

APPENDIX E

CONFIGURATIONS AND DETAILED TEST PROCEDURES

E-3 DSN FEATURES AND CAPABILITIES. E-3 outlines the detailed test procedures for the DSN Features and Capabilities that switching systems may be required to provide.

Table E-3. Features and Capabilities Overview.

		Features and Capabilities					
		TS	MFS	EOS	SMEO	PBX1	PBX2
E-3.1	Common Features	NA	R ¹				
E-3.2	Attendant	NA	R	R	C	C	C
E-3.3	Public Safety	C	R ¹	R ¹	R ¹	C	C
E-3.4	Preset Conferencing	R	R	R	C	C	C
E-3.5	Nailed-Up Connections	R	R	R	C	C	C
E-3.6	Precedence Access Threshold	C	C	C	C	C	C
E-3.7	DSN Hotline Services	C	R	R	R	C	C
E-3.8	Tandem Switching	R	R	NA	NA	NA	NA
E-3.9	Network Management	R ¹	R ¹	R ¹	R ¹	C	C
E-3.10	ISDN Services	C	C	C	C	C	C
E-3.11	Synchronization	R	R	R ¹	R ¹	R ¹	R ¹
E-3.12	Reliability	R	R	R ¹	R ¹	R ¹	C
E-3.13	Security	R ²	R ²	R ²	R ²	R ²	R ³
<p>Notes: 1. Not all requirements of the section apply. See detailed requirements list in appendix C for specific list of requirements that apply. 2. GSCR security requirements are verified through LoC and DISA's IATP. 3. Though the IATP may not apply DAA accreditation is required prior to being authorized connection to the DSN.</p> <p>Legend: C – Conditional DAA – DOD Accreditation Authority DOD – Department of Defense DISA – Defense Information Systems Agency DSN – Defense Switched Network GSCR – Generic Switching Center Requirements LoC – Letter(s) of Compliance IATP – Information Assurance Test Plan ISDN – Integrated Services Digital Network NA – Not Applicable R – Required</p>							

E-3.1 Common Features. Table E-3.1 describes the detailed test procedures for testing the SUT's Common Features as listed in Section 2 of the Generic Switching Center Requirements (GSCR) document. Objectives, criterion and data required for the features are contained in appendix D-3.1.

Table E-3.1. Common Features Test Procedures

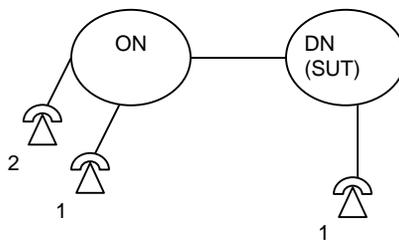
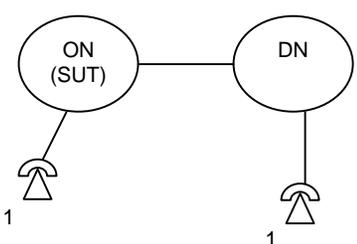
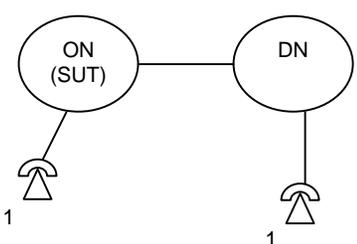
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)	
A	Selective Call Rejection	Using analog subscriber: 1. Dial a ROUTINE call from ON1 to DN1 (SUT). 2. Hang up call. 3. Dial SUT code that places ON1 Number on a list for rejection. 4. Place ROUTINE call from ON1 to DN1 (SUT). 5. Hang-up call 6. Dial an IMMEDIATE call from ON1 to DN1 (SUT). 7. Manually enter ON2 DN into the Selective call rejection list of DN1. 8. Place a Routine call from ON2 to DN1. 9. Place a Priority call from ON2 to DN1. 10. Deactivate Selective Call Rejection. 11. Place a Routine call from ON1 to DN1. 12. Hang up call. 13. Place a Routine call from ON2 to DN1. 14. Hang up Call. 15. Repeat for BRI subscriber. 16. Repeat for other line subscriber types.	1. Call completes. Y/N 2. Call terminates. Y/N 3. Command completes. Y/N 4. ON1 routed to an announcement. Y/N 5. Call ends. Y/N 6. Call Completes. Y/N 7. Number successfully entered. 8. ON2 routed to an announcement. Y/N 9. Call Completes. Y/N 10. Feature is deactivated. Y/N 11. Call completes. Y/N 12. Call terminates. Y/N 13. Call completes Y/N 14. Call terminates. Y/N 15. Feature works. Y/N 16. Feature works. Y/N	
	<table border="1"> <tr> <td data-bbox="163 394 506 467">Requirement: Conditional</td> <td data-bbox="506 394 772 467">Reference: GSCR Sect. 2.1.2</td> </tr> <tr> <td colspan="2" data-bbox="163 467 772 998"> Configure a subscriber off of Originating Node (ON1) and System under Test Destination Node (DN1) </td> </tr> </table> 			Requirement: Conditional
Requirement: Conditional	Reference: GSCR Sect. 2.1.2			
Configure a subscriber off of Originating Node (ON1) and System under Test Destination Node (DN1)				
B	Denied Originating Service	Using analog subscriber: 1. Class mark ON1 as "Receive Only". 2. Attempt a call origination from ON1 (SUT) to DN1. 3. Place a call from DN1 to ON1. 4. Hang up call. 5. Repeat for BRI subscriber. 6. Repeat for other line subscriber types.	1. Classmark assigned. Y/N 2. Call denied. Y/N 3. Call Completes. Y/N 4. Call terminates. Y/N 5. Feature works. Y/N 6. Feature works. Y/N	
	<table border="1"> <tr> <td data-bbox="163 1050 506 1123">Requirement: Conditional</td> <td data-bbox="506 1050 772 1123">Reference: GSCR Sect. 2.1.3</td> </tr> <tr> <td colspan="2" data-bbox="163 1123 772 1445">  </td> </tr> </table>			Requirement: Conditional
Requirement: Conditional	Reference: GSCR Sect. 2.1.3			
				

Table E-3.1. Common Features Test Procedures (continued)

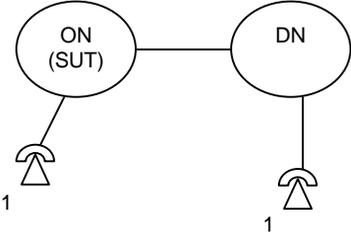
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
C	Code Restriction and Diversion:	Using analog subscriber: 1. Configure SUT to prohibit calls based on NPA. Ensure that DN is in a different NPA. 2. Attempt call from ON1 (SUT) in NPA to DN1 3. Repeat to prohibit from: 1) NXX 2) NPA-NXX 4. Repeat for BRI subscriber. 5. Repeat for other line subscriber types	1. Feature enabled. Y/N
	Requirement: Conditional		Reference: GSCR Sect. 2.1.4
		Notes:	3. Calls prohibited: 1) NXX. Y/N 2) NPA-NXX. Y/N 4. Feature works. Y/N 5. Feature works. Y/N
Legend: BRI - Basic Rate Interface DN - Destination Node GSCR - Generic Switching Center Requirements N - No NPA - Number Plan Area NXX - WWNDP dialing format ON - Origination Node SUT - System Under Test TP - Test Procedure WWNDP - Worldwide Numbering and Dialing Plan Y - Yes			

Table E-3.2. Attendant Test Procedures

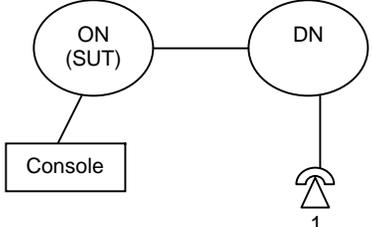
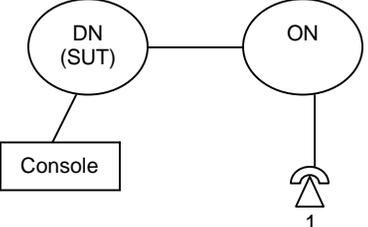
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																								
A	Attendant Precedence and Preemption:	From console to analog subscriber:																									
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.1	<table border="0"> <tr><td>1. Call completes.</td><td>Y/N</td></tr> <tr><td>2. Call terminates.</td><td>Y/N</td></tr> <tr><td>3. Call completes.</td><td>Y/N</td></tr> <tr><td>4. Call terminates.</td><td>Y/N</td></tr> <tr><td>5. Call completes.</td><td>Y/N</td></tr> <tr><td>6. Call terminates.</td><td>Y/N</td></tr> <tr><td>7. Call completes.</td><td>Y/N</td></tr> <tr><td>8. Call terminates.</td><td>Y/N</td></tr> <tr><td>9. Call completes.</td><td>Y/N</td></tr> <tr><td>10. Call terminates.</td><td>Y/N</td></tr> <tr><td>11. Feature works.</td><td>Y/N</td></tr> <tr><td>12. Feature works.</td><td>Y/N</td></tr> </table>	1. Call completes.	Y/N	2. Call terminates.	Y/N	3. Call completes.	Y/N	4. Call terminates.	Y/N	5. Call completes.	Y/N	6. Call terminates.	Y/N	7. Call completes.	Y/N	8. Call terminates.	Y/N	9. Call completes.	Y/N	10. Call terminates.	Y/N	11. Feature works.	Y/N	12. Feature works.	Y/N
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10. Call terminates.	Y/N																										
11. Feature works.	Y/N																										
12. Feature works.	Y/N																										
		<ol style="list-style-type: none"> 1. Initiate ROUTINE call from Console to DNA. 2. Hang-up. 3. Initiate PRIORITY call from Console to DNB. 4. Hang-up. 5. Initiate IMMEDIATE call from Console to DNC. 6. Hang-up. 7. Initiate FLASH call from Console to DNA. 8. Hang-up. 9. Initiate FLASH-OVERRIDE call from Console to DNA. 10. Hang-up. 11. Repeat from Console to BRI subscriber. 12. Repeat for other line subscriber types on DN. <p>Notes:</p>																									
B	Attendant Visual Display:	1. Complete a call at ascending levels of precedence (ROUTINE – FLASH OVERRIDE) from an analog instrument on ON to DN console.	<table border="0"> <tr><td>1. All calls complete.</td><td>Y/N</td></tr> <tr><td>ONCA displays precedence.</td><td>Y/N</td></tr> <tr><td>ONCA displays calling number.</td><td>Y/N</td></tr> <tr><td>ONCA displays class of service.</td><td>Y/N</td></tr> </table>	1. All calls complete.	Y/N	ONCA displays precedence.	Y/N	ONCA displays calling number.	Y/N	ONCA displays class of service.	Y/N																
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ONCA displays class of service.	Y/N																										
Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.2	2. Complete a call at ascending levels of precedence (ROUTINE – FLASH OVERRIDE) from a BRI instrument on ON to DN Console.	<table border="0"> <tr><td>2. All calls complete.</td><td>Y/N</td></tr> <tr><td>ONCA displays precedence.</td><td>Y/N</td></tr> <tr><td>ONCA displays calling number.</td><td>Y/N</td></tr> <tr><td>ONCA displays class of service.</td><td>Y/N</td></tr> </table>	2. All calls complete.	Y/N	ONCA displays precedence.	Y/N	ONCA displays calling number.	Y/N	ONCA displays class of service.	Y/N																
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ONCA displays precedence.	Y/N																										
ONCA displays calling number.	Y/N																										
ONCA displays class of service.	Y/N																										
		<ol style="list-style-type: none"> 3. Complete a call at ascending levels of precedence (ROUTINE – FLASH OVERRIDE) from a other supported line instrument on ON to DN Console. <p>Notes:</p>	<table border="0"> <tr><td>3. All calls complete.</td><td>Y/N</td></tr> <tr><td>ONCA displays precedence.</td><td>Y/N</td></tr> <tr><td>ONCA displays calling number.</td><td>Y/N</td></tr> <tr><td>ONCA displays class of service.</td><td>Y/N</td></tr> </table>	3. All calls complete.	Y/N	ONCA displays precedence.	Y/N	ONCA displays calling number.	Y/N	ONCA displays class of service.	Y/N																
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ONCA displays precedence.	Y/N																										
ONCA displays calling number.	Y/N																										
ONCA displays class of service.	Y/N																										

Table E-3.2. Attendant Test Procedures (continued)

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
C	Class of Service Override:		1. Place a ROUTINE inter-switch call from ON1 to DN1. 2. Place a PRIORITY intra-switch call from ON1 to ON2. 3. Place a ROUTINE call from ON1 to Console. 4. Console forwards ON1 at PRIORITY via inter-switch trunk to DN1. Remove Intra-switch access restriction from ON1. Notes:	1. Call is routed to VCA. Y/N 2. Call is routed to UPA. Y/N 3. Call completed Y/N 4. Call completed Y/N
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.3		
	Provision subscribers ON1 and ON2 on the SUT. Provision ON1 for intra-switch access only and ROUTINE only precedence capability. Provision one analog subscriber on the Destination Node and designate as DN1			
D	Busy Override and Busy Verification:		1. Place a ROUTINE call from ON1 to ON2. 2. Place a ROUTINE call from ON3 to ONC1 and stay off hook. 3. ONC1 place ON3 call on hold. 4. ONC1 attempt to cut-through to ON1 using an incorrect verification code. 5. ONC1 cut-through to ON1 using correct verification code. 6. Attendant console disconnects and ON1 to ON2. 7. Place ON1 and ON2 on hook. ONC1 connect ON3 to ON1. Place instruments and attendant console on hook. 8. Place a ROUTINE call from ON1 to ON2. 9. ONC1 attempts cut-through to ON1. Place instruments and attendant console on hook.	1. Call completes. Y/N 2. Call completes. Y/N 3. Call hold complete. Y/N 4. Cut-through rejected. Y/N 5. Attendant console verifies busy. Y//N Cut-through complete. Y/N ON1 receives periodic override tone. Y/N ON2 receives periodic override tone. Y/N 6. Call remains connected. Y/N 7. ON3 to ON1 connection completes. Y/N 8. Call completes. Y/N 9. Cut-through rejected. Y/N
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.4		
	Configure one attendant console on Origination Node Console 1 (ONC1). Configure two analog and one ISDN BRI or ETS instrument on ON (ON1, ON2, ON3). Confirm functionality for each instrument type for each step of the test sequence. The busy-line cut-through command may require use of a verification code. If the code is not required, skip the next step in the test sequence Provision subscriber ON1 for Busy Override denial.			
E	Night Service:		1. Place a ROUTINE call from ON1 to ONC1 2. Place a PRIORITY call from ON1 to ONC1	1. ON1 diverted to Night Service. Y/N 2. All subsequent calls forwarded to the Night Service Y/N
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.5		
	Place ONC1 in 'Night Service'.			
Notes:				

Table E-3.2. Attendant Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)	
F	Automatic Recall of Attendant:			
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.6		
	Configure two attendant consoles on Origination Node (ON) Consoles 1 and 2 (ONC1, ONC2). Configure four analog instruments on ON, (ON1, ON2, ON3, ON4).		<ol style="list-style-type: none"> 1. Place a ROUTINE call from ON1 to ONC1. 2. ONCA extends ON1 to ON2 and allows ring-no-answer. Place phone and attendant console on hook. 3. Place a ROUTINE call from ON1 to ONC1. 4. ONCA extend ON1 to ON1 and allow to ring-no-answer. 5. Place a ROUTINE call from ON3 to ONC1. 6. Remove ONC1 from service. 	<ol style="list-style-type: none"> 1. Call completes. Y/N 2. Extension completes. Y/N Extended call automatically recalled to ONC1. Y/N 3. Call completes. Y/N 4. Extension completes. Y/N 5. Call in queue. Y/N 6. Call in queue. Y/N Extended call automatically recalled to ONC1 and placed in queue. Y/N 7. Calls end. Y/N
	ONC1 "camp-on" ON2.		<ol style="list-style-type: none"> 7. Place instruments on hook and place attendant console in service. 8. Place a ROUTINE call from ON1 to ONC1. 9. ONCA extend ON1 to ON2 and allow to ring-no-answer. 10. Remove ONC1 from service. 	<ol style="list-style-type: none"> 8. Call completes. Y/N 9. Extension completes. Y/N 10. Extended call automatically recalled and routes to ONC2. Y/N 11. Calls end. Y/N 12. Call complete Y/N 13. Call complete Y/N
	ONC1 "camp-on" ON2. ONC1 "camp-on" ON2. Remove ONC1 from service		<ol style="list-style-type: none"> 11. Place instruments and attendant console in service 12. Place a ROUTINE call from ON2 to ON3. 13. Place a ROUTINE call from ON1 to ONC1. 14. Place ON2 and ON3 on hook. 	<ol style="list-style-type: none"> 14. ONB receives ringing from "camped on" caller ON1 Y/N ON1 receives ringback tone Y/N ON1 connected with ON2 Y/N 15. Calls End. Y/N 16. Call completes. Y/N 17. Call completes. Y/N 18. Call in queue. Y/N
	Return ONC1 to service.		<ol style="list-style-type: none"> 15. Place phone and attendant console on hook. 16. Place a ROUTINE call from ON2 to ON3. 17. Place a ROUTINE call from ON1 to ONC1. 18. Place a ROUTINE call from ON4 to ONC1 and allow to Ring-no-answer. 19. Place ON2 and ON3 on hook. 	<ol style="list-style-type: none"> 19. ON2 receives ringing from "camped on" caller ON1 Y/N 20. ON1 receives ringback tone Y/N ON1 connected with ON2. Y/N 21. Call completes. Y/N 22. Call completes. Y/N
	Remove ONC1 from service		<ol style="list-style-type: none"> 20. Place phone and attendant console on hook. 21. Place a ROUTINE call from ON2 to ON3. 22. Place a ROUTINE call from ON1 to ONC1. ON2 and ON3 remain off hook. 23. Allow "camp-on" call to recall the attendant. 	<ol style="list-style-type: none"> 23. ON1 receives ring back and automatically recalled to ONC2. Y/N ON1 to ONC2 call completed. Y/N 24. Calls end. Y/N
			<ol style="list-style-type: none"> 24. Place phones and attendant console on hook 	
			Notes:	

Table E-3.2. Attendant Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
G	Calls in Queue to the Attendant:	1. Place a ROUTINE call from ON1 to ONC1. Don't Answer the call.	1. Call in queue. Y/N
	Requirement: MFS & EOS	Reference: GSCR Sect. 2.2.7	2. Call in queue. Y/N
	Configure four analog instruments on ON (ON1, ON2, ON3, ON4). Place ONC1 in service.		3. Place a FLASH call from ON3 to ONC1. Don't Answer the call. 4. Place a FLASH OVERRIDE call from ON4 to ONC1. Don't answer the call. 5. ONC1 retrieves call from queue. 6. Hang up calls. 7. Place a ROUTINE call from ON1 to ONC1. Don't Answer the call 8. Place a PRIORITY call from ON1 to ONC1. Don't Answer the call 9. Place an IMMEDIATE call from ON1 to ONC1. Don't Answer the call 10. Place ONC1 out of service. 11. Central Attendant answers calls in queue by precedence. Or 12. Repeat steps 7-10 above and retrieve calls from night service position. Or 13. Repeat steps 7-10 above and retrieve calls from ONC1.
Notes:			
Legend: BRI - Basic Rate Interface DN - Destination Node EOS - End Office Switch ETS - Electronic Telephone Service GSCR - Generic Switching Center Requirements ISDN - Integrated Services Digital Network MFS - Multifunction Switch N - No ON - Origination Node ONC - Origination Node Console SUT - System Under Test TP - Test Procedure Y - Yes			

Table E-3.3. Public Safety Test Procedures

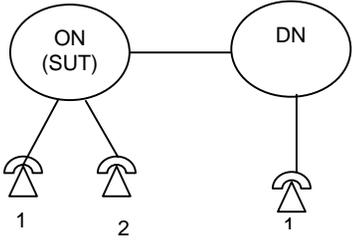
Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
A	911:			
	Requirement: Conditional	Reference: GSCR Sects. 2.4.1 and 4.5.1.8	1. Configure the SUT to route ON1 911 calls to ON2. 2. From ON1, dial 911.	1. Configuration correct. Y/N 2. Call routes to ONB. Y/N 3. Configuration correct. Y/N
	Configure SUT to have 911 Service. Provision 2 subscribers on SUT (ON1 and ON2) and 2 on DN (DN1 and DN2)		3. Configure the SUT to route ON1 911 calls to another switch over trunks, use 10 digit number for DN1. 4. From ON1, dial 911. 5. Place a FLASH data call to DN2 by dialing 91 11 KXX-NNX-XXXX.	4. Call routes to DN1. Y/N 5. Call completes. Y/N
Notes:				
B	Trace of terminating call:			
	Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.4.2	1. Enable trace of calls terminated to ON1. 2. Place a ROUTINE call from ON2 to ON1. 3. Hang up call.	1. Trace Enabled. Y/N 2. Call completes. Y/N
			4. Place a Priority call from ON2 to ON1. 5. Hang up call. 6. Place a ROUTINE call from DN2 to ON1 over an SS7 trunk. 7. Hang up call. 8. Place a ROUTINE call from DN1 to ON1 over a CAS trunk. 9. Hang up call. 10. Place a ROUTINE call from ON1 to DN1. 11. Hang up call.	3. Trace output provides calling number, date and time of call. Y/N 4. Call completes. Y/N 5. Trace output provides calling number, date and time of call. Y/N 6. Call completes Y/N 7. Trace output provides calling number, date and time of call. Y/N 8. Call completes. Y/N 9. Trace output provides Trunk ID, date and time of call. Y/N 10. Call completes. Y/N 11. No trace report. Y/N
Notes:				

Table E-3.3. Public Safety Test Procedures (continued)

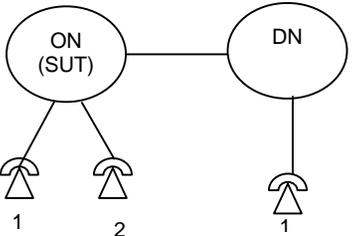
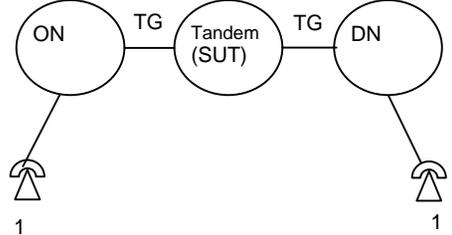
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
C	<p>Outgoing call trace:</p> <p>Requirement: MFS, EOS & SMEO</p> <p>Reference: GSCR Sect. 2.4.3</p>	<ol style="list-style-type: none"> 1. Enable trace of calls originated from ON1. 2. Place a ROUTINE call from ON1 to ON2. 3. Hang up call. 4. Place a Priority call from ON1 to ON2. 5. Hang up call. 6. Place a ROUTINE call from ON1 to DN1 over an SS7 trunk. 7. Hang up call. 8. Place a ROUTINE call from ON1 to DN1 over a CAS trunk. 9. Hang up call. 10. Place a ROUTINE call from ON2 to ON1. 11. Hang up call. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Trace Enabled. Y/N 2. Call completes. Y/N 3. Trace output provides calling number, date and time of call. Y/N 4. Call completes. Y/N 5. Trace output provides calling number, date and time of call. Y/N 6. Call completes Y/N 7. Trace output provides calling number, date and time of call. Y/N 8. Call completes. Y/N 9. Trace output provides Trunk ID, date and time of call. Y/N 10. Call completes. Y/N 11. No trace report. Y/N
			
D	<p>Tandem Call Trace:</p> <p>Requirement: TS, MFS, EOS & SMEO</p> <p>Reference: GSCR Sect. 2.4.4</p>	<ol style="list-style-type: none"> 1. Enable call trace feature for DN1 at the Tandem Office. 2. Place ROUTINE call from ON1 to DN1 so that it tandems through the SUT. 3. Hang up call. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Trace activated. Y/N 2. Call completes. Y/N 3. Call ends. Y/N <p>Trace output contains:</p> <p>Incoming trunk No. Y/N</p> <p>Terminating DN. Y/N</p> <p>Time & date of call Y/N</p>
			

Table E-3.3. Public Safety Test Procedures (continued)

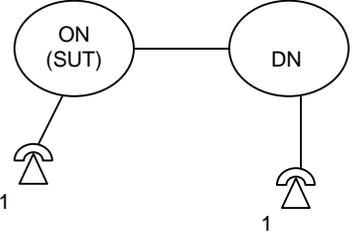
Ref #	Configuration and/or Diagrams	Test Procedure(s)	Expected Result(s)												
E	<p>Trace of a call in progress:</p> <p>Requirement: TS, MFS, EOS & SMEO</p> <p>Reference: GSCR Sect. 2.4.5</p>	<ol style="list-style-type: none"> 1. Disable all call tracing on SUT. 2. DN1 calls ON1 at ROUTINE over a CAS trunk. 3. Enable trace of call in progress to ON1. 4. Hang up call. 5. DN1 calls ON1 at ROUTINE over a SS7 trunk. 6. Enable trace of call in progress to ON1. 7. Hang up call. 	<ol style="list-style-type: none"> 1. Call tracing deactivated. Y/N 2. Call completes. Y/N 3. Trace output contains: Incoming trunk No. Y/N Dialed number Y/N Time and Date. Y/N 4. Call ends. Y/N 5. Call completes. 6. Trace output contains: Calling DN and or trunk number. Y/N Dialed number Y/N Time and Date. Y/N 7. Call ends. 												
		<p>Notes:</p>													
<p>Legend:</p> <table border="0"> <tr> <td>DN - Destination Node</td> <td>MFS - Multifunction Switch</td> <td>SUT - System Under Test</td> </tr> <tr> <td>E911 - Emergency 911 Service</td> <td>N - No</td> <td>TP - Test Procedure</td> </tr> <tr> <td>EOS - End Office Switch</td> <td>ON - Origination Node</td> <td>Y - Yes</td> </tr> <tr> <td>GSCR - Generic Switching Center Requirements</td> <td>SMEO - Small End Office</td> <td></td> </tr> </table>				DN - Destination Node	MFS - Multifunction Switch	SUT - System Under Test	E911 - Emergency 911 Service	N - No	TP - Test Procedure	EOS - End Office Switch	ON - Origination Node	Y - Yes	GSCR - Generic Switching Center Requirements	SMEO - Small End Office	
DN - Destination Node	MFS - Multifunction Switch	SUT - System Under Test													
E911 - Emergency 911 Service	N - No	TP - Test Procedure													
EOS - End Office Switch	ON - Origination Node	Y - Yes													
GSCR - Generic Switching Center Requirements	SMEO - Small End Office														

Table E-3.4. Preset Conferencing Test Procedures

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
A	Preset Conferencing:		1. Print the switch report for verification of conference position and conferee capacity for the origination and destination nodes. 2. Verify that each bridge can act as primary, secondary or alternate. 3. Verify bridge establishment. - dial KXX code - dial KXX-XXXX format - dial 1X-KXX-XXX format - dial 9P-KXX-XXX format - dial 9P-1X-KXX-XXX format. 4. Set up a bridge of 1 originator and 20 conferees. 5. Verify that bridges can be limited to 20 address numbers per bridge. 6. Terminate bridge. 7. Set up bridge of 22 using cascading method. 8. Terminate bridge. 9. Verify MLPP bridge access control by setting up a PRIORITY bridge of 10 conferees. 10. Call a pre-programmed conferee (don't answer). 11. Add non-programmed conferee: - hook flash, dial conferee , hook flash again when conferee answers. Notes:	1. Switch under test report verifies capacity of 10 conferences with 20 conferees Y//N
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.6		Record Conference Bridge Vendor/Model/Serial #
				2. Each bridge can act as Primary, secondary or alternate. Y/N 3. Bridge established. - KXX code Y/N - KXX-XXXX format Y/N - 1X-KXX-XXX format Y/N - 9P-KXX-XXX format Y/N - 9P-1X-KXX-XXX format Y/N 4. Bridge completes. Y/N 5. Bridge limited. Y/N 6. Bridge terminated. Y/N 7. Bridge of 22 set up of two cascaded bridges. Y/N 8. Bridge terminates. Y/N 9. PRIORITY bridge completes. Y/N 10. Call disconnects 15 to 60 sec. Y/N 11. Conferee added. Y/N

Table E-3.4. Preset Conferencing Test Procedures (continued)

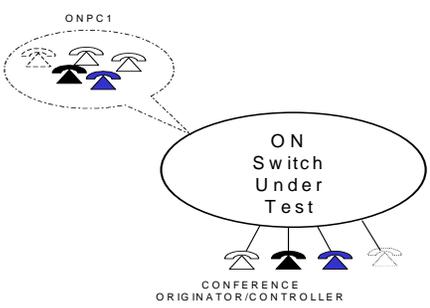
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																		
B	<p>Conference Notification Recorded Announcement:</p>	<p>Intraswitch:</p>																																			
	<p>Requirement: TS, MFS & EOS</p> <p>Reference: GSCR Sect. 2.6.1</p>	<p>1. Originate a ROUTINE preset conference from the ON analog originator/controller to ONPC1. Off-hook one conferee on ONPC1. Place all instruments on hook.</p>	<p>1. ONPC1 conference recording audible Y/N</p>																																		
<p>Provision one preset conference position with four conferees (2 analog, 1 P-Phone, and 1 ISDN) on the Origination Node (ON) preset conference 1 (ONPC1). Verify that each instrument type functions correctly for each step of the test sequence. Provision the ON with a conference notification recording. Provision the ON to remove the conference notification recording 2 seconds after the last conferee goes off hook. Provision the ON to automatically disconnect a conferee that does not go off hook within 30 seconds. Provision the ON to make one automatic retrial at the primary conferee address after 30 seconds. Provision the ON with the conference originator/controller ability to remove the conference notification recording and force the conference by pressing the "A" or "#" key. Designate three instruments on the ON as the conference originators (1 Analog, 1 P-PHONE, and 1 ISDN) with the ability to add 5 nonmembers to an established preset conference progressively. (Note: If the switch under test does not support P-Phone instruments, replace with an ISDN instrument. If VoIP instruments are supported include a VoIP instrument in lieu of one of the analog instruments)</p>	<p>2. Originate a ROUTINE preset conference from the ON analog originator/controller to ONPC1. Off-hook all conferees on ONPC1. Place all instruments on hook.</p> <p>3. Originate a ROUTINE preset conference from the ON analog originator/controller to ONPC1 and allow the conferees to ring-no-answer. Place all instruments on hook.</p> <p>4. Originate a ROUTINE preset conference from each of the three conference originators/controllers on the ON to ONPC1. Off-hook all except one conferee on ONPC1. ONPC1 conference controller force the conference and remove the conference notification recording by pressing the "A" or "#" key.</p> <p>5. ONPC1 conference originator/controller progressively add five additional nonmember conferees to conference. Place all instruments on hook.</p>	<p>2. ONPC1 conference recording removed two seconds after last conferee goes off-hook Y/N</p> <p>ONPC1 conference complete Y/N</p> <p>3. ONPC1 disconnected within 15-60 sec Y/N</p> <p>4. ONPC1 conference forced and recording removed via analog instrument. Y/N</p> <p>ONPC1 conference forced and recording removed via ETS instrument Y/N</p> <p>ONPC1 conference forced and recording removed via ISDN instrument Y/N</p> <p>5. ONPC1 conference controller added 5 conferees via analog instrument. Y/N</p> <p>ONPC1 conference controller added 5 conferees via ETS instrument. Y/N</p> <p>ONPC1 conference controller added 5 conferees via ISDN instrument. Y/N</p>																																			
 <p>The diagram illustrates the test setup. A central oval labeled 'ON Switch Under Test' is connected to a cloud labeled 'ONPC1' above it. Below the switch, four lines represent connections to 'CONFERENCE ORIGINATOR/CONTROLLER' devices, which are depicted as small icons of a telephone handset, a P-Phone, and an ISDN terminal.</p>	<p>Interswitch:</p> <p>1. Originate a ROUTINE preset conference from the ON analog originator/controller to DNPC1. Off-hook one conferee on DNPC1. Place all instruments on hook.</p> <p>2. Originate a ROUTINE preset conference from the ON analog originator/controller to DNPC1. Off-hook all conferees on DNPC1. Place all instruments on hook.</p> <p>3. Originate a ROUTINE preset conference from the ON analog originator/controller to DNPC1 and allow the conferees to ring-no-answer. Place all instruments on hook.</p> <p>4. Originate a ROUTINE preset conference from each of the different types of originator/controller instruments (i.e. analog, ETS, VoIP, ISDN etc.) on the ON to DNPC1. Off-hook all except one conferee on DNPC1. DNPC1 conference controller force the conference and remove the conference notification recording by pressing the "A" or "#" key. Repeat the above procedure over each type of trunk group supported by the switch (i.e. T1, E1, PRI, SS7)</p>	<p>1. DNPC1 conference recording audible. Y/N</p> <p>2. DNPC1 conference recording removed two seconds after last conferee goes off-hook. Y/N</p> <p>DNPC1 conference complete. Y/N</p> <p>3. DNPC1 disconnected within 15-60 sec Y/N</p> <p>4. ONPC1 conference forced and recording removed via:</p> <table border="1" data-bbox="1438 1120 1984 1242"> <thead> <tr> <th></th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> <th>T1 SS7</th> <th>E1 SS7</th> </tr> </thead> <tbody> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>EKTS</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>ISDN</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>VoIP</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7	Analog	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	EKTS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	ISDN	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	VoIP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
	T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7																															
Analog	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																															
EKTS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																															
ISDN	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																															
VoIP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																															
	<p>Notes:</p>																																				

Table E-3.4. Preset Conferencing Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)	
C	Automatic Retrial and alternate address:			
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.6.2	1. Originate a ROUTINE preset conference from the ON originator/controller to ONPC1. Allow ONPC1-U1 to ring-no-answer. Go off-hook with other three conferees.	1. Conferee retried at primary address Y/N
	Configure three preset conferences on the Origination Node (ON) with four members (2 analog, 1 P-Phone, and 1 ISDN). Designate the three conferences as Origination Node Preset Conferences one through three (ONPC1, ONPC2, and ONPC3). Place all except ten conference ports on ON out of service. Provision a preset conference with four conferees on the DN (DNPC1). Provision a preset conference on the Destination Node (DN) with four members (2 analog, 1 P-Phone, and 1 ISDN) and designate as DNPC1. (Note for the switches that do not support P-Phone digital phones replace with another ISDN instrument. If the switch under test supports VoIP instruments replace with one of the analog instruments). Provision ON preset conference 1 user one (ONPC1-U1) with an alternate preset conference call address.		2. After retry, allow DNPC1-U1 to ring-no-answer. 3. Allow alternate address to ring-no-answer. 4. Go off-hook at alternate address. 5. Place all instruments on hook. 6. Originate a PRIORITY preset conference from the ON originator/controller to ONPC1. Allow ONPC1-U1 to ring-no-answer. Go off-hook with other three conferees. 7. After retry, allow DNPC1-U1 to ring-no-answer. 8. Allow alternate address to ring-no-answer. 9. Go off-hook at alternate address. Place all instruments on hook.	2. Conferee rings at alternate address Y/N 3. Conferee retried at alternate address Y/N 4. ONPC1 conference complete Y/N 5. Conference terminates. 6. Conferee retried at primary address Y/N - Conferee rings @ precedence cadence Y/N - ONPC1 originator receives precedence ringback Y/N 7. Conferee rings at alternate address Y/N - Conferee rings @ precedence cadence. Y/N - ONPC1 originator continues to receive precedence ringback Y/N 8. Conferee retried at alternate address Y/N - Conferee rings @ precedence cadence Y/N - ONPC1 originator continues to receive precedence ringback. Y/N 9. ONPC1 conference complete. Y/N
Notes:				
D	Bridge Release:			
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.6.3	1. Originate a ROUTINE preset conference from the ONPC1 to all four members. Hang-up originator.	1. Bridge releases Y/N
	Configure three preset conference on the Origination Node (ON) with four members (2 analog, 1 P-Phone, and 1 ISDN). Designate the conferences as Origination Node Preset Conferences one (ONPC1, ONPC2, ONPC3). Set up ONPC2 as a secondary cascading bridge and ONPC3 as tertiary cascading bridge.		2. Originate ROUTINE bridge to include 12 members (ONPC1, ONPC2 and ONPC3). Hang up originator. 3. Originate a ROUTINE conference fro ONPC1 to members. Don't answer.	2. All bridges release Y/N 3. Bridge releases Y/N
Notes:				
E	Lost Connection:			
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.6.4	1. Originate a ROUTINE conference to all members. 2. Place PRORITY call to single member of bridge.	1. Bridge connects Y/N 2. Conference disconnect tone played to other conferees Y/N
	Configure a preset conference on the Origination Node (ON) with four members (2 analog, 1 P-Phone, and 1 ISDN). Designate the conferences as Origination Node Preset Conferences one (ONPC1).		3. Hang up bridge. 4. Originate a ROUTINE conference to all members. 5. Place PRORITY call to originator of bridge.	3. Bridge ends. Y/N 4. Bridge connects Y/N 5. Preempt tone given all conferees Y/N Bridge drops Y/N
Notes:				

Table E-3.4. Preset Conferencing Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
F	Secondary Conferencing:	1. Originate a ROUTINE preset conference from the ON originator to ONPC1. Go off hook with all DNPC1 conferees.	1. ONPC1 conference notification tone/announcement applied to DNPC1 conferees after the automatic removal of the DNPC1 conference notification tone/recording Y/N
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.6.5	2. DNPC1 conference complete including ONPC1 conferees and DNPC1 conferees Y/N
	Configure three preset conferences on the Origination Node (ON) with four members (2 analog, 1 P-Phone, and 1 ISDN). Designate the three conferences as Origination Node Preset Conferences one through three (ONPC1, ONPC2, and ONPC3). Place all except ten conference ports on ON out of service. Provision a preset conference with four conferees on the DN (DNPC1). Provision a preset conference on the Destination Node (DN) with four members (2 analog, 1 P-PHONE, and 1 ISDN) and designate as DNPC1. (Note for the switches that do not support P-Phone digital phones replace with another ISDN instrument. If the switch under test supports VoIP instruments replace with one of the analog instruments). Provision ONPC1 as a primary conference with DNPC1 as a secondary conference bridge.		2. Go off hook with all ONPC1 conferees 3. ONPC1 controller goes on hook. 4. Place all instruments on hook. 5. Originate a ROUTINE preset conference from the ON originator/controller to ONPC1. Allow ring-no-answer on all ONPC1 and DNPC1 conferees. 6. Place all instruments on hook.
Notes:		Notes:	
G	Address Translation:	1. Dial 7 digit conference code.	1. SUT translate 3 digit switch code. Y/N SUT translate 4 digit line as preset conference. Y/N
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.7	Notes:
	Configure the SUT to translate three digits of switch code and four-digit line translated to indicate preset conference.		Notes:
H	MLPP Interaction	1. Place a ROUTINE preset conference from ON1 to DNPC1.	1. Conference complete. Y/N
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 3.8.7	2. Conferees receive 2 sec. preempt notification. Y/N Conf. controller receives preempt notification. Y/N Conf. controller and conferees hangup then begin to ring at a precedence cadence. Y/N
	Configure the SUT with console designated DNPC1 and one subscriber (DN1). From another node (ON) provision 2 subscribers.		2. Place a PRIORITY preset conference call from ON2 to DNPC1. 3. Place all instruments on hook. 4. Place a ROUTINE preset conference from ON1 to DNPC1. 5. Place a PRIORITY call from ON2 to ON1. 6. Place all instruments on hook. 7. Place a ROUTINE preset conference from ON1 to DNPC1. 8. Place a PRIORITY call from ON2 to DN1. 9. Place ON2 and DN1 on hook.
Notes:		Notes:	

Table E-3.4. Preset Conferencing Test Procedures (continued)

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Legend:

CAS - Channel Associated Signaling	MFS - Multifunction Switch	SS7 - Signaling System 7
Conf. - Conference	MLPP - Multi-Level Precedence and Preemption	SUT - System Under Test
DN - Destination Node	N - No	T1 - American Transmission (1.544 Megabits per second)
E1 - European Transmission (2.948 Megabits per second)	ON - Origination Node	TP - Test Procedure
EOS - End Office Switch	PC - Preset Conference	TS - Tandem Switch
EKTS - Electronic Key Telephone Service	PRI - Primary Rate Interface	VoIP - Voice over Internet Protocol
GSCR - Generic Switching Center Requirements	Sec. - Seconds	Y - Yes
ISDN - Integrated Services Digital Network		

Table E-3.5. Nailed-Up Connections Test Procedures

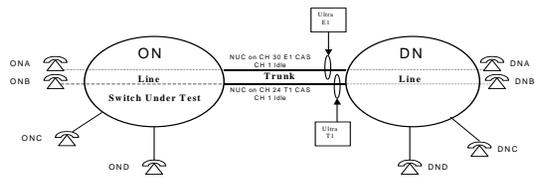
Ref #	Configuration Diagrams	Test Procedure(s)	Expected Result(s)																																														
A	<p>Nail ups:</p> <table border="1"> <tr> <td>Requirement: TS, MFS & EOS</td> <td>Reference: GSCR Sect. 2.8.a</td> </tr> </table> <p>Sunset T10 and E10 Sunrise test sets will be used to conduct a Bit Error Rate Test (BERT) over E1 and T1 Nailed Up connections.</p>	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.8.a	<p>T1:</p> <ol style="list-style-type: none"> Assign the required software translations in the switch under test to establish a T1 CAS Trunk Nailed Up connection. Conduct a 56K Data BERT @ 2047 with the T10s over the established NUC for 30 Minutes. Return all connections to normal. Repeat for T1 SS7 and T1 PRI <p>E1:</p> <ol style="list-style-type: none"> Assign the required software translations in the switch under test to establish an E1 CAS Trunk NUC. Conduct a 64K BERT @ 2047 with the E10s over the established NUC for 30 Minutes. Return all connections to normal. Repeat for E1 SS7 and E1 PRI 	<table border="1"> <tr> <td>1. Trunk Nailed Up connection established</td> <td>Y/N</td> </tr> <tr> <td>2. Pattern Synchronization established</td> <td>Y/N</td> </tr> <tr> <td>BERT completed with No Bit Errors</td> <td>Y/N</td> </tr> <tr> <td>3. NUC terminated.</td> <td>Y/N</td> </tr> <tr> <td>4. NUC supported.</td> <td>Y/N</td> </tr> </table> <table border="1"> <tr> <td>1. Trunk Nailed Up connection established</td> <td>Y/N</td> </tr> <tr> <td>2. Pattern Synchronization established</td> <td>Y/N</td> </tr> <tr> <td>BERT completed with No Bit Errors</td> <td>Y/N</td> </tr> <tr> <td>3. NUC terminated.</td> <td>Y/N</td> </tr> <tr> <td>4. NUC supported:</td> <td>Y/N</td> </tr> </table> <table border="1"> <tr> <td></td> <td>T1 CAS</td> <td>E1 CAS</td> <td>T1 PRI</td> <td>E1 PRI</td> <td>T1 SS7</td> <td>E1 SS7</td> </tr> <tr> <td>NUC</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>	1. Trunk Nailed Up connection established	Y/N	2. Pattern Synchronization established	Y/N	BERT completed with No Bit Errors	Y/N	3. NUC terminated.	Y/N	4. NUC supported.	Y/N	1. Trunk Nailed Up connection established	Y/N	2. Pattern Synchronization established	Y/N	BERT completed with No Bit Errors	Y/N	3. NUC terminated.	Y/N	4. NUC supported:	Y/N		T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7	NUC	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N										
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.8.a																																															
1. Trunk Nailed Up connection established	Y/N																																																
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	T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7																																											
NUC	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																											
Notes:																																																	
B	<p>Like terminations:</p> <table border="1"> <tr> <td>Requirement: TS, MFS & EOS</td> <td>Reference: GSCR Sect. 2.8.b</td> </tr> </table> <p>A GL communications Super T1 or test instrument with T1 testing capability is required to monitor the T1 and E1 links between the nodes under test. Three analog instruments are required on Origination Node (ON), (ON1, ON2, ON3). One analog instrument is required on Destination Node (DN), (DN1). Configure ON1 and DN1 as the phones connected to the nailed up DSO trunk under test. Remove all alternate routes from service except the trunk group under test.</p>	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.8.b	<p>Line to Line:</p> <ol style="list-style-type: none"> Assign the required software translations in the switch under test to establish the Line Nailed Up connection for Analog-to-Analog line (ON1 to ON2). Place a FLASH OVERRIDE call from ON3 to ON1. Repeat for analog to BRI and BRI to BRI lines. <p>Line to Trunk:</p> <ol style="list-style-type: none"> Assign the required software translations in the switch under test to establish the Nailed Up connection on ON1 to DN1. Place a FLASH OVERRIDE call from ON3 to ON1. Return all connection to normal. Repeat for E1 CAS, T1/E1 PRI, and T1/E1 SS7 trunks. 	<table border="1"> <tr> <td>1. Line Nailed Up connections established.</td> <td>Y/N</td> </tr> <tr> <td>ON1 and ON2 have permanently established speech path.</td> <td>Y/N</td> </tr> <tr> <td>2. Caller receives BNEA, BPA or diverts to an alternate DN.</td> <td></td> </tr> <tr> <td>3. Lines.</td> <td>Y/N</td> </tr> </table> <table border="1"> <tr> <td></td> <td>Analog</td> <td>BRI</td> </tr> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> </table> <p>T1 CAS</p> <table border="1"> <tr> <td>1. Line to Trunk Nailed Up connections established.</td> <td>Y/N</td> </tr> <tr> <td>ON1 and DN1 have permanently established speech path.</td> <td>Y/N</td> </tr> <tr> <td>2. Caller receives BNEA, BPA or diverts to an alternate Directory Number.</td> <td>Y/N</td> </tr> </table> <p>3. Other trunks.</p> <table border="1"> <tr> <td></td> <td>T1 CAS</td> <td>E1 CAS</td> <td>T1 PRI</td> <td>E1 PRI</td> <td>T1 SS7</td> <td>E1 SS7</td> </tr> <tr> <td>Analog Line to trunk</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI Line to trunk</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>	1. Line Nailed Up connections established.	Y/N	ON1 and ON2 have permanently established speech path.	Y/N	2. Caller receives BNEA, BPA or diverts to an alternate DN.		3. Lines.	Y/N		Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N	1. Line to Trunk Nailed Up connections established.	Y/N	ON1 and DN1 have permanently established speech path.	Y/N	2. Caller receives BNEA, BPA or diverts to an alternate Directory Number.	Y/N		T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7	Analog Line to trunk	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	BRI Line to trunk	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 2.8.b																																															
1. Line Nailed Up connections established.	Y/N																																																
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	T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7																																											
Analog Line to trunk	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																											
BRI Line to trunk	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																											
Notes:																																																	

Table E-3.5. Nailed-Up Connections Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																																	
C	PCM-24/PCM-30:	1. Assign the required software translations in the switch under test to establish the Nailed Up connection 2. Conduct BER test to verify NUC Notes:	1. NUC established. Y/N 2. T1 CAS to E1 connections at 56 Kbps: T1 to E1 PRI/SS7 at 64 Kbps:																																																	
	Requirement: TS, MFS & EOS			Reference: GSCR Sect. 2.8.c																																																
	Provision the SUT as a tandem node (TN) between ON and DN node. Configure the TN with T1/E1 ingress and egress trunks. Configure a NUC between ON and TN such that it tandems through SUT.																																																			
			<table border="1"> <thead> <tr> <th></th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> <th>T1 SS7</th> <th>E1 SS7</th> </tr> </thead> <tbody> <tr> <td>T1 CAS</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 CAS</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>T1 PRI</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 PRI</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>T1 SS7</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 SS7</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7	T1 CAS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 CAS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	T1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	T1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
	T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7																																														
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E1 CAS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																														
T1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																														
E1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																														
T1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																														
E1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																														
D	Supervision:	T1: 1. Assign the required software translations in both the ON and DN to send the correct out-pulsed digits. 2. Place a ROUTINE call from ON1 to DN1 Place all instruments on hook 3. Place a ROUTINE call from DN1 to ONA Place all instruments on hook 4. Place a ROUTINE call from ON1 to DN1. 5. Place a PRIORITY call from DN2 to ON2. 6. Place all instruments on hook. E1: 1. Assign the required software translations in both the ON and DN to send the correct out-pulsed digits. 2. Place a ROUTINE call from ON1 to DN1 Place all instruments on hook 3. Place a ROUTINE call from DN1 to ON1. Place all instruments on hook 4. Place a ROUTINE call from ON1 to DN1. 5. Place a PRIORITY call from DN2 to ON2. 6. Place all instruments on hook. Notes:	1. Translations completed. Y/N 2. Call completed at ROUTINE. Y/N 3. Call completed at ROUTINE. Y/N 4. Call completed at ROUTINE. Y/N 5. Call completed at PRIORITY. ON1 and DN1 receive preempt notification. Y/N 6. Call ends. Y/N 1. Translations completed. Y/N 2. Call completed at ROUTINE. Y/N 3. Call completed at ROUTINE. Y/N 4. Call completed at ROUTINE. Y/N 5. Call completed at PRIORITY. ON1 and DN1 receive preempt notification. Y/N 6. Call ends. Y/N																																																	
	Requirement: TS, MFS & EOS			Reference: GSCR Sect. 2.8.d																																																
	Two analog instruments are required on the Origination Node (ON1, ON2) and two analog instruments are required on the Destination Node (DN1, DN2). The switch under test will be configured as a Tandem Node (TN) between the ON and DN. Configure a T1 and E1 Nailed up connection in the switch under test. Busy out all but channel 24 on the T1 between the ON and TN and the T1 between the TN and DN. Assign the required software translations in the switch under test to configure a Nailed up connection between channel 24 of each T1. Busy out all but channel 30 on the E1 between the ON and TN and the E1 between the TN and DN. Assign the required software translations in the switch under test to configure a Nailed up connection between channel 30 of each E1.																																																			

Table E-3.5. Nailed-Up Connections Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
E	Monitoring	1. Break T1A between ON and DN	1. Alarm reported at SUT NUC rerouted automatically to T1B
	Requirement: TS, MFS & EOS		Reference: GSCR Sect. 2.8.e
	Configure two T1s between ON and DN (SUT) T1A and T1B. Configure a NUC between ON and DN (SUT) on T1A	Notes:	
F	10 Percent Nail Ups:	1. Verify in the switch documentation or software the capability of Nailed Up Connections	1. The switch has the capability of "nailing up" at least 10 percent of the switch's circuits
	Requirement: TS, MFS & EOS		Reference: GSCR Sect. 2.8.f
		Notes:	
G	Non-Preemptable:	1. Configure ON1 and DN1 as Nailed Up connection via T1 DS0 # 24. 2. Remove all trunks from service over the T1 except on DS0 #1 and #24. 3. Place a ROUTINE call from ON3 to DN3. 4. Place a FLASH OVERRIDE call from ON4 to DN4. 5. Place a FLASH OVERRIDE call from ON3 to DN3	1. ONA and DNA Communicates via T1 Trunk without dialing 2. GL test set shows one idle trunk
	Requirement: TS, MFS & EOS		Reference: GSCR Sect. 2.8.g
	A GL communications Super T1 or test instrument with T1 testing capability is required to monitor the T1 and E1 links between the nodes under test. Four analog instruments are required on Origination Node (ON), (ON1, ON2, ON3, ON4). Four analog instruments are required on Destination Node (DN), (DN1, DN2, DN3, DN4). Configure ON1 and DN1 as the phones connected to the nailed up DS0 trunk under test. Remove all alternate routes from service except the trunk group under test.	6. Configure ON1 and DN1 as Nailed Up connections via E1 DS0 #30 7. Remove all trunks from service over the E1 except DS0s #1 and #30. 8. Place a ROUTINE call from ON3 to DN3 9. Place a FLASH-OVERRIDE call from ON4 to DN4 10. Place a FLASH-OVERRIDE call from ON3 to DN3.	3. Call completes over the idle trunk 4. Call preempts the ROUTINE Call and not the Nailed Up connection 5. Call does not preempt the Nailed Up connection. Call diverts to a BPA 6. ONB and DNB communicate via E1 trunk without dialing 7. GL Test set shows one idle trunk 8. Call completes over idle trunk 9. Call preempts the ROUTINE call over the non-Nailed Up DS0. 10. Call does not preempt the Nailed Up connection Call receives BPA or diverts to Attendant
	Notes:		



- Legend:**
- BERT - Bit Error Rate Test
 - BNEA - Busy Not Equipped Announcement
 - BPA - Blocked Precedence Announcement
 - BRI - Basic Rate Interface
 - CAS - Channel Associated Signaling
 - DN - Destination Node
 - E1 - European Transmission (2.948 Megabits per second)
 - EOS - End Office Switch
 - GSCR - Generic Switching Center Requirements
 - ISDN - Integrated Services Digital Network
 - Kbps - Kilobits per second
 - MFS - Multifunction Switch
 - N - No
 - NUC - Nailed Up Circuit
 - ON - Origination Node
 - PRI - Primary Rate Interface
 - SS7 - Signaling System 7
 - SUT - System Under Test
 - T1 - American Transmission (1.544 Megabits per second)
 - TN - Tandem Node
 - TP - Test Procedure
 - TS - Tandem Switch
 - Y - Yes

Table E-3.6. Precedence Access Threshold (PAT) Test Procedures

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																		
A	<p>Precedence Access Threshold:</p> <p>Requirement: Conditional Reference: GSCR Sect. 2.11.1</p>	<p>1. Query switch for PAT mechanisms.</p> <p>2. Verify that you can apply PAT mechanism to each trunk type .</p> <p>Notes:</p>	<p>1. SUT provides min 7 mechanisms Y/N</p> <p>2. PAT mechanism applicable to any termination</p> <table border="1"> <thead> <tr> <th></th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> <th>T1 SS7</th> <th>E1 SS7</th> </tr> </thead> <tbody> <tr> <td>PAT</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7	PAT	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N				
				T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	E1 SS7												
PAT	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N															
B	<p>Call Screening:</p> <p>Requirement: Conditional Reference: GSCR Sect. 2.11.1.1</p> <p>Build the following PAT Matrix:</p> <table border="1"> <thead> <tr> <th></th> <th>NPA -1</th> <th>NPA -2</th> </tr> </thead> <tbody> <tr> <td>Flash Override</td> <td>0</td> <td>0</td> </tr> <tr> <td>Flash</td> <td>0</td> <td>0</td> </tr> <tr> <td>Immediate</td> <td>1</td> <td>1</td> </tr> <tr> <td>Priority</td> <td>0</td> <td>1</td> </tr> <tr> <td>Routine</td> <td>1</td> <td>0</td> </tr> </tbody> </table> <p>Classmark the following Phones and assign them to the above PAT.</p> <p>ON1 = Routine with only NPA -1 calling area (Analog) ON2 = Priority with both calling areas (Analog) ON3 = Immediate with both calling areas (BRI) ON4 = Immediate NPA -1 only (BRI)</p> <p>Classmark the following phones and do not assign them to a PAT:</p> <p>ON5 = Priority with only NPA -2 calling area (Analog) DNA1 = Anything. DNB1 = Anything. DNB2 = Anything.</p>		NPA -1	NPA -2	Flash Override	0	0	Flash	0	0	Immediate	1	1	Priority	0	1	Routine	1	0	<p>1. Make a PRIORITY call from ON1 to DNB1.</p> <p>2. Make a PRIORITY call from ON2 to DNB1 (don't hang up).</p> <p>3. Print out the PAT "Calls in Progress Register"</p> <p>4. Make a ROUTINE call using 7 digit dialing from ON1 to DNA1 (don't hang up).</p> <p>5. Make a ROUTINE call from ON4 to DNB1.</p> <p>6. Print out the PAT "Calls in Progress Register"</p> <p>7. Hang up all calls.</p> <p>8. Make an IMMEDIATE call from ON2 to DNB1</p> <p>9. Make an IMMEDIATE call from ON4 to DNB1.</p> <p>10. Make an IMMEDIATE call from ON3 to DNB1. (don't hang up)</p> <p>11. Make an IMMEDIATE call using 10 digit dialing from ON4 to DNA1. (don't hang up)</p> <p>12. Make a ROUTINE call from ON5 to DNB2 (don't hang up)</p> <p>13. Print out PAT "Calls in Progress Register"</p> <p>14. Hang up all phones.</p> <p>Notes:</p>	<p>1. Call sent to UPA Y/N</p> <p>2. Call completes. Y/N</p> <p>3. Report shows 1 call. Y/N</p> <p>4. Call completes. Y/N</p> <p>5. Call sent to VCA Y/N</p> <p>6. Report shows 2. Y/N</p> <p>7. Calls end. Y/N</p> <p>8. Call sent to UPA Y/N</p> <p>9. Call sent to VCA. Y/N</p> <p>10. Call completes. Y/N</p> <p>11. Call completes. Y/N</p> <p>12. Call completes. Y/N</p> <p>13. Report shows 2 (Note: ONE not in PAT) Y/N</p> <p>14. Calls end. Y/N</p>
	NPA -1	NPA -2																			
Flash Override	0	0																			
Flash	0	0																			
Immediate	1	1																			
Priority	0	1																			
Routine	1	0																			

Table E-3.6. PAT Test Procedures (continued)

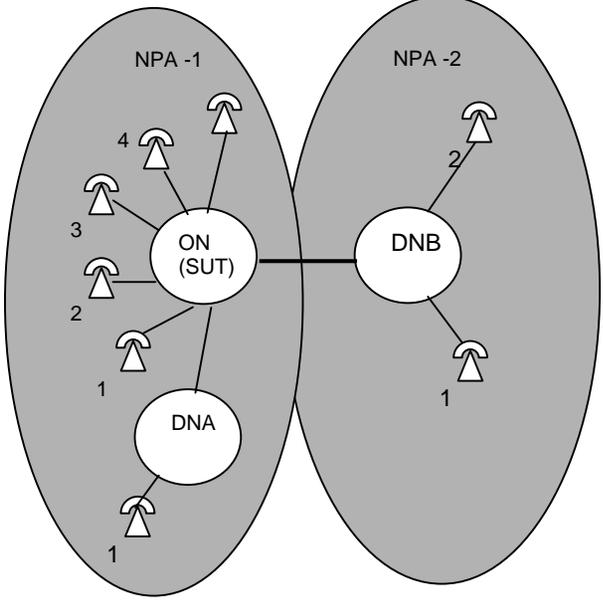
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
B	Call Screening (continued): Requirement: Conditional GSCR Reference: 2.11.1.1		
		Notes:	
C	Functional Structure: Requirement: Conditional Reference: GSCR Sect. 2.11.1.2	1. Query switch for PAT mechanism structure.	1. Structure comprised of: 25 PL/CA Thresholds Y/N calls-in progress counter Y/N Summation of thresholds counter Y/N Total calls in progress counter Y/N
		Notes:	

Table E-3.6. PAT Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																													
D	<p>Simultaneous Calls Limitation:</p> <table border="1" data-bbox="163 280 764 337"> <tr> <td>Requirement: Conditional</td> <td>Reference: GSCR Sect. 2.11.1.3</td> </tr> </table> <p>Use PAT Structure and Diagram setup from Ref # B above.</p> <p>Add the following phones to the PAT. ON6 = IMMEDIATE with both calling areas (BRI) ON7 = FLASH with only NPA -2 calling area. (BRI) Note: There should be no PAT slot assigned for FLASH.</p> <p>Add the following phones to DNA and DNB: DNA2 = Anything DNB3 = Anything DNB4 = Anything</p>	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.3	<ol style="list-style-type: none"> 1. Make an IMMEDIATE call from ON3 to DNB1. (don't hang up) 2. Make an IMMEDIATE call from ON4 to DNA1 (don't hang up) 3. Make an IMMEDIATE call from ON6 to DNB2. 4. Make a FLASH call from ON7 to DNB2. 5. Print out the PAT "PL/CA Threshold Register" 6. Print out the PAT "Total Calls in Progress Counter" 7. Make a PRIORITY call from ON2 to DNB2 (don't hang up) 8. Make a PRIORITY call from ON7 to DNB2 9. Print out the PAT "PL/CA Threshold Register" 10. Print out the PAT "Total Calls in Progress Counter" 11. Hang up all phones 12. Make a ROUTINE call from ON1 to DNA1 (don't hang up) 13. Make a PRIORITY call from ON2 to DNB1 (don't hang up) 14. Make an IMMEDIATE call from ON3 to DNB2 (don't hang up) 15. Make an IMMEDIATE call from ON4 to DNA2 (don't hang up) 16. Make an IMMEDIATE call from ON6 to DNB3 17. Make a ROUTINE call from ON6 to DNA2 18. Print out the PAT "PL/CA Threshold Register" 19. Print out the PAT "Total Calls in Progress Counter" 20. Hang up all phones <p>Notes:</p>	<table> <tr><td>1. Call completes</td><td>Y/N</td></tr> <tr><td>2. Call completes</td><td>Y/N</td></tr> <tr><td>3. Call routed to PLA</td><td>Y/N</td></tr> <tr><td>4. Call routed to PLA</td><td>Y/N</td></tr> <tr><td>5. Report shows 1 count in each Immediate NPA</td><td>Y/N</td></tr> <tr><td>6. Report shows 2</td><td>Y/N</td></tr> <tr><td>7. Call completes.</td><td>Y/N</td></tr> <tr><td>8. Call routed to PLA</td><td>Y/N</td></tr> <tr><td>9. Report shows 1 count in each Immediate NPA and 1 in ROUTINE NPA -2</td><td>Y/N</td></tr> <tr><td>10. Report shows 3</td><td>Y/N</td></tr> <tr><td>11. Calls end.</td><td>Y/N</td></tr> <tr><td>12. Call completes</td><td>Y/N</td></tr> <tr><td>13. Call completes</td><td>Y/N</td></tr> <tr><td>14. Call completes</td><td>Y/N</td></tr> <tr><td>15. Call completes</td><td>Y/N</td></tr> <tr><td>16. Call routes to PLA</td><td>Y/N</td></tr> <tr><td>17. Call routes to 120 IPM</td><td>Y/N</td></tr> <tr><td>18. Report shows 1 count in each PAT Slot</td><td>Y/N</td></tr> <tr><td>19. Report shows 4</td><td>Y/N</td></tr> <tr><td>20. Calls end.</td><td>Y/N</td></tr> </table>	1. Call completes	Y/N	2. Call completes	Y/N	3. Call routed to PLA	Y/N	4. Call routed to PLA	Y/N	5. Report shows 1 count in each Immediate NPA	Y/N	6. Report shows 2	Y/N	7. Call completes.	Y/N	8. Call routed to PLA	Y/N	9. Report shows 1 count in each Immediate NPA and 1 in ROUTINE NPA -2	Y/N	10. Report shows 3	Y/N	11. Calls end.	Y/N	12. Call completes	Y/N	13. Call completes	Y/N	14. Call completes	Y/N	15. Call completes	Y/N	16. Call routes to PLA	Y/N	17. Call routes to 120 IPM	Y/N	18. Report shows 1 count in each PAT Slot	Y/N	19. Report shows 4	Y/N	20. Calls end.	Y/N			
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.3																																														
1. Call completes	Y/N																																															
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19. Report shows 4	Y/N																																															
20. Calls end.	Y/N																																															
E	<p>Overflow Process:</p> <table border="1" data-bbox="163 870 764 927"> <tr> <td>Requirement: Conditional</td> <td>Reference: GSCR Sect. 2.11.1.4</td> </tr> </table> <p>Modify the PAT table from Ref #D as follows:</p> <table border="1" data-bbox="163 1000 764 1130"> <thead> <tr> <th></th> <th>NPA -1</th> <th>NPA -2</th> </tr> </thead> <tbody> <tr><td>Flash</td><td>0</td><td>1</td></tr> <tr><td>Immediate</td><td>1</td><td>0</td></tr> <tr><td>Priority</td><td>0</td><td>1</td></tr> <tr><td>Routine</td><td>1</td><td>0</td></tr> </tbody> </table>	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.4		NPA -1	NPA -2	Flash	0	1	Immediate	1	0	Priority	0	1	Routine	1	0	<ol style="list-style-type: none"> 1. Make a ROUTINE call from ON1 to DNA1 (don't hang up). 2. Make a ROUTINE call from ON2 to DNB1 (don't hang up). 3. Make a PRIORITY call from ON3 to DNB2 (don't hang up). 4. Print out Total Calls in Progress Counter. 5. Print out Calls in Progress Threshold for PL/CA. 6. Make a PRIORITY call from ON4 to DNA2 (don't hang up) 7. Print out Total Calls in Progress Counter. 8. Print out Calls in Progress Threshold for PL/CA. 9. Make an IMMEDIATE call from ON6 to DNB3 (don't hang up). 10. Print out Total Calls in Progress Counter. 11. Print out Calls in Progress Threshold for PL/CA. 12. Hang up ONA/DN1A. ON1 recalls DNA1 at ROUTINE. 13. Print out Total Calls in Progress Counter. 14. Print out Calls in Progress Threshold for PL/CA. <p>Notes:</p>	<table> <tr><td>1. Call completes</td><td>Y/N</td></tr> <tr><td>2. Call completes</td><td>Y/N</td></tr> <tr><td>3. Call completes</td><td>Y/N</td></tr> <tr><td>4. Counter shows 3.</td><td>Y/N</td></tr> <tr><td>5. Counter shows 1 for ROUTINE NPA -1, 1 for ROUTINE NPA -2 and 1 for PRIORITY NPA -2.</td><td>Y/N</td></tr> <tr><td>6. Call completes</td><td>Y/N</td></tr> <tr><td>7. Counter shows 4</td><td>Y/N</td></tr> <tr><td>8. Counter shows 1 for ROUTINE NPA -1, 1 for ROUTINE NPA -2, 1 for PRIORITY NPA -1, 1 for PRIORITY for NPA-2 and 0 for FLASH NPA -2.</td><td>Y/N</td></tr> <tr><td>9. Call Completes</td><td>Y/N</td></tr> <tr><td>10. Counter shows 5</td><td>Y/N</td></tr> <tr><td>11. Same as h plus 1 IMMEDIATE for NPA-2.</td><td>Y/N</td></tr> <tr><td>12. ONA receives 120IPM</td><td>Y/N</td></tr> <tr><td>13. Counter shows 4</td><td>Y/N</td></tr> <tr><td>14. Counter shows 1 ROUTINE for NPA-2, 1 Priority for NPA-1 and NPA-2 and 1 IMMEDIATE for NPA-2.</td><td>Y/N</td></tr> </table>	1. Call completes	Y/N	2. Call completes	Y/N	3. Call completes	Y/N	4. Counter shows 3.	Y/N	5. Counter shows 1 for ROUTINE NPA -1, 1 for ROUTINE NPA -2 and 1 for PRIORITY NPA -2.	Y/N	6. Call completes	Y/N	7. Counter shows 4	Y/N	8. Counter shows 1 for ROUTINE NPA -1, 1 for ROUTINE NPA -2, 1 for PRIORITY NPA -1, 1 for PRIORITY for NPA-2 and 0 for FLASH NPA -2.	Y/N	9. Call Completes	Y/N	10. Counter shows 5	Y/N	11. Same as h plus 1 IMMEDIATE for NPA-2.	Y/N	12. ONA receives 120IPM	Y/N	13. Counter shows 4	Y/N	14. Counter shows 1 ROUTINE for NPA-2, 1 Priority for NPA-1 and NPA-2 and 1 IMMEDIATE for NPA-2.	Y/N
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.4																																														
	NPA -1	NPA -2																																														
Flash	0	1																																														
Immediate	1	0																																														
Priority	0	1																																														
Routine	1	0																																														
1. Call completes	Y/N																																															
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6. Call completes	Y/N																																															
7. Counter shows 4	Y/N																																															
8. Counter shows 1 for ROUTINE NPA -1, 1 for ROUTINE NPA -2, 1 for PRIORITY NPA -1, 1 for PRIORITY for NPA-2 and 0 for FLASH NPA -2.	Y/N																																															
9. Call Completes	Y/N																																															
10. Counter shows 5	Y/N																																															
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13. Counter shows 4	Y/N																																															
14. Counter shows 1 ROUTINE for NPA-2, 1 Priority for NPA-1 and NPA-2 and 1 IMMEDIATE for NPA-2.	Y/N																																															

Table E-3.6. PAT Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)															
E	Overflow Process (continued) :	15. Make a FLASH call from ON7 to DNB1 (don't hang up) 16. Print out Total Calls in Progress Counter. 17. Print out Calls in Progress Threshold for PL/CA.	15. ONG preempts DN2A and is connected Y/N 16. Counter shows 4 Y/N 17. Counter shows 2 for PRIORITY (NPA -1 and NPA-2) and 1 for IMMEDIATE NPA-2 and 1 for FLASH NPA -2. Y/N 18. Calls End. Y/N															
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.4																
	Notes:																	
F	Calls in progress count:	1. Make a FLASH call from ON7 to DNB1. (don't hang up) 2. Make a PRIORITY call from ON2 to DNB2 (don't hang up) 3. Print out Total Calls in Progress Counter. 4. Print out Calls in Progress Threshold for PL/CA. 5. Print out OM registers for calls offered/failed and save for Ref # J. 6. Hang up ON2. 7. Open a second trunk between ON and DNB. 8. Make a ROUTINE call from ON3 to DNB2. 9. Print out Total Calls in Progress Counter. 10. Print out Calls in Progress Threshold for PL/CA.	1. Call completes Y/N 2. Call routed to BPA Y/N 3. Counter shows 1 Y/N 4. Counter shows I for FLASH NPA -2 Y/N 5. Print out saved.															
	Requirement: Conditional	Reference: GSCR sect. 2.11.1.5																
	Use the same PAT table as used in Ref# E. Reduce the available trunks between ON and DNB to one.		11. Make a PRIORITY call from ON5 to ON2. 12. Print out Total Calls in Progress Counter. 13. Print out Calls in Progress Threshold for PL/CA. 14. Hang up all calls. 15. Return all circuits to normal.	6. Call terminates Y/N 7. Trunk opened Y/N 8. Call completes Y/N 9. Counter shows 2 Y/N 10. Counter shows I for FLASH NPA -2 and 1 for ROUTINE NPA -2 Y/N 11. ON2 and DNB2 are preempted and ON5 is connected to ON2 Y/N 12. Counter shows 1 Y/N 13. Counter shows I for FLASH NPA -2 Y/N 14. Calls terminated. Y/N 15. Calls End. Y/N														
Notes:																		
G	Call Treatment:	1. Make a FLASH call from ON7 to DNB1. 2. Make a ROUTINE call from ON2 to DNB2. 3. Make a ROUTINE call from ON3 to DNB3. 4. Make a PRORITY call from ON3 to DNB3. 5. Hang up calls. 6. Print out OM for PAT showing calls offered/failed	1. Call completes. Y/N 2. Call completes. Y/N 3. Call fails and is routed to 120 IPM. Y/N 4. Call fails and is routed to PALA. Y/N 5. Calls end. Y/N 6. Save report for Ref # J. Y/N															
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.6																
	Re-configure the PAT table as follows:		Notes:															
		<table border="1"> <thead> <tr> <th></th> <th>NPA -1</th> <th>NPA -2</th> </tr> </thead> <tbody> <tr> <td>Flash</td> <td>0</td> <td>1</td> </tr> <tr> <td>Immediate</td> <td>0</td> <td>0</td> </tr> <tr> <td>Priority</td> <td>0</td> <td>0</td> </tr> <tr> <td>Routine</td> <td>0</td> <td>1</td> </tr> </tbody> </table>		NPA -1	NPA -2	Flash	0	1	Immediate	0	0	Priority	0	0	Routine	0	1	
	NPA -1	NPA -2																
Flash	0	1																
Immediate	0	0																
Priority	0	0																
Routine	0	1																

Table E-3.6. PAT Test Procedures (continued)

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
H	Queuing:		1. Query SUT PAT queuing	1. Off-hook queue is min. of 30 sec interval with a Min. 5 intervals and On-hook queue 5 minutes per interval with a Min. 5 intervals Y/N
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.7	2. Enable "Off-Hook" queuing with 1 interval of 30 sec. 3. Make a ROUTINE call from ON2 to DNB1 (don't hang up) 4. Make a FLASH call from ON7 to DNB2 (don't hag up) 5. Make a ROUTINE call from ON3 to DNB3 6. Stay off hook with ON3. Hang up ON2 after 25 sec. 7. Repeat steps 3 to 5 but this time hang up ON2 after 40 Sec. 8. Hang up all calls and disable "Off-Hook" queuing. 9. Enable "On-hook" queuing. 10. Make a ROUTINE call from ON2 to DNB1 (don't hang up) 11. Make a FLASH call from ON7 to DNB2 (don't hag up) 12. Make a ROUTINE call from ON3 to DNB3. 13. Activate automatic callback on ON3. 14. Wait 3 minutes and then hang up DNB1. 15. Answer ON3 when AC calls back 16. Hang up all calls	2. Off-Hook queuing enabled Y/N 3. Call completes. Y/N 4. Call completes. Y/N 5. Call fails and is routed to 120 IPM Y/N 6. ON3 is connected to DNB3. Y/N 7. ON3 does not connect. Y/N 8. Actions completed. Y/N 9. On-Hook queuing enabled Y/N 10. Call completes. Y/N 11. Call completes. Y/N 12. Call fails and is routed to 120 IPM Y/N 13. AC activated Y/N 14. ON2 to DNB1 call terminated. Y/N 15. Call completes to DNB1. Y/N 16. Calls end. Y/N
	See Ref # G.		Notes:	
I	Attendant Calls:		1. Make a ROUTINE call from ON1 to the attendant by dialing the 7 digit DN# for the attendant.	1. Call completes Y/N
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.8	2. Request the operator extend the call to DNB1 at IMMEDIATE. 3. Print out Calls in progress counter 4. Hang up call. 5. Make ROUTINE call from ONA1 to DNB1 by dialing 0 + the DN# of DNB1. 6. Request attendant to upgrade the call to FLASH. 7. Print out Calls in progress counter. 8. Print out CDR.	2. Call completes Y/N 3. Counter shows 1 IMMEDIATE call to NPA-2 Y/N 4. Call terminated. Y/N 5. Call goes to attendant Y/N 6 Call completes to DNB1 at FLASH. Y/N 7. Counter shows 1 FLASH call to NPA-2 Y/N 8. Verify upgraded precedence recorded. Y/N
	See Ref # G. Configure the Attendant position for FO and calling areas NPA -1 and NPA -2. Assign Attendant to the PAT.		Notes:	

Table E-3.6. PAT Test Procedures (continued)

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)																					
J	Operational Measurement Registers:		1. Review OM report from Ref# F.	1. Report shows 4 calls offered, (3 R to NPA -2 and 1 P to NPA -2)., and 2 fails (1 R to NPA -2 and 1 P to NPA -2). Y/N																					
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.9																							
	Completed in TPs above.		2. Review OM report from Ref# G..	2. Report shows 2 calls offered, (1 F to NPA -2 and 1 P to NPA -2)., and 1 fails 1 P to NPA -2). Y/N																					
Notes:																									
K	Maintenance and Admin. Thresholds:		1. Review software log of PAT Table changes made in Ref# A to Ref# J above.	1. Software log correctly recorded the changes. Y/N																					
	Requirement: Conditional	Reference: GSCR Sect. 2.11.1.10																							
Notes:																									
Legend: <table border="0"> <tr> <td>Admin. - Administration</td> <td>GSCR - Generic Switching Center Requirements</td> <td>PRI - Primary Rate Interface</td> </tr> <tr> <td>BRI - Basic Rate Interface</td> <td>Min. - Minimum</td> <td>SS7 - Signaling System 7</td> </tr> <tr> <td>CAS - Channel Associated Signaling</td> <td>N - No</td> <td>SUT - System Under Test</td> </tr> <tr> <td>CDR - Call Detail Record</td> <td>ON - Origination Node</td> <td>T1 - American Transmission (1.544 Megabits per second)</td> </tr> <tr> <td>COI - Community of Interest</td> <td>PALA - Precedence Access Limitation Announcement</td> <td>TP - Test Procedure</td> </tr> <tr> <td>DN - Destination Node</td> <td>PAT - Precedence Access Threshold</td> <td>Y - Yes</td> </tr> <tr> <td>E1 - European Transmission (2.948 Megabits per second)</td> <td>PL/CA - Precedence Level/Calling Area</td> <td></td> </tr> </table>					Admin. - Administration	GSCR - Generic Switching Center Requirements	PRI - Primary Rate Interface	BRI - Basic Rate Interface	Min. - Minimum	SS7 - Signaling System 7	CAS - Channel Associated Signaling	N - No	SUT - System Under Test	CDR - Call Detail Record	ON - Origination Node	T1 - American Transmission (1.544 Megabits per second)	COI - Community of Interest	PALA - Precedence Access Limitation Announcement	TP - Test Procedure	DN - Destination Node	PAT - Precedence Access Threshold	Y - Yes	E1 - European Transmission (2.948 Megabits per second)	PL/CA - Precedence Level/Calling Area	
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Table E-3.7. DSN Hotline Service Test Procedures

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)																								
A	DSN Hotline Services		1. ON1 goes off hook. 2. Attempt to place ON1 on hold. 3. Attempt call transfer of ON1 4. Attempt ad-hoc conference of ON1. Repeat for one analog and one BRI instrument. Repeat for two BRI instruments.	1. ON1 receives ring-back. Y/N ON2 rings. Y/N Call completes. Y/N 2. Hold fails. Y/N 3. Call transfer fails. Y/N 4. Ad-hoc conference fails. Y/N <table border="1" data-bbox="1436 431 1745 521"> <tr> <td></td> <td>Analog</td> <td>BRI</td> <td></td> </tr> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> <td></td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Analog	BRI		Analog	Y/N	Y/N		BRI	Y/N	Y/N													
		Analog			BRI																							
Analog	Y/N	Y/N																										
BRI	Y/N	Y/N																										
Requirement: MFS, EOS & SMEO Reference: GSCR Sect. 2.12		Notes:																										
B	Protected Hotline Calling		For analog instruments: 1. ON1 goes off hook. 2. Place all instruments on hook. 3. Place a call from ON5 to ON1 4. Place a call from ON3 to ON1. 5. Place all instruments on hook. 6. Place a call from ON4 to ON1. 7. Place call from ON1 to ON3 8. Place call from ON1 to ON4 9. Place all instruments on hook. Repeat 1 to 9 for BRI instruments. Repeat for Inter-switch.	1. ON1 receives ring-back. Y/N ON2 rings. Y/N Call completes. Y/N 2. Calls ends. Y/N 3. Call incomplete. Y/N 4. Call completes. Y/N 5. Call ends. Y/N 6. Call completes. Y/N 7. Call incomplete. Y/N 8. Call incomplete. Y/N 9. Call ends. Y/N <table border="1" data-bbox="1436 1000 1671 1154"> <tr> <td colspan="3">Intra-switch</td> </tr> <tr> <td></td> <td>Analog</td> <td>BRI</td> </tr> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td colspan="3">Inter-switch</td> </tr> <tr> <td></td> <td>Analog</td> <td>BRI</td> </tr> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>	Intra-switch				Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N	Inter-switch				Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N
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	Analog	BRI																										
Analog	Y/N	Y/N																										
BRI	Y/N	Y/N																										
Requirement: MFS, EOS & SMEO Reference: GSCR Sect. 2.12.1		Notes:																										
Five instruments are required on the Origination Node switch under test (ON1, ON2, ON3, ON4, ON5) and five at a destination switch (DN1, DN2, DN3, DN4, DN5). Intra-switch: Provision a protected hotline between ON1 and ON2 with ON2 as the designated called party. Provision ON3 and ON4 on the protected Hotline specified list. Provision ON5 as a non-hotline specified list member. Inter-switch: Provision a protected hotline between ON1 and DN1 with DN1 as the designated called party. Provision ON2, ON3 and ON4 on the protected Hotline specified list. Provision ON5 as a non-hotline specified list member.																												

Table E-3.7. DSN Hotline Service Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																					
C	<p>Pair Protected Hotline Calling</p>	<p>Intra-switch: 1. ON1 go off hook. 2. Place all instruments on hook. 3. ON2 go off hook. 4. Place all instruments on hook. 5. Place a call from ON3 to ON1. 6. Place a call from ON3 to ON2. 7. Place all instruments on hook. Inter-switch: 1. ON1 go off hook. 2. Place all instruments on hook. 3. DN1 go off hook. 4. Place all instruments on hook. 5. Place a call from ON3 to ON1 6. Place a call from ON3 to DN1 7. Place all instruments on hook</p>	<p>1. ON1 receives ring-back. Y/N ON2 rings. Y/N Call completes. Y/N 2. Call ends. Y/N 3. ON2 receives ring-back. Y/N ON1 rings. Y/N Call completes. Y/N 4. Call ends. Y/N 5. Call incomplete Y/N 6 Call incomplete Y/N 7. Calls end. Y/N 1. ON1 receives ring-back. Y/N DN1 rings. Y/N Call completes. Y/N 2. Call ends. Y/N 3. DN1 receives ring-back. Y/N ON1 rings. Y/N Call completes. Y/N 4. Call ends. Y/N 5. Call incomplete Y/N 6 Call incomplete Y/N 7. Calls end.</p> <table border="1" data-bbox="1434 870 1667 1032"> <thead> <tr> <th colspan="3">Intra-switch</th> </tr> <tr> <th></th> <th>Analog</th> <th>BRI</th> </tr> </thead> <tbody> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <th colspan="3">Inter-switch</th> </tr> <tr> <th></th> <th>Analog</th> <th>Y/N</th> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>	Intra-switch				Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N	Inter-switch				Analog	Y/N	BRI	Y/N	Y/N
	Intra-switch																							
	Analog	BRI																						
Analog	Y/N	Y/N																						
BRI	Y/N	Y/N																						
Inter-switch																								
	Analog	Y/N																						
BRI	Y/N	Y/N																						
<table border="1"> <tr> <td>Requirement: MFS, EOS & SMEO</td> <td>Reference: GSCR Sect. 2.12.2</td> </tr> </table>	Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.2	<p>Notes:</p>																					
Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.2																							

Table E-3.7. DSN Hotline Service Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																					
D	<p>Unprotected Hotline Receiving</p>	<p>Intra-switch: 1. ON1 go off hook. 2. Place all instruments on hook. 3. Place a call from ON2 to ON1 4. Place all instruments on hook 5. Place a call from ON3 to ON1. 6. Place all instruments on hook. 7. Place a call from ON4 to ON1. 8. Place all instruments on hook. Repeat for BRI.</p> <p>Inter-switch: 1. ON1 go off hook. 2. Place all instruments on hook. 3. Place a call from ON2 to ON1 4. Place all instruments on hook 5. Place a call from ON3 to ON1. 6. Place all instruments on hook. Repeat for BRI.</p>	<p>1. ON1 receives ring-back. Y/N ON2 rings. Y/N Call completes. Y/N 2. Call ends. Y/N 3. Call completes. Y/N 4. Call ends. Y/N 5. Call completes. Y/N 6. Call ends. Y/N 7. Call completes. Y/N 8. Call ends. Y/N</p> <p>1. ON1 receives ring-back. Y/N DN1 rings. Y/N Call completes. Y/N 2. Call ends. Y/N 3. Call completes. Y/N 4. Call ends. Y/N 5. Call completes. Y/N 6. Call ends. Y/N</p> <table border="1" data-bbox="1436 799 1671 958"> <thead> <tr> <th colspan="3">Intraswitch</th> </tr> <tr> <th></th> <th>Analog</th> <th>BRI</th> </tr> </thead> <tbody> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <th colspan="3">Interswitch</th> </tr> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>	Intraswitch				Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N	Interswitch			Analog	Y/N	Y/N	BRI	Y/N	Y/N
	Intraswitch																							
	Analog	BRI																						
Analog	Y/N	Y/N																						
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Interswitch																								
Analog	Y/N	Y/N																						
BRI	Y/N	Y/N																						
<table border="1"> <tr> <td data-bbox="159 284 520 354">Requirement: MFS, EOS & SMEO</td> <td data-bbox="520 284 777 354">Reference: GSCR Sect. 2.12.3</td> </tr> </table>	Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.3	<p>Notes:</p>																					
Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.3																							

Table E-3.7. DSN Hotline Service Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																				
E	<p>Protected Hotline Receiving</p>	<p>Intra-switch: 1. ON1 goes off hook.</p>	<p>1. ON1 receives ring-back. Y/N ON2 rings. Y/N Call completes. Y/N</p>																				
	<table border="1"> <tr> <td data-bbox="159 285 522 350">Requirement: MFS, EOS & SMEO</td> <td data-bbox="522 285 777 350">Reference: GSCR Sect. 2.12.4</td> </tr> </table>	Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.4	<p>2. Place all instruments on hook. 3. Place a call from ON5 to ON1. 4. Place a call from ON3 to ON1. 5. Place all instruments on hook.</p>	<p>2. Calls ends. Y/N 3. Call incomplete. Y/N 4. Call completes. Y/N 5. Call ends. Y/N</p>																		
Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 2.12.4																						
<p>Intra-switch: Five analog instruments are required on the Origination Node switch under test (ON1, ON2, ON3, ON4, ON5). Provision a protected hotline between ON1 and ON2. Provision ON3 and ON4 on the protected Hotline specified list. Provision ON5 as a non-hotline specified list member.</p>	<p>6. Place a call from ON4 to ON1. 7. Place call from ON1 to ON3. 8. Place call from ON1 to ON4. 9. Place all instruments on hook. Repeat for BRI.</p>	<p>6. Call completes. Y/N 7. Call completes. Y/N 8. Call completes. Y/N 9. Call ends. Y/N</p>																					
<p>Inter-switch: Five analog instruments are required, four on the Origination Node switch under test (ON1, ON2, ON3, ON4) and one on the Destination Node (DN1). Provision a protected hotline between ON1 and DN1. Provision ON3 and ON4 on the protected Hotline specified list. Provision ON5 as a non-hotline specified list member.</p>	<p>Inter-switch: 1. ON1 goes off hook. 2. Place all instruments on hook. 3. Place a call from ON5 to ON1. 4. Place a call from ON3 to ON1. 5. Place all instruments on hook. 6. Place a call from ON4 to ON1. 7. Place call from ON1 to ON3. 8. Place call from ON1 to ON4. 9. Place all instruments on hook. Repeat for BRI.</p>	<p>1. ON1 receives ring-back. Y/N DN1 rings. Y/N Call completes. Y/N 2. Calls ends. Y/N 3. Call incomplete. Y/N 4. Call completes. Y/N 5. Call ends. Y/N 6. Call completes. Y/N 7. Call completes. Y/N 8. Call completes. Y/N 9. Call ends. Y/N</p> <table border="1" data-bbox="1434 894 1669 1055"> <tr> <th colspan="3">Intra-switch</th> </tr> <tr> <th></th> <th>Analog</th> <th>BRI</th> </tr> <tr> <th>Analog</th> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <th>BRI</th> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <th colspan="3">Inter-switch</th> </tr> <tr> <th>Analog</th> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <th>BRI</th> <td>Y/N</td> <td>Y/N</td> </tr> </table>	Intra-switch				Analog	BRI	Analog	Y/N	Y/N	BRI	Y/N	Y/N	Inter-switch			Analog	Y/N	Y/N	BRI	Y/N	Y/N
Intra-switch																							
	Analog	BRI																					
Analog	Y/N	Y/N																					
BRI	Y/N	Y/N																					
Inter-switch																							
Analog	Y/N	Y/N																					
BRI	Y/N	Y/N																					
	<p>Notes:</p>																						

Table E-3.7. DSN Hotline Service Test Procedures (continued)

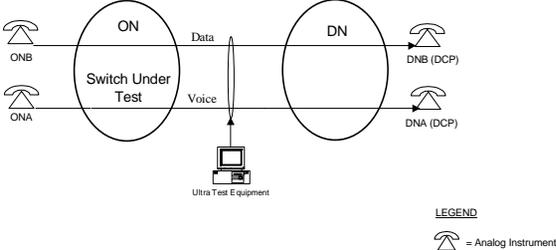
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																									
F	<p>User Interoperability</p>	<ol style="list-style-type: none"> ON1 go off hook. Using the Ultra T1/E1 test equipment capture the out-pulsed digits sent over the trunk group. Place all instruments on hook. ON2 go off hook. Using the Ultra T1/E1 test equipment capture the out-pulsed digits sent over the trunk group. Place all instruments on hook. <p>Repeat the above procedures replacing the analog instruments with digital ISDN and non-ISDN instruments</p>	<ol style="list-style-type: none"> ON1 receives ring-back. Y/N DN1 rings. Y/N Call complete. Y/N The route digit sent is a 5. Y/N Call ends. Y/N ON2 receives ring-back. Y/N DN2 rings. Y/N Call complete. Y/N The route digit sent is a 6. Y/N Call ends. Y/N <table border="1" data-bbox="1436 529 1824 644"> <thead> <tr> <th></th> <th>Analog</th> <th>BRI</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Analog</td> <td>Y/N</td> <td>Y/N</td> <td></td> <td></td> </tr> <tr> <td>BRI</td> <td>Y/N</td> <td>Y/N</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Analog	BRI			Analog	Y/N	Y/N			BRI	Y/N	Y/N												
				Analog	BRI																							
Analog	Y/N	Y/N																										
BRI	Y/N	Y/N																										
<p>Requirement: MFS, EOS & SMEO</p> <p>Reference: GSCR Sect. 2.12.5</p> <p>Two analog instruments are required on the Origination Node switch under test (ON1, ON2) and two analog instruments are required on the Destination Node (DN1, DN2). Provision a pair protected voice hotline between ON1 and DN1. Provision a data pair protected hotline between ON2 and DN2. Configure the Ultra T1/E1 test sets to capture the out-pulsed digits over the test trunk group. Repeat the below test sequences for each type of trunk (i.e. SS7, PRI, E1, T1)</p>  <p>LEGEND  = Analog Instrument</p>	<p>Notes:</p>																											
<p>Legend:</p> <p>BRI - Basic Rate Interface</p> <p>DN - Destination Node</p> <p>E1 - European Transmission (2.948 Megabits per second)</p> <p>EOS - End Office Switch</p> <p>GSCR - Generic Switching Center Requirements</p>	<p>MFS - Multifunction Switch</p> <p>N - No</p> <p>ON - Origination Node</p> <p>PRI - Primary Rate Interface</p> <p>SMEO - Small End Office</p>	<p>SS7 - Signaling System 7</p> <p>SUT - System Under Test</p> <p>T1 - American Transmission (1.544 Megabits per second)</p> <p>TP - Test Procedure</p> <p>Y - Yes</p>																										

Table E-3.8. Tandem Switching Test Procedures

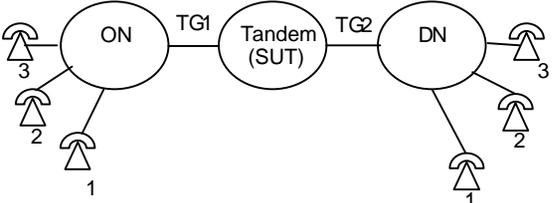
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																																			
A	<p>Tandem capabilities:</p> <table border="1" data-bbox="163 289 764 349"> <tr> <td data-bbox="163 289 499 349">Requirement: TS & MFS</td> <td data-bbox="499 289 764 349">Reference: GSCR Sect. 8.3</td> </tr> </table> <p>Configure subscribers off of the Origination Node (ON1, ON2 and ON3) and Destination Node (DN1, DN2, DN3) that tandems through the SUT. Use a combination of analog, BRI and other supported line types. Configure the trunk groups (TG) between ON and DN to be T1 SS7. Place all but two trunks on each T1 out of service.</p> 	Requirement: TS & MFS	Reference: GSCR Sect. 8.3	<ol style="list-style-type: none"> Place ROUTINE call from ON1 to DN1. Place PROIRITY call from ON2 to DN2. Place IMMEDIATE call from ON3 to DN1. Place FLASH call from ON1 to DN3. Repeat for all trunk type combinations. <p>Notes:</p>	<ol style="list-style-type: none"> Call completes. Y/N Call completes. Y/N Call completes. Y/N DN1 receives PNT Y/N Call disconnects. Y/N Call completes. Y/N ON2 and DN2 receive PNT Y/N ON2 to DN2 call disconnects. Y/N Other trunk types: <table border="1" data-bbox="1428 503 1974 706"> <thead> <tr> <th>TG1\TG2</th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>T1 SS7</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 SS7</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>T1 CAS</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 CAS</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>T1 PRI</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>E1 PRI</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> 	TG1\TG2	T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	T1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 SS7	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	T1 CAS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 CAS	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	T1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	E1 PRI	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
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<p>Legend:</p> <table border="0"> <tr> <td>BRI - Basic Rate Interface</td> <td>ON - Origination Node</td> <td>T1 - American Transmission (1.544 Megabits per second)</td> </tr> <tr> <td>DN - Destination Node</td> <td>PNT - Preempt Notification Tone</td> <td>TG - Trunk Group</td> </tr> <tr> <td>E1 - European Transmission (2.948 Megabits per second)</td> <td>PRI - Primary Rate Interface</td> <td>TP - Test Procedure</td> </tr> <tr> <td>GSCR - Generic Switching Center Requirements</td> <td>SS7 - Signaling System 7</td> <td>TS - Tandem Switch</td> </tr> <tr> <td>MFS - Multifunction Switch</td> <td>SUT - System Under Test</td> <td>Y - Yes</td> </tr> <tr> <td>N - No</td> <td></td> <td></td> </tr> </table>				BRI - Basic Rate Interface	ON - Origination Node	T1 - American Transmission (1.544 Megabits per second)	DN - Destination Node	PNT - Preempt Notification Tone	TG - Trunk Group	E1 - European Transmission (2.948 Megabits per second)	PRI - Primary Rate Interface	TP - Test Procedure	GSCR - Generic Switching Center Requirements	SS7 - Signaling System 7	TS - Tandem Switch	MFS - Multifunction Switch	SUT - System Under Test	Y - Yes	N - No																																			
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Table E-3.9. Network Management Test Procedures

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
A	Interfaces:		1. Verify that the SUT supports at least one of the three NM interfaces.	1. SUT supports: Ethernet (TCP/IP) Y/N Serial Async Y/N Serial Sync (X.25 or BX.25) Y/N
	Requirement: TS, MFS, EOS & SMEO	Reference: GSCR Sect. 9.1		
			2. Verify 4 data channels (physical or logical).	2. 4 data channels: Alarm/log data Y/N Performance data Y/N Accounting data Y/N Switch Access Y/N
Notes:				
B	Measurements and Data Generation:		For TS, MFS & EOS:	1. Reports provided. Y/N
	Requirement: TS, MFS, EOS & SMEO	Reference: GSCR Sect. 9.1	1. Poll switch to get 5 min, 15 min and 30 min report. 2. Verify traffic measurements from call loading statistic.	2. Traffic measurements provided: DSN Intra-system Precedence Calls Peg Count. Y/N
	Configure SUT to poll traffic measurements via performance data channel. Provision call loader to run for 65 mins. Configure to have mixed precedence calls.		For SMEO: 1. Poll switch to get reports (5, 15, 30 or 60 min interval). 2. Verify traffic measurements using call loader statistics.	DSN Originating Calls – Flash Peg Count. Y/N DSN Originating Hot-Line Calls Peg Count. Y/N DSN Originating Calls – Immediate Peg Count. Y/N DSN Originating Calls – Flash Override Peg Count. Y/N DSN Originating Calls – Priority Peg Count. Y/N DSN Terminating Precedence Calls Peg Count. Y/N DSN Successful Preemption – Primary Intertoll Trunks for Reuse Peg Count. Y/N 1. Report(s) provided. Y/N 2. Traffic measurements provided. Trunk Group Number Y/N Trunks Equipped. Y/N Outgoing Attempts. Y/N Outgoing Overflows. Y/N Trunk Group Usage (in seconds or hundred call seconds (CCS)). Y/N Total Trunk Group Usage or Outgoing and Incoming Trunk Group Usage. Y/N Switch Database Access. Y/N
Notes:				

Table E-3.9. Network Management Test Procedures (continued)

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
C	Fault Management:		1. Disconnect the accounting data connection between the SUT and the ADIMSS workstation for 15 minutes. 2. Reconnect the AMA data connection 3. Repeat for performance, and access data channels. 4. From the SUT invoke a minor, major and critical alarm. Notes:	1. Only AMA data disrupted, Y/N All other data types (Traffic, Alarm, and OMT) not disrupted. Y/N
	Requirement: TS, MFS, EOS & SMEO	Reference: GSCR Sect. 9.3		SWITCH Alarm Notification Y/N ADIMSS Alarm Notification Y/N
	Configure the SUT to provide alarm info via the alarm data channel. SNMP alarms are acceptable.			2. ADIMSS AMA data restored Y/N SWITCH Alarm cleared Y/N ADIMSS Alarm cleared Y/N 3. Alarms provided Y/N 4. Alarms provided Y/N
D	Configuration Management:		1. Query the SUT to get configuration information. Notes:	1. SUT provides: Y/N Information base query functions. Y/N Information base Update functions. Y/N ISDN functions Y/N
	Requirement: TS, MFS, EOS & SMEO	Reference: GSCR Sect. 9.4		
	Configure access to the SUT to get configuration management information.			
E	Automated Message Accounting:		1. Query SUT CDR records. 2. Verify CDRs using call loading statistics. Notes:	1. CDR generated. Y/N 2. Verify CDR info: Y/N
	Requirement: MFS, EOS & SMEO	Reference: GSCR Sect. 9.5		Start date of call. Y/N Start time of call. Y/N Either (or both) Elapsed time of call or stop time of call. Y/N
	Configure SUT to poll traffic measurements via performance data channel. Provision call loader to run for 65 mins. Configure to have mixed precedence calls.			Calling number Y/N Called number (all dialed digits). Y/N Precedence level of call. Y/N Outgoing trunk group of call. Y/N Outgoing trunk member of call. Y/N Required: MFS, EOS only Incoming trunk group of call. Y/N Incoming trunk group member of call. Y/N Call answered/unanswered indicator. Y/N Conference call indicator. Y/N Customer/Business group Identification. Y/N CDR retention of 5 days.

Table E-3.9. Network Management Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																																			
G	<p>NM Controls:</p> <table border="1"> <tr> <td>Requirement: TS, MFS & EOS</td> <td>Reference: GSCR Sect. 9.7</td> </tr> </table> <p>Configure the SUT to have all trunk types appropriate to switch type (i.e., T1/E1 SS7, T1/E1 CAS, T1/E1 PRI for MFS) Configure 6 subscribers off each node: ON1 – ON6 and DN1-DN6.</p> <p>Automatic Congestion Control (ACC): Configure a T1 and E1 SS7 link between ON (SUT) and DN.</p> <p>Trunk Reservation (TRE): Configure the link by taking all but 4 trunks out of service. Configure for 2 trunks reserved via TRE.</p> <p>Selective Incoming Load Controls (SILC).</p> <p>Essential Service Protection (ESP). Restrict the number of tone/senders in the switch under test to thirty. Provision the switch with thirty analog lines (N1-N30) and connect to the AM2A call loader. Provision one analog instrument (N31) and class mark with ESP. Provision one analog instrument (N32) and class mark as non-ESP. (Note: This test procedure is only one method to invoke ESP). Configure the AM2A call loader to allow off hook of N1-N30 simultaneously. Configure the AM2A call loader to allow N1-N29 off hook for 8 seconds, and N30 off hook for 2 seconds</p> <p>Manual Controls. Place all but 2 trunks out of service in the Primary Route. Provision the ON for CANF at 100 percent to the Primary Route to the Destination Node (DN). Place all but two trunks out of service in the Primary Route. Provision the ON for CANT at 100 percent to the first alternate trunk group in the trunk route for dialing the Destination Node (DN).</p>	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 9.7	<p>Automatic controls</p> <ol style="list-style-type: none"> ACC (SS7 only). On a SS7 trunk group T1 and E1 invoke the ACC command. Using a call loader congest the SS7 link Using a protocol analyzer ensure that ACC message sent via SS7 signaling link. TRE. Place ROUTINE call from ON1 (SUT) to DN1. Place PRIORITY call from ON2 (SUT) to DN2. Place FLASH OVERRIDE call from ON3 (SUT) to DN3. Place FLASH OVERRIDE call from ON4 (SUT) to DN4. Place call over reserved trunk from ON5 (SUT) to DN5. Place call over reserved trunk from ON6 (SUT) to DN6. Place FLASH call from ON1 (SUT) to DN1. Hang up all calls. Repeat for other trunk types. SILC. Invoke SILC on T1 SS7 link. Place call from ONA to DNA (SUT). Hang up call. Repeat for other trunk types. <p>Overload controls</p> <ol style="list-style-type: none"> ESP. After N30 goes on hook, go off hook with N31 and N32. Place N1-N29 on-hook <p>Manual Controls (Trunk Group Controls)</p> <ol style="list-style-type: none"> Cancel From (CANF). Place two ROUTINE call from ON1 and ON2 to DN1 and DN2. Place a third ROUTINE call from ON3 to DN3. Place a FLASH call from ON3 to DN3. Hang Up Call. Place a FLASH OVERRIDE call from ON3 to DN3. Hang Up Call. Place a PRIORITY call from ON3 to DN3. Place an IMMEDIATE Call from ON4 to DN4. Place a PRIORITY call from ON1 to DN1 Place an IMMEDIATE call from ON1 to DN1. Place an IMMEDIATE call from ON2 to DN2. Place all instruments on hook Repeat for other trunk types. Cancel to (CANT). Repeat CANF Procedures for CANT for all trunk types. 	<ol style="list-style-type: none"> ACC: ACC invoked. Y/N SS7 link congested. Y/N ACC congestion message sent. Y/N TRE: Call completes. Y/N Call completes. Y/N Call completes and preempts ROUTINE call. Y/N Call completes and preempts PRIORITY call. Y/N Call completes. Y/N Call completes. Y/N Call completes and preempts reserved trunk. Y/N Calls end. Y/N SILC: Control invoked. Y/N Call rejected. Y/N <table border="1"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>ACC</td> <td>Y/N</td> <td>Y/N</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>TRE</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>SILC</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> <ol style="list-style-type: none"> ESP: N31 receives dial tone Y/N N32 does not receive dial tone Y/N N32 receives dial tone after the AM2A Y/N CANF. Call complete over Primary Route Y/N Call receives Emergency Announcement Y/N Call Completes over Alternate Route Y/N Call Completes over Alternate Route Y/N Call preempts one ROUTINE call in the Primary Route and completes to DN3. Y/N Call preempts second ROUTINE call in Primary Route and completes to DN4. Y/N Call receives an EA1 announcement Y/N Call completes and preempts the PRIORITY call on Primary Route Y/N Call receives an EA1 announcement Y/N <table border="1"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>CANF</td> <td>Y/N</td> <td>Y/N</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>CANT</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	ACC	Y/N	Y/N	NA	NA	NA	NA	TRE	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	SILC	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	CANF	Y/N	Y/N	NA	NA	NA	NA	CANT	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
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Table E-3.9. Network Management Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																				
G c o n t i n u e d	NM Controls (continued)	3. SKIP. Place two ROUTINE calls from the ON to DN. Place a third ROUTINE call from ON to DN. Place third ROUTINE call on hook. Place two PRIORITY calls from ON to DN.	3. SKIP. Both calls completed over the Primary Route. Y/N Call completes over the third route, skipping the second route. Y/N																				
	<table border="1"> <tr> <td data-bbox="163 277 499 337">Requirement: TS, MFS & EOS</td> <td data-bbox="499 277 779 337">Reference: GSCR Sect. 9.7</td> </tr> </table>	Requirement: TS, MFS & EOS	Reference: GSCR Sect. 9.7	Place an IMMEDIATE call from ON to DN. Place all instruments on hook	Both PRIORITY calls complete over the third route, skipping the second route. Y/N Call completes over the direct route and preempts one of the ROUTINE calls. Y/N IMMEDIATE Call Completes Y/N																		
Requirement: TS, MFS & EOS	Reference: GSCR Sect. 9.7																						
<p>SKIP. Provision the Origination Node (ON) (switch under test) with a Direct, Secondary and Tertiary Routes to the Destination Node (DN). Provision the ON with a Manual Control to SKIP the Secondary Route to the Destination Node (DN). Provision the ON for Method I Route Selection for calls above ROUTINE. Place all but two trunks out of service in the Primary and Tertiary Routes.</p> <p>Reroute. Single-via-reroute. Provision the Origination Node (ON) (switch under test) with a Direct, Secondary and 'via' Routes to the Destination Node (DN). Configure originating office designated as "A" and destination as "B". Configure trunk group between the two designated "AB". Designate another trunk group between the two as "via". Place all but two trunks out of service in the Primary Route.</p> <p>Multiple -via-reroute. Provision the Origination Node (ON) (switch under test) with a Direct, Secondary and 2 "via" Routes to the Destination Node (DN). Configure originating office designated as "A" and destination as "B". Configure trunk group between the two designated "AB". Designate two trunk group between the two as "via". Place all but two trunks out of service in the Primary Route and 'via' routes.</p> <p>IRR. Provision the Origination Node (ON) (switch under test) with a Direct and Secondary Routes to the Destination Node (DN). Configure IRR such that it bypasses direct route,</p>	<p>Place two PRIORITY calls from ON to DN.</p> <p>Provision the ON (switch under test) for Method II Route Selection for calls above ROUTINE (MFS Switches ONLY)</p> <p>Place two ROUTINE calls from the ON to DN. Place a third ROUTINE call from ON to DN. Place third ROUTINE call on hook Place two PRIORITY calls from ON to DN.</p> <p>Place a third PRIORITY call from ON to DN. Place all instruments on hook Repeat for all trunk types.</p> <p>4. Reroute (RR) a) Single-via-reroute. Place two ROUTINE calls from the ON to DN. Place a third ROUTINE call from ON to DN. Place all instruments on hook b) Multiple-via-reroute. Place two ROUTINE calls from the ON to DN. Place two more ROUTINE call from ON to DN.</p> <p>Place two more ROUTINE call from ON to DN Place all instruments on hook c) IRR. Place ROUTINE call from the ON to DN</p>	<p>Both calls completed over the Primary Route. Y/N Call completes over the third route, skipping the second route. Y/N Both PRIORITY calls preempt the Routine calls on the Direct Route. Y/N Call completes over the third route, skipping the second route. Y/N</p> <p>4. RR. a) Single-via Both calls completed over the Primary Route. Y/N Call completes over the "via" route, skipping the second route. Y/N b) Multiple-via Both calls completed over the Primary Route. Y/N Call completes over the 1st "via" route, skipping the second route. Y/N Call completes over the 2nd "via" route, skipping the second route. Y/N c) IRR call completes over IRR route not direct. Y/N</p> <table border="1" data-bbox="1434 1084 1982 1198"> <tr> <td></td> <td>T1 SS7</td> <td>E1 SS7</td> <td>T1 CAS</td> <td>E1 CAS</td> <td>T1 PRI</td> <td>E1 PRI</td> </tr> <tr> <td>RR</td> <td>Y/N</td> <td>Y/N</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Code Control</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	RR	Y/N	Y/N	NA	NA	NA	NA	Code Control	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
	T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI																	
RR	Y/N	Y/N	NA	NA	NA	NA																	
Code Control	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																	
Notes:																							

Table E-3.9. Network Management Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																																							
G c o n t i n u e d	NM Controls (continued)	<p>Code Controls.</p> <p>1. Code Gapping Control on 3 to 10 digit destination code. Verify that range for call gap is 6 per minute to 12 per hour Invoke code gap at rate of 6 per min. Use call loader to verify only 6 calls (below FLASH) passed to DN. Verify all FLASH and FLASH OVERRIDE exempt and is passed to DN. Repeat for all trunk types.</p> <p>Total Office Manual Control Removal – Request/Response.</p> <p>1. Verify that CANT, CANF, SKIP and RR can be removed as a group on a total office basis. 2. Code controls can be removed on a total office basis.</p> <p>Notes:</p>	<p>1. Call gap. Range variable. Y/N Code restricts access to DN at 6 calls/min. Y/N FLASH/FLASH OVERRIDE exempt Y/N</p> <table border="1"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>Code Gap</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> <p>1. Controls removed. Y/N 2. Controls removed. Y/N</p>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	Code Gap	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																									
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	Code Gap			Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																																	
Requirement: TS, MFS & EOS	Reference: GSCR Sect. 9.7																																									
Configure Trunk types between Origination Node (SUT) and Destination Node. Configure call loader with mixture of precedence calls to include FLASH and FLASH OVERRIDE.																																										
H	Remote Access:	<p>From the OMT:</p> <p>1. Verify access to the SUT. 2. Input commands. 3. Query switch database 4. Request ad-hoc reports.</p> <p>Repeat for remote ADIMSS network.</p> <p>Notes:</p>	<p>OMT:</p> <p>1. Access granted. Y/N Switch prompt or GUI provided. Y/N 2. Commands entered. Y/N 3. Database updated. Y/N 4. Reports generated. Y/N</p> <p>Remotely:</p> <p>1. Access granted. Y/N Switch prompt or GUI provided. Y/N 2. Commands entered. Y/N 3. Database updated. Y/N 4. Reports generated. Y/N</p>																																							
	Requirement: TS, MFS, EOS & SMEO			Reference: GSCR Sect. 9.8																																						
	Configure the SUT to allow remote access from a OMT or from ADIMSS. Configure the SUT to allow access via a simulated remote ADIMSS network.																																									
<p>Legend:</p> <table> <tbody> <tr> <td>ACC - Automatic Congestion Control</td> <td>EOS - End Office Switch</td> <td>SILC - Selective Incoming Load Controls</td> </tr> <tr> <td>ADIMSS - Advanced DSN Integrated Management Support System</td> <td>ESP - Essential Services Protection</td> <td>SMEO - Small End Office</td> </tr> <tr> <td>AMA - Automated Message Accounting</td> <td>GSCR - Generic Switching Center Requirements</td> <td>SNMP - Simple Network Management Protocol</td> </tr> <tr> <td>Async. - Asynchronous</td> <td>GUI - Graphical User Interface</td> <td>SS7 - Signaling System 7</td> </tr> <tr> <td>CAS - Channel Associated Signaling</td> <td>ISDN - Integrated Services Digital Network</td> <td>SUT - System Under Test</td> </tr> <tr> <td>CANF - Cancel From</td> <td>Min - Minutes</td> <td>Sync. - Synchronous</td> </tr> <tr> <td>CANT - Cancel To</td> <td>MFS - Multifunction Switch</td> <td>T1 - American Transmission Standard (1.544 Megabits per second)</td> </tr> <tr> <td>CCS - 100 Call Seconds</td> <td>N - No</td> <td>TCP/IP - Transmission Control Protocol/Internet Protocol</td> </tr> <tr> <td>CDR - Call Detail Record</td> <td>NM - Network Management</td> <td>TRE - Trunk Reservation</td> </tr> <tr> <td>CLLI - Common Language Location Identifier</td> <td>OMT - Onboard Management Terminal</td> <td>TP - Test Procedure</td> </tr> <tr> <td>DN - Destination Node</td> <td>ON - Origination Node</td> <td>TS - Tandem Switch</td> </tr> <tr> <td>E! - European Transmission Standard (2.048 Mbps)</td> <td>PRI - Primary Rate Interface</td> <td>Y - Yes</td> </tr> <tr> <td>EA - Emergency Announcement</td> <td>RR - Reroute</td> <td></td> </tr> </tbody> </table>				ACC - Automatic Congestion Control	EOS - End Office Switch	SILC - Selective Incoming Load Controls	ADIMSS - Advanced DSN Integrated Management Support System	ESP - Essential Services Protection	SMEO - Small End Office	AMA - Automated Message Accounting	GSCR - Generic Switching Center Requirements	SNMP - Simple Network Management Protocol	Async. - Asynchronous	GUI - Graphical User Interface	SS7 - Signaling System 7	CAS - Channel Associated Signaling	ISDN - Integrated Services Digital Network	SUT - System Under Test	CANF - Cancel From	Min - Minutes	Sync. - Synchronous	CANT - Cancel To	MFS - Multifunction Switch	T1 - American Transmission Standard (1.544 Megabits per second)	CCS - 100 Call Seconds	N - No	TCP/IP - Transmission Control Protocol/Internet Protocol	CDR - Call Detail Record	NM - Network Management	TRE - Trunk Reservation	CLLI - Common Language Location Identifier	OMT - Onboard Management Terminal	TP - Test Procedure	DN - Destination Node	ON - Origination Node	TS - Tandem Switch	E! - European Transmission Standard (2.048 Mbps)	PRI - Primary Rate Interface	Y - Yes	EA - Emergency Announcement	RR - Reroute	
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Table E-3.10. ISDN Services Test Procedures

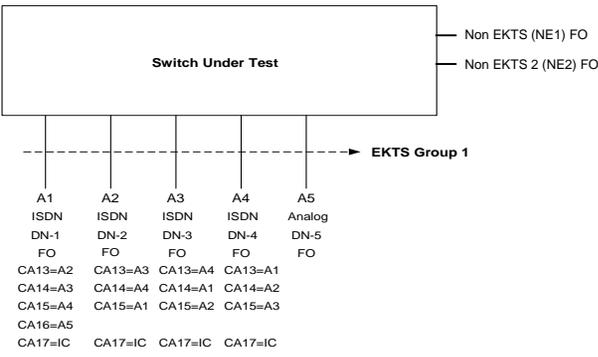
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																								
A	<p>EKTS:</p> <p>Requirement: Conditional</p> <p>Reference: GSCR Sect. 10</p>	<p>Multiple DNs:</p> <ol style="list-style-type: none"> 1. Create four EKTS subscribers (Terminals A1 – A4) 2. Assign each subscriber to the CENTREX Group 1 with FO precedence capabilities 3. Originate a call from each EKTS Terminal to another subscriber. Verify speech and the first call appearance of each terminal is busy. 4. Place a call from a non-EKTS Terminal to each EKTS subscriber. Verify that the call rings on the 1st call appearance at each Terminal. 5. Answer and verify speech. 6. Repeat Steps a-e using each precedence level <p>7. Assign the remaining subscribers to the other accesses. Assign call appearances as follows:</p> <p style="margin-left: 40px;">A1 A2 A3 A4 A2 A3 A4 A1 A3 A4 A1 A2 A4 A1 A2 A3</p> <ol style="list-style-type: none"> 8. Make a Routine call from Terminal A1 to Terminal A2. Verify the LEDs associated with the call appearances from A1 and A2 are lit on terminals A3 and A4. Repeat steps for each phone to verify call handling on all call appearances. 9. Make a Priority call from Terminal A1 to Terminal A2. Verify the LEDs associated with the call appearances from A1 and A2 are lit on terminals A3 and A4. Repeat steps for each phone to verify call handling on all call appearances. 10. Repeat above procedure for each precedence level. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Four EKTS Subscribers created. Y/N 2. Each subscriber assigned FO. Y/N 3. Calls complete on 1st Call Appearance. Y/N 4. Calls complete on 1st Call Appearance. Y/N 5. Calls complete as required. Y/N 6. Precedence levels: <table border="1" data-bbox="1436 527 1900 576"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> 7. Call appearances assigned Y/N 8. Calls show up on other phones. Y/N 9. Calls show up on other phones. Y/N 10. Calls show up on other phones. <table border="1" data-bbox="1436 1015 1900 1063"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> 		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N
				R	P	I	F	FO																			
	Y/N	Y/N	Y/N	Y/N	Y/N																						
	R	P	I	F	FO																						
	Y/N	Y/N	Y/N	Y/N	Y/N																						
 <p>Provision 4 ISDN BRI phones as members of an EKTS group as shown in the test setup diagram.</p>																											

Table E-3.10. ISDN Services Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																									
<p>B</p>	<p>EKTS (continued)</p>	<p>Analog Member of an EKTS group:</p>																										
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">Requirement: Conditional</td> <td style="width:20%;">Reference: GSCR Sect. 10</td> </tr> </table> <div style="text-align: center; margin-top: 10px;"> </div> <p style="margin-top: 20px;">Provision an analog subscriber as A5 and assign to the EKTS group as shown in the test setup diagram.</p>	Requirement: Conditional	Reference: GSCR Sect. 10	<ol style="list-style-type: none"> 1. Originate a call from A5 to terminal A2. Verify associated call appearance on Terminal A1 lights when analog member is busy. 2. Bridge onto existing call from Terminal A1 using A5 call appearance and verify speech. Hang up all phones. 3. Originate a call from A5 call appearance on Terminal A1 to Terminal A2. Answer the call at Terminal A2 and verify speech. 4. Go off hook at analog phone A5 and verify that you can bridge into the call. Hang up all phones. 5. Place a Priority call from NE1 to A5 and answer at A5. Repeat above for each precedence level. 6. Place a Priority call from NE1 to A5 and answer at A1 using A5 call appearance. Repeat above for each precedence level. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Call appearance for A5 lights on A1. Y/N 2. A1 able to bridge into call. Y/N 3. Call Completes. Y/N 4. A5 able to bridge into call. Y/N 5. Precedence ring and call completes. <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <td></td> <td>R</td> <td>P</td> <td>I</td> <td>F</td> <td>FO</td> </tr> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table> <ol style="list-style-type: none"> 6. Precedence ring and call completes. <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <td></td> <td>R</td> <td>P</td> <td>I</td> <td>F</td> <td>FO</td> </tr> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N
Requirement: Conditional	Reference: GSCR Sect. 10																											
	R	P	I	F	FO																							
	Y/N	Y/N	Y/N	Y/N	Y/N																							
	R	P	I	F	FO																							
	Y/N	Y/N	Y/N	Y/N	Y/N																							
<p>C</p>	<p>EKTS (continued)</p>	<p>Multiple DN appearances per call/call handling.</p>																										
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Table E-3.10. ISDN Services Test Procedures (continued)

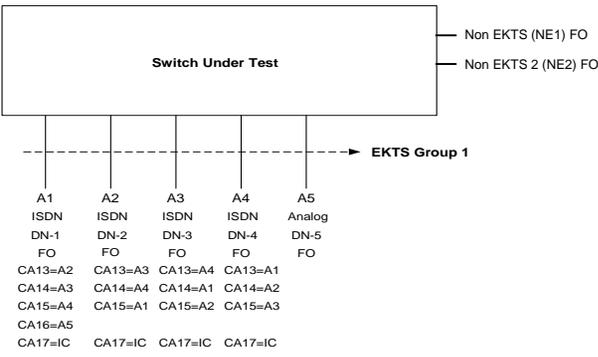
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																							
D	<p>EKTS (continued)</p>	<p>Hold and Retrieve:</p>																								
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Requirement: Conditional</td> <td style="width: 50%;">Reference: GSCR Sect.10</td> </tr> </table>	Requirement: Conditional	Reference: GSCR Sect.10	<p>1. Initiate a Routine call from Terminal A1 to subscriber NE1. Verify conversation and call appearance call handling on other Terminals.</p>	<p>1. Call completes. Y/N</p>																					
Requirement: Conditional	Reference: GSCR Sect.10																									
	<p>2. At Terminal A1 place the NE1 call on hold.</p> <p>3. Retrieve the held call from another EKTS Terminal A3 and verify speech. Hang up all calls.</p> <p>4. Initiate a Priority call from Terminal A1 to subscriber NE1. Verify conversation and call appearance call handling on other Terminals.</p> <p>5. At Terminal A1 place the NE1 call on hold.</p> <p>6. Retrieve the held call from another EKTS Terminal (A3) and verify speech. Hang up all calls</p> <p>7. Repeat d to f above for all remaining precedence levels</p> <p>8. Initiate a Routine call from Terminal NE1 to A1. Verify conversation and call appearance call handling on other Terminals.</p> <p>9. At Terminal A1 place the NE1 call on hold.</p> <p>10. Retrieve the held call from another EKTS Terminal A3 and verify speech. Hang up all calls</p> <p>11. Initiate a Priority call from Terminal NE1 a non-EKTS subscriber) to A1. Verify conversation and call appearance call handling on other Terminals.</p> <p>12. At Terminal A1 place the NE1 call on hold.</p> <p>13. Retrieve the held call from another EKTS Terminal A3 and verify speech.</p> <p>14. Repeat k-m above for all remaining precedence levels.</p>	<p>2. Call placed on hold. Y/N</p> <p>3. A3 is able to converse with NE1. Y/N</p> <p>4. Precedence ring and Call completes. Y/N</p> <p>5. Call placed on hold. Y/N</p> <p>6. A3 is able to converse with NE1. Y/N</p> <p>7. Precedence ring and Call completes. A3 is able to converse with NE1.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td></td> <td>R</td> <td>P</td> <td>I</td> <td>F</td> <td>FO</td> </tr> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table> <p>8. Call completes. Y/N</p> <p>9. Call placed on hold. Y/N</p> <p>10. A3 is able to converse with NE1. Y/N</p> <p>11. Precedence ring and Call completes. Y/N</p> <p>12. Precedence ring and Call completes. Y/N</p> <p>13. A3 is able to converse with NE1. Y/N</p> <p>14. Precedence ring and Call completes. A3 is able to converse with NE1.</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td></td> <td>R</td> <td>P</td> <td>I</td> <td>F</td> <td>FO</td> </tr> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N
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	Y/N	Y/N	Y/N	Y/N	Y/N																					
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	Y/N	Y/N	Y/N	Y/N	Y/N																					
	<p>Notes:</p>																									

Table E-3.10. ISDN Services Test Procedures (continued)

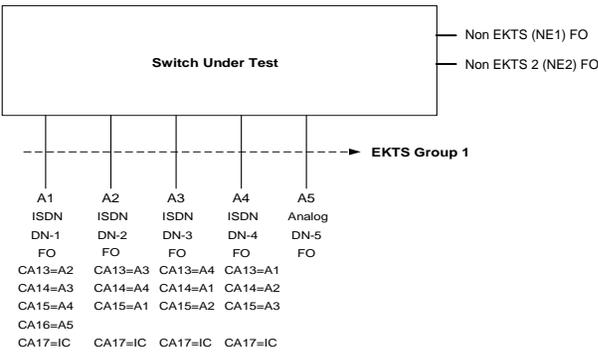
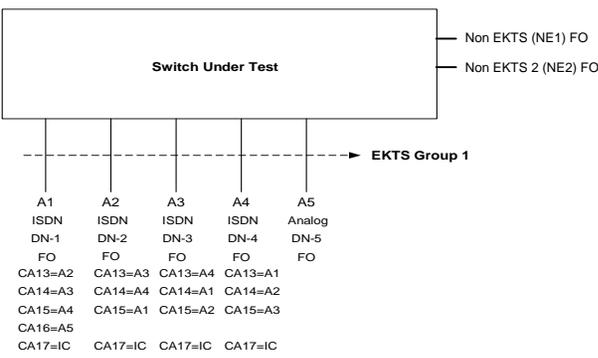
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)												
E	<p>EKTS (continued)</p> <p>Requirement: Conditional Reference: GSCR Sect. 10</p>  <p>Non EKTS (NE1) FO Non EKTS 2 (NE2) FO</p> <p>→ EKTS Group 1</p> <p>A1 ISDN DN-1 FO CA13=A2 CA14=A3 CA15=A4 CA16=A5 CA17=IC A2 ISDN DN-2 FO CA13=A3 CA14=A4 CA15=A1 CA17=IC A3 ISDN DN-3 FO CA13=A4 CA14=A1 CA15=A2 CA17=IC A4 ISDN DN-4 FO CA13=A1 CA14=A2 CA15=A3 A5 Analog DN-5 FO</p>	<p>Bridging/DN-bridging.</p> <ol style="list-style-type: none"> 1. Initiate a Routine call to the A4 from subscriber NE1. Answer at A1 and verify speech. 2. From A2 press the A4 call appearance and verify A2 has bridged into the conference. 3. Go on hook at A2. 4. From A4 go off-hook. Verify that A4 has bridged into the call. Hang up all phones 5. Initiate a Priority call to the A4 from subscriber NE1. Answer at A2 and verify speech. 6. From A3 press the A4 call appearance and verify A3 has bridged into the conference. 7. Go on hook at A3. 8. Repeat e-g above for all remaining precedence levels. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Call completes. Y/N 2. A2 able to bridge in to call. Y/N 3. Calls end. Y/N 4. A4 able to bridge in to call. Y/N 5. Precedence ring and call completes Y/N 6. A3 able to bridge in to call. Y/N 7. Calls end. Y/N 8. Precedence ring and Call completes. All calls able to bridge Y/N <table border="1" data-bbox="1438 600 1900 649"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N
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F	<p>EKTS (continued)</p> <p>Requirement: Conditional Reference: GSCR Sect. 10</p>  <p>Non EKTS (NE1) FO Non EKTS 2 (NE2) FO</p> <p>→ EKTS Group 1</p> <p>A1 ISDN DN-1 FO CA13=A2 CA14=A3 CA15=A4 CA16=A5 CA17=IC A2 ISDN DN-2 FO CA13=A3 CA14=A4 CA15=A1 CA17=IC A3 ISDN DN-3 FO CA13=A4 CA14=A1 CA15=A2 CA17=IC A4 ISDN DN-4 FO CA13=A1 CA14=A2 CA15=A3 A5 Analog DN-5 FO</p>	<p>Intercom Calling:</p> <ol style="list-style-type: none"> 1. Originate a call from A1 to A2 dialing associated intercom number. Answer the call at A2. Verify calling and called intercom numbers on Terminals are displayed and that all other call appearance indicators are unchanged. Hang up phones 2. Verify calls and Terminal displays for remaining terminals. Hang up phones. 3. Originate a call from A1 to A2 dialing associated intercom number. Answer the call at Terminal A2. Verify calling and called intercom numbers on Terminals are displayed and that all other call appearance indicators are unchanged. 4. While the users are involved in Intercom Calling, place a Priority call to A1 from NE1 and answer the call. 5. Hang up A1 and NE1. 6. Repeat a-e above for all remaining levels of precedence. <p>Notes:</p>	<ol style="list-style-type: none"> 1. Call completes. Y/N Call appearances correct. Y/N 2. Calls complete. Y/N Call appearances correct. Y/N 3. Call completes. Y/N Call appearances correct. Y/N 4. Precedence ring and call completes. Y/N A2 is placed on hold. Y/N 5. A1 return to intercom call with A2. Y/N 6. Precedence ring and call completes. Y/N A2 is placed on hold. Y/N <table border="1" data-bbox="1438 1242 1900 1291"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N
		R	P	I	F	FO									
	Y/N	Y/N	Y/N	Y/N	Y/N										
<p>This test creates an intercom group with the three Terminals (A1 to A3), and assigns intercom number call appearances on the Terminals. In this test the numbers 11 through 13 are used for Terminals A1 through A3, and being assigned to intercom group 1.</p>		<p>Notes:</p>													

Table E-3.10. ISDN Services Test Procedures (continued)

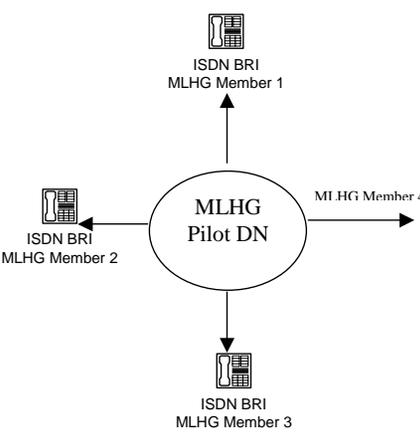
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)											
G	<p>EKTS (continued)</p> <p>Requirement: Conditional</p> <p>Reference: GSCR Sect. 10</p>	<p>Membership in a Multiline hunt group:</p> <p>1. Place a Routine call to the pilot directory number (DN#) of the MLHG. Depending upon where the last origination or termination occurred in the hunt group, one of the MLHG members will ring. Repeat the above procedure to insure all members of the MLHG are alerted.</p> <p>2. Repeat the above steps for each level of precedence.</p>	<p>1. All ISDN BRI members of the MLHG ring The EKTS members DN# rings on all members of the EKTS. All Calls Completed Y/N</p> <p>2. All ISDN BRI members of the MLHG ring The EKTS members DN# rings on all members of the EKTS. All Calls Completed Y/N</p>											
	<p>Create an EKTS DN as a member of a Multiline Hunt Group (MLHG) as depicted in the configuration below. NE1 and NE2 are subscribers outside of the MLHG, both with Flash-Override precedence. The other three members of the MLHG are single line BRI instruments.</p>  <p>The diagram shows a central circle labeled 'MLHG Pilot DN'. Four arrows point outwards from this circle to four separate phone icons. Each icon is labeled 'ISDN BRI' and 'MLHG Member' followed by a number (1, 2, 3, or 4).</p>	<p>3. Place a Routine call to the MLHG pilot DN# from NE1 and don't answer the call. Place a Priority call to the MLHG pilot DN. Answer the precedence call. Verify that the higher precedence call was connected and Routine call is still ringing. Hang up all phones</p> <p>4. Repeat above step at increasing levels of precedence. Verify that highest precedence call is offered and can be answered while lower precedence call is ringing. Hang up all phones.</p> <p>5. Initiate a routine call from a non-MLHG and EKTS member to the MLHG Pilot DN#. Answer the call and verify speech. Do not hang up</p> <p>6. Repeat above step until all four lines in the hunt group are busy with routine calls.</p> <p>7. Initiate a Priority call from NE1 to MLHG Pilot DN#. Verify that a member of the MLHG receives preemption notification and then receives distinctive ringing or is notified of the correct precedence via the terminal display and the call can be answered. Verify speech then hang up the Priority Call and reestablish the Routine call by calling the MLHG pilot DN#.</p> <p>8. Repeat above step for all remaining precedence levels</p> <p>9. Initiate a Priority call from NE1 to MLHG Pilot DN#. Verify that the MLHG member receives distinctive ringing and is notified of the correct precedence via the terminal display. Do not answer the call. Verify that the unanswered precedence call is diverted to the Alternate DN/ATTN. Hang up NE1.</p> <p>10. Repeat above step for all remaining precedence levels.</p> <p>11. Initiate a Priority call from NE1 to the Pilot DN# for the MLHG. Answer the call and verify speech. Do not hang up.</p> <p>12. Initiate a second Priority from NE2 to the Pilot DN# and let it ring. Verify that the call is routed to the Alternate DN#/ATTN. Hang up all phones</p> <p>Notes:</p>	<p>3. Precedence Call Completed. Y/N</p> <p>4. Precedence Call Completed. Y/N</p> <p>5. Call Completes. Y/N</p> <p>6. All lines Busy. Y/N</p> <p>7. Preemption Notification is received Precedence display correct. Call completes. Y/N</p> <p>8. Distinctive Ring. Precedence display correct. Call completes. Y/N</p> <p>9. Distinctive Ring. Precedence display correct. Call diverts. Y/N</p> <p>10. Distinctive Ring. Precedence display correct. Call diverts. Y/N</p> <p>11. Call completes. Y/N</p> <p>12. Call diverts. Y/N</p> <table border="1" data-bbox="1438 446 1900 503"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N
	R	P	I	F	FO									
	Y/N	Y/N	Y/N	Y/N	Y/N									

Table E-3.10. ISDN Services Test Procedures (continued)

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)	
G c o n t i n u e d	EKTS (continued)		Membership in a Multiline hunt group (continued):		
	Requirement: Conditional	Reference: GSCR Sect. 10	13. Place a Routine call from a non-EKTS and MLHG member to the MLHG pilot DN#. Answer the call. 14. Place a Flash call from a non-EKTS and MLHG member to the MLHG pilot DN#. Answer the call.	13. MLHG member rings Call completes.	Y/N Y/N
			15. Place a Immediate call from a non EKTS and MLHG member to the MLHG pilot DN#. Answer the call. 16. Place a Priority call from a non-EKTS and MLHG member to the MLHG pilot DN#. Answer the call. 17. Place a Flash-Override call from a non-EKTS and MLHG member to the MLHG pilot DN#. Answer the call. 18. Place a Flash-Override call from a non-EKTS and MLHG member to the MLHG pilot DN#. Answer the call. Hang up all phones Notes:	14. MLHG member receives distinctive Ring. Precedence display correct. Call diverts. 15. MLHG member receives distinctive Ring. Precedence display correct. Call diverts. 16. MLHG member receives distinctive Ring. Precedence display correct. Call diverts. 17. Routine call is preempted. Preemption Notification is received 18. Flash-Override Call is completed Priority call is preempted	Y/N Y/N Y/N Y/N Y/N Y/N Y/N Y/N Y/N Y/N
H	EKTS (continued)		Abbreviated and delayed ringing:		
	Requirement: Conditional	Reference: GSCR Sect. 10	1. For Terminal A1, change the alerting patterns for the DN# call appearance for Terminal A2 to Abbreviated. 2. For Terminal A1, change the alerting patterns for the DN# call appearance for Terminal A3 to Delayed.	1. Alerting pattern changed.	Y/N Y/N
	The available alert patterns are: ABBR Station will ring for a limited time. DELAYED Time elapse prior to station ringing. NORMAL Normal ringing Normal is the default.		3. Originate a call to the DN# assigned to Terminal A2 and verify the Abbreviated ring pattern on Terminal A1. Do not answer the call. Allow the Abbreviated ring to continue until the Timer expires and ringing begins at Terminal A3, assigned as Delayed. 4. After 60 seconds answer the phone and verify ringing stops. Hang up phones. Notes:	3. A1 gets abbreviated ring. Call diverts to A3. 4. Call Completes.	Y/N Y/N Y/N

Table E-3.10. ISDN Services Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																					
I	EKTS (continued)	Automatic and/or manual bridged call exclusion: 1. Assign the Manual Bridge Exclusion feature to Terminal A3. 2. Manually activate the Bridge Exclusion feature on Terminal A3. 3. Place a call from Terminal A3 to NE1. (Note this feature may be activated prior to the call or after the call is completed). 4. Attempt to bridge onto call from another EKTS terminal. Verify there isn't a speech path. Hang up all phones 5. Assign the Automatic Bridge Exclusion to Terminal A3. Place a call from Terminal A3 to NE1. 6. Attempt to bridge onto call from another EKTS Terminal. Verify there isn't a speech path. Hang up all phones. 7. Manually deactivate the Automatic Bridged Call Exclusion feature on Terminal A3. Place a call from Terminal A3 to NE1. (Note this feature may be activated prior to the call or after the call is completed). 8. Attempt to bridge onto call from another EKTS terminal. Hang up all phones 9. Repeat above procedures using each precedence level. Hang up all phones	1. Feature assigned. Y/N 2. Feature activated. Y/N 3. Call completed Y/N 4. Bridge attempt denied. Y/N 5. Feature assigned. Y/N Call completed Y/N 6. Bridge attempt denied. Y/N 7. Feature deactivated. Y/N Call completes. Y/N 8. Bridge attempt successful Y/N 9. Precedences: <table border="1" data-bbox="1436 699 1902 743"> <thead> <tr> <th></th> <th>R</th> <th>P</th> <th>I</th> <th>F</th> <th>FO</th> </tr> </thead> <tbody> <tr> <td></td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		R	P	I	F	FO		Y/N	Y/N	Y/N	Y/N	Y/N									
				R	P	I	F	FO																
	Y/N	Y/N	Y/N	Y/N	Y/N																			
Requirement: Conditional Reference: GSCR Sect. 10	The Automatic Bridged Call Exclusion capability is a form of privacy that allows an EKTS user to specify that no other EKTS user can bridge onto calls. On a call-by-call basis, an EKTS user can disable this capability and, thus allow bridging to occur. The Manual Bridged Call Exclusion capability is a form of privacy that is the opposite of the Automatic Bridged Call Exclusion capability. EKTS users can bridge onto calls unless an EKTS user invokes privacy and, thus, restricts bridging	Notes:																						
Legend: <table border="0"> <tr> <td>ABBR - Abbreviated Ring</td> <td>FO - FLASH OVERRIDE Precedence Level</td> <td>NE - Non-EKTS</td> </tr> <tr> <td>BRI - Basic Rate Interface</td> <td>GSCR - Generic Switching Center Requirements</td> <td>ON - Origination Node</td> </tr> <tr> <td>CA - Call appearance</td> <td>I - IMMEDIATE Precedence Level</td> <td>P - PRIORITY Precedence Level</td> </tr> <tr> <td>DN - Destination Node</td> <td>ISDN - Integrated Services Digital Network</td> <td>R - ROUTINE Precedence level</td> </tr> <tr> <td>DN# - Directory Number</td> <td>LED - Light Emitting Diode</td> <td>TP - Test Procedure</td> </tr> <tr> <td>EKTS - Electronic Key Telephone Service</td> <td>MLHG - Multiline Hunt Group</td> <td>Y - Yes</td> </tr> <tr> <td>F - FLASH Precedence Level</td> <td>N - No</td> <td></td> </tr> </table>				ABBR - Abbreviated Ring	FO - FLASH OVERRIDE Precedence Level	NE - Non-EKTS	BRI - Basic Rate Interface	GSCR - Generic Switching Center Requirements	ON - Origination Node	CA - Call appearance	I - IMMEDIATE Precedence Level	P - PRIORITY Precedence Level	DN - Destination Node	ISDN - Integrated Services Digital Network	R - ROUTINE Precedence level	DN# - Directory Number	LED - Light Emitting Diode	TP - Test Procedure	EKTS - Electronic Key Telephone Service	MLHG - Multiline Hunt Group	Y - Yes	F - FLASH Precedence Level	N - No	
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F - FLASH Precedence Level	N - No																							

Table E-3.11. Synchronization Test Procedures

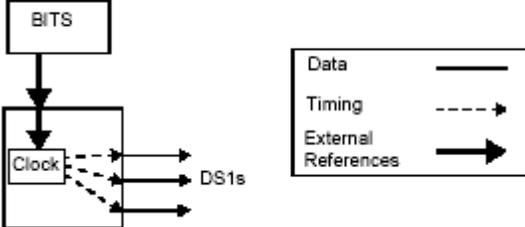
Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																					
A	<p>External Line timing mode:</p> <p>Requirement: TS, MFS & EOS Reference: GSCR Sect. 11.1.1.1</p> <p>Configure SUT to draw timing off of external BITS clock.</p> 	<p>1. SUTs shall accept two timing references and shall select one of the references as the active reference. This source of timing shall be used to time all transmitted synchronous signals SUT must be able to accept external DS1 reference signals in which the payload bits are not set to all-ones.</p> <p>2. Conduct a 1 hour BERT test between ON and DN.</p> <p>Notes:</p>	<p>1. Two references supported. Y/N Timing able to be distributed. Y/N Non all-ones timing supported. Y/N</p> <p>2. Less than 1 error in 10⁹ bits Y/N</p>																					
	<p>Configure a T1 trunk group between ON (SUT) and DN.</p>																							
B	<p>Line Timing Mode:</p> <p>Requirement: TS, MFS, EOS, SMEO, & PBX1 Reference: GSCR Sect. 11.1.1.2</p> <p>Configure SUT to draw timing off of incoming line for all line types appropriate to the switch type.</p> 	<p>1. SUT shall have the capability to directly derive timing from a terminating synchronous signal. This source of timing shall be used to time all transmitted synchronous signals.</p> <p>2. SUT shall provide the user the capability to provision any of its synchronous interfaces as a synchronization source.</p> <p>3. With the exception of those containing stratum 4 clocks (SMEO and PBX1), SUTs that support line timing shall provide the capability for the user to provision more than one synchronous interface (if present) as a synchronization reference (e.g., one DS1 interface as "reference A" and another as "reference B").</p> <p>4. Conduct a 1 hour BERT test between ON and DN.</p> <p>Notes:</p>	<p>1.</p> <table border="1" data-bbox="1438 755 1984 868"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>Line Timing</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BER</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table> <p>2. SUT can draw timing from any synchronous Interface. Y/N</p> <p>3. SUT supports multiple references. Y/N</p> <p>4. Less than 1 error in 10⁹ bits Y/N</p>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
			T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI																
Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
<p>Configure a T1 trunk group between ON (SUT) and DN.</p>																								

Table E-3.11. Synchronization Test Procedures (continued)

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)																					
C	Internal Clock Requirements (Stratum 3):	1. Conduct a 1 hour BERT test between ON and DN. Notes:	1. Less than 1 error in 10 ⁹ bits Y/N																					
	Requirement: TS, MFS, EOS Reference: GSCR Sect. 11.1.2.1		<table border="1"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>Line Timing</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BER</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
			T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI																
Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
Configure SUT to provide timing off of internal clock.																								
D	Internal Clock Requirements (Stratum 4):	1. Conduct a 1 hour BERT test between ON and DN. Notes:	1. Less than 1 error in 10 ⁹ bits Y/N																					
	Requirement: SMEO, PBX1 & PBX2 Reference: GSCR Sect. 11.1.2.2		<table border="1"> <thead> <tr> <th></th> <th>T1 SS7</th> <th>E1 SS7</th> <th>T1 CAS</th> <th>E1 CAS</th> <th>T1 PRI</th> <th>E1 PRI</th> </tr> </thead> <tbody> <tr> <td>Line Timing</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> <tr> <td>BER</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> <td>Y/N</td> </tr> </tbody> </table>		T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI	Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
			T1 SS7	E1 SS7	T1 CAS	E1 CAS	T1 PRI	E1 PRI																
Line Timing	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
BER	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N																		
Configure SUT to provide timing off of internal clock.																								
E	Synchronization Performance	1. Place a ROUTINE STE call from ONA to DNA and go Secure (don't hang up) 2. Place a FLASH call from ONB to DNB (don't hang up) 3. Disconnect the Primary timing reference. 4. SUT reverts to internal timing 5. Monitor the SAGE 930a for a 24-hour period and verify that there are no more than 255 slips. 6. Place several calls between ONC and DNC during 24 hour period 7. Reconnect Primary timing reference and wait until timing reverts to normal mode and is stable. 8. Verify ONA and ONB are still connected and that there is no degradation of service. 9. Monitor the SAGE 930a for a 24-hour period and verify that there is no more than 1 timing slip. Notes:	1. Call completes Y/N																					
	Requirement: TS, MFS, EOS Reference: GSCR Sect. 11.2		2. Call completes Y/N																					
	Configure SUT to provide timing off of an external Stratum 1 clock. Connect the Sage 930A to the reference source and an SS7 T1 to the Destination Node. Set the 930A to measure timing slips. Establish 3 phones on the SUT (ONA, ONB, ONC) and 3 phones on the destination node (DNA, DNB,DNC). ONA and DNA shall be STEs. Insure the STEs are routed over the SS7 link and calls are in the Secure mode.		3. No calls lost and SUT provides report (within 10 sec) that primary source is lost. Y/N																					
		4. SUT provides message/alarm that it is on internal timing. Y/N																						
		5. No more than 255 slips in 24 hr period. Y/N																						
		6. Calls connect and no degradation in service Y/N																						
		7. SUT provides report (within 10 sec) that primary source is reestablished. Y/N																						
		8. Calls connected and no degradation. Y/N																						
		9. No more than 1 timing slip Y/N																						
Legend: BER - Bit Error Rate Mbps - Megabits per second SMEO - Small End Office BITS - Building Integrated Timing Supply MFS - Multifunction Switch SS7 - Signaling System 7 DN - Destination Node MLPP - Multi-Level Precedence and Preemption SUT - System Under Test DS1 - Digital system 1 (1.544 Mbps) N - No T1 - American Transmission Standard (1.544 Mbps) E1 - European Transmission standard (2.948 Mbps) ON - Origination Node TP - Test Procedure EOS - End Office Switch PBX1 - Private Branch Exchange Type 1 (MLPP) TS - Tandem Switch GSCR - Generic Switching Center Requirements PBX2 - Private Branch Exchange Type 2 (non-MLPP) Y - Yes																								

Table E-3.12. Reliability Test Procedures

Ref #	Configuration and/or Diagram		Test Procedure(s)	Expected Result(s)
A	Reliability:		1. Verify that the Sponsor/Vendor has provided a reliability model for the SUT.	1. SUT meets GR-512-CORE reliability. Y/N
	Requirement: TS, MFS, EOS & SMEO	Reference: GSCR Sect. 12.1		
			Notes:	
B	Reliability:		1. Verify that the Sponsor/Vendor has provided a reliability model for the PBX1.	1. SUT meets GR-512-CORE reliability. Y/N
	Requirement: PBX1	Reference: GSCR Sect. 12.2		
			Notes:	
Legend: EOS - End Office Switch GSCR - Generic Switching Center Requirements MFS - Multifunction Switch N - No PBX1 - Private Branch Exchange Type 1 (MLPP) SMEO - Small End Office SUT - System Under Test TP - Test Procedure TS - Tandem Switch Y - Yes				

Table E-3.13. Security Test Procedures

Ref #	Configuration and/or Diagram	Test Procedure(s)	Expected Result(s)
A	Security:	See IATP.	See IATP.
	Requirement: TS, MFS, EOS, SMEO & PBX1		
	See IATP.	Notes:	
<p>Legend: EOS - End Office Switch GSCR - Generic Switching Center Requirements IATP - Information Assurance test Plan MFS - Multifunction Switch PBX1 - Private Branch Exchange Type 1 (MLPP) SMEO - Small End Office TP - Test Procedure TS - Tandem Switch</p>			

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