability	T	C	R	R	R	C	C	E-3.7
2.13.1.1	Data Quality - Common Data Requirements	L	R	R	R	R	C	C	NA
2.13.2.1.1	Traffic Measurements	L	R	R	R	C	C	C	NA
2.13.2.1.2	Reference Data	L	R	R	R	C	C	C	NA
2.13.2.2	Line Servicing	L	R	R	R	C	C	C	NA

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
2.13.2.3	Trunk Groups	L	R	R	R	C	C	C	NA
2.13.2.4	Call Processor	L	R	R	R	C	C	C	NA
2.13.2.5	Switch Services	L	R	R	R	C	C	C	NA
2.13.2.6	Special Studies	L	R	R	R	C	C	C	NA
2.13.2.7	Remote Switching Site	L	C	C	C	C	C	C	NA
2.13.2.8	Features	L	C	C	C	C	C	C	NA
2.13.3	CCS Network Measurements	L	R	R	R	C	C	C	NA
2.13.4	ISDN Measurements	L	R	R	R	R	C	C	NA
2.13.5	Traffic Capacity	L	R	R	R	R	C	C	NA
SECTION 3 - MLPP									
3.1.1	Description	T	R	R	R	R	R	NA	E-2
3.1.2	Precedence Levels	T	R	R	R	R	R	NA	E-2
3.1.3	Announcements	T	R	R	R	R	R	NA	E-2
3.1.4	Invocation and Operation	T	R	R	R	R	R	NA	E-2
3.2	Preemption in the Network	T	R	R	R	R	R	NA	E-2
3.2.1	Network Facilities Active Lower Precedence Calls	T	R	R	R	R	R	NA	E-2
3.2.1.1	CANCEL to (CANT) / CANCEL from (CANF)	T	R	R	R	C	C	NA	E-3.9
3.2.2	Network Facilities Active Equal or Higher Precedence Call	T	R	R	R	R	R	NA	E-2
3.2.3	MLPP Trunk Selection (Hunting)	T	R	R	R	R	C	NA	E-2
3.2.3.1	Hunt Sequence for Trunks	T	R	R	R	R	C	NA	E-2
3.2.3.1.1	ROUTINE Calls	T	R	R	R	R	C	NA	E-2
3.2.3.1.2	Precedence Calls Above ROUTINE	T	R	R	R	R	C	NA	E-2
3.2.3.1.2.1	Method 1	T	R	R	R	R	C	NA	E-2
3.2.3.1.2.2	Method 2	T	R	R	C	C	C	NA	E-2
3.2.4.1	Calls From non-MLPP Networks	T	R	R	R	R	C	NA	E-2
3.2.4.2	Precedence Calls to Non-MLPP Networks	T	R	R	R	R	C	NA	E-2
3.3	Precedence Call Diversion	T	NA	R	R	R	R	NA	E-2
3.4.1	Channel Associated Signaling (CAS)	T	R	R	R	R	C	NA	E-2
3.4.2	Primary Rate Interface (PRI)	T	R	R	R	R	R	NA	E-2
3.4.3	Common Channel Signaling Number 7 (CCS7)	T	R	R	R	C	C	NA	E-2
3.5.1	Busy At The Called Party's Interface	T	NA	R	R	R	R	NA	E-2
3.5.1.1	Line Active With A Lower Precedence Call	T	NA	R	R	R	R	NA	E-2
3.5.1.2	Line Active Equal or Higher Precedence Call	T	NA	R	R	R	R	NA	E-2
3.6	ISDN Basic Rate Interface (BRI)	T	NA	R	R	R	R	NA	E-2
3.6.2	Single B-Channel, Single Appearance, Single DN#	T	NA	R	R	R	R	NA	E-2
3.6.2.1	Line Active With A Lower Precedence Call	T	NA	R	R	R	R	NA	E-2
3.6.2.2	Line Active With An Equal or Higher Precedence Call	T	NA	R	R	R	R	NA	E-2
3.6.3	Single B-Channel, Multiple Appearances, Single DN#	T	NA	R	R	R	R	NA	E-2
3.6.4	Two (2) B-Channels, Multiple Appearances, Single	T	NA	R	R	R	R	NA	E-2
3.6.5	Two B-Channels, 2 Directory Numbers (DN)	T	NA	R	R	R	R	NA	E-2
3.7	ISDN MLPP PRI	T	R	R	R	R	R	NA	E-2
3.7.2	Precedence Level Information Elements	T	R	R	R	R	R	NA	E-2
3.7.3	Disconnect Message Information Cause Values	T	R	R	R	R	R	NA	E-2
3.7.4	Signal Information Element	T	R	R	R	R	R	NA	E-2
3.7.5	T1.619a Setup Message Called Party Number Format	T	R	R	R	R	R	NA	E-2
3.7.6	T1.619a and non-T1.619a Interaction	T	R	R	R	R	R	NA	E-2
3.8.1	Precedence Call Waiting	T	C	C	C	C	C	NA	E-2
3.8.1.1	Busy with higher precedence call	T	C	C	C	C	C	NA	E-2
3.8.1.2	Busy with equal precedence call	T	C	C	C	C	C	NA	E-2
3.8.1.3	Busy with lower precedence call	T	C	C	C	C	C	NA	E-2
3.8.1.4	No Answer	T	C	C	C	C	C	NA	E-2
3.8.2	Call Forwarding	T	C	C	C	C	C	NA	E-2

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
3.8.2.1	Call Forwarding at a Busy Station	T	C	C	C	C	C	NA	E-2
3.8.2.2	Call Forwarding - No Reply at Called Station	T	C	C	C	C	C	NA	E-2
3.8.3	Call Transfer	T	C	C	C	C	C	NA	E-2
3.8.3.1	Call transfer interaction at different precedence levels	T	C	C	C	C	C	NA	E-2
3.8.3.2	Call transfer interaction at same precedence levels	T	C	C	C	C	C	NA	E-2
3.8.4	Call Hold	T	C	C	C	C	C	NA	E-2
3.8.5	Three-Way Calling (TWC)	T	NA	C	C	C	C	NA	E-2
3.8.6	Call Pick-Up	T	NA	C	C	C	C	NA	E-2
3.8.7.1	Conference Precedence Level	T	R	R	R	C	C	NA	E-3.4
3.8.8	Multiline Hunt Service	T	NA	C	C	C	C	NA	E-2
3.8.9	Community of Interest (COI)	T	R	R	R	C	C	NA	E-2
3.8.9.2.1	COI Screening treatment for Originating Call Requests	T	R	R	R	C	C	NA	E-2
3.8.9.2.2	COI Screening treatment for Terminating Call Requests	T	R	R	R	C	C	NA	E-2
3.9	MLPP Common Channel Signaling Number 7 (CCS7)	T	R	R	R	C	C	NA	E-2
3.9.3	Look-Ahead For Busy	T	R	R	R	C	C	NA	E-2
3.9.4	Precedence Parameters	T	R	R	R	C	C	NA	E-2
3.9.4.1	Actions Required at Originating Exchange	T	R	R	R	C	C	NA	E-2
3.9.4.2	MLPP CCS7 TCAP	T	R	R	R	C	C	NA	E-2
3.9.4.2.1	Parameters	T	R	R	R	C	C	NA	E-2
3.9.4.2.1.1	Bearer Capability Supported - 1001001	T	R	R	R	C	C	NA	E-2
3.9.4.2.1.2	Circuit Identification Code - 10011010	T	R	R	R	C	C	NA	E-2
3.9.4.2.1.3	Call Reference - 10011100	T	R	R	R	C	C	NA	E-2
3.9.5	RELEASE Message Cause Values	T	R	R	R	C	C	NA	E-2
3.9.6	DSN MLPP CCS7 IAM Called Party No. Format	T	R	R	R	C	C	NA	E-2
3.10	CAS-to-CCS trunk inter-working in a mixed media network	T	R	R	R	C	C	NA	E-2
3.11.1	Electronic Key Telephone Systems (EKTS)	T	NA	C	C	C	C	NA	E-3.10
3.11.1.1	Call Appearances	T	NA	C	C	C	C	NA	E-3.10
3.11.1.2	Hold	T	NA	C	C	C	C	NA	E-3.10
3.11.1.3	DN Bridging	T	NA	C	C	C	C	NA	E-3.10
3.11.1.4	Intercom Calling	T	NA	C	C	C	C	NA	E-3.10
3.11.1.5	Abbreviated Or Delayed Ringing Treatment Incoming Calls	T	NA	C	C	C	C	NA	E-3.10
3.11.1.6	Bridged Call Exclusion (BCE)	T	NA	C	C	C	C	NA	E-3.10
3.11.1.7	Non-ISDN Users	T	NA	C	C	C	C	NA	E-3.10
3.12.1	Precedence Parameter	L	NA	C	C	C	C	NA	NA
3.12.2	Cause Values & Location Codes	T	NA	C	C	C	C	NA	E-2
3.13	Network Management Manual Controls	L	R	R	R	C	C	NA	NA
3.14	Data Collection	L	C	R	R	R	C	NA	NA
SECTION 4 - Call Processing									
4.1.1	Origination Treatment	L/T	R	R	R	R	R	R	E-2
4.1.1.1	Originating Busy	T	R	R	R	R	R	R	E-2
4.1.2	Termination Treatment	L/T	R	R	R	R	R	R	E-2
4.1.2.1	Busy or Idle Status	T	R	R	R	R	R	R	E-2
4.1.3	Release Treatment	L/T	R	R	R	R	R	R	E-2
4.1.4	Interruption Treatment	L/T	R	R	R	R	R	R	E-2
4.1.5	Connections	L/T	R	R	R	R	R	R	E-2
4.1.6	Class of Service	T	R	R	R	R	C	C	E-2
4.2	Primary and Alternate Routing	T	R	R	R	R	C	C	E-2
4.3.1	Ear & Mouth (E&M) Lead Signaling States	L	C	C	C	C	C	C	NA
4.3.2	Four-Wire Analog User Access Lines	L	C	C	C	C	C	C	NA
4.3.3	Two-Wire User Access Lines	L/T	NA	R	R	R	R	C	E-2
4.3.4.1	Busy/Idle Status	T	NA	R	R	R	R	C	E-2
4.4.1	Originating Call Processing	T	R	R	R	R	C	C	E-2

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
4.4.2	Terminating Call Processing	T	R	R	R	R	C	C	E-2
4.5.1.1	DSN User Dialing	T	R	R	R	R	R	C	E-2
4.5.1.2	Interswitch and Intraswitch Dialing	T	R	R	R	R	R	C	E-2
4.5.1.2.1	Seven-Digit Dialing	T	R	R	R	R	R	C	E-2
4.5.1.2.2	Ten-Digit Dialing	T	R	R	R	R	R	C	E-2
4.5.1.3	Access Code	T	R	R	R	R	R	C	E-2
4.5.1.3.1	Access Digit	T	R	R	R	R	R	C	E-2
4.5.1.3.2	Precedence Digit	T	R	R	R	R	R	C	E-2
4.5.1.3.3	Service Digits	T	R	R	R	R	R	C	E-2
4.5.1.4	Route Code	T	NA	R	R	R	R	C	E-2
4.5.1.5	Area Code	T	R	R	R	R	R	C	E-2
4.5.1.6	Switch Code	T	R	R	R	R	R	C	E-2
4.5.1.7	Line Number	T	R	R	R	R	R	C	E-2
4.5.1.8	Emergency Service 911 Conflict Resolution	T	NA	R	R	R	R	C	E-2
4.5.2 Table 4-9	DSN Switch Outpulsing Digit Formats	T	R	R	R	C	C	C	E-2
4.5.2 Table 4-10	DSN Switch Outpulsing Digit Formats	T	R	R	R	R	C	C	E-2
4.5.2.1-4.5.2.1.9	RCD	T	R	R	C	C	C	C	E-2
4.5.3	Standard DNs	T	NA	R	R	R	R	C	E-2
4.5.4	Standard Test Numbers	L	R	R	R	C	C	C	NA
4.5.5	Base Services - Abbreviated Numbers	L	R	R	R	R	C	C	NA
4.5.6	Digit Reception Requirements	L	R	R	R	R	R	C	NA
4.5.7	Digit Registration Capacity	L	R	R	R	R	C	C	NA
4.5.8	Screening	L/T	NA	R	R	R	C	C	E-2
4.5.8.1	Zone Restriction Servicing of Local Originators	L/T	NA	R	R	R	C	C	E-2
SECTION 5 - Signaling									
5.1	Network Power Systems for External Interfaces	L	R	R	R	R	C	C	NA
5.2.1	Loop Start Line	T	NA	R	R	R	R	C	E-2
5.2.2	Ground Start Line	L	NA	R	R	R	R	C	E-2
5.3.1	Reverse Battery (RB)	L/T	C	R	R	R	R	C	E-2
5.3.2	Immediate Start	L/T	R	R	R	C	C	C	E-2
5.3.3.1	Normal Wink Start Operation	L/T	R	R	R	R	C	C	E-2
5.3.3.2	Glare Operation	L/T	R	R	R	R	C	C	E-2
5.3.3.3.1	Wink Start	L/T	R	R	R	R	C	C	E-2
5.3.3.3.2	Glare Resolution	L/T	R	R	R	R	C	C	E-2
5.3.4	Delay Dial	L	NA	C	C	C	C	C	NA
5.3.5	Call for Service Timing	T	R	R	R	R	R	C	E-2
5.3.6	Guard Timing	L/T	R	R	R	R	R	C	E-2
5.3.7	Satellite Interface	T	R	R	R	R	C	C	E-2
5.3.8	Disconnect Control	L	R	R	R	R	C	C	NA
5.3.9	Reselect or Retrial	T	R	R	R	R	C	C	E-2
5.3.10	Off-Hook Supervision Transitions (Unexpected Stop)	T	NA	R	R	R	C	C	E-2
5.4.1	Dial-Pulse (DP) Signals	T	R	R	R	R	C	C	E-2
5.4.2	Dual Tone Multi-Frequency (DTMF) Signaling	T	R	R	R	R	C	C	E-2
5.4.2.1	Standard Digit Format for Precedence	T	R	R	R	C	C	C	E-2
5.4.3	MFR1 2/6 Signaling	T	R	R	R	C	C	C	E-2
5.5.1	Ringing	L/T	NA	R	R	R	R	C	E-2
5.5.2	DSN Information Signals	L/T	NA	R	R	R	R	C	E-2
5.6	Common Channel Signaling Number 7 (CCS7)	T	R	R	R	C	C	C	E-2
5.6.1	CCS7 Network Structure	L	R	R	R	C	C	C	NA
5.6.2	Functional Description of the Signaling System MTP	L	R	R	R	C	C	C	NA

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
5.6.2.1.1	Signaling Data Link Functions (Level 1)	L	R	R	R	C	C	C	NA
5.6.2.1.2	Signaling Link Functions (Level 2)	L	R	R	R	C	C	C	NA
5.6.3.1	Routing Label	L	R	R	R	C	C	C	NA
5.6.3.2	Handling Messages Under Signaling Link Congestion	L	R	R	R	C	C	C	NA
5.6.3.3	Message Discrimination and Distribution Functions	L	R	R	R	C	C	C	NA
5.6.3.4	Signaling Network Management	L	R	R	R	C	C	C	NA
5.6.3.5	Changeback	L	R	R	R	C	C	C	NA
5.6.4	Non-circuit Related Information Exchange - SCCP	L	R	R	R	C	C	C	NA
5.6.5	Additional Procedures for SCP TCAP Messages	L	R	R	R	C	C	C	NA
5.6.6	Message Transfer Part (MTP) Restart	L	R	R	R	C	C	C	NA
5.6.7	Signaling Link Management	L	R	R	R	C	C	C	NA
5.6.8	Signaling Route Management	L	R	R	R	C	C	C	NA
5.6.9.1	Service Indicator	L	R	R	R	C	C	C	NA
5.6.9.2	Subservice Field	L	R	R	R	C	C	C	NA
5.6.10	Formats and Codes of Signaling NM Messages	L	R	R	R	C	C	C	NA
5.6.11	Numbering of Signaling Point Codes	L	R	R	R	C	C	C	NA
5.6.12.1	Scope, Purpose, and Application	L	R	R	C	C	C	C	NA
5.6.12.2	End-To-End Signaling	L	R	R	C	C	C	C	NA
5.6.13	Formats and Codes - ISDN User Part Parameters	L	R	R	R	C	C	C	NA
5.6.13.1	Notification Indicator	L	R	R	R	C	C	C	NA
5.6.13.2	IS-UP Messages	L	R	R	R	C	C	C	NA
5.6.13.3	IS-UP Parameters	L	R	R	R	C	C	C	NA
5.7.1.1	Application	L	NA	R	R	R	R	C	NA
5.7.1.2	Physical Layer	L	NA	R	R	R	R	C	NA
5.7.1.2.1	S/T Reference Point	T	NA	R	R	R	R	C	E-2
5.7.1.3	Data-Link Layer	L	R	R	R	R	R	C	NA
5.7.1.3.1	Data-Link Connections	L	R	R	R	R	R	C	NA
5.7.1.3.2	Peer-to-Peer Procedures of the Data-Link Layer	L	R	R	R	R	R	C	NA
5.7.1.4	Layer 3 DSN User-to-Network Signaling	L	R	R	R	R	R	C	NA
5.7.1.4.2	DSN User-to-Network Signaling for CS Bearer Service	L/T	R	R	R	R	R	C	E-2
5.7.1.4.3	Sequence of Messages for DSN CS Calls	T	R	R	R	R	R	C	E-2
5.7.1.4.4	Message Functional Definitions and Content	T	R	R	R	R	R	C	E-2
5.7.1.4.5	General Message Format and IE Coding	T	R	R	R	R	R	C	E-2
5.7.1.4.6	Supplementary Services	T	C	C	C	C	C	C	E-2
SECTION 6 - Transmission									
6	DISN/DSN Transmission Interface	L	R	R	R	R	R	R	NA
6.1	Input Impedance	L	R	R	R	R	R	R	NA
6.2	Inserted Connection Loss	L	R	R	R	R	R	R	NA
6.2.1	Average Loss At 1004 Hz And Loss Control	L	R	R	R	R	R	R	NA
6.2.2	Loss Variability At 1004 Hz	L	R	R	R	R	R	R	NA
6.2.3	Attenuation Distortion	L	R	R	R	R	R	R	NA
6.2.4	Tracking Error	L	R	R	R	R	R	R	NA
6.3	Frequency Response	L	R	R	R	R	R	R	NA
6.4	Overload Level	L	R	R	R	R	R	R	NA
6.5	Return Loss	L	R	R	R	R	R	R	NA
6.5.1	Two-Wire Line Return Loss	L	R	R	R	R	R	R	NA
6.5.2	Four-Wire Trunk Return Loss (Impedance)	L	R	R	R	R	R	R	NA
6.6	Longitudinal Balance	L	R	R	R	R	R	R	NA
6.7	60 Hz Longitudinal Current	L	R	R	R	R	R	R	NA
6.8	Idle Channel Noise	L	R	R	R	R	R	R	NA
6.8.1	C-Message Weighting	L	R	R	R	R	R	R	NA
6.8.2	Flat-Weighting Noise	L	R	R	R	R	R	R	NA

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
6.9	Power Line Interference	L	R	R	R	R	R	R	NA
6.10	Impulse Noise	L	R	R	R	R	R	R	NA
6.11	Crosstalk Coupling	L	R	R	R	R	R	R	NA
6.12	Intermodulation Distortion	L	R	R	R	R	R	R	NA
6.13	Signal To Distortion Ratio (C-Notched Noise)	L	R	R	R	R	R	R	NA
6.14	Absolute Delay	L	R	R	R	R	R	R	NA
6.15	Envelope Delay Distortion	L	R	R	R	R	R	R	NA
6.15.1	Echo Path Delay	L	R	R	R	R	R	R	NA
6.16	Bit Integrity	T	R	R	R	R	R	R	E-2
6.17	Switched Digital Bit Error Rate	T	R	R	R	R	R	R	E-2
6.18	Encoding And Decoding Levels	L	R	R	R	R	R	R	NA
6.18.1	DSN Fixed Loss Plan	L	R	R	R	R	R	R	NA
6.18.1.1	Switch Transmission Level Points (TLPs)	L	R	R	R	R	R	R	NA
SECTION 7 - System Interfaces									
7.1	PCM-24 Digital Trunk Interface	T	R	R	R	R	R	R	E-2
7.1.1	Interface Characteristics	T	R	R	R	R	R	R	E-2
7.1.2	Supervisory Channel Associated Signaling	T	R	R	R	R	C	C	E-2
7.1.3	Clear Channel Capability (CCC)	T	R	R	R	R	R	C	E-2
7.1.4	Alarm and Restoral Requirements	T	R	R	R	R	R	C	E-2
7.2	PCM-30 Digital Trunk Interface	T	R	R	R	R	C	C	E-2
7.2.1	Supervisory Channel Associated Signaling	T	R	R	R	R	C	C	E-2
7.2.2	Alarm and Restoral Requirements	T	R	R	R	R	C	C	E-2
7.3	Interoperation of PCM-24 and PCM-30 Systems	T	R	R	R	R	C	C	E-2
7.4	Analog Trunk Interface	T	C	C	C	C	C	C	E-2
7.4.1	E&M Trunk Circuits	L/T	C	C	C	C	C	C	E-2
7.4.2	Single Frequency (SF) Trunk Circuits	L/T	C	C	C	C	C	C	E-2
7.4.3	Dual Frequency (DF) Trunk Circuits	L	C	C	C	C	C	C	E-2
7.5	Integrated Digital Loop Carrier (IDLC)	L	R	R	R	R	C	C	NA
SECTION 8 - Tandem Switching									
8.1	Network Plan	L	R	R	NA	NA	NA	NA	NA
8.3	Tandem Capabilities	L/T	R	R	NA	NA	NA	NA	E-3.8
8.4	Call Processing	L/T	R	R	NA	NA	NA	NA	E-3.8
8.5	Signaling	L/T	R	R	NA	NA	NA	NA	E-3.8
8.6	Transmission	L/T	R	R	NA	NA	NA	NA	E-3.8
8.7	Measurements and Administration	L/T	R	R	NA	NA	NA	NA	E-3.8
8.8	Service Standards	L/T	R	R	NA	NA	NA	NA	E-3.8
8.9	Network Management (NM)	L/T	R	R	NA	NA	NA	NA	E-3.8
SECTION 9 - Network Management									
9.1	DISA NTMOS	T	R	R	R	R	C	C	E-3.9
9.2.1.1	Data Quality	L/T	R	R	R	R	C	C	E-3.9
9.2.2.1.1	Traffic Measurements	L/T	R	R	R	R	C	C	E-3.9
9.2.2.1.2	Reference Data	L/T	R	R	R	C	C	C	E-3.9
9.2.2.2	Line Servicing	L/T	R	R	R	C	C	C	E-3.9
9.2.2.3	Trunk Groups	L/T	R	R	R	C	C	C	E-3.9
9.2.2.4	Call Processor	L/T	R	R	R	C	C	C	E-3.9
9.2.2.5	Switch Services	L/T	R	R	R	C	C	C	E-3.9
9.2.2.6	Special Studies	L/T	R	R	R	C	C	C	E-3.9
9.2.2.7	Remote Switching Site	L/T	C	C	C	C	C	C	E-3.9
9.2.2.8	Features	L	C	C	C	C	C	C	NA
9.2.3	CCSN Measurements	L	R	R	R	C	C	NA	NA
9.2.4	ISDN Measurements	L	R	R	R	R	C	C	NA
9.2.5	Traffic Capacity	L	R	R	R	R	C	C	NA

Table C-1. GSCR Requirements by Switch Type (continued)

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref.
9.3	Fault Management	L/T	R	R	R	R	C	C	E-3.9
9.4	Configuration Management	T	R	R	R	R	C	C	E-3.9
9.5.1	DSN Settable CDR Fields	T	NA	R	R	R	C	C	E-3.9
9.5.2	CDR Data Retention	T	NA	R	R	C	C	C	E-3.9
9.6	Performance Management	T	R	R	R	R	C	C	E-3.9
9.7.1	Automatic Controls	T	R	R	R	C	C	C	E-3.9
9.7.1.1	Automatic Congestion Controls (ACC)	T	R	R	R	C	C	C	E-3.9
9.7.1.2	Trunk Reservation (TRE)	T	R	R	R	C	C	C	E-3.9
9.7.1.3	Selective Incoming Load Controls (SILC)	T	R	R	R	C	C	C	E-3.9
9.7.1.4	Precedence Access Threshold (PAT)	T	C	C	C	C	C	C	E-3.9
9.7.2.1	Essential Service Protection (ESP)	T	R	R	R	C	C	C	E-3.9
9.7.3	Manual Controls	T	R	R	R	C	C	C	E-3.9
9.7.3.1	Trunk Group Controls	T	R	R	R	C	C	C	E-3.9
9.7.3.1.1	Cancel From (CANF)	T	R	R	R	C	C	C	E-3.9
9.7.3.1.2	Cancel To (CANT)	T	R	R	R	C	C	C	E-3.9
9.7.3.1.3	SKIP	T	R	R	R	C	C	C	E-3.9
9.7.3.1.4	Reroute (RR)	T	R	R	R	C	C	C	E-3.9
9.7.3.1.4.1	Single-Via-Route	T	R	R	R	C	C	C	E-3.9
9.7.3.1.4.2	Multiple-Via-Route	T	R	R	R	C	C	C	E-3.9
9.7.3.1.4.3	Overflow (ORR) vs. Immediate Reroute (IRR)	T	R	R	R	C	C	C	E-3.9
9.7.3.2	Code Controls	T	R	R	R	C	C	C	E-3.9
9.7.3.2.1	Code Controls - Code Gapping Controls	T	R	R	R	C	C	C	E-3.9
9.7.3.3	Total Office Manual Control Removal - Request/Response	T	R	R	R	C	C	C	E-3.9
9.7.4	Treatment Options Of Calls That Are Terminated	T	R	R	R	C	C	C	E-3.9
9.8	Remote Access to Switch	T	R	R	R	R	C	C	E-3.9
SECTION 10 - ISDN		Refer to Tables in Section 10							E-3.10
SECTION 11 - Synchronization									
11.1	Timing Modes	L/T	R	R	R	R	C	C	E-3.11
11.1.1.1	External Timing Mode	L/T	R	R	R	C	C	C	E-3.11
11.1.1.2	Line Timing Mode	L/T	R	R	R	R	R	C	E-3.11
11.1.2.1	General	L/T	R	R	R	C	C	C	E-3.11
11.1.2.2	Stratum 4 Clock	T	NA	NA	NA	R	R	R	E-3.11
11.2	Synchronization Performance Monitoring Criteria	L	R	R	R	C	C	C	NA
11.3	DS1	L	R	R	R	C	C	C	NA
11.4	DS0 Traffic Interconnects	L	R	R	R	C	C	C	NA
Section 12 - Reliability									
12.1	Reliability	L/T	R	R	R	R	R	C	E-3.12
12.2	Reliability	L/T	C	C	C	C	C	R	E-3.12
Section 13 – Security[1]		L/T	R	R	R	R	R	C	E-3.13

Table C-1. GSCR Requirements by Switch Type (continued)

Notes:
1. For switching systems JITC certifies security in accordance with GSCR requirements. Prior to being connected to the DSN, IA test procedures must be conducted.

Legend:

ACC	– Automatic Congestion Control
BCE	– Bridged Call Exclusion
BRI	– Basic Rate Interface
C	– Conditional
CANF	– Cancel From
CANT	– Cancel To
CAS	– Channel Associated Signaling
CCC	– Clear Channel Capability
CCS	– Common Channel Signaling
CCS7	– Common Channel Signaling System 7
CCSN	– Common Channel Signaling Network
CDR	– Call Detail Record
CGA	– Carrier Group Alarm
CFBL	– Call Forwarding Busy Line
COI	– Community of Interest
CS	– Circuit Switched
CW	– Call Waiting
DF	– Dual Frequency
DID	– Direct Inward Dial
DISN	– Defense Information System Network
DN	– Directory Number
DP	– Dial Pulse
DS0	– Digital System Level 0 (64 Kbps)
DS1	– Digital System Level 1 (1.544 Mbps)
DSN	– Defense Switched Network
DTMF	– Dual Tone Multi-Frequency
E1	– European Transmission Std. (2.048 Mbps)
E&M	– Ear and Mouth
EKTS	– Electronic Key Telephone System
EOS	– End Office Switch
ESP	– Essential Services Protection
GSCR	– Generic Switching Center Requirements
GSTP	– Generic Switch Test Plan
Hz	– Hertz
IA	– Information Assurance
IAM	– Initial Address Message
IDLC	– Integrated Digital Loop Carrier
IE	– Information Element
IRR	– Immediate Reroute
ISDN	– Integrated Services Digital Network
IS-UP	– ISDN Services User Part
JITC	– Joint Interoperability Test Command
Kbps	– Kilobits per second
L	– Letter Item
L/T	– Both Letter and Test Item
LoC	– Letter(s) of Compliance
Mbps	– Megabits per second
MFR1	– Multi-Frequency Recommendation 1
MLPP	– Multilevel Precedence and Preemption
MFS	– Multifunction Switch
MTP	– Message Transfer Part
NA	– Not applicable
NM	– Network Management
No.	– Number
NT	– Network Terminal
NTMOS	– Network Traffic Management Operating System
ORR	– Overflow Reroute
PAT	– Precedence Access Threshold
PBX	– Private Branch Exchange
PBX1	– PBX Type 1 (MLPP)
PBX2	– PBX Type 2 (non-MLPP)
PCM	– Pulse Code Modulation
PCM-24	– PCM with 24 DS0s for a T1 rate (1.544 Mbps)
PCM-30	– PCM with 30 DS0s for an E1 rate (2.048 Mbps)
PRI	– Primary Rate Interface
R	– Required
RB	– Reverse Battery
RCD	– Route Control Digit
Ref.	– Reference
RR	– Reroute
SCP	– Service Control Point
SCCP	– Signaling Call Control Part
SF	– Single Frequency
SILC	– Selective Incoming Load Control
SMEO	– Small End Office
Std.	– Standard
S/T	– NT1 and NT 2 ISDN Interface
SS7	– Signaling System 7
T	– Test Item
T1	– American Transmission Std. (1.544 Mbps)
T1.619a	– SS7 and ISDN MLPP Signaling Std. for T1
TCAP	– Transaction Capabilities Application Part
TLP	– Transmission Level Point
TRE	– Trunk Reservation
TS	– Tandem Switch
TWC	– Three-Way Calling

C-2 VOICE OVER INTERNET PROTOCOL (VoIP). Appendix 3 to the GSCR outlines the requirements for switching systems employing VoIP. Table C-2 outlines the requirements for command and control (C2) voice grade local area networks (C2VGLAN) and voice grade local area networks (VGLAN) in accordance with appendix 3.

Table C-2. GSCR Appendix 3 VoIP Requirements for C2VGLAN & VGLAN

GSCR Ref.	Subject	Test/ LoC	TS	MFS	EOS	SMEO	PBX1	PBX2	GSTP Ref
APPENDIX 3 - DSN Voice Over Internet Protocol (VoIP) Requirements									
A3.2.1	Voice Quality	T	R	R	R	R	R	R	E-5
A3.2.2	Coder / Decoder	T	R	R	R	R	R	R	E-5
A3.2.3	Multi-Level Precedence and Preemption (MLPP)	T	R	R	R	R	R	C	E-5
A3.2.4	Security	T	R	R	R	R	R	R	E-5
A3.2.5	Network Management	T	R	R	R	R	C	C	E-5
A3.2.6	Timing - support line timing	L/T	R	R	R	R	R	R	E-5
A3.2.6	Timing - provide internal clock	L/T	R	R	R	C	C	C	E-5
A3.2.7	Latency	T	R	R	R	R	R	R	E-5
A3.2.8	IPv6 Capable	L	R	R	R	R	R	R	E-5
A3.3.1.1	Delay	T	R	R	R	R	R	R	E-5
A3.3.1.2	Jitter	T	R	R	R	R	R	R	E-5
A3.3.1.3	Packet Loss	T	R	R	R	R	R	R	E-5
A3.3.2.1	Class of Service (CoS) [1]	T	R	R	R	R	R	R	E-5
A3.3.2.2	C2VGLAN Traffic Prioritization[1]	T	R	R	R	R	R	R	E-5
A3.3.3.1	Queuing[1]	L/T	R	R	R	R	R	R	E-5
A3.3.3.2	Policing[1]	L	R	R	R	R	R	R	E-5
A3.3.3.3	VLANs[1]	L/T	R	R	R	R	R	R	E-5
A3.3.4	LAN Design	T	R	R	R	R	R	R	E-5
A3.3.4.1	Reliability[2]	L	R	R	R	R	R	R	E-5
A3.3.4.1.1a	Maximum Downtime - IP network links	L	R	R	R	R	R	C	E-5
A3.3.4.1.1b	Maximum Downtime - IP subscriber	L	R	R	R	R	R	C	E-5
A3.3.4.2.1	Management Interface[2]	L/T	R	R	R	R	R	R	E-5
A3.3.4.2.2	Measurements[2]	L/T	R	R	R	R	R	R	E-5
A3.3.4.3	Security[2]	T	R	R	R	R	R	R	E-5
A3.3.4.4.1	Bandwidth	L	R	R	R	R	R	R	E-5
A3.3.4.4.2	TE Calculations	T	R	R	R	R	R	R	E-5
A3.3.4.4.3	Non-Converged LAN TE	T	R	R	R	R	R	R	E-5
A3.3.4.4.4	Converged LAN TE	T	R	R	R	R	R	R	E-5

Notes:
1. Requirements apply to Converged LANs (C2VGLAN and VGLAN) only. Requirement is condition for non-converged LANs.
2. Requirements apply to C2VGLAN only (converged and non-converged). Requirements are conditional for VGLAN (converged and non-converged).

Legend:

C – Conditional
C2VGLAN – Command and Control Voice Grade LAN
CoS – Class of Service
DSN – Defense Switched Network
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
GSTP – Generic Switch Test Plan
IP – Internet Protocol
IPv6 – Internet Protocol Version 6
L – Letter item
L/T – Letter/Test Item
LAN – Local Area Network
LoC – Letter(s) of Compliance
MFS – Multifunction Switch
MLPP – Multi-Level Precedence and Preemption
PBX1 – Private Branch Exchange Type 1 (MLPP)
PBX2 – Private Branch Exchange Type 2 (non-MLPP)
R – Required
Ref. – Reference
SMEO – Small End Office
T – Test Item
TE – Traffic Engineering
TS – Tandem Switch
VGLAN – Voice Grade LAN
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol

Table C-3. TS Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Trunk Interfaces				
T1 SS7 (T1.619a) E1 SS7 (Q.735.3) T1 CAS (MFR1, DTMF, DP) E1 CAS (MFR1, DTMF, DP) T1 ISDN PRI NI 1/2 (T1.619a) E1 ISDN PRI (Q.955.3)	Yes Yes (Europe only) Yes Yes (Europe only) Yes Yes (Europe Only)	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (R) • Outpulsing digit formats (R: CAS only) • Routing (R) • Trunk Groups (R) • CAS to CCS trunk interworking (R) • PCM-24/PCM-30 Interoperation (R) • Tandem Switching (R) • Direct Inward Dialing (C)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect. 8 • GSCR Sect. 2.3.2
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R: E1, PRI & SS7) • N x 56 synchronous BER (R) • N x 64 synchronous BER (R: E1, PRI & SS7) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R)	• JTA
DSN Features & Capabilities				
Common Features	Yes	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (R) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)		• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9
Public Safety	Yes	• Tandem call trace (R) • Trace of a call in progress (R)		• GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	Yes	• Support 10 bridges; 1 originator & 20 conferees (R) • Assign up to 20 address #s per bridge (R) • Use KXX codes for bridge access (R) • Conference notification recorded announcement (R) • Auto retrial and alternate address (R) • Bridge release (R) • Lost connection (R) • Secondary conferencing (R) • Address translation (R)		• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	Yes	• Between any two like terminations (R) • PCM-24 and PCM-30, both CAS and CCS (R) • Supervision passed end-to-end for A/D or D/A (R) • Monitored & auto reconfigure (R) • Support at least 10% of circuits as nailed-up (R) • Non-preemptable (R)		• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8

Table C-3. TS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	No	• Hotline restrictions (C) • Auto initiate (C) • Analog & digital (C) • Subscription basis (C) • Protected hotline calling (C) • WWNDP interoperable (C)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Tandem Switching	Yes	• Tandem Features (R)	• GSCR Sect. 8 table 8-1
Network Management	Yes	• Interfaces (R) • Measurements and data generation (R) • Fault management (R) • Configuration management (R) • Accounting management (R) • Performance management (R) • NM controls (R) • Remote access (R)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8
Synchronization	Yes	• External line timing mode (R) • Line timing mode (R) • Internal Stratum 3 (R)	• GSCR Sect. 11.1.1.1 • GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.1
Reliability	Yes	• GR-512-CORE (R)	• GSCR Sect. 12
Security[1]	Yes	• DITSCAP (R)	• GSCR Sect. 13
RSU			
Normal Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Same user features as EOS, SMEO, or PBX • Normal ops IAW GR-532-CORE • If EOS, provide diverse routing to host & PSTN	• GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2
Degraded Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Stand-alone (C) - Stand-alone IAW GR-532-CORE - AMA not required - MLPP required • Partial stand-alone operations (C) - Partial IAW GR-532-CORE - 3% users provided assured dial tone - Normal MLPP interaction	• GSCR Sect. 2.10.3.1 • GSCR Sect. 2.10.3.2
VoIP			
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3

Table C-3. TS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
VoIP (continued)				
LANs	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering		• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
Network Gateways				
PSTN[2]	No	Trunking	• Positive Identification Control (C) • On-Netting (C) • Off-Netting (C)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
Tactical[3]	No	Trunking	• Trunk Groups (C) • Call Processing (C)	• GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4
		Voice	• MOS (C) • MLPP (C) • Secure calls (C)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (C) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
DRSN[4]	No	Access	• Alerting Signals and Tones (C) • Call Processing (C) • Call Treatments(C) • Analog busy/idle (C)	• GSCR Sect. 5.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.4.1
		Voice	• MOS (C) • MLPP (C) • Secure calls (C)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.
3. Data and VTC services are not provided via the DSN to tactical (SMU) interface.
4. Facsimile, data and VTC services are not provided via the DSN to DRSN interface.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP– DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DRSN – Defense Red Switch Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EMSS – Enhanced Mobile Satellite System
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
Q.735.3 – ITU SS7 Signaling Std. For E1 MLPP
Q.955.3 – ITU ISDN Signaling Std. For E1 MLPP
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
TS – Tandem Switch
VBD – Variable bit data
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol
VTC – Video Teleconferencing
WWNDP – Worldwide Numbering and Dialing Plan

Table C-4. MFS Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Line Interfaces				
2-Wire Analog	Yes	Access	• DN Identification (R) • Line signaling (R) • Alerting Signals and Tones (R) • WWNDP (R) • Call Treatments(R)	• GSCR Sect. 2.1.1 • GSCR Sect. 5.2 • GSCR Sect. 5.5 • GSCR Sect. 4.5 • GSCR Sect. 4.1
		Voice	• MOS (R) • MLPP (R) • Secure Calls (R)	• CJCSI 6215.01B • GSCR Sect. 3.4.3/3.9 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
ISDN BRI NI 1/2 (T1.619a)	Yes	Data	• Modem (VBD) (R: 2W analog only) • 56K switched data (R: BRI only) • 64K switched data (R: BRI only) • N x 56 synchronous BER (R: BRI only) • N x 64 synchronous BER (R: BRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R: BRI only)	• JTA
DSN Trunk Interfaces				
T1 SS7 (T1.619a) E1 SS7 (Q.735.3) T1 CAS (MFR1, DTMF, DP) E1 CAS (MFR1, DTMF, DP) T1 ISDN PRI NI 1/2 (T1.619a) E1 ISDN PRI (Q.955.3)	Yes Yes (Europe only) Yes Yes (Europe only) Yes Yes (Europe Only)	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (R) • Outpulsing digit formats (R: CAS only) • Routing (R) • Trunk Groups (R) • CAS to CCS trunk interworking (R) • PCM-24/PCM-30 Interoperation (R) • Direct Inward Dialing (R)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect. 2.3.2
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R: E1, PRI & SS7) • N x 56 synchronous BER (R) • N x 64 synchronous BER (R: E1, PRI & SS7) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R)	• JTA

Table C-4. MFS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities			
Common Features	Yes	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (R) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)	• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9
Attendant	Yes	• Initiate all precedence levels (R) • Visual display (R) • Override class of service (R) • Override busy line (R) • Call deflection (R) • Auto recall (R) • Waiting queue (R) • Release to pivot (R: SS7 only)	• GSCR Sect. 2.2.1 • GSCR Sect. 2.2.2 • GSCR Sect. 2.2.3 • GSCR Sect. 2.2.4 • GSCR Sect. 2.2.5 • GSCR Sect. 2.2.6 • GSCR Sect. 2.2.7 • GSCR Sect. 2.2.8
Public Safety	Yes	• E911 (C) • Trace of terminating calls (R) • Outgoing call trace (R) • Tandem call trace (R) • Trace of a call in progress (R)	• GSCR Sect. 2.4.1 • GSCR Sect. 2.4.2 • GSCR Sect. 2.4.3 • GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	Yes	• Support 10 bridges; 1 originator & 20 conferees (R) • Assign up to 20 address #s per bridge (R) • Use KXX codes for bridge access (R) • Conference notification recorded announcement (R) • Auto retrial and alternate address (R) • Bridge release (R) • Lost connection (R) • Secondary conferencing (R) • Address translation (R)	• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	Yes	• Between any two like terminations (R) • PCM-24 and PCM-30, both CAS and CCS (R) • Supervision passed end-to-end for A/D or D/A (R) • Monitored & auto reconfigure (R) • Support at least 10% of circuits as nailed-up (R) • Non-preemptable (R)	• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening (C) • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	Yes	• Hotline restrictions (R) • Auto initiate (R) • Analog & digital (R) • Subscription basis (R) • Protected hotline calling (R) • WWNDP interoperable (R)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Tandem Switching	Yes	• Tandem Features (R)	• GSCR Sect. 8 table 8-1

Table C-4. MFS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
Network Management	Yes	• Interfaces (R) • Measurements and data generation (R) • Fault management (R) • Configuration management (R) • Accounting management (R) • Performance management (R) • NM controls (R) • Remote access (R)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8
ISDN Services	Yes	• EKTS (R)	• GSCR Sect. 10, table 10-3
Synchronization	Yes	• External line timing mode (R) • Line timing mode (R) • Internal Stratum 3 (R)	• GSCR Sect. 11.1.1.1 • GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.1
Reliability	Yes	• GR-512-CORE (R)	• GSCR Sect.12
Security[1]	Yes	• DITSCAP (R)	• GSCR Sect. 13
RSU			
Normal Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Same user features as EOS, SMEO or PBX • Normal ops IAW GR-532-CORE • If EOS, provide diverse routing to host & PSTN	• GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2
Degraded Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Stand-alone - Stand-alone IAW GR-532-CORE - AMA not required - MLPP required • Partial stand-alone operations - Partial IAW GR-532-CORE - 3% users provided assured dial tone - Normal MLPP interaction	• GSCR Sect. 2.10.3.1 • GSCR Sect. 2.10.3.2
VoIP			
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
LANs	No	VoIP function is conditional. If VoIP is provided all of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3

Table C-4. MFS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
Network Gateways				
PSTN[2]	Yes	Trunking	• Positive Identification Control (R) • On-Netting (R) • Off-Netting (R)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
Tactical[3]	Yes	Trunking	• Trunk Groups (R) • Call Processing (R)	• GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
DRSN[4]	Yes	Access	• Alerting Signals and Tones (R) • Call Processing (R) • Call Treatments (R) • Analog busy/idle (R)	• GSCR Sect. 5.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.
3. Data and VTC services are not provided via the DSN to tactical (SMU) interface.
4. Facsimile, data and VTC services are not provided via the DSN to DRSN interface.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
BRI – Basic Rate Interface
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP – DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DRSN – Defense Red Switch Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EMSS – Enhanced Mobile Satellite System
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union
JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MFS – Multifunction Switch
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
Q.735.3 – ITU SS7 Signaling Std. For E1 MLPP
Q.955.3 – ITU ISDN Signaling Std. For E1 MLPP
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
VBD – Variable bit data
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol
VTC – Video Teleconferencing
WWNDP – Worldwide Numbering and Dialing Plan

Table C-5. EOS Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Line Interfaces				
2-Wire Analog	Yes	Access	• DN Identification (R) • Line signaling (R) • Alerting Signals and Tones (R) • WWNDP (R) • Call Processing (R) • Call Treatments (R) • 2W user access (R: 2-Wire Analog only) • Analog busy/idle (R: 2-Wire Analog only)	• GSCR Sect. 2.1.1 • GSCR Sect. 5.2 • GSCR Sect. 5.5 • GSCR Sect. 4.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.3 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure Calls (R)	• CJCSI 6215.01B • GSCR Sect. 3.4.3/3.9 • CJCSI 6215.01B
ISDN BRI NI 1/2 (T1.619a)	Yes	Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R: BRI only) • N x 56 synchronous BER (R) • N x 64 synchronous BER (R: BRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R: BRI only)	• JTA
DSN Trunk Interfaces				
T1 SS7 (T1.619a) E1 SS7 (Q.735.3) T1 CAS (MFR1, DTMF, DP) E1 CAS (MFR1, DTMF, DP) T1 ISDN PRI NI 1/2 (T1.619a) E1 ISDN PRI (Q.955.3)	Yes Yes (Europe only) Yes Yes (Europe only) Yes Yes (Europe Only)	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (R) • Outpulsing digit formats (R: CAS only) • Routing (R) • Trunk Groups (R) • Call Processing (R) • CAS to CCS trunk interworking (R) • PCM-24/PCM-30 Interoperation (R) • Tandem Switching (R) • Direct Inward Dialing (R)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect. 8 • GSCR Sect. 2.3.2
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R) • N x 56 synchronous BER (R) • N x 64 synchronous BER (R) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R)	• JTA
DSN Features & Capabilities				
Common Features	Yes	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (R) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)		• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9

Table C-5. EOS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
Attendant	Yes	• Initiate all precedence levels (R) • Visual display (R) • Override class of service (R) • Override busy line (R) • Call deflection (R) • Auto recall (R) • Waiting queue (R) • Release to pivot (R: SS7 only)	• GSCR Sect. 2.2.1 • GSCR Sect. 2.2.2 • GSCR Sect. 2.2.3 • GSCR Sect. 2.2.4 • GSCR Sect. 2.2.5 • GSCR Sect. 2.2.6 • GSCR Sect. 2.2.7 • GSCR Sect. 2.2.8
Public Safety	Yes	• E911 (C) • Trace of terminating calls (R) • Outgoing call trace (R) • Tandem call trace (R) • Trace of a call in progress (R)	• GSCR Sect. 2.4.1 • GSCR Sect. 2.4.2 • GSCR Sect. 2.4.3 • GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	Yes	• Support 10 bridges; 1 originator & 20 conferees (R) • Assign up to 20 address #s per bridge (R) • Use KXX codes for bridge access (R) • Conference notification recorded announcement (R) • Auto retrial and alternate address (R) • Bridge release (R) • Lost connection (R) • Secondary conferencing (R) • Address translation (R)	• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	Yes	• Between any two like terminations (R) • PCM-24 and PCM-30, both CAS and CCS (R) • Supervision passed end-to-end for A/D or D/A (R) • Monitored & auto reconfigure (R) • Support at least 10% of circuits as nailed-up (R) • Non-preemptable (R)	• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening (C) • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	Yes	• Hotline restrictions (R) • Auto initiate (R) • Analog & digital (R) • Subscription basis (R) • Protected hotline calling (R) • WWNDP interoperable (R)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Network Management	Yes	• Interfaces (R) • Measurements and data generation (R) • Fault management (R) • Configuration management (R) • Accounting management (R) • Performance management (R) • NM controls (R) • Remote access (R)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8
ISDN Services	No	• EKTS (C)	• GSCR Sect. 10, table 10-3
Synchronization	Yes	• External line timing mode (R) • Line timing mode (R) • Internal Stratum 3 (R)	• GSCR Sect. 11.1.1.1 • GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.1
Reliability	Yes	• GR-512-CORE (R)	• GSCR Sect. 12
Security[1]	Yes	• DITSCAP (R)	• GSCR Sect. 13

Table C-5. EOS Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
RSU				
Normal Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Same user features as EOS, SMEO or PBX • Normal ops IAW GR-532-CORE • If EOS, provide diverse routing to host & PSTN		 • GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2
Degraded Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Stand-alone - Stand-alone IAW GR-532-CORE - AMA not required - MLPP required • Partial stand-alone operations - Partial IAW GR-532-CORE - 3% users provided assured dial tone - Normal MLPP interaction		 • GSCR Sect. 2.10.3.1 • GSCR Sect. 2.10.3.2
VoIP				
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable		 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
LANs	No	VoIP function is conditional. If VoIP is provided all of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering		 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
Network Gateways				
PSTN[2]	Yes	Trunking	• Positive Identification Control (R) • On-Netting (R) • Off-Netting (R)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
Tactical[3]	Yes	Trunking	• Trunk Groups (R) • Call Processing (R)	• GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
DRSN[4]	Yes	Access	• Alerting Signals and Tones (R) • Call Processing (R) • Call Treatments(R) • Analog busy/idle (R)	• GSCR Sect. 5.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Table C-5. EOS Requirements (continued)

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.
3. Data and VTC services are not provided via the DSN to tactical (SMU) interface.
4. Facsimile, data and VTC services are not provided via the DSN to DRSN interface.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
BRI – Basic Rate Interface
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP – DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DRSN – Defense Red Switch Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EMSS – Enhanced Mobile Satellite System
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union
JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
Q.735.3 – ITU SS7 Signaling Std. For E1 MLPP
Q.955.3 – ITU ISDN Signaling Std. For E1 MLPP
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
VBD – Variable bit data
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol
VTC – Video Teleconferencing
WWNDP – Worldwide Numbering and Dialing Plan

Table C-6. SMEO Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Line Interfaces				
2-Wire Analog	Yes	Access	• DN Identification (R) • Line signaling (R) • Alerting Signals and Tones (R) • WWNDP (R) • Call Processing (R) • Call Treatments (R) • 2W user access (R: 2-Wire Analog only) • Analog busy/idle (R: 2-Wire Analog only)	• GSCR Sect. 2.1.1 • GSCR Sect. 5.2 • GSCR Sect. 5.5 • GSCR Sect. 4.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.3 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure Calls (R)	• CJCSI 6215.01B • GSCR Sect. 3.4.3/3.9 • CJCSI 6215.01B
ISDN BRI NI 1/2 (T1.619a)	Yes	Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R: BRI only) • N x 56 synchronous BER (R: BRI only) • N x 64 synchronous BER (R: BRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R: BRI only)	• JTA
DSN Trunk Interfaces				
T1 SS7 (T1.619a) E1 SS7 (Q.735.3) T1 CAS (MFR1)	No No (Europe only) No	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (R) • Outpulsing digit formats (R: CAS only) • Routing (R) • Trunk Groups (R) • Call Processing (R) • CAS to CCS trunk interworking (C) • PCM-24/PCM-30 Interoperation (R) • Direct Inward Dialing (C)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect. 2.3.2
T1 CAS (DTMF, DP)	Yes	Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
E1 CAS (MFR1, DTMF, DP)	Yes (Europe only)	Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
T1 ISDN PRI NI 1/2 (T1.619a)	Yes	Data	• Modem (VBD) (R) • 56K switched data (R: PRI only) • 64K switched data (R: PRI only) • N x 56 synchronous BER (R: PRI only) • N x 64 synchronous BER (R: PRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
E1 ISDN PRI (Q.955.3)	No (Europe Only)	VTC	• H.320 (R: PRI only)	• JTA

Table C-6. SMEO Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities			
Common Features	Yes	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (R) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)	• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9
Attendant	No	• Initiate all precedence levels (C) • Visual display (C) • Override class of service (C) • Override busy line (C) • Call deflection (C) • Auto recall (C) • Waiting queue (C)	• GSCR Sect. 2.2.1 • GSCR Sect. 2.2.2 • GSCR Sect. 2.2.3 • GSCR Sect. 2.2.4 • GSCR Sect. 2.2.5 • GSCR Sect. 2.2.6 • GSCR Sect. 2.2.7
Public Safety	Yes	• E911 (C) • Trace of terminating calls (R) • Outgoing call trace (R) • Tandem call trace (R) • Trace of a call in progress (R)	• GSCR Sect. 2.4.1 • GSCR Sect. 2.4.2 • GSCR Sect. 2.4.3 • GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	No	• Support 10 bridges; 1 originator & 20 conferees (C) • Assign up to 20 address #s per bridge (C) • Use KXX codes for bridge access (C) • Conference notification recorded announcement (C) • Auto retrial and alternate address (C) • Bridge release (C) • Lost connection (C) • Secondary conferencing (C) • Address translation (C)	• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	No	• Between any two like terminations (C) • PCM-24 and PCM-30, both CAS and CCS (C) • Supervision passed end-to-end for A/D or D/A (C) • Monitored & auto reconfigure (C) • Support at least 10% of circuits as nailed-up (C) • Non-preemptable (C)	• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	Yes	• Hotline restrictions (R) • Auto initiate (R) • Analog & digital (R) • Subscription basis (R) • Protected hotline calling (R) • WWNDP interoperable (R)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Network Management	Yes	• Interfaces (R) • Measurements and data generation (R) • Fault management (R) • Configuration management (R) • Accounting management (R) • Performance management (R) • NM controls (R) • Remote access (R)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8

Table C-6. SMEO Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
ISDN Services	No	• EKTS (C)	• GSCR Sect. 10, table 10-3
Synchronization	Yes	• Line timing mode (R) • Internal Stratum 4 (R)	• GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.2
Reliability	Yes	• GR-512-CORE (R)	• GSCR Sect. 12
Security[1]	Yes	• DITSCAP (R)	• GSCR Sect. 13
RSU			
Normal Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Same user features as EOS, SMEO or PBX • Normal ops IAW GR-532-CORE • If EOS, provide diverse routing to host & PSTN	• GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2 • GSCR Sect. 2.10.2
Degraded Operations	No	RSU function is conditional. If an RSU is provided **all** of the following requirements must be met: • Stand-alone - Stand-alone IAW GR-532-CORE - AMA not required - MLPP required • Partial stand-alone operations - Partial IAW GR-532-CORE - 3% users provided assured dial tone - Normal MLPP interaction	• GSCR Sect. 2.10.3.1 • GSCR Sect. 2.10.3.2
VoIP			
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
LANs	No	VoIP function is conditional. If VoIP is provided all of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3

Table C-6. SMEO Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
Network Gateways				
PSTN[2]	Yes	Trunking	• Positive Identification Control (R) • On-Netting (R) • Off-Netting (R)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
Tactical[3]	No	Trunking	• Trunk Groups (C) • Call Processing (C)	• GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4
		Voice	• MOS (C) • MLPP (C) • Secure calls (C)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (C) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
DRSN[4]	No	Access	• Alerting Signals and Tones (C) • Call Processing (C) • Call Treatments(C) • Analog busy/idle (C)	• GSCR Sect. 5.5 • GSCR Sect. 4.4 • GSCR Sect. 4.1 • GSCR Sect. 4.3.4.1
		Voice	• MOS (C) • MLPP (C) • Secure calls (C)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.
3. Data and VTC services are not provided via the DSN to tactical (SMU) interface.
4. Facsimile, data and VTC services are not provided via the DSN to DRSN interface.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
BRI – Basic Rate Interface
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP– DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DRSN – Defense Red Switch Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EMSS – Enhanced Mobile Satellite System
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union
JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
Q.735.3 – ITU SS7 Signaling Std. For E1 MLPP
Q.955.3 – ITU ISDN Signaling Std. For E1 MLPP
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
VBD – Variable bit data
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol
VTC – Video Teleconferencing
WWNDP – Worldwide Numbering and Dialing Plan

Table C-7. PBX1 Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Line Interfaces				
2-Wire Analog	Yes	Access	• DN Identification (R) • Line signaling (R) • Alerting Signals and Tones (R) • WWNDP (R) • Call Treatments (R) • 2W user access (R: 2-Wire Analog only) • Analog busy/idle (R: 2-Wire Analog only)	• GSCR Sect. 2.1.1 • GSCR Sect. 5.2 • GSCR Sect. 5.5 • GSCR Sect. 4.5 • GSCR Sect. 4.1 • GSCR Sect. 4.3.3 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure Calls (R)	• CJCSI 6215.01B • GSCR Sect. 3.4.3/3.9 • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA
ISDN BRI NI 1/2 (T1.619a)	Yes	Data	• Modem (VBD) (R) • 56K switched data (R) • 64K switched data (R: BRI only) • N x 56 synchronous BER (R) • N x 64 synchronous BER (R: BRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R: BRI only)	• JTA
DSN Trunk Interfaces				
T1 CAS (MFR1, DTMF, DP)	No	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (R) • Outpulsing digit formats (C: CAS only) • Routing (C) • Trunk Groups (C) • Call Processing (C) • CAS to CCS trunk interworking (C) • PCM-24/PCM-30 Interoperation (C) • Direct Inward Dialing (C)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect.2.3.2
E1 CAS (MFR1, DTMF, DP)	No			
T1 ISDN PRI NI 1/2 (T1.619a)	Yes	Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Sect. 3 • CJCSI 6215.01B
E1 ISDN PRI (Q.955.3)	No (Europe only)	Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
		Data	• Modem (VBD) (R) • 56K switched data (R: PRI only) • 64K switched data (R: PRI only) • N x 56 synchronous BER (R: PRI only) • N x 64 synchronous BER (R: PRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • CJCSI 6215.01B
		VTC	• H.320 (R: PRI only)	• JTA

Table C-7. PBX1 Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities			
Common Features	No	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (C) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)	• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9
Attendant	No	• Initiate all precedence levels (C) • Visual display (C) • Override class of service (C) • Override busy line (C) • Call deflection (C) • Auto recall (C) • Waiting queue (C)	• GSCR Sect. 2.2.1 • GSCR Sect. 2.2.2 • GSCR Sect. 2.2.3 • GSCR Sect. 2.2.4 • GSCR Sect. 2.2.5 • GSCR Sect. 2.2.6 • GSCR Sect. 2.2.7
Public Safety	No	• E911 (C) • Trace of terminating calls (C) • Outgoing call trace (C) • Tandem call trace (C) • Trace of a call in progress (C)	• GSCR Sect. 2.4.1 • GSCR Sect. 2.4.2 • GSCR Sect. 2.4.3 • GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	No	• Support 10 bridges; 1 originator & 20 conferees (C) • Assign up to 20 address #s per bridge (C) • Use KXX codes for bridge access (C) • Conference notification recorded announcement (C) • Auto retrial and alternate address (C) • Bridge release (C) • Lost connection (C) • Secondary conferencing (C) • Address translation (C)	• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	No	• Between any two like terminations (C) • PCM-24 and PCM-30, both CAS and CCS (C) • Supervision passed end-to-end for A/D or D/A (C) • Monitored & auto reconfigure (C) • Support at least 10% of circuits as nailed-up (C) • Non-preemptable (C)	• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening (C) • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	No	• Hotline restrictions (C) • Auto initiate (C) • Analog & digital (C) • Subscription basis (R) • Protected hotline calling (C) • WWNDP interoperable (C)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Network Management	No	• Interfaces (C) • Measurements and data generation (C) • Fault management (C) • Configuration management (C) • Accounting management (C) • Performance management (C) • NM controls (C) • Remote access (C)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8

Table C-7. PBX1 Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
ISDN Services	No	• EKTS (C)	• GSCR Sect. 10, table 10-3
Synchronization	Yes	• Line timing mode (R) • Internal Stratum 4 (R)	• GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.2
Reliability	Yes	• GR-512-CORE (R)	• GSCR Sect. 12
Security[1]	Yes	• DITSCAP (R)	• GSCR Sect. 13
VoIP			
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
LANs	No	VoIP function is conditional. If VoIP is provided all of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering	• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3

Table C-7. PBX1 Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
Network Gateways				
PSTN[2]	No	Trunking	• Positive Identification Control (C) • On-Netting (C) • Off-Netting (C)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
BRI – Basic Rate Interface
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP – DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DRSN – Defense Red Switch Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EMSS – Enhanced Mobile Satellite System
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union
JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
Q.735.3 – ITU SS7 Signaling Std. For E1 MLPP
Q.955.3 – ITU ISDN Signaling Std. For E1 MLPP
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
VBD – Variable bit data
VLAN – Virtual LAN
VoIP – Voice over Internet Protocol
VTC – Video Teleconferencing
WWNDP – Worldwide Numbering and Dialing Plan

Table C-8. PBX2 Requirements

Interface	Critical	Requirements Required (R) or Conditional (C)		References
DSN Line Interfaces				
2-Wire Analog	No[2]	Access	• DN Identification (R) • Line signaling (C) • Alerting Signals and Tones (C) • WWNDP (C) • Call Treatments (R) • 2W user access (R: 2-Wire Analog only) • Analog busy/idle (R: 2-Wire Analog only)	• GSCR Sect. 2.1.1 • GSCR Sect. 5.2 • GSCR Sect. 5.5 • GSCR Sect. 4.5 • GSCR Sect. 4.1 • GSCR Sect. 4.3.3 • GSCR Sect. 4.3.4.1
		Voice	• MOS (R) • Secure Calls (R)	• CJCSI 6215.01B • CJCSI 6215.01B
		Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
ISDN BRI NI 1/2 (T1.619a)	No[2]	Data	• Modem (VBD) (R) • 56K switched data (R:BRI only) • 64K switched data (R: BRI only) • N x 56 synchronous BER (R:BRI only) • N x 64 synchronous BER (R: BRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10
		VTC	• H.320 (C: BRI only)	• JTA
DSN Trunk Interfaces				
T1 CAS (MFR1, DTMF, DP) E1 CAS (MFR1, DTMF, DP)	No[1] No (Europe only)	Trunking	• Framing (R) • Line Code (R) • Signaling (R) • Alarms (R) • WWNDP (C) • Outpulsing digit formats (C: CAS only) • Routing (C) • Trunk Groups (C) • Call Processing (C) • CAS to CCS trunk interworking (C) • PCM-24/PCM-30 Interoperation(C) • Direct Inward Dialing (C)	• GSCR Sect. 7 • GSCR Sect. 7 • GSCR Sect. 5 • GSCR Sect. 2.5.7, 7.1.4 & 7.2.2 • GSCR Sect. 4.5.1 • GSCR Sect. 4.5.2 • GSCR Sect. 4.2 • GSCR Sect. 2.5.5 & 2.5.6 • GSCR Sect. 4 • GSCR Sect. 3.10 • GSCR Sect. 7.3 • GSCR Sect. 2.3.2
		Voice	• MOS (R) • Secure calls (R)	• CJCSI 6215.01B • CJCSI 6215.01B
T1 ISDN PRI NI 1/2	No[1]	Facsimile	• Analog: EIA/TIA-465-A (R) • Digital: MIL-STD-188-161D (C)	• JTA • JTA
E1 ISDN PRI (Q.931)	No (Europe only)	Data	• Modem (VBD) (R) • 56K switched data (R: PRI only • 64K switched data (R: PRI only) • N x 56 synchronous BER (R: PRI only) • N x 64 synchronous BER (R: PRI only) • Secure data (STE/STU-III) (R)	• CJCSI 6215.01B • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10 • GSCR Sect. 3.10
		VTC	• H.320 (C: PRI only)	• JTA
DSN Features & Capabilities				
Common Features	No	• Selective call rejection (C) • Denied originating service (C) • Code restriction & diversion (C) • Call waiting (C) • Three-way calling (C) • Add-on transfer and conference calling (C) • Call forwarding (C) • Call pick-up (C)		• GSCR Sect. 2.1.2 • GSCR Sect. 2.1.3 • GSCR Sect. 2.1.4 • GSCR Sect. 2.1.5 • GSCR Sect. 2.1.6 • GSCR Sect. 2.1.7 • GSCR Sect. 2.1.8 • GSCR Sect. 2.1.9
Attendant	No	• Initiate all precedence levels (C) • Visual display (C) • Override class of service (C) • Override busy line (C) • Call deflection (C) • Auto recall (C) • Waiting queue (C)		• GSCR Sect. 2.2.1 • GSCR Sect. 2.2.2 • GSCR Sect. 2.2.3 • GSCR Sect. 2.2.4 • GSCR Sect. 2.2.5 • GSCR Sect. 2.2.6 • GSCR Sect. 2.2.7

Table C-8. PBX2 Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)	References
DSN Features & Capabilities (continued)			
Public Safety	No	• 911 (C) • Trace of terminating calls (C) • Outgoing call trace (C) • Tandem call trace (C) • Trace of a call in progress (C)	• GSCR Sect. 2.4.1 • GSCR Sect. 2.4.2 • GSCR Sect. 2.4.3 • GSCR Sect. 2.4.4 • GSCR Sect. 2.4.5
Preset Conferencing	No	• Support 10 bridges; 1 originator & 20 conferees (C) • Assign up to 20 address #s per bridge (C) • Use KXX codes for bridge access (C) • Conference notification recorded announcement (C) • Auto retrial and alternate address (C) • Bridge release (C) • Lost connection (C) • Secondary conferencing (C) • Address translation (C)	• GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6 • GSCR Sect. 2.6.1 • GSCR Sect. 2.6.2 • GSCR Sect. 2.6.3 • GSCR Sect. 2.6.4 • GSCR Sect. 2.6.5 • GSCR Sect. 2.7
Nailed-up Connections	No	• Between any two like terminations (C) • PCM-24 and PCM-30, both CAS and CCS (C) • Supervision passed end-to-end for A/D or D/A (C) • Monitored & auto reconfigure (C) • Support at least 10% of circuits as nailed-up (C) • Non-preemptable (C)	• GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8 • GSCR Sect. 2.8
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening (C) • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call -in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Op measurement registers (C) • Maintenance & Admin of thresholds (C)	• GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1 • GSCR Sect. 2.11.1.1 • GSCR Sect. 2.11.1.2 • GSCR Sect. 2.11.1.3 • GSCR Sect. 2.11.1.4 • GSCR Sect. 2.11.1.5 • GSCR Sect. 2.11.1.6 • GSCR Sect. 2.11.1.7 • GSCR Sect. 2.11.1.8 • GSCR Sect. 2.11.1.9 • GSCR Sect. 2.11.1.10
DSN Hotline Services	No	• Hotline restrictions (C) • Auto initiate (C) • Analog & digital (C) • Subscription basis (C) • Protected hotline calling (C) • WWNDP interoperable (C)	• GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12 • GSCR Sect. 2.12.1-4 • GSCR Sect. 2.12.5
Network Management	No	• Interfaces (C) • Measurements and data generation (C) • Fault management (C) • Configuration management (C) • Accounting management (C) • Performance management (C) • NM controls (C) • Remote access (C)	• GSCR Sect. 9.1 • GSCR Sect. 9.2 • GSCR Sect. 9.3 • GSCR Sect. 9.4 • GSCR Sect. 9.5 • GSCR Sect. 9.6 • GSCR Sect. 9.7 • GSCR Sect. 9.8
ISDN Services	No	• EKTS (C)	• GSCR Sect. 10, table 10-3
Synchronization	Yes	• Line timing mode (C) • Internal Stratum 4 (R)	• GSCR Sect. 11.1.1.2 • GSCR Sect. 11.1.2.2
Reliability	No	• GR-512-CORE (C)	• GSCR Sect.12
Security	Yes[4]	• DAA (R)	• DODI 8100.3

Table C-8. PBX2 Requirements (continued)

Interface	Critical	Requirements Required (R) or Conditional (C)		References
VoIP				
VoIP System	No	VoIP function is conditional. If VoIP is provided **all** of the following requirements must be met: • MOS 4.0 or better • G.711 PCM Codec • Security IAW DITSCAP • NM • Line timing • Internal Clock • Latency ≤ 60 msec • IPv6 capable		• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
LANs	No	VoIP function is conditional. If VoIP is provided all of the following requirements must be met: • LAN parameters • CoS /QoS • VLANs • IEEE Stds. Conformance • .99999 availability • Modular devices • 2 sec. link restoral • LAN NM • Traffic Engineering		• GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3 • GSCR App. 3
Network Gateways				
PSTN[2]	No	Trunking	• Positive Identification Control (C) • On-Netting (C) • Off-Netting (C)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
EMSS	No	CJCS approved requirements not defined.		
NGCS	No	CJCS approved requirements not defined.		

Notes:
1. JITC verifies security via an LoC. Further testing IAW the IATP is required prior to being authorized connection approval.
2. Voice, facsimile, data and VTC service requirements for PSTN are identical to DSN with the exception of MLPP. Testing of the services is accomplished in D-2; no additional testing is required to verify PSTN.

Legend:

2W – 2 Wire
A/D – Analog to Digital Conversion
AMA – Automated Message Accounting
App. – Appendix
BER – Bit Error Rate
BRI – Basic Rate Interface
C – conditional
CAS – Channel Associated Signaling
CCS – Common Channel Signaling
CJCS – Chairman Joint Chiefs of Staff
CJCSI – CJCS Instruction
CoS – Class of Service
D/A – Digital to Analog Conversion
DITSCAP– DOD IT Security and Accreditation Process
DN# – Directory Number
DP – Dial Pulse
DSN – Defense Switched Network
DTMF – Dual Tone Multi-Frequency
E1 – European Transmission Std. (2.048 Mbps)
EIA – Electronics Interface Association
EOS – End Office Switch
GSCR – Generic Switching Center Requirements
IATP – Information Assurance Test Plan
IAW – In accordance with
IEEE – Institute of Electrical and Electronics Engineers
ISDN – Integrated Services Digital Network
ITU – International Telecommunication Union
JITC – Joint Interoperability Test Command
JTA – Joint Technical Architecture
LAN – Local Area Network
LoC – Letter(s) of Compliance
Mbps – Megabits per second
MFR1 – Multi-Frequency Recommendation 1
MIL-STD – Military Standard
MLPP – Multi-Level Precedence & Preemption
MOS – Mean Opinion Score
Msec – Milliseconds
NA – Not applicable
NATO – North Atlantic Treaty Organization
NGCS – NATO Gateway Communication Switch
NI 1/2 – National ISDN Std. 1/2
NM – Network Management
Op – Operations
PAT – Precedence Access Threshold
PBX – Private Branch Exchange
PCM – Pulse Code Modulation
PRI – Primary Rate Interface
PSTN – Public Switched Telephone Network
R – Required
RSU – Remote Switching Unit
Sec. – Seconds
Sect. – Section
SMEO – Small End Office
SS7 – Signaling System 7
Std – Standard
STE – Secure Terminal Equipment
STU – Secure Terminal Unit
STU-III – STU 3rd generation
T1 – American Transmission Std. (1.544 Mbps)
T1.619a – SS7 and ISDN Signaling Std. For T1
TIA – Telecommunication Interface Association
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VLAN – Virtual LAN
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WWNDP – Worldwide Numbering and Dialing Plan