4. FOS Release B Infrastructure Test Cases

Table 4-1. Release B Infrastructure Test Cases (1 of 2)

Hardware:
·HRD-2000B EOC Hardware
Database:
·DBS-2000B Database Ingest/Validation & ODF Generation
·DBS-2010B Operational Data Backup/Restore
·DBS-2020B Database Reporting
·DBS-2030B Database Editing
System Management:
·SYS-2000B FOS Server and User Station Startup and Shutdown
·SYS-2030B Failure Recovery and Status Monitoring
FUI:
·FUI-2000B Screen Management
·FUI-2020B User Customization
·FUI-2025B Data Mover
·FUI-2030B Display Builder - Alphanumerics
·FUI-2040B ECL Directives
·FUI-2050B PROC Builder
·FUI-2090B User Authentication & Display
·FUI-2100B Room Builder
·FUI-2110B Display Builder - Graphs & Tables
·FUI-2115B Display Builder - Schematics
·FUI-2120B Document Reader
·FUI-2130B E-Mail
·FUI-2140B Quick Message Generator
·FUI-2150B On-line HELP
Events:
·EVT-2000B Event Message Display & Event Graphical Timeline
·EVT-2010B Event Message Filtering
·EVT-2020B Event History Request & Reporting
·EVT-2030B Alarm Message Handling
PAS:
·PAS-2000B Activity Definer Tool (Definition & Validation)
·PAS-2010B BAP Definer Tool
·PAS-2020B General Scheduler
·PAS-2030B EOC Timeline Management

Table 4-1. Release B Infrastructure Test Cases (2 of 2)

·PAS-2050B Activity Constraint Definitions
CMD:
·CMD-2000B Command Authorization
TLM:
·TLM-2100B Info Window
Analysis:
·ANA-2010B Standing Order Manager
·ANA-2120B Analysis Request Management
OPR:
OPR-2000B Functional Requirements Analysis

Hardware Test Procedure

Test Case No: HRD-2000B

Test Configuration: See Appendix G

Test Support: Manufacturing specifications for equipment in the EOC.

Test Case Description:

This test verifies that all FOS hardware components located at the EOC at GSFC meet requirement specifications. In most cases, inspection of hardware documentation (i.e. hardware specifications, drawings, etc.) is used to verify hardware requirements. In limited cases, when documentation is lacking, verification will be performed via demonstration.

Success Criteria:

This test is considered successful when all FOS hardware components located at the EOC meet performance and standards specified by the aggregate set of hardware requirements.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	**<u>Real-time Server:</u>** ***(This step requires the assistance of the local Systems Administrator.)*** Have the Systems Administrator logon to the local systems operations console. At the prompt the Systems Administrator will enter %:**console -c3**	Icons representing each Real-time server will be displayed	
2.	Double click on the a Real-time server icon	The file displayed will confirm connection.	

3.	***(This step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, theSystems Administrator will enter %:**df -kt advfs** Add up the blocks.	Each Real-time Server disk drive will provide a minimum of 4 gigabytes and are upgradeable to 8 gigabytes. puma = 6 gigabytes bobcat = 9 gigabytes leopard = 6 gigabytes	
4.	***(This step requires the assistance of the local Systems Administrator.)*** Note: Device names are rz0 and rz1 for puma and leopard. Device names are rz2 and rz3 for bobcat. At the systems operations console prompt, the Systems Administrator will enter %:**disklabel -e** ***devicename*** View the output file	The output file will contain disk drive information displaying the disk drives are identical and are of equal capacity. RZ29B disks	
5.	***(This step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, the Systems Administrator will enter: %:**uname -a** Compare the UNIX revision number against vendor documentation (digital Software Product Description, Dec Vs 3.2 (OSF1)).	The UNIX revision number should match the POSIX standard. POSIX compliant IEEE 1003.1 operating system (UNIX). POSIX compliant IEEE 1003.4 real-time extension	

6.	***(The server portion of this step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, the Systems Administrator will enter %:**mount**	Note: The Ops Lan uses Decsafe and will display nfs server name opsraid. The Support Lan will display server name supraid. View the output to verify the RAID is accessible. puma = ops bobcat = sup leopard = ops	
7.	Repeat steps 1 - 6 two more times, in order to verify all three Real-time Servers.		
8.	**<u>Log off the systems console:</u>** The System Administrator will log off the systems console		
9.	Inspect each Real-time Server to verify it supports 2 FDDI interface cards. Real-time servers are: <u>Ops Lan</u> <u>Support Lan</u> puma bobcat leopard	Each Real-time Server will contain 2 FDDI interface cards.	
10.	Reference vendor documentation (digital AlphaServer InfoCenter paper) to ensure the Real-time Servers are up gradeable/expandable with additional quantities and types of peripherals.	The vendor documentation (digital AlphaServer InfoCenter paper) for the Real-time Servers will ensure the expandablity of the servers.	

11.	Reference vendor documentation (digital AlphaServer InfoCenter paper) to ensure the Real-time Servers are upgradeable/replaceable within the same product family without the need for any perturbation of any software or replacement of any peripheral or attached component.	The vendor documentation (digital AlphaServer InfoCenter paper) for the Real-time Servers will ensure the upgradeable/replaceablity of the servers.	
12.	Inspect each Real-time Server to ensure that it will support one CD-ROM drive.	Each Real-time Server contains one CD-ROM drive.	
13.	Reference vendor documentation (AlphaServer 1000 Rackmount and Cabinet Systems) to ensure that each Real-time Server CD-ROM drive will accept a 600MB CD.	Each Real-time Server will accept a 600MB CD.	
14.	Inspect each Real-time Server to ensure that each contains one tape drive. Reference vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (specifications)) to ensure the tape drives are identical in functionality.	Each Real-time Server will contain on tape drive that contains the following characteristics: 4mm Digital Audio Tape (DAT) format Accept industry standard magnetic 4mm DAT (i.e. DDS-90) Data transfer rate of 400KB/sec	
15.	Reference vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (product description)) ensure each Real-time Server tape drive is upgradeable/replaceable within the same product family.	The vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (product description)) will ensure tape drive compatablity and expandability.	

16.	**<u>Real-time Server AM1-Specific:</u>** Inspect the EOC area to ensure that it contains the following: Three (3) Real-time Servers configured with: Six fixed Disks (two per Real-time Server) Three Tape Drives (one per Real-time Server) Three 600MB CD-ROM Drives (one per Real-time Server) Three Operator Consoles (one per Real-time Server) Three System Printers (one per Real-time Server) Three Timing Interfaces (one per Real-time Server)	The EOC shall provide for AM-1 the following: Three (3) Real-time Servers configured with: Six fixed Disks (two per Real-time Server) Three Tape Drives (one per Real-time Server) Three 600MB CD-ROM Drives (one per Real-time Server) Three Operator Consoles (one per Real-time Server) Three System Printers (one per Real-time Server) Three Timing Interfaces (one per Real-time Server)	
17.	**<u>Data Server</u>** ***(This step requires the assistance of the local Systems Administrator).*** Have the Systems Administrator logon to the local systems operations console. At the prompt the Systems Administrator will enter %:**console -c3**	Icons representing each Data server will be displayed.	
18.	Double click on the a Data server icon	The file displayed will confirm connection.	

19.	***(This step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, the Systems Administrator will enter %:**df -kt advfs** Add up the blocks.	Each Data Server disk drive will provide a minimum of 4 gigabytes and are upgradeable to 8 gigabytes. jaguar = 8 gigabytes panther = 9 gigabytes tiger = 6 gigabytes	
20.	***(This step requires the assistance of the local Systems Administrator.)*** Note: Device names are rz0 and rz1 for jaguar and tiger. Device names are rz2 and rz3 for panther. At the systems operations console prompt, the Systems Administrator will enter %:**disklabel -e** ***devicename*** View the output file	The output file will contain disk drive information displaying the disk drives are identical and are of equal capacity. RZ29B disks	
21.	***(This step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, the Systems Administrator will enter %:**uname -a** Compare the UNIX revision number against the vendor documentation (digital Software Product Description, Dec Vs 3.2 (OSF1)).	The UNIX revision number should match the POSIX standard. POSIX compliant IEEE 1003.1 operating system (UNIX).	

22.	***(The server portion of this step requires the assistance of the local Systems Administrator).*** At the systems operations console prompt, the Systems Administrator will enter %:**mount**	**Note:** The Ops Lan uses Decsafe and will display nfs server named opsraid. The Support Lan will display server name supraid. View the output to verify the RAID is accessible.	
23.	Repeat steps 17 - 22 two more times, in order to verify all three Data Servers.		
24.	**<u>Log off the systems console:</u>** The System Administrator will log off the systems console		
25.	Inspect each Data Server to verify it supports 2 FDDI interface cards. <u>Ops Lan</u> <u>Support Lan</u> jaguar panther tiger	Each Data Server will contain 2 FDDI interface cards.	
26.	Reference vendor documentation (digital AlphaServer Info Center paper) to ensure the Data Servers are up gradeable/expandable with additional quantities and types of peripherals.	The vendor documentation (digital AlphaServer Info Center paper) for the Data Servers will ensure the expandablity of the servers.	

27.	Reference vendor documentation (digital AlphaServer Info Center paper) to ensure the Data Servers are upgradeable/replaceable within the same product family without the need for any perturbation of any software or replacement of any peripheral or attached component.	The vendor documentation (digital AlphaServer Info Center paper) for the Data Servers will ensure the servers are upgradeable/replaceable.	
28.	Inspect each Data Server to ensure that it will support one CD-ROM drive.	Each Data Server contains one CD-ROM drive.	
29.	Reference vendor documentation (AlphaServer 1000 Rackmount and Cabinet Systems) to ensure that each Data Server CD-ROM drive will accept a 600MB CD and that the CD ROM drives are upgradeable and replaceable with in the product family.	Each Data Server will accept a 600MB CD and will be upgradeable and replaceable with in the same product family.	
30.	Inspect each Data Server to ensure that each contains one tape drive. Reference vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (specifications)) to ensure the tape drives are identical in functionality.	Each Data Server will contain on tape drive that contains the following characteristics: 4mm Digital Audio Tape (DAT) format Accept industry standard magnetic 4mm DAT (i.e. DDS-90) Data transfer rate of 400KB/sec	
31.	Reference vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (product description)) ensure each Data Server tape drive is upgradeable/replaceable within the same product family.	The vendor documentation (TLZ07 Cassette Tape Drive and Autoloader Owner Manual (product description)) will ensure tape drive compatablity and expandability.	

32.	Inspect the EOC area to ensure that it contains the following: Three (3) Data Servers configured with: Six fixed Disks (two per Data Server) Three Tape Drives (one per Data Server) Three 600MB CD-ROM Drives (one per Data Server) Three Operator Consoles (one per Data Server)	The EOC shall provide for AM-1 the following: Three (3) Data Servers configured with: Six fixed Disks (two per Data Server) Three Tape Drives (one per Real-time Server) Three 600MB CD-ROM Drives (one per Data Server) Three Operator Consoles (one per Data Server)	
33.	**RAID:** ***(This step requires the assistance of the local Systems Administrator.)*** Have the Systems Administrator logon to the local systems operations console. At the prompt the Systems Administrator will enter %:**console -c3**	Icons representing each Raid will be displayed.	

34.	***(This step requires the assistance of the local Systems Administrator.)*** At the systems operations console prompt, the Systems Administrator will enter %:**uname -a** Compare the UNIX revision number against the the vendor documentation (digital Software Product Description, Dec Vs 3.2 (OSF1)).	The UNIX revision number should match the POSIX standard. POSIX compliant IEEE 1003.1 operating system (UNIX).	
35.	***(This step requires the assistance of the local Systems Administrator.)*** Note: Device names are rz0 and rz17 for cheetah. Device names are rz0 for lion. Device names are re0 and rz3 for cougar. At the systems operations console prompt, the Systems Administrator will enter %:**disklabel -e** ***devicename***	The RAID drives are identical and have equal capacity and storage provided shall be a minimum of 40 usable gigabytes.	
36.	Repeat steps 34 - 35 two more times, in order to verify all three Data Servers.		
37.	Log off the console		
38.	Reference vendor documentation (Storage Works RAID Array 200 Subsystems Controller Installation and Standalone Configuration Utility Users Guide) to verify the RAID will support RAID level-5: striping with interleaved parity	The RAID will support RAID level-5 striping with interleaved parity.	

39.	Reference vendor documentation (digital AlhpaServer Infor Center paper) to verify the RAID Disks are Hot Swappable	The RAID Disks are Hot Swappable.	
40.	Reference vendor documentation (Storage Works Solutions Shelf and SBB Users Guide) to verify the following components are Hot Swappable: power supplies	The following components are Hot Swappable: power supplies,	
41.	Inspect the RAID unit to verify it is network attached or hosted to a minimum of 2 front-end processors.	The RAID unit is network attached or hosted to a minimum of 2 front-end processors. opslan = 2 support lan = 1	
42.	Reference vendor documentation (Quantum Atlas High-end Storage Hard Disk Drives) to verify the RAID unit has a data transfer rate of 10MB per second.	The RAID unit has a data transfer rate of 10MB per second.	
43.	Inspect the EOC to verify that one Data Storage Unit supporting RAID level 5 has been provided. ***(This step requires the assistance of the local Systems Administrator.)*** Have the System Administrator check the **/var/adm/message** file on the raid.	One Data Storage Unit supporting RAID level 5 has been provided.	

44.	**<u>User Stations:</u>** Note: The steps for User Station verification will be repeated 36 times (once for each User Station). Inspect the EOC to verify that there are (36) User Stations. Log in to each workstation and ensure that any workstation can perform any EOC subsystem function.	There are (36) User Stations in the EOC. Each workstation will be able to perform any EOC subsystem function.	
45.	Login to each User Station. Open a terminal window: Place the mouse pointer on the screen and activate the pull down Menu by pressing the right most mouse button. Select **Programs** from the pull down menu. Select **Command Tool** to bring up a terminal window.	A terminal window will be opened.	
46.	At the prompt enter %: **uname -a** Compare the UNIX revision number against the vendor documentation (Solaris 2.5 Software Environment)	Each User Station processor has the following capacity and functional requirements: POSIX compliant IEEE 1003.1 operating system (UNIX)	

47.	***(This step requires the assistance of the local Systems Administrator.)*** Have the System Administrator login as root At the prompt enter %:**format**	The output file will display the 2GB of internal disk space.	
48.	At the prompt enter %:**mount**	View the output to verify the RAID is accessible. <u>Ops Lan</u> <u>Support Lan</u> opsraid supraid	
49.	Inspect each User Station to ensure it supports an AUI 802.3 ethernet connection.	Each User Station supports an AUI 802.3 ethernet connection.	
50.	At the prompt enter %:**man ascii**	The complete ASCII character set will be displayed.	
51.	Reference the vender documentation (ULTRA 1's Color Monitor Guide) to verify a minimum of 1024 pixel x 864 lines resolution display	A minimum of 1024 pixel x 864 lines resolution display	
52.	Click the Right most mouse button and hold the button down. Select Properties	The Properties window will be displayed.	
53.	Select Fore ground Click on Color.	A color pallet will be displayed showing a minimum 16 colors.	

54.	Bring up an Xterm window Press the Right most mouse button Move pointer to **Programs** Select **Xterm** Release mouse button	The default setting is 80 characters by 24 lines.	
55.	Place the mouse pointer on the screen and activate the pull down Menu by pressing the right most mouse button. Select **Programs** from the pull down menu. Select **Command Tool** to bring up a terminal window. (Repeat this step 3 times)	A minimum of four screen pages will be displayed.	
56.	**Start the User Station.** Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
57.	In the ECL directive box in the Control Window enter: >**PAGE Header**	The display page called Header will appear.	
58.	Stand six feet away from the screen.	Display pages are readable from any location along the width of the workstation and up to a distance of 6 feet from the screen	
59.	Swivel and tilt User Station base	The User Station will feature a integral swivel/tilt base.	

60.	Inspect each User Station for easy access brightness, contrast and power controls.	The brightness, contrast and power controls within easy reach.	
61.	Inspect each User Station to insure it can be physically moved within the EOC.	Each User Station can be physically relocateable within the operations center	
62.	Reference the color monitor users guide.	A minimum of 17 inch diagonal non-glare screen is provided with each User Station.	
63.	Inspect each User Station for the following: One QWERTY keyboard which is: Detachable and cabled for movement on a desk-top style workstation area Provides a minimum of 12 programmable function keys	Each User Station contains the following: One QWERTY keyboard which is: Detachable and cabled for movement on a desk-top style workstation area Provide a minimum of 12 programmable function keys	
64.	Inspect each User Station to verify one cursor pointing device (mouse) is provided.	One cursor pointing device (mouse) is provided for each User Station.	
65.	Reference vendor documentation (Ultra 1 Product Overview) to ensure each User Station is upgradeable/replaceable within the same product family.	Each User Station is upgradeable/replaceable within the same product family.	

66.	Logon to each of the User Stations using different logins and passwords. Start the Data Server on one User Station. Reference Test Case SYS2000B -- FOS Server Startup. Start the Real-Time Server on one User Station. Reference Test Case SYS2000B -- FOS Server Startup. Start the User Station on the remaining User Stations. Reference Test Case SYS2010B -- User Station Startup and Authentication.	All EOC workstations and processors are capable of operating simultaneously and independently.	
67.	**LAN:** ***(This step requires the assistance of the local Systems Administrator.)*** **Note:** For security reasons, exact steps have been omitted. The Systems Administrator will perform the necessary steps.	The EOC LAN is able to perform filtering based on network address to control access for external and internal interfaces. Template 1&2 Rule 3 & 8	
68.	***(This step requires the assistance of the local Systems Administrator.)*** **Note**: For security reasons, exact steps have been omitted. The Systems Administrator will perform the necessary steps.	The EOC LAN is able to perform filtering based on TCP socket number to control access for external and internal interfaces. Template 88 & 89 Rule 1 - 8	

69.	***(This step requires the assistance of the local Systems Administrator.)*** **Note:** For security reasons, exact steps have been omitted. The Systems Administrator will perform the necessary steps.	The EOC LAN is able to perform filtering based on protocol to control access for external and internal interfaces. Template 90 Rule 2	
70.	Reference vendor documentation (Basic FDDI Networks and Cabletron Systems User Guide) to verify that the local area network supports 100Mbps bandwidth (FDDI) and 10 Mbps baseband (Ethernet) (different segments) as described by the IEEE 802.3 standard (Verified by vendor Certification), and it provides the following: Data Integrity - The network checks for transmission errors. Redundancy - Redundant connectivity prevents a single point of failure. Expandability - The network must be able to support up to 100 connections.	The local area network supports 100Mbps bandwidth (FDDI) and 10 Mbps baseband (Ethernet) (different segments) as described by the IEEE 802.3 standard (Verified by vendor Certification), and it provides: Data Integrity - The network checks for transmission errors. Redundancy - Redundant connectivity prevents a single point of failure. Expandability - The network must be able to support up to 100 connections.	
71.	Review EOC documentation (GSFC EOC - Release B HW/Network diagram) to verify a redundant Local Area Network has been provided.	The GSFC EOC - Release B HW/Network diagram displays redundant Local Area Network in the EOC.	
72.	Inspect the EOC to verify there are a minimum of two network time servers located at the EOC.	There are a minimum of two network time servers located at the EOC.	

73.	Reference vendor documentation (TYMSERVE 2000 Manual) to verify the time server supports the network time protocol (NTP).	The time server supports the network time protocol (NTP).	
74.	Inspect the GFE time format against the network time server to verify the time reference for each network time server is a GFE NASA-36 bit serial time code signal.	The time reference for each network time server is a GFE NASA-36 bit serial time code signal.	
75.	Inspect the EOC to verify that it is designed with system test features to enable checkout and test with minimum impact on operations, including test points, and permanently installed test equipment.	The EOC is designed with system test features to enable checkout and test with minimum impact on operations, including test points, and permanently installed test equipment. The test equipment provided includes: One communications line monitor to store and display up to 10,000 bytes of data sent and received over any of the communications lines at rates of 10MB/sec to 100MB/sec, and supporting the protocols used by FOS. One Local Area Network analyzer	
76.	Inspect the EOC to verify there shall be a minimum of two time code displays located at the EOC.	There shall be a minimum of two time code displays located at the EOC.	
77.	Inspect the EOC to verify there shall be at least one up counter, one down counter and universal time code display.	There shall be at least one up counter, one down counter and universal time code display.	

78.	**<u>Real-time Server, Data Server & RAID Cabinets (H9A10):</u>** Reference vendor documentation (digital H9A10 (600mm) Cabinet Installation/Owners Guide) to verify the cabinets for a RETMA standard 19 inches of equipment mounting width.	The cabinets for a RETMA standard 19 inches of equipment mounting width.	
79.	Reference vendor documentation (digital H9A10 (600mm) Cabinet Installation/Owners Guide) to verify the cabinet for a minimum of 54" and a maximum of 72" tall, with standard 19" rack mounts.	The cabinet for a minimum of 54" and a maximum of 72" tall, with standard 19" rack mounts.	
80.	Reference vendor documentation (digital H9A10 (600mm) Cabinet Installation/Owners Guide) to verify the cabinets for a minimum of 24 inches of equipment mounting depth.	The cabinets for a minimum of 24 inches of equipment mounting depth.	
81.	Measure the cabinet to verify it provides a minimum of 34 vertical Units (1 Unit = 1.75") of equipment mounting height.	The cabinet provides a minimum of 34 vertical Units (1 Unit = 1.75") of equipment mounting height.	
82.	Inspect to verify that each cabinet provides earth continuity for all components within.	Each cabinet provides earth continuity for all components within.	
83.	Inspect cabinets for sufficient equipment ventilation	The cabinets shall provide sufficient equipment ventilation.	
84.	Inspect each cabinet for a minimum of one power controller.	Each cabinet provides a minimum of one power controller.	

85.	**<u>Printers:</u>** Logon to a User Station	Access to a User Station is granted	
86.	Bring up Color Chooser to display colors At the prompt enter %:**cd /usr/openwin/bin** %:**colorchooser &**	Color Chooser will be displayed.	
87.	Bring up Snapshot window At the prompt enter %:**snapshot &**	Snapshot window is displayed	
88.	Place the pointer in the Snapshot window and click on the snap button. Move the pointer into the Color Chooser window and click in the window.	A snapshot of the Color Chooser window is taken.	
89.	Place the pointer on the Print button located in the snapshot window, and press and hold the right most mouse button to activate the Printer Options selection box	The Print Options selection box is displayed. Verify the following options are selected: Printer name is set to: **grapeape** (Ops Lan) **bear** (Support Lan) Orientation is set to: **sideways** Position is set to: **center** Scale is set to: **Both** Make sure Monochrome Printer is not selected	

90.	Click on Print button	The video hardcopy device (printer) will print a minimum of 16 colors by printing a 16 color screen.	
91.	Inspect the video hard copy device (printer) to verify it is physically relocatable within the EOC.	The video hard copy device is physically relocatable within the EOC.	
92.	Reference the vendor documentation (HP Color Laser Jet Printer (specifications)) to verify that video hard copy device (printer) is capable of printing 2 pages per minute	The video hard copy device (printer) is capable of printing 2 pages per minute.	
93.	Reference vendor documentation (HP Laser Jet 4M Plus Printer and HP LaserJet 5Si MX) to verify the printers are capable of printing 8 pages per minute.	The printers are capable of printing 8 pages per minute.	
94.	Reference the vendor documentation (Genicom 4490XT specifications) to verify each logging printer is capable of printing a minimum of 1200 lines per minute.	Each logging printer is capable of printing a minimum of 1200 lines per minute.	
95.	Inspect the Line Printer to verify it will support continuous feed paper.	The Line Printer will support continuous feed paper.	
96.	Inspect the EOC and reference vendor documentation (HP Laser Jet 4M Plus Printer, HP Laser Jet 4M Plus Printer, and Genicom 4490XT specifications) to verify that there shall be a minimum of five system printers located in the EOC and that they are functionally identical.	There shall be a minimum of five system printers located in the EOC and they shall be functionally identical.	
97.	Inspect the EOC to verify there shall be a minimum of two logging printers located at the EOC.	There shall be a minimum of two logging printers located at the EOC.	
98.	End of test.		

Database Initialization, PDB Ingest and Validation
Operational Data Base and Operational Data File Generation

Test Case No: DBS 2000B

Test Configuration: See Appendix G

Test Support: EOC startup scripts, and Sybase scripts

Test Description:

This test is designed to verify the DMS capability to support the ingest and validation of command, telemetry, constraint, and activity definition files into the Project Database (PDB), upon receipt of the files from the spacecraft contractor. The test begins with the initialization of the database and associated tables. Once the database is initialized, scripts are invoked to ingest command, telemetry, constraint, and activity definitions files from a dedicated directory location into the unvalidated project database table(s). The test conductor will compare the populated database tables with the definition files received from the spacecraft contractor to ensure the ingest of all files into the Sybase tables.

Once the file ingest is complete, two scripts are invoked to perform the validation of the command, telemetry definition files that reside in the unvalidated database table, constraint, and activity definition files will also reside in the unvalidated database table. Upon completion of the validation scripts, the test conductor verifies that valid definition files are moved from the unvalidated to the validated database table, those definitions that failed the validation process are not moved to the validated database and an error messages describing the reason for validation failure is written to a log file. Following the validation process the operational database and the Operational Database Files (ODFs) are generated. Sample test data containing invalid definition files. The test conductor will ensure those files did not pass validation.

Success Criteria:

The test conductor is able to initialize the database and associated tables. Once the database is initialized, the test conductor is able to ingest the telemetry and command definition files provided by the spacecraft contractor. The definition files are moved from the /fos/am1/test/pdb/input/xxx directory (where xxx = current version of the database) into the Sybase database. Once the database has been populated, the test conductor is able to run DMS scripts to invoke telemetry and command validation. At the conclusion of the validation process, the validate PDB database is populated with the definitions that passed validation error free. Any definitions that fail the validation process will be written to a validation log and are not moved to the validated database. Operational database and ODFs were generated without error. The invalid test records are rejected, and are not moved into the validated database.

Pre-conditions:

• System administrator has created the UNIX "sybase" account and installed the Sybase server and any workstations interfacing to the Sybase server have Open Client installed.

•System administrator created the fos_dba Sybase account by running the "create_fos_dba.sql" script while connected to Sybase under the "sa" account.

•System administrator has edited the "fos_dba_env" unix script to set the FOS_DBA UNAME and PASSWD environment variables.

•The .cshrc file for fostint account(s) have been modified to source "fos_sybsetup" and 'fos_dba_env" to set up the Sybase and int account environment variables.

•There must be a current PDB baseline that contains the latest Pids table.

•Initialize database disk space by running the following script *create_am1_dspace.script.*

•Verify the environment variable is set to the correct Sybase server use echo *$DSQUERY* .

•The Sybase server for the EOC ops LAN is ds1_srvr.

•The Sybase server for the EOC support LAN is ds2_srvr

•Delete all .lis files from the db,.bin/sun_sparc_5-5 and input directories before start of test.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Logon to an EOC workstation		
2.	Drop databases from Sybase **isql -U$UNAME -P$PASSWD** >use master >go >drop database am1_fos_ops, am1_fos_val, am1_fos_unv >go >exit	All three am1 databases will be re-initialized and all the previous records will be removed from all tables	
3.	Initialize the AM1 databases, tables and associated triggers by running the following script from the /fosb/test/am1/db directory % **create_am1_dbs.script >create_am1_dbs.lis**		
4.	Create 50% threshold as follows: **isql -U$UNAME -P$PASSWD<create_50thres.sql**	Return status of 0 for each segment.	
5.	Initialize error messages by running the following script % **create_am1_errmsgs.script**	Return status of 0 for each segment	
6.	Go in Sybase using the Sybase Admin. account (sa) **isql -Usa -$PASSWD**	The sysusermessages table will be updated	

	Password: <ret> **>use master** **>go** **>sp_dboption am1_fos_val”select into/bulkcopy”,true** **>go** **>use am1_fos_val** **>go** **>checkpoint** **>go** **> use am1_fos_val** **> go** > **sp_configure “allow updates”, 1** > **go** > **reconfigure with override** **> go** **> update sysusermessages** **> set langid=0** **>where langid=NULL** > **go** >**sp_configure “allow updates”, 0**	Return status =0 after “dboption”.	

	> **go** > **reconfigure with override** > **go** > **exi**t		
7.	Create the am1 database procedures and associated triggers by running the following scripts from the fdf directory **cd ../fdf** **./cre_fdf_tables.script**	Creating Unvalidated FDF Tables... ...Creation of Unvalidated FDF Tables Complete. Creating Valid FDF Tables... ...Creation of valid FDF Tables Complete. Creating Operational FDF Tables... ...Creation of operational FDF Tables Complete.	

8.	To verify that installation of the database is complete: log in Sybase **isql -U$UNAME -P$PASSWD** **>use am1_fos_val** **>go** **>sp_tables** **>go** **>use am1_fos_unv** **>go** **>sp_tables** **>go** **>use am1_fos_ops** **>go** **>sp_tables** **>go** **>exit** >**cd ../db**	A list of Sybase tables will be output. Return status = 0 Return status = 0 Return status = 0	

9.	Go back into Sybase **isql -U$UNAME -P$PASSWD** **>use am1_fos_val** **>go** **>:r tlm_derived_pdb.sql** **>go** **>use am1_fos_unv** **>go** **>:r tlm_derived_pdb.sql** **>go** **>use am1_fos_ops** **>go** **>:r tlm_derived_pdb.sql** **>go** **>exit**	Allows for table updates	
10.	Create the am1 database procedures and associated triggers by running the following scripts % **create_am1_procs.script>create_am1_procs.lis**	Installation of the database is complete	
11.	Bulk copy the Pids table from the baseline database % **bcp_pids_in.script>bcp_pids_in.lis**		

12.	Bulk copy the event definitions from the fos_events.bcp files **./bcp_events_in.script>bcp_events_in.lis**		
13.	Log in Sybase **isql -U$UNAME -P$PASSWD** > **use am1_fos_unv** > **go** > **select * from cmd_parm_pdb** > **go** > **use am1_fos_val** > **go** > **select * from cmd_desc_pdb** > **go** > **use am1_fos_ops** > **go** > **select * from tlm_desc_pdb** > **go** > **exit**	All three databases have been initialized and the tables in the databases have not been populated. 0 rows selected 0 rows selected 0 rows selected	
14.	From a xterm window % **cd /fosb/test/am1/pdb/input**	The following pdb files maybe be present in the directory. If the database is being reloaded the pdb files needs to be moved the current db version	

	% **ls** If the files are present: % **cd xxx** (where xxx=db version) (eg. PDB12 = 012) % mv * ../ % cd .. % **ls** (check PDB12 dbfiles) % **rmdir xxx** (012)	directory to the input directory and delete the directory mv * ../ tlm_packet_xxx.pdb tlm_dstate_xxx.pdb tlm_parm_xxx.pdb cmd_desc_xxx.pdb tlm_desc_xxx.pdb cmd_fixdata_xxx.pdb tlm_polyconv_xxx.pdb cmd_vardata_xxx.pdb tlm_calcurve_xxx.pdb cmd_verify_xxx.pdb tlm_rylim_xxx.pdb cmd_pstate_xxx.pdb tlm_limsel_xxx.pdb cmd_lgdesc_xxx.pdb tlm_delta_xxx.pdb cmd_parm_xxx.pdb tlm_lgdesc_xxx.pdb	

15.	Initiate FOS Database Utilities through a web browser (i.e., Netscape) in Xterm window: % **netscape** select **FOS Database Utilities (DBA)** under "Bookmarks"	The database html web page is displayed	
16.	Select **PDB Load** option Select **OKAY** Quit Netscape	The PDB files will be ingested in the database. The unvalidated database will be populated. "PDB Load completed"	
17.	Go in Sybase to verify the unvalidated database is populated with telemetry and command definition files **isql -U$UNAME -P$PASSWD** > **use am1_fos_unv** > **go** > **select * from tlm_desc_pdb** > **go** > **select * from cmd_desc_pdb** > **go** > **exit**	The database can be accessed and the unvalidated database is populated with telemetry and command definition files. The tables selected will contain records. Should ***not*** see 0 rows selected. Should ***not*** see 0 rows selected.	

18.	Initiate FOS Database Utilities through a web browser (i.e., Netscape) in Xterm window: % **netscape** select **FOS Database Utilities (DBA)** under "**Bookmarks**" select "**Validate the PDB**" Click **'OKAY'**	Validation process begins and the validated database will be populated with telemetry and command definition files. (About 6 hours.)	
19.	Go in Sybase **isql U$UNAME -P$PASSWD** > **use am1_fos_val** > **go** > **select * from tlm_desc_pdb** > **go** > **select * from cmd_desc_pdb** > **go** > **exit**	All of the command and Telemetry records that successfully passed validation will be placed in the validated database. The command and telemetry tables selected will be populated with records that passed validation.	
20.	***In netscape:*** select "**Validate PDB Constraint definitions only**" Click **'OKAY'**	The validated database will be populated with constraint definitions	

21.	Go back to the DB Utility page in netscape and select **Database Reports** **-Generate Reports** **-PDB Reports** **-PDB Validation Log Report** Click **'Okay'**	A validation log report indicating what records did not pass validation is generated.	
22.	Select the **"Operational Data Generation"** option from the Database Utilities menu.	The operational database will be created for the entire PDB.	
23.	Generate ODFs from the **/bin** directory **BuildOdf.script**	Operational Data Files will be generated for the entire PDB	
24.	Go to the odf directory and list the files in that directory. % **cd /fosb/test/am1/odf** % **ls**	The files contained in the directory are displayed. The Odf files will have the current version of the database as well as the current date.	
25.	Go back to the ODF page select and the **"Generate a new version of Constraints only"**	The Constraint PDB definitions ODFs will be generated	
26.	Go to the odf directory and list the files in that directory. % **cd /fosb/test/am1/odf** % **ls**.	The files contained in the directory are displayed. The ODF constraint files will have the current version of the database as well as the current date.	
27.	End of test.		

Project Database (PDB) & Transaction Logs Backups and Restore Test Procedure

Test Case No: DBS 2010B

Test Configuration: See Appendix G

Test Support: The Sybase backup server must be running. Netscape has been successfully configured and the FOS Database Utilities web site is available. Sybase scripts and html executables.

Test Description:

This test is designed to verify DMS provides the user with the capability to perform backups on the PDB files, and database transaction logs. Initially a backup device must be created. Once the backup device has been made FOS Database backups can be initiated. Backups will be performed using FOS Database Utilities Web pages. When FOS Database backups are complete, verify a backup file exists for each database fosops, fosunv, fosval, master, model, and sysprocs. When Transaction log backups are complete a backup file exists for each database transaction log dblog_fosops, dblog_fosunv, and dblog_fosval. This test is also designed to verify DMS provides the user with the capability to restore any lost or corrupted data in the database and/or the transaction logs through the use of the Sybase "load" utility.

Success Criteria:

The success of this test is based on the user's capability to perform backups and restore of the PDB files, and database transaction logs definition files using the FOS Database Utility Web pages.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Enter a user name and password.	username: password: A desktop appears with a xterm window	
2.	Go to /fosb/test/am1/db/backups and list files % ls -la	The following files displayed: dblog_backup.dat and db_backup.dat	

3.	To verify that a backup file exists for each database in the FOS Database system. % ls -la	The following files displayed: db_fosops_YYMMDDHHMM db_fosunv_YYMMDDHHMM db_fosval_YYMMDDHHMM db_master_YYMMDDHHMM db_model_YYMMDDHHMM db_sysprocs_YYMMDDHHMM	
4.	Initiate FOS Database Utilities (html) through a web browser (Netscape). From the Unix prompt enter: %**netscape**	The Netscape home page is displayed.	
5.	Enter the following http address in the location text box: **http://www.eoc.ecs.nasa.gov/db_util_dba.html**	The FOS Database Utilities home page appears.	
6.	Select the "Backups" option from the FOS Database Utilities page. Select *" Database backups"*	The FOS Database Backups web page appears.	
7.	Select "***Backup FOS Databases***" Click `OKAY' ***Work Around: Delete db_backup.dat & dblog.dat after each backup(check before starting backup to varify they were deleted after last backup to avoid an error)***	Databases are listed as copied and clock time is displayed as each database backup is completed. NCR# ECSed8895	

8.	Select the “Backups” option. Select “Backup FOS Database Logs”	Transaction log is displayed with: Clock Times, kilobytes dumped and output file name and location.	
9.	Verify that a file exists for each database transaction log in the FOS Database system. List the files by entering: % **ls -la /fosb/test/am1/db/backups**	The following files are displayed db_fosops_YYMMDDHHMM db_fosunv_YYMMDDHHMM db_fosval_YYMMDDHHMM	
10.	Perform PDB Database and Transaction Restore		
11.	Go into to Sybase to delete the test table **> isql U$UNAME -P$PASSWD** **> use am1_fos_val** **> go** **> truncate table value_type_cfx** **go** Verify data does not exist **> select * from value_type_cfx** **> go** > **exit**	The table will be deleted. An error is displayed indicating object <table name> does exist.	

12.	Enter the following command to restore the database **cp /fosb/test/am1/db/backups/db_fosval_YYMMDDHHMM /fosb/test/am1/db/backups/db_backup.dat** **cp /fosb/test/am1/db/backups/dblog_fosval_YYMMDDHHMM /fosb/test/am1/db/backups/dblog_backup.dat**	The am1_fos_val database will be copied and database log dump file to the backup device file db_backup.dat The database log dump file will be copied to the backup device file dblog_backup.dat	
13.	Go into Sybase **> isql -U$UNAME -P$PASSWD** **> load database am1_fos_val from db_backup_dev** **> go** Verify test table displays original number of records **select * from value_type_cfx** > **go** > **exit**	The validated database is restored from the am1_fos_val backup device	
14.	End of test.		

Database Reporting Test Procedure

Test Case No: DBS 2020

Test Configuration: See Appendix G

Test Support: COTS software Sybase RDBMS and SQR Reporting. Netscape has been successfully configured and the FOS Database Utilities web site is available. Sybase scripts and HTML executables.

Test Description:

This test is designed to verify DMS provides the user with the capability to generate, view and print PDB, Load Catalog, and FDF reports. The user will be able to produce an entire PDB report or a partial report. The partial report requires the user to specify the Telemetry or Command mnemonic.

Success Criteria:

The success of this test is based on the user's capability to generate, view and print entire or partial PDB, Load Catalog, and FDF reports, using the FOS Database Utility Web pages.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Enter a user name and password.	username: password: A desktop appears with a xterm window	
2.	Initiate FOS Database Utilities (HTML) through a web browser (Netscape). From the Unix prompt enter: %**netscape&**	The Netscape home is displayed.	

3.	Enter the following http address in the location text box **http://www.eoc.ecs.nasa.gov/db_util_dba.html** Press enter	The FOS Database Utilities home page appears.	
4.	Select the “Database Reports” option from the FOS Database Utilities pages.	The FOS Database Reports web page appears with the following options: Generate Reports View Reports Print Reports Return to the Database Utilities screen	
5.	Select “Generate Reports”	The FOS Generate Database Reports home page appears with the following options: PDB Reports Load Catalog Reports FDF Reports Return to the Database Utilities screen	

6.	Select “PDB Reports”.	The FOS Database Reports page appears with the following options: PDB Command Complete Report PDB Command Partial Report (by mnemonic) PDB Command Validation Log Report PDB Telemetry Complete Report PDB Telemetry Partial Report (by mnemonic) PDB Telemetry Validation Log Report PDB Activity Report Return to the Database Reports screen	
7.	Select “PDB Command Validation Log Report” Click “Okay”	The FOS Generate Database Reports page appears with prompt offering the ability to generate the specified report. The complete PDB Command Validation Log Report is generated.	
8.	Select the “PDB Telemetry Report (by mnemonic)” option ***NCR# ECSed07598***	This will produce a partial Telemetry PDB report for the mnemonic specified. A window will appear prompting user to enter a mnemonic.	

9.	Enter the desired Telemetry mnemonic Click “Okay” Click ‘Return to Database Reports screen’ (Note: Repeat the above steps for the Command reports) ***NCR# ECSed07598***	The user will be prompted to generate report. The report will be generated, and the Database Reports page will return to view	
10.	Select “Generate Reports”	The FOS Generate Database Reports home page appears.	
11.	Select ‘Load Catalog Reports’	The Database Reports page is displayed with the following options: RTS Load Catalog Report Table Load Catalog Report Microprocessor Load Catalog Report Flight Software Load Catalog Report Return to Database Reports screen	
12.	Select ‘RTS Load Catalog Report’ Click ‘Okay’	The user will be prompted to generate report. The report will be generated, and the Database Reports page will return to view	

13.	Click the Netscape Navigation button labled “Back” once Then click on the “Return to the Database Peports Screen” option. Select “Generate Reports” Select “FDF Reports” ***NCR# ECSed07952***	A FOS Database Reports page is displayed with the following options FDF Solar Eclipse Shadow Prediction Report FDF Master Oscillator Frequency Report	
14.	Select ‘FDF Solar Eclipse Shadow Prediction Report’ Click ‘Okay’ Click ‘Return to Database Reports screen’ ***NCR# ECSed07952***	The user will be prompted to generate report. The report will be generated, and the Database Reports page will return to view	
15.	Select ‘View Reports’	The View Database Reports page is displayed. The following options are listed PDB Telemetry Reports PDB Command Reports Load Catalog Reports FDF Reports Return to the Database screen	
16.	Select ‘PDB Telemetry Reports’ Choose the desired report to view Click ‘Okay’	A list of the telemetry reports will be displayed.	

17.	Select ‘PDB Command Reports’ Choose the desired report to view Click ‘Okay’	A list of the command reports will be displayed	
18.	Select ‘Load Catalog Reports’ Choose the desired report to view Click ‘Okay’	A list of the command reports will be displayed.	
19.	Select ‘FDF Reports’	A list of the FDF reports will be displayed	
20.	Click ‘Return to Database Reports screen’	The Database page will return to view	
21.	Select ‘Print Reports’	The Print Database Reports page is displayed PDB Telemetry Reports PDB Command Reports Load Catalog Reports FDF Reports Return to the Database screen	
22.	Select ‘Load Catalog Reports’ Choose one of the reports Click ‘Okay’	A list of the Load Catalog reports will be displayed. The user is prompted to confirm request. A hard copy of the report is produced.	
23.	End of test.	End of test.	

Project Database (PDB) Edits Test Procedure

Test Case No: DBS 2030

Test Configuration: See Appendix G

Test Support: A web browser (Netscape) and HTML executables.

Test Description:

This test is designed to verify DMS provides the user with the capability to modify, add, or delete a command, telemetry, or event Project Database (PDB) definitions that reside in the FOS database.

Success Criteria:

The success of this test is based on the user's capability to edit FOS PDB definition files. Using the FOS Database Utility Web pages the user should be able to modify, add, or delete a command, telemetry, or event definition.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Enter a user name and password.	username: password: A desktop appears with a xterm window	
2.	Initiate FOS Database Utilities (HTML) through a web browser (Netscape). From the Unix prompt enter %**netscape**	The Netscape home is displayed.	

3.	Enter the following http address in the location text box **http://elmyra.hitc.com/db_util/db_util_dba.html**	The FOS Database Utilities home page appears.	
4.	Select the “Edits” option to modify, delete or add a Telemetry definition.	The FOS Database Edits web page appears.	
5.	Select “PDB Telemetry Definitions”	The FOS Telemetry Definition Definer web page appears, and all of the available Telemetry PDB records are displayed.	
6.	Choose the desired PDB Record to edit by clicking on the underlined portion of the Telemetry Records name. Enter the requested information in the text fields. Select the Access method Enter password and submit request	An edit window with empty text fields appears. The modification will be made to the database table selected.	
7.	Access table definitions to verify modification was made. Click the Back key on the Tool Bar, go to the Telemetry Definition Definer page and select the desired table.	The FOS Telemetry Definition Definer web page appears. The table selected is displayed.	
8.	Search the Telemetry table for the record that was modified or deleted. Click the Back key to return to the Edits page	If record was deleted it will no longer be in the table. If the record was modified the modification is reflected. The FOS Database Edits page is displayed.	

9.	Select the “Edits” option to modify, delete or add a Command definition	The FOS Command Definition Definer web page appears, and all of the available Command PDB records are displayed.	
10.	Choose the desired PDB Record to edit by clicking on the underlined portion of the Command Records name. Enter the requested information in the text fields. Select the Access method Enter password and submit request	An edit window with empty text fields appears. The modification will be made to the database table selected.	
11.	Search the Command table for the record that was modified or deleted. Click the Back key to return to the Edits page	If record was deleted it will no longer be in the table. If the record was modified the modification is reflected. The FOS Database Edits page is displayed.	
12.	Select the “Edits” option to modify, delete or add an Event definition	The FOS Event Definition Definer web page appears, and all of the available Event PDB records are displayed.	
13.	Choose the desired PDB Record to edit by clicking on the underlined portion of the Event Record name. Enter the requested information in the text fields. Select the Access method Enter password and submit request	An edit window with empty text fields appears. The modification will be made to the database table selected.	
14.	Repeat this process by deleting and editing various records and tables		
15.	End of test.	End of test.	

FOS Server and User Station Startup and Shutdown Test Procedure

Test Case No: SYS-2000B

Test Configuration: See Appendix G

Test Support: Powered-up FOS servers; EOC LAN; two EOC user stations (one is just for remote access to the Data Server and Real-Time Server); FOS Server and User Station startup and shutdown scripts; names and passwords of users who can log in to EOC user stations and FOS applications.

Test Case Description:

This test is designed to verify that the EOC Data Server, Real-Time Server, and user stations can be properly initialized, and brought up to an operational state, and brought down in an orderly manner. Following UNIX login to two EOC user stations, the user remotely logs in to the Data Server and checks that the Sybase Server has been initialized. The user then invokes the Data Server startup script. Following completion of Data Server initialization, the user brings up a User Station via the FOS Login screen. Following completion of User Station initialization, the user brings up the Event Display. The user then invokes the startup script for the Real-Time Server. Following completion of the Real-Time Server initialization, the user shuts down the Real-Time Server, User Station, and Data Server by invoking shutdown scripts. The UNIX 'kill' command is used, as necessary, to terminate any remaining processes. All endpoints are removed. The user closes all windows and terminates the session on each user station.

Success Criteria:

This test is successful when only a valid user can log in to the EOC Data Server, Real Time Server, and User Station; the Data Server, Real-Time Server, and User Station can be properly initialized; the Data Server can be brought up within 5 minutes; and the EOC user station, Real-Time Server, and Data Server can be shut down such that there are no endpoints or FOS processes remaining.

Step Id	Action	Expected Result/Output	Pass/ Fail

1.	User Station #1 #2 -- Log in to the EOC user stations, using UNIX login procedure, by entering an **invalid** name and associated password: Username: **jrubenac** Password: ************	User Station #1 #2 -- The login is rejected and a 'login' prompt comes up	
2.	User Station #1 #2 -- Log in to the EOC user stations, using UNIX login procedure, by entering a **valid** name and associated password: Username: **fostestX** (Note: X = 1, 2, 3, or 4) Password: ********	User Station #1 #2 -- The login is accepted and several cmdtool windows appear	
3.	**Data Server Startup test follows**	(No expected result/output; information only)	
4.	User Station #1 – Remotely log in to the Data Server by entering the following in two cmdtool windows (#1 & #2): %: **rlogin <Data Server>**	User Station #1 -- A UNIX prompt is received from the Data Server.	
5.	User Station #1 -- Verify that the Sybase Server has been initialized on the Data Server by entering the following in cmdtool window #1: %: **isql** Password: **<Return/Enter key>**	User Station #1 -- After the 'isql' command, the user is prompted for a password (implying that the Sybase Server is up). After the Return/Enter key is pressed, a UNIX prompt is received from the Data Server.	

6.	User Station #1 -- In cmdtool window #1, remove all endpoints, on this server and the entire system, that might have remained from the previous session: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **rm_all.sh** %: **rm_all.sh**	User Station #1 -- The message '(0 rows affected)' appears, indicating there are no endpoints on the system.	
7.	User Station #1 -- In cmdtool window #1, view the processes on this server by entering the following: %: **ps -ea** Scan the resulting display for any FOS processes that might have remained from the previous session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...', '/fosb/test/AM1/bin/sun_sparc...', or 'TlmArchiver'.) (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this server by entering the following once again: %: **ps -ea**	User Station #1 -- There are no FOS processes on this server.	

8.	User Station #1 -- Invoke the Data Server startup script by entering the following in cmdtool window #1: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **source DataServerStartup** Note the time when this 'source' command is entered.	User Station #1 -- Data Server startup script messages are displayed in cmdtool window #1	
9.	User Station #1 -- (Note: Execute this step several times starting no later than 2 minutes after the startup script was invoked.) Display the number of endpoints and list of processes on this server by entering the following in cmdtool window #2: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **show.sh** %: **show_all.sh** %: **ps -ea** *(Wait for startup script completion)* Note the time when the Data Server startup script completes.	User Station #1 -- Data Server startup script is complete when the following occur: the 'show.sh' command indicates there are 81 endpoints on the Data Server: '(81 rows affected)'; the 'show_all.sh' command indicates there are 131 endpoints on the system: '(131 rows affected)'; the 'ps -ea' command displays the 'FuClParserServer' process. The Data Server startup script completes within 5 minutes.	

10.	User Station #1 -- With the cursor in cmdtool window #1, click on 'Enter/Return' button on the keyboard	User Station #1 -- The 'Enter/Return' key results in a UNIX prompt without any 'exit' messages. (Note: If no UNIX prompt is received or there is an indication that a process has exited, then the server did not properly initialize. In this case, execute the applicable steps of the 'Data Server Shutdown' test, below, to bring down the Data Server, and consider notifying the Integration Team or System Administrator. Then re-run the 'Data Server Startup' test above.)	
11.	**User Station Startup test follows**	(No expected result/output; information only)	
12.	User Station #2 -- In a cmdtool window, view the processes on this server by entering the following: %: **ps -ax** Scan the resulting display for any FOS processes that might have remained from the previous session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...' or '/fosb/test/AM1/bin/sun_sparc...'. (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this server by entering the following once again: %: **ps -ax**	User Station #2 -- There are no FOS applications processes executing on this user station.	

13.	User Station #2 -- Invoke the FOS Login screen by entering the following in a cmdtool window: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **FOS_LOGIN &**	User Station #2 -- FOS Login screen appears	
14.	User Station #2 -- From the FOS Login screen, enter a **valid** name and associated password: User: **fostestX** Password: ********** Environment: Select 'Operational' (Note: Do *not* click on 'Standalone Mode' button) Click 'OK' button.	User Station #2 -- FOS Login screen closes. The User Roles window comes up.	
15.	User Station #2 -- From the User Roles window, specify the following: Spacecraft: Select 'AM1' Site: Select 'EOC' Roles: Select 'Operations Controller' Click 'OK' button *(Wait for user station startup completion)*	User Station #2 -- A dialog box appears with the message 'Starting User Station. Please Wait', indicating that the user station startup script has not yet completed. User station startup is complete when the Control Window and eight additional (Planning & Scheduling) windows come up. Iconify the eight Planning & Scheduling windows.	

16.	User Station #2 -- Display the number of endpoints for the EOC user station by entering the following in another cmdtool window. %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **show.sh**	User Station #2 -- The number of endpoints is 9.	
17.	User Station #2 -- Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the 'Tools' menu, select 'Event_Display-Global'	User Station #2 -- The 'Tools' menu comes up. The 'Event Display' comes up.	
18.	**Real-Time Server Startup test follows**	(No expected result/output; information only)	
19.	User Station #1 -- Remotely log in to the Real-Time Server by entering the following in two cmdtool windows (#3 & #4): %: **rlogin <Real-Time Server>**	User Station #1 -- A UNIX prompt is received from the Real-Time Server.	

20.	User Station #1 -- In cmdtool window #3, view the processes on this server by entering the following: %: **ps -ea** Scan the resulting display for any FOS processes that might have remained from the previous session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...', '/fosb/test/AM1/bin/sun_sparc...', or 'TlmArchiver'.) (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this server by entering the following once again: %: **ps -ea**	User Station #1 -- There are no FOS processes on this server.	
21.	User Station #1 -- Invoke the Real-Time Server startup script by entering the following in the cmdtool window #3: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **source RealTimeServerStartup**	User Station #1 – Real-Time Server startup script messages are displayed in cmdtool window #3	

22.	User Station #1 -- (Note: Execute this step several times starting no later than 2 minutes after the startup script was invoked.) Display the number of endpoints and list of processes on this server by entering the following in cmdtool window #4: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **show.sh** %: **ps -ea** *(Wait for startup script completion)*	Real-Time Server Startup script is complete when the following occur: User Station #1 -- The 'show.sh' command indicates there are 33 endpoints on the Real-Time Server: '(33 rows affected)'; the 'ps -ea' command displays the 'FrRpRepeater' process. User Station #2 -- The Event Display contains the message 'String 100 was Created'. (Note: If there is an indication that a process has exited, then the server did not properly initialize. In this case, execute the applicable steps of the 'Real-Time Server Shutdown' test, below, to bring down the Real-Time Server, and consider notifying the Integration Team or System Administrator. Then re-run the 'Real-Time Server Startup' test above.)	
23.	**Real-Time Server Shutdown test follows**	(No expected result/output; information only)	
24.	User Station #1 -- Terminate the processes on the Real-Time Server by entering the following in cmdtool window #4: %: **MyKill** *(Wait for MyKill completion)*	User Station #1 -- MyKill is complete when a UNIX prompt is received from the Real-Time Server	

25.	User Station #1 -- In cmdtool window #4, view the processes on this server by entering the following: %: **ps -ea** Scan the resulting display for any FOS processes that might remain from the current session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...', '/fosb/test/AM1/bin/sun_sparc...', or 'TlmArchiver'.) (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this server by entering the following once again: %: **ps -ea**	User Station #1 -- There are no FOS processes on this server.	
26.	User Station #1 -- Remove all endpoints on this server that still remain from the current session by entering the following in cmdtool window #4: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **rm.sh**	User Station #1 -- The message '(0 rows affected)' appears, indicating there are no endpoints on this server.	

27.	User Station #1 -- Exit from the Real-Time Server by entering the following in cmdtool windows #3 & #4. %: **exit**	User Station #1 -- A UNIX prompt is received from the User Station	
28.	User Station #1 -- Close cmdtool windows #3 & #4 by entering the following in these cmdtool windows. %: **exit**	User Station #1 -- The cmdtool windows close	
29.	**User Station Shutdown test follows**	(No expected result/output; information only)	
30.	User Station #2 -- Terminate the processes on the User Station by entering the following in a cmdtool window: %: **MyKill** *(Wait for MyKill completion)*	User Station #2 – MyKill is complete when a UNIX prompt is received from the User Station	

31.	User Station #2 -- In a cmdtool window, view the processes on this user station by entering the following: %: **ps -ax** Scan the resulting display for any FOS processes that might have remained from the previous session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...' or '/fosb/test/AM1/bin/sun_sparc...'.) (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this User Station by entering the following once again: %: **ps -ax**	User Station #2 -- There are no FOS processes on this User Station.	
32.	User Station #2 -- Remove all endpoints on this User Station that still remain from the current session by entering the following in a cmdtool window: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **rm.sh**	User Station #2 -- The message '(0 rows affected)' appears, indicating there are no endpoints on this User Station.	

33.	User Station #2 -- Close all cmdtool windows by entering the following in these cmdtool windows. %: **exit**	User Station #2 -- The cmdtool windows close.	
34.	User Station #2 -- Terminate this session by using the right mouse button to click on 'Exit'	User Station #2 -- The user session terminates and a 'login' prompt appears.	
35.	**Data Server Shutdown test follows**	(No expected result/output; information only)	
36.	User Station #1 -- Terminate all processes on the Data Server by entering the following in cmdtool window #2: %: **MyKill** *(Wait for MyKill completion)*	User Station #1 -- MyKill is complete when a UNIX prompt is received from the Data Server	

37.	User Station #1 -- In cmdtool window #2, view the processes on this server by entering the following: %: **ps -ea** Scan the resulting display for any FOS processes that might remain from the current session. If processes remain, terminate them unconditionally by entering the following: %: **kill -9 <processid ... processid>** (Note: FOS processes begin with 'FxXx...', '/fosb/test/AM1/bin/sun_sparc...', or 'TlmArchiver'.) (Note: Execute all 'kill' commands on the higher-numbered processes first.) Double-check the list of processes on this server by entering the following once again: %: **ps -ea**	User Station #1 -- There are no FOS processes on this server	
38.	User Station #1 -- Remove all endpoints, on this server and the entire system, that still remain from the current session by entering the following in cmdtool window #2: %: **cd /fosb/test/am1/scripts/setup (test** is alias) %: **rm_all.sh** %: **rm_all.sh**	User Station #1 -- The message '(0 rows affected)' appears, indicating there are no endpoints on the system.	

39.	User Station #1 -- Exit from the Data Server by entering the following in cmdtool windows #1 & #2: %: **exit**	User Station #1 -- A UNIX prompt is received from the User Station	
40.	User Station #1 -- Close all cmdtool windows by entering the following in these cmdtool windows. %: **exit**	User Station #1 -- The cmdtool windows close	
41.	User Station #1 -- Terminate this session by using the right mouse button to click on ‘Exit’	User Station #1 -- The user session terminates and a ‘login’ prompt appears.	
42.	End of test.		

Failure Recovery and Status Monitoring Test Procedure

Test Case No: SYS-2030B

Test Configuration: See Appendix G

Test Support: Powered-up FOS servers; Operational LAN and Support LAN; Primary EOC Router and Secondary EOC Router; one EOC user station that can perform Ground Control and Command activities; one EOC user station that can perform command activities; FOS Server startup scripts; PackGen telemetry driver; two ground scripts with 'WAIT' directive; logical string and telemetry display pages.

Test Case Description:

This test is designed to verify that the EOC has no single point of failure for functions associated with real-time operations, can quickly and properly recover from unscheduled software and hardware failures (including those associated with user stations, Real-Time Server, Data Server, File Server, and Network (ECS Router and LAN)), and provides status monitoring information on FOS resources. The FOS Servers, and EOC user stations are initialized, including connection to default string 100. EOC user station failures are induced, resulting in event messages, re-initialization, and switching command authority. Unsuccessful attempts are made to create a backup server for String 100 because either the user does not have Ground Control Authority or the active server is specified as the backup. After taking Ground Control and specifying the proper server, a backup server is successfully created for String 100. Server identification and other system parameters are inspected on a pre-built display page for the proper values. The flow of telemetry is initiated and monitored via pre-built display pages.

A software failure of several key processes is induced on the Real-Time Server, resulting in Ground Script suspension and event messages. An ECL directive is used to initiate a failover from the active to the backup Real-Time Server. Event messages and display pages are inspected for messages on server status and updated ground system information, respectively. The Ground Script is resumed on the new, active Real-Time Server, and the Event Display is checked for associated messages. UNIX commands and Netscape are used to check access to data (files) and the data base.

The user specifies the former active Real-Time Server as the backup server. A hardware failure is induced on the current active Real-Time server, and an event message is generated. The same failover and post-failover check-out steps are executed as previously, i.e., resume executing the Ground Script, inspect display pages, and access files and the data base. Next, a major software failure is induced on the Data Server, but since there is no automated failover processing, the inactive Data Server is initialized using standard Data Server startup procedures. The same post-failure check-out steps are executed as previously. A hardware failure is induced on the Data Server, followed by initialization of the inactive Data Server and post-failure check-out as previously. Then a hardware failure is induced on the File Server, but since there is permanent redundancy, the failover is automatic. The same post-failure check-out steps are executed as previously. Next, the Primary EOC Router is powered off, and a script is executed to switch all applicable hardware to the Secondary EOC Router. The same post-failure check-out steps are executed as previously. Finally a failure is induced on the Operational LAN by powering down the applicable FDDI concentrators and Ethernet switches. A script is executed to switch all applicable hardware to the Support LAN. The same post-failure check-out steps are executed as previously.

Success Criteria:

This test is successful when the EOC has no single point of failure for functions associated with real-time operations; properly recovers from unscheduled software and hardware failures within the required time period, including one minute for real-time resources; and provides users with notifications and status monitoring information on EOC resources.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	**Initialization follows**	(No expected result/output; information only.)	
2.	**<u>EOC user station 1</u>**: Log in to an EOC user station that can perform Ground Control and Command activities, using UNIX login procedure, by entering a valid User Name and Password Username: **<user name>** Password: ************	The login is accepted and two cmdtool windows come up	
3.	**<u>EOC user station 2</u>**: Log in to an EOC user station that can perform Command activities, using UNIX login procedure, by entering User Name and Password that has command authority: Username: **<user name>** Password: **********	The login is accepted and two cmdtool windows come up	

4.	**<u>EOC user station 1</u>**: Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) procedure to bring up the Data Server *(Wait for completion of Data Server startup.)*	Data Server Startup initialization is complete	
5.	**<u>EOC user stations 1 & 2</u>**: Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) test procedure to bring up the EOC user stations *(Wait for completion of user station startup)*	User station startup is complete when the Control Windows come up	
6.	**<u>EOC user station 1</u>**: Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the 'Tools' menu, select 'Event_Display-Global'	The 'Tools' menu comes up, then closes. The 'Event Display' comes up.	

7.	**<u>EOC user station 1</u>**: Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) procedure to bring up the **active** Real-Time Server Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) procedure to bring up the **non-active** Real-Time Server *(These startup scripts can be executed simultaneously. However, wait for completion of both Real-Time Server startups before going to the next step.)*	**Active** Real-Time Server Startup is complete when the following message appears in the Event Display: 'String 100 was created.' Non-active Real-Time Server Startup is complete when the following message appears in the Event Display: 'Successfully performed nameserver register on RMS PtToPt Endpoint'	
8.	**<u>EOC user station 1</u>**: Connect to the default real-time operational string by entering the following in the ECL directive line of the Control Window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** *(Wait for string connection to complete)*	After several minutes, the message 'Successfully connected to string 100' appears on the Event Display	
9.	**EOC User Station 2 Failure and Status Monitoring test follows**	(No expected result/output; information only)	

10.	**<u>EOC user station 2</u>**: Simulate a hardware failure by pulling the EOC user station 2 plug connected to the LAN	Within 3 minutes, an event message appears indicating EOC user station 2 failure. The following message appears in the cmdtool (console) window: 'le0: No carrier - transceiver cable problem?'	
11.	**<u>EOC user station 2</u>**: Re-insert the plug and terminate all FOS processes on the EOC user station 2 by entering the following in a cmdtool window: %: **MyKill** *(Wait until all processes terminate.)* Enter the following in a cmdtool window: %: **rm.sh**	The following message appears in the cmdtool (console) window: 'le0: NFS server supraid OK'. All processes and endpoints are terminated.	
12.	**<u>EOC user station 2</u>**: Execute applicable steps of the 'FOS Server and User Station Startup' (SYS-2000B) test procedure to bring up EOC user station 2 *(Wait for completion of user station startup)*	User station startup is complete when the Control Window appears on EOC user station 2. Within 3 minutes of user station startup completion, an event message appears indicating EOC user station 2 has come back up.	

13.	**<u>EOC user station 2</u>**: Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the 'Tools' menu, select 'Event_Display-Global'	The 'Tools' menu comes up, then closes. The 'Event Display' comes up.	
14.	**<u>EOC user station 2</u>**: Connect to the default real-time operational string by entering the following in the ECL directive line of the Control Window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** *(Wait for string connection to complete before going to the next step)*	After several minutes, the message 'Successfully connected to string 100' appears on the Event Display.	
15.	**EOC User Station 1 Failure During Commanding test follows**	(No expected result/output; information only)	
16.	**<u>EOC user station 1 & 2</u>**: Bring up the Failover-Monitoring display page. In the 'Control Window', click on the 'TlmWins' button. In the 'Tlm Wins' menu, select 'Failover-Monitoring.	The Failover Monitoring page appears	

17.	**<u>EOC user station 1</u>**: Take Ground Control for String 100 by entering the following in the ECL directive line of the Control Window: ECL>**TAKE GROUNDCONTROL STRING=100**	The following event message is displayed: 'Ground Control authority has changed from <EcDNull or user> to <User #1> for String 100'. The current user is shown as the user with command authority (SYS_GRND_CNTRL_ID) on the Failover-Monitoring display page.	
18.	**<u>EOC user station 1</u>**: Take command of String 100 by entering the following in the ECL directive line of the Control Window: ECL>**TAKE COMMAND STRING=100**	The following event message is displayed: 'Command authority has changed from <EcDNull or user> to <User #1> for String 100'. The current user is shown as the user with command authority (SYS_CMD_AUTHOR_ID) on the Failover-Monitoring display page.	
19.	**<u>EOC user station 2</u>**: Print the Failover-Monitoring page just updated by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 1' column.	

20.	**<u>EOC user station 1</u>**: Remotely log in to the Real-Time Server by entering the following in a new cmdtool window. %: **rlogin <RealTimeServer>** At the Real-Time Server prompt, enter the following: %: **cd /fosb/test/am1/scripts/setup** (**test** is alias) %: **setenv SCRIPT RealTimeServer** %: **source FosEnvVars** %: **cd /fosb/test/am1/bin/sun_sparc_5-5** (**bin** is alias) %: **sc AM1 100 Ops**	The remote login to the Real-Time Server is successful. The following message appears repeatedly in the Real-Time Server cmdtool window: 'sc Waiting for messages'	
21.	**<u>EOC user station 1</u>**: Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the the 'Tools' window, select 'Command_Control'	The 'Tools' menu comes up, then closes. A dialog box appears allowing the user to enter String Id=100 and Spacecraft ID=AM1. The Command Control window is displayed.	

22.	**<u>EOC user station 1</u>**: Initiate the tcpdump tool to capture **real-time, operational** commands. In a new cmdtool window, enter the following: %: **tcpdump -v port 20058**	User Station #1 -- The following message appears in the cmdtool window: ‘listening on le0’	
23.	**<u>EOC user station 1</u>**: In the ‘Config’ pull-down menu of the ‘Command Control Window’, set the following: Cmd Verification (CV): Off Tlm Verification (TV): Off In the ‘Command Control Window’, enter the following in the CMD field: **FOP INIT CHECK** Click on ‘Resume’ button Click on ‘Send’ button Click on ‘Suspend’ button	**<u>EOC user station 1</u>**: In the ‘Command Control Window’, the following occurs: The ‘CV’ and ‘TV’ indicators are both ‘Off’. The ‘DIRECTIVE’ column contains ‘FOP INIT CHECK’. After the ‘Resume’ button is clicked, the Send/Cancel options are activated. After the ‘Send’ button is clicked, the STATUS column includes ‘Processed -2 | Sent to subsys’. The following event messages appear: ‘StringMgr process successfully configured’; ‘Protocol Info: FOP INIT with CLCW check successful’.	

24.	**<u>EOC user station 1</u>**: Execute a Ground Script by executing a Ground Script *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
25.	**<u>EOC user station 1</u>**: Simulate a hardware failure by pulling the EOC user station 1 plug connected to the LAN (Ethernet Switch).	The remaining Ground Script commands cannot be executed. Within 1 minute, an event message appears indicating EOC user station 1 failure. 'String 100 Ground Control user station, host name <user station 1>, unavailable' 'String 100 CommandAuthority user station, host name <user station 1>, unavailable' The following message appears in the cmdtool (console) window: 'le0: No carrier - transceiver cable problem?'	
26.	**<u>EOC user station 2</u>**: Take Ground Control for String 100 by entering the following in the ECL directive line of the Control Window: ECL>**TAKE GROUNDCONTROL STRING=100**	The following event message is displayed: 'Ground Control authority has changed from <User #1> to <User #2> for String 100'. The current user is shown as the user with command authority (SYS_GRND_CNTRL_ID) on the Failover-Monitoring display page.	

27.	**<u>EOC user station 2</u>**: Take command authority away from EOC user station 1 by entering the following in the ECL directive line of the Control Window: ECL>**TAKE COMMAND STRING=100**	The following event message is displayed: 'Command authority has changed from <User #1> to <User #2> for String 100'. The current user is shown as the user with command authority (SYS_CMD_AUTHOR_ID) on the Failover-Monitoring display page.	
28.	**<u>EOC user station 2</u>**: Print the Failover-Monitoring page just updated by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 2' column.	
29.	**<u>EOC user station 1</u>**: Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the the 'Tools' window, select 'Command_Control	The 'Tools' menu comes up, then closes. A dialog box appears allowing the user to enter String Id=100 and Spacecraft ID=AM1. The Command Control window is displayed.	
30.	**<u>EOC user station 2</u>**: Resume executing the remainder of the Ground Script.	Event messages are generated for the remaining Ground Script commands following the WAIT command, indicating successful execution Note: The portion of the Ground Script executed prior to the failure should *not* be re-executed, commands not executed prior to the failure should *not* be skipped, and it should *not* be necessary to restart the Ground Script from the beginning.	

31.	**<u>EOC user station 1</u>**: Re-insert the plug and terminate all processes on EOC user station 1 by entering the following in the ECL directive line of the Control Window: %: **MyKill** *(Wait until all processes terminate.)* Enter the following in a cmdtool window: %: **rm.sh**	The cmdtool (console) window contains the message: 'NFS server supraid OK'. All processes and endpoints on EOC user station 1 are terminated	
32.	**<u>EOC user station 1</u>**: Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) test procedure to bring up the EOC user station for FOS applications *(Wait for completion of user station startup)*	User station startup is complete when the Control Window appears on the EOC user station. Within 3 minutes of user station startup completion, an event message appears indicating EOC user station 1 has come back up. 'String 100 Ground Control user station, host name <user station 1>, available' 'String 100 CommandAuthority user station, host name <user station 1>, available'	
33.	**<u>EOC user station 1</u>** Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the 'Tools' menu, select 'Event_Display-Global'	The 'Tools' menu comes up, then closes. The 'Event Display' comes up.	

34.	**<u>EOC user station 1</u>**: Connect to the default real-time operational string by entering the following in the ECL directive line of the Control Window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** *(Wait for string connection to complete before going to the next step)*	After several minutes, the message 'Successfully connected to string 100' appears on the Event Display.	
35.	**<u>EOC user station 1</u>**: Bring up the Failover-Monitoring display page. In the 'Control Window', click on the 'TlmWins' button. In the 'Tlm Wins' menu, select 'Failover-Monitoring.	The Failover Monitoring page appears	
36.	**<u>EOC user station 1</u>**: Take command authority away from EOC user station 2 by entering the following in the ECL directive line of the Control Window: ECL>**TAKE COMMAND STRING=100**	The following event message is displayed: 'Command authority has changed from <User #2> to <User #1> for String 100'. The current user is shown as the user with command authority (SYS_CMD_AUTHOR_ID) on the Failover-Monitoring display page.	

37.	**<u>EOC user station 1</u>**: Invoke the Global Event Display. In the 'Control Window', click on the 'Tools' button. In the the 'Tools' window, select 'Command_Control'	The 'Tools' menu comes up, then closes. A dialog box appears allowing the user to enter String Id=100 and Spacecraft ID=AM1. The Command Control window is displayed.	
38.	**Preparation for Real-Time Server Failover follows**	(No expected result/output; information only)	
39.	**<u>EOC user station 1</u>**: Print the Failover-Monitoring page just updated by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 3' column.	
40.	**<u>EOC user station 1</u>**: Bring up the Telemetry Header page, which displays telemetry packet information. In the 'Control Window', click on the 'TlmWins' button. In the 'Tlm Wins' menu, select 'TLM-2000B'.	The 'Telemetry Window Selection' menu comes up, then closes. The 'TLM-2010B' Housekeeping telemetry display page comes up.	

41.	**<u>EOC user station 2</u>**: Invoke the telemetry driver for the multicast of telemetry packets. In a new cmdtool window, enter the following: %: **cd /fosb/test/am1/scripts/setup** (**test** is alias) %: **setenv SCRIPT UserStation** %: **source FosEnvVars** %:**cd/fosb/test/am1/bin/sun_sparc_5-5** (**bin** is alias) %: **FtPgPackGen**	The following message appears in the window where the FtPgPackGen tool is running: 'Packet Generator is ready to receive directives.'	
42.	**<u>EOC user station 2</u>**: Start the multicast of **real-time/operational/I-channel housekeeping** telemetry packets for processing. Enter the following ECL directives: ECL> **PG CONFIG HOST=225.2.7.00 PORT=20002 APID=2** ECL> **PG STARTDATA APID=2 COUNT=-1** (Note: The IP address and port number is in the file '/fosb/test/am1/config/FoSwConfigData.cnfg'.)	Telemetry values are updated on the 'TLM-2000B' Housekeeping Telemetry display page	

43.	**<u>EOC user station 1</u>**: Print the Failover-Monitoring page just updated by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2060B-1, under the 'Snap 3' column. The same values appear on the Failover-Monitoring page on the EOC user station 3.	
44.	**<u>EOC user station 2</u>**: Try to create a backup logical string on the **non-active** Real-Time Server connected to the Operational LAN by entering the following in the ECL directive line of the Control Window: ECL> **STRING CREATE BACKUP SERVER=2 STRING=100**	The backup string is **not** created (since the user does not have Ground Control authority). The following event message appears: 'User is not the Ground Controller for string 100. User must have Ground Control Authority before requesting this service.'	
45.	**<u>EOC user station 1</u>**: Take Ground Control by entering the following in the ECL directive line of the Control Window: ECL> **TAKE GROUNDCONTROL STRING=100**	The Ground Control privilege is granted, and the following message appears on the Event Display: 'Ground Control Authority has been changed from EcDNull to <user>.' The current user is shown as the Ground Controller (SYS_GRND_CNTRL_ID) on the Failover-Monitoring display page.	
46.	**<u>EOC user station 2</u>**: Try to create a backup logical string on the **active** Real-Time Server by entering the following in the ECL directive line of the Control Window: ECL> **STRING CREATE BACKUP SERVER=1 STRING=100**	The backup string is **not** created (since the active server cannot simultaneously be the backup server), and the following message appears on the Event Display: 'Unable to create Backup String on RTS xxx because active string processing exists on this RTS.'	

47.	**Real-Time Server Software Failover test follows**	(No expected result/output; information only)	
48.	**<u>EOC user station 1</u>**: Create a backup logical string on the **non-active** Real-Time Server by entering the following in the ECL directive line of the Control Window: ECL> **STRING CREATE BACKUP SERVER=2 STRING=100** *(Wait for completion of backup directive before going to the next step.)*	The backup string is created, and the following message appears on the Event Display: 'Successfully created backup processing for string 100.'	
49.	**<u>EOC user station 1</u>**: Print the Failover-Monitoring page by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 4' column.	
50.	**<u>EOC user station 1</u>**: Display the number of endpoints for the **active Real-Time Server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	Two sets of endpoints are displayed	

51.	**<u>EOC user station 1</u>**: Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
52.	**<u>EOC user station 1</u>**: Simulate a software failure by gracefully terminating the Ground Script Controller process on the active Real Time Server. Enter the following in a cmdtool window: %: **ps -ea** %: **kill -9 <Ground Script Controller process id>**	Within 60 seconds, an event message indicates that the Ground Script Controller process has been terminated: 'Active strand for string 100 failed due to failure of <process name> process. Suggest failover.' The Header and Telemetry Decom pages continue updating.	
53.	**<u>EOC user station 1</u>**: Initiate the failover from the active Real-Time Server to the backup Real-Time Server by entering the following in the ECL directive line of the Control Window: ECL> **STRING FAILOVER STRING=100** *(Wait 60 seconds before executing the next step.)*	Within 60 seconds, the following occur: The Real-Time Server 1 is **temporarily** the **inactive** server until failover is complete. Event messages appear indicating that Real-Time Server 2 is coming up as the **active server**. Note: If failover is unsuccessful (i.e., backup and inactive servers are not both 0), an event message will appear notifying the user to delete string 100. The user would do this and then create string 100.	

54.	**<u>EOC user station 1:</u>** Print the Failover-Monitoring page by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 5' column.	
55.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **active server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	The number of endpoints includes the full set needed for the Real-Time Server.	
56.	**<u>Post-Failure Check-out Subprocedure start</u>** **<u>EOC user station 1:</u>** Resume executing the remainder of the Ground Script.	Event messages are generated for the remaining Ground Script commands following the WAIT command, indicating successful execution Note: The portion of the Ground Script executed prior to the failure should *not* be re-executed, commands not executed prior to the failure should *not* be skipped, and it should *not* be necessary to restart the Ground Script from the beginning.	
57.	**<u>EOC user station 1:</u>** Check access to FOS data by displaying the contents of a telemetry archive file. Enter the following in a cmdtool window. %: **ls -l <Telemetry Archive Directory>**	A list of archive files is displayed	

58.	**<u>EOC user station 1:</u>** Check access to the FOS database by displaying information on system-level parameters via Netscape. Mnemonic: **SYS** Click on 'Submit' **<u>Post-Failure Check-out Subprocedure end</u>**	Information on system-level parameter mnemonics is displayed	
59.	**<u>EOC user station 1:</u>** Terminate all processes for all strings on **Real-Time Server 1** (the server on which processes were terminated) by entering the following in a cmdtool window. %: **MyKill** *(Wait until UNIX prompt is received.)* %: **rm.sh**	The number of endpoints for Real-Time Server 1 is 0	
60.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) procedure to bring up the **non-active** Real-Time Server (Server 1) *(Wait for completion of the Real-Time Server startup before going to the next step.)*	Non-active Real-Time Server Startup is complete when the following message appears in the Event Display: 'Successfully performed Name Server register on RMS pt-to-pt endpoint'	

61.	**Real-Time Server Hardware Failover test follows**	(No expected result/output; information only)	
62.	**<u>EOC user station 1:</u>** Create a backup logical string on Real-Time Server 1 by entering the following in the ECL directive line of the Control Window: ECL> **STRING CREATE BACKUP SERVER=1 STRING=100** *(Wait for completion of backup directive before going to the next step.)*	The backup string is created, and the following message appears on the Event Display: 'Successfully created backup processing for string 100'	
63.	**<u>EOC user station 1:</u>** Print the Failover-Monitoring page by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 6' column	
64.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **active Real-Time Server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	Two sets of endpoints are displayed for the active Real-Time Server	

65.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing a Ground Script *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
66.	**<u>Real-Time Server 2:</u>** Induce a hardware failure on the active Real-Time Server by pulling the two plugs on the active Real-Time Server connected to the FDDI Concentrator on the Operational LAN. *(Do this in the presence of the FOT System Administrator or representative.)*	Event message indicates that the active Real-Time Server has failed: 'Realtime server <number>, host name <server name> failed The Header and Telemetry Decom pages continue updating.	
67.	**<u>EOC user station 1:</u>** Initiate the failover from the active Real-Time Server to the backup Real-Time Server by entering the following in the ECL directive line of the Control Window: ECL> **STRING FAILOVER STRING=100** *(Wait 60 seconds before executing the next step.)*	Within 60 seconds, the following occur: Real-Time Server 2 is **temporarily** the **inactive** server until failover is complete. Event messages appear indicating that Real-Time Server 1 is coming up as the **active Server**. Note: If failover is unsuccessful (i.e., backup and inactive servers are not both 0), an event message will appear notifying the user to delete string 100. The user would do this and then create string 100.	

68.	**<u>EOC user station 1:</u>** Print the Failover-Monitoring page by entering the following in a cmdtool window: %: **snapframe**	Failover-Monitoring page, which appears on the printer, contains the values shown in Table SYS-2030B-1, under the 'Snap 7' column.	
69.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **active server** by entering the following in a cmdtool window: %: **show.sh** Note the number of endpoints.	The number of endpoints is the same as it was prior to the failure. The Header and Telemetry Decom pages continue updating. Event messages are generated as expected.	
70.	**<u>EOC user station 1:</u>** Execute 'Post-Failure Check-out Subprocedure'	The remainder of the partially executed Ground Script can be completed successfully. Event messages confirm command execution. The user has access to data (files) and the data base.	
71.	**<u>EOC user station 1 & Real-Time Server 2:</u>** Re-insert the plug on Real-Time Server 2. Reboot Real-Timer Server 2. *(Re-insert the plug and reboot in the presence of the FOT System Administrator or representative.)*	Real-Time Server 2 is successfully rebooted and ready for startup. The following event message appears: 'Realtime server <server number>, host name <server name>, available'	

72.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the **non-active** Real-Time Server (Server 2) *(Wait for completion of the Real-Time Server startup before going to the next step.)*	Non-active Real-Time Server Startup is complete when the following message appears in the Event Display: 'Successfully performed Name Server register on RMS PtToPtEndpoint'	
73.	**Data Server Software Failover test follows**	(No expected result/output; information only)	
74.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **Data Server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	Two sets of endpoints are displayed	
75.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	

76.	**<u>EOC user station 1:</u>** Simulate a software failure by gracefully terminating all processes on the **Data Server**. Enter the following in a cmdtool window: %: **MyKill** *(Wait until all processes terminate.)* Enter the following in a cmdtool window: %: **rm.sh** Note the number of endpoints.	The Header and Telemetry Decom pages continue updating. The number of endpoints for the EOC user station 2 is 0	
77.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server and User Station Startup and Shutdown' (SYS-2000B) procedure to bring up the **non-active** Data Server (i.e., the server that did not just fail) *(Wait for completion of Data Server startup.)*	Data Server initialization is complete.	
78.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **new active server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	The number of endpoints is the same as it was prior to the failure. The Header and Telemetry Decom pages continue updating. Event messages are generated as expected.	

79.	**<u>EOC user station 1:</u>** Execute 'Post-Failure Check-out Subprocedure'.	The remainder of the partially executed Ground Script can be completed successfully. Event messages confirm command execution. The user has access to data (files) and the data base.	
80.	**Data Server Hardware Failover test follows**	(No expected result/output; information only)	
81.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
82.	**<u>Data Server:</u>** Induce a Data Server failure by pulling the two plugs on the Data Server connected to the FDDI Concentrator on the Operational LAN. *(Do this in the presence of the FOT System Administrator or representative.)*	Within 1 minute, an event message indicates that the Data Server has failed. The Header and Telemetry Decom pages continue updating.	
83.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the **non-active** Data Server (i.e., the server that did not just fail) *(Wait for completion of Data Server startup.)*	Startup for the non-active Data Server is complete when the following message appears repeatedly in the cmdtool window: 'Waiting for activity'. Data Server startup completes within 5 minutes.	

84.	**<u>EOC user station 1:</u>** Display the number of endpoints for the **new active server** by entering the following in a cmdtool window. %: **show.sh** Note the number of endpoints.	The number of endpoints is the same as it was prior to the failure. The Header and Telemetry Decom pages continue updating. Event messages are generated as expected.	
85.	Execute 'Post-Failure Check-out Subprocedure'	The remainder of the partially executed Ground Script can be completed successfully. A new Ground Script can be successfully executed. Event messages confirm successful Ground Scripts execution. The user has access to data (files) and the data base.	
86.	**<u>Data Server:</u>** Re-insert the plug on the failed Data Server. *(Re-insert the plug in the presence of the FOT System Administrator or representative.)*	The failed Data Server is ready for future use.	

87.	**<u>EOC user station 1:</u>** Terminate all processes on the **Data Server (the server on which the plug was pulled**) by entering the following in a cmdtool window. %: **MyKill** *(Wait until UNIX prompt is received.)* %: **rm.sh**	The number of endpoints for the initial Data Server is 0	
88.	**File Server Failover test follows**	(No expected result/output; information only)	
89.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
90.	**<u>File Server:</u>** Induce a File Server failure by pulling the two plugs on the File Server connected to the FDDI Concentrator on the Operational LAN. *(Do this in the presence of the FOT System Administrator or representative.)*	Within 1 minute, an event message indicates that a File Server has failed. The Header and Telemetry Decom pages continue updating.	

91.	**<u>EOC user station 1:</u>** Execute 'Post-Failure Check-out Subprocedure'.	The remainder of the partially executed Ground Script can be completed successfully. A new Ground Script can be successfully executed. Event messages confirm successful Ground Scripts execution. The user has access to data (files) and the data base.	
92.	**<u>EOC user station 1 & File Server:</u>** Write out any pending information from the File Server to the disks and then stop the processor by entering the following in a cmdtool window: %: **halt** Re-insert the plug on the failed File Server. Reboot the failed File Server. *(Re-insert the plug and reboot in the presence of the FOT System Administrator or representative.)*	The failed File Server is successfully rebooted and ready for future use	
93.	**Network (Router) Failover test follows**	(No expected result/output; information only)	
94.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	

95.	**<u>Primary EOC Router:</u>** Induce a Network (Router) failure by powering off the Primary EOC Router. *(Do this in the presence of the FOT System Administrator or representative.)*	Event message indicates a failure of the primary EOC Router. The Header and Telemetry Decom pages continue updating.	
96.	**<u>Real-Time Server</u>** **<u>Data Server</u>** **<u>File Servers</u>** **<u>EOC user stations</u>** Run the scripts to switch to the Secondary EOC Router on the following equipment: Real-Time Server Data Server File Servers EOC user stations Once each switch script is complete, reboot the equipment.	The Secondary EOC Router is active, and the equipment is successfully rebooted. Note: If necessary, run the Startup Scripts for the Real-Time Server, Data Server, and EOC user stations.	

97.	**<u>EOC user station 1:</u>** Execute 'Post-Failure Check-out Subprocedure'.	The remainder of the partially executed Ground Script can be completed successfully. A new Ground Script can be successfully executed. Event messages confirm successful Ground Scripts execution. The user has access to data (files) and the data base.	
98.	**<u>Primary EOC Router:</u>** Power up the Primary EOC Router. *(Power-up in the presence of the FOT System Administrator or representative.)*	The Primary EOC Router is powered up	
99.	**<u>Real-Time Server</u>** **<u>Data Server</u>** **<u>File Servers</u>** **<u>EOC user stations</u>** Run the scripts to switch back to the Primary EOC Router on the following equipment: Active Real-Time Server Active Data Server Both File Servers EOC user stations Once each switch script is complete, reboot the equipment.	The Primary EOC Router is active, and the equipment is successfully rebooted. Note: If necessary, run the Startup Scripts for the Real-Time Server, Data Server, and EOC user stations.	

100.	**Network (LAN) Failover test follows**	(No expected result/output; information only)	
101.	**<u>EOC user station 1:</u>** Execute a Ground Script by executing the applicable portions of test procedure CMD-2015B, 'Ground Script Commanding' *(Go to the next step during a WAIT command, while there are still unexecuted commands remaining in the Ground Script.)*	Event messages are generated for those Ground Script commands executed prior to the WAIT command, indicating successful execution.	
102.	**<u>Operational LAN:</u>** Induce a Network (LAN) failure by powering down the FDDI Concentrators and Ethernet switches connected to the servers and user stations on the Operational LAN. *(Power-down in the presence of the FOT System Administrator or representative.)*	Event message indicates a failure of the Operational LAN. The Header and Telemetry Decom pages continue updating.	

103.	**<u>EOC user stations 1 & 2</u>**: Terminate all processes and endpoints on the **following equipment** by entering the following in a cmdtool window. %: **MyKill** %: **rm.sh** Real-Time Server Data Server EOC user stations *(Wait until UNIX prompt is received.)*	The number of endpoints for all equipment is 0	

104.	**<u>Real-Time Server</u>** **<u>Data Server</u>** **<u>File Servers</u>** **<u>EOC user stations</u>** Run the scripts to switch to the Support LAN on the following equipment: Real-Time Server Data Server Both File Servers EOC user stations Once each switch script is complete, reboot the equipment.	The Support LAN is active, and the equipment is successfully rebooted	
105.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the Data Server and Real-Time Server *(Wait for completion of Data Server startup and Real-Time Server startup.)*	Startup for the Data Server is complete when the following message appears repeatedly in the cmdtool window: 'Waiting for activity'. Real-Time Server Startup is complete when the following message appears in the Event Display: 'String 100 was created.'	

106.	**<u>EOC user stations 1 & 2</u>**: Execute applicable steps of the 'User Station Startup and Authentication' (SYS-2010B) test procedure to bring up the EOC user stations for FOS applications *(Wait for completion of user station startup and authentication)*	User station startup and authentication is complete when the Control Window appears on the EOC user station	
107.	**<u>EOC user station 1:</u>** Execute 'Post-Failure Check-out Subprocedure'.	The remainder of the partially executed Ground Script can be completed successfully. A new Ground Script can be successfully executed. Event messages confirm successful Ground Scripts execution. The user has access to data (files) and the data base.	
108.	**<u>Operational LAN:</u>** Power up the FDDI Concentrators and Ethernet switches connected to the servers and user stations on the Operational LAN. *(Power-up in the presence of the FOT System Administrator or representative.)*	The Operational LAN is powered up	

109.	**<u>EOC user station 1:</u>** Terminate all processes on the following equipment by entering the following in a cmdtool window. %: **MyKill** %: **show.sh** Active Real-Time Server Active Data Server EOC user stations *(Wait until UNIX prompt is received.)*	The number of endpoints for all equipment is 0	

110.	**<u>Real-Time Server</u>** **<u>Data Server</u>** **<u>File Servers</u>** **<u>EOC user stations</u>** Run the scripts to switch back to the Operational LAN on the following equipment: Active Real-Time Server Active Data Server Both File Servers EOC user stations Once each switch script is complete, reboot the equipment.	The Operational LAN is active, and the equipment is successfully rebooted	
111.	**<u>EOC user station 1:</u>** Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the Data Server and Real-Time Server *(Wait for completion of Data Server startup and Real-Time Server startup.)*	Startup for the Data Server is complete when the following message appears repeatedly in the cmdtool window: 'Waiting for activity'. Real-Time Server Startup is complete when the following message appears in the Event Display: 'String 100 was created.'	

112.	**<u>EOC user stations 1 & 2</u>**: Execute applicable steps of the 'User Station Startup and Authentication' (SYS-2010B) test procedure to bring up the EOC user stations for FOS applications *(Wait for completion of user station startup and authentication)*	User station startup and authentication is complete when the Control Window appears on the EOC user station	
113.	**<u>EOC user station 1:</u>** Stop the flow of telemetry. Enter the following ECL directive: ECL> **PG STOPDATA**	The Telemetry Decom page is no longer updated.	
114.	End of test.		

Table 4-2. (SYS-2030B-1) Failure Recovery and Status Monitoring Parameter Mnemonic Values

Parameter Mnemonic	Snap 1	Snap 2	Snap 3	Snap 4	Snap 5	Snap 6	Snap 7
System Parameters							
SYS_ACTIVE_STRING_ID							
SYS_STRING_ID	100	100	100	100	100	100	100
SYS_DATA_SRC	Realtime	Realtime	Realtime	Realtime	Realtime	Realtime	Realtime
SYS_DATA_TYPE							
SYS_SC_ID	AM1	AM1	AM1	AM1	AM1	AM1	AM1
SYS_MODE	OPERA-TIONAL	OPERA-TIONAL	OPERA-TIONAL	OPERA-TIONAL	OPERA-TIONAL	OPERA-TIONAL	OPERA-TIONAL
SYS_DB_ID							
SYS_CMD_AUTHOR_ID	<EOC user 1>	<EOC user 2>	<EOC user 1>	<EOC user 1>	<EOC user 1>	<EOC user 1>	<EOC user 1>
SYS_ CMD_AUTHOR _WS_ID	<EOC user station 1>	<EOC user station 2>	<EOC user station 1>	<EOC user station 1>	<EOC user station 1>	<EOC user station 1>	<EOC user station 1>
SYS_GRND_CNTRL_ID				<EOC user 1>	<EOC user 1>	<EOC user 1>	<EOC user 1>
SYS_GRND_CNTRL_WS_ID				<EOC user station 1>	<EOC user station 1>	<EOC user station 1>	<EOC user station 1>
SYS_RTS_ID	1	1	1	1	2	2	1
SYS_BACKUP_RTS_ID	0	0	0	2	0	1	0
SYS_INACTIVE_RTS_ID	0	0	0	0	1, then 0	0	2, then 0
SYS_STATE							
SYS_USER_ID	<EOC user 1>	<EOC user 2>	<EOC user 1>	<EOC user 1>	<EOC user 1>	<EOC user 1>	<EOC user 1>
SYS_WKS_ID							

System Shutdown Test Procedure

Test Case No: SYS-2040B

Test Configuration: See Appendix G

Test Support: Powered-up FOS servers; EOC LANs; one EOC user station; one workstation that emulates an IST; FOS startup scripts; logical string display page.

Test Case Description:

This test is designed to verify that the Real-Time Server, Data Server, EOC user station, and emulated IST workstation can be brought down in an orderly manner. Following initialization of the FOS Servers, EOC user station, and IST workstation, the user brings up several windows on the user stations. The system is then brought down in an orderly manner. This entails executing an ECL 'BYE' directive for the EOC and IST user stations, 'MyKill' shutdown scripts for the Data Server and Real-Time Server, and UNIX 'Kill" commands as necessary. Following completion of the ECL directive or shutdown script, the user inspects the endpoints. If there are still outstanding endpoints, the user terminates the associated processes by killing them gracefully at first, and then unconditionally if necessary. The user then closes the applicable Terminal Windows and terminates the user session.

Success Criteria:

This test is successful when the Data Server, Real-Time Server, EOC user station, and emulated IST workstation can be properly shut down such that there are no endpoints and key active processes.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log in to an EOC user station, using UNIX login procedure, by entering a valid User Name and Password: Username: **<user name>** Password: **********	The login is accepted and a blank desktop area appears.	

2.	**<u>EOC user station</u>**: Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the Data Server *(Wait for completion of Data Server startup.)*	Data Server Startup is complete when the following message appears repeatedly in the Terminal Window: 'Waiting for activity'	
3.	**<u>EOC user station</u>**: Execute applicable steps of the 'User Station Startup and Authentication' (SYS-2010B) test procedure to bring up an EOC user station for FOS applications *(Wait for completion of user station startup and authentication)*	User station startup and authentication is complete when the Control Window appears on the EOC user station	
4.	**<u>EOC user station</u>**: Invoke the Event Display by entering the following in the ECL directive line of the Control Window: ECL> **TOOL Event_Display_Global**	The Event Display window appears	
5.	**<u>IST workstation</u>**: Execute applicable steps of the 'User Station Startup and Authentication' (SYS-2010B) test procedure to bring up the IST workstation for FOS applications *(Wait for completion of user station startup and authentication)*	User station startup and authentication is complete when the Control Window appears on the IST workstation	

6.	**<u>IST workstation</u>**: Invoke the Event Display by entering the following in the ECL directive line of the Control Window: ECL> **TOOL Event_Display_Global**	The Event Display window appears on the IST workstation	
7.	**<u>EOC user station</u>**: Execute applicable steps of the 'FOS Server Startup' (SYS-2000B) procedure to bring up the Real-Time Server *(Wait for completion of Real-Time Server startup.)*	Real-Time Server startup script is complete when the following message appears in the Event Display: 'String 100 was created'	
8.	**<u>EOC user station</u>**: Connect to the default real-time operational string by entering the following in the ECL directive line of the Control Window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** *(Wait for string connection to complete before going to the next step)*	After several minutes, the following message appears in the Event Display: 'Successfully connected to string 100'	
9.	**<u>EOC user station</u>**: Bring up the Logical String page, which displays logical string and real-time server information, by entering the following in the ECL directive line of the Control Window: ECL> **PAGE <Logical String page>**	The Logical String page appears on the EOC user station and contains information related to String 100	

10.	**<u>EOC user station</u>**: Bring up the Display Builder windows, by entering the following in the ECL directive line of the Control Window: ECL> **TOOL Display_Builder**	The Display Builder pages appear on the EOC user station	
11.	**<u>IST workstation</u>**: Connect to the default real-time operational string by entering the following in the ECL directive line of the Control Window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** *(Wait for string connection to complete before going to the next step)*	After several minutes, the message 'Successfully connected to string 100' appears on the Event Display	
12.	**<u>IST workstation</u>**: Bring up the Logical String page, which displays logical string and real-time server information, by entering the following in the ECL directive line of the Control Window: ECL> **PAGE <Logical String page>**	The Logical String page appears on the IST workstation and contains information related to String 100	
13.	**<u>IST workstation</u>**: Bring up the Display Builder windows, by entering the following in the ECL directive line of the Control Window: ECL> **TOOL Display_Builder**	The Display Builder pages appear on the IST workstation	

14.	**<u>EOC user station</u>**: Terminate all processes on the Real-Time Server by entering the following in the Terminal Window where the Real-Time Server was initialized. %: **MyKill** *(Wait until UNIX prompt is received.)* % : **show_<Real-Time Server Number>.script**	The number of endpoints for the Real-Time Server is 0	

15.	**<u>EOC user station</u>**: If there are more than 0 endpoints for the Real-Time Server, kill the outstanding processes. In the Terminal window, view the active processes by entering the following: %: **ps -aux** Terminate the applicable processes gracefully by executing the following: %: **kill -2 <processid ... processid>** Note: Execute all 'kill' commands on the higher-numbered processes first. % : **show_<Real-Time Server Number>.script** If endpoints still remain, then use unconditional termination on the applicable processes: %: **ps -aux** %: **kill -9 <processid ... processid>**	There are no endpoints	
16.	**<u>EOC user station</u>**: Close the Terminal Window(s) that apply to the Real-Time Server by entering the following in the applicable Terminal Window(s). %: **exit**	The Terminal Window(s) close(s).	

17.	**<u>EOC user station</u>**: Shut down the EOC user station functions by entering the following in the ECL directive line of the Control Window: ECL> **BYE** *(There's no need to wait for completion of EOC user station shutdown at this point)*	All windows disappear from the EOC user station and local processes are terminated	
18.	**<u>IST workstation</u>**: Shut down the IST workstation by entering the following in the ECL directive line of the Control Window: ECL> **BYE** *(Wait for completion of IST workstation shutdown)*	All windows disappear from the IST workstation and local processes are terminated	
19.	**<u>IST workstation</u>**: Display the number of endpoints for the IST workstation by entering the following in a Terminal Window. %: **show_<IST workstation Number>.script**	The number of endpoints is 0.	

20.	**<u>IST workstation</u>**: If there are more than 0 endpoints for the IST workstation, kill the outstanding processes. In the Terminal window, view the active processes by entering the following: %: **ps -aux** Terminate the applicable processes gracefully by executing the following: %: **kill -2 <processid ... processid>** Note: Execute all 'kill' commands on the higher-numbered processes first. %: **show_< IST workstation Number>.script** If endpoints still remain, then use unconditional termination on the applicable processes: %: **ps -aux** %: **kill -9 <processid ... processid>**	There are no endpoints	
21.	**<u>IST workstation</u>**: Close the Terminal Window(s) on the IST workstation by entering the following in the Terminal Window(s). %: **exit** Using the mouse, click on 'Logout'	The Terminal Window(s) close(s). The user session terminates.	

22.	**<u>EOC user station</u>**: When EOC user station shutdown is complete, display the number of endpoints for the EOC user station by entering the following in a Terminal Window. %: **show_<EOC user station Number>.script**	The number of endpoints is 0.	

23.	**<u>EOC user station</u>**: If there are more than 0 endpoints for the EOC user station, kill the outstanding processes. In the Terminal window, view the active processes by entering the following: %: **ps -aux** Terminate the applicable processes gracefully by executing the following: %: **kill -2 <processid ... processid>** Note: Execute all 'kill' commands on the higher-numbered processes first. %: **show_< EOC user station Number>.script** If endpoints still remain, then use unconditional termination on the applicable processes: %: **ps -aux** %: **kill -9 <processid ... processid>**	There are no endpoints	
24.	**<u>EOC user station</u>**: Close the Terminal Window(s) that apply only to the EOC user station itself by entering the following in the applicable Terminal Window(s). %: **exit**	The Terminal Window(s) close(s).	

25.	**<u>EOC user station</u>**: Terminate all processes on the Data Server by entering the following in the Terminal Window where the Data Server was initialized. %: **MyKill** *(Wait until UNIX prompt is received.)* %: **show_<Data Server Number>.script**	The number of endpoints for the Data Server is 0	

26.	**<u>EOC user station</u>**: If there are more than 0 endpoints for the Data Server, kill the outstanding processes. In the Terminal window, view the active processes by entering the following: %: **ps -aux** Terminate the applicable processes gracefully by executing the following: %: **kill -2 <processid ... processid>** Note: Execute all 'kill' commands on the higher-numbered processes first. %: **show_<Data Server Number>.script** If endpoints still remain, then use unconditional termination on the applicable processes: %: **ps -aux** %: **kill -9 <processid ... processid>**	There are no endpoints	
27.	**<u>EOC user station</u>**: Close the Terminal Window(s) that apply only to the Data Server by entering the following in the applicable Terminal Window(s). %: **exit** Using the mouse, click on 'Logout'	The Terminal Window(s) close(s). The user session terminates.	

28.	End of test.		

Screen Management (Final) August 15, 1997

Test Case No: FUI-2000B

Test Configuration: See Appendix G

Test Support: An events driver used to generate event messages.

Test Case Description:

This test is designed to verify additional capabilities for control and management of the User Station desktop environment (see also test FUI-2100B) including the three-line event area display and capabilities relating to room and window assignments using room/window list. The test starts with initializing the EOC and bringing up a User Station. Following initialization, rooms and windows are accessed via rooms list, user specified rooms, telemetry window list and tools window list. Rooms are modified by changing size, location and focus of windows. The event driver is invoked, resulting in event messages broadcast onto the FOS LAN. The three most recent events are displayed in the event display area and event types are selected by use of the event filter. Command line editing capabilities are demonstrated.

Success Criteria:

This test is considered successful when the user can issue directives from a command line area using the workstation keyboard; retrieve and display the 20 most recent input lines for modification and resubmission; access user specified rooms, a list of available rooms, a list of available windows, additional tools, and procedures; initiate functions from a control window using a pointing device; perform typical windowing desktop control with the pointing device, i.e. window focus selection, window movement, window resizing, window closing and window iconifying; and initiate functions using the function keys. The FOS provides an area that displays the three most recent event messages sent to the user and enable the user to filter event messages according to the type of event.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	

2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window-Room Main' is displayed. The event message 'User <user_id> logged into <wks_id> is displayed.	
4.	Click on the 'Rooms…' button in the Control Window.	The Rooms Dialog box with a list of available rooms is displayed.	
5.	Select ***<roomname>*** **_** in the Rooms Dialog box. Click on 'OK'.	The Main Room closes and the Control Window-Room <*roomname*> opened	
6.	Click on 'Tools…' button and select **Event_Dispay-Global** from the tools selection box. Click on 'OK' button	The Tool Selection window opened when Tools… button was clicked. Event_Display-Global was displayed in the selection box when selected from the list. The Tool Selection window closed when OK was clicked and the Event Display window opened.	
7.	Connect to a real-time operational string by entering the following in the ECL directive line of the Control window: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages were displayed: Establishing ParameterServer servicw…. ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMrg process successfully configured Successfully connected to String 100	

8.	Click on the 'Event Display' window.	The Event Display window is highlighted indicating that it is the focused window.	
9.	Click and hold the mouse button on the title box of the Event Display window. Drag the window to a new location. Release the mouse button.	The Event Display window moved to and remained at the new location.	
10.	Click and hold the mouse button on the right side of the Event Display window. Drag the position of the side to the left and then to the right. Release the mouse button Repeat this action on the top, bottom and left sides of the Event Display window.	The sides of the Event Display window move in the direction of the drag and stops where the mouse button is released.	
11.	Click and hold on the bottom right corner of the Event Display window. Drag the corner to increase and decrease the window size. Repeat this action on the top right, top left and bottom left corners.	The two sides of the Event Display window that creates the corner being dragged increase and decrease in size to match to position of the drag until the mouse button is released.	
12.	Click on 'Tlm Wins…' button in the Control window.	The Telemetry Pages Selection dialog box is displayed.	
13.	Select **CODA-StatusBlocks** from the Telemetry Pages dialog box and click 'OK'	The CODA-StatusBlocks Window is displayed as the top window in the existing room.	
14.	Using the User Station pointing devise, reduce the width and the height of the CODA-StatusBlocks Window and move it to a new position	The CODA-StatusBlocks window is resized and in the placed position.	
15.	Click on the 'Iconify' dot in the upper right corner of the CODA-StatusBlocks window.	The CODA-StatusBlocks window is iconified and the icon is visible to the user.	

16.	Double click on the ‘CODA-StatusBlocks’ Icon.	The CODA-StatusBlocks window is opened.	
17.	Click on the ‘Close’ button in the upper left corner of the CODA-StatusBlocks window and select **Quit** from the drop-down menu.	The CODA-StatusBlocks window is closed.	
18.	Click on the ‘Tools’ button in the Control window.	The Tools Selection box is displayed.	
19.	Select **RTS Load_Builder** from the Tools Selection box and click on ‘OK’.	The Tools Selection box closed and RTS Load Builder window was added to the room.	
20.	Click on ‘R1’ button in the Control window.	The <*roomname*> room closed and the user specified room <*room name1*> is displayed.	
21.	Select each window individually by clicking on the window title block. Resize each window and change its position prior to selecting the next window.	Each window becomes the top window and is focused when the window title bar is clicked on. The size and position of the window remains in its’ changed state when the next window is selected.	
22.	Click on the ‘Left Arrow’ button in the Control window.	The user specified room <*room name1*> closed and the <*roomname*> room opened with the Control Window-Room <*roomname*>, Event Display, and RTS Load Builder windows displayed.	
23.	Click on the ‘Close’ button in the RTS Load Builder window and select **Quit** from the drop-down menu..	The RTS Load Builder window closed.	
24.	Click on ‘Procs…’ button.	The Procedures Dialog box is displayed	
25.	Select **<procname>** and click ‘OK’.	Procedure Builder window is displayed.	
26.	Click on the ‘Filter’ menu button in the Event Display window and select **Event Type** from the drop-down menu.	The Event Type Filter window is displayed.	

27.	Click on ‘None’, ‘Apply’, ‘All’, ‘Apply’, ‘Close’ sequentially in the Event Type Filter Window.	The selected event types in the Event Type Filter window are cleared when None was selected. The Event Types cleared in the Event Display window when None was Applied. The Show buttons for all event types became recessed when All was selected. All event type legends appeared in the Event Display window when Apply was selected. The Event Type Filter window closed when Close was selected.	

28.	Open a new xterm window by clicking the right mouse button in a clear area of the room and selecting **xterm** from the pull-down menu. Make the following entries in the xterm window to start the Event Message Driver: % **test** % **setenv SCRIPT UserStation** % **source FosEnvVars** % **cd ../../bin** % **cd sun_sparc_5-5** % **ls Fd*** % **FdEvEventDriver** Change the focus to the Event Display and click on the 'Event Display title bar'.	The Event Message Driver started and broadcast 8 event messages. The events are displayed in the Event Display window and the three most recent events are displayed in the Control window event area.	
29.	Click on the 'Filter' menu button in the Event Display window and select **Event Type** from the drop-down menu.	The Event Type Filter window is displayed.	

30.	Click on ‘None’, ‘TLM Show’, ‘Apply’ and ‘Close’ buttons sequentially. In the Event Driver xterm window enter at the Unix prompt enter: % **!!**	The selected Event Types were cleared when None was selected. TLM Type Show button became recessed when selected. TLM became the only legend in the Event Display window and all events but TLM events were removed from the Event display window. The Control window received all event messages with the last three visible in the event display area.	
31.	Click on the ‘Filter’ menu button in the Event Display window and select **Event Type** from the drop-down menu.	The Event Type Filter window is displayed.	
32.	Click on ‘None’, ‘All’, ‘Apply’, ‘Close’ sequentially in the Event Type Filter Window.	The selected event types in the Event Type Filter window are cleared when None was selected. The Show buttons for all event types became recessed when All was selected. All event type legends appeared in the Event Display window when Apply was selected. The Event Type Filter window closed when Close was selected.	
33.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	

34.	Click on ‘None’ button under SUBSYSTEMS and EVENT TYPES section of the Subsystems Filter window. Click ‘All’ button under SUBSYSTEMS and the ‘Show’ button for CMD under EVENT TYPE. Click on ‘Apply’ and then ‘Cancel’.	The selected event types in the Subsystems Filter window were cleared when None was selected. The Show buttons for all events became recessed under SUBSYSTEMS when All was selected and only the Show button for CMD was recessed under EVENT TYPE when the CMD Show button was selected. No visible evidence of the Apply selection is made except for the Apply button is enclosed. The Subsystem Filter window closed when Cancel was selected.	
35.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the CMD event message was recorded in the Control window.	
36.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
37.	Click on the ‘CMD’ and ‘CMS’ Show buttons under EVENT TYPES and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The CMD Show button was cleared and the CMS Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
38.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the CMS event message was recorded in the Control window.	
39.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	

40.	Click on the ‘CMS’ and ‘ANL’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The CMS Show button was cleared and the ANL Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
41.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the ANL event message was recorded in the Control window.	
42.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
43.	Click on the ‘ANL’ and ‘DMS’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The ANL Show button was cleared and the DMS Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
44.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the DMS event message was recorded in the Control window.	
45.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
46.	Click on the ‘DMS’ and ‘FUI’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The DMS Show button was cleared and the FUI Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
47.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the FUI event message was recorded in the Control window.	

48.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
49.	Click on the ‘FUI’ and ‘RCM’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The FUI Show button was cleared and the RCM Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
50.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the RCM event message was recorded in the Control window.	
51.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
52.	Click on the ‘RCM’ and ‘RMS’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The RCM Show button was cleared and the RMS Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
53.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the RMS event message was recorded in the Control window.	
54.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
55.	Click on the ‘RMS’ and ‘SYS’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The RMS Show button was cleared and the SYS Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	

56.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the SYS event message was recorded in the Control window.	
57.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
58.	Click on the ‘SYS’ and ‘TLM’ Show buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The SYS Show button was cleared and the TLM Show button was recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
59.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and only the TLM event message was recorded in the Control window.	
60.	Click on ‘Filter..’ button in the Control Window.	The Subsystems Filter window is displayed.	
61.	Click on the ‘None’ and ‘All’ buttons and then the ‘Apply’ and ‘Cancel’ buttons sequentially.	The CMD Show button was cleared and then all Show buttons were recessed. The Apply button was enclosed and the Subsystems Filter window closed when Cancel was selected.	
62.	In the Event Driver xterm window enter: % **!!**	All events broadcast by the Event Driver were recorded in the Event Display window and Control window with the three most recent event messages visable.	

63.	Enter, in the command line of the Control window, the following ECL directives: (Note: verify and clos an error dialog box for each entry) ECL> **number 1** ECL> **number 2** ECL> **number 3** ECL> **number 4** ECL> **number 5** ECL> **number 6** ECL> **number 7** ECL> **number 8** ECL> **number 9** ECL> **number 10** ECL> **number 11** ECL> **number 12** ECL> **number 13** ECL> **number 14** ECL> **number 15** ECL> **number 16** ECL> **number 17** ECL> **number 18** ECL> **number 19** ECL> **number 20** ECL> **number 21**	The ECL pop-up window containing the last 20 ECL entries is displayed.	

64.	Click on the ECL directive ‘number 5’ in the ECL pop-up window.	The text ‘number 5’ is displayed in the ECL text field and the ECL pop-up window closed.	
65.	Modify the ECL text field to read: ECL> **number22** and press the return key. Verify and close the error dialog box.. Click on the /down arrow’ at the end of the ECL text field.	The modified ECL directive was added to the end of the list of the most recent 20 ECL entries.	
66.	Click on the ECL directive ‘number 10’ in the ECL pop-up window.	The text ‘number 10’ is displayed in the ECL text field and the ECL pop-up window closed.	
67.	Modify the ECL text field to read: ECL> **number23** and press the return key. Verify and close the error dialog box.. Click on the /down arrow’ at the end of the ECL text field.	The modified ECL directive was added to the end of the list of the most recent 20 ECL entries.	
68.	Click on the ECL directive ‘number 15’ in the ECL pop-up window.	The text ‘number 15’ is displayed in the ECL text field and the ECL pop-up window closed.	
69.	Modify the ECL text field to read: ECL> **number24** and press the return key. Verify and close the error dialog box.. Click on the /down arrow’ at the end of the ECL text field.	The modified ECL directive was added to the end of the list of the most recent 20 ECL entries.	
70.	End of test.		

User Customization

Test Case No: FUI-2020B

Test Configuration: See Appendix G

Test Support:

Test Case Description:

This test is designed to verify the capability for the users to customize those parts of his environment that are common to all window and rooms and provide the user a personalized environment. This will include such items a default printer, default data directories, type of screen snap, default color intensities for real-time windows default colors for non real-time windows, default font styles, and default room definitions. The test case verifies default settings following initial user log-in. The capability of FOS to specify the border colors for windows displaying real-time, playback, simulated, event history, and multiple source data for all users is then verified. The capability to specify the default printer, data directories within the system, color intensities for the real-time windows, and font styles to be used from a predefined selection are verified. The FOS capabilities to specify the type of screen snap to perform, to snap a window, to specify the color intensities for the real-time windows, to specify the colors for non real-time windows, and to select the font styles to be used from a predefined selection are verified.

Success Criteria:

This test is considered successful when the user is able to specify the default printer; specify the default data directories within the system, specify the default type of screen snap to perform- snap to printer, snap to file; specify the border colors for windows displaying real-time, playback, simulated, event history and multiple source data; specify the default color intensities for the real-time windows; specify the default colors for non real-time windows (the selection of colors will be from a predefined palette as defined in the ECS User Interface Style Guide); select the default font styles to be used from a predefined selection; modify the quick access room selections in the control window; load the following default settings upon user login - default printer, default data sources, default screen snap, default real-time color intensities, default window colors, default font styles and default room selections; specify the type of screen snap to perform - snap to a printer, snap to a file; provide the capability to snap a window; specify the color intensities for the real-time windows; specify the colors for non real-time windows; and to select the font styles to be used from a predefined selection.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B – FOS Server Startup	Data server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Click on 'Tools…" in the Control window.	The Tools dialog box is displayed.	
5.	Select **User_Customization** and click on 'OK'	The Tools dialog closed and the User Customization dialog box opened.	
6.	Click on 'Data Directories'button	The Data Directory Customization window opened and the default directory is displayed in the text field.	
7.	Click on 'OK' in the Data Directory Customization window.	The Data Directory Customization window closed.	
8.	Click on the 'Printer' button in the User Customization window.	The Printer Customization dialog is displayed with a list of available printers with the default printer listed as the Current Printer.	
9.	Click on 'Cancel' in the Printer Customization dialog box.	The Printer Customization dialog closed.	

10.	Click on ‘Function Keys’ in the User Customization window	The Function Key dialog box is opened displaying the list of function keys that have a default ECL directive assigned and the text of the ECL directive.	
11.	Click on ‘OK’ in the Function Key dialog box.	The Function Key dialog box closed.	
12.	Click on the ‘Rooms’ button in the User Customization window.	The Rooms Customization dialog box is displayed identifying the default room selections for R1 through R5 buttons on the Control window.	
13.	Click on ‘OK’ button in the Rooms Customization dialog box.	The Rooms Customization dialog box closed.	
14.	Click on the ‘Dynamic Page Colors’ button in the User Customization window.	The Dynamic Page Color Intensities Customization dialog box is opened showing the default color selection and the intensity setting.	
15.	Click on ‘OK’ button in the Dynamic Page Color Intensities Customization dialog box.	The Dynamic Page Color Intensities Customization dialog box closed.	
16.	Click on the ‘Application Colors & Fonts’ button in the User Customization window.	The Application Colors & Fonts Customization dialog box is displayed showing the default settings for color (Foreground, Background, Top Shadow and Bottom Shadow) and Fonts (Monospace and General Purpose) . A Customization Preview area displays the effects of the current settings.	
17.	Click on ‘Cancel’ button in the Application Colors & Fonts Customization dialog box.	The Application Colors & Fonts Customization dialog box closed.	
18.	Click ‘Close’ on the User Customization window.	The User Customization window closed leaving the Control Window-Room Main.	

19.	Click on the 'Tools…' button in the Control window.	The Tools dialog box is displayed listing the available Tools.	
20.	Select **Procedure_Builder** and click 'OK'.	The Tools dialog box closed and the Procedure Builder window is displayed	
21.	In the Control window ECL text field enter: ECL> **TOOL Event_Display-Global** Resize the Event Display and Procedure Builder windows to fit in the room display area without overlapping using the cursor functionality.	The Event Display window opened in the display area.	
22.	In the Control window ECL text field enter: ECL> **TOOL Data_Source_Selector** ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** ECL> **STRING CONNECT STRING=XXX**	The Data Source Selector window display appeared listing the active strings in the system Event messages appear indicating the connection to the strings. These messages end with the final event message 'Successfully connected to string 100' and 'Successfully connected to string XXX'. The Sting ID's are shown in the display windows.	
23.	In the Control window ECL text field enter: ECL> **TOOL User_Customization**	The User Customization window is displayed.	
24.	Click on 'Data Directories' button.	The Data Directories Customization dialog window is displayed with the current default directory in the Directory text field.	

25.	Edit the Directory text field to read a new directory name: Directory: **/home/user/xxxx** Click 'OK'	The Data Directory Customization dialog window closed. The new default directory is /home/user/xxxx.	
26.	Click on 'Data Directories' button in the User Customization window.	The Data Directory Customization dialog window is displayed and the Directory is /home/user/xxxx.	
27.	Click 'OK' in the Data Directory Customization dialog window.	The Data Directory Customization dialog window closed.	
28.	Click on 'Function Keys' button in the User Customization window.	The Function Key Customization dialog window is displayed and the ECL directives allocated to the function keys is displayed.	
29.	Click on the 'Function Key' pull down menu and select **F01.** Enter the following ECL directive in the F01 text field: **STRING CONNECT STRING=100 CONFIG=MIRROR** Click on 'OK'	The Function Key Customization dialog box closed. Function Key 1 is configured for ECL directive STRING CONNECT STRING=100 CONFIG=MIRROR	
30.	Click Function Key 1 on the keyboard.	Event messages are displayed in the Control window indicating the String 100 is already connected..	
31.	Click on 'Printer' button in the User Customization window.	The Printer Customization dialog window is displayed indicating xxxxxx as the default printer.	

32.	Edit the Printer text field to read: **yyyyyyy** Click 'OK'.	The Printer Customization dialog window is closed and printer yyyyyy is selected as the default printer.	
33.	Print the Event Display window using Snapshot capability.	The Event Display window is printed on printer yyyyyy	
34.	Click on the 'Dynamic Page Colors' button in the User Customization window.	The Dynamic Page Color Intensities Customization dialog window is displayed providing Color Selector, Intensity slide bar, and Customization Preview display area.	
35.	Select the color **Green.** Using the cursor, move the intensity slide bar to the approximate center position Click the 'OK' button.	The Customization Preview display area changes to green. The intensity of the color in the preview window intensifies as the slide bar is moved from the left position to the center position. The Dynamic Page Color Intensities Customization dialog window closed. The Event Display window color change to green.	
36.	Click on 'Application Colors & Fonts' button in the User Customization window.	The Application Colors & Fonts Customization dialog window is displayed.	

37.	In the Color Selection of the Application Colors & Fonts Customization dialog: Select **Foreground.** Move the Red slide bar to mid-range, Green to minimum and Blue to minimum. Select **Background.** Move the Red slide bar to minimum, Green to minimum and Blue to mid-range. Select **Top Shadow.** Move the Red slide bar to mid-range, green to minimum, and Blue to mid-range. Select **Bottom Shadow.** Move the Red slide bar to minimum, Green to mid-range and Blue to mid-range. Under Monospace Font select **Courier** Under General Purpose Font select **Helvetica**	The Customization Preview display area should reflect the colors selected for Foreground, Background, Top Shadow and Bottom Shadow as each selection is applied. The Monospace and the General Purpose Fonts selected should be shown in the Customization Preview area when each selection was applied. The customization completed is not reflected until the userstation is recycled.	
38.	Click on ‘Cancel’	The Application Colors & Fonts Customization dialog window closed.	
39.	Click on ‘Rooms’ in the User Customization window.	The Room Customization dialog window is opened displaying an Available Rooms list box and a Selected Rooms list for room buttons 1 through 5 in the Control window.	

40.	Click on ‘Clear All’ and select a different set of rooms for Room buttons 1 through 5. Click ‘OK’.	The Room Customization dialog window closed and the room definitions for room buttons 1 through 5 in the Control window are updated.	
41.	Click on ‘R1’ button in the Control Window.	Room R1 is opened and is the room assigned during customization.	
42.	Click on ‘R2’ button in the Control Window	Room R2 is opened and is the room assigned during customization	
43.	End of test.		

Data Mover

Test Case No: FUI-2025B

Test Configuration: See Appendix G

Test Support: User Station test directories with r/w privileges, test directories with read only privilege, and test files that can be deleted as part of the test. An IST configured with directories and files that can be requested for transfer and received by the User Station and files which cannot be read for transfer to the User Station.

Test Case Description:

This test is designed to verify the capability for users at the EOC site to transfer files that contain spacecraft, instrument, and ground system information using the Data Mover. The test will also verify the user capability to manage their own file space.

Success Criteria:

This test is considered successful when the user is able to send files from his user's home directory to the system transfer directory; request files to be sent from other FOS user stations; delete files from their local storage area; to select files from available categories; deselect files that were selected; view the selected files to be sent; be notified that a file transfer is in progress, a file transfer has been completed, and a file transfer error has occurred..

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Bring up the Event Display. Select 'Event_Display-Global' from the control window tools menu.	The 'Event Display' is up on the FOT User Station.	
5.	Click on the 'Tools' button in the Control Window.	The Tools dialog box is displayed with a list of available tools.	
6.	Select the **Data Mover** tool.	The Tools dialog box is removed and the Data Mover utility is displayed	
7.	Click on the 'Send' for the transfer type.	The Data Mover Send window is displayed. The local location is the default selection in the Remote Destination Site 'Location' pull-down menu. The 'Other'l category name is the default selection in the Local Source Site 'Directory' pull-down option menu and the fully qualified path for the default directory, the user's home directory, is displayed in the 'Directory' text field. The list of files in the default directory is displayed in the list box.	
8.	Select a file name from the Local Source Site file listbox and click on the 'Select' button. Re-select the file to remove the highlight.	The selected file is listed in the Selected Files To Send listbox and the location is the selected location in the Remote Destination Site. The file is no longer highlighted.	

9.	Select a second file name in the Local Source Site file listbox and click on the 'Select' button. Re-select the file to remove the highlight.	The selected file is listed in the Selected Files To Send listbox and the location is the selected location in the Remote Destination Site. The file is no longer highlighted.	
10.	Click on the 'Start Transfer' button	Each of the files in the Selected Files To Send listbox are sent to the designated location and placed in the location Central Transfer Directory. The following file transfer status messages are given in the Status field: Copying of file'/home/<user_id>/.cshrc.arch' from local location EOC to '/fosb/test/am1/transfer/xcshrc.arch' at EOC… …in progress …completed!	
11.	Select a file in the Selected Files To Send table and click the 'Deselect…' button. Repeat this until there are no files left in the table.	For each file deselected the following message is issued in the Status line: 'Removed entry for file <*filename*> with destination location EOC from the list of files to send.'	
12.	Enter **cshrc** in the Find text field and press Enter/Return key.	All files in the Local Source Site directory with the characters 'cshrc' are displayed in the listbox. All other files are removed from the listbox.	

13.	Click on the 'Directory' button and select **DisplayDefs** from the Category pull-down menu.	The category DisplayDefs is displayed in the Directory pull-down menu, the fully qualified directory path for the corresponding selected category name is displayed in the local source site Directory text field, and the file listing for this directory is displayed in the local source site file listbox.	
14.	Highlight the first, third and fifth files in the Directory listbox by clicking on each of these files. Click on the 'Select' button	The three selected files are displayed in the Selected Files to Send table with the location of EOC.	
15.	Click on the first, third and fifth files in the listbox again to remove the highlight. Click on the third file in the Selected Files To Send table and the click on the 'Deselect' button.	The third file in the Selected Files to Send table is removed from the table and the status field has the message 'Removed entry for file <*filename*> with destination location EOC from the list of files to send.'	
16.	Click on the 'Start Transfer' button.	Each of the files in the Selected Files To Send listbox are sent to the designated location and placed in the location Central Transfer Directory. The following file transfer status messages are given in the Status field: Copying of file'/fosb/test/am1/displaydefs/<*filename*>' from local location EOC to '/fosb/test/am1/transfer/<*filename*>' at EOC… …in progress …completed	

17.	Click on the 'fifth file' in the listbox and then click on the 'Delete' button Click 'Yes' in the File Deletion Confirmation box.	The fifth file in the listbox is highligted. The File Deletion Confirmation box was displayed. The File Deletion Confirmation box closed. The fifth file in the listbox was deleted and the status message 'File <*filename*> deleted from /fosb/test/am1/displaydefs' is displayed.	
18.	In the Local Source Site Find text field enter: <*filename*> (file deleted in previous step)	The listbox does not show the file <*filename*> indicating the file was deleted	
19.	Click on the 'Receive' button.	The Data Mover Send window closes and the Data Mover Receive window is displayed. The Receive toggle switch is indented; the default local directory path is displayed in the local destination site directory text field; the remote source site location is defaulted to the local location; the remote source site directory is defaulted to Other category; the local location's directory path is displayed in the remote source site directory text field; and the file listing for the directory is displayed in the listbox.	
20.	Edit the Remote Source Site Directory test field to read: **/fosb/test/AM1/transfer** and enter.	The listbox changed to list the files in /fosb/test/AM1/transfer.	
21.	Click the 'Select Directory…' button in the Local Destination Site sub-window.	The Data Mover Local Directory Selector window is displayed.	

22.	Click on ‘Directory’ pull-down menu and select category **DisplayDefs**. Click on ‘OK’ button.	List of directory categories is displayed. Category list closed and directory strin /fosb/test/am1/displaydefs is in the text field. Data Mover Local Directory Selector window closed and the selected directory string is displayed in the Local Destination Site Directory text field.	
23.	Click on <*filename*> (file that was deleted from the DisplayDefs directory) in the listbox of Remote Source Site. Click on ‘Select…’ button.	<*filename*> is highlighted. Selected Files to Retrieve table has the entry <*filename*> with the location EOC.	
24.	Click the ‘Start Transfer’ button.	The following file transfer status messages are given in the Status field: Copying of file ‘/fosb/test/am1/transfer/<*filename*>’ from local location EOC to ‘/fosb/test/am1/displaydefs/<*filename*>’ at EOC… …in progress …completed	
25.	Click on the ‘Send’ Transfer Type toggle switch.	The Data Mover window changed from Receive to Send Mode. The data fields in the display are as they were previously when mode was transferred from send to receive.	
26.	Select the Find text field with the mouse and press the keyboard enter/return key.	File <*filename*> was added to the listbox.	
27.	End of test.		

Display Builder (Alphanumeric Page)

Test Case No: FUI-2030B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Real-Time Server, Data Server, UserStation, PackGenDriver

Test Case Description:

This test is designed to verify the FOS software capability to create a customized 'User page' from Display Builder. The user will be able to build/customize a real time display that will display mnemonic values from incoming telemetry and then save the display as either a local or system copy, The user will also be able to modify an existing user page, delete an existing user page, modify mnemonics, and delete mnemonics.

Success Criteria:

The test is considered successful when the user is able to, create a real time display, save a real time display, modify a real time display, delete a real time display by using the Display Builder software, modify mnemonics, and delete mnemonics.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto 1 FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
2.	From the 'Control Window' on the Userstation; Click on the 'Tools' button. Click on 'Event_Display-Global'. Click on 'OK'.	The Events Display window will appear.	

3.	From the ‘Control Window’ on the Userstation; Click on the ‘Tools’ button. Click on ‘Display Builder’. Click on ‘OK’.	A suit of Display Builder windows will appear on the screen. -Display Builder Palette -Display Builder (Blank) -Display Item Data Sources -Display Item Format -Display Builder Console	
4.	Connect to Operational String From the directive dialog box inside of the ‘Control Window’ on the Userstation, issue the following directive: STRING CONNECT STRING=100 CONFIG=MIRROR	Decom messages will start to appear in the Events Display window. Wait for the message ‘Successfully connected to String 100’	
5.	***Create a ‘Display’ page.***	***Information only.***	

6.	From the Display Builder Palette window: 1. Click on ‘View’. 2. Click on ‘Show Grid’. 3. Click on ‘Label’ , drag mouse to blank display and drop in desired location. 4. Click on ‘Field’ , drag mouse to blank display and drop in desired location. 5. Repeat item 4 (the previous step) 5 more times and place each ‘Field’ box in a vertical row. 6. Click on ‘Separator’ , drag mouse to blank display and drop in desired location between the ‘label’ box and the first ‘Field’ box. 7. Click on ‘Separator’ , drag mouse to blank display and drop in desired location between the first two ‘Field’ boxes. 8. Repeat item 7 until there is a ‘Separator’ line between the ‘Field’ boxes. 9. Click on ‘Separator’ , drag mouse to blank display and drop in desired location after the last ‘Field’ box. 10. Repeat item 9 twice. 11. Click on the 8th ‘Separator’ line. 12. From the ‘Display Item Format’ window, click on the ‘Orientation’ box. 13. Click on ‘Vertical’. 14. Click on ‘Apply’. 15. Position the ‘vertical’ line to the left. 16. Click on the 9th ‘Separator’ line.	The Grid will disappear from the Display Builder window. 1 Label box, 6 Field boxes, and 9 Separator bars, one of which is vertical, will appear in the blank display.	

7.	From the ‘Display Item Format’ window, click on the ‘Orientation’ box: Click on ‘Vertical’. Click on ‘Apply’. Position the ‘vertical’ line to the right.	The page created should look like a table. One more ‘Separator’ line will become vertical.	
8.	Select the Data Source from the ‘Display Builder Palette’: Click on ‘Page’. Click on ‘Logical String Management’. Click on the ‘Spacecraft’ button and select ‘AM1’. Click on the ‘Source’ button and select ‘Real Time’. Click on the ‘Mode’ button and select ‘Operational’. Click on ‘Add’. Click on ‘OK’.	‘AM1 RealTime Operational Default’ will be displayed in the ‘Logical String Management’ box.	
9.	Move mouse to the first ‘Field’ box in the new display that is to be populated with a mnemonic. Click on the first ‘Field’ box.	The ‘Field’ box will be outlined.	

10.	Select the mnemonic/parameter ‘Filters’ from the ‘Display Items Data Sources’ window: Click on the ‘Add’ button. Click on the ‘Filter’ button. Click on ‘AM1’ for ‘Spacecraft’. Click on ‘CDH’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘CEA’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘COM’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘GNC’ for ‘Instrument’. Click on the ‘Select’ button. Click on the ‘OK’ button.	The desired subsystem or instrument will appear in the ‘Selection Filter’ window, AM1_CDH AM1_CEA AM1_COM AM1_GNC	

11.	Select the desired mnemonic: Click on ‘AM1_CDH’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘CDH_BR_SSR1_SCRPLY’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	
12.	Move mouse to next ‘Field’ box in the new display that is to be populated with a mnemonic. Click on the second ‘Field’ box.	The ‘Field’ box will be outlined.	
13.	From the ‘Display Items Data Sources’ window: Click on the ‘Add’ button. Click on ‘CDH_BR_SSR1_SCRPLY’ from the ‘Selected Parameters’ list. Click on the arrow button ‘←‘	The ‘Selected Parameters’ list will be empty.	
14.	Select the desired mnemonic: Click on ‘CDH_NR_ACT_B_FRCNT’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	

15.	Move mouse to next ‘Field’ box in the new display that is to be populated with a mnemonic. Click on the third ‘Field’ box.	The ‘Field’ box will be outlined.	
16.	Deselect the mnemonics: Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘← All’ button. Click on ‘AM1_CDH’. Wait for the ‘Available Parameters’ box to return.	The ‘← All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonic will be disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty.	
17.	Select the next desired mnemonic: Click on ‘AM1_CEA’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘CEA_NS_PKTTIME_2’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	
18.	Move mouse to next ‘Field’ box in the new display that is to be populated with a mnemonic: Click on the fourth ‘Field’ box.	The ‘Field’ box will be outlined.	

19.	From the ‘Display Items Data Sources’ window: Click on the ‘Add’ button. Click on ‘CEA_NS_PKTTIME_2’ from the ‘Selected Parameters’ list. Click on the arrow button ‘←‘	The ‘Selected Parameters’ list will be empty.	
20.	Select the desired mnemonic: Click on ‘CEA_BS_MAMACTS’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	
21.	Move mouse to next ‘Field’ box in the new display that is to be populated with a mnemonic. Click on the fifth ‘Field’ box.	The ‘Field’ box will be outlined.	
22.	Deselect the mnemonics: Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘← All’ button. Click on ‘AM1_CEA’. Wait for the ‘Available Parameters’ box to return.	The ‘← All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonic will be disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty.	

23.	Select the next desired mnemonic: Click on ‘AM1_COM’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘COM_IR_SBT1_RCVR’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	
24.	Move mouse to next ‘Field’ box in the new display that is to be populated with a mnemonic. Click on the sixth ‘Field’ box.	The ‘Field’ box will be outlined.	
25.	Deselect the mnemonics: Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘← All’ button. Click on ‘AM1_COM’. Wait for the ‘Available Parameters’ box to return.	The ‘← All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonic will be disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty.	

26.	Select the next desired mnemonic: Click on ‘AM1_GNC’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘GNC_SR_CRS_ROLLER2’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Click on ‘OK’.	The mnemonic is selected for the alphanumeric display and appears in the ‘Field’ box.	
27.	From the Display Builder window: Click on the ‘Label’ box. From the Display Item Format window Click inside the ‘Text’ box and enter ‘FUI_2030B’. Click on the ‘Color’ button. Click on ‘Red’. Click on ‘Apply’.	The ‘Label’ box on the display will be outlined. The ‘Label’ box will have as a title ‘FUI_2030B’. The color of the ‘Label’ text will change to red.	
28.	***Save User Page as System***	***Information only***	

29.	From the Display Builder Palette: Click on ‘File’ Click on ‘Save As’ Click on ‘System’. Click inside the ‘Selection’ box and type: **‘/fosb/test/AM1/displaydefs/** **FUI_2030B_alpha’** Click on ‘OK’. Click on ‘File’ Click on ‘Build to CM’.	User Page will be saved to targeted directory.	
30.	*Save User Page as Local*	Information only	

31.	From the Display Builder Palette: Click on ‘File’ Click on ‘Save As’ Click on ‘Local’. Click inside the ‘Selection’ box and type: **‘/home/fostest1/pages/** **FUI_2030B_alpha’** Click on ‘OK’. Click on ‘File’ Click on ‘Build to Local’. Click on ‘File’ Click on ‘Quit’.	User Page will be saved to targeted directory.	
32.	Recall page. From the ‘Control Window’ click on ‘TLM Wins’: Click on the file name ‘**FUI_2030B_alpha**’. Click on ‘OK’.	The page will appear.	
33.	***Run the PackGenDriver***	***Information only***	

34.	Open an X-Term window, at the UNIX prompt type: % **cd /fosb/test/AM1/scripts/setup** or use alias **test.** % **setenv SCRIPT UserStation** % **source FosEnvVars** % **cd /fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **FtPgPackGen**	The message '**Packet Generator is ready to receive directives**' should appear in the x-term window.	
35.	From the Control Window enter the following in the ECL directive line: **PG CONFIG HOST=225.2.7.00 PORT=20001** Return **PG STARTDATA APID=1 COUNT=-1** Return Note: PORT=20001 for the OPS LAN PORT=20101 for the Support Lan	Telemetry will start to flow and the alphanumeric page will start to update.	
36.	Place the pointer on the alphanumeric page and click on the right mouse button: Click on 'Pause'. Click on 'Resume'.	A menu will appear. The alphanumeric page will stop updating. The alphanumeric page will start updating.	

37.	From the Control Window enter the following in the ECL directive line; **PG STOPDATA** Return	Telemetry will stop and the alphanumeric page will stop updating.	
38.	Modify a User page	Information only	
39.	Click on the ‘Close’ button from the display page.	The page will be closed.	
40.	Click ‘Display Builder’ from the ‘Tools’ menu. From the Display Builder Palette window; Click on ‘File’ Click on ‘Open’ Click on ‘Local’ Click inside the ‘Selection’ box and type ‘/home/fostest1/pages/FUI_2030B_alpha’ Click on ‘OK’	User page is displayed.	
41.	From the Display Builder Palette window: Click on ‘Page’. Click on ‘Update Rate’. Click inside the ‘Update Rate’ box and enter ‘**30**’. Click on ‘OK’.	The ‘Update Rate’ dialog box will appear. The update rate will change from the default value of 2 seconds to 30 seconds.	

42.	Set X and Y axis for Label. Inside of blank Display: Click on the 'label' box from the display page containing the title **FUI_2030B**. Inside of Display Item Format window: Change value of the X coordinate. Change value of the Y coordinate. Click on 'Apply'.	The label will position according to the X and Y values entered.	
43.	From the Display Builder window: Click on 'CDH_NR_ACT_B_FRCNT' From the Display Item Format Window: Click on the 'Conversion' box. Click on 'Converted'. Click on the 'Display Type' box. Click on 'Formatted'. Click on 'Apply'	The mnemonic will have 0 appear next to it.	

44.	From the Display Builder window: Click on ‘CDH_BR_SSR1_SCRPLY’. From the Display Item Format Window Click on the ‘Content’ box. Click on ‘Descriptor’. Click on ‘Apply’ Click on the ‘Content’ box. Click on ‘Mnemonic’. Click on ‘Apply’	The descriptor will appear in place of the mnemonic. The mnemonic will appear in place of the descriptor.	
45.	From the Display Builder window: Click on ‘CEA_NS_PKTTIME_2’. From the Display Item Format Window Click on the ‘Conversion’ box. Click on ‘Converted’. Click on the ‘Display Type’ box. Click on ‘Hex’. Click on ‘Apply’	The mnemonic will have 0 x 0 appear next to it.	

46.	From the Display Builder window: Click on ‘COM_IR_SBT1_RCVR’. From the Display Item Format Window: Click on the ‘Conversion’ box. Click on ‘Converted’. Click on the ‘Display Type’ box. Click on ‘Octal’. Click on ‘Apply’	The mnemonic will have 8 x 0 appear next to it.	
47.	From the Display Builder window: Click on ‘GNC_SR_CRS_ROLLER2’. From the Display Item Format Window: Click on the ‘Conversion’ box. Click on ‘Converted’. Click on the ‘Display Type’ box. Click on ‘Binary’. Click on ‘Apply’	The mnemonic will have 2 x 0 appear next to it.	
48.	Save User Page as Local	Information only	

49.	From the Display Builder Palette: Click on ‘File’ Click on ‘Save As’ Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2030B_alpha2’ Click on ‘OK’. Click on ‘File’ Click on ‘Build to Local’. Click on ‘File’ Click on ‘Quit’.	User Page will be saved to targeted directory.	
50.	Recall page. From the ‘Control Window’ click on ‘TLM Wins’. Click on the file name ‘FUI_2030B_aplha2’. Click on ‘OK’.	The page will appear.	
51.	Run the PackGenDriver	Information only	

52.	Open an X-Term window, at the UNIX prompt type: % cd /fosb/test/AM1/scripts/setup or use alias test. % setenv SCRIPT UserStation % source FosEnvVars % cd /fosb/test/AM1/bin/sun_sparc_5-5 or use alias bin % FtPgPackGen	The message 'Packet Generator is ready to receive directives' should appear in the x-term window.	
53.	From the Control Window enter the following in the ECL directive line: PG CONFIG HOST=225.2.7.00 PORT=20001 Return PG STARTDATA APID=1 COUNT=-1 Return Note: PORT=20001 for the OPS LAN PORT=20101 for the Support LAN	Telemetry will start to flow and the alphanumeric page will start to update with the new formatted types.	
54.	From the Control Window enter the following in the ECL directive line: PG STOPDATA Return	Telemetry will stop and the alphanumeric page will stop updating.	
55.	***Delete User page***	***Information only***	

56.	From the display page click on ‘Close’.		
57.	Click on ‘Display Builder’ from the ‘Tools’ menu. From the Display Builder Palette: Click on ‘Delete File’ Click on ‘Local’ bar’ Select ‘page’ from the Files box by scrolling to the filename, and then highlighting the filename FUI_2030B-alpha2. Click on ‘OK’. Repeat items 1-4 of this step for the second file FUI_2030B-alpha2.pmss	User Page will be deleted.	
58.	End of test.		

ECL Directives

Test Case No: FUI-2040B

Test Configuration: See Appendix G

Test Support: A User ID with CAC only privilege and a User ID with Ground Control only privilege.

Test Case Description:

This test is designed to verify the ability of the user to build directives from the command line of the EOC and IST user stations to support EOC and IST operations. ECL directives will be issued from the ECL text field of the control window and the command line of the Command Control window, syntax will be checked, and the response message output and specific actions taken as a result of directive input will be verified by viewing response line and event display areas of the display screens. In cases where the FOS system functionality is not mature enough to completely execute a particular ECL directive, testing is performed to confirm that the ECL directive has been defined, can be entered and the syntax checked.

Success Criteria:

This test is considered successful when all ECL directives entered are verified for syntax and that a syntax error is displayed for all ECL directives that are entered incorrectly; a user can execute a standard UNIX shell command; and a directive is initiated within 0.5 seconds when issued. ECL directives entered with syntax errors are not executed. ECL directives issued without appropriate privileges are not executed.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication._	The FOT User Station is running and the 'FOS Login Window' is displayed.	
4.	In the Login window enter: User> **<valid user id>** (w/CAC privilege) Password> **<a valid password>** Click on 'OK'	The Login window closes and the User Roles window is opened displaying the User, Environment, a Spacecraft pull-down menu, a Site pull-down menu, and a Roles listbox listing the authorized user types for the user.	
5.	Select **EOC** from the Site pull-down menu. Select **Spacecraft evaluator** from the Roles listbox. Click 'OK' button.	When the site EOC was selected, the listbox listed the authorized roles for the user. The Roles window closed and login was completed with the Control Window-Room Main being displayed	
6.	Click on the 'Tools…' button and select **Event_Display-Global** from the control window tools menu.	The 'Event Display' is up on the FOT User Station.	
7.	Attempt to take CAC privilege. Using theECL command line in the Control Window enter: ECL> **TAKE COMAND STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'COMAND' Re-enter.	
8.	Click on 'Close' in the error dialog box. Take CAC privilege. Using the ECL command line in the Control Window enter ECL>**TAKE COMMAND STRING = 100**	The error dialog box closed. An event message is issued: 'Must be connected as Mirrored before requesting Command Authority.'	

9.	At the Control window ECL text field enter: ECL> **STRING CONECT STRING=100 CONFIG=MIRROR**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'CONECT' Re-enter.	
10.	Click 'CLOSE' button in the error dialog box. Correct the directive syntax to read: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR** and enter.	The ECL text field is cleared and the following event messages appear in the event area of the Control window and the Event Display: Establishing ParameterServer service… ParameterServer process successfully configured Establishing Decom service…. Decom process successfully configured StringMgr process successfully configured Successfully connected to String 100	
11.	At the Control window ECL text field enter: ECL> **TOOL My_Tool**	The ECL text field is cleared, no action is taken since My_Tool is not defined.	
12.	At the Control window ECL text field enter: ECL> **ARCCHIVE TLM=ENABLE STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'ARCCHIVE' Re-enter.	
13.	Click on 'Close' in the error dialog box. Double click on 'ARCCHIVE' and enter: **ARCHIVE**	The word ARCCHIVE was highlighted when double clicked and was replaced by the new entry. The ECL text field is cleared. An event message is displayed in the Control window event area: 'User cannot reconfigure local mirrored processes without Ground Control Authority.'	

14.	At the Control window ECL text field enter: ECL> **CC STSRT STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'STSRT' Re-enter.	
15.	Click on 'Close' in the error dialog box. Move the cursor to STSRT, double click and enter: **START**	The word STSRT was highlighted when double clicked and was replaced by the new entry. The ECL text field is cleared	
16.	Take CAC privilege. Using the ECL command line in the Control Window enter ECL>**TAKE COMMAND STRING=100**	The following event messages are displayed in the Event Display and the event area of the Control window: StringMgr process successfully configured. Command Authority has changed from <user_id> to <user_id> for string 100 Command Authority of NccGroundMgr changed to User: <user_id, WKS. <Wks_id> Command Authority of NccStatusMgr changed to User: <user_id>, WKS <wks_id> Command Authority starting <wks-id> for string 100.	
17.	Attempt to activate the Command Control window using the following tool directive from the control window: ECL> **FOOL Command_Control**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'FOOL' Re-enter.	

18.	Click on ‘Close’ in the error dialog box. Activate Command Control window using the following tool directive from the control window. ECL> **TOOL Command_Control**	A dialog box appears prompting user to enter String and Spacecraft Id.	
19.	In the dialog box enter: String id **100** enter Spacecraft ID **AM1** click ‘OK’	The Command Control window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_Loc, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	
20.	In the Control Window ECL text field enter: **TAKE GROUNDCONTROL STRING=100**	The following event messages are displayed: StringMgr process successfully configured Ground Control Authority has changed from EcDNull to <user_id> Ground Control starting <wks_id> for string 100.	

21.	Create a new xterm window, remote login to the real-time server and start simulator by entering the following: **%rlogin <real-time server_id>** **%test** **%setenv SCRIPT RealTimeServer** **%source FosEnvVars** **%cd ../..** **%cd bin/sun_sparc_5-5** **%sc AM1 100 Ops**	The xterm window starts displaying the following: ***sc: servicename for CDBs: CmdToEdosAM1Ops ***sc: Port Number is: xxxxxxx ***sc: Host name is : <userstation_id> ***sc Waiting for messages ***scServer: CLCW before send to FOP 0 ***sc Waiting for messages ***scServer: CLCW before send to FOP 0 “ “	
22.	Click on the ‘Config’ pulldown menu in the Command Control window and select Command Verification and Telemetry Verification to set them to ‘OFF”	CV and TV status in the Command Window show OFF.	
23.	In the CMD text field of the Command Control window enter: **FOP INIT CHECK** Click on ‘Resume’ button. Click on ‘Send’ button.	The directive FOP INIT CHECK appears in the Ground Script of the Command Control window. The status of the directive in the Command Control window flashes Send/Cancel with yellow background. Status indicates ‘Processed -2 | Sent to subsys | Send/cancel’ Event message ‘Protocol Info :’FOP INIT with CLCW check successful’ is displayed.	

24.	Click on the ‘Suspend’ button. From the Command input line enter a command directive. Cmd:> **/AST_TURN_ON_C_TDP** and enter. Click on the ‘Resume’ button Click the ‘Send’ button	The directive /AST_TURN_ON_C_TDP is displayed in the Command Control window. A send/cancel message will flash in the status column of the Command Control window. The message in the status column indicates the command has been processed. Notice the following event messages Command AST_TURN_ON_C_TDP was successfully built with binary = 10 00 c0 00 00 03 b0 21 40 61 CLTU id AST_TURN_ON_C_TDP placed in command data block number 1 Command Data Block number 1 sent to EDOS Command AST_TURN_ON_C_TDP timed out—verification failure.	
25.	From the Command input line enter a command directive. Cmd:> **/BST_TURN_OFF_C_TDP**	An Error Dialog box is displayed with the message ‘Syntax error: No such command→ invalid parameter ‘BST_TURN_OFF_C_TDP	

26.	Click on ‘Close’ in the error dialog box. Edit the command to read: Cmd:> **/AST_TURN_OFF_C_TDP** and enter. Click on the ‘Resume’ button Click the ‘Send’ button.	The directive /AST_TURN_OFF_C_TDP is displayed in the Command Control window. A send/cancel message will flash in the status column of the Command Control window. The message in the status column indicates the command has been processed. Notice the following event messages: Command AST_TURN_OFF_C_TDP was successfully built with binary = 10 00 c0 00 00 03 b0 21 40 21 CLTU id AST-TURN OFF-C-TDP placed in command data block number 2 Command Data Block number 2 sent to EDOS. Command AST-TURN-OFF_C_TDP timed out – verification failure.	`
27.	From the Command input line enter: CMD:> **%AST_DISBLE_SVH**	An Error Dialog box is displayed with the message ‘Syntax error: No such command→ invalid parameter ‘AST_DISBLE_SVH’.	

28.	Click on ‘Close’ in the error dialog box. Move the cursor to DISBLE, double click and enter: **DISABLE** Click on ‘Resume’ button, Click on ‘Send’ button.	The directive %AST_DISABLE_SVH is displayed in the Command Control window. A send/cancel message will flash in the status column of the Command Control window. The message in the status column indicates the command has been processed. Notice the following event message: .Command AST-DISABLE-SVH timed out -- verification failure.	
29.	At the Control window ECL text field enter: ECL> **CMDCFG PREM=CTIU-1 STRING=100**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘PREM’ Re-enter.	
30.	Click on ‘Close’ in the error dialog box. Move the cursor to PREM, double click and enter: **PRIM**	The letters PREM were highlighted when double clicked and was replaced by the new entry. The ECL text field is cleared	
31.	At the Control window ECL text field enter: ECL> **TAKE GROUNDCNTRL STRING=100**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘GROUNDCNTRL’ Re-enter.	
32.	Click on ‘Close’ in the error dialog box. Move the cursor to GROUNDCNTRL, double click and enter **GROUNDCONTROL**	The word GROUNDCNTRL was highlighted when double clicked and was replaced by the new entry. The ECL text field is cleared. The following event message is displayed: User <user_id> and <wks_id> already has Ground Control Authority on string 100	

33.	At the Control window ECL text field enter: ECL> **CB ON**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'CB' Re-enter.	
34.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **CV ON**	The ECL text field is cleared	
35.	At the Control window ECL text field enter: ECL> **DECOM SELL=ALL MODE=OFF STRING =100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'SELL' Re-enter.	
36.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **DECOM SEL=ALL MODE=OFF STRING =100**	The ECL text field is cleared and the following event message is displayed: StringMgr process successfully configured.	
37.	At the Control window ECL text field enter: ECL> **DERVED <derived mnemonic_id> RATE=30 STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'DERVED' Re-enter.	
38.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **DERIVED <derived mnemonic _id> RATE=30 STRING=100**	The ECL text field is cleared.	
39.	At the Control window ECL text field enter: ECL> **DRIPOUT=10 STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'DRIPOUT' Re-enter.	

40.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **DROPOUT=10**	The ECL text field is cleared. The following event message was displayed: StringMgr process successfully configured	
41.	At the Control window ECL text field enter: ECL> **EDWS COMMTEST**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'EDWS' Re-enter.	
42.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **EDOS COMMTEST**	The ECL text field is cleared. The following event message was displayed: EDOS has not sent a Command Echo Block within the time-out limit.	
43.	At the Control window ECL text field enter: ECL> **EU AST_TR_V_STR2 ZSL=3 STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'ZSL' Re-enter.	
44.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **EU AST_TR_V_STR2 SEL=3 STRING=100**	The ECL text field is cleared. The following event message was displayed: StringMgr process successfully configured. Failed Request Status received from RTS String Manager on the RMS request.	
45.	At the Control window ECL text field enter: ECL> **EA DISEBLE**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'DISEBLE' Re-enter.	

46.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **EA DISABLE**	The ECL text field is cleared.	
47.	At the Control window ECL text field enter: ECL> **FUND /fosb/test/am1/procs**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘FUND’ Re-enter.	
48.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **FIND /fosb/test/am1/procs**	The ECL text field is cleared.	
49.	At the Control window ECL text field enter: ECL> **HEP**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter	
50.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **HELP**	The ECL text field is cleared. Netscape is started.	
51.	Click on the Netscape ‘Close’ button and select **Quit**.	The Netscape window closed.	
52.	At the Control window ECL text field enter: ECL> **IMGCMP RTT DUMP=file1.dmp DUMP=file2.dmp MASK=mask1**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘RTT’ Re-enter.	

53.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **IMGCMP RTS DUMP=file1.dmp DUMP=file2.dmp MASK=mask1**	The ECL text field is cleared and the following event messages are displayed: Could not locate file for image file1. VM/TL file1.dmp : Could not find file on retrieval. Could not locate file for image file2. VM/TL file2.dmp : Could not find file on retrieval. FmImAM1MemoryImage status Failed : file2 dump image not found. File1 image not found. Comparison not performed. An error dialog box with Unknown Error is displayed.	
54.	Click on 'Close' in the error dialog box. At the Control window ECL text field enter: ECL> **IMGOVIR ATC DUMP=file1 START=228 END=1047**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'IMGOVIR' Re-enter.	
55.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **IMGOVER ATC DUMP=file1 START=228 END=1047**	The ECL text field is cleared and the following event message is displayed: Could not locate file for image file1. VM/TL file1.dmp : Could not find file on retrieval.	
56.	At the Control window ECL text field enter: ECL> **IMGRPT ATT file 1.dmp START=237 END=546**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'ATT' Re-enter.	

57.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **IMGRPT ATC file1.dmp START=237 END=546**	The ECL text field is cleared.	
58.	At the Control window ECL text field enter: ECL> **KELL XYZ**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘KELL’ Re-enter.	
59.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **KILL XYZ**	The ECL text field is cleared	
60.	At the Control window ECL text field enter: ECL> **LIMATS ON STRING=100**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘LIMATS’ Re-enter.	
61.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **LIMITS ON STRING=100**	The ECL text field is cleared	
62.	At the Control window ECL text field enter: ECL> **NCA UPD ENABLE**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘NCA’ Re-enter.	
63.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **NCC UPD ENABLE**	The ECL text field is cleared.	

64.	Click on 'Tlm Win...' and selct **CODA-StatusBlocks** from the selection window	The CODA-StatusBlocks window is displayed.	
65.	At the Control window ECL text field enter: ECL> **PAGE ICONEFY CODA-StatusBlocks**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'ICONEFY' Re-enter.	
66.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **PAGE ICONIFY CODA-StatusBlocks**	The ECL text field is cleared.	
67.	At the Control window ECL text field enter: ECL> **PAGE RESTARE CODA-StatusBlocks**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'RESTARE' Re-enter.	
68.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **PAGE RESTORE Status**	The ECL text field is cleared.	
69.	At the Control window ECL text field enter: ECL> **PG STARDATA APID-1 COUNT=-1**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'STARDATA' Re-enter.	
70.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **PG STARTDATA**	The ECL text field is cleared.	

71.	At the Control window ECL text field enter: ECL> **RMA SHOWID**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'RMA' Re-enter.	
72.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **RM SHOWID**	The ECL text field is cleared.	
73.	At the Control window ECL text field enter: ECL> **STRT Local1**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'STRT' Re-enter.	
74.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **START Local1**	The ECL text field is cleared and event messages showing the procedure execution are displayed with the last message being: Procedure Controller Finished processing procedure Local1.	
75.	At the Control window ECL text field enter: ECL> **STATE BASSLINE STRING=100**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'BASSLINE' Re-enter.	
76.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **STATE BASELINE STRING=100**	The ECL text field is cleared. The following event messages are displayed: Successfully reconfigured string processes No config change was made because the process that the config change applies to does not exist on this host.	
77.	At the Control window ECL text field enter: ECL> **TBLCAP AM1_TBL_TABLE1.DMP**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter ''TBLCAP' Re-enter.	

78.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **TBLCMP AM1_TBL_TABLE1.DMP**	The ECL text field is cleared.	
79.	At the Control window ECL text field enter: ECL> **TOOT User_Customization**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘TOOT’ Re-enter.	
80.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **TOOL User_Customization**	The ECL text field is cleared.	
81.	At the Control window ECL text field enter: ECL> **TM ON**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘TM’ Re-enter.	
82.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **TV ON**	The ECL text field is cleared.	
83.	Click the ‘close’ button in the Command Control window and select **Close** from the drop-down menu.	The Command Control window closed.	
84.	At the Control window ECL text field enter: ECL> **SK “ls”**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘SK’ Re-enter.	

85.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **SH “ls”**	The ECL text field is cleared.	
86.	At the Control window ECL text field enter: ECL> **bye**	An Error Dialog box is displayed with the message ‘Syntax error: parse error→ invalid parameter ‘bye’ Re-enter.	
87.	Click on ‘Close’ in the error dialog box.Edit the ECL text field to read: ECL> **BYE**	The ECL text field is cleared. The user is logged off the userworkstation.	
88.	In the Login window enter: User> **<valid user id>** (w/GndCntrl privilege) Password> **<a valid password>** Click on ‘OK’	The Login window closes and the User Roles window is opened displaying the User, Environment, a Spacecraft pull-down menu, a Site pull-down menu, and a Roles listbox listing the authorized user types for the user.	
89.	Select **EOC** from the Site pull-down menu. Select **Ground Controller** from the Roles listbox. Click ‘OK’ button.	When the site EOC was selected, the listbox listed the authorized roles for the user. The Roles window closed and login was completed with the Control Window-Room Main being displayed.	
90.	At the Control window ECL text field enter: ECL> **TOOL Event_Display-Global**	The ECL text field is cleared and the Event Display window is displayed.	

91.	At the Control window ECL text field enter: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The ECL text field is cleared and the following event messages appear in the event area of the Control window: Establishing ParameterServer service… ParameterServer process successfully configured Establishing Decom service…. Decom process successfully configured StringMgr process successfully configured Successfully connected to String 100	
92.	Take Ground Control privilege. Using the ECL command line in the Control Window enter ECL>**TAKE GROUNDCONTROL STRING = 100**	The following events are displayed in the Event Display and the Control window events areal. StringMgr process successfully configured Ground Control Authority has changed from <user_id> to <user_id>	
93.	At the Control window ECL text field enter: ECL> **GCMR RECONFIG MA FWD ANTENNA=SSM RATE=10 FREQ=5.24 DOPCOMP=A**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'SSM' Re-enter.	
94.	Move the cursor to SSM, double click and enter: **SSA**	The ECL text field is cleared.	
95.	At the Control window ECL text field enter: ECL> **NCC COMMTEST UPP**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'UPP' Re-enter.	

96.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **NCC COMMTEST UPD** and enter.	The ECL text field is cleared and the following event messages were received: Communication Test Message Directive is sent to NCC UPD Service NccStatusMgr received UPD Communication Test Message from NCC.	
97.	At the Control window ECL text field enter: ECL> **RTCONFIG STRING=123 TDRS=TDE**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'RTCONFIG' Re-enter.	
98.	Click on 'Close' in the error dialog box. Edit the ECL text field to read: ECL> **RCCONFIG STRING=123 TDRS=TDE** and enter.	The ECL text field is cleared and the following message was received: Unable to locate string 123. User should make sure directive contains the correct string ID.	
99.	At the Control window ECL text field enter: ECL> **CREATE STRING REALTIME CPACECRAFTID=AM1 DATABASEID=1.0 MODE=OPS SERVER=1**	An Error Dialog box is displayed with the message 'Syntax error: parse error→ invalid parameter 'CPACECRAFTID=AM1' Re-enter.	

100.	Click on ‘Close’ in the error dialog box. Edit the ECL text field to read: ECL> **STRING CREATE REALTIME SPACECRAFTID=AM1 DATABASEID=1.0 MODE=OPERATIONAL SERVER=1** and enter.	The ECL text field is cleared.	
101.	At the Control window ECL text field enter: ECL> **MSG “End of ECL directives test”**	The ECL text field is cleared and the event message ‘End of ECL directives test’ is displayed.	
102.	End of test.		

Procedure Builder Test Procedure (Final: August 27, 1997)

Test Case No: FUI-2050B

Test Configuration:

Test Support: Current listing of the PDB command definitions and command constraint definitions (“hard” and “soft”).

Test Description:

This test will verify the ability to create, syntax check, validate, check command constraints, edit, store, print, and delete ECL-based PROCs. The test begins with the initialization of the FOS-STS to support PROC processing. When the PROC Builder tool is invoked, the user can specify the PROC is to be generated according to a specified PROC type (e.g., emergency, command, ground, local, activity, and user-defined). The PROCs are saved by a specified spacecraft, instrument, or spacecraft-instrument name. The next set of steps involves the editing of several previously defined PROCs. Standard editing options will include cut, copy, paste, delete, insert (text or an existing Proc) , search/replace. The user will be able to manually enter commands as well as use the Directive Builder Tool. This procedure will also include the verification of various constructs and operator functions within a PROC. In addition, this test also ensures that the user receives a fail or pass status when syntax checking and validating the PROCs. Once the procedure has been successfully syntax checked an .xdr file is created, and placed in the users directory when the procedure is saved. The test will also ensure capability of producing a hard copy of the PROC(s).

Success Criteria:

This test is considered successful when an authorized user has the ability to open and create new PROCs through the use of the Procedure Builder and Directive Builder; to insert ECL directives containing conditional constructs, nested conditional constructs, iterative loops, nested loop constructs, built in functions, spacecraft commands and ground commands; to specify temporary variables within a procedure; to specify temporary variable arrays within a procedure; to specify comments within a procedure; to specify a jump to a labeled statement within a procedure; to allow procedures to invoke other procedures; to allow a procedure to accept arguments when invoked; to perform procedure validation, command constraint checking, and syntax checking; to display current validation and syntax check status; to allow "soft" command-level constraint violations to remain in a command procedure and prohibit "hard" command-level constraint violations; to edit existing procedures using standard edit functions of cut/copy/paste text, delete text, insert text, search for text strings, replace text, and insert an existing procedure; and to print procedures. The FOS displays a list of directive keywords, a list of directive keyword qualifiers that corresponds to the selected keyword, a list of mnemonics descriptors that the user may select from to build procedure directives, and a list of mnemonic qualifiers that the user may select to build procedures that correspond to the selected discrete mnemonic descriptor. The user receives a pass or fail status when syntax checking and validation is complete.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

4.	Activate the Procedure Builder. Enter the following directive from the control window. ECL>**TOOL Procedure_Builder**	The Procedure Builder Window is displayed. This window will contain the following: (1) A menu bar with four pull down menus; File, Edit, Tools, and Help (2) An Identification line with the Procedure File Name and Procedure Type (3) A scrolling text area (4) A status message line (5) A Go To text input field Syntax and validate buttons and indicators	
5.	Select ‘New’ from the File menu. Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx	

6.	Select ‘Directive Builder’ from the Tools menu	Directive Builder window is displayed. This window will contain the following: 1. An ECL text field 2. Directive keywords text field and list box 3. Subsystems list box with Filter button and selection buttons; All and None 4. Cmds (Commands) and Tlms (Telemetry) selection buttons, text field and list box. 5. Selection Template list box Control button selections; OK, Apply, Cancel, and Help	

7.	Select commands using the Filter on the desired subsystem. Click on ‘Filter’ button Select **AM1** under Spacecraft in the Selection Filter Select **CDH** from the selection list under Instrument and click on ‘Select’ button. Select **MOD** from the selection list under Instrument and click on ‘Select’ button. Click ‘OK’ Click on **‘**AM1_CDH’ under Subsystems in the Directive Builder Click on command directive CDH_DISABLE CT1LVIF. Double click on the chosen directive. Click ‘Apply’	The Selection Filter window opened. AM1_CDH and AM1_MOD appeared under Selected when the Select button was clicked. The Filter window closes and the filter selections appear under Subsystems within the Directive Builder window. The Cmds list box contains CDH command directive directives. Any qualifiers/parameters associated with the selected command are displayed in the ‘Selection Templates:’ list box The command directive is placed in the ECL text field box. The command parameter is appended to the command. There is no value associated with the parameter. The command directive and parameter with specified value are displayed in the ECL text box. The command is inserted in the procedure text field area at the cursor position.	

8.	Enter additional commands as part of the procedure. (Use commands that have “hard” and “soft” constraints identified in the data base, use at least one critical command) Using the vertical scrollbar in the command subwindow, scroll to command CDH_MLOAD_CT2DATA Double click on ‘CDH_MLOAD_CT2DATA’ Double click on the subdirective ‘DW1’ under Selection Templates Specify the value of the parameter by entering the value after the equal sign. (note: the range is displayed) Click on ‘Apply’ button. Under Subsystems, click on ‘AM1_CDH’ button and then click on ‘AM1_MOD’ button. Using the vertical scrollbar in the command subwindow, scroll to command MOD_ENABLE_CP_IMOK Double click on ‘MOD_ENABLE_CP_IMOK’ command. Click on ‘Apply’ button Using the vertical scrollbar in the command subwindow, scroll to command MOD_DISABLE_CP_EPWRT Double click on ‘MOD_DISABLE_CP_EPWRT’ command. Click on ‘Apply’ button Using the vertical scrollbar in the command subwindow, scroll to command MOD_ENABLE_PS1_SVHTR Double click on ‘MOD_ENABLE_PS1_SVHTR’ command Click on ‘Apply’ button Using the vertical scrollbar in the command subwindow, scroll to command MOD_ENABLE_PS2_SVHTR Double click on ‘MOD_ENABLE_PS2_SVHTR’ command Click the OK’ button.	Command directive CDH_MLOAD_CT2DATA was inserted into the ECL text field when double clicked. The command CDH_MLOAD_CT2DATA was inserted into the procedure at the cursor location When the AM1_CDH button under Subsystems was clicked, the commands associated with it cleared and the toggle switch was no longer recessed. When the AM1_MOD button was clicked, the commands associated with it were displayed and the toggle switch showed recessed. Command directive MOD_ENABLE_CP_IMOK was inserted into the ECL text field when double clicked. The command MOD_DISABLE_CP_EPWRT was inserted into the procedure at the cursor location Command directive MOD_DISABLE_CP_EPWRT was inserted into the ECL text field when double clicked. The command CDH_MLOAD_CT2DATA was inserted into the procedure at the cursor location Command directive MOD_ENABLE_PS1_SVHTR was inserted into the ECL text field when double clicked. The command MOD_ENABLE_PS1_SVHTR was inserted into the procedure at the cursor location Command directive MOD_ENABLE_PS2_SVHTR was inserted into the ECL text field when double clicked. The command MOD_ENABLE_PS2_SVHTR was inserted into the procedure at the cursor location The Directive Builder window closed when OK was clicked on.	

9.	Click on the ‘Procedure Type’ pull down menu and select **Local** Select **Save as** from the File menu	The File Selection dialog box appears with the users proc directory string listed in the Selection field..	
10.	In the File Selection dialog box Selection text field add: **AM1_Test1** Click on the ‘OK’ button.	The File Selection dialog box closed. Status line contains message: Save failed: Local procs cannot have any spacecraft commands.	
11.	Click on the ‘Procedure Type’ pull down menu and select **Command** Select **Save as** from the file menu.	The File Selection dialog box appears with the users proc directory string listed in the Selection field. AM1_Test1 is still in the directory string.	
12.	Click on ‘OK’ button.	The procedure is saved as AM1_Test1 in the selected directory. The File Selection dialog box closes. The status line contains message: Save xxx lines (xxxbytes) to /home/*user_id*/procs/AM1_Test1.	
13.	Click ‘Check Syntax’	If the procedure passes Syntax check the ???? with yellow background will change to PASS with a green background. Note: If the procedure fails Syntax check the ???? will change to FAIL with a red background and the syntax error will be displayed in the Status line. The line number is also displayed. The procedure should pass the syntax check.	

14.	Edit the current procedure: Edit Proc xxxx() and End Proc xxxx to read **Proc AM1_Test1()** and **End Proc AM1_Test1** respectively. Select a command directive delete one the characters Select another command directive and put an extra '/' in front of the command Enter the ECL directive **TV,** do not specify a state (i.e., On, Off) Click 'Check Syntax'	The Check Syntax status changed to ???? with a yellow background at the first key entry into the procedure. The procedure will fail Syntax check and the ???? will change to FAIL with a red background. The first syntax error will be identified in the status line. The line number is also indicated.	
15.	Using the 'Go To:' text box enter the line number indicated in the error message	The cursor will go to the line entered	
16.	Edit the directive to read: **<corrected ECL directive>** Click 'Check Syntax'	The second syntax error will be displayed on the status line. The line number is also indicated.	
17.	Using the 'Go To:' text box enter the line number indicated in the error message.	The cursor will go to the line entered.	
18.	Delete on of the **'/'** in front of the command Click 'Check Syntax'	The third syntax error will be displayed in the status column. The line number is also indicated, however, the error is on the previous line because the directive is not complete..	

19.	Using the ‘Go To:’ text box enter the line number indicated in the error message. On the previous line specify an **OFF** state for TV directive. Click ‘Check Syntax’	The cursor will go to the line entered TV OFF The procedure passes Syntax check the Fail will change to PASS with a green background.	
20.	Click on the ‘Validate’ button.	The procedure will fail the Validate check and the Check box will change from ???? with yellow background to Fail with a red background. Status messages are displayed indicating the “hard” command constraints and the “soft” constraints.	
21.	Edit the procedure to remove the hard constraint and click on ‘Validate’ button.	The status will indicate a “soft” command constraint violation.	
22.	Click on the ‘File’ pull-down menu and select **Save as**.	The File Selection Dialog Box is opened with the directory and file name listed in the Selection field.	
23.	Click ‘OK’.	The File Selection Dialog Box is closed and the file is saved and the corresponding .xdr file is generated. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/AM1_Test1	
24.	Select ‘New’ from the File Menu Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	

25.	Click the Procedure Type button and select Emergency Edit ‘PROC xxxx()’and ‘END PROC xxxx’ with the following respectively: PROC **AST_Test1()** END PROC **AST_Test1**	Emergency will appear in the Procedure Type text box	

26.	Enter the following contents between PROC ATS_Test1 and END PROC AST_Test1 to define a construct PROC **# this procedure will test constructs** **int $A, $B, $C** **$A=2x01 # binary number** **$B=8x2 # octal number** **$C=0x3 # hexadecimal number** **# test if-else statements----------** **if (($A+$B)*2-3 ==$C)** **#arithmetic expression with parenthesis** **{** **/AST_TURN_ON_C_TDP** **}** **else** **{** **/AST_TURN_OFF_C_TDP** **}**	Text appears in the text entry area as entered.	

27.	Click on the ‘Validate’ button.	The Check Syntax field changed to Pass with a green background, the Validate field changed to Pass with a green background. The status line contains the status ‘AST1_Test1 - constraint Checking Complete with No Violations Against Database’ The following event messages were issued confirming validation completed successfully: ‘Started constraint checking Procedure AST_Test1.xdr.’ ‘FmCcAM1ConstraintProc starting.’ ‘Finished constraint checking Procedure AST_Test1.xdr.’ ‘FmCcDefinitionConstCk status Success: AST1_Test1 -Constraint ‘ ‘FmCcAM1ConstrintProc terminating.’	
28.	Click on ‘File’ and select **Save as…** from the pull-down menu.	The File Selection Dialog Box is opened with the user directory listed in the Selection field.	
29.	Append file name **AST_Test1** to the directory string in the Selection field. Click ‘OK’	The procedure is saved and the File Selection Dialog Box is closed. The procedure .xdr file was created. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/AST1_Test1	

30.	Click on ‘File’ and select **New** from the pull down menu. Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	
31.	Select Procedure Type: **Local** Edit the PROCxxxx() and END PROCxxxx to read: **PROC Local1()** **END PROC Local1**	Procedure Type is displayed as Local. Text appears in the text entry area as entered	
32.	Enter the following text between PROC Loca1() and END PROC Local1: **int $A, $B, $C** **$A=1** **$B=2** **$C=3** **# test switch-case statements ----------** **switch ($B) {** **case 1: CV OFF** **TV OFF** **break** **case 2: CV ON** **TV ON** **if ($A < =2) { #nested construct**	Text appears in the text entry area as entered.	

```
                    WAIT 5
            }
             MSG  “3”
             break
    case 3:
            default:
            break
    }
    #test do-until loop ----------
    do  {
    $A++
    } until  ($A>=4)
    #test while loop-------
    while  ($A>2)
    {
     $A—
    }

    #test jump to label and BREAK conditions -
--------
    for  ($A=1; $A<10; $A++)
    {
    if ($A==4)
```

	{ **GOTO mylabel** **}** **}** **MSG "before label"** **mylabel:** **for ($A=1; $A<10; $A++)** **{** **if ($A==4)** **{** **break** **}** **}** **MSG "Exited for loop at $A=4"**		
33.	Click on 'Validate' button	The Check Syntax field changed to Pass with a green background, the Validate field changed to Pass with a green background and event messages were issued confirming Syntax verified and validation completed successfully. NOTE: If the Check Syntax field displays Failed with a red background, check the status message and go to the line indicated and verify the entered text against the procedure. A typo is probably the problem.	

34.	Select ‘Save As’ from the File menu	The ‘Save As’ dialog box appears with the user home directory for procs listed in the Selection field.	
35.	Append the filename **Local1** to the directory string and click ‘OK’.	The ‘Save As’ dialog box closed and the procedure was saved in the users home directory for procs. A corresponding .xdr file was also created. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/Local1	
36.	Verify the Meta Data information Select ‘Meta Data’ from the Tools menu	An information window will appear 1. Procedure Name: Local1 2. Proc Type: Local 3. Syntax: PASS 4. Validation: Pass 5. Proc Location: /home/<*user_id*>/procs 6. Author: user login name 7. Last Modified By: user login name 8. Date Created: <the current date> (MON DD HH:MM YYYY) 9. Last Modified: <the current date> (MON DD HH:MM YYYY)	
37.	Click ‘Close’	The information window closes and the PROC builder tool is in view.	

38.	Define a procedure with arguments Select ‘New’ from the File Menu Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	
39.	Select a procedure type Click the Procedure Type button and select **User-defined**. Edit ‘PROC xxxx()’and ‘END PROC xxxx’ with the following respectively: PROC **arg_test(int $arg1, int $arg2)** END PROC **arg_test**	User-defined will appear in the Procedure Type text box.	

40.	Enter the following contents between PROC arg_test(int $arg1, int arg2) and END PROC arg_test to define a PROC with arguments **# This procedure will test arguments** **int $A, $B** **$A=1** **$B=2** **if (($A+$B) >=$arg1)** **{** **/AST_TURN_ON_C_TDP** **}** **else** **{** **/AST_TURN_OFF_C_TDP** **}** **if (($arg1 == $arg2)** **{** **MSG** “1” **}**		

41.	Click ‘Validate’. If syntax check fails, click on ‘Check Syntax’ and use the Go to option to go to the line number indicated in the status line to correct the directive. Perform syntax check until a pass status is received. If validation fails, clear the indicated violation and revalidate. Perform validation until the validation check passes.	If the procedure passes Syntax check the ???? with yellow background will change to PASS with a green background. If the procedure fails Syntax check the ???? will change to FAIL with a red background. If the procedure passes validation check the ???? with yellow background will change to PASS with a green background. If procedure fails validation check the ???? will change to FAIL with a red background and the reason for failing validation will be provided.	
42.	Select ‘Save As’ from the File menu Enter procedure name as **arg_test**	The ‘Save As’ dialog box appears. The arg_test procedure will be saved in the user directory. The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/arg_test	

43.	Verify the Meta Data information Select ‘Meta Data’ from the Tools menu	An information window will appear 1. Procedure Name: arg_test 2. Proc Type: User-Defined 3. Syntax: PASS 4. Validation: PASS 5. Proc Location: /home/<*user_id*>/procs 6. Author: user login name 7. Last Modified By: user login name 8. Date Created: <the current date> (MON DD HH:MM YYYY) 9. Last Modified: <the current date> (MON DD HH:MM YYYY)	
44.	Click ‘Close’	The information window closes and the PROC builder tool is in view.	
45.	Edit the arg_test to nest the construct procedure Enter **START AST_Test1** after the declaration of variables in the procedure Click ‘Check Syntax’	The Check Status text field status is PASS (green)	
46.	Click on ‘File’ and select **Quit**	A dialog box appears prompting user: The procedure has been changed, do you want to discard edits and proceed?	
47.	Click ‘Yes’	The Procedure Builder closed.	

48.	Click on ‘Tools…’ button and select **Procedure_Builder** from the Tools listbox.	The Tools listbox is displayed. The Procedure Builder window opened.	
49.	Select ‘New’ from the File Menu Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	
50.	Click the Procedure Type button and select Ground Edit ‘PROC xxxx()’and ‘END PROC xxxx’ with the following respectively: PROC **TESTPROC()** END PROC **TESTPROC**	Ground will appear in the Procedure Type text box.	

51.	Insert a simple if-then-else statement using && and == **int $A, $B** **$A=1** **$B=2** **if ($A==3&&$B==3)** **{** **TAKE GROUNDCONTROL STRING=100** **}** **else** **{** **TOOL Event_Display-Global** **PAGE Header** **}**		

52.	Click ‘Validate’ If syntax check passes go to the next step If syntax check fails use the Go to option to determine what line(s) need to be modified. Perform syntax check until a pass status is received	If the procedure passes Syntax check the ???? with yellow background will change to PASS with a green background. If the procedure fails Syntax check the ???? will change to FAIL with a red background and the Status line will give the procedure line number for the syntax error. Validate status changed to PASS with green background	
53.	Select ‘Save As’ from the File menu Enter procedure name as **TESTPROC** Click ‘OK’	The ‘Save As’ dialog box appears. The TESTPROC procedure will be saved in the user directory. The .xdr file is created. The status line contains message: Save xxx lines (xxxbytes) to home/fostes2/procs/TESTPROC	
54.	Edit TESTPROC by changing the && to || (or) enter **if ($A==3 || $B==3)** Click ‘Validate’ button	The procedure passes Syntax check the ???? with yellow background will change to PASS with a green background.. Validate status changed to PASS with green background	
55.	Select ‘Save’ from the File menu	The TESTPROC procedure will be saved in the user directory. The .xdr file is updated.. The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/TESTPROC	

56.	Select ‘New’ from the File menu. Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	
57.	Click the Procedure Type button and select Activity	Activity is displayed as the procedure type.	
58.	Edit ‘PROC xxxx()’and ‘END PROC xxxx’ with the following respectively: PROC **TESTPROC1()** END PROC **TESTPROC1**		
59.	Insert different arithmetic operators **int $A, $B, $C, $D** **$A=4** **$B=$A/2*3** **$C=COS(45)*SIN(60)** **$D=SQRT(25)** Click ‘Check Syntax’	The procedure passes Syntax check the ???? with yellow background will change to PASS with a green background.	

60.	While in that same PROC demonstrate the ability to cut and paste. Highlight $A=4 $B=$A/2*3 Select 'Cut' from the Edit Menu Place the cursor below $D=sqrt25 Select 'Paste' from the Edit Menu	The selected text should be deleted from original location and should now appear in specified new location.	
61.	While in that same PROC demonstrate the ability to copy text Highlight $D=sqrt25 Select 'Copy' from the Edit Menu Place the cursor below $B=$A/2*3 Select 'Paste' from the Edit Menu	The selected text should be deleted from original location and should now appear in specified new location	
62.	While in that same PROC demonstrate the ability to delete text Highlight $C=(COS(45)*SIN(60)) $D=sqrt25 Select 'Delete' from the Edit Menu Click on 'Validate'	The selected text should be removed from the procedure. The procedure passes Syntax check. The ???? with yellow background will change to PASS with a green background. The procedure passes Validation and the ???? with yellow background changed to PASS with a green background.	

63.	Select ‘Save As’ from the File menu	The ‘Save As’ dialog box appears. The directory path is in the Selection field.	
64.	Enter **TESTPROC1** at the end of the directory path. Click ‘OK’	The procedure is saved as TESTPROC1 and the .xdr file is created. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/TESTPROC1	
65.	Select ‘Open’ from the File menu Click ‘System Dir’ Select one of the procedures listed and click ‘OK’. Select ‘Print’ from the File menu	A list box containing the procedures in the system directory are displayed. A hard copy of the procedure is produced.	
66.	Select ‘New’ from the File Menu Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	

67.	Edit PROCxxxx() and END PROCxxxx to read: PROC **AM-1_TEST** and END PROC **AM-1_TEST** Enter the following directives between PROC and END PROC: **STRING CREATE BACKUP SERVER=3 STRING=12** **GCMR SWEEP LINK=MA** Select Procedure Type: **Command**	Text appears as entered. Command is displayed as the Procedure Type.	
68.	Select **Save as…** from the file menu	The File Selection dialog box is displayed.	
69.	Append **AM1_TEST** to the directory string in the Selection text field. Click 'OK'	Procedure status line has message: Save failed: Command procs must have at least 1 spacecraft command.	
70.	Select Procedure Type: **Local** Select **Save as...** from the file menu.	The Procedure Type changed from Command to Local. The File Selection dialog box is displayed.	
71.	**AM1_TEST** is still appended to the directory string in the Selection text field. Click 'OK'	Procedure status line has message: Save failed: Local procs cannot have any ground commands.	
72.	Select Procedure Type: **Ground** Select **Save as...** from the file menu.	The Procedure Type changed from Local to Ground. The File Selection dialog box is displayed.	

73.	**AM1_TEST** is still appended to the directory string in the Selection text field. Click 'OK'	The procedure is saved as AM1_TEST, the .xdr file was created and the File Selection dialog box closed. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/AM1_TEST	
74.	Select 'New' from the File Menu Delete all '#' comment characters along with the 'INSERT ECL DIRECTIVES' between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx()	
75.	Edit PROCxxxx () and END PROC xxxx to read: PROC **User_defined** and END PROC **User_defined** Select Directive Builder from the Tools menu and enter the following directives between PROC and END PROC: **/COM_TURN_OFF_MDA1** **GCMR SWEEP LINK=MA** Select **Ground** for Procedure Type: Click on 'Validate' button.	. The Check Syntax field changed to Pass with a green background, the Validate field changed to Pass with a green background and event messages were issued confirming Syntax verified and validation completed successfully. <u>NOTE:</u> If the Check Syntax field displays Failed with a red background, check the status message and go to the line indicated and verify the entered text against the procedure. A typo is probably the problem.	
76.	Select **Save As** from the file menu	The File Selection dialog box is displayed	
77.	Append **User_defined** to the directory string in the Selection text field. Click 'OK'	Procedure status line has message: Save failed: Ground procs cannot have any spacecraft commands.	

78.	Select Procedure Type: **Local** Select **Save as...** from the file menu.	The File Selection dialog box is displayed.	
79.	**User_Defined** is still appended to the directory string in the Selection text field. Click 'OK'	Procedure status line has message: Save failed: Ground procs cannot have any spacecraft commands.	
80.	Select Procedure Type: **User Defined** Select **Save ...** from the file menu.	The File Selection dialog box is displayed.	
81.	**User_Defined** is still appended to the directory string in the Selection text field. Click 'OK'	The file is saved and the File Selection dialog box is closed. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/User_Defined	
82.	Select 'New' from the File Menu Delete all '#' comment characters along with the 'INSERT ECL DIRECTIVES' between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx	
83.	Select Procedure Type **Local** from the pull-down menu and edit PROC xxxx(), END PROCxxxx to read **PROC Local2(), END PROC Local2**	Local is displayed as Procedure Type and Procedure text appears as entered.	
84.	Insert the following text between PROC Local2() and END PROC Local2: #Test acceptance of built-in functions **int $A, $B, $C, $D, $E, $F, $G, $H, $I, $J,**	Text appears in procedure as entered. Check Syntax status should change to pass with green background. (If syntax fails check for typos and recheck.)	

	$K, $L **$A=ACOS(45)** **$B=ASIN(60)** **$C=ATAN(30)** **$D=TAN(45)** **$E=COSH(20)** **$F=SINH(50)** **$G=TANH(80)** **$H=2EXP(+2)** **$I=LOG(123)** **$J=LOG10(435.6)** **$K=POW(4,2)** **$L=FABS(5)** **if (($A*$B)+$C>=$D+$E+$F)** **{** **MSG "Partial verification of built-in functions"** **}** **else if ($G+$H+$I<=$J+$K+$L)** **{**	Validation status changed to Pass, the status line has the message 'Local2 - Constraint Checking Complete with No Violations Against Database, and the Event display in the Control Window has the following events displayed: Started constraint checking Procedure, Local2.xdr. FmCcAM1ConstraintProc starting. Finished constraint checking Procedure, Local2.xdr. FmCcDefinitionConstCk status Success : Constraint FmCcAM1ConstraintProc terminating.	

	WAIT 20 **MSG "Additional verification of built-in functions"** **}** **else** **{** **WAIT 30** **MSG "All built-in functions have been used"** **}** Click on 'Validate' button		
85.	Click on 'File' and select **Save as** from the pull-down menu.	The Save As dialog box is displayed with the user directory string for pocs displayed in the Selection field.	
86.	Append **Local2** to the directory string and click 'OK'	The procedure is saved and the .xdr file was created. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/Local2	
87.	Click on 'File' and select **Open.** Click on the 'Filter' button in the dialog window.	The Open dialog box is displayed. The directory is updated when Filter button was clicked on. Procedure Local2 and Local2.xdr are listed in the home directory files list.	

88.	Select ‘New’ from the File Menu Delete all ‘#’ comment characters along with the ‘INSERT ECL DIRECTIVES’ between the PROC xxxx() and END PROC xxxx statements.	A blank template is displayed PROC xxxx() END PROC xxxx	
89.	Select Procedure Type **Local** from the pull-down menu and edit PROC xxxx(), END PROCxxxx to read **PROC Local3(), END PROC Local3**	Local is displayed as Procedure Type and Procedure text appears as entered.	
90.	Insert the following text between PROC Local3() and END PROC Local3: **int $A[5], $B, $C** **$A[1]=10** **$A[2]=20** **$A[3]=30** **$A[4]=40** **$A[5]=50** **$B=2** **$C=3** **if ($A[2]-$A[1]==$B*$C)** **{** **MSG “Local variables can be expressed as arrays”** **}**	Text appears as entered.	

	else **{** **MSG "This is the last function tested"**		
91.	Click the 'Validate' button.	Check Syntax status should change to pass with green background. (If syntax fails check for typos and recheck.) Validation status changed to Pass, the status line has the message 'Local3 - Constraint Checking Complete with No Violations Against Database, and the Event display in the Control Window has the following events displayed: Started constraint checking Procedure, Local3.xdr. FmCcAM1ConstraintProc starting. Finished constraint checking Procedure, Local3.xdr. FmCcDefinitionConstCk status Success : Constraint FmCcAM1ConstraintProc terminating.	
92.	Click on 'File' and select **Save as** from the pull-down menu.	The Save As dialog box is displayed with the user directory string for pocs displayed in the Selection field.	
93.	Append **Local3** to the directory string and click 'OK'	The procedure is saved and the .xdr file was created. . The status line contains message: Save xxx lines (xxxbytes) to /home/fostes2/procs/Local3	

94.	End of test.		

User Authentication & Display (Final: August 25, 1997)

Test Case No: FUI-2090B

Test Configuration: See Appendix G

Test Support: A list of authorized users/passwords, SQL script for editing and updating the User_id/Roles Tables, and a list of authorized CAC and GC user IDs/Workstations.

Test Case Description:

This test case is designed to verify the ability of the FOS security login procedures to authenticate EOC users and for the EOC Manager to enter a list of authorized users and assign user type(s) (roles) to each user. The test begins with the initialization of the EOC to the point where the User login window is displayed on a CAC authorized workstation. Both invalid and valid logins are performed, the user environments are selected to include system and standalone operations. User types are verified as well as the ability to switch to an alternate user type during a session. The capability of the EOC Manager to enter authorized EOC users/user type(s), delete authorized users/user type(s) and to change the user type(s) for users in the system.

Success Criteria:

This test is considered successful when an authorized user can login to the system and select his user type for the current login session; an unauthorized user is rejected by the system; a user can switch to an alternate authorized user type during a session (a user can be specified as only one user type at any given time); the EOC Manager(EOC) can enter a list of authorized users, delete users from the system, and change the user types for users in the system. The available EOC user types will be: read only, generic only, command activity controller, database administrator, instrument controller operations controller, PAS scheduler, and PAS definer.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	

2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Console login: **<user_id>** Password: ***********	The Unix login window closes and an xterm window is opened.	
4.	At the Unix prompt in the xterm window enter: %: **FOS_LOGIN**	The FOS User Login window is displayed.	
5.	Click on the 'User' text field of the login window and enter: User> **abcd** Password> **(a valid password)** Click on 'OK' button	An Error Dialog box , 'Invalid Login ID' is displayed.	
6.	Click on 'Close' button.	The Error Dialog box is closed.	
7.	In the Login window enter: User> **<a valid user ID>** Password> **abcd** Click on 'OK' button	An Error Dialog box, 'Invalid Password' is displayed.	
8.	Click on 'Close' button.	The Error Dialog box is closed.	

9.	In the Login window enter: User> **<valid user id>** Password> **<a valid password>** Click on 'OK'	The Login window closes and the User Roles window is opened displaying the User, Environment, a Spacecraft pull-down menu, a Site pull-down menu, and a Roles listbox listing the authorized user types for the user.	
10.	Select **EOC** from the Site select pull-down menu. Select **Operations Controller** from the Roles listbox. Click on 'OK' button	A Working Dialog Box : Starting User Station, Please Wait.... , is displayed The User Roles window closed and the Control Window-Room SystemRoom1 is displayed.	
11.	At the Control window ECL text field enter: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	
12.	Click on the 'Roles' button in the control window.	The User Roles window is displayed.	
13.	Click on 'Site' and select **EOC.** At the Unix Console window prompt enter: %: **snapshot**	The authorized user roles for site EOC are displayed. The Unix Snapshot tool window is displayed.	

14.	Using the Snapshot tool, snap the User Roles window and print the snap.	A hardcopy of the current user roles window is printed. (NOTE: this hardcopy will be used later in the test to verify the EOC Manager can modify user roles and delete a user from the system.)	
15.	Select **Read Only** from the Roles listbox Click on the 'OK' button..	The User Roles window closes and the Control Window-Room SystemRoom1 is displayed.	
16.	At the Control window ECL text field enter: ECL> **TAKE COMMAND STRING=100**	The following event message is displayed: Both User <user_id> and Workstation <ws_id> must be authorized for Command Authority privilege	
17.	At the Control window ECL text field enter: ECL> **BYE**	The user is logged off the user station and the xterm window is displayed.	
18.	In the xterm window at the user prompt enter: %: **test** %: **setenv SCRIPT DataServer** %: **source FosEnvVars** %: **cd ../../bin/sun_sparc_5-5** %: **FoUaDatabaseCmdLineClient** Follow the screen prompts to delete the user_id bhill and exit the process.	The user table is updated with the user_id <user> deleted from the system.	
19.	At the unix prompt enter: %: **FOS_LOGIN**	The EOC user login window is displayed.	

20.	At the Login window enter: User> **<userid>** (User ID that was deleted) Password> **<********>** Click 'OK'	An 'Invalid User ID' dialog is displayed. The user was deleted by the EOC Manager.	
21.	Click on 'Close' button in dialog box. Click on the 'Cancel' button in the login window.	The Login window is closed and the Unix xterm window is displayed.	
22.	In the xterm window at the user prompt enter: %: **test** %: **setenv SCRIPT DataServer** %: **source FosEnvVars** %: **cd ../../bin/sun_sparc_5-5** %: **FoUaDatabaseCmdLineClient** Follow the screen prompts to add the user_id bhill and to exit the process.	User table is updated with reinstated user_id bhill.	
23.	At the Unix prompt enter: %: **cd ../../db/tools** %: **vi user_roles_data.sql** (Using the editor, add/change the roles identified for the user bhill for site EOC (include command activity controller role) - Ref. Snap taken previously, and run the sql script to update the table.) %: **source ins_user_roles.script**	User role Command Activity Controller was added for User_id bhill	

24.	At the unix prompt enter: %: **FOS_LOGIN**	The EOC user login window is displayed.	
25.	At login window enter: User> **bhill** Password> ********** For Environment select **Operational** Click on 'OK' button.	The Login window closes and the User Roles window is opened displaying the User, Environment, a Spacecraft pull-down menu, a Site pull-down menu, and a Roles listbox listing the authorized user types for the user.	
26.	Select **AM1** for spacecraft. Select **EOC** for site. Select **Command Activity Controller** from Roles. Using the snapshot tool, snap the User Roles window and print the snap. Click 'OK' in the User Roles window.	When EOC was selected for the site, the list of roles entered by the EOC Manager were displayed in the Roles listbox. Compare the SNAP that was taken to the previous SNAP. The roles list should be different. When OK was clicked the roles window closed and the login was completed. The Control Window - Room SystemRoom1 is displayed.	
27.	At the Control window click on 'Tools...' button and select **Event_Display-Global.**	The Event Display window was added to the main room.	

28.	At the Control window ECL text field enter: ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The ECL text field is cleared and the following event messages appear in the event area of the Control window and the Event Display: Establishing ParameterServer service… ParameterServer process successfully configured Establishing Decom service…. Decom process successfully configured StringMgr process successfully configured Successfully connected to String 100	
29.	At the Control window ECL text field enter: ECL> **TAKE COMMAND STRING=100**	The following event messages are displayed in the Event Display and the event area of the Control window: StringMgr process successfully configured. Command Authority has changed from EcDNull to bhll for string 100 Command Authority of NccGroundMgr changed to User: bhill, WKS. <Wks_id> Command Authority of NccStatusMgr changed to User: bhill, WKS <wks_id> Command Authority starting <wks-id> for string 100.	
30.	Click on the 'TOOLS…' button	The Tools Dialog box is displayed with a list of selections.	

31.	Select **Command_Control** and click on the 'OK' button	A dialog box appears prompting user to enter String and Spacecraft Id.	
32.	enter String id **100** enter Spacecraft ID AM1 click "OK"	The Command Control window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_LOC, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	
33.	At the Control window ECL test field enter: ECL> **BYE**	The user is logged off of the user workstation.	
34.	In the xterm window at the user prompt enter: %: **test** %: **setenv SCRIPT DataServer** %: **source FosEnvVars** %: **cd ../../bin/sun_sparc_5-5** %: **FoUaDatabaseCmdLineClient** Add a new user id, jdoe, and password to the EOC.	A new user, jdoe was added to the table.	

35.	**cd ../../db/tools** **vi user_roles_data.sql** Using the editor, modify the user roles of bhill that just logged off from the user workstation.. Add user roles Read Only and Generic User for user_id jdoe. At the Unix prompt enter: **source ins_user_roles.script**	The user table user roles for user_id bhill is updated to reflect the change and user roles for user_id jdoe were added for the EOC.	
36.	At the Unix prompt enter: %: **test** %: **FOS_LOGIN**	The directory is changed to /fosb/test/am1/scripts/setup. The FOS Login window is opened.	
37.	At login window enter: User> **User_id>** Password> ********** For Environment select **Test** Click on 'OK' button.	The Login window closes and the User Roles window is opened displaying the User, Environment, a Spacecraft pull-down menu, a Site pull-down menu, and a Roles listbox listing the authorized user types for the user.	
38.	From the User Roles window select **AM1** for Spacecraft, **EOC** for the Site and **Read Only** for the role. Click on the 'OK' button	The User Roles window closed and the Control Window-Room Main is displayed.	
39.	In the Control window click on the 'Roles…' button.	The User Roles window is displayed with a list of roles in the Roles listbox.	
40.	From the Roles list select **Generic User** and click on the 'OK' button.	The User Roles window closed and the Control window remained displayed.	

41.	At the Control window ECL text field enter: ECL> **TAKE GROUNDCONTROL STRING=100**	The following event message is displayed: Must be connected as Mirrored before requesting ground control authority.	
42.	At the Control window ECL text field enter: ECL> **STRING DISCONNECT STRING=100**	The following event message was displayed: User not connected.	
43.	At the Control window ECL text field enter: ECL> **BYE**	The user is logged off of the workstation.	
44.	End of test.		

Room Builder (Final: August 29, 1997)

Test Case No: FUI-2100B

Test Configuration: See Appendix G

Test Support: Default room definitions available on the user workstation.

Test Case Description:

This test is designed to verify the ability to manage the EOC user station desktop environment via the use of rooms and windows. The test begins with the initialization of the EOC. All default rooms are invoked and it is verified that these rooms match the user's default room assignment. A room is created by use of the Room Builder tool. Windows are added and deleted dynamically, repositioned within the displayed room, and re-sized to overlap one another. The room created is saved and the defined room is then re-entered by the same user to ensure that the previously saved room definitions are available.

Success Criteria:

This test is considered successful when the user has access to all room definitions in the system; can define a room, modify a room, save a room and delete a room; can define the default position and size of each of the windows in a room; can define the tiled position and size of each of the windows in a room; can dynamically add, delete, reposition, and resize windows in a room; and can dynamically switch from one room to another and between room states. The system will allow a room to consist of 0 to 12 windows, with their respective sizes and positions in the default, tiled and user modified states; a window to belong to more than one room; and windows to overlap each other.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. User> **user_id** Password> **xxxxxxx**	The Unix Cmdtool window and console window are displayed.	
4.	At the Unix prompt in the Cmdtool window enter: %: **FOS_LOGIN**	The FOS Login window is displayed. The window has fields for entering User-Id and Password and a pulldown menu for selecting environment. The default environment, Operational, is shown.	
5.	At the FOS Login window enter: User: **user_id** Password: **xxxxxxxxxxx** Click on 'OK' button.	The FOS Login window closed and the User Roles window opened. The User Roles window shows Spacecraft is set to default AM1 and the Site is set to the default EOC. A list of authorized user roles for <user_id> are displayed.	
6.	Select **Generic User** from the Roles listbox. Click on 'OK' button	A Working Dialog Box: Starting User Station. Please Wait...., is displayed. The User Roles window closed and the Control Window-Room SystemRoom1 is displayed as well as the PAS windows.	
7.	Iconify the PAS windows as they are not used in this test. Click on the 'Rooms…' button in the Control Window.	The Rooms Dialog box with a list of available rooms is displayed.	

8.	Select the **SystemRoom3** in the Rooms Dialog box. Click on 'Ok' button.	The SystemRoom1 room closes and the Control Window-Room SystemRoom3 is displayed in the default state.	
9.	At the Control Window ECL text field enter: **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	
10.	Click on the 'Tools…' button in the Control window	The Tool Selection Dialog is displayed.	
11.	Select **Room Builder** from the dialog box. Click on 'OK' button.	The Tool Selection Dialog is removed and the Define Room window is displayed. The label in the control window changed to Control Window-Room TempRoom.	
12.	Click on the 'Tools…' button in the Control window	The Tool Selection Dialog is displayed.	
13.	Seelct **Event_Display-Global** from the dialog box. Click on 'OK' button.	The Tool Selection Dialog is removed and the Event Display window is displayed.	

14.	At the Control Window ECL text field enter: **STRING CONNECT STRING=100 CONFIG=MIRROR**	The ECL text field is cleared and the following event messages appear in the event area of the Control window and the Event Display: Establishing ParameterServer service… ParameterServer process successfully configured Establishing Decom service…. Decom process successfully configured StringMgr process successfully configured Successfully connected to String 100	
15.	Using the User Station pointing devise, reduce the width and the height of the Event Display window and move it to a new position	The Event Display window remained in its' resized shape and position.	
16.	Click on the 'Tlm Wins..' button in the Control Window.	The Telemetry Pages Selection Dialog is displayed.	
17.	Select **TLM2020B** from the Telemetry Pages Dialog Click on 'OK' button.	The TLM2020B Window is displayed as the top window in the existing room.	

18.	Using the User Station pointing devise, reduce the width and the height of the TLM2020B Window and move it to a new position. In the Define Room window Name text field enter: Name> **MyNewRoom** Click on 'Permanent' Click on 'Local' Click on 'Default' Use the Unix 'snapshot' tool to take and print a snap of the screen.	The Default status changed from 'not defined' to defined. The toggle button for Permanent remained recessed. The Name text field contains 'MyNewRoom' The Local directory button is recessed showing it is selected. A hardcopy of the User Station screen reflects the actual screen contents	
19.	Using the User Station pointing device, arrange the windows in a cascade manner such that the window titles of each window is visable. In the Define Room window click on 'Tile' Use the Unix 'snapshot' tool to take and print a snap of the screen.	The Tile status changed from 'Not Defined' to 'Defined' The rest of the window display field remained unchanged. A hardcopy of the User Station screen reflects the actual screen contents.	
20.	In the Define Room window, Click 'OK'	The Define Room window closed and the Control Window -Room Temp Room title changed to Control Room- MyNewRoom and the room windows remained in the Tile state.	
21.	Click on 'Rooms' button in the Control Window.	The Rooms Dialog box listing the available rooms is displayed. MyNewRoom is listed as one of the available selections.	
22.	Select **SystemRoom1** in the Rooms Dialog box. Click on 'OK' button.	The Control Window-Room SystemRoom1 is displayed.	

23.	Click on the ‘Left Arrow’ button in the Control Window.	SystemRoom1 Room closes and the Control Window-Room MyNewRoom and the room windows defined in Step 17 are displayed in the Tile state.	
24.	Click on the ‘Default’ button in the Control Window.	The MyNewRoom Room display changes to the Default state that was defined in Step 16.	
25.	In the Control Window ECL text field enter: ECL: >**PAGE CODA-Header** Use the Unix ‘snapshot’ tool to take and print a snap of the screen	The CODA-Header page is added to the MyNewRoom Room display. The harcopy printed matches the User Station display.	
26.	Click on the ‘Right Arrow’ button in the Control Window.	MyNewRoom closes and the Control Window-Room SystemRoom1 is displayed..	
27.	Click on the ‘Left Arrow’ button in the Control Window.	SystemRoom1 Room closes and the MyNewRoom Room is displayed in the User Modifed state. Compare to the hardcopy snap taken in Step 23.	
28.	Click on the ‘Rooms’ button in the Control Window.	The Rooms Dialog box is displayed.	
29.	Select **SystemRoom1** from the Rooms Dialog box. Click on ‘OK’ button.	The Rooms Dialog box and the MyNewRoom room windows are closed and the Control Window-Room SystemRoom1 is displayed.	
30.	Click on the ‘Tools’ button in the Control Window	The Tools Dialog box listing the available tools is displayed.	
31.	Select **RoomBuilder** from the Tools Dialog box. Click on ‘OK’ button.	The Tools Dialog box closed. The Define Room Window is displayed and the Control Window title changed to Control Window-Room Temp Room.	
32.	Click on ‘Tlm Wins’ in the Control window.	The Telemetry Window Dialog box is displayed.	

33.	Select **TLM2020B** from the Telemetry Dialog box. Click on 'OK' button.	The Telemetry Window Dialog box is closed and the TLM 2020B Window was added to the room dispaly.	
34.	Resize the TLM 2020B window to the minimum size to where the window title is still displayed. Position the window in the top left corner of the display area. In the Control Window ECL text field enter: ECL:> **PAGE TLM2030B**	The TLM 2020B Window is resized and in the upper left of the display area. The TLM 2030B Window was added to the room display.	
35.	Resize the TLM 2030B Window to where the window title is still displayed. Position the window next to the TLM 2020B Window. Click on 'Tlm Wins' in the Control window.	The TLM 2020B Window is in the upper left of the display area with the TLM 2030B window next to it. The Telemetry Window Dialog box is displayed.	
36.	Select **TLM2040B** from the Telemetry Dialog box. Click on 'OK' button.	The Telemetry Window Dialog box is closed.. The TLM 2040B Window is added to the displayed.	
37.	Resize the TLM 2040B Window to where the window title is still displayed. Position the window next to the TLM 2030B Window. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
38.	Select **TLM2050B** from the Telemetry Dialog box. Click on 'OK' button.	The TLM 2050B Window was added to the room display.	

39.	Resize the TLM2050B Window to where the window title is still displayed. Position the window next to the TLM 2040B Window. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
40.	Select **TLM2070B** from the Telemetry Dialog box. Click on 'OK' button.	The TLM 2070B Window was added to the room display.	
41.	Resize the TLM 2070B Window to where the window title is still displayed. Position the window next to the TLM 2050B Window. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
42.	Select **TLM2080B** from the Telemetry Dialog box. Click on 'OK' button.	The TLM 2080B Window was added to the room display.	
43.	Resize the TLM 2080B window to where the window title is still displayed. Position the window next to the TLM 2070BWindow. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
44.	Select **TLM2090B** from the Telemetry Dialog box. Click on 'OK' button.	The TLM 2090B Window was added to the room display...	
45.	Resize the TLM 2090B Window to where the window title is still displayed. Position the window next to the TLM 2080BWindow. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
46.	Select **KSA_FWD** from the Telemetry Dialog box. Click on 'OK' button.	The KSA_FWD Window was added to the room display.	

47.	Resize the KSA_FWD Window to where the window title is still displayed. Position the window next to the TLM 2090B Window. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
48.	Select **KSA_RETURN** from the Telemetry Dialog box. Click on 'OK' button.	The KSA_RETURN Window was added to the room display.	
49.	Resize the KSA_RETURN Window to where the window title is still displayed. Position the window next to the KSA_FWD Window. Click on 'Tlm Wins' in the Control window.	The room windows stayed in the size and position placed. The Telemetry Window Dialog box is displayed.	
50.	Select **CODA-Header** from the Telemetry Dialog box. Click on 'OK' button.	The CODA-Header Window was added to the room display.	
51.	Resize the CODA-Header Window to where the window title is still displayed. Position the window next to the KSA_RETURN Window. Click on the 'Tools' button in the Control Window.	The room windows stayed in the size and position placed. The Tools Dialog box listing available tools is displayed.	
52.	Select **Event_Dispaly-Global** from the Tools Dialog box. Click on 'OK' button.	The Event_Display Window was added to the room display.	
53.	Resize the Event Display Window to where the title is still displayed. Position the window next to the CODA-Header Window.	The room windows stayed in the size and position placed. The room now consist of 12 windows including the Control Window.	

54.	In the Name text field of the Define Room Window enter: Name:>**MyNewRoom1** Click on 'Temporary' in the Define Room Window. Click on 'Local' toggle switch. Click on 'Default' in the Define Room Window.	The Define Window has MyNewRoom1 in the Name text field, the toggle button on temporary is recessed, the toggle switch Local is recessed and Default changed from Not Defined to Defined.	
55.	Click on 'OK' in the Define Room Window.	The Define Room Window closed and the Control Window title changed to Control Window-Room MyNewRoom1. All other windows remained unchanged.	
56.	Click on the 'Rooms' button in the Control Window.	The Rooms Dialog box is displayed with a list of available rooms. MyNewRoom1 is in the list.	
57.	Select **SystemRoom1** in the Rooms Dialog box.	MyNewRoom1 room closed and Control Window-Room SystemRoom1 is displayed without any other windows.	
58.	Click on the 'Rooms' button in the Control Window.	The Rooms Dialog box is displayed with a list of available rooms.	
59.	Select **MyNewRoom1** from the Rooms Dialog box.	SystemRoom1 room closed and MyNewRoom1 is displayed. The Control Window title is Control Window-Room MyNewRoom1.	
60.	Click the 'close' button in the CODA-Header Window and select **Quit**.	The CODA-Header Window closed.	
61.	Click on the 'Tools' button on the Control Window.	The Tools Dialog box with a list of available tools is displayed.	

62.	Select **RoomBuilder** from the Tools Dialog box.	The Define Room Window is displayed and the title in the control window changed to Control Window-Room TempRoom.	
63.	In the Define Room Window Name text field enter: Name:>**MyNewRoom1** Click on 'Permanent' in Define Room Window. Click on 'Default' in Define Room Window.	MyNewRoom is displayed in the Name text field, the toggle button on Permanent is recessed and Default is listed as Defined in the Define Room Window.	
64.	Click on 'OK' in the Define Room Window.	The Define Room Window closed and MyNewRoom room has been modified. The title in the Control Window changed to Control Window-Room MyNewRoom.	
65.	User the Unix tool 'snapshot' to take and print a snap of the screen.	A hardcopy of MyNewRoom displays is produced.	
66.	At the Control Window ECL text field enter: **STRING DISCONNECT STRING=100**	A series of event messages are displayed with the final message stating that the userstation has been successfully disconnected from string 100	
67.	Logoff the User Station using MyKill process.	User Station is at theUnix prompt.	
68.	At the Unix prompt in the Cmdtool window enter: %: **FOS_LOGIN**	The FOS Login window is displayed. The window has fields for entering User-Id and Password and a pulldown menu for selecting environment. The default environment, Operational, is shown.	
69.	At the FOS Login window enter: User: **user_di** Password: **xxxxxxxxxxx**	The FOS Login window closed and the User Roles window opened.	

70.	Select **EOC** from the Site select pull-down menu. Select **Operations Controller** from the Roles listbox. Click on 'OK' button	A Working Dialog Box: Starting User Station. Please Wait...., is displayed. The User Roles window closed and the Control Window-Room SystemRoom1 is displayed as well as the PAS windows.	
71.	Click on the 'Rooms' button.	The Rooms Dialog box listing the available rooms is displayed. MyNewRoom1 created as temporary in the previous session is not in the list. MyNewRoom which was created and modified is in the list.	
72.	Select **MyNewRoom** from the Rooms Dialog box. Click on 'OK' button.	SystemRoom1 room closed and MyNewRoom room is displayed. The display area matches the hardcopy snap taken at the end of the previous session.	
73.	Select the 'Left Arrow' button in the Control Window.	MyNewRoom closed and SystemRoom1 room is displayed.	
74.	In the Control Window ECL text field enter: ECL:>**ROOM DELETE MyNewRoom** Click on the 'Rooms' button.	The Rooms Dialog box is displayed listing all available rooms. MyNewRoom is not in the list of rooms.	
75.	End of test.		

Display Builder (Graphs and Tables)

Test Case No: FUI-2110B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Real-Time Server, Data Server, UserStation, Packet Generation Driver (packGen)

Test Case Description:

This test is designed to verify the FOS software capability to create a Graph and Table with Display Builder. The user will be able to build and customize a real time graph that will display mnemonic values in several different formats from incoming telemetry data via a test driver. In the second portion of the test the user will be able to create a table that displays 50 telemetry values and demonstrates the capability to hold at least 300 rows of data before it starts to rollover.

Success Criteria:

The test is considered successful when the user is able to, create a real time graph, save a real time graph, display incoming telemetry values in different formats within the graph and table, customize (lines, symbols, grid, legend) a graph to display at least 6 mnemonics that the user selects, construct a table that holds at least 50 telemetry values and displays those values for up to 300 rows before the table starts to rollover with incoming data, modify a mnemonic so that it can be displayed in either the mnemonic name or an associated descriptor name.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto 1 FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

2.	Connect to Operational String. From the directive dialog box inside of the Control window on the UserStation, issue the following directive: **STRING CONNECT STRING=100 CONFIG=MIRROR**	Look for below message inside of event display area: 'Successfully connected to String 100'	
3.	Select 'Display Builder' from the Tools dialog box. Click on 'Tools' from the Environment Control Window. Click on 'Display Builder'. Click on 'OK'.	A suite of Display Builder windows will appear on the screen. Display Builder Palette Display Builder (Blank) Display Item Data Sources Display Item Format Display Builder Console	
4.	From the 'Display Builder Palette'; Click on '2D Graph'. Drag mouse to the blank 'Display Builder' window and drop in desired location.	The boundaries for the 2D Graph will appear in the blank 'Display Builder' window.	
5.	Enlarge the 'Display Builder' window so the boundaries of the '2D Graph' are visible. Click on the right side of the 'Display Builder' window and drag to the right until all four sides of the '2D Graph' are totally visible.	All four sides of the '2D Graph' will be visible inside the 'Display Builder' window.	
6.	***Select Graph data sources***	***Information only.***	

7.	Select the Data Source from the ‘Display Builder Palette’; Click on ‘Page’. Click on ‘Logical String Management’. Click on the ‘Spacecraft’ button and select ‘AM1’. Click on the ‘Source’ button and select ‘Real Time’. Click on the ‘Mode’ button and select ‘Operational’. Click on ‘Add’. Click ‘OK’	‘AM1 RealTime Operational Default’ will be displayed in the ‘Logical String Management’ box.	

8.	Select the mnemonic/parameter ‘Filters’ from the ‘Display Items Data Sources’ window. Click on the ‘Add’ button. Click on the ‘Filter’ button. Click on ‘AM1’ for ‘Spacecraft’. Click on ‘CDH’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘EPS’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘SDU’ for ‘Instrument’. Click on the ‘Select’ button. Click on the ‘OK’ button.	The desired subsystem or instrument will appear in the ‘Selection Filter’ window, AM1_CDH AM1_EPS AM1_SDU	

9.	Select the desired mnemonics. Click on ‘AM1_CDH’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘CDH_BR_SFEALPCMDREJ’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Repeat items 1 and 2 of this procedure for the following: CDH_BR_ SFEABLPCMDREJ CDH_BR_SSR1_HKDIS Click on the ‘OK’.	The mnemonics are selected for the graph.	
10.	Deselect the mnemonics. Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘←All’ button. Click on ‘AM1_CDH’. Wait for the ‘Available Parameters’ box to return.	The ‘← All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonics will disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty	

11.	Select the desired mnemonics: Click on ‘AM1_EPS’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘EPS_IR_PDU_EPC_INPA’ from the ‘Available Parameters’ box. Click on the arrow button ‘→’. Repeat items 1 and 2 of this step for the following: EPS_IR_PDU_EPC_INPB EPS_VR_ADE_EPCA Click on the ‘OK’.	The mnemonics are selected for the graph.	
12.	Deselect the mnemonics: Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘←All’ button. Click on ‘AM1_CDH’. Wait for the ‘Available Parameters’ box to return.	The ‘←All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonics will disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty.	

13.	Select the desired mnemonics. Click on ‘AM1_SDU’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘SDU_SCTIME’ from the ‘Available Parameters’ box. Click on the arrow button ‘→’. Click on the ‘OK’.	The mnemonic is selected for the graph.	
14.	***Customize mnemonics/parameters***	***Information only***	

15.	From the ‘Display Item Format’ window select the ‘Legend’ and ‘Title’. Click on the ‘Edit’ button. Click on ‘Legend’. **Next to the ‘Title’ heading;** Click inside the ‘Title’ box and enter: ‘FUI-2110B’ **Next to the ‘Show’ heading;** Ensure the ‘Legend’ box is depressed. **Next to the ‘Position’ heading;** Click on ‘Northeast’.. **Next to the ‘Border Type’ heading;** Click on ‘Etched In’. Click on ‘Apply’.	The mnemonics will be positioned in the upper right hand corner of the graph inside a box.	
16.	From the ‘Display Item Format Window’ select the ‘Axes’. Click on the ‘Edit’ button. Click on ‘Axes’. **Next to the ‘X Axis Label’ heading**; Enter ‘SDU_SCTIME’. **Next to ‘X Axis Parameter’**; Click on ‘SDU_SCTIIME’.	The Axis will be selected for the graph.	

	Next to the 'X Axis Display Interval' heading; Leave the default value of 0.00347 **Next to the 'Y Axis Label' heading**; Enter '**Mnemonics**' Leave the default values of '0.00000' for the other fields. Click on 'Apply'.		
17.	From the 'Display Item Format Window' select the 'Color & Line Style' Click on the 'Edit' button select 'Color & Line Style'. Click on the first parameter from the 'Parameter' list. Ensure it is highlighted. Click on the 'Line' button and click on 'None' Click on the 'Point' button and click on 'Dot'. Click on the 'Color' button and click on 'Red' Click on the 'Limit Line' button and click on 'Solid'. Click on 'Apply'. Click on the second parameter from the 'Parameter' list. Ensure it is highlighted. Click on the 'Line' button and click on 'Long Dash'	The 'Legend' will change to reflect the attributes selected for the mnemonics.	

	Click on the ‘Point’ button and click on ‘Box’. Click on the ‘Color’ button and click on ‘Green’ Click on the ‘Limit Line’ button and click on ‘Solid’. Click on ‘Apply’. Click on the third parameter from the ‘Parameter’ list. Ensure it is highlighted. Click on the ‘Line’ button and click on ‘Dotted’ Click on the ‘Point’ button and click on ‘Triangle’.		

18.	Click on the ‘Color’ button and click on ‘Yellow’ Click on the ‘Limit Line’ button and click on ‘Long Dash’ Click on ‘Apply’. Click on the fourth parameter from the ‘Parameter’ list. Ensure it is highlighted. Click on the ‘Line’ button and click on ‘Short Dash’ Click on the ‘Point’ button and click on ‘Diamond’. Click on the ‘Color’ button and click on ‘Cyan’ Click on the ‘Limit Line’ button and click on ‘Dotted’. Click on ‘Apply’. Click on the fifth parameter from the ‘Parameter’ list. Ensure it is highlighted. Click on the ‘Line’ button and click on ‘Long Short Dash’ Click on the ‘Point’ button and click on ‘Star’. Click on the ‘Color’ button and click on ‘Magenta’ Click on the ‘Limit Line’ button and click on ‘Solid’.		

19.	Click on ‘Apply’. Click on the sixth parameter from the ‘Parameter’ list. Ensure it is highlighted. Click on the ‘Line’ button and click on ‘Dash Dot’ Click on the ‘Point’ button and click on ‘Circle’. Click on the ‘Color’ button and click on ‘Blue’ Click on the ‘Limit Line’ button and click on ‘Long Dash’. Click on ‘Apply’.		
20.	From the ‘Display Item Format’ window select the ‘Footer’ Click on the ‘Edit’ button and select ‘Footer’ Next to the ‘Show’ heading depress the ‘Footer’ box. Next to the ‘Text’ heading enter ‘**080797**’. Next to the ‘Border Type’ click on ‘Etched in’. Click on ‘Apply’		
21.	***Save Graph as ‘file’ and Build Graph to System***	***Information only***	

22.	From the ‘Display Builder Palette’ window; Click on ‘File’. Click on ‘Save As’. Click on ‘System’. Click inside the ‘Selection’ box and type; ‘/fosb/test/AM1/displaydefs/FUI_2110B_GRAPH’ Click on ‘OK’. Click on ‘File’. Click on ‘Build to CM’.	Graph will be saved to targeted directory. Graph will be built to the System. ***Console Window message:*** *Saving /fosb/test/AM1/displaydefs/FUI_2110B_GRAPH* *Done.* *Invoked Build to CM executable* *Build to CM complete.*	
23.	***Save Graph as ‘file’ and Build Graph to Local***	***Information only***	
24.	From the ‘Display Builder Palette’ window; Click on ‘File’. Click on ‘Save As’. Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2110B_GRAPH’ Click on ‘OK’. Click on ‘File’. Click on ‘Build to Local’. Click on ‘File’. Click on ‘Quit’.	Graph will be saved to targeted directory. Graph will be built to Local machine ***Console Window message:*** *Saving /home/fostest1/pages/FUI_2110B_GRAPH* *Done.* *Invoked Build to Local executable* *Build to Local complete.* Display Builder windows will disappear.	

25.	Recall graph to plot. From the ‘Control Window’ click on ‘Tlm Wins’. Click on the file name ‘FUI_2110B_GRAPH’ Click on ‘OK’.	The graph will appear.	
26.	***Initiate the Packet Generator (packGen)***	***Information only***	
27.	Open a X-Term window, at the UNIX prompt type; % **cd /fosb/test/AM1/scripts/setup** or use alias **test** **% setenv SCRIPT UserStation** % **source PackGenEnvVars** % cd **/fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	Packet Generator is running and the Graph is updating.	

28.	Demonstrate Min, Max, and Current values of a current mnemonic. Click on Mnemonic inside of graph display with left mouse button. Min, Max, and Current values should appear at the bottom of the graph display with the associated mnemonic displayed in the Parameter box.		
29.	Display 'Limit Lines' From the graph click on the '**Limits: ON/OFF**' box.	The Limit Lines will be displayed.	
30.	From a UNIX prompt, stop 'packGen' by executing '**cntl C**'.		
31.	***Edit Graph***	***Information only***	
32.	From the 'Display Builder Palette' window; Click on 'File' Click on 'Open' Click on 'Local'. Click inside the 'Selection' box and type; '/home/fostest1/pages/FUI_2110B_GRAPH' Click on 'OK'. Click inside the graph boundaries to see the legend and access the windows.	The graph and the Display Builder windows will appear.	

33.	Edit graph ‘ X Axis’ from the ‘Display Item Data Sources’ Window; Click on the ‘SDU_SCTIME’ and highlight. Click on ‘Remove’. Click on ‘Add’ Click on the all button ‘🡐 All’ if there are parameters listed under ‘Selected Parameters’ Deselect whatever mnemonics are displayed under ‘Available Parameters’ by clicking on its associated ‘Selection Filter’. Wait for the ‘Available Parameters’ box to return. Click on ‘AM1_CDH’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘CDH_BR_SSR1_HKRATE from the ‘Available Parameters’ box. Click on the arrow button ‘→’. Click on ‘OK’	SDU_SCTIME will be removed.	

34.	From the 'Display Item Format Window' select the 'Axes'. Click on the 'Edit' button. Click on 'Axes' **Next to the 'X Axis Label' heading**; Enter 'CDH_BR_SSR1_HKBRATE' **Next to 'X Axis Parameter'**; Click on 'X Axis Parameter' box and click on 'CDH_BR_SSR1_HKBRATE **Next to the 'X Axis Display Interval' heading;** Leave the default value of 0.00347 **Next to the 'Y Axis Label' heading**; Enter '**Mnemonics**' Leave the default values of '0.00000' for the other fields. Click on 'Apply'.	Replace the X Axis with 'CDH_BR_SSR1_HKBRATE'.	
35.	***Save Graph as 'file' and Build Graph to Local***	***Information only***	

36.	From the ‘Display Builder Palette’ window; Click on ‘File’. Click on ‘Save As’. Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2110B_Graph2’. Click on ‘OK’. Click on ‘File’. Click on ‘Build to Local’. Click on ‘File’. Click on ‘Quit’.	Graph will be saved to targeted directory. Graph will be built to Local machine ***Console Window message:*** *Saving /home/fostest1/pages/FUI_2110B_Graph2* *Done.* *Invoked Build to Local executable* *Build to Local complete.* Display Builder windows will disappear.	
37.	Recall graph to plot. From the ‘Control Window’ click on ‘Tlm Wins’. Click on the file name ‘FUI_2110B_GRAPH2’ Click on ‘OK’.	The graph will appear.	
38.	***Initiate the Packet Generator (packGen)***	***Information only***	

39.	Open a X-Term window, at the UNIX prompt type; % **cd /fosb/test/AM1/scripts/setup** or use alias **test** % **source PackGenEnvVars** % cd **/fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	Packet Generator is running and the Graph is updating.	
40.	Demonstrate Min, Max, and Current values of a current mnemonic. Click on Mnemonic inside of graph display with left mouse button. Min, Max, and Current values should appear at the bottom of the graph display with the associated mnemonic displayed in the Parameter box.	Mnemonic against a mnemonic graph is displayed.	

41.	Display ‘Limit Lines’ From the graph click on the ‘**Limits: ON/OFF**’ box.	The Limit Lines will be displayed.	
42.	From a UNIX prompt, stop ‘PackGen’ by executing ‘**cntl C**’.	PackGen has terminated.	
43.	***Edit Graph***	***Information only***	
44.	Click on the ‘Tools’ button from the environment control window. Click on ‘Display Builder’. From the ‘Display Builder Palette’ window; Click on ‘File’ Click on ‘Open’ Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2110B_GRAPH’ Click on ‘OK’. Click inside the graph boundaries to see the legend and access the windows.	The graph and Display Builder windows will appear.	

45.	Edit graph ‘Grid’ and ‘Granularity’ from the ‘Display Item Format’ window; Click on the ‘Edit’ button and select ‘Axes’ Depress the ‘Grid’ box if not already depressed. Change the ‘X Axis Grid Granularity’ to a ‘3.00000’ Change the Y Axis Grid Granularity’ to a ‘4.00000’. Next to the ‘X Axis Label’ heading; Enter ‘**SDU_SCTIME**’. Next to ‘X Axis Parameter’; Click on ‘**SDU_SCTIIME**’. Next to the ‘X Axis Display Interval’ heading; Leave the default value of 0.00347 Next to the ‘Y Axis Label’ heading; Enter ‘**Mnemonics**’ Leave the default values of ‘0.00000’ for the other fields. Click on ‘Apply’.	The graph will change to reflect the new options	

46.	Click on the ‘Edit’ button and select ‘Color & Line Style’. Click on the ‘Grid Line Style’ button and select ‘Solid’ Click on ‘Apply’.	The graph will reflect the options chosen.	
47.	***Save Graph as ‘file’ and Build Graph to Local***	***Information only***	
48.	From the ‘Display Builder Palette’ window; Click on ‘File’ Click on ‘Save As’ Click on ‘Local’. Click inside the ‘Selection’ box and type; **‘/home/fostest1/pages/FUI_2110B_GRAPH3’** Click on ‘OK’. Click on ‘File’ Click on ‘Build to Local’. Click on ‘File’. Click on ‘Quit’.	Graph will be saved to targeted directory. Graph will be built to Local machine Console Window message: Saving /home/fostest1/pages/FUI_2110B_GRAPH3 Done. Invoked Build to Local executable Build to Local complete. Display Builder windows will disappear.	
49.	Recall graph to plot. From the ‘Control Window’ click on ‘Tlm Wins’. Click on the file name ‘FUI_2110B_GRAPH3’ Click on ‘OK’.	The graph will appear.	

50.	***Initiate the Packet Generator (packGen)***	***Information only***	
51.	Open a X-Term window, at the UNIX prompt type; % **setenv SCRIPT UserStation** % **cd /fosb/test/AM1/scripts/setup** or use alias **test** % **source PackGenEnvVars** % cd **/fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	Packet Generator is running and the Graph is updating.	

52.	Demonstrate Min, Max, and Current values of a current mnemonic. Click on Mnemonic inside of graph display with left mouse button. Min, Max, and Current values should appear at the bottom of the graph display with the associated mnemonic displayed in the Parameter box.	Min and Max values are displayed in the display window.	
53.	From a UNIX prompt, stop ‘PackGen’ by executing ‘**cntl C**’.	PackGen is terminated.	
54.	Position 4 graphs on UserStation screen Click on ‘Tlm Wins’. Click on ‘FUI_2110B_GRAPH’,’FUI_2110B_GRAPH2’ and ,’FUI_2110B_GRAPH3’. Click on ’FUI_2110B_GRAPH3’ again. Position all 4 graphs on the screen and use the ‘Snapshot’ tool to print to a local printer as landscape and portrait.	The four graphs appear.	

55.	Delete a Graph from the ‘Display Builder Palette’; Click on ‘Display Builder’ from the ‘Tools’ menu. Click on ‘Delete File’ Click on ‘Local or System’ filter bar Select ‘Graph’ from the Files box by scrolling to the filename, and then highlighting filename **FUI_2110B_GRAPH** Click on the ’OK’ button. Repeat this step for 2’nd file **FUI_2110B_GRAPH.pmss’** extension and delete from ‘both’ Local and System.	Graph will be deleted.	
56.	***Create a Table,*** *Quit and restart Display Builder.*	***Information only***	
57.	Select ‘Display Builder’ from the Tools dialog box. Click on ‘Tools’ from the Environment Control Window. Click on ‘Display Builder’. Click on ‘OK’.	A suite of Display Builder windows will appear on the screen. Display Builder Palette Display Builder (Blank) Display Item Data Sources Display Item Format Display Builder Console	

58.	From the ‘Display Builder Palette’; Click on ‘Table’. Drag mouse to the blank ‘Display Builder’ window and drop in desired location.	The boundaries for the Table will appear in the blank ‘Display Builder’ window.	
59.	***Select Table data sources***	***Information only.***	
60.	Select the Data Source from the ‘Display Builder Palette’; Click on ‘Page’. Click on ‘Logical String Management’. Click on the ‘Spacecraft’ button and select ‘AM1’. Click on the ‘Source’ button and select ‘Real Time’. Click on the ‘Mode’ button and select ‘Operational’. Click on ‘Add’. Click ‘OK’	‘AM1 RealTime Operational Default’ will be displayed in the ‘Logical String Management’ box.	

61.	Select the mnemonic/parameter ‘Filters’ from the ‘Display Items Data Sources’ window. Click on the ‘Add’ button. Click on the ‘Filter’ button. Click on ‘AM1’ for ‘Spacecraft’. Click on ‘CDH’ for ‘Instrument’. Click on the ‘Select’ button. Click on ‘EPS’ for ‘Instrument’. Click on the ‘Select’ button. Click on the ‘OK’ button.	The desired subsystem or instrument will appear in the ‘Selection Filter’ window, AM1_CDH AM1_EPS	

62.	Select the desired mnemonics. Click on ‘AM1_CDH’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘CDH_BR_SFEALPCMDREJ’ from the ‘Available Parameters’ list. Click on the arrow button ‘→’. Repeat items 1 and 2 of this procedure for the following: CDH_BR_ SFEBLPCMDREJ CDH_BR_SSR1_HKDIS and 22 more mnemonics of your choice. Click on the ‘OK’.	The mnemonics are selected for the table.	
63.	Deselect the mnemonics. Click on the ‘Add’ button from the ‘Display Item Data Sources’ window. Click on the ‘←All’ button. Click on ‘AM1_CDH’. Wait for the ‘Available Parameters’ box to return.	The ‘← All’ button will move the selected mnemonics back to the ‘Available Parameters’ list. The mnemonics will disappear from the ‘Available Parameters’ box. The ‘Available Parameters’ box will be empty	

64.	Select the desired mnemonics. Click on ‘AM1_EPS’ from the ‘Selection Filter’ list. Wait for the mnemonics to show in the box under ‘Available Parameters’. Click on ‘EPS_IR_PDU_EPC_INPA’ from the ‘Available Parameters’ box. Click on the arrow button ‘→’. Repeat items 1 and 2 of this step for the following: EPS_IR_PDU_EPC_INPB EPS_VR_ADE_EPCA and 22 more mnemonics of your choice. Click on the ‘OK’.	The mnemonics are selected for the table. There will be 50 mnemonic parameters in the table.	
65.	From the ‘Display Item Format’ window select the table ‘Title and Mnemonic/Descriptor’ Click inside the ‘Title’ box and enter; ‘**FUI_2110B**’. Ensure the ‘Mnemonic’ box is depressed. Click on ‘Apply’.	The mnemonic will be displayed.	
66.	***Save Table as ‘file’ and Build Table to System***	***Information only***	

67.	From the 'Display Builder Palette' window; Click on 'File'. Click on 'Save As'. Click on 'System'. Click inside the 'Selection' box and type; **/fosb/test/AM1/displaydefs/FUI_2110B_Table** Click on 'OK'. Click on 'File'. Click on 'Build to CM'.	The table will be saved to targeted directory. The table will be built to the System. ***Console Window message:*** *Saving /fosb/test/AM1/displaydefs/FUI_2110B_Table* *Done.* *Invoked Build to CM executable* *Build to CM complete.*	
68.	***Save Table as 'file' and Build Table to Local***	***Information only***	
69.	From the 'Display Builder Palette' window; Click on 'File'. Click on 'Save As'. Click on 'Local'. Click inside the 'Selection' box and type; '/home/fostest1/pages/FUI_2110B_Table' Click on 'OK'. Click on 'File'. Click on 'Build to Local'. Click on 'File'. Click on 'Quit'.	The table will be saved to targeted directory. The table will be built to Local machine ***Console Window message:*** *Saving /home/fostest1/pages/FUI_2110B_Table* *Done.* *Invoked Build to Local executable* *Build to Local complete.* Display Builder windows will disappear.	

69.	Recall table. From the ‘Control Window’ click on ‘Tlm Wins’. Click on the file name ‘FUI_2110B_Table’ Click on ‘OK’.	The table will appear.	
70.	***Initiate the Packet Generator (packGen)***	***Information only***	
71.	Open a X-Term window, at the UNIX prompt type; % **cd /fosb/test/AM1/scripts/setup** or use alias **test** % **setenv SCRIPT UserStation** % **source PackGenEnvVars** % cd **/fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	Packet Generator is running and the Table is updating. The table should have 50 mnemonic parameters updating with values.	

72.	From a UNIX prompt, stop ‘PackGen’ by executing ‘**cntl C**’.	PackGen has terminated.	
73.	***Edit Table***	***Information Only***	
74.	From the ‘Display Builder Palette’ window; Click on ‘File’ Click on ‘Open’ Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2110B_Table’ Click on ‘OK’. Click inside the graph boundaries to see the legend and access the windows.	The table and the Display Builder windows will appear.	
75.	From the ‘Display Item Format’ window select the table ‘Title and Mnemonic/Descriptor’: Depress the ‘Descriptor’ box. Click on ‘OK’.	The descriptor will be displayed.	
76.	***Save Table as ‘file’ and Build Table to Local***	***Information only***	

77.	From the ‘Display Builder Palette’ window; Click on ‘File’. Click on ‘Save As’. Click on ‘Local’. Click inside the ‘Selection’ box and type; ‘/home/fostest1/pages/FUI_2110B_Table2’ Click on ‘OK’. Click on ‘File’. Click on ‘Build to Local’. Click on ‘File’. Click on ‘Quit’.	Table will be saved to targeted directory. Table will be built to Local machine ***Console Window message:*** *Saving /home/fostest1/pages/FUI_2110B_Table2* *Done.* *Invoked Build to Local executable* *Build to Local complete.* Display Builder windows will disappear.	
78.	Recall table: From the ‘Control Window’ click on ‘TlmWins’. Click on the file name ‘FUI_2110B_Table2’ Click on ‘Apply’.	The table will appear.	
79.	***Initiate the Packet Generator (packGen)***	***Information only***	

80.	Open a X-Term window, at the UNIX prompt type; % **cd /fosb/test/AM1/scripts/setup** or use alias **test** % **setenv SCRIPT UserStation** % **source PackGenEnvVars** % cd **/fosb/test/AM1/bin/sun_sparc_5-5** or use alias **bin** % **packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	Packet Generator is running and the Table is updating. The table will update with 50 descriptor parameters.	
81.	From a UNIX prompt, stop 'PackGen' by executing '**cntl C**'.	PackGen is terminated.	
82.	End of test.		

RTWorks (Schematic)

Test Case No: FUI-2115B

Test Configuration: See Appendix G

Test Support: FOT UserStation,

Test Case Description:

This test is designed to verify the capability of the COTS product RTWorks to build and display schematic drawings of telemetry points that are contained within the FOS software. The user will start the test by creating a template of their desired drawing, then they will save the drawing and then reopen it with a Rtdisplay tool., once reopened the user will insert their preferred parameters of choice within the drawing and then re-save the drawing. In the last portion of the test the user will run a telemetry driver that will create data that will be picked up by the parameters within the schematic display created by the user.

Success Criteria:

The test is considered successful when the user is able to build a schematic display, save a schematic display, display telemetry points within a saved schematic display, display a schematic drawing that has points, lines, icons, text, circles, rectangles, ellipses, and polygons, display parameter limits with a color scheme (High, Low).

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	***Start RTWorks (Rthci)***	***Information only***	

2.	Open a ‘Command Tool’ window **% cd /fosb/test/am1/scripts/setup** or **alias ‘test’** **% setenv SCRIPT UserStation** **% source FosEnvVars** **% cd /fosb/test/am1/bin/sun_sparc_5-5** or **alias ‘bin’** **% FuScDisplay**	A copy of RTWorks is displayed on the screen	
3.	Click on the ‘Compose’ button	Compose page appears on UserStation screen.	

4.	Within the Compose page, select desired parameter. Select parameter #1 Select ‘Graph Type’ Select ‘Create Graph’ Click L mouse button, drag for desired graph size, click L mouse button a second time. Click in the ‘Save as’ box Enter a filename in box Press the Return key (An hourglass will appear when processing save request) Click on the Close button Click on the Quit button Click on the Ok to exit Rtchi button	A parameter has been selected to appear inside of user schematic display.	
5.	***If you would like more parameters in the Compose page, click on the desired parameter then click on the ‘Add Variable’ key for as many variables that the graph will support.***	***Information Only***	

6.	Inside of a ‘Command Tool’ window **% cd /fosb/test/am1/scripts/setup** or **alias ‘test’** **% setenv SCRIPT UserStation** **% source FosEnvVars** **% cd /fosb/test/am1/bin/sun_sparc_5-5** or **alias ‘bin’** **% FuScBuilder**	A copy of RTDraw is displayed on the screen	
7.	***Bring up pre-defined page***	***Information only***	
8.	Click on Cmds button Click on Load View button Click on Browse button Click on Filename Click on OK button	Pre-defined page appears on screen	
9.	***Modify the parameter for limit violations***	***Information only***	

10.	Click on the inside of the blank graph Click on the Vars button Click on the Color bar Click on the Add Color Thresholds button Click on the Add Threshold button Modify current Color bar to .10 and add Yellow color below threshold level Click on Add Threshold button Modify current Color bar from .11 - .80 and add Green color between lower threshold and upper threshold Click on add Threshold button Modify current color bar above .81 to 1.0 and add Red color between upper threshold and the top of the bar. Click on the Vars button	The parameter should be modified with associated colors. Low Level = Yellow (.00 - .10) Middle Level = Green (.11-.80) Upper Level = Red (.81 -1.0)	
11.	***Save Changes***	***Information only***	
12.	Click on the Cmds button Click on the Save View button Click on the OK button	File is saved with limit changes.	

13.	Click on Run button Click on End button and set packet limit to 200 and hit the return key. Click on Slow/Fast button and modify update rate. (1-10) 1 being the slowest and 10 being the fastest Click on the Run button (let driver run for the 200 packets) Click on Quit button Click on Cmds button Click on Load View Click on Browse Select pre-defined page ‘jones’ Repeat sub-steps 1-4 Do Step 15 then Quit RTWorks	Demonstration of low, high, and within limits. The color will change for the component when the incoming telemetry values break the lower or upper limits Demonstrate multiple components on a single viewing page Demonstrate data values in multiple formats	
14.	***Take Snaps of ‘page’***	***Information only***	
15.	Open up a Command Tool window Enter ‘snapframe’ Click on page that you want snapped Wait for beep sound, when beep heard then snap is complete	Snap of page is taken and sent to local printer	

16.	Inside of a ‘Command Tool’ window **% cd /fosb/test/am1/scripts/setup** or **alias ‘test’** **% setenv SCRIPT UserStation** **% source FosEnvVars** **% cd /fosb/test/am1/bin/sun_sparc_5-5** or **alias ‘bin’** **% FuScBuilder**	A copy of RTDraw is displayed on the screen	
17.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘Line’ button Move mouse to the ‘page’ area and click on 2 points where you want the line to reside at.	A line is displayed in the page area.	
18.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘Polygon’ button Move mouse to the ‘page’ area and click on 3 points where you want the polygon to reside at.	A polygon is displayed in the page area.	
19.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘circle’ button Move mouse to the ‘page’ area and click on 2 points where you want the circle to reside at	A circle is displayed in the page area.	

20.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘Rect’ button Move mouse to the ‘page’ area and click on 2 points where you want the rectangle to reside at	A rectangle is displayed in the page area.	
21.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘Text’ button Move mouse to the ‘page’ area and click on 1 point where you want the text to anchor from. Enter characters	A text (word) is displayed in the page area.	
22.	Inside of RTDraw, move mouse to the options menu on the far left side of the screen. Press the ‘ellipse’ button Move mouse to the ‘page’ area and click on 3 point where you want the ellipse to reside at.	A ellipse will be displayed in the page area.	
23.	***Take Snaps of ‘page’***	***Information only***	
24.	Open up a Command Tool window Enter ‘snapframe’ Click on page that you want snapped Wait for beep sound, when beep heard then snap is complete	Snap of page is taken and sent to local printer	

25.	End of test.	End of test	

Document Reader

Test Case No: FUI-2120B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. UserStation, Netscape software.

Test Case Description:

This test is designed to verify that the EOC has a COTS product which allows the user to, browse on-line documentation, search on-line documentation, manipulate on-line documentation, cancel on-line documentation request, open one or more document readers, provide a history trace window, provide a process to clear the history window, provide a process to update a document, provide a process to delete a document, and provide a process to input a document.

Success Criteria:

The test is considered successful when the EOC COTS (Netscape) software is able to browse on-line documentation, search on-line documentation, manipulate the documentation by the following options: a. hypertext forward, b. hypertext trace backwards, c. page forward, d. page backwards, e. jump to home page, f. search/find on keyword., cancel on-line documentation request, open one or more document readers, keep a history (footprint) of locations that have been accessed, the capability to clear the history trace window, the capability to input, update, and delete a document.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto 1 FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

2.	From an open window, start Netscape. **% Netscape &** Or Click on the right mouse button Select Netscape (16 bit color)	A copy of Netscape is started and should display on screen.	
3.	Open a document Click on File option in upper left, top-Netscape window. Select 'Open Location' In the dialog box enter: **http://edhs1.gsfc.nasa.gov/** Click on 'Open in browser'	Home page for EDHS will appear inside of Netscape window.	
4.	Click on 'Document Catalogs'	Document Catalogs subject menu will appear inside of Netscape window.	
5.	Click on 'Acceptance Testing'	'Catalog for the Acceptance Testing' will appear inside of Netscape window.	
6.	Click on 'text' for document # 194.401-VE1-002	Text of document # 194.401-VE1-002 will appear inside of Netscape window.	
7.	Position mouse pointer in slide bar column and page 'down' through the document. Put pointer in slide bar column below button and click several times.	Text will page 'down' when mouse is clicked.	

8.	Position mouse pointer in slide bar column and page ‘up’ through the document. Put pointer in slide bar column above button and click several times.	Text will page ‘up’ when mouse is clicked.	
9.	Repeat step 7., then search for the word ‘Applied’ by using the ‘find’ option. ‘Find’ can be accessed by either using the tool button ‘Find’ at the top of Netscape or from the ‘Edit’ drop-down menu. Click on the ‘Find’ button Enter ‘applied’ in the text field. Click on Find.	Text should scroll back to the first instance of the word ‘Applied’.	
10.	Search for the word ‘section 5’ by using the find command. Erase ‘applied’ and replace with ‘**section 5**’ Click on Find. Click on Close.	Text should scroll forward to the first instance of the word ‘section 5.	
11.	Return to ‘Home page’ by clicking on the ‘Home’ button.	Netscape returns to the FOS Database home page.	
12.	Look at the recent ‘History ‘ Click on Window Select History Scroll through history with mouse.	A History box populated with data will appear inside of the Netscape window.	

13.	Close 'History window. Click on Close button	History window disappears	
14.	Click on the 'Open' button at the top of Netscape, then click on the 'Cancel' button	Dialog box for document request will cancel out.	
15.	***Save a Document to file.***	*Information only.*	
16.	Return to Home page. Click on 'Home' button.	Netscape returns to the FOS Database home page.	
17.	Open a document Click on File option in upper left, top-side of Netscape window. Select 'Open Location' In the dialog box enter: http://edhs1.gsfc.nasa.gov/ Click on 'Open'	Home page for EDHS will appear inside of Netscape window.	
18.	Click on 'Document Catalogs'	Document Catalogs subject menu will appear inside of Netscape window.	
19.	Click on 'Acceptance Testing'	'Catalog for the Acceptance Testing' will appear inside of Netscape window.	
20.	Click on 'text' for document # 194.401-VE1-002	Entire text of document # 194.401-VE1-002 will appear inside of Netscape window.	

21.	Click on ‘File’, then select ‘Save as’. Select a directory where document will be saved Name the document ‘**FUI_test**’ Click on ‘Save’	The document previously named # 194.401-VE1-002, will now appear saved as ‘FUI_test’ in a selected directory.	
22.	Use a text editor to modify ‘FUI_test’ Open ‘FUI-test’ through text editor software (Unix VI editor) Edit line. 11 Delete ‘Landover, Maryland’ Enter on line 11. ‘Houston, Texas’ Save file.	Make updated changes to Line 11. In the text file ‘FUI_test’.	
23.	Display changes to ‘FUI_test’ by pressing the File button and selecting the ‘Open File’ option from Netscape.	Dialog box appears that provides access to the ‘FUI_test’ file.	
24.	From the ‘Open’ window go to the directory that ‘FUI_test’ is in, Highlight Filename ‘FUI_test’ Click on the ‘Open’ button	Document ‘FUI_test’ appears on screen with updated text changes.	
25.	Delete a document. Delete the document ‘FUI_test’ % rm FUI_test	Document ‘FUI_test’ is deleted.	

26.	Try to open ‘FUI_test’. Press the File button and select the ‘Open File’ option.	Dialog box appears that provides access to the ‘FUI_test’ file.	
27.	Go to the directory that ‘FUI_test’ was in, verify that ‘FUI_test is no longer in the directory	Document ‘FUI_test’ is not there.	
28.	Retrieve Long Term Science/Instrument Plan from IST. Log on to IST UserStation at the EOC (cobra) Login = istuser Password = ??????? Start-up OpenWin environment Start-up a copy of Netscape Filter to where Science/Instrument plans are located.	Successfully logged into the IST UserStation Demonstrate that the Long Term Plans are located at the simulated IST.	

29.	From the EOC UserStation, Click on Bookmarks Select ‘Index of /’ Click on ‘Long Term Science Plan’ Click on File Select ‘Save as’ Filter to where you want to save the plan Click on the OK button. Repeat steps 1-7 for Long Term Instrument Plan.	Retrieve both the Science and Instrument plan from the IST and download the documents to the EOC UserStation.	
30.	Open Long Term Science/Instrument Plans within Netscape. Click on File Select Open as Filter to where document is located Highlight document name Click on OK	Document’s will be displayed within the Netscape window on the screen.	
31.	From the EOC UserStation Start-up a 2’nd copy of Netscape. From a Unix window type **% netscape &** Or, Click on R mouse button and select Netscape	2’nd copy of Netscape appears on EOC UserStation	

32.	Open a document Click on File option in upper left, top-side of Netscape window. Select 'Open Location' In the dialog box enter: http://edhs1.gsfc.nasa.gov/ Click on 'Open'	Home page for EDHS will appear inside of Netscape window.	
33.	Click on 'Document Catalogs'	Document Catalogs subject menu will appear inside of Netscape window.	
34.	Click on 'Acceptance Testing'	'Catalog for the Acceptance Testing' will appear inside of Netscape window.	
35.	Click on 'text' for document # 194.415-VE1-002	Entire text of document # 194.415-VE1-002 will appear inside of Netscape window.	
36.	End of test.		
	Test Info: IST UserStation (cobra) IP=128.183.166.215 EOC UserStation (boa)		

E-Mail

Test Case No: FUI-2130B

Test Configuration: See Appendix G

Test Support: Netscape software. EOC UserStation (*Toronto*), IST UserStation (*Cobra*), Valid Login accounts

Test Case Description:

This test is designed to verify the e-mail capability of the EOC. The test starts with the activation of the e-mail software at the UserStation and then flows into the verification of e-mail requirements.

Success Criteria:

The test is considered successful when all e-mail requirements are achieved and verified through testing and demonstration.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto 1 EOC User Station. ***(Toronto)*** Login ID = fostest2 Password = xxxxxxxx	An Open Windows environment is running on the UserStation	
2.	From an open window, start Netscape. **% netscape &** or Click on the R mouse button and select Netscape	A copy of Netscape is started and should be displayed on the screen.	
3.	Click on the icon in the lower R side of Netscape. (It looks like a small envelope)	A copy of Netscape -e-mail is displayed	

4.	Create message and send to multiple destinations. Click on the 'To Mail' button	A **Compose: Message Composition** box appears on the screen with functioning buttons and field areas for the following Mail To: Mail CC: Subject: Attachment: Text Area (Message body)	
5.	Enter an address in the **Mail To**: field Enter a nickname in the **Mail To**: field Enter another nickname in the **Mail To**: field	Address and aliases are entered and displayed in the Mail To: field	
6.	Enter an address in the **Mail CC**: field	Address is entered and displayed in the Mail CC: field	
7.	Enter text in the **Subject**: field	Text is entered and displayed in the Subject: field	

8.	Click on ‘Attach’ button Click on ‘Attach File’ button from the Attach Document box Click on filename ‘Attachment’ Click on the ‘OK’ button from the Netscape: File Browser box Click on the ‘OK’ button from the Netscape: Attach Document box The filename ‘**Attachment**’ is now entered in the Attachment: field in the Netscape Compose: Message Composition box	Netscape: Attach Document box appears Netscape: File Browser box appears	
9.	Click on the ‘Send’ button	The test message is sent to a User, Site, and Position along with an attached file named ‘Attachment’.	

10.	Reply to a previously received message from an outside source Highlight message from the Inbox that you want to reply to (*Step.10 FUI-2130B*) Click on the Message option at the top of the display Select Reply The Compose: Re: Test Message box appears on the screen Move mouse to the inside of the text area and enter a short reply Click on the 'Send' button	A message will appear in the Inbox with a Subject title that reads '*Step.10 FUI-2130B'* , reply to this message.	
11.	Save a message, Highlight the message to be saved Click on File option at the top of the display 'Save Message As' box appears on the screen Click in the Selection box area and enter a filename Click on OK	An e-mail message will be saved to file	

12.	Verify the e-mail message was saved Click on File option at the top of the display Select Open File Inside of the File Open box, highlight filename, click on filename Click on OK Saved message appears in Netscape window	The previously saved message will appear in the Netscape display area.	
13.	Delete the saved message Click on targeted message in the Inbox window Click on Edit at the top of the display Click on Delete Message option	The previously saved message will now be deleted.	
14.	Log onto 1 IST User Station. ***(Cobra)*** Login ID = istuser Password = xxxxxxxx	An Open Windows environment is running on the UserStation	
15.	From an open window, start e-mail. **% netscape &** or Click on the R mouse button and select Netscape	A copy of Netscape is started and should be displayed on the screen.	
16.	Click on the icon in the lower R side of Netscape. (It looks like a small envelope)	A copy of Netscape -e-mail is displayed	

17.	Check Inbox folder for any new messages	A new message from **fostest2@eoc.ecs.nasa.gov** should be displayed	
18.	Highlight message and make some edit changes to original message Highlight message Click on Message option at the top of the display Select Reply Highlight text in the display area and demonstrate the cut, copy, and paste capabilities	The original message will be altered by using Edit options.	
19.	Demonstrate e-mail capabilities to: a. View previous message b. View next message ***Find a message by: * NCR **** ***a. date/time*** ***b. author*** ***c. subject/keyword search***	Verify e-mail has the capabilities to: a. View previous message b. View next message ***Find a message by: * NCR **** ***a. date/time*** ***b. author*** ***c. subject/keyword search***	
20.	Bring down Netscape		
21.	End of test.	End of test.	

Quick Message Generator

Test Case No: FUI-2140B

Test Configuration: See Appendix G

Test Support: EOC startup scripts, Data Server, Real-Time Server,UserStation and FuQmQuickMsg

Test Case Description:

This case is designed to verify the ability to display 'quick messages' in the events display . The test begins with the initialization of the EOC and the display of the event display. The Quick Message display is selected from the Tools menu and the Quick Message dialog window is displayed at the UserStation. The dialog window is manipulated to functionaly use the To, Severity, and Text box option, and also the send, cancel, and help functions.

Success Criteria:

The test is considered successful when the Quick Message tool is able send messages to the event display in length not to exceed 240 characters, Severity levels consisting of Info, Warning, Alarm, and Fatal. The format for the 'Quick Messages' will be verified in the event display.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto 2 FOT User Station's. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Initialize the 'Global' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the '**Events Display - Global'** option. Select 'OK'.	The 'Global' events display will be displayed on the UserStation screen.	
5.	Connect to a real-time operational string from the Environment Control window; **STRING CONNECT STRING =100 CONFIG=MIRROR**	Events Display message output: 'Successfully connected to string 100'	
6.	Select the Quick Message window from the Tools menu Click on 'Tools' from the Environment Control Window. Select 'Quick Message'. Click on ' OK'.	Quick Message window will be displayed on UserStation.	

7.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 5 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Info’. Click on ‘Send’.	The following message will be displayed in the Environment Control window with a gray background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	
8.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 10 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Warning’. Click on ‘Send’	The following message will be displayed in the Environment Control window with a yellow background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 10 minutes.**	
9.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 15 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Alarm’. Click on ‘Send’	The following message will be displayed in the Environment Control window with a blinking red background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 15 minutes.**	

10.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 20 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Fatal’. Click on ‘Send’	The following message will be displayed in the Environment Control window with a black background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 20 minutes.**	
11.	Click on ‘Cancel’. Click on ‘Tools’ from the Environment Control Window. Select ‘Quick Message’. Click on ‘OK’. Click on ‘Send’ Click on ‘Close’.	Quick Message window will be displayed. An error dialog box will be displayed.	

12.	Fill in both the 'To:' box and the 'Text:' box, then select the send option with the Severity set to Alarm. Enter 'TLM' in the 'To:' box. Enter message 'The data quality on the I-Channel is degraded' in the 'Text' box. Click on the 'Severity' button. Select 'Alarm'. Click on 'Send'	The following message will be displayed in the Environment Control window with a blinking red background. **From: (sender Login ID) To: TLM Text: The data quality on the I-Channel is degraded**	
13.	Enter a message with more than 240 characters Repeat step 12 except enter 240 'a' letters in the 'Text:' box.	The characters limit is set to 240 and will not accept any more characters after reaching that threshold, and an error box will be displayed.	
14.	End of test.		

On-line HELP

Test Case No: FUI-2150B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Real-time Server, Data-Server, UserStation,

Test Case Description:

The test starts with the user bringing up the FOS software from the UserStation, the user then brings up FOS display windows that have a HELP function/button . The user then selects the HELP function/button and navigates through the HELP menu/options that are available to them for that specific FOS display window.

Success Criteria:

The test is considered successful when the user can, browse on-line documentation through the use of a HELP window, cancel a HELP data request at any time, open 1 or more HELP windows, request HELP information from any FOS window, request and receive HELP information for a current process that is running, and navigate through the HELP screen by, hypertext forward, hypertext trace backward, page forward, page backward, jump to a home page and search/find by keyword.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto 1 FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

2.	From the Control Window; Click on the ‘Help’ button. From the Netscape taskbar; Click on ‘File’. Click on ‘Exit’.	A copy of Help Home Page Contents page appears on the screen. Return back to the FOS window	
3.	From the Control Window; Click on the ‘Tools’ button. Click on ‘Display Builder’. Click on ‘OK’.	Tools menu is displayed on screen. Display Builder window appears on screen.	
4.	Click on ‘Help’ from the ‘Display Builder Palette’. Click on ‘Display Builder Help’.	A copy of Help Home Page Contents page appears on the screen.	
5.	From the Help Home Page Contents; Click on ‘Display Builder’. From the Netscape taskbar; Click on the ‘Back’ button to the ‘Contents’ page. Click on the ‘Forward’ button to the first ‘Display Builder’ help page.	Display Builder help page appears on screen. The pages will page forward and backward.	

6.	Click on the ‘Find’ button from the Netscape toolbar. Position the ‘Find’ dialog box to the side of the help page in order to have a better view of the page. Click inside the ‘Find’ box and enter ‘**associate**’. Click on the ‘Find’ button.	‘Find’ dialog window appears on screen The first occurrence of ‘**associate**’ will appear highlighted	
7.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**1.1 Display Builder**’. Click on the ‘Case Sensitive’ button. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button.	The first occurrence of ‘**1.1 Display Builder**’, tracking backwards, will appear highlighted.	
8.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**Associate**’. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button.	The ‘Find’ function should bypass the first occurrence of ‘associate’ and go directly to the uppercase spelling of ‘Associate’	

9.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**Associate**’. Ensure the ‘Case Sensitive’ button is depressed. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button’. Click on the ‘Cancel’ button from the ‘question’ dialog box. Click on the ‘Close’ button.	The ‘Find’ function should a ‘question’ dialog box, ‘**Beginning of document reached; Continue from the end?**’	
10.	Move mouse to the right side of the HELP Netscape window and position arrow below the vertical slide bar, also the arrow must be positioned in the chute. Click on the left mouse button. Click on the left mouse button again.	The HELP page for Display Builder should page down each time you click on the mouse.	
11.	Move mouse to the right side of the HELP Netscape window and position arrow above the vertical slide bar, also the arrow must be positioned in the chute. Click on the left mouse button. Click on the left mouse button again.	The HELP page for Display Builder should page backward each time you click on the mouse.	

12.	From the Netscape taskbar; Click on the 'Home' button. Click on 'Room Builder'. Click on the 'Back' button and return to the Help Home Page. Click on the 'Back' button and return to the 'Display Builder' Help page. Click on the 'Back' button and return to the Help Home Page. Click on the 'Forward' button and return to the 'Display Builder' Help page. Click on the 'Forward' button and return to the Help Home Page. Click on the 'Forward' button and return to the 'Room Builder' Help Page.	The Help Home Page Contents will be displayed. The pages will Hypertext trace backwards to previous help pages. The pages will hypertext forward to the previous pages.	
13.	From the Control Window'; Click on the 'Tools' button. Click on 'Room Builder'. Click on 'OK'.	Tools menu is displayed on the screen. The 'Room Builder' window appears on the screen.	
14.	From the 'Room Builder' window; Click on the 'Help' button.	Another copy of the Help Home Page Contents page appears on the screen. There should be two copies of the Help Home Page Contents displayed on the screen.	

15.	From the Netscape Help Contents page; Click on ‘Room Builder’ Browse through Room Builder information pages.	Room Builder Help pages are displayed.	
16.	Click on the ‘Find’ button from the Netscape toolbar. Position the ‘Find’ dialog box to the side of the help page in order to have a better view of the page. Click inside the ‘Find’ box and enter ‘**dynamic**’. Click on the ‘Find’ button.	‘Find’ dialog box appears on screen The first occurrence of ‘**dynamic**’ will appear highlighted	
17.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**Room**’. Click on the ‘Case Sensitive’ button. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button.	The first occurrence of ‘Room’, tracking backwards, will appear highlighted	
18.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**Room**’. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button.	The ‘Find’ function should bypass the first occurrence of ‘**room**’ and go directly to the uppercase spelling of ‘**Room**’	

19.	From the ‘Find’ dialog box; Click inside the ‘Find’ box and enter ‘**Minimize**’. Click on the ‘Find Backwards’ button. Click on the ‘Find’ button. Click on the ‘Cancel’ button from the ‘question’ dialog box. Click on the ‘Close’ button.	The ‘Find’ function should a ‘question’ dialog box, ‘**Beginning of document reached; Continue from the end?**’	
20.	Move mouse to the right side of the HELP Netscape window and position arrow below the vertical slide bar, also the arrow must be positioned in the chute. Click on the left mouse button. Click on the left mouse button again.	The HELP page for Room Builder should page down each time you click on the mouse.	
21.	Move mouse to the right side of the HELP Netscape window and position arrow above the vertical slide bar, also the arrow must be positioned in the chute. Click on the left mouse button. Click on the left mouse button again.	The HELP page for Room Builder should page backward each time you click on the mouse.	

22.	From the Netscape taskbar; Click on ‘File’. Click on ‘Exit’ Repeat for the other Netscape page.	The Help pages will disappear.	

23.	From the Control Window; Click on the 'Tools' button. Click on 'ATC_BUFFER_DISPLAY'. Click on 'OK'. Click on the 'Help' button. From the Netscape Help Contents page; Click on 'ATC_BUFFER_DISPLAY', if there is an option for it. From the 'ATC_BUFFER_DISPLAY' Help page Click on 'File' from the Netscape taskbar. Click on 'Exit'. Otherwise; Click on 'File' from the Netscape taskbar and click on 'Exit'. From the 'ATC_BUFFER_DISPLAY' window; click on the upper left hand button and display the drop down window. Click on 'Quick'. Repeat items 1-8 of this step with the remaining FOS windows listed below and access the Help pages from each.	The FOS window selected will appear. The 'Help' button from each FOS window will cause a new Netscape 'Help Home Page' to be displayed on the screen. Menu will appear with a 'Quit option. FOS window will disappear. Note: The highlighted items either do not have a help button or can not be accessed to verify a help button.	

24.	ALGORITHM_REGISTRATION ANALYSIS_REQUEST_BUILDER ANALYSIS_STATUS BINARY_LOAD_BUILDER COMMAND_CONTROL COMMAND_REQUEST DATA_BASE_UTILITIES DATA_MOVER DISPLAY_BUILDER DOCUMENT_READER E-MAIL EVENT_DISPLAY-GLOBAL EVENT_DISPLAY-LOCAL GROUND_SCRIPT_DISPLAY **Note:** The highlighted items either do not have a help button or can not be accessed to verify a help button.	The FOS window selected will appear. The 'Help' button from each FOS window will cause a new Netscape 'Help Home Page' to be displayed on the screen. Menu will appear with a 'Quit option. FOS window will disappear.	

25.	PROCEDURE_BUILDER PROCEDURE_CONTROL QUICK_ANALYSIS QUICK_MESSAGE RTS_BUFFER_DISPLAY RTS_LOAD_BUILDER REPLAY_CONTROL REPORT_BROWSER REPORT_GENERATOR ROOM_BUILDER SSR_ANALYSIS SCHEMATIC_BUILDER SCHEMATIC_DISPLAY TABLE_LOAD_BUILDER USER_CUSTOMIZATION (when the window is displayed, click on each item listed on the User Customization window to access the help pages) Note: The highlighted items either do not have a help button or can not be accessed to verify a help button.	The FOS window selected will appear. The 'Help' button from each FOS window will cause a new Netscape 'Help Home Page' to be displayed on the screen. Menu will appear with a 'Quit option. FOS window will disappear.	
26.	End of test.		

Event Message Display & Event Graphical Timeline

Test Case No: EVT - 2000B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. DMS FdEvEvent Driver, RMS Event Driver, Real-Time Server, Data Server, and 2 UserStation's

Test Case Description:

This test is designed to verify the ability to display generated event messages at EOC UserStations utilizing event message display options supplied by the FOS user interface. The test begins with the initialization of the EOC and the display of the event graphic timeline, both 'Local' and 'Global'. The event message generator is invoked, multi-casting event messages for display. The graphical event timeline functionality is then verified, including event message formatting, timeline indicators, time correlated visual indicators, and event message selection/graphical timeline interaction.

Success Criteria:

This test is considered successful when DMS generated events are displayed by FUI via the events display, events generated and displayed are representative of the FOS subsystems; the user is able to filter events displayed at the event graphical timeline window based on user selected filter criteria; the graphical timeline updates according to event messages being displayed when a specific period is selected, the event display scrolls to the event that corresponds to that time period.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto 2 FOT User Station's. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Initialize the 'Global' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the Events Display-Global option.	The 'Global' events display will be displayed on the UserStation screen.	
5.	Initialize the 'Local' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the Events Display-Local option.	The 'Local' events display will be displayed on the UserStation screen.	
6.	Connect to a real-time operational string from the Environment Control window. Enter in upper case letters the following: > **STRING CONNECT STRING =100 CONFIG=MIRROR**	Wait for several Decom messages and the lastEvents Display message output should be: 'Successfully connected to string 100'	

7.	Initiate the DMS event messsage driver. From the /fosb/test/am1/scripts/setup directory type **% setenv SCRIPT UserStation** source FOSEnvVars from the /fosb/test/am1/scripts/setup directory type **% source FosEnvVars** cd into[machine platform type] from the /fosb/test/am1/bin directory. **% cd ../../bin/sun_sparc_5-5 or execute alias for the bin directory** Start driver by entering FdEvEventDriver at the Unix prompt. **% FdEvEventDriver**	The following messages will be generated and displayed in the Global Events Display window. **AM1 AST RCM 100 Request to send xyz is denied. Reason:** **AM1 CEA CMD 100 Error building the Load for DAS #500** **AM1 CEF ANL 100 6 Could not locate** **PM1 CDH CMS 100 Complete SUCCESSFUL processing of DAS #250** **AM1 EAS RMS 101 DEBUG: Nameserver returned wrong endpoint for RMS process.** **AM1 FDF TLM 102 (there should not be an event message displayed)** **PM1 FSW FUI 102 Room Builder process ended.** **AM1 MIS DMS 100 Process exiting normally** The following messages will be generated and displayed in the Local Events Display window. **PM1 COM RCM 100 Invalid process: cannot unregister** **PM1 EPS SYS 101 Connection X added as of today** 3. The Graphical timeline will display the messages that are generated as ‘ticks’ within the graphics display.	

8.	Verify the formatted event messages are displayed with the correct UTC time.	The messages that are generated should have the correct UTC time in the following format; 'YYYY/DOY HH:MM:SS:XXX'	
9.	Verify the formatted event messages are displayed with the correct event type.	The messages that are generated should have an associated Event Type such as 'RCM', 'CMD','TLM', etc.	
10.	Verify the formatted event messages are generated with the correct Event text.	Messages should have the same text as the text in the Event Definitions file.	
11.	Verify the formatted event messages are generated with the correct Spacecraft Identifier.	Messages should have an 'AM1 or PM1' spacecraft identifier.	
12.	Verify the formatted event messages are generated with the correct Subsystem Identifier.	Messages should have the same Subsystem Identifier as the messages in the Event Definition file such as AST, CEA, CEF, etc.	
13.	Scroll through the Events text display and check each message for corresponding indicator 'tick' in the Graphical timeline and that that 'tick' has a corresponding UTC time in the messages display area.	All messages should have a corresponding 'tick' and should have the corresponding UTC time.	
14.	Scroll through the Events Display message area and verify that the Graphical timeline also scrolls with the corresponding time of reference.	The Graphical display corresponds with a timeline that matched the time of the messages displayed in the text area.	
15.	Move mouse to Graphical timeline area and select an event, aka a 'tick'.	The message area of the Events Display should scroll to and display the corresponding event in text format.	

16.	Compare the color of the events (ticks) with the colors associated with the Event Types and Subsystem from the Filter menu. Filter 'Timeline' by Event Type Choose Filter from the menu then Event Type. Compare the square colors with the color of the Event Type labels displayed on the timeline. Filter 'Timeline' by Subsystem Choose Timeline from the menu then click Subsystem. Choose Filter from the menu then choose subsystem. Compare the square colors with the color of the Subsystem labels displayed on the timeline .	Colors should match exactly.	
17.	Verify that the 'search' option/dialog window in the Events Display selects messages based on textual content. Enter any text that appears in the event messages in the 'Search string' option/dialog window and do a search on that particular text.	The Events Display should scroll back to the message and the Graphical timeline should also scroll to the corresponding time.	
18.	Repeat step 17 by pressing the 'Apply' button.	The Events Display should scroll to the next occurrence of the message and the Graphical timeline should also scroll to the corresponding time.	

19.	Verify that the latest event messages appear at the bottom of the display, while the oldest messages are scrolled-up to the top of the page.	Messages should appear in ascending order from the beginning of the message display.	
20.	Verify a 'search' can be done on a invalid subsystem. Enter 'BIN' as a Subsystem in the 'Search string' dialog box. Choose 'Filter'.	Filtered Events should equal zero (0).	
21.	Initiate the DMS event messsage driver. From the /fosb/test/am1/scripts/setup directory type **% setenv SCRIPT UserStation** source FOSEnvVars from the /fosb/test/am1/scripts/setup directory type **% source FosEnvVars** cd into[machine platform type] from the /fosb/test/am1/bin directory. **type % cd ../../bin/sun_sparc_5-5 or execute alias for the bin directory** start driver by entering FdEvEventDriver at the Unix prompt. **% FdEvEventDriver**	New messages should appear in the 'Local' Events Display on UserStation #1, but not on the 'Local' Events Display on UserStation #2.	

22.	From UserStation #1 initiate the TLM packet driver. Type **setenv SCRIPT UserStation** from the Unix prompt. source packGenEnvVars from the /fosb/test/am1/scripts/setup directory type **% source packGenEnvVars** cd into[machine platform type] from the /fosb/test/am1/bin directory. **% cd ../../bin/sun_sparc_5-5** Start driver by entering packGen at the Unix prompt. **% packGen** Valid data type = **am1-hk** IP address = **225.2.7.00** Port number = **20001** Number of packets = **-1** (infinite) packet delay = **3000** Return	The driver will flow telemetry which will be displayed in the Events Display Window.	
23.	Re-Size the 'Events Display' window. 1. Re-Size all sides (4) of the 'Events Display' window.	Incoming messages should still appear in 'Events Display' window	

24.	Terminate Driver **CRTL-C**	Incoming messages stop generating.	
25.	End of test.	End of test.	

Event Message Filtering

Test Case No: Evt-2010B

Test Configuration: See Appendix G

Test Support: EOC startup scripts, FdEvEvent Driver, FuEvStringId Driver, Real-Time Server, Data Server, and a UserStation

Test Case Description:

This test case is designed to verify the ability of the Global and Local event displays to filter on specific attributes. The test begins with the initialization of the EOC and the display of both displays. The event driver is then invoked, multicasting messages to the UserStation for display. The event filtering scenarios are then implemented by selecting, deselecting attributes through filtering options.

Success Criteria:

The test is considered successful when DMS generated events are displayed in the Global and Local event displays on the UserStation and can be manipulated through filtering options.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Initialize the 'Global' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the '**Events Display - Global**' option. Select 'OK'.	The 'Global' events display will be displayed on the UserStation screen.	
5.	Initialize the 'Local' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the '**Events Display - Local**' option. Select 'OK'.	The 'Local' events display will be displayed on the UserStation screen.	
6.	Connect to a real-time operational string from the Environment Control window; type in uppercase **STRING CONNECT STRING =100 CONFIG=MIRROR**	Wait for several Decom messages and the last Events Display message output should be: 'Successfully connected to string 100'	

7.	Initiate the Event Message Driver. At the Unix prompt type '**test**'. From the /fosb/test/am1/scripts/setup directory, type **% setenv SCRIPT UserStation** source FosEnvVars from the /fosb/test/am1/scripts/setup directory, type **% source FosEnvVars** cd into the following directory, type **% cd /fosb/test/am1/bin /sun_sparc_5-5 or execute alias 'bin' for the directory** Start driver by entering FdEvEventDriver at the Unix prompt, type **% FdEvEventDriver** Click on 'Reset' from the Global Display window	The following messages will be generated and displayed in the Global Events Display window. **AM1 AST RCM 100 Request to send xyz is denied. Reason:** **AM1 CEA CMD 100 Error building the Load for DAS #500** **AM1 CEF ANL 100 6 Could not locate** **PM1 CDH CMS 100 Complete SUCCESSFUL processing of DAS #250** **AM1 EAS RMS 101 DEBUG: Nameserver returned wrong endpoint for RMS process.** **AM1 FDF TLM 102** **PM1 FSW FUI 102 Room Builder process ended.** **AM1 MIS DMS 100 Process exiting normally** The following messages will be generated and displayed in the Local Events Display window. **PM1 COM RCM 100 Invalid process: cannot unregister** **PM1 EPS SYS 101 Connection X added as of today** The Graphical timeline will display the messages that are generated as 'ticks' within the graphics display.	
8.	Verify the formatted event messages are displayed with the correct UTC time.	The messages that are generated should have the correct UTC time in the following format; 'YYYY/DOY HH:MM:SS:XXX'	

9.	Verify the formatted event messages are displayed with the correct event type.	The messages that are generated should have an associated Event Type such as 'RCM', 'CMD', TLM', etc.	
10.	Verify the formatted event messages are generated with the correct Event text.	Messages should have the same text as the text in the Event Definitions file.	
11.	Verify the formatted event messages are generated with the correct Spacecraft Identifier.	Messages should have an 'AM1 or PM1' spacecraft identifier.	
12.	Verify the formatted event messages are generated with the correct Subsystem Identifier.	Messages should have the same Subsystem Identifier as the messages in the Event Definition file such as AST, CEA, CEF, etc.	
13.	Filter the event messages by Event type from the Events Display window . Click on 'Timeline'. Select 'Event Type'. Click on 'Filter'. Select 'Event Type'. The next screen will have all the event types to choose from such as TLM, CMD, ANL, etc.	A dialog box for Event Types will be displayed on UserStation screen.	

14.	From the dialog box, select only ANL as the Event type. Click on the ‘None’ button. Click on the ‘Show’ button for ANL. Click on ‘Apply’. Click on ‘Close’.	The Events Display window will have a timeline that will only have the ‘tick marks’ for ANL Event Type displayed.	

15.	**Initiate the Event Message Driver**. At the Unix prompt type '**test**'. From the /fosb/test/am1/scripts/setup directory type **% setenv SCRIPT UserStation** source FosEnvVars from the /fosb/test/am1/scripts/setup directory, type **% source FosEnvVars** cd into the following directory, type **% cd /fosb/test/am1/bin /sun_sparc_5-5 or execute alias 'bin' for the directory** start driver by entering FdEvEventDriver at the Unix prompt, type **% FdEvEventDriver**	The following messages will be generated but only the ANL Events will be displayed in the Global Events window. **AM1 AST RCM 100 Request to send xyz is denied. Reason:** **AM1 CEA CMD 100 Error building the Load for DAS #500** **AM1 CEF ANL 100 6 Could not locate** **PM1 CDH CMS 100 Complete SUCCESSFUL processing of DAS #250** **AM1 EAS RMS 101 DEBUG: Nameserver returned wrong endpoint for RMS process.** **AM1 FDF TLM 102** **PM1 FSW FUI 102 Room Builder process ended.** **AM1 MIS DMS 100 Process exiting normally** The following messages will be generated and displayed in the Local Events Display window. **PM1 COM RCM 100 Invalid process: cannot unregister** **PM1 EPS SYS 101 Connection X added as of today** The Graphical timeline will display the messages that are generated as 'ticks' within the graphics display.	

16.	Verify the Event Display window and Graphic timeline updates to reflect only ANL event messages that have been generated in the Global Events window.	Check that both the messages and graphic areas display ANL messages only.	
17.	Filter CMD event messages by Event Type from the Events Display window. Click on ‘Filter’. Select ‘Event Type’. Click on ‘None’. Click on the “Show’ button for ‘CMD’ Click on ‘Apply’. Click on ‘Close’.	A dialog box for Event Types will be displayed on UserStation screen. The filter will be reset to none. The Events Display window will have a timeline that will only have the CMD Event Type displayed.	
18.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt ‘**!!**’	Only messages generated with ‘CMD’ should appear in the Events Display - Global window.	
19.	Verify the Event Display window and Graphic timeline updates to reflect only Command (CMD) event messages that have been generated.	Check that both the messages and graphic areas display Command (CMD) messages only.	
20.	Scroll through the Events text display and check each message for corresponding indicator ‘tick’ in the Graphical timeline and that that ‘tick’ has a corresponding UTC time in the messages display area.	All messages should have a corresponding ‘tick’ and should have the corresponding UTC time.	

21.	Move mouse to Graphical timeline area and select an event, aka a ‘tick’.	The message area of the Events Display should scroll to and display the corresponding event in text format.	
22.	**Reset Events Display** Click on ‘Filter’. Select ‘Event Type’. Click on ‘All’. Click on ‘Apply’ Click on ‘Close’ Click on ‘Filter’. Select ‘Subsystem’. Click on ‘All’. Click on ‘Apply’ Click on ‘Close’ Click on ‘Filter’. Select ‘S/C ID’. Click on ‘All’. Click on ‘Apply’ Click on ‘Close’	The Events Display will be reset	

23.	Filter the event messages by S/C ID from the Events Display window. Click on ‘Timeline’. Select S/C ID. Click on ‘Filter’. Select ‘S/C ID’.	A dialog box for S/C ID Filter will be displayed on UserStation screen.	
24.	At the dialog box, Click ‘None’. Click on the ‘Show’ button for ‘AM1’ as the S/C ID. Click on ‘Apply’ Click on ‘Close’	The Events Display window will have a timeline that will only have S/C ID of AM1 displayed.	
25.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt ‘**!!**’.	Only messages with S/C ID of ‘AM1’ will appear in the message display area on the Global Events Display.	
26.	Repeat the step **Reset Events Display.**	The events display will be reset.	

27.	Filter the event messages by S/C ID for ‘PM1’. Click on ‘Filter’. Select ‘S/C ID’. Click on ‘None’ Click on the ‘Show’ button for ‘PM1’ as the S/C ID Click on ‘Apply’. Click on ‘Close’.	A dialog box for S/C ID Filter will be displayed on UserStation screen. Resets the filter to none. The Events Display window will have a timeline that will only have S/C ID of PM1 displayed.	
28.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt ‘**!!**’.	Only messages with S/C ID of ‘PM1’ will appear in the message display area.	
29.	Filter the event messages by S/C ID for ‘AM1’ and ‘PM1’. Click on ‘Filter’. Select ‘S/C ID’. Click on ‘None’ Click on the ‘Show’ button for ‘AM1’ and ‘PM1’ as the S/C ID’s Click on ‘Apply’. Click on ‘Close’..	A dialog box for S/C ID Filter will be displayed on UserStation screen. Resets the filter to none. The Events Display window will have a timeline that will only have S/C ID of AM1 and PM1 displayed.	
30.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt ‘**!!**’.	Only messages with S/C ID of ‘AM1’ and ‘PM1’ will appear in the message display area.	

31.	Filter the event messages by Subsystem ID. Click on ‘Timeline’. Select ‘Subsystem ID’. Click on ‘Filter’. Select ‘Subsystem ID’. Click on ‘None’. Click on the ‘Show’ button for ‘CEA’. Click on ‘Apply’ Click on ‘Close’	A dialog box for Subsystem ID will be displayed on UserStation screen. Resets the filter to none. The Events Display window will have a timeline that will only have a Subsystem ID of ‘CEA’ displayed.	
32.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt ‘**!!**’.	Only messages with Subsystem ID of ‘CEA’ will appear in the message display area.	
33.	Repeat the step **Reset Events Display**	The events display will be reset.	
34.	Filter the event messages by ‘String ID’. Click on ‘Filter’. Select ‘String ID’.	A dialog box for String ID will be displayed on UserStation screen.	
35.	At the dialog box, String ‘100’ and ‘101’ will be highlighted. To select String ‘100’ deselect String ‘101’. Click on ‘String 101’. Click on ‘OK’.	A dialog box for String ID will be displayed on the UserStation Screen. String ‘100’ will be selected to filter on.	

36.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt '**!!**'.	Only messages with String ID of '100' will appear in the message display area.	
37.	Filter the event messages by two (2) String ID's. Click on 'Filter'. Select 'String ID'. Ensure both String ID's, '100' and '101' are highlighted. Click on 'OK'	A dialog box for String ID will be displayed on UserStation screen. Only messages with the String ID of '100', and '101' will appear in the Events Display window when the Event Message Driver is executed.	
38.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt '**!!**'.	Only messages with the String ID of '100', and '101' will appear in the Events Display window.	
39.	Display a 'Subsystem' in bold lettering in the Events Display Click on 'Timeline' Select 'Subsystem'. Click on 'Filter'. Select 'Subsystem'. Click on the 'Bold' box for 'CEA'. Click on 'Apply'. Click on 'Close'.	A dialog box for 'Subsystem' will be displayed on the UserStation. The 'Bold' box will change states from unpressed to pressed. Messages for CEA will be in bold print.	

40.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt '**!!**'.	New messages with the Subsystem type of CEA will appear in 'Bold' lettering in the message display area, all other incoming messages will appear normal.	
41.	Display a 'Event Type' in bold lettering in the Events Display Click on 'Timeline'. Select 'Event Type'. Click on 'Filter'. Select 'Event Type'. Click on the 'Bold' box for 'DMS'. Click on 'Apply'. Click on 'Close'.	A dialog box for 'Event Type' will be displayed on the UserStation. The 'Bold' box will change states from unpressed to pressed. Messages for DMS will be in bold print.	
42.	Repeat the step **Initiate the Event Message Driver** or type at the UNIX prompt '**!!**'.	New messages with the Subsystem type of 'CEA' and Event Type of 'DMS' will appear in 'Bold' lettering in the message display area, all other incoming messages will appear normal.	
43.	Make a screen snap of the events display capturing the UTC time.		

44.	At the Unix prompt Type **/usr/local/bin/ntpq -n** At the prompt **>ntpq** type **‘pe’** Note the network offset time under the column labeled **‘disp’.**	A report will be displayed showing the network offset time.	
45.	End of test.	End of test.	

Event History Request & Reporting

Test Case No: EVT-2020B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Data Server, Real-Time Server, UserStation, Event History data.

Test Case Description:

This test is designed to verify the ability to retrieve all event messages, from the event archive, by specifying start/stop time, event type, event identifier, spacecraft identifier, and instrument identifier. This test will also verify the ability to filter retrieved events according to time, event types, event identifiers, spacecraft identifiers, and instrument identifiers. Events in the archive are retrieved and viewed through the use of Netscape. Following initialization of the EOC, Netscape is invoked from the console window or from the tear-down menu. The Netscape page containing the event history data base is brought up and event history is accessed through the use of the event history access form. All necessary data is entered into the form and then submitted. An event history is returned and it is verified that this event history matches the user's request. The event history form is accessed again and different times, subsystems, and ID numbers are submitted. The last portion of this test involves submitting an illegal request (i.e. invalid event ids, times not in the archive, etc.).

Success Criteria:

This test is considered successful when all events in the archive are able to be retrieved; The user is able to specify start/stop times, event types, event ID, spacecraft ID, and instrument ID in the request; Event messages are retrieved in chronological order; Events being retrieved can be filtered; Event history request are stored for future use.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	

2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Connect to a real-time operational string from the Environment Control window; **> STRING CONNECT STRING =100 CONFIG=MIRROR**	Events Display message output: 'Successfully connected to string 100'	
5.	Invoke Netscape and access the Web page for FOS DataBase access. 1. Click on R mouse button and select Netscape	A copy of Netscape will be displayed on the screen.	
6.	Access the FOS Event History form. Use either a Bookmark shortcut or Type in **http://googoo.hitc.com/fosint3/evhistform.html** at the URL dialog box in the Netscape display.	Event History form is displayed	

7.	Verify that a correct copy of the Event History form is displayed with the following fields; Spacecraft Subsystem Spacecraft Time Stamp FOS Event Type Severity FOS Time Stamp FOS Event ID FOS Event Message FOS Host FOS Trigger Source File	The form should have all the listed fields available.	
8.	Submit an Event History request to view all events in the database. Leave the form blank and click on the 'Submit' button at the bottom of the form. Scroll down the resulting page which will have all the events and stop at the first event displaying a 'Subsystem' other than 'Unknown'. Make a screen snap of that event plus the following 5 events.	Netscape display showing all events in the database in a chronological readable format. There should be several events with a 'Subsystem' other than 'Unknown'.	

9.	Click on the 'Back' button in the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the Event History request form will be clear of any text.	
10.	Submit an Event History request to view all events of a specified 'FOS Event Type'. Click on the 'FOS Event Type' button. Verify that a list of event types is displayed with the following: ANA, CMD, CMS, DMS, FUI, PAS, RCM, RMS, SYS, and TLM. Click on 'CMD'. Click on the 'Submit' button at the bottom of the page.	The Event History request should display only messages associated with the event type of 'CMD'.	
11.	Save a copy of the event request. Click on the 'File' button from the Netscape display taskbar. Click on the 'Save As ' button. Click on the 'Selection' box. Enter: **/fosb/test/am1/scripts/setup/event_req1.csh** Click on the 'OK' button.	A copy of the 'CMD' event history request will be saved in **/fosb/test/am1/scripts/setup/** as **event_req1.csh**	

12.	Verify the event request saved matches the Netscape display. From a UNIX prompt type '**test**' to get into directory **/fosb/test/am1/scripts/setup** At the UNIX prompt type, **% more event_req1.csh**	Compare the 'CMD' event history request displayed and the saved file /fosb/test/am1/scripts/setup/events_reql.csh, both should match.	
13.	Return to the 'CMD' Event History request display. Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	The Event History request should be displayed. All fields in the Event History request form will be clear of any text.	
14.	Submit an Event History request to view all events of a specified 'Severity'. Click on the 'Severity' button. Verify that 4 types of severity levels are listed Fatal, Alarm, Warning and Info Click on 'Fatal'. Click on the 'Submit' button at the bottom of the form.	The Event History request should display only messages with the severity type of 'Fatal'.	
15.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the Event History request form will be clear of any text.	

16.	Submit an Event History request to view all events of a specified 'Severity'. Click on the 'Severity' button. Verify that 4 types of severity levels are listed Fatal, Alarm, Warning and Info Click on 'Alarm'. Click on the 'Submit' button at the bottom of the form.	The Event History request should display only messages with the severity type of 'Fatal'.	
17.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the Event History request form will be clear of any text.	
18.	Submit an Event History request to view all events of a specified 'Severity'. Click on the 'Severity' button. Verify that 4 types of severity levels are listed Fatal, Alarm, Warning and Info Click on 'Warning'. Click on the 'Submit' button at the bottom of the form.	The Event History request should display only messages with the severity type of 'Fatal'.	
19.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the Event History request form will be clear of any text.	

20.	Submit an Event History request to view all events of a specified 'Severity'. Click on the 'Severity' button. Verify that 4 types of severity levels are listed Fatal, Alarm, Warning and Info Click on 'Info'. Click on the 'Submit' button at the bottom of the form.	The Event History request should display only messages with the severity type of 'Fatal'.	
21.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the Event History request form will be clear of any text.	
22.	Submit an Event History request to view all events of a specified 'FOS Event ID #" Click on the 'FOS Event ID #' field. Enter the number '**2012**' in the field. Click on the 'Submit' button from the bottom of the form.	The Event History request should display only messages with the 'FOS Event ID #' of '2012'.	
23.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' button at the bottom of the form.	All fields in the event history request form will be clear of any text.	

24.	Submit an Event History request to view all events of an illegal ‘ FOS Event ID #’. Click on the ‘FOS Event ID #’ field’ Enter a bogus ‘FOS Event ID #’, ‘**1111**’. Click on the ‘Submit’ button from the bottom of the form.	Verify that no events were found for the ‘FOS Event ID #’ of ‘1111’.	
25.	Click on the ‘Back’ button from the Netscape display taskbar. Click on the ‘Clear Form’ button at the bottom of the form.	All fields in the event history request form will be clear of any text.	
26.	Submit an Event History request to view all events of a specified ‘S/C ID” Click on the ‘Spacecraft’ field. Click on ‘AM-1” Click on the ‘Submit’ button from the bottom of the form.	The event history request form should display only messages with the S/C ID that you supplied.	
27.	Click on the ‘Back’ button from the Netscape display taskbar. Click on the ‘Clear Form’ button at the bottom of the form.	All fields in the event history request form will be clear of any text.	

28.	Submit an Event History request to view all events of a specified 'Subsystem' Click on the 'Subsystem' field. Verify that the following subsystems are listed; GNC, CERES-A, CERES-F, CDH, COM, EAS, EPS, PMS, SMS and TCS Click on 'COM'. Click on the 'Submit' button at the bottom of the form.	The Event History request should display only messages with the subsystem that you supplied, in this case '**COM'**.	
29.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' at the bottom of the form.	All fields in the event history request form will be clear of any text.	
30.	Submit an Event History request to view all events of a specified 'Instrument'. Click on the 'Subsystem' field. Verify that the following instruments are listed; ASTER, MISR, MODIS and MOPITT Click on 'ASTER'. Click on the 'Submit' button at the bottom of the form.	The event history request form should display only messages with the instrument that you supplied, in this case '**ASTER**'.	

31.	Click on the ‘Back’ button from the Netscape display taskbar. Click on the ‘Clear Form’ at the bottom of the form.	All fields in the event history request form will be clear of any text.	
32.	Submit an Event History request to view all events of a specified ‘Spacecraft Time Stamp’. Select two ‘S/C Time’ for a range from the screen snaps from step #8. Enter the time range in the following format in the ‘Spacecraft Time Stamp’ fields; YYYY:DDD:HH:MM:SS Click on the first ‘Spacecraft Time Stamp’ field. Enter the start time in this field. Click on the second ‘Spacecraft Time Stamp’ field. Enter the stop time in this field. Click on the ‘Submit’ button from the bottom of the form.	The Event History request should display only messages associated with the ‘Spacecraft Time Stamp’ range selected.	
33.	Click on the ‘Back’ button from the Netscape display taskbar. Click on the ‘Clear Form’ from the bottom of the form.	All fields in the event history request form will be clear of any text.	

34.	Submit an Event History request to view all events of a specified ‘FOS Time Stamp’. Select two ‘FOS Time’ for a range from the screen snaps from step #8. Enter the time range in the following format in the ‘FOS Time Stamp’ fields; YYYY:DDD:HH:MM:SS Click on the first ‘FOS Time Stamp’ field. Enter the start time in this field. Click on the second ‘FOS Time Stamp’ field. Enter the stop time in this field. Click on the ‘Submit’ button from the bottom of the form.	The Event History Request should display only messages associated with the ‘FOS Time Stamp’ range selected.	
35.	Click on the ‘Back’ button from the Netscape display taskbar. Click on the ‘Clear Form’ from the bottom of the form.	All fields in the event history request form will be clear of any text.	

36.	Submit an Event History request with information added to all fields of the event history form. Click on the 'Spacecraft' button. Click on 'AM1'. Click on 'Subsystem'. Click on 'COM'. Click on the 'FOS Event Type' button. Click on 'RCM'. Click on the 'Severity' button. Click on 'Info'. Click on the 'Submit' button from the bottom of the form	The Event History request should display only messages associated with the following information; Spacecraft = AM1 Subsystem = COM FOS Event Type = RCM Severity = Info	
37.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' from the bottom of the form.	All fields in the event history request form will be clear of any text.	

38.	Submit an Event History request to view all events of a 'FOS Event Message'. Click on the 'FOS Event Message' field' Enter: '**Request to send xyz is denied. Reason: abc'** Click on the 'Submit' button from the bottom of the form.	Verify that only events with the message 'Request to send xyz is denied. Reason: abc' is displayed.	
39.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' from the bottom of the form.	All fields in the event history request form will be clear of any text.	
40.	Submit an Event History request to view all events of a specific 'FOS Host'. Click on the 'FOS Host' field. Enter the workstation name you are working from, for example, 'viper'. Click on the 'Submit' button from the bottom of the form.	Verify that only events with your workstation name is displayed.	
41.	Click on the 'Back' button from the Netscape display taskbar. Click on the 'Clear Form' from the bottom of the form.	All fields in the event history request form will be clear of any text.	

42.	Submit an Event History request to view all events with a certain ‘Source File’ Click on the ‘Source File’ field’. Enter: ‘**/ecs/formal/fos/dms4/unsupported/EventDriver/src/T’** Click on ‘Submit’ button from the bottom of the form.	Verify that only event messages with the ‘Source Line’, ‘/ecs/formal/fos/dms4/unsupported/EventDriver/src/T’ is displayed.	
43.	End of test.		

Alarm Message Handling

Test Case No: EVT-2030B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Data Server, Real-Time Server, UserStation, FdEvEventDriver

Test Case Description:

This test is designed to verify the FOS capability to designate and acknowledge messages as, Info, Warning, Alarm, and Fatal. The test begins with the start-up of the EOC, the generation of messages. The FOS software is designed to acknowledge messages of the 'alarm' severity by pressing a 'ACK' button in the Environment Control window, the other types of messages do not require a response.

Success Criteria:

The test is considered successful when the user is able to acknowledge messages that have a severity level of 'alarm' by pressing the 'ACK' button in the Environment Control window and the 'alarm' message will change states from a 'blinking' condition to a 'non-blinking' condition.

Step Id	Action	Expected Result/Output	Pass /Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Initialize the 'Global' event graphical timeline and event message displays from the Tools button by clicking on the Tools button located at the bottom of the Environment Control window, then select the 'Events Display - Global' option.	The 'Global' events display will be displayed on the UserStation screen.	
5.	Connect to a real-time operational string from the Environment Control window; **STRING CONNECT STRING =100 CONFIG=MIRROR**	Events Display message output: 'Successfully connected to string 100'	
6.	Select the Quick Message window from the Tools menu Click on 'Tools' from the Environment Control Window. Select 'Quick Message'. Click on 'OK'.	Quick Message window will be displayed on UserStation.	

7.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 5 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Warning’. Click on ‘Send’.	The following message will be displayed in the Environment Control window with a yellow background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	
8.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 5 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Info’. Click on ‘Send’..	The following message will be displayed in the Environment Control window with a gray background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	
9.	Submit a ‘Quick Message’ Enter ‘CAC’ in the ‘To:’ box. Enter message ‘We need to schedule a replay in 5 minutes’ in the ‘Text’ box. Click on ‘Severity’ button. Select ‘Alarm’. Click on ‘Send’..	The following message will be displayed in the Environment Control window with a blinking red background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	

10.	Repeat step 9 twice.	The following message will be displayed in the Environment Control window with a blinking red background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	
11.	Submit a 'Quick Message' Enter 'CAC' in the 'To:' box. Enter message 'We need to schedule a replay in 5 minutes' in the 'Text' box. Click on 'Severity' button. Select 'Fatal'. Click on 'Send'..	The following message will be displayed in the Environment Control window with a black background. **From: (sender Login ID) To: CAC Text: We need to schedule a replay in 5 minutes.**	
12.	Verify that there are event messages with four types of severity levels displayed in the Environment Control window.	Confirm the event messages have this format; Info = Black lettering on Gray background Warning = Black lettering on Yellow background Alarm = Black and Yellow lettering on Red background (blinking) Fatal = White lettering on Black background	
13.	Acknowledge 'Alarm' messages that are active 'blinking' in the Environment Control window. Depress 'ACK' button.	Alarm message should change from a 'blinking' red condition to a 'non-blinking' red condition.	

14.	Invoke Netscape and access the Web page for FOS DataBase access. Click on FOS Event History Database	A copy of Netscape will be displayed on the screen and the Event History form will be displayed.	
15.	Verify that a copy of the event history is dsplayed.	Check the Event History form for fields containing; -start/stop times -event type -event identifier -spacecraft identifier -instrument (subsystem) identifier	
16.	Submit a event history request to view only alarm events in the database. Click on the 'Severity' button. Select 'Alarm' Click on 'Submit' at the bottom of the form.	Netscape display showing all events in the database in a detailed, readable format	
17.	Compare the acknowledged alarms with the Netscape display.	The event messages should match.	
18.	Bring Down Stations/End of test.		

Activity Definer Tool

Test Case No: PAS-2000B

Test Configuration: See Appendix G

Test Support: The test is supported by the direct interface with the FOS database. Spacecraft and instrument commands, ground procedures, ECL Directives, and Mode Transitions are products of the database which are needed to conduct the test.

Test Case Description:

This test verifies the Planning & Scheduling (PAS) subsystem capability to support the generation of activity definitions via the Activity Definer Tool. Performing this test demonstrates that the Activity Definer Tool allows a user to create a new activity for a given spacecraft subsystem or instrument. For the newly created activity, the user is able to specify: commands to be incorporated, relative times for the commands, modifications to associated command parameters, and mode transitions that occur during activity execution. In addition, the user is able to incorporate complex activities, ECL directives and ground procedures into the activity. Once the activity has been created, this test demonstrates that the user is able to save the activity, open the activity, make modifications to command and procedure parameters, save the activity under a different name using the 'save as' option, and delete the activity from the pool of available activities. Permissions to access the activity by unauthorized users is tested as well.

Success Criteria:

Through the use of the Activity Definer Tool, a user is able to create an activity for a given spacecraft subsystem or instrument. The user is able to include in the activity, an associated command sequence with relative times and parameters, modes transitions, ECL directives, ground procedures, complex activities, and scheduling information. User defined parameters are modified for commands and ground procedures. Once the activity has been defined, the user is able to execute the following options; Save, Save As, Open, Close, Delete and Exit. The permissions associated with the activity is verified through an unauthorized user.

Step Id	Action	Expected Result/Output	Pass/ Fail

1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
5.	Select the 'Activity Definer' option. Click the 'OK' button.	The Tools dialog box closes. The 'Activity Definer' window appears.	
6.	Select the 'New' option under the 'File' menu.	The New dialog box appears.	
7.	Enter the following new activity name: **AM1_MODIS_TST1** Select the 'AM1 MODIS' as the resource name. Click the 'OK' button.	The 'New' dialog box closes. Within the 'Activity Definer' window the Activity Name updates with 'AM1_MODIS_TST1'. The Resource Name updates with 'AM1 MODIS'	
8.	Select the 'Commands' option under the 'Modify' menu.	The 'Commands' dialog box appears. The selected resource is AM1 MODIS. MODIS commands are listed in the Available Commands field.	

9.	**<u>Selecting Commands</u>** Select any command from the Available Commands field. Click the 'Start' toggle button. Click the '+' toggle button. Enter the following offset time: **00:02:00** Click the 'Add' button.	The command and the offset time appear in the Selected Command field with any associated parameters.	
10.	Repeat the Selecting Commands steps for four additional commands. (Select at least one command with modifiable parameters) <command name> Use the following offset times: **START + 00:03:00** **START - 00:04:00** **STOP + 00:05:00** **STOP - 00:06:00**	The command and the offset time appear in the Selected Command field with any associated parameters.	
11.	Click the 'Apply' Button	The 'Commands' dialog box remains open. The Items field in the 'Activity Definer' window is updated with the commands from the Selected Commands field.	
12.	Select a command in the Selected Commands field. (Do not select the command with modifiable parameters) Click the 'Remove' button.	The command is removed from the Selected Commands field.	

13.	Select a command in the Selected Commands field. (Do not select the command with modifiable parameters) Select a command in the Available Commands field. Follow the steps for selecting an offset time and use the same time as the command selected from the Selected Commands field. Click the 'Replace' button..	The selected command in the Selected Command field is replaced with the newly selected command from the Available Commands field.	
14.	Click the "OK' Button	The 'Commands' dialog box closes. The commands in the Items field in the 'Activity Definer' window are updated with the new information from the Selected Commands field of the 'Commands' dialog box.	
15.	Within the 'Activity Definer' window place the cursor in the 'Activity Description' field. Enter the following description of the activity: **This activity is defined for the AM1 MODIS instrument as part of the FOS release B test effort**.	The text description appears in the Activity Description box.	
16.	Select the 'Save' option under the 'File' menu.	The open activity is saved with the current changes. The activity name is appended with a '.1'. (This indicates version 1 of this activity.)	
17.	Select the 'Close' option under the 'File' menu.	The current activity closes and a blank template appears.	
18.	Select the 'Open' option under the 'File' menu..	An 'Open' dialog appears.	

19.	Select **AM1 MODIS** as the resource. Select **AM1_MODIS_TST1.1** in the 'Activity Names' field. Select 'OK'.	The Open dialog box closes. The AM1_MODIS_TST1.1 activity is displayed in the 'Activity Definer' window.	
20.	Select the 'Parameters' option under the 'Modify' menu.	The 'Parameters' dialog box appears.	
21.	Select the command that has associated modifiable parameters in the 'Commands' field. <i.e., MOD_SET_TWO_WORDS>	A list of command parameters appear in the Parameters field.	
22.	**<u>Selecting Parameter Values</u>** Select a modifiable command parameter**.**	The Current Value, valid high and low limits will appear in the Values field for Float Parameters. Selected values will appear in the Values field for discrete parameters.	
23.	Enter a value within the valid high and low limits. (Float Parameters) Select a valid value. (Discrete parameters) Select the 'Apply' option.	The parameter values are updated within the Commands field and within the 'Activity Definer' window.	
24.	Repeat the steps for Selecting Parameter Values for all remaining parameters associated with that command.	The parameter values are updated within the Commands field and within the 'Activity Definer' window.	
25.	Repeat the steps for Selecting Parameter Values for any parameter. This time, enter a parameter value that is outside the valid high and low limits specified.	A 'Error' dialog box appears indicating the error in the value selection. The parameter value does not update and the current parameter value is shown in the Value field.	
26.	Click the 'OK' button within the 'Error' dialog box.	The 'Error' dialog box closes.	

27.	From the ‘Parameters’ dialog box, click the ‘OK’ button.	The ‘Parameters’ dialog box closes. The ‘Activity Definer’ window updates with the current modifications.	
28.	Select the ‘Save’ option under the ‘File’ menu.	The open activity is saved with the current changes. The activity name is appended with a ‘2’. (This indicates version 2 of this activity.)	
29.	Select the ‘Close’ option under the ‘File’ menu.	The current activity closes and a blank template appears.	
30.	Select the ‘New’ option under the ‘File’ menu.	The New dialog box appears.	
31.	Enter the following new activity name: **AM1_MISR_TST1** Select the ‘AM1 MISR’ as the resource name. Click the ‘OK’ button.	The ‘New’ dialog box closes. Within the ‘Activity Definer’ window the Activity Name updates with ‘AM1_MISR_TST1’. The Resource Name updates with ‘AM1 MISR’	
32.	Select the ‘Commands’ option under the ‘Modify’ menu.	The ‘Commands’ dialog box appears. The selected resource is AM1 MISR. MISR commands are listed in the Available Commands field.	
33.	Repeat the Selecting Commands steps for two commands. Use the following offset times: **START + 00:03:00** **START + 00:04:00**	The commands and their offset times appear in the Selected Command field with any associated parameters.	
34.	Click the “OK’ Button	The ‘Commands’ dialog box closes. The Items field in the ‘Activity Definer’ window is updated with the new information from the Selected Commands field of the ‘Commands’ dialog box.	

35.	Select the 'Modes' option under the 'Modify' menu.	The 'Modes' dialog box appears. The selected resource is AM1 MISR. MISR modes are listed in the Available Modes field.	
36.	**<u>Selecting Mode Transitions</u>** Select any mode from the Available Modes field. Click the 'Start' toggle button. Click the '-' toggle button. Enter the following offset time: **00:10:00** Click the 'Add' button.	The mode and the offset time appear in the Selected Modes field.	
37.	Repeat the Selecting Modes Transition steps for two other modes. Use the following offset times: **STOP - 00:10:00** **STOP + 00:10:00**	The modes and their offset times appear in the Selected Modes field.+	
38.	Click the "Apply' Button	The 'Modes' dialog box remains open. The Items field in the 'Activity Definer' window is updated with the modes from the Selected Modes field.	
39.	Select a mode in the Selected Commands field with the following offset time. **STOP - 00:10:00** Click the 'Remove' button.	The mode is removed from the Selected Modes field.	

40.	Select a mode in the Selected Commands field with the following offset time. **STOP + 00:10:00** Select a different mode in the Available Modes field. Follow the steps for selecting an offset time and use the same time as the mode selected from the Selected Commands field. Click the 'Replace' button..	The selected mode in the Selected Modes field is replaced with the newly selected mode from the Available Commands field.	
41.	Click the "OK' Button	The 'Modes' dialog box closes. The modes in the Items field in the 'Activity Definer' window are updated with the new information from the Selected Modes field of the 'Modes' dialog box.	
42.	Select the 'Save' option under the 'File' menu.	The open activity is saved with the current changes. The activity name is appended with a '.1'. (This indicates version 1 of this activity.)	
43.	Select the 'Close' option under the 'File' menu.	The current activity closes and a blank template appears.	
44.	Select the 'New' option under the 'File' menu.	The New dialog box appears.	
45.	Enter the following new activity name: **AM1_MISR_TEST2** Select the 'AM1 MISR' as the resource name. Click the 'OK' button.	The 'New' dialog box closes. Within the 'Activity Definer' window the Activity Name updates with 'AM1_MISR_TEST2'. The Resource Name updates with 'AM1 MISR'	

46.	Select the ‘Commands’ option under the ‘Modify’ menu.	The ‘Commands’ dialog box appears. The selected resource is AM1 MISR. MISR commands are listed in the Available Commands field.	
47.	Repeat the Selecting Commands steps for two commands. Use the following offset times: **START + 00:03:00** **START + 00:04:00**	The commands and their offset times appear in the Selected Command field with any associated parameters.	
48.	Click the “OK’ Button	The ‘Commands’ dialog box closes. The Items field in the ‘Activity Definer’ window is updated with the new information from the Selected Commands field of the ‘Commands’ dialog box.	
49.	Select the ‘Complex Activities’ option under the ‘Modify’ menu.	The ‘Complex Activities’ dialog box appears.	

50.	**<u>Selecting Complex Activities</u>** Select the MISR resource. Select AM1_MISR_TST1.1 from the Available Activities field. <u>The Child Start from the Parent Offset Time</u> Click the 'Start' toggle button. Click the '+' toggle button. Enter the following offset time: **00:05:00** <u>The Child Stop Offset Time</u> Click the 'Duration' toggle button. Enter 30 and select Minute as the units. Click the 'Add' button.	The activity and the offset times appear in the Selected Activities field.	
51.	Click the "OK' Button	The 'Complex Activities' dialog box closes. The Items field in the 'Activity Definer' window are updated with the new information from the Selected Activities field of the 'Complex Activities' dialog box.	
52.	Select the 'Scheduling Info' option under the 'Modify' menu.	The 'Activity Default Scheduling Information' dialog box appears.	

53.	**<u>Selecting Default Scheduling Information</u>** Click the Start Time toggle button. Click the Duration toggle button. Enter a Start Date and Time 24 hours from now. Enter a Duration of 45 and select the unit Minutes. Click the 'OK' button.	The 'Activity Default Scheduling Information' dialog box closes. The information is stored with the activity.	
54.	Select the 'Scheduling Info' option under the 'Modify' menu.	The 'Activity Default Scheduling Information' dialog box appears. The previous modifications are indicated.	
55.	Click the Start Time toggle button. Click the Stop Time toggle button. Enter a Start Date and Time 12 hours from now. Enter a Stop Date and Time 10 hours from now. Click the 'OK' button.	A 'Error' dialog box appears indicating the error in the stop time selection.	
56.	Click the 'OK' button within the 'Error' dialog box.	The 'Error' dialog box closes.	
57.	Edit a Stop Date and Time 14 hours from now. Click the 'OK' button.	The 'Activity Default Scheduling Information' dialog box closes. The information is stored with the activity.	
58.	Select the 'Scheduling Info' option under the 'Modify' menu.	The 'Activity Default Scheduling Information' dialog box appears. The previous modifications are indicated.	

59.	Click the ‘Cancel’ button.	The ‘Activity Default Scheduling Information’ dialog box closes.	
60.	Select the ‘Save’ option under the ‘File’ menu.	The open activity is saved with the current changes. The activity name is appended with a ‘.1’. (This indicates version 1 of this activity.)	
61.	Select the ‘Close’ option under the ‘File’ menu.	The current activity closes and a blank template appears.	
62.	Select the ‘New’ option under the ‘File’ menu.	The New dialog box appears.	
63.	Enter the following new activity name: **AM1_MOPITT_TST1** Select the ‘AM1 MOPITT’ as the resource name. Click the ‘OK’ button.	The ‘New’ dialog box closes. Within the ‘Activity Definer’ window the Activity Name updates with ‘AM1_MOPITT_TST1’. The Resource Name updates with ‘AM1 MOPITT’	
64.	Select the ‘ECL Directive’ option under the ‘Modify’ menu.	The ECL Directive dialog box appears.	

65.	Creating ECL Directives Within the ECS Command Language Editor field enter the following text: **MSG "This is a test of FOS release B software."** Click the 'Start' toggle button. Click the '-' toggle button. Enter the following offset time: **00:00:30** Click the 'Add' button.	The ECL Directive and its offset time appears in the ECL Directive field.	
66.	Repeat the Creating ECL Directives steps by entering the following text into the ECS Command Language Editor: **'Hello. My name is Stan'**	A 'Error' dialog box appears indicating the error with the ECL Directive. The ECL Directive field does not update with the new text.	
67.	Click the 'OK' button within the 'Error' dialog box.	The 'Error' dialog box closes.	
68.	From the ECL Directive dialog box, click the 'OK' button.	The ECL Directive dialog box closes. The 'Activity Definer' window updates with the current modifications.	
69.	Select the 'Procedure' option under the 'Modify' menu.	The 'Procedure' dialog box appears.	

70.	**<u>Selecting Ground Procedures</u>** Select the MISR_TST1 procedure from the Available Procedures field. Click the ‘Start’ toggle button. Click the ‘+’ toggle button. Enter the following offset time: **00:01:30** Click the ‘Add’ button.	The procedure and its offset time appears in the Selected Procedures field.	
71.	**<u>Selecting Ground Procedures with Parameters</u>** Select the MOPITT_ARG($arg1, $arg2) procedure from the Available Procedure field. Select $arg1 in the Parameter field Enter a integer value for $arg1. Select $arg2 in the Parameter field. Enter an integer value for $arg2. Click the ‘Start’ toggle button. Click the ‘+’ toggle button. Enter the following offset time: **00:05:30** Click the ‘Add’ button.	The procedure, the parameter values, and its offset time appears in the Selected Procedures field.	

72.	Repeat the Selecting Ground Procedures with Parameters steps for same procedure. This time, enter a parameter value other than an integer.	A ‘Error’ dialog box appears indicating the error in the value selection.	
73.	Click the ‘OK’ button within the ‘Error’ dialog box.	The ‘Error’ dialog box closes.	
74.	From the ‘Procedure’ dialog box, click the ‘OK’ button.	The ‘Procedure’ dialog box closes. The ‘Activity Definer’ window updates with the current modifications.	
75.	Select the ‘Save’ option under the ‘File’ menu.	The open activity is saved with the current changes. The activity name is appended with a ‘.1’. (This indicates version 1 of this activity.)	
76.	Select the ‘Close’ option under the ‘File’ menu.	The current activity closes and a blank template appears.	
77.	Select the ‘Open’ option under the ‘File’ menu.	The Open dialog box appears.	
78.	Select the AM1 MODIS resource. Select the AM1_MODIS_TST1.2 activity. Click the ‘OK’ button.	The Open dialog box closes. The Activity Definer is updated with selected activity.	
79.	Select the ‘Save As’ option under the ‘File’ menu.	The Save As dialog box appears.	
80.	Enter the following text in the Save As field: MODIS_TEST2 Click the ‘OK’ button.	The Save As dialog box closes. The Activity Definer updates with the new name.	

81.	Select the 'Close' option under the 'File' menu.	The current activity closes and a blank template appears.	
82.	Select the 'Delete' option under the 'File' menu.	The Delete dialog box appears.	
83.	Select the AM1 MODIS resource. Select the MODIS_TEST2 activity. Click the 'OK' button.	A 'Confirmation' dialog box appears.	
84.	Click the 'OK' button in the 'Confirmation' dialog box.	The 'Confirmation' dialog box closes. The Delete dialog box closes. The activity is deleted.	
85.	Select the 'Open' option under the 'File' menu.	The Open dialog box appears.	
86.	Select the AM1 MODIS resource. Verify the MODIS_TEST2 activity is no longer available. Click the 'Cancel' button.	The Open dialog box closes.	
87.	Select the 'Exit' option under the 'File' menu.	The 'Activity Definer' window closes.	
88.	Kill all User Station process. Log out of the User Station.	The FOT User Station is completely down.	
89.	Log onto an FOT User Station as ASTER Scheduler. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

90.	Within the Control Window click the ‘Tools’ button.	The Tools dialog box appears.	
91.	Select the ‘Activity Definer’ option. Click the ‘OK’ button.	The Tools dialog box closes. The ‘Activity Definer’ window appears.	
92.	Select the ‘Open’ option under the ‘File’ menu.	The Open dialog box appears.	
93.	Select the AM1 MODIS resource. Select the AM1_MODIS_TST1.2 activity. Click the ‘OK’ button.	The Open dialog box closes. The Activity Definer is updated with selected activity.	
94.	Select the ‘Commands’ option under the ‘Modify’ menu.	The ‘Commands’ dialog box appears.	
95.	Select the AM1 ASTER resource. Repeat the Selecting Commands steps for one additional command. Use the following offset time: **START + 00:03:00**	The command and the offset time appears in the Selected Command field with any associated parameters.	
96.	Click the “OK’ Button	The ‘Commands’ dialog box closes. The commands in the Items field in the ‘Activity Definer’ window are updated with the new information from the Selected Commands field of the ‘Commands’ dialog box.	
97.	Select the ‘Save’ option under the ‘File’ menu.	The open activity is saved with the current changes. The activity name is appended with a ‘3’. (This indicates version 1 of this activity.)	

98.	Select the ‘Close’ option under the ‘File’ menu.	The current activity closes and a blank template appears.	
99.	Select the ‘Delete’ option under the ‘File’ menu.	The Delete dialog box appears.	
100.	Select the AM1 MODIS resource.	The AM1 MODIS resource is not available due to the user role set to ASTER Scheduler.	
101.	Click the ‘Cancel’ button in the Delete dialog box.	The Delete dialog box closes.	
102.	Select the ‘Exit’ option under the ‘File’ menu.	The ‘Activity Definer’ window closes.	
103.	End of test.		

Baseline Activity Profile (BAP) Definer Tool

Test Case No: PAS-2010B

Test Configuration: See Appendix G

Test Support: Available activities that contain commands and ground procedures with modifiable parameters.

Test Description:

This test verifies the FOS Planning & Scheduling (PAS) subsystem capability to support the generation of Baseline Activity Profile (BAP) definitions via the use of the BAP Definer Tool. Performing this test demonstrates that the BAP Definer Tool allows a user to create a new BAP definition for a given spacecraft subsystem or instrument. Creating a BAP allows the user to schedule a repetitive sequence of activities that define the normal operations for the instrument or subsystem. The test will demonstrate the ability to specify: valid activities for incorporation, modifications to associated command parameters and ground procedure parameters, and modifications to off-set times associated with the activities. The test will show the capability to save, close, open, save as another name, and delete a BAP.

Success Criteria:

Through the use of the BAP Definer Tool, an authorized user is able to create a BAP for a selected spacecraft subsystem or instrument. The user is able to include in the BAP a defined activity sequence with off-set times. User defined parameters are modified for commands and ground procedures. Once the BAP has been defined, the user is able to execute the following options; Save, Save As, Open, Close, Delete and Exit. The permissions associated with the BAP is verified through an unauthorized user.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	

2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
5.	Select the 'BAP Definer' option. Click the 'OK' button.	The Tools dialog box closes. The BAP Definer window appears.	
6.	Select the 'New' option under the 'File' menu.	The 'New BAP' dialog box appears.	
7.	Enter the following BAP name: **AM1_BAP_TEST1** Select the 'AM1 MISR' as the resource. Select 'OK'	The 'New BAP' dialog box closes. Within the BAP Definer window the BAP Name updates with 'AM1_BAP_TEST1. The Resource Name updates with 'AM1 MISR'	
8.	Select the 'Activity List' option under the 'Modify' menu.	The 'Activity List' dialog box appears.	
9.	Selecting Activities Select AM1_MISR_TEST1.1 within the Available Activities field. Click the 'Add' button.	The activity appears in the Activities within the BAP field.	
10.	Repeat the Selecting Activities steps for AM1_MISR_TEST2.1	The activity appears in the Activities within the BAP field.	

11.	Click the ‘OK’ button.	The ‘Activity List’ dialog box closes. The BAP Definer window is updated with the selected activities.	
12.	Select the ‘Scheduling Info’ option under the ‘Modify’ menu.	The ‘Scheduling Info’ dialog box appears.	
13.	Select the AM1_MISR_TEST1.1 activity in the Activities in the BAP field. Click the ‘Start Time’ toggle button. Click the ‘No Stop Time’ toggle button. Enter a Reference Date and Time two hours from the present time. Enter a Frequency Every 12 Hours. Click the ‘Apply’ button.	The activity in the Activities in the BAP field is updated with new information. The BAP Definer window is updated as well.	

14.	Select the AM1_MISR_TEST2.1 activity in the Activities in the BAP field. Click the 'Start Event' toggle button. Click the 'Stop Duration' toggle button. Enter a Start Sequence of 1. Select the S/C Noon Event. Enter a Delta Time of 00:10:00. Enter a Duration of 600 Seconds. Enter a Frequency Every 2 Orbits. Click the 'Apply' button.	The activity in the Activities in the BAP field is updated with new information. The BAP Definer window is updated as well.	
15.	Click the 'OK' button.	The 'Scheduling Info' dialog box closes.	
16.	Select the 'Save' option under the 'File' menu.	The open BAP is saved with the current changes.	
17.	Select the 'Close' option under the 'File' menu.	The current BAP closes and a blank template appears.	
18.	Select the 'New' option under the 'File' menu.	The 'New BAP' dialog box appears.	
19.	Enter the following BAP name: **AM1_BAP_TST2** Select the 'AM1 MODIS' as the resource. Select 'OK'	The 'New BAP' dialog box closes. Within the BAP Definer window the BAP Name updates with 'AM1_BAP_TST2. The Resource Name updates with 'AM1 MODIS'	
20.	Select the 'Activity List' option under the 'Modify' menu.	The 'Activity List' dialog box appears.	

21.	Selecting Activities Select AM1_MODIS_TEST1.3 within the Available Activities field. Click the ‘Add’ button.	The activity appears in the Activities within the BAP field.	
22.	Repeat the Selecting Activities steps for AM1_MODIS_TESTT1.1	The activity appears in the Activities within the BAP field.	
23.	Select the AM1_MODIS_TEST1.3 activity in the Activities within this BAP field. Click the ‘Up Triangle’ button.	The AM1_MODIS_TEST1.3 activity moves up in order within the field.	
24.	Select the AM1_MODIS_TEST1.1 activity in the Activities within this BAP field. Click the ‘Remove’ button.	The AM1_MODIS_TEST1.1 activity is removed from the Activities within this BAP field.	
25.	Select the AM1_MODIS_TEST1.3 activity in the Activities within this BAP field. Select the AM1_MODIS_TEST1.2 activity in the Available Activities field. Click the ‘Replace’ button.	The AM1_MODIS_TEST1.3 activity is replaced with the AM1_MODIS_TEST1.2 activity in the Activities within this BAP field.	
26.	Click the ‘OK’ button.	The ‘Activity List’ dialog box closes. The BAP Definer window is updated with the current information.	
27.	Select the ‘Parameters’ option under the ‘Modify’ menu.	The ‘Parameters’ dialog box appears.	

28.	Select the AM1_MODIS_TEST1.2 activity. Select the command that has associated modifiable parameters in the 'Commands' field.	A list of command parameters appear in the Parameters field.	
29.	**<u>Selecting Parameter Values</u>** Select a modifiable command parameter**.**	The Current Value, valid high and low limits will appear in the Values field for Float Parameters. Selected values will appear in the Values field for discrete parameters.	
30.	Enter a value within the valid high and low limits. (Float Parameters) Select a valid value. (Discrete parameters) Select the 'Apply' option.	The parameter values are updated within the Commands field and within the 'BAP Definer' window.	
31.	Click the 'OK' button.	The 'Parameter' dialog box closes.	
32.	Select the 'Save' option under the 'File' menu.	The open BAP is saved with the current changes.	
33.	Select the 'Close' option under the 'File' menu.	The current BAP closes and a blank template appears.	
34.	Select the 'Open' option under the 'File' menu.	The 'Open BAP' dialog box appears.	
35.	Select the AM1_BAP_TST2 under the MODIS resource. Click the 'OK' button.	The Open dialog box closes. The selected BAP appears in the BAP Definer window.	
36.	Select the 'Save As' option under the 'File' menu.	The 'Save As' dialog box appears.	
37.	Enter the name BAP_MODIS_TEST1. Click the 'OK' button.	The 'Save As' dialog box closes. The new BAP appears in the BAP Definer window.	

38.	Select the ‘Close’ option under the ‘File’ menu.	The current BAP closes and a blank template appears.	
39.	Select the ‘Delete’ option under the ‘File’ menu.	The ‘Delete’ dialog box appears.	
40.	Select the AM1_BAP_TEST1 under the MODIS resource. Click the ‘OK’ button.	A ‘Warning’ dialog box appears indicating the user has no permission to delete the BAP.	
41.	Click the ‘OK’ button within the ‘Warning’ dialog box.	The ‘Warning’ dialog box closes.	
42.	Click the ‘Cancel’ button within the ‘Delete’ dialog box.	The ‘Delete’ dialog box closes.	
43.	Select the ‘Open’ option under the ‘File’ menu.	The ‘Open BAP’ dialog box appears.	
44.	Select the AM1_BAP_TEST1 under the MODIS resource. Click the ‘OK’ button.	The Open dialog box closes. The selected BAP appears in the BAP Definer window.	
45.	Enter a Date and Time after the initial install times. Click the ‘Uninstall/Install’ toggle button. (Uninstall should be indicated) Select the ‘Save’ option under the ‘File’ menu.	The open BAP is saved with the current changes.	
46.	Select the ‘Close’ option under the ‘File’ menu.	The current BAP closes and a blank template appears.	
47.	Select the ‘Delete’ option under the ‘File’ menu.	The ‘Delete’ dialog box appears.	

48.	Select the AM1_BAP_TEST1 under the MODIS resource. Click the 'OK' button.	A 'Warning' dialog box appears indicating the user has no permission to delete the BAP.	
49.	Click the 'OK' button within the 'Warning' dialog box.	The 'Warning' dialog box closes.	
50.	Click the 'Cancel' button within the 'Delete' dialog box.	The 'Delete' dialog box closes.	
51.	Select the 'Exit' option under the 'File' menu.	The 'BAP Definer' window closes.	
52.	Kill all User Station process. Log out of the User Station.	The FOT User Station is completely down.	
53.	Log onto an FOT User Station as ASTER Scheduler. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
54.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
55.	Select the 'BAP Definer' option. Click the 'OK' button.	The Tools dialog box closes. The BAP Definer window appears.	
56.	Select the 'Delete' option under the 'File' menu.	The 'Delete' dialog box appears.	
57.	Select the BAP_MODIS_TEST1 under the MODIS resource. Click the 'OK' button.	Cannot choose the AM1_MODIS resource.	
58.	Click the 'Cancel' button within the 'Delete' dialog box.	The 'Delete' dialog box closes.	

59.	Select the ‘Exit’ option under the ‘File’ menu.	The ‘BAP Definer’ window closes.	
60.	End of test.		

General Scheduler Tool

Test No.: PAS-2020B

Test Configuration: See Appendix G

Test Support: This test is supported by predefined Activities, BAP's, and procedures.

Test Description:

This test is designed to verify the Planning & Scheduling (PAS) capability to support the scheduling of activities, BAP's, commands, and procedures on the mission timeline. Upon successful initialization of the General Scheduler window and EOS Timeline window the test demonstrates the capability to schedule activities against the timeline on an impact, no impact and over subscription basis. Scheduling in reference to time and events is demonstrated as well. Error handling is also tested through command parameter value changes and scheduling conflicts.

Success Criteria:

The test is successful when the user is able to schedule activities, BAP's, commands and procedures against the master plan of the mission timeline. Scheduling is conducted in impact, non-impact and over subscribe modes. The user should be able to delete or unschedule activities from the timeline and produce a list of such activities.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
5.	Select the 'General Scheduler' option. Click the 'OK' button.	The Tools dialog box closes. The General Scheduler window appears.	
6.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
7.	Select the 'EOS Timeline' option. Click the 'OK' button.	The Tools dialog box closes. The EOS Timeline window appears.	
8.	Within the EOS Timeline select the 'Open' option under the File menu.	The Open Plan dialog box appears.	
9.	Select the Master Plan. Enter a start date and time. **1997/217 00:00:00** Enter a stop date and time. **1999/222 00:00:00** Click the 'OK' button	The Open Plan dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:1.	

10.	**<u>Activity Scheduling</u>** From the General Scheduler window, click the 'Filter By Resource' button and select AM1 MODIS.	AM1 MODIS appears on the Filter By Resource button.	
11.	Select the 'Activities' option from the 'Filter' menu.	A list of activities defined under the AM1 MODIS resource appears in the Activities field.	
12.	Select the any activity for scheduling. Select the 'Master Plan:1' as the scheduling plan.	The selected activity and plan are highlighted. Default scheduling information appears.	
13.	Select the 'Impact' option under the Action menu.	The Impact button is selected.	
14.	Select the 'Parameters' option under the Modify menu	The Parameter dialog box appears.	
15.	Select a command with associated parameters.	The parameters appear in the Parameter field.	
16.	Select a parameter.	The appropriate parameter type and value range appear in the Values field.	
17.	Enter a valid parameter value. Select the 'Apply' button.	The selected parameter is updated with the new value within the commands field.	
18.	Select the 'OK' button.	The Parameter dialog box closes and the new parameter value is stored for scheduling only. (Not saved with the activity.)	

19.	Select the ‘Start Time’ and ‘Stop Time’ toggle buttons Enter a start date and time. **1997/217 02:00:00** Enter a stop date and time. **1997/217 04:00:00** Click the ‘Schedule’ button.	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location.	
20.	Select the another activity for scheduling. Select the ‘Master Plan:1’ as the scheduling plan.	The selected activity and plan are highlighted. Default scheduling information appears.	
21.	Select the ‘Start Time’ and ‘Stop Event’ toggle buttons Enter a start date and time. **1997/217 06:00:00** Enter a stop orbit and sequence. (The orbit number is determined from the timeline sunrise or sunset events.) Click the ‘Event’ button and select the ‘S/C DAY/NIGHT option. Enter a delta time. **00:10:00** Click the ‘Schedule’ button.	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location.	

22.	Select the another activity for scheduling. Select the ‘Master Plan:1’ as the scheduling plan.	The selected activity and plan are highlighted. Default scheduling information appears.	
23.	Click the ‘NoImpact’ button.	The NoImpact button is selected.	
24.	Select the ‘Start Time’ and ‘Duration’ toggle buttons. Enter a start date and time. **1997/217 02:00:00** Enter a duration. **30** Click the ‘Units’ button and select the ‘Minute’ option. Click the ‘Schedule’ button.	A message dialog box appears stating that an activity exists in the requested location. The activity is not scheduled on the Master Plan:1.	
25.	Click the ‘OK’ button on the message dialog box.	The message dialog box closes.	
26.	Click the ‘Over Subscribe’ button.	The Over Subscribe button is selected.	
27.	Click the ‘Schedule’ button.	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location over lapping the existing activity that is scheduled from 02:00:00 to 04:00:00.	
28.	Select the another activity for scheduling. Select the ‘Master Plan:1’ as the scheduling plan.	The selected activity and plan are highlighted. Default scheduling information appears.	
29.	Select the ‘Impact’ option under the Action menu.	The Impact button is selected.	

30.	Select the 'Start Time' and 'Stop Time' toggle buttons Enter a start date and time. **1997/217 02:10:00** Enter a stop date and time. **1997/217 03:00:00** Click the 'Schedule' button.	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The two activities that were scheduled in that time period are removed from the timeline.	
31.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
32.	Select the 'Activity Recycler' option. Click the 'OK' button.	The Tools dialog box closes. The Activity Recycler window appears.	
33.	**<u>Activity Recycler</u>** Verify the two activities that were removed from the timeline appear in the Unscheduled Activities field.	The two activities that were scheduled in that time period appear in the Unscheduled Activities field.	
34.	Select the last activity in the field. Click the 'Impact' button. Click the 'Re-Schedule' button.	The selected activity appears on the time line in the appropriate location. The previously scheduled activity is deleted from the time line and appears in the Activity Recycler's Unscheduled Activities field.	
35.	**<u>BAP Scheduling</u>** Within the General Scheduler click the 'BAP's' button.	A list of BAP's defined under the AM1 MODIS resource appears in the BAP's field.	

36.	Select a BAP for scheduling. Select the ‘Master Plan:1’ as the scheduling plan.	The selected BAP and plan are highlighted. Default scheduling information appears.	
37.	Select the ‘Impact’ option under the Action menu.	The Impact button is selected.	
38.	Select the ‘Start Time’ and ‘Stop Time’ toggle buttons Enter a start date and time. **1997/217 04:10:00** Enter a stop date and time. **1997/218 00:00:00** Click the ‘Schedule’ button.	The BAP is scheduled on the Master Plan:1. The activities appear on the timeline in the periodic scheduled locations.	
39.	Within the EOS Timeline click the ‘Save’ button. Select ‘Yes’ in the confirm dialog box.	The modifications to the Master Plan are saved.	
40.	Within the Timeline select the ‘Close’ option under the File menu.	The Master Plan:1 closes. A blank timeline template appears.	
41.	Within the EOS Timeline select the ‘Open’ option under the File menu.	The Open Plan dialog box appears.	

42.	Select the Master Plan. Enter a start date and time. **1997/217 00:00:00** Enter a stop date and time. **1999/222 00:00:00** Click the 'OK' button	The Open Plan dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:1.	
43.	**<u>Command Scheduling</u>** From the General Scheduler select the 'Commands' option from the 'Filter' menu.	A list of commands defined under the AM1 MODIS resource appears in the Commands field.	
44.	Click the 'ECL Command' toggle button for inserting the selected command into the ground script.	The ECL Command toggle button is selected.	
45.	Select a command for scheduling. Select the 'Master Plan:1' as the scheduling plan.	The selected command and plan are highlighted.	
46.	Select the 'Impact' option under the Action menu.	The Impact button is selected.	

47.	Select the ‘Start Event’ and ‘Stop Time’ toggle buttons Enter a start orbit and sequence (Beyond the available FDF data). Click the ‘Event’ button and select the ‘S/C DAY/NIGHT’ option. Enter a delta time. **00:10:00** Enter a stop date and time (Beyond the available FDF data). **1997/221 03:00:00** Click the ‘Schedule’ button.	An error message dialog box appears stating the schedule period is beyond the available FDF data.	
48.	Select the ‘OK’ button within the error message dialog box.	The error message dialog box closes and the previous value of the parameter appears in the value field.	

49.	Enter a start orbit and sequence. (The orbit number is determined from the timeline sunrise or sunset events.) Click the 'Event' button and select the 'S/C DAY' option. Enter a delta time. **00:10:00** Enter a stop date and time. **1997/217 03:00:00** Click the 'Schedule' button.	The command is scheduled on the Master Plan:1. The command appears on the timeline in the scheduled location.	
50.	**<u>Procedure Scheduling</u>** Click the 'Procedures' button.	A list of all procedures defined appears in the Procedure field.	
51.	Select a procedure with arguments for scheduling. Select the 'Master Plan:1' as the scheduling plan.	The selected procedure and plan are highlighted.	
52.	Select the 'Parameters' option under the Modify menu.	The Parameters dialog box appears.	
53.	Within the Parameters field, enter a valid parameter value for each argument. Select the 'Apply' button.	The selected parameter is updated with the new value within the commands field.	
54.	Select the 'OK' button.	The Parameter dialog box closes and the new parameter value is stored for scheduling only. (Not saved with the activity.)	

55.	Select the ‘Impact’ option under the Action menu.	The Impact button is selected.	
56.	Select the ‘Start Event’ and ‘Stop Event’ toggle buttons Enter a start orbit and sequence. (The orbit number is determined from the timeline sunrise or sunset events.) Click the ‘Event’ button and select the ‘S/C DAY/NIGHT’ option. Enter a delta time. **00:10:00** Enter a stop orbit and sequence that occurs before the start event. (The orbit number is determined from the timeline sunrise or sunset events.) Click the ‘Event’ button and select the ‘S/C NIGHT/DAY option. Enter a delta time. **00:10:00** Click the ‘Schedule’ button.	An error message dialog box appears stating the incorrect order time of starting and stopping the procedure.	
57.	Select the ‘OK’ button within the error message dialog box.	The error message dialog box closes.	

58.	Select the ‘Start Event’ and ‘Stop Event’ toggle buttons Enter a start orbit and sequence. (The orbit number is determined from the timeline sunrise or sunset events.) Click the ‘Event’ button and select the ‘S/C DAY/NIGHT’ option. Enter a delta time. **00:10:00** Enter a stop orbit and sequence. (The orbit number is determined from the timeline sunrise or sunset events.) Click the ‘Event’ button and select the ‘S/C NIGHT/DAY option. Enter a delta time. **00:10:00** Click the ‘Schedule’ button.	The procedure is scheduled on the Master Plan:1. The procedure appears on the timeline in the scheduled location.	
59.	Within the EOS Timeline click the ‘Save’ button. Click the ‘Yes’ button within the Confirm dialog box.	The modifications to the Master Plan are saved.	
60.	Within the Timeline select the ‘Close’ option under the File menu.	The Master Plan:1 closes. A blank timeline template appears.	
61.	End of test.		

EOC Timeline - Display & Manipulation

Test No.: PAS-2030B

Test Configuration: See Appendix G

Test Support: Predefined plans with scheduled activities.

Test Description:

This test is designed to verify the Planning & Scheduling (PAS) capability to display activities, events, and resources on the mission timeline. The test will demonstrate the ability to display and manipulate information for the user. Editing the configuration, scrolling by time and resource, printing, and altering the colors will be tested.

Success Criteria:

Success is based on the ability to display activities and events with their associated detailed information. The user should be able to manipulate the configuration, viewing area, and display colors. Success is also met when a hard copy print is generated.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	

4.	Within the Control Window click the ‘Tools’ button.	The Tools dialog box appears.	
5.	Select the ‘General Scheduler’ option. Click the ‘OK’ button.	The Tools dialog box closes. The General Scheduler window appears.	
6.	Within the Control Window click the ‘Tools’ button.	The Tools dialog box appears.	
7.	Select the ‘EOC Timeline’ option. Click the ‘OK’ button.	The Tools dialog box closes. The EOC Timeline window appears.	
8.	Within the EOC Timeline select the ‘Open’ option under the File menu.	The Open dialog box appears.	
9.	Select the ‘Master Plan’ option. Enter a start date and time. **1997/217 00:00:00** Enter a stop date and time. **1997/222 00:00:00** Click the ‘OK’ button	The Open dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:1. The requested date and time periods appear at the top on the timeline viewing area.	
10.	Within the EOC Timeline select the ‘Open’ option under the File menu to open a second plan.	The Open dialog box appears.	

11.	Select the 'Master Plan' option. Enter a start date and time. **1999/365 00:00:00** Enter a stop date and time. **2000/002 00:00:00** Click the 'OK' button	The Open dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:2.	
12.	Verify the open plans through the 'Plans' menu option. Select Master Plan:1	Master Plan:1 and Master Plan:2 appear in the option list. The timeline snaps to Master Plan:1	
13.	Schedule an activity under one of the available resources outside the current viewing range of the timeline but within the time range of the Master plan:1. (General Scheduler is used and refer to PAS-2020B for procedures if necessary)	The activity is scheduled on the timeline.	
14.	Use the horizontal time and vertical resource scroll bars on the timeline to view the activity.	The timeline scrolls in time and the activity appears in the scheduled location .	
15.	Place the pointer on the scheduled activity.	The name, start and end times of the activity appear in the status bar.	
16.	Double click the scheduled activity.	Selection bars appear on the activity. The activity's scheduling information appears in the General Scheduler window.	

17.	Within the General Scheduler window select the scheduled activity. Select the 'Activity definition' option from the 'View' menu.	The Activity Definer window appears with the selected activity's file open. The detailed information of the activity appears.	
18.	Click the 'OK' button to close the dialog box.	The Activity definition dialog box closes.	
19.	Within the EOC Timeline Master Plan:1, place the pointer on an event symbol.	The name and detailed information of the event appear in the status bar.	
20.	Place the pointer within the Power resource.	A power resource usage plot appears and a value will appear in the status bar.	
21.	Place the pointer within the MODIS SSR resource.	A SSR resource usage plot appears and a value will appear in the status bar.	
22.	Use the horizontal time scroll bar on the timeline to view the end of the FDF data.	The timeline scrolls in time. At the point where event symbols are no longer visible is where the FDF data ends.	
23.	Select the 'Time Interval' option from the 'View' menu. Select different intervals to zoom through.	The viewing area changes and indicates the selected time intervals.	
24.	Use the vertical resource scroll bar on the timeline to view the available resources.	The timeline scrolls through the list of resources.	
25.	Select the 'Subregions' option from the 'View' menu. Select different configurations to zoom through.	The viewing size of the resource changes with the selected configuration.	

26.	Select the ‘Resource’ option from the ‘User Setup’ menu.	The Resource editor dialog box appears.	
27.	Select an existing sub-region from the Selected subregions list. Enter a new name in the Sub Region Name field. Select a different Display type by clicking the another toggle button. Click the ‘Replace’ button	The selected option in the Selected Sub-regions field is updated with the new properties.	
28.	Click the ‘Apply’ button.	The timeline snaps to a new sub-region listing and the requested information appears.	
29.	**<u>Displaying New Resources</u>** Select a resource from the Available Resource list. Enter a Sub region Name. Click the ‘Activity’ toggle button in the Display field. Click the ‘Add’ button.	The new sub-region appears in the Selected Sub-region list field.	
30.	Click the ‘Apply’ button. Scroll down to view the resource.	The timeline snaps to a new sub-region listing and the requested information appears.	

31.	Select an existing sub-region from the Selected resource list. Click the ‘Delete’ button.	The selected sub-region is deleted from the Selected Sub-region list field.	
32.	Click the ‘Apply’ button.	The timeline snaps to a new sub-region listing and the requested information appears.	
33.	Using the outlined steps for ‘Displaying New Resources’, add 3 additional resources to the timeline.	The timeline snaps to a new sub-region listing and the requested information appears.	
34.	Click the ‘OK’ button.	The Resource Editor dialog box closes. The timeline snaps to a new sub-region listing and the requested information appears.	
35.	Select the ‘Save Setup’ option from the User Setup menu.	The Save Setup dialog box appears.	
36.	Enter a directory path and a file name. Click the ‘OK’ button	The Save Setup dialog box closes. The setup information is saved to specified file within the given directory path.	
37.	Select the ‘Color’ option from the User Setup menu.	The Color Editor dialog box appears.	
38.	Select an activity from the Types list field. Select a color to associate with the activity. Click the’ Apply’ button.	The activity on the timeline updates with selected color.	
39.	Repeat the color selection steps for the 2 additional activities.	The activities on the timeline updates with selected color.	

40.	Click the ‘OK’ button.	The Color Editor dialog box closes.	
41.	Click the ‘Print’ button.	The Print dialog box appears.	
42.	Enter the desired print information, time range, number of pages, etc. Click the ‘OK’ button.	The Print dialog box closes and the print is sent to the default printer.	
43.	Select the ‘Master Plan:2’ option under the ‘Plans’ menu.	The timeline snaps to Master Plan:2	
44.	Use the horizontal time scroll bar on the timeline to view the next day.	The timeline scrolls in time. The next day will indicate a new decade and a new century.	
45.	Select the ‘Open’ option under the File menu.	The Open dialog box appears.	
46.	Select the ‘Master Plan’ option. Enter a start date and time. **2000/365 00:00:00** Enter a stop date and time. **2001/002 00:00:00** Click the ‘OK’ button	The Open dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:2.	
47.	Use the horizontal time scroll bar on the timeline to view the next 2 days.	The timeline scrolls in time. The next 2 day will indicate an additional day for a leap year and the turn of a new year.	
48.	End of test.		

Activity Constraint Definitions

Test Case No.: PAS-2050B

Test Configuration: See Appendix G

Test Support: Predefined activities and plans.

Test Description:

This test will demonstrate the ability to define activity constraints. Hard and soft constraints are developed with 'order' and 'time spacing' conditions. The timeline will show the graphical representation of each violation and the associated functionality.

Success Criteria:

The success of this test is based on the ability to define and modify an activity constraint; to show a graphical representation of violations on the timeline; and to view the constraint information from the timeline.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	

5.	Select the ‘General Scheduler’ option. Click the ‘OK’ button.	The Tools dialog box closes. The General Scheduler window appears.	
6.	Within the Control Window click the ‘Tools’ button.	The Tools dialog box appears.	
7.	Select the ‘EOS Timeline’ option. Click the ‘OK’ button.	The Tools dialog box closes. The EOS Timeline window appears.	
8.	Within the EOS Timeline select the ‘Open’ option under the File menu.	The Open dialog box appears.	
9.	Select the ‘Master Plan’ option. Enter a start date and time. **1997/175 00:00:00** Enter a stop date and time. **1997/179 00:00:00** Click the ‘OK’ button	The Open dialog box closes. The timeline updates with the requested time period and plan name as Master Plan:1. The requested date and time periods appear at the top on the timeline viewing area.	
10.	Within the Control Window click the ‘Tools’ button.	The Tools dialog box appears.	
11.	Select the ‘Constraint Definer’ option. Click the ‘OK’ button.	The Tools dialog box closes. The Constraint Definer window appears.	
12.	Select the ‘New” option under the ‘File’ menu.	The New Constraint dialog box appears.	
13.	Enter a Constraint name within the text field. **Constraint1** Click the ‘OK’ button.	The New Constraint dialog box closes. The new constraint name is updated within the Constraint Definer window.	

14.	Defining a Constraint In the Constraint Definer window's second partition, select a constraining resource option by clicking on the resource menu button. (AM1 MISR) Select the filtering activity/mode option by clicking the associated menu button. (Activity) Select the constraining activity option by clicking the associated menu button. (MISR_ATC1.1)	The selected resource, activity, and activity name appear on their associated buttons.	
15.	In the Constraint Definer window's third partition, indicate the defining condition. (Hard, Order) Select the constraint severity from the associated button. Must = Hard & Should = Soft. Select the constraint statement from the associated button.	The selected severity and statement appear on their associated buttons.	
16.	In the Constraint Definer window's fourth partition, select the entity constrained against. Select a resource option by clicking on the resource menu button. (AM1 MOPITT) Select the filtering activity/mode/event option by clicking the associated menu button. (Mode) Select the constraining mode option by clicking the associated menu button. (Idle)	The selected resource, mode, and mode name appear on their associated buttons.	
17.	In the Constraint Definer window's fifth partition, enter a brief description in the text field.	The description text appears in the Description field.	
18.	Select the 'Save' option under the 'File' menu.	The Constraint Definition is saved.	

19.	**<u>Activity Scheduling</u>** From the General Scheduler window, click the 'Filter By Resource' button and select AM1 MISR.	AM1 MISR appears on the Filter By Resource button.	
20.	Select the 'Activities' option from the 'Filter' menu.	A list of activities defined under the AM1 MISR resource appears in the Activities field.	
21.	Select an activity for scheduling. (MISR_ATC1.1) Select the 'Master Plan:1' as the scheduling plan.	The selected activity and plan are highlighted.	
22.	Select the 'Impact' option under the Action menu.	The Impact button is selected.	
23.	Select the 'Start Time' and 'Stop Time' toggle buttons Enter a start date and time. **1997/175 02:00:00** Enter a stop date and time. **1997/175 02:30:00** Click the 'Schedule' button.	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The activity appears with a constraint pattern. (Diagonal lines pattern = soft constrain, cross hatch pattern = hard constraint)	
24.	Within the timeline display, double click on the scheduled activity. Click the 'Constraint Info' button.	The activity selected appears with selections bars. A Constraint Information dialog box appears with the constraint violation text. This text should match the definition created for the scheduled activity.	
25.	Click the 'Close' button.	The Constraint Information dialog box closes.	
26.	Within the Constraint Definer window select the 'New" option under the 'File' menu.	The New Constraint dialog box appears.	

27.	Enter a Constraint name within the text field. **Constraint2** Click the 'OK' button.	The New Constraint dialog box closes. The new constraint name is updated within the Constraint Definer window.	
28.	(2) Repeat the 'Defining a Constraint' steps. In this case a mode is scheduled to violate a soft and time spacing constraint against an event AM1 MOPITT -- Mode -- Emergency Should -- not start within period after -- 00:30:00 AM1 -- Event -- S/C Day/Night Select the 'Save' option under the 'File' menu.	The Constraint Definition is saved.	
29.	Repeat the 'Activity Scheduling' steps. Select an activity to schedule against the Master Plan:1. MOPITT_ATC3.1 Start date and time: 1997/175 00:30:00 Stop date and time: 1997/175 01:00:00	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The activity appears with a constraint pattern. (Diagonal lines pattern = soft constrain, cross hatch pattern = hard constraint)	
30.	Within the timeline display, double click on the scheduled mode. Click the 'Constraint Info' button.	The mode selected appears with selections bars. A Constraint Information dialog box appears with the constraint violation text. This text should match the definition created for the scheduled activity.	
31.	Click the 'Close' button.	The Constraint Information dialog box closes.	
32.	Select the 'New" option under the 'File' menu.	The New Constraint dialog box appears.	

33.	Enter a Constraint name within the text field. **Constraint3** Click the 'OK' button.	The New Constraint dialog box closes. The new constraint name is updated within the Constraint Definer window.	
34.	(3) Repeat the 'Defining a Constraint' steps. In this case a activity is scheduled to violate a soft and order constraint against an activity AM1 MISR -- Activity – MISR_ATC2.1 Should -- be during AM1 MOPITT -- Activity -- MOPITT_ATC1.1 Select the 'Save' option under the 'File' menu.	The Constraint Definition is saved.	
35.	Repeat the 'Activity Scheduling' steps. Select an activity to schedule against the Master Plan:1. MISR_ATC2.1 Start date and time: 1997/175 05:00:00 Stop date and time: 1997/175 05:45:00	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The activity appears with a constraint pattern. (Diagonal lines pattern = soft constrain, cross hatch pattern = hard constraint)	
36.	Within the timeline display, double click on the scheduled activity. Click the 'Constraint Info' button.	The activity selected appears with selections bars. A Constraint Information dialog box appears with the constraint violation text. This text should match the definition created for the scheduled activity.	
37.	Click the 'Close' button.	The Constraint Information dialog box closes.	
38.	Select the 'New" option under the 'File' menu.	The New Constraint dialog box appears.	

39.	Enter a Constraint name within the text field. **Constraint4** Click the 'OK' button.	The New Constraint dialog box closes. The new constraint name is updated within the Constraint Definer window.	
40.	(4) Repeat the 'Defining a Constraint' steps. In this case a mode is scheduled to violate a hard and time spacing constraint against an activity AM1 MOPITT -- Mode – Ready Must -- start within a period after -- 00:05:00 AM1 MISR -- Activity -- MISR_ATC2.1 Select the 'Save' option under the 'File' menu.	The Constraint Definition is saved.	
41.	Repeat the 'Activity Scheduling' steps. Select an activity to schedule against the Master Plan:1. MOPITT_ATC4.1 Start date and time: 1997/175 05:00:00 Stop date and time: 1997/175 05:30:00	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The activity appears with a constraint pattern. (Diagonal lines pattern = soft constrain, cross hatch pattern = hard constraint)	
42.	Within the timeline display, double click on the scheduled activity. Click the 'Constraint Info' button.	The activity selected appears with selections bars. A Constraint Information dialog box appears with the constraint violation text. This text should match the definition created for the scheduled activity.	
43.	Click the 'Close' button.	The Constraint Information dialog box closes.	
44.	Select the 'New" option under the 'File' menu.	The New Constraint dialog box appears.	

45.	Enter a Constraint name within the text field. **Constraint5** Click the 'OK' button.	The New Constraint dialog box closes. The new constraint name is updated within the Constraint Definer window.	
46.	(5) Repeat the 'Defining a Constraint' steps. In this case a activity is scheduled to violate a hard and time spacing constraint against an event AM1 MISR -- Activity – MISR_ATC3.1 Must -- not end within a period before -- 00:30:00 AM1 -- Event -- S/C Night/Day Select the 'Save' option under the 'File' menu.	The Constraint Definition is saved.	
47.	Repeat the 'Activity Scheduling' steps. Select an activity to schedule against the Master Plan:1. MISR_ATC3.1 Start date and time: 1997/175 03:45:00 Stop date and time: 1997/175 04:05:00	The activity is scheduled on the Master Plan:1. The activity appears on the timeline in the scheduled location. The activity appears with a constraint pattern. (Diagonal lines pattern = soft constrain, cross hatch pattern = hard constraint)	
48.	Within the timeline display, double click on the scheduled activity. Click the 'Constraint Info' button.	The activity selected appears with selections bars. A Constraint Information dialog box appears with the constraint violation text. This text should match the definition created for the scheduled activity.	
49.	Click the 'Close' button.	The Constraint Information dialog box closes.	

50.	Within the Constraint Definer window, select the ‘Close’ option under the ‘File’ menu.	The current constraint definition is closed.	
51.	Within the timeline window, double click the ‘MISR_ATC3.1 activity that is scheduled at 03:45:00 - 04:05:00. Click the ‘Cut’ button.	The selected activity is removed from the timeline.	
52.	Within the Constraint Definer window, select the ‘Open’ option under the ‘File’ menu.	The Open Constraint dialog box appears.	
53.	Select the Constraint5 definition from the available list. Click the ‘OK’ button.	The Open Constraint dialog box closes. The Constraint5 definition appears in the Constraint Definer window.	
54.	Change the constraint statement from ‘not end within a period before’ to ‘end within a period before’. Select the ‘Save’ option under the ‘File’ menu.	The current constraint is saved.	
55.	Repeat the Activity Scheduling steps to re-schedule the MISR_ATC3.1 activity during the following time period. 1997/175 03:45:00 1997/175 04:05:00	The activity is scheduled on the timeline with no constraint violations.	
56.	Within the Constraint Definer window, select the ‘Delete’ option under the ‘File’ menu.	The Delete Constraint dialog box appears.	

57.	Filtering Select the AM1 MISR resource. Select Activity. Select MISR_ATC2.1 Click the 'Filter Now' button.	Constraint3 will be the only constraint definition listed.	
58.	Select Constraint3 in the selection field. Click the 'OK' button.	A Confirm dialog appears to confirm the deletion of the constraint definition.	
59.	Click the 'OK' button.	The Confirm dialog box closes. The Delete Constraint dialog box closes. The selected constraint is deleted.	
60.	On the timeline, click the 'Save' button.	The current plan is saved.	
61.	Within the Control Window click the 'Tools' button.	The Tools dialog box appears.	
62.	Select the 'Load Generator' option. Click the 'OK' button.	The Tools dialog box closes. The Load Generator window appears.	
63.	Click the 'Constraint Check' toggle button. Select the 'Master Plan'. Enter a Start Time: 1997/175 00:00:00 Enter a Stop Time: 1997/176 00:00:00 Click the 'Check Activity-Level Constraints' toggle button. Click the 'Submit' button.	The process is submitted to the Load Queuer. Upon completion, the timeline is updated with the new information. The MISR_ATC2.1 is no longer violating a constraint.	

64.	End of test.		

Command Authorization Test Procedure (Final: August 1, 1997)

Test Case No: Command 2000B

Test Configuration: See Appendix G

Test Support: EOC startup scripts. Files “hw.db’ and “user.db” contain a list of valid EOC user stations and valid userid, respectively, that are authorized by for CAC and Ground Control.

Test Case Description:

This test is designed to verify FOS has the capability to support a user request for command authorization. This test demonstrates that a user is able to input the necessary ECL directives to request Command Activity Controller (CAC) privileges at the user's workstation, and that the FOS rejects any request for command authority made by a user that does not have appropriate privileges. This test requires the use of two workstations to verify that CAC can be rejected transferred to an authorized user.

The secondary objective of this test is to verify the FOS capability to support FUI processing of command directives that are entered manually in real time at the CAC user workstation and performs a syntax check, and the Command Subsystem performs a validation on each command entered for transmission

Success Criteria:

Verify that all unauthorized requests for command authorization are rejected and authorized requests are granted. Review event history to confirm all reassignments of CAC privileges. Verify that there is a single point of command throughout the duration of the test. Verify that the FUI subsystem recognizes command directives entered by a user with CAC privilege.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	

2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Click on 'Tools…' button and select **Event_Display-Global** from the Tool Selection window and click on 'OK'.	The 'Event Display' is up on the FOT User Station.	
5.	Connect to a real-time string. From the control window enter the following ECL directive ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	

6.	Take CAC privilege. Using the ECL command line in the Control Window enter ECL>**TAKE COMMAND STRING = 100**	The following event messages are displayed: Command Authority has changed from EcDNull to fostest2 Command Authority of NccGroundMgr changed to user: fostest2 Command Authority of NccStatusMgr changed to users wks: fosswsws_id> Command Authority starting fosswsws_id> for string 100	
7.	In the Control Window ECL text field enter: **TAKE GROUNDCONTROL STRING=100**	The following event messages are displayed: StringMgr process successfully configured Ground Control Authority has changed from EcDNull to fostest2 for string 100 Ground Control starting fosswsxx for string 100.	
8.	Activate Command Control window using the following Tool directive from the control window > **TOOL Command_Control**.	A dialog box will appear allowing user to enter String id and Spacecraft id. The Command Control window shell is also displayed.	
9.	enter String id (ex. 100) enter Spacecraft ID (ex. AM1) click “OK”	The Command Control window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_LOC, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	

10.	Create a new xterm window, remote login to the real-time server and start simulator by entering the following: **%rlogin <real-time server_id>** **%test** **%setenv SCRIPT RealTimeServer** **%source FosEnvVars** **%cd ../..** **%cd bin/sun_sparc_5-5** **%sc AM1 100 Ops**	The xterm window starts displaying the following: ***sc: servicename for CDBs: CmdToEdosAM1Ops ***sc: Port Number is: xxxxxxx ***sc: Host name is : <userstation_id> ***sc Waiting for messages ***scServer: CLCW before send to FOP 0 ***sc Waiting for messages ***scServer: CLCW before send to FOP 0 “ “	
11.	Click on the ‘Config’ pulldown menu in the Command Control window and select Command Verification and Telemetry Verification to set them to ‘OFF”	CV and TV status in the Command Window show OFF.	

12.	In the CMD text field of the Command Control window enter: **FOP INIT CHECK** Click on ‘Resume’ button. Click on ‘Send’ button.	The directive FOP INIT CHECK appears in the Ground Script of the Command Control window. The status of the directive in the Command Control window flashes Send/Cancel with yellow background. Status indicates ‘Processed -2 | Sent to subsys | Send/cancel’ Event messages ‘StringMgr process successfully configured’ and ‘Protocol Info : FOP INIT with CLCW check successful’ are displayed.	
13.	Enter a command directive from the ECL command line in the Command Control Window (user1)>/**AST_TURN_OFF_C_SDP** Click the “Resume” button	A send/cancel message will flash in the status column of the Command Control window.	

14.	Click the “Send “button	The STATUS is updated to include | Sent to FOP | Processed -2 | CV Pass -2 The following event messages are displayed: Command AST_TURN_OFF_C_SDP was successfully built with binary = 10 00 c0 00 00 03 b0 21 40 1e CLTU id AST_TURN_OFF_C_SDP placed in command data block number 1 Command Data Block number 1 sent to EDOS Command AST_TURN_OFF_C_SDP timedout - verification error	
15.	Log onto FOT User Station <user-station_id> (Note: User station not on authorized list for command control) Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
16.	Click on ‘Tools…’ button and select **Event_Display-Global** from the Tool Selection window and click on ‘OK’.	The ‘Event Display’ is up on the FOT User Station.	

17.	Connect to a real-time string. From the control window enter the following ECL directive ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	
18.	In the Control Window ECL text field enter: **TAKE COMMAND STRING=100**	The following event message is displayed: Both User <user_id> and Workstation <ws_id> must be authorized for Command Authority privilege	
19.	Log onto FOT User Station <user-station_id> with user_id authorized for command control. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
20.	Click on 'Tools…' button and select **Event_Display-Global** from the Tool Selection window and click on 'OK'.	The 'Event Display' is up on the FOT User Station.	

21.	Connect to a real-time string. From the control window enter the following ECL directive ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	
22.	Take CAC privilege. Using the ECL command line in the Control Window enter ECL>**TAKE COMMAND STRING = 100**	The following event messages are displayed: Command Authority has changed from <user1_id> to <user2_id> Command Authority of NccGroundMgr changed to user: <user2_id> Command Authority of NccStatusMgr changed to users wks: <userstation_id> Command Authority starting <userstation_id> for string 100 The Command Control Window at <user-station1_id> changed to a Command Monitor Window.	
23.	In the Control window ECL text field enter: ECL> **TOOL Command_Control**	A dialog box appears to enter String and Spacecraft ID.	

24.	In the dialog box enter: STRING=**100** SPACECRAFT ID = **AM1** and click 'OK'	The dialog box closed and the Command Control/Monitor window (initializing) is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, BUFFER, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	
25.	Click on the 'Config' pulldown menu in the Command Control window and select Command Verification and Telemetry Verification to set them to 'OFF" and force completion of the command window initialization process.	CV and TV status in the Command Window show OFF and the window label is now Command Control Window.	
26.	Enter a command directive from the ECL command line in the Command Control Window (user2)>/**AST_TURN_ON_C_SDP** Click the "Resume" button	A send/cancel message will flash in the status column of the Command Control window.	

27.	Click the ‘Send’ button	The STATUS updated to include | Sent to FOP | Processed -2 | CV Pass -2 The following event messages are displayed: Command AST_TURN_ON_C_SDP was successfully built with binary - 10 00 c0 00 00 03 b0 21 40 5e CLTU id AST_TURN_ON_C_SDP placed in command data block number 2 Command Data Block number 2 sent to EDOS Command AST_TURN_ON_C_SDP timed out - verification error.	
28.	To ensure single point of command User1 should attempt to open a Command Control window (CCW). First, click on the ‘close’ button on the Command Monitor window and select **Quit.** Then enter the following tool directive from the control window > **TOOL Command_Control**.	The Command Monitor window closed. A dialog box will appear allowing user to enter String id and Spacecraft id	

29.	enter String id (ex. 100) enter Spacecraft ID (ex. AM1) click “OK”	The Command Control Monitor window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_LOC, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed) The command line is grayed out indicating no commanding is allowed for that user.	
30.	Log onto FOT User Station <user-station_id> with user_id unauthorized for command control. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
31.	Click on ‘Tools…’ button and select **Event_Display-Global** from the Tool Selection window and click on ‘OK’.	The ‘Event Display’ is up on the FOT User Station.	
32.	Connect to a real-time string. From the control window enter the following ECL directive ECL> **STRING CONNECT STRING=100 CONFIG=MIRROR**	The following event messages are displayed: Establishing ParameterServer service… ParameterServer process successfully configured. Establishing Decom service…. Decom process successfully configured StringMgr process connected to String 100 Successfully connected to string 100.	

33.	Take CAC privilege. Using the ECL command line in the Control Window enter ECL>**TAKE COMMAND STRING = 100**	The following event message is displayed: Both User <user_id> and Workstation <ws_id> must be authorized for Command Authority privilege.	
34.	To ensure a smooth transition of taking command authority, transfer command authority from <user2_id> to <user1_id> and transmit a command and then transfer authority back to <user2_id> and transmit a command. Click on the 'Close' button and select **Quit** from the drop-down menu. At the Control window of <user-station1_id> ECL text field enter: ECL>**TAKE COMMAND STRING=100**	The following event messages are displayed: Command Authority has changed from <user2_id> to <user1_id> Command Authority of NccGroundMgr changed to user: <user1_id> Command Authority of NccStatusMgr changed to users wks: <userstation_id> Command Authority starting <userstation_id> for string 100 The Command Control Window at <user-station2_id> changed to a Command Monitor Window.	
35.	In the Control window ECL text field enter: ECL> **TOOL Command_Control**	A dialog box appears to enter String and Spacecraft ID.	
36.	enter String id (ex. 100) enter Spacecraft ID (ex. AM1) click "OK"	The Command Control window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_LOC, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	

37.	Click on the ‘Config’ pull-down menu in the Command Control window and select Command Verification and Telemetry Verification to set them to ‘OFF”	CV and TV status in the Command Window show OFF.	
38.	Enter a command directive from the command line in the Command Control Window (user1)>/**AST_TURN_OFF_C_SDP** Click the “Resume” button	A send/cancel message will flash in the status column of the Command Control window.	
39.	Click the “Send “button	The STATUS updated to include | Sent to FOP | Processed -2 | CV Pass -2 The following event messages are displayed: Command AST_TURN_OFF_C_SDP was successfully built with binary - 10 00 c0 00 00 03 b0 21 40 1e CLTU id AST_TURN_OFF_C_SDP placed in command data block number 3 Command Data Block number 3 sent to EDOS Command AST_TURN_OFF_C_SDP timed out - verification error.	

40.	User2 takes CAC privileges from user1 by entering the following ECL directive from the command line in the Control Window enter user2 ECL>**TAKE COMMAND STRING = 100**	.The following event messages are displayed: Command Authority has changed from <user_id 1> to <user_id 2>. Command Authority of NccGroundMgr changed to User: <user_id 2>, WKS: fosswsxx Command Authority of NccStatusMgr changed to User: <user_id 2>, WKS: fosswsxx User1's Command Control Window should change to a Command Monitor window	
41.	Close the Command Monitor window on <user-station2_id) by clicking on the close button and selecting **Quit** from the drop-down menu.	The Command Monitor window closed.	
42.	User2 can now Activate Command Control window (CCW) using the following tool directive from the control window > **TOOL Command_Control**.	A dialog box will appear allowing user to enter String id and Spacecraft id	
43.	enter String id (ex. 100) enter Spacecraft ID (ex. AM1) click "OK"	The Command Control window is displayed with all five user interface (pull down) menus; File, Edit, Config, Utility, and Help. There are five columns: DATE/TIME, ATC_LOC, TYPE, DIRECTIVE, STATUS (Note: User may need to resize window if all columns are not displayed)	

44.	Enter a command directive from the ECL command line in the Control Window (user2)>/**AST_TURN_ON_C_SDP** Click the “Resume” button	The command is placed in the directive field of the Command Control Window. The G/S status is Active. A send/cancel message will flash in the status column of the Command Control window.	
45.	Click the “Send “button	The STATUS updated to include | Sent to FOP | Processed -2 | CV Pass -2 The following event messages are displayed: Command AST_TURN_ON_C_SDP was successfully built with binary - 10 00 c0 00 00 03 b0 21 40 5e CLTU id AST_TURN_ON_C_SDP placed in command data block number 4 Command Data Block number 4 sent to EDOS Command AST_TURN_ON_C_SDP timed out - verification error.	
46.	End of test.		

TLM 2100B - Info-Window

Test Case No.: TLM 2100B

Test Configuration: See Appendix G

Test Support: Mnemonics TBS(1)……TBS(51) (will include characteristics: R/Y limits, delta limits, EU conversion, multi-bytes, derivatives).

Test Description:

This test is designed to verify the ability to display a telemetry information window capable of displaying a column of up to 50 telemetry mnemonics and respective columns of associated data (i.e. R/Y limits, delta limits, coefficients, valid states, cycles, derivative, EU conversion, etc) from the PDB.

Following sign-on and configuration to the real-time string the telemetry information window is displayed; different sets of parameters will then be specified for display via menu options. Mnemonic description information for selected parameters is scrolled; Information residing on the display is printed and compared to those in the database.

Success Criteria:

The test is considered successful when all of the characteristics for each mnemonic match those in the database.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	Log onto an EOC workstation. Start the Data Server. Reference Test Case SYS2000B -- FOS Server Startup.	Data Server processes are running.	
2.	Start the Real-Time Server. Reference Test Case SYS2000B -- FOS Server Startup.	Real-Time Server processes are running.	

3.	Log onto an FOT User Station. Start the User Station. Reference Test Case SYS2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	Bring up the Event Display. Select 'Event_Display' from the control window tools menu.	The 'Event Display' is up on the FOT User Station.	
5.	Connect to a real-time operational string, to accept Health & Safety data, by entering the following in the ECL directive line of the Control window: ECL>**STRING CONNECT STRING=100 CONFIG= MIRROR**	The following message will appear in the Event Display window: **"**Successfully connected to string 100".	
6.	Click on "Tools" button.	The Tool Selection Dialog Box will appear on the screen.	
7.	Select "Quick Analysis" from the Tool Selection Dialog Box.	The "Quick Analysis" window will appear on the screen.	
8.	Click the mouse on "Filter"	The Spacecraft dialog box becomes active.	
9.	Select "AM1"	"AM1" becomes highlighted.	
10.	Click the mouse on the "Select" button.	The Instrument dialog box becomes active.	
11.	Select an instrument type TBS.	The instrument will become highlighted.	
12.	Click the mouse on the "Select" button.	The Sample Type dialog box becomes active.	
13.	Select the first 55 mnemonics.	The first 55 mnemonics will become highlighted.	

14.	Click the mouse on the toggle button “TLM Attributes”.	An event message TBS will appear in the Event display window stating that too many mnemonics have been selected. (Maximum is 50).	
15.	Select the first 50 mnemonics.	The first 50 mnemonics will become highlighted.	
16.	Click the mouse on the toggle button “TLM Attributes”.		
17.	Click on “O.K.”	The “Info-window” will appear on the screen with the following values for each mnemonic: -Descriptor -Parameter -High Red -Low Red -High Yellow -Low Yellow -Limits -State -Conv Poly -Conv. Exponential -Conv. Line Segment -Cycles -Derived From	

18.	Snap the telemetry page “Info-window” at the user station by entering the following inside the console window: %: **snap**	The snap is printed at the system printer. Collect the printout for off-line analysis.	
19.	Via offline analysis, verify that the telemetry mnemonics, as shown on the screen snap of the user station, match values specified in the database.	The mnemonics, as shown on the screen snaps of the user station, will match the values specified in the database.	
20.	End of test.		
21.	Log off the user station(s).		

Standing Order Manager Test Procedure

Test Case No: ANA-2010B

Test Configuration: See Appendix G

Test Support: The ability to manipulate the system clock. Previously saved Analysis Request to function as a template.

Test Dependencies: Telemetry archived files

Test Case Description:

This test is designed to verify the capability of performing and managing repetitive analysis activities automatically via the Standing Order Browser and Standing Order Manager.

Several analysis requests are built using the Analysis Request Builder. These requests will be specified as standing order requests and will be requested via the Standing Order Manager. Examples of requests include datasets based on archived telemetry, user-specified statistics, and using a dataset for input. The requests are generated by specifying a start and stop date, request interval, number of hours of data to analyze. Following the generation of each request, the Standing Order Browser Tool is displayed in order to view the status and results of all analysis request in the queue. Test steps are provided to test the functionality of the Standing Order Browser: to suspend, resume, delete, sort requests in the queue, and modify interval times for dataset and report generation. The last portion of the test addresses generating different error conditions associated with creating a Standing Order request and using the Standing Order Browser.

Success Criteria:

All analysis requests entered via the Standing Order Manager must include request interval specified start date, specified stop date and user. Intervals supported include every n passes, every n orbits, every n hours, every n days, every n weeks, every n months. The status of each request is displayable via the Standing Order Browser. Each analysis request residing in the Standing Order Browser includes request name, next interval start time, standing order status (i.e. active, halted, processing, completed), and requesting user name. Analysis requests in the queue may be sorted based on request name, next interval time, standing order status or user. Any request interval time may be changed and any request may be suspended, resumed or deleted.

Step Id	Action	Expected Result/Output	Pass /Fail
1.	**Start the Data Server.** Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	**Start the Real-Time Server.** Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	**Start the User Station.** Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	**Invoke the Event Display**. Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
5.	Select 'Event_Display_Local' from the control window tools menu. Click on 'OK' button.	The 'Event Display' is displayed on the FOT User Station.	
6.	Click on 'Filter' from the pull down menu Select 'Event Type' Click 'Bold' button next to ANL and SYS Click 'Apply' Click 'Close'	The Event_Display_Local will now display all ANA subsystem activities in bold.	

7.	**<u>Invoke the Analysis Request Builder</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
8.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
9.	**<u>Create an Analysis Request</u>** Enter into the request name field: **Standorder**	Standorder appears in the Request Name field	
10.	Click on the 'EOC Only' button to select data to be processed in the EOC.	'EOC Only' button should show selected	
11.	Click on the 'Good Data Only' button to select only good data to be processed.	The 'Good Data Only' button should show selected	
12.	**<u>Selecting Telemetry Mnemonics</u>** Click on the 'Select Telemetry …' button.	The Telemetry Selector window is displayed.	
13.	Invoke the Selection Filter Screen: Click on the 'Filter…' button.	The Selection Filter Screen is displayed	
14.	**Note:** Fields are displayed as the user selects a filter criteria. Select '**AM1**' in the Spacecraft text area.	Instruments associated with AM1 are displayed in the Instrument text area	
15.	Select '**COM**' in the Instrument text area.	Sample Types associated with COM are displayed in the Sample Type text area	

16.	Select '**I**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_COM_I is displayed in the Selected text area.	
17.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_COM_B is displayed in the Selected text area.	
18.	Select '**CDH**' in the Instrument text area.	Sample Types associated with CDH are displayed in the Sample Type text area	
19.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_CDH_B is displayed in the Selected text area.	
20.	Select '**GNC**' in the Instrument text area.	Sample Types associated with GNC are displayed in the Sample Type text area	
21.	Select '**S**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_GNC_S is displayed in the Selected text area.	
22.	Click the 'OK' button.	The filter list is displayed in the Analysis Telemetry Selector window in the Subsystems section.	
23.	Click on the '**AM1_COM_I**' toggle button.	A list of mnemonics associated with AM1_COM_I are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
24.	Select '**COM_IR_SBT2_XMTR**' in the available parameters text area Select a sampling rate Click on 'All Data' button. Click on the 'Select' button.	COM_IR_SBT2_XMTR along with the selected sample rate are displayed in the Selected Parameters field.	

25.	Select '**COM_IR_SBT1_RCVR**' in the available parameters text area Select a sampling rate Click on 'All Data' button. Click on the 'Select' button.	COM_IR_SBT1_RCVR along with the selected sample rate are displayed in the Selected Parameters field.	
26.	Click the '**AM1_COM_I**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
27.	Click the '**AM1_COM_B**' toggle button.	A list of mnemonics associated with AM1_COM_B are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
28.	Select '**COM_BR_SBT2_PN_LOCK**' in the available parameters text area Select a sampling rate Enter into the 'Nth sample' field: **1** Click on the 'Select' button.	COM_BR_SBT2_PN_LOCK along with the selected sample rate are displayed in the Selected Parameters field.	
29.	Click on the '**AM1_COM_B**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
30.	Click on the '**AM1_CDH_B**' toggle button.	A list of mnemonics associated with **AM1_CDH_B** are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	

31.	Select '**CHD_BR_MODBDU_VALDAT**' in the available parameters text area Click the 'Changes Only' button Click on the 'Select' button.	CHD_BR_MODBDU_VALDAT along with the selected sample rate are displayed in the Selected Parameters field.	
32.	Click on the '**AM1_CDH_B**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
33.	Click on the '**AM1_GNC_S**' toggle button.	A list of mnemonics associated with **AM1_GNC_S** are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
34.	Select '**GNC_SR_FIN_PTCHERR1**' in the available parameters text area Select a sampling rate Enter into the 'Nth sample' field: **5** Click on the 'Select' button.	GNC_SR_FIN_PTCHERR1 along with the selected sample rate are displayed in the Selected Parameters field.	
35.	Click on the 'OK' button.	Telemetry points and associated sample rates selected match the Selected Telemetry table in the Analysis Request window.	
36.	**<u>Selecting Start and Stop Times</u>** Click on the 'Select Time' button.	The Selected Pair Times window is displayed.	
37.	Click the 'Select' button	The Pair Time Selector window is displayed.	
38.	Click the 'Absolute' button.	The 'Absolute' button is selected	

39.	Click the ‘Time’ button.	The ‘Time’ button is selected	
40.	Click the ‘Specify End Time’ button.	The ‘Specify End Time’ button is selected	
41.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	
42.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
43.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
44.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	
45.	Click on the ‘OK’ button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
46.	Click on ‘Standing Order …’ button	The Selected Time Interval window is displayed.	
47.	Click on ‘Select …’ button	The Interval Time Selector window is displayed	
48.	**Note:** The Start and Stop Date reflects the life of the standing order request. Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	
49.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	

50.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
51.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
52.	Click on the frequency pull down menu	Verify the frequency pull down menu contains: Hour Day Month Week Passes Orbits	
53.	Select 'Hour' frequency type	The selected frequency type will be displayed.	
54.	Click on the 'OK' button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
55.	Click on the 'OK' button.	The Analysis Request Builder is displayed	
56.	**<u>Save the analysis request</u>** Click on the output dataset name toggle button. Enter the following file name: **Standorder**	Standorder will be displayed in the OutPut DataSet Name box.	

57.	Click on ‘Save as…’.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
58.	Enter the following: **Standorder** Click on the ‘OK’ button.	A dialog box informing the user that the file was saved.	
59.	Click on the ‘Close’ button in the information dialog box.	The dialog box will close.	
60.	Click on the ‘OK’ button in the Analysis Request Builder window.	An Analysis Request has been submitted using the standing order process.	
61.	Invoke ‘Report Generator’ from the control window tools menu. Click on the ‘Tools’ button.	A list of windows will be displayed	
62.	Select ‘Report Generator’. Click on the ‘OK’ button.	The Report Selector will be displayed	
63.	Select Report Type (On Demand) Select Spacecraft Select Report Category Select the Time Order Downlink from the Available Reports List Click ‘Apply’ button	The Time Order Down Link report On Demand Report Specification window will be displayed	

64.	Click on ‘Standing Order …’ button	The Selected Time Interval window is displayed.	
65.	Click on ‘Select …’ button	The Interval Time Selector window is displayed	
66.	**Note:** The Start and Stop Date reflects the life of the standing order request. Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	
67.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
68.	Select Activation Type Select ‘Time’ from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
69.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
70.	Click on the frequency pull down menu Select ‘Hour’ frequency type	The selected frequency type will be displayed.	
71.	Click on the ‘OK’ button	The selected time will be displayed in the Start and Stop interval boxes.	
72.	Enter Standorder in the Dataset name box.	Mnemonics associated with that dataset are displayed.	
73.	Invoke the Selection Filter Screen: Click on the ‘Filter…’ button.	The Selection Filter Screen is displayed	

74.	**Note:** Fields are displayed as the user selects a filter criteria. Select '**AM1**' in the Spacecraft text area.	Instruments associated with AM1 are displayed in the Instrument text area	
75.	Select '**COM**' in the Instrument text area.	Sample Types associated with COM are displayed in the Sample Type text area	
76.	Select '**I**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_COM_I is displayed in the Selected text area.	
77.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_COM_B is displayed in the Selected text area.	
78.	Select '**CDH**' in the Instrument text area.	Sample Types associated with CDH are displayed in the Sample Type text area	
79.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_CDH_B is displayed in the Selected text area.	
80.	Select '**GNC**' in the Instrument text area.	Sample Types associated with GNC are displayed in the Sample Type text area	
81.	Select '**S**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_GNC_S is displayed in the Selected text area.	
82.	Click the 'OK' button.	The filter list is displayed in the On Demand Report Selector window in the Subsystems section.	
83.	Click on the '**AM1_COM_I**' toggle button in the Selection Filter area.	A list of mnemonics associated with AM1_COM_I are displayed in the text area.	

84.	Select '**COM_IR_SBT2_XMTR**' in the available parameters text area Click on the → button.	COM_IR_SBT2_XMTR is displayed in the Selected text area.	
85.	Select '**COM_IR_SBT1_RCVR**' in the available parameters text area Click on the → button.	COM_IR_SBT1_RCVR is displayed in the Selected text area.	
86.	Click the '**AM1_COM_I**' toggle button in the Selection Filter area.	The list of mnemonics in the available text area are removed.	
87.	Click the '**AM1_COM_B**' toggle button in the Selection Filter area.	A list of mnemonics associated with AM1_COM_B are displayed in the text area.	
88.	Select '**COM_BR_SBT2_PN_LOCK**' in the available parameters text area Click on the → button.	COM_BR_SBT2_PN_LOCK is displayed in the Selected text area.	
89.	Click on the '**AM1_COM_B**' toggle button.	The list of mnemonics in the available text area are removed.	
90.	Click on the '**AM1_CDH_B**' toggle button.	A list of mnemonics associated with AM1_CDH_B are displayed in the text area.	
91.	Select '**CHD_BR_MODBDU_VALDAT**' in the available parameters text area Click on the → button.	CHD_BR_MODBDU_VALDAT is displayed in the Selected text area.	
92.	Click on the '**AM1_CDH_B**' toggle button.	The list of mnemonics in the available text area are removed.	

93.	Click on the '**AM1_GNC_S**' toggle button.	A list of mnemonics associated with AM1_GNC_S are displayed in the text area.	
94.	Select '**GNC_SR_FIN_PTCHERR1**' in the available parameters text area Click on the → button.	GNC_SR_FIN_PTCHERR1 is displayed in the Selected text area.	
95.	Click on the 'Apply' button.	The report will generate after the completion of the analysis request associated with it.	
96.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed 'Analysis Request **X** completed on Host **N**.'	
97.	**Note:** After the first run of this request, check the datasets directory to verify that a dataset was created. In a terminal window enter the following: %:**cd fosb/test/am1/datasets** %:**ls -lta**	Verify that the files Standorder.meta and Standorder.data exist, notating the creation time of the file.	

98.	Bring up the **<u>Standing Order Browser</u>** Select 'Standing Order Browser' from the control window tools menu.	The 'Standing Order Browser' window will be displayed and contains the following fields and user interfaces: Request name Next interval start time Standing order status Name of user who submitted the request Sort Modify Disable Enable Delete Results	
99.	**<u>View the results of the Standing Order</u>** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
100.	Select '**Standorder**'	Standorder is highlighted	
101.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
102.	Click on the Tools button in the control window.	The Tools Dialog window is displayed.	
103.	Select Report Browser from the menu.	Netscape will appear.	

104.	Scroll down to the Time Order Down Link folder Double click on the folder	The folder will open displaying a listing of Time Order Down Link reports.	
105.	Select the report named Standorder At the Netscape file pull down menu select the print option.	A dialog box will appear asking where to print the report.	
106.	Enter *printername* in the box.	The report will print.	
107.	Retrieve the print out	Compare the values of the print out against the values displayed in the views and against the mnemonics selected for input to the report.	
108.	**Time Change** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes less than the next hour start time.	The User Station time will be changed to X minutes.	
109.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed 'Analysis Request **X** completed on Host **N**.'	

110.	**Note:** After the second run of this request, check the datasets directory to verify if the old file was not overwritten. %:**cd fosb/test/am1/datasets** %:**ls -lta**	Verify that the files Standorder.meta and Standorder.data exist, notating the creation time of the file.	
111.	Bring up the **Standing Order Browser** Select 'Standing Order Browser' from the control window tools menu.	The 'Standing Order Browser' window will be displayed.	
112.	**View the results of the Standing Order** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
113.	Select '**Standorder**'	Standorder is highlighted	
114.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
115.	Select '**Standorder**'	Standorder is highlighted	
116.	Click on 'Disable' button	The Standing Order request will be disabled.	
117.	**Invoke the Analysis Request Builder** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
118.	Select 'Analysis_Request_Builder'. Click on 'OK' button.	The Analysis Request Builder window is displayed	
119.	Click the File pull down menu.	A list of options appears.	
120.	Select 'Open'.	The File Selection window is displayed.	

121.	Select '**SOTemplate**'. Click the 'OK' button.	The Analysis Request named SOTemplate is displayed	
122.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
123.	Enter into the request name field: **Standorder1**	Standorder1 appears in the Request Name field	
124.	Click on the 'EOC Only' button to select data to be processed in the EOC.	'EOC Only' button should show selected	
125.	Click on the 'Good Data Only' button to select only good data to be processed.	The 'Good Data Only' button should show selected	
126.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Standorder1**	Standorder1 will be displayed in the Output Dataset Name box.	
127.	**<u>Using a Dataset as Input</u>** Click on the Input DataSet Name toggle button Enter '**Standorder**' as the Input DataSet name in the text area	The Input DataSet Name toggle button is selected and the file name is displayed in the text area.	
128.	Click on 'Standing Order …' button	The Selected Time Interval window is displayed.	
129.	Click on 'Select …' button	The Interval Time Selector window is displayed	

130.	Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	
131.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
132.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
133.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
134.	Click on the frequency pull down menu Select 'Days' frequency type	The desired frequency type will be displayed.	
135.	Click on the 'OK' button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
136.	Click on the 'OK' button.	The Analysis Request Builder is displayed	
137.	**Save the analysis request** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
138.	Select 'Save as…'.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	

139.	Enter the name of the request: **Standorder1** Click the ‘OK’ button.	A error dialog box informing the user that the file can not saved because start and stop times ned to be selected will appear.	
140.	Click the ‘Close’ button in the information dialog box.	The error dialog box will close.	
141.	**Selecting Start and Stop Times** Click on the ‘Select Time’ button.	The Selected Pair Times window is displayed.	
142.	Click the ‘Select’ button	The Pair Time Selector window is displayed.	
143.	Click the ‘Absolute’ button.	The ‘Absolute’ button is selected	
144.	Click the ‘Time’ button.	The ‘Time’ button is selected	
145.	Click the ‘Specify End Time’ button.	The ‘Specify End Time’ button is selected	
146.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	
147.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
148.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
149.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	

150.	Click on the ‘OK’ button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
151.	Click the ‘OK’ button in the Analysis Request Builder window.	A dataset for the given options selected has been submitted for generated.	
152.	**<u>Time Change</u>** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes before the requested start time.	The User Station time will be changed to X minutes.	
153.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed ‘Analysis Request **X** completed on Host **N**.’	
154.	Bring up the **<u>Standing Order Browser</u>** Select ‘Standing Order Browser’ from the control window tools menu.	The ‘Standing Order Browser’ window will be displayed.	
155.	**<u>View the results of the Standing Order</u>** Click on the ‘Results’ button	The Standing Order Analysis Product Requests Dialog window is displayed	
156.	Select ‘**Standorder1**’	Standorder1 is highlighted	
157.	Click on ‘Access Results’ button	The results of the request will be displayed on a Dynamic page.	
158.	Select ‘**Standorder1**’	Standorder1 is highlighted	

159.	Click on ‘Disable’ button	The Standing Order request will be disabled.	
160.	**<u>Invoke the Analysis Request Builder</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
161.	Select ‘Analysis_Request_Builder’. Click on ‘OK’ button.	The Analysis Request Builder window is displayed	
162.	Click the File pull down menu.	A list of options appears.	
163.	Select ‘Open’.	The File Selection window is displayed.	
164.	Select ‘**SOTemplate**’. Click the ‘OK’ button.	The Analysis Request named SOTemplate is displayed	
165.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
166.	Enter into the request name field: **Standorder2**	Standorder2 appears in the Request Name field	
167.	Click on the ‘EOC Only’ button to select data to be processed in the EOC.	‘EOC Only’ button should show selected	
168.	Click on the ‘Good Data Only’ button to select only good data to be processed.	The ‘Good Data Only’ button should show selected	
169.	Click on ‘Standing Order …’ button	The Selected Time Interval window is displayed.	
170.	Click on ‘Select …’ button	The Interval Time Selector window is displayed	
171.	Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	

172.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
173.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
174.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
175.	Click on the frequency pull down menu Select 'Week' frequency type	The desired frequency type will be displayed.	
176.	Click on the 'OK' button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
177.	Click on the 'OK' button.	The Analysis Request Builder is displayed	
178.	**Selecting Start and Stop Times** Click on the 'Select Time' button.	The Selected Pair Times window is displayed.	
179.	Click the 'Select' button	The Pair Time Selector window is displayed.	
180.	Click the 'Absolute' button.	The 'Absolute' button is selected	
181.	Click the 'Time' button.	The 'Time' button is selected	
182.	Click the 'Specify End Time' button.	The 'Specify End Time' button is selected	

183.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	
184.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
185.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
186.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	
187.	Click on the 'OK' button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
188.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Standorder2**	Standorder2 will be displayed in the Output Dataset Name box.	
189.	**Save the analysis request** Save the analysis request. Click on the File pull down menu.	A list of options appears.	

190.	Select ‘Save as…’.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
191.	Enter the name of the request: **Standorder2** Click the ‘OK’ button.	A dialog box informing the user that the file was saved.	
192.	Click the ‘Close’ button in the information dialog box.	The dialog box will close.	
193.	Click the ‘OK’ button in the Analysis Request Builder window.	A dataset for the given options selected has been submitted for generated.	
194.	**<u>Time Change</u>** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes before the requested start time.	The User Station time will be changed to X minutes.	
195.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed ‘Analysis Request **X** completed on Host **N**.’	
196.	Bring up the **<u>Standing Order Browser</u>** Select ‘Standing Order Browser’ from the control window tools menu.	The ‘Standing Order Browser’ window will be displayed.	

197.	**<u>View the results of the Standing Order</u>** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
198.	Select '**Standorder2**'	Standorder2 is highlighted	
199.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
200.	**<u>Invoke the Analysis Request Builder</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
201.	Select 'Analysis_Request_Builder'. Click on 'OK' button.	The Analysis Request Builder window is displayed	
202.	Click the File pull down menu.	A list of options appears.	
203.	Select 'Open'.	The File Selection window is displayed.	
204.	Select '**SOTemplate**'. Click the 'OK' button.	The Analysis Request named SOTemplate is displayed	
205.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
206.	Enter into the request name field: **Standorder3**	Standorder3 appears in the Request Name field	
207.	Click on the 'EOC Only' button to select data to be processed in the EOC.	'EOC Only' button should show selected	
208.	Click on the 'Good Data Only' button to select only good data to be processed.	The 'Good Data Only' button should show selected	

209.	**<u>Selecting Start and Stop Times</u>** Click on the ‘Select Time’ button.	The Selected Pair Times window is displayed.	
210.	Click the ‘Select’ button	The Pair Time Selector window is displayed.	
211.	Click the ‘Absolute’ button.	The ‘Absolute’ button is selected	
212.	Click the ‘Time’ button.	The ‘Time’ button is selected	
213.	Click the ‘Specify End Time’ button.	The ‘Specify End Time’ button is selected	
214.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	
215.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
216.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
217.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	
218.	Click on the ‘OK’ button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
219.	Click on ‘Standing Order …’ button	The Selected Time Interval window is displayed.	
220.	Click on ‘Select …’ button	The Interval Time Selector window is displayed	
221.	Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	

222.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
223.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
224.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
225.	Click on the frequency pull down menu Select 'Month' frequency type	The desired frequency type will be displayed.	
226.	Click on the 'OK' button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
227.	Click on the 'OK' button.	The Analysis Request Builder is displayed	
228.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Standorder3**	Standorder3 will be displayed in the Output Dataset Name box.	

229.	**<u>Save the analysis request</u>** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
230.	Select ‘Save as…’.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
231.	Enter the name of the request: **Standorder3** Click the ‘OK’ button.	A dialog box informing the user that the file was saved.	
232.	Click the ‘Close’ button in the information dialog box.	The dialog box will close.	
233.	Click the ‘OK’ button in the Analysis Request Builder window.	A dataset for the given options selected has been submitted for generated.	
234.	**<u>Time Change</u>** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes before the requested start time.	The User Station time will be changed to X minutes.	

235.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed 'Analysis Request **X** completed on Host **N**.'	
236.	Bring up the **Standing Order Browser** Select 'Standing Order Browser' from the control window tools menu.	The 'Standing Order Browser' window will be displayed.	
237.	**View the results of the Standing Order** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
238.	Select '**Standorder3**'	Standorder3 is highlighted	
239.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
240.	**Invoke the Analysis Request Builder** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
241.	Select 'Analysis_Request_Builder'. Click on 'OK' button.	The Analysis Request Builder window is displayed	
242.	Click the File pull down menu.	A list of options appears.	
243.	Select 'Open'.	The File Selection window is displayed.	
244.	Select '**SOTemplate**'. Click the 'OK' button.	The Analysis Request named SOTemplate is displayed	

245.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
246.	Enter into the request name field: **Standorder4**	Standorder4 appears in the Request Name field	
247.	Click on the 'EOC Only' button to select data to be processed in the EOC.	'EOC Only' button should show selected	
248.	Click on the 'Good Data Only' button to select only good data to be processed.	The 'Good Data Only' button should show selected	
249.	**<u>Selecting Start and Stop Times</u>** Click on the 'Select Time' button.	The Selected Pair Times window is displayed.	
250.	Click the 'Select' button	The Pair Time Selector window is displayed.	
251.	Click the 'Absolute' button.	The 'Absolute' button is selected	
252.	Click the 'Time' button.	The 'Time' button is selected	
253.	Click the 'Specify End Time' button.	The 'Specify End Time' button is selected	
254.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	
255.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
256.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	

257.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	
258.	Click on the 'OK' button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
259.	Click on 'Standing Order …' button	The Selected Time Interval window is displayed.	
260.	Click on 'Select …' button	The Interval Time Selector window is displayed	
261.	Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	
262.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
263.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
264.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
265.	Click on the frequency pull down menu Select 'Passes' frequency type	The desired frequency type will be displayed.	
266.	Click on the 'OK' button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
267.	Click on the 'OK' button.	The Analysis Request Builder is displayed	

268.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Standorder4**	Standorder4 will be displayed in the Output Dataset Name box.	
269.	**<u>Save the analysis request</u>** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
270.	Select 'Save as…'.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
271.	Enter the name of the request: **Standorder4** Click the 'OK' button.	A dialog box informing the user that the file was saved.	
272.	Click the 'Close' button in the information dialog box.	The dialog box will close.	
273.	Click the 'OK' button in the Analysis Request Builder window.	A dataset for the given options selected has been submitted for generated.	

274.	**<u>Time Change</u>** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes before the requested start time.	The User Station time will be changed to X minutes.	
275.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed 'Analysis Request **X** completed on Host **N**.'	
276.	Bring up the **<u>Standing Order Browser</u>** Select 'Standing Order Browser' from the control window tools menu.	The 'Standing Order Browser' window will be displayed.	
277.	**<u>View the results of the Standing Order</u>** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
278.	Select '**Standorder4**'	Standorder4 is highlighted	
279.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
280.	**<u>Invoke the Analysis Request Builder</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
281.	Select 'Analysis_Request_Builder'. Click on 'OK' button.	The Analysis Request Builder window is displayed	

282.	Click the File pull down menu.	A list of options appears.	
283.	Select ‘Open’.	The File Selection window is displayed.	
284.	Select ‘**SOTemplate**’. Click the ‘OK’ button.	The Analysis Request named SOTemplate is displayed.	
285.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
286.	Enter into the request name field: **Standorder5**	Standorder5 appears in the Request Name field	
287.	Click on the ‘EOC Only’ button to select data to be processed in the EOC.	‘EOC Only’ button should show selected	
288.	Click on the ‘Good Data Only’ button to select only good data to be processed.	The ‘Good Data Only’ button should show selected	
289.	**Selecting Start and Stop Times** Click on the ‘Select Time’ button.	The Selected Pair Times window is displayed.	
290.	Click the ‘Select’ button	The Pair Time Selector window is displayed.	
291.	Click the ‘Absolute’ button.	The ‘Absolute’ button is selected	
292.	Click the ‘Time’ button.	The ‘Time’ button is selected	
293.	Click the ‘Specify End Time’ button.	The ‘Specify End Time’ button is selected	
294.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in time date field	

294.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
295.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
296.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in start time field	
297.	Click on the 'OK' button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
298.	Click on 'Standing Order …' button	The Selected Time Interval window is displayed.	
299.	Click on 'Select …' button	The Interval Time Selector window is displayed	
300.	Enter Start Date in Start Date text area **TBD**	The **TBD** will be displayed in the Start Date text area.	
301.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
302.	Select Activation Type Select 'Time' from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
303.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
304.	Click on the frequency pull down menu Select 'Orbit' frequency type	The desired frequency type will be displayed.	

305.	Click on the ‘OK’ button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
306.	Click on the ‘OK’ button.	The Analysis Request Builder is displayed	
307.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Standorder5**	Standorder5 will be displayed in the Output Dataset Name box.	
308.	**<u>Save the analysis request</u>** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
309.	Select ‘Save as…’.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
310.	Enter the name of the request: **Standorder5** Click the ‘OK’ button.	A dialog box informing the user that the file was saved.	
311.	Click the ‘Close’ button in the information dialog box.	The dialog box will close.	

312.	Click the 'OK' button in the Analysis Request Builder window.	A dataset for the given options selected has been submitted for generated.	
313.	**Time Change** With the assistance of the local System Administrator, have the User Station time advanced by X minutes. Where X is 10 minutes before the requested start time.	The User Station time will be changed to X minutes.	
314.	Monitor the Event Display for the message that Analysis Request **X** has started on Host **N**. Where X = the number of the request and N = the Name of the Host machine that started the request.	Wait for an event message indicating that the analysis request is complete. In the Events Display window, a message will be displayed 'Analysis Request **X** completed on Host **N**.'	
315.	Bring up the **Standing Order Browser** Select 'Standing Order Browser' from the control window tools menu.	The 'Standing Order Browser' window will be displayed.	
316.	**View the results of the Standing Order** Click on the 'Results' button	The Standing Order Analysis Product Requests Dialog window is displayed	
317.	Select '**Standorder5**'	Standorder5 is highlighted	
318.	Click on 'Access Results' button	The results of the request will be displayed on a Dynamic page.	
319.	**Invoke the Analysis Request Builder** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	

320.	Select ‘Analysis_Request_Builder’. Click on ‘OK’ button.	The Analysis Request Builder window is displayed	
321.	Click the File pull down menu.	A list of options appears.	
322.	Select ‘Open’.	The File Selection window is displayed.	
323.	Select ‘**SOTemplate**’. Click the ‘OK’ button.	The Analysis Request named SOTemplate is displayed	
324.	Check the Request Status text area in the Analysis Request Builder window.	The Request Status will indicate Read/Edit Request.	
325.	Enter into the request name field: **Standorder6**	Standorder6 appears in the Request Name field	
326.	Click on the ‘EOC Only’ button to select data to be processed in the EOC.	‘EOC Only’ button should show selected	
327.	Click on the ‘Good Data Only’ button to select only good data to be processed.	The ‘Good Data Only’ button should show selected	
328.	Click on ‘Standing Order …’ button	The Selected Time Interval window is displayed.	
329.	Click on ‘Select …’ button	The Interval Time Selector window is displayed	
330.	Enter Start Date in Start Date text area **TBD** (Make Start Date greater than Stop Date)	The **TBD** will be displayed in the Start Date text area.	

331.	Enter Stop Date in the Stop Date text area **TBD**	An error message will appear indicating the Start Date must be less than the Stop Date.	
332.	Click on ‘OK’ in the error dialog box.	The error dialog box will close.	
333.	Enter Stop Date in the Stop Date text area **TBD**	The **TBD** will be displayed in the Stop Date text area.	
334.	Select Activation Type Select ‘Time’ from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
335.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
336.	Click on the frequency pull down menu Select ’Orbit’ frequency type	The desired frequency type will be displayed.	
337.	Click on the ‘OK’ button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
338.	Click on ‘Deselect’	The Interval Time Selector window will be displayed.	
339.	Change the frequency. Click on the frequency pull down menu Select ’Hour’ frequency type	The desired frequency type will be displayed.	

340.	Click on the ‘OK’ button	The Selected Time interval window will be displayed. Verify the displayed information matches the information selected from the Interval Time Selector	
341.	Click on ’Cancel’ button.	The Selected Time interval window will close, and the Analysis Request Builder window will appear.	
342.	Click on ‘Cancel’ button.	The Analysis Request window will close and the request will be canceled.	
343.	Bring up the **Standing Order Browser** Select ‘Standing Order Browser’ from the control window tools menu.	The ‘Standing Order Browser’ window will be displayed.	
344.	Click on ‘Sort’ button	Verify the pull down menu will allow sorting by: -Request name -Start time -Status -User	
345.	Select ‘User’ from the pull down menu.	The requests will be sorted and displayed by user	
346.	Click on ‘Sort’ button Select ‘Request name’ from the pull down menu.	The requests will be sorted and displayed by request name	
347.	Click on ‘Sort’ button Select ‘Start time’ from the pull down menu.	The requests will be sorted and displayed by Start Time.	

348.	Click on ‘Sort’ button Select ‘Status’ from the pull down menu.	The requests will be sorted and displayed by Status.	
349.	Modify the standing order interval Select the standing order to modify (**TBD**)	The TBD standing order will be highlighted.	
350.	Click on ‘Modify’ button	The Interval Time Selection Dialog window will be displayed.	
351.	Enter new Start and Stop Dates in the selected text area. (Enter Start Date is greater than Stop date)	An error message will appear indicating that the Start Date must be less than the Stop Date.	
352.	Click on ‘OK’ in the error dialog box	The error dialog box will close.	
351.	Enter new Start and Stop Dates in the selected text area.	New Start and Stop Dates reflecting the life of the standing order request will be displayed.	
352.	Select ‘Time’ from the pull down menu Enter **TBD** time in the text area	The requested time will be displayed	
353.	Enter **TBD** in the Frequency text area	The desired frequency will be displayed	
354.	Click on the frequency pull down menu Select **TBD** frequency type	The desired frequency type will be displayed.	
355.	Click on the ‘OK’ button	The Standing Order Browser window will be displayed and changes reflected.	
356.	Suspend a Standing Order Select **TBD** standing order request	The **TBD** request is highlighted	

357.	Click on the ‘Disable’ button	The selected standing order will be suspended.	
358.	Resume a Standing Order Select **TBD** (unsuspended) standing order	The **TBD** request is highlighted	
359.	Click on the ‘Enable’ button	An error dialog box will appear indicating that can not resume a unsuspended Standing Order.	
360.	Click on ‘OK’ in the error dialog box.	The error dialog box will close.	
361.	Resume a Standing Order Select **TBD** (suspended) standing order	The **TBD** request is highlighted	
362.	Click on the ‘Enable’ button	The selected standing order will resume.	
363.	Delete a Standing Order Select **TDB** standing order request	The **TBD** request is highlighted	
364.	Click on the ‘Delete’ button	The selected standing order will be deleted.	
365.	A dialog box will appear asking ‘Are you sure you want to Delete this request?’ Click on ‘Yes’	The dialog box will disappear and the request will be deleted.	
364.	Have the local system administrator set the User Station time back to the correct UTC.		
365.	End of test.		

Analysis Request Manager Test Procedure

Test Case No: ANA-2120B

Test Configuration: See Appendix G

Test Support: Twenty (20) previously saved analysis requests. These previously saved requests will be built using various options (Local only, EOC only, good data only, all data). At least one request will be built as a user specified statistics request.

Test Dependencies: Previously archived telemetry files.

Test Case Description:

This test is designed to verify the ability to manage all requests for data analysis. This includes simultaneous processing of multiple requests as well as a queue of requests waiting to be processed. This test will also verify selection filter capabilities and user-specified statistics report content. The test begins with the initialization of the EOC. The Analysis Request Builder tool is invoked and a historical request is generated, with selected options including request name, start/stop time interval, parameter names, and sampling rates. During the mnemonic selection portion of the request, all selection filter capabilities are verified. Previously built analysis requests are submitted for generation in order to fill the queue. The queue is checked to ensure the accuracy of the status of each request submitted. Various options will be tested on the queue (change a priority of a request, delete a request select products). At least one of the requests will be a user-specified statistics request. After each request has completed, an ASCII report is generated and checked. This report will be checked for correct header information as well as data accuracy.

Success Criteria:

This test is considered successful when the system processes 20 request simultaneously and the queue is able to hold/display 10 requests; Each request displays the request name, a status, and percentage complete; When selecting a parameter for analysis, the user is able to filter according to spacecraft IDs, subsystems, instruments, and ground systems; One or more instruments and spacecraft subsystems may be selected for each spacecraft as a filter criteria; The user is provided with the capability to generate an ASCII report from a user-specified statistics request; The statistics report contains header information consisting of a date and time of the report, a spacecraft start and stop time, and an interval type for the statistic; For each parameter, the statistics report contains a mnemonic name, minimum value, maximum value, mean value, standard deviation, number of samples, and spacecraft time for the minimum and maximum values. The request queue will allow the user to assign a priority to a pending request, delete a request, and select output products for a completed request.

Step Id	Action	Expected Result/Output	Pass/ Fail
1.	**Start the Data Server**. Reference Test Case SYS-2000B -- FOS Server Startup.	Data Server processes are running.	
2.	**Start the Real-Time Server**. Reference Test Case SYS-2000B -- FOS Server Startup.	Real-Time Server processes are running.	
3.	**Start the User Station**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
4.	**Bring up the Event Display**. Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	

5.	Select ‘Event_Display_Gobal’ from the control window tools menu. Click on ‘OK’ button.	The ‘Event Display’ is up on the User Station.	
6.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL and SYS Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA and SYS subsystem activities in bold.	
7.	**<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
8.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
9.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
10.	Select ‘request1’. Click the ‘OK’ button.	Analysis Request request1 is displayed **Note:** No changes will be made to request1. The following steps verify filter capabilities.	
11.	**<u>Select Telemetry Points</u>** Click on the ‘Select Telemetry …’ button.	The Telemetry Selector window is displayed.	
12.	Click on the ‘Filter…’ button.	The Selection Filter Screen is displayed.	

13.	**Note:** Fields are displayed as the user selects a filter criteria. Select '**AM1**' in the Spacecraft text area.	A list of ground systems, spacecraft subsystems, and instruments are displayed in the Instrument text. field and they include: AST EPS SDU CEA GCM SMS CEF GNC TCS CDH MIS SYS COM MOD EAS MOP EDS PMS	
14.	Select '**CEA**' in the Instrument/Subsystem text area.	Sample Types associated with CEA are displayed in the Sample Type text area	
15.	Click the 'Select' button.	The subsystem mnemonic AM1_AST is displayed in the Selected text area.	
16.	Select '**CDH**' in the Instrument/Subsystem text area.	Sample Types associated with CDH are displayed in the Sample Type text area	
17.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_CDH_B is displayed in the Selected text area.	
18.	Select '**GNC**' in the Instrument/Subsystem text area.	Sample Types associated with GNC are displayed in the Sample Type text area	
19.	Select '**B**' in the sample type text area. Click the 'Select' button.	The subsystem mnemonic AM1_GNC_B is displayed in the Selected text area.	

20.	Click the ‘OK’ button.	The selected subsystems are displayed in the Subsystems text area.	
21.	Click the ‘**AM1_AST**’ toggle button.	Mnemonics are associated with AM1_AST are displayed in the Available Parameters text area.	
22.	Click the ‘**AM1_AST**’ toggle button.	Mnemonics are associated with AM1_AST are removed from the Available Parameters text area.	
23.	Click the ‘**AM1_CDH**’ toggle button.	Mnemonics are associated with AM1_CDH are displayed in the Available Parameters text area.	
24.	Click the ‘**AM1_CDH**’ toggle button.	Mnemonics are associated with AM1_CDH are removed from the Available Parameters text area.	
25.	Click the ‘**AM1_GNC**’ toggle button.	Mnemonics are associated with AM1_GNC are displayed in the Available Parameters text area.	
26.	Click the ‘**AM1_GNC**’ toggle button.	Mnemonics are associated with AM1_GNC are removed from the Available Parameters text area.	
27.	Click on the ‘Filter …’ button	The Selection Filter Window is displayed	
28.	Select ‘**AM1**’ in the Spacecraft text area.	A list of ground systems, spacecraft subsystems and instruments is displayed in the Instrument text area.	
29.	Select ‘**CEA**’ in the Instrument/Subsystem text area.	A list of telemetry sample types is displayed in the Sample Text area.	
30.	Click the ‘Select’ button.	The subsystem mnemonic AM1_CEA is displayed in the Selected text area.	
31.	Select ‘**TCS**’ in the Instrument/Subsystem text area.	A list of telemetry sample types is displayed in the Sample Text area.	

32.	Click the ‘Select’ button.	The subsystem mnemonic AM1_TCS is displayed in the Selected text area.	
33.	Select ‘**AM1_AST**’ in the Selected text area. Click the ‘Remove’ button	The subsystem AM1_AST is not in the Selected text area.	
34.	Click the ‘OK’ button.	The selected subsystems will be displayed in the Subsystems text area.	
35.	Click the ‘**AM1_TCS**’ toggle button.	Mnemonics are associated with AM1_TCS are displayed in the Available Parameters text area.	
36.	Click the ‘**CANCEL**’ button	The Analysis Telemetry Selector window will close.	
37.	Click the ‘**OK**’ button	request1 will be submitted for dataset generation.	
38.	Submit previously saved Analysis Request 2 for dataset generation. **Invoke a previously saved Analysis Request** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
39.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
40.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
41.	Select ‘request2’. Click the ‘OK’ button.	Analysis Request request2 is displayed.	

42.	Click the ‘OK’ button	request2 will be submitted for dataset generation.	
43.	Submit previously saved Analysis Request 3 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
44.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
45.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
46.	Select ‘request3’. Click the ‘OK’ button.	Analysis Request request3 is displayed.	
47.	Click the ‘OK’ button	request3 will be submitted for dataset generation.	
48.	**<u>Start the User Station</u>**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
49.	**<u>Bring up the Event Display</u>**. Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
50.	Select ‘Event_Display_Gobal’ from the control window tools menu. Click on ‘OK’ button.	The ‘Event Display’ is up on the User Station.	

51.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	
52.	Submit previously saved Analysis Request 4 for dataset generation. **Invoke a previously saved Analysis Request**, Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
53.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
54.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
55.	Select ‘request4’. Click the ‘OK’ button.	Analysis Request request4 is displayed.	
56.	Click the ‘OK’ button	request4 will be submitted for dataset generation.	
57.	Submit previously saved Analysis Request 5 for dataset generation. **Invoke a previously saved Analysis Request**, Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	

58.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
59.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
60.	Select ‘request5’. Click the ‘OK’ button.	Analysis Request request5 is displayed.	
61.	Click the ‘OK’ button	request5 will be submitted for dataset generation.	
62.	Submit previously saved Analysis Request 6 for dataset generation. **Invoke a previously saved Analysis Request**, Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
63.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
64.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
65.	Select ‘request6’. Click the ‘OK’ button.	Analysis Request request6 is displayed.	
66.	Click the ‘OK’ button	request6 will be submitted for dataset generation.	

67.	**<u>Start the User Station</u>**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
68.	**<u>Bring up the Event Display</u>**. Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
69.	Select 'Event_Display_Gobal' from the control window tools menu. Click on 'OK' button.	The 'Event Display' is up on the User Station.	
70.	Click on 'Filter' from the pull down menu Select 'Event Type' Click 'Bold' button next to ANL Click 'Apply' Click 'Close'	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	
71.	Submit previously saved Analysis Request 7 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>**, Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
72.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
73.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	

74.	Select ‘request7’. Click the ‘OK’ button.	Analysis Request request7 is displayed.	
75.	Click the ‘OK’ button	request7 will be submitted for dataset generation.	
76.	Submit previously saved Analysis Request 8 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>**, Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
77.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
78.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
79.	Select ‘request8’. Click the ‘OK’ button.	Analysis Request request8 is displayed.	
80.	Click the ‘OK’ button	request8 will be submitted for dataset generation.	
81.	Submit previously saved Analysis Request 9 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
82.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	

83.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
84.	Select ‘request9’. Click the ‘OK’ button.	Analysis Request request9 is displayed.	
85.	Click the ‘OK’ button	request9 will be submitted for dataset generation.	
86.	**Start the User Station**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
87.	**Bring up the Event Display**. Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
88.	Select ‘Event_Display_Gobal’ from the control window tools menu. Click on ‘OK’ button.	The ‘Event Display’ is up on the User Station.	
89.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	

90.	Submit previously saved Analysis Request 10 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
91.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
92.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	
93.	Select 'request10'. Click the 'OK' button.	Analysis Request request10 is displayed.	
94.	Click the 'OK' button	request10 will be submitted for dataset generation.	
95.	Submit previously saved Analysis Request 11 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
96.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
97.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	

98.	Select ‘request11’. Click the ‘OK’ button.	Analysis Request request11 is displayed.	
99.	Click the ‘OK’ button	request11 will be submitted for dataset generation.	
100.	Submit previously saved Analysis Request 12 for dataset generation. **Invoke a previously saved Analysis Request** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
101.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
102.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
103.	Select ‘request12’. Click the ‘OK’ button.	Analysis Request request12 is displayed.	
104.	Click the ‘OK’ button	request12 will be submitted for dataset generation.	
105.	**Start the User Station**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
106.	**Bring up the Event Display**. Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	

107.	Select ‘Event_Display_Gobal’ from the control window tools menu. Click on ‘OK’ button.	The ‘Event Display’ is up on the User Station.	
108.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	
109.	Submit previously saved Analysis Request 13 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
110.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
111.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
112.	Select ‘request13’. Click the ‘OK’ button.	Analysis Request request13 is displayed.	
113.	Click the ‘OK’ button	request13 will be submitted for dataset generation.	

114.	Submit previously saved Analysis Request 14 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
115.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
116.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	
117.	Select 'request14'. Click the 'OK' button.	Analysis Request request14 is displayed.	
118.	Click the 'OK' button	request14 will be submitted for dataset generation.	
119.	Submit previously saved Analysis Request 15 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
120.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
121.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	

122.	Select ‘request15’. Click the ‘OK’ button.	Analysis Request request15 is displayed.	
123.	Click the ‘OK’ button	request15 will be submitted for dataset generation.	
124.	**Start the User Station**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the ‘Control Window’ is displayed.	
125.	**Bring up the Event Display**. Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
126.	Select ‘Event_Display_Gobal’ from the control window tools menu. Click on ‘OK’ button.	The ‘Event Display’ is up on the User Station.	
127.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	
128.	Submit previously saved Analysis Request 16 for dataset generation. **Invoke a previously saved Analysis Request** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	

129.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
130.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
131.	Select ‘request16’. Click the ‘OK’ button.	Analysis Request request16 is displayed.	
132.	Click the ‘OK’ button	request16 will be submitted for dataset generation.	
133.	Submit previously saved Analysis Request 17 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
134.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
135.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
136.	Select ‘request17’. Click the ‘OK’ button.	Analysis Request request17 is displayed.	
137.	Click the ‘OK’ button	request17 will be submitted for dataset generation.	

138.	Submit previously saved Analysis Request 18 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
139.	Select 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
140.	Click on the File pull down menu. Select 'Open'.	The File Selection window is displayed.	
141.	Select 'request18'. Click the 'OK' button.	Analysis Request request18 is displayed.	
142.	Click the 'OK' button	request18 will be submitted for dataset generation.	
143.	**<u>Start the User Station</u>**. Reference Test Case SYS-2010B -- User Station Startup and Authentication.	The FOT User Station is running and the 'Control Window' is displayed.	
144.	**<u>Bring up the Event Display</u>**. Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
145.	Select 'Event_Display_Gobal' from the control window tools menu. Click on 'OK' button.	The 'Event Display' is up on the User Station.	

146.	Click on ‘Filter’ from the pull down menu Select ‘Event Type’ Click ‘Bold’ button next to ANL Click ‘Apply’ Click ‘Close’	The Event_Display_Gobal will now display all ANA subsystem activities in bold.	
147.	Submit previously saved Analysis Request 19 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	
148.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
149.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
150.	Select ‘request19’. Click the ‘OK’ button.	Analysis Request request19 is displayed.	
151.	Click the ‘OK’ button	request19 will be submitted for dataset generation.	
152.	Submit previously saved Analysis Request 20 for dataset generation. **<u>Invoke a previously saved Analysis Request</u>** Click on the ‘Tools’ button.	The Tools Dialog window and a list of tools is displayed to the user.	

153.	Select ‘Analysis_Request_Builder’. Click on the ‘OK’ button.	The Analysis Request Builder window is displayed.	
154.	Click on the File pull down menu. Select ‘Open’.	The File Selection window is displayed.	
155.	Select ‘request20’. Click the ‘OK’ button.	Analysis Request request20 is displayed.	
156.	Click the ‘OK’ button	request20 will be submitted for dataset generation.	
157.	**<u>View the Analysis Request Queue</u>** Select ‘Display Window’ from the control window tools menu.	The Analysis Request Queue will be displayed. Verify the following: 10 requests are in the queue The request queue displays an estimated percentage complete for each request The request queue displays a status for each request and the status will be one of the following: Request submitted Request currently being processed Request complete	
158.	Delete a request from the queue Select ‘**TBD**’ request from the queue Click on ‘Delete’ button	**TBD** will be deleted from the queue.	

159.	Assign a priority Select '**TBD**' request from the queue Click on 'Priority' button Select a priority	**TBD** priority will be changed.	
160.	Select '**TBD**' request from the queue Click on 'Products' button	The **TBD** window will be displayed	
161.	**<u>Access a Previously Saved Dataset</u>** Invoke the Analysis Request Builder_ Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
162.	Click on 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
163.	**<u>Create an Analysis Request</u>** Enter into the request name field: **Usedasinput**	Usedasinput appears in the Request Name field	
164.	Click the 'Local Only' button to select data to be processed in the EOC.	'Local Only' button should show selected	
165.	Click the 'All Data' button in the Data Quality box.	The 'All Data' button should show selected	

166.	**<u>Selecting Telemetry Mnemonics</u>** Note: The telemetry mnemonics selected are in the input dataset Click on the 'Select Telemetry …' button.	The Telemetry Selector window is displayed.	
167.	Invoke the Selection Filter Screen: Click on the 'Filter…' button.	The Selection Filter Screen is displayed.	
168.	**Note:** Fields are displayed as the user selects a filter criteria. Select 'AM1' in the Spacecraft text area.	Instruments associated with AM1 are displayed in the Instrument text area	
169.	Select '**CDH**' in the Instrument text area.	Sample Types associated with CDH are displayed in the Sample Type text area	
170.	Select '**C**' in the sample type text area. Click on the 'Select' button.	The subsystem mnemonic AM1_CDH_C is displayed in the Selected text area.	
171.	Select '**GNC**' in the Instrument text area.	Sample Types associated with GNC are displayed in the Sample Type text area	
172.	Select '**B**' in the sample type text area. Click on the 'Select' button.	The subsystem mnemonic AM1_GNC_B is displayed in the Selected text area.	
173.	Select '**S**' in the sample type text area. Click on the 'Select' button.	The subsystem mnemonic AM1_GNC_S is displayed in the Selected text area.	
174.	Click the 'OK' button.	The filter list is displayed in the Analysis Telemetry Selector window in the Subsystems section.	

175.	Click the **'AM1_GNC_B'** toggle button.	A list of mnemonics associated AM1_GNC_B with are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
176.	Select **'GNC_BR_TPRQ_MODE_2'** in the available parameters text area. Select a statistics rate. Enter into the statistics interval box **1** Select '**Min**' from the Statistics interval box. Click the 'Select' button.	GNC_BR_TPRQ_MODE_2 along with the selected sample rate are displayed in the Selected Parameters field. (HK)	
177.	Click on the '**AM1_GNC_B**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
178.	Click on the '**AM1_GNC_S**' toggle button.	A list of mnemonics associated with AM1_GNC_S are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
179.	Select '**AM1_GNC_SR_SHDPB_TAM_Z**' in the available parameters text area. Select a statistics rate. Enter into the statistics interval box **1** Select '**Hrs**' from the Statistics interval box. Click the 'Select' button.	**AM1_GNC_SR_SHDPB_TAM_Z** along with the selected sample rate are displayed in the Selected Parameters field. (HS)	

180.	Click on the '**AM1_GNC_S**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
181.	Select '**AM1_CDH_C**' toggle button in the Subsystem text area.	A list of mnemonics associated CDH_C with are displayed in the Available Parameters text area of the Analysis Telemetry Selector window.	
182.	Select **'CDH_CR_ACT_RPT_TYP'** in the available parameters text area. Select a statistics rate. Enter into the statistics interval box **30** Select '**Secs**' from the Statistics interval box. Click the 'Select' button.	CDH_CR_ACT_RPT_TYP along with the selected sample rate are displayed in the Selected Parameters field. (SB)	
183.	Click on the '**AM1_CDH_C**' toggle button.	The list of mnemonics in the Available Parameters text area are removed.	
184.	Click the 'OK' button.	Telemetry points and associated sample rates selected match the Selected Telemetry table in the Analysis Request window.	
185.	**<u>Selecting Start and Stop Times</u>** Note: The times selected must be in the range of the input dataset. Click on the 'Select Time' button.	The Pair Time Selector window is displayed.	
186.	Click the 'Absolute' button.	The 'Absolute' button is selected	

187.	Click the ‘Time’ button.	The ‘Time’ button is selected	
188.	Click the ‘Specify End Time’ button.	The ‘Specify End Time’ button is selected	
189.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in stop date field	
190.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in stop time field	
191.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
192.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
193.	Click the ‘OK’ button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
194.	Select an output dataset name for the analysis request. Click the output dataset name toggle button. Enter the name of the output dataset (request name): **Usedasinput**	Usedasinput will be displayed.	

195.	Click the CarryOut File Name toggle button. Enter the name of the carryout file (request name.out): **Usedasinput.out**	Usedasinput.out will be displayed.	
196.	Select an input dataset name for the analysis request. Click the input dataset name toggle button. Enter the name of the output dataset (request name): **TBD**	**TBD** will be displayed.	
197.	**<u>Save the analysis request</u>** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
198.	Select 'Save as…'.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
199.	Enter the name of the request: **Usedasinput** Click the 'OK' button.	A dialog box informing the user that the file was saved.	
200.	Click the 'Close' button in the information dialog box.	The dialog box will close.	

201.	Click the 'OK' button in the Analysis Request Builder window.	A dataset for the given options selected has been generated.	
202.	**<u>Access a Previously Saved Dataset</u>** Invoke the Analysis Request Builder_ Click on the 'Tools' button.	The Tools Dialog window and a list of tools is displayed to the user.	
203.	Click on 'Analysis_Request_Builder'. Click on the 'OK' button.	The Analysis Request Builder window is displayed.	
204.	**<u>Create an Analysis Request</u>** Enter into the request name field: **Usedasinput1**	Usedasinput1 appears in the Request Name field	
205.	Click the 'Local Only' button to select data to be processed in the EOC.	'Local Only' button should show selected	
206.	Click the 'All Data' button in the Data Quality box.	The 'All Data' button should show selected	
207.	**<u>Selecting Start and Stop Times</u>** Note: The times selected must be in the range of the input dataset. Click on the 'Select Time' button.	The Pair Time Selector window is displayed.	
208.	Click the 'Absolute' button.	The 'Absolute' button is selected	
209.	Click the 'Time' button.	The 'Time' button is selected	
210.	Click the 'Specify End Time' button.	The 'Specify End Time' button is selected	

211.	Enter into the stop date field: **TBD**	YYYY/DDD is displayed in stop date field	
212.	Enter into the stop time field: **TBD**	HH:MM:SS.SSS is displayed in stop time field	
213.	Enter into the start date field: **TBD**	YYYY/DDD is displayed in start date field	
214.	Enter into the start time field: **TBD**	HH:MM:SS.SSS is displayed in start time field	
215.	Click the 'OK' button.	The selected start and stop times match the Selected Times table in the Analysis Request window.	
216.	**Save the analysis request** Save the analysis request. Click on the File pull down menu.	A list of options appears.	
217.	Select 'Save as…'.	A File Selection window is displayed with a default directory path in the selection field. The default directory path will be /fosb/test/am1/data/FUI/requests/.	
218.	Enter the name of the request: **Usedasinput1** Click the 'OK' button.	An error message will occur indicating the need to select Telemetry points	

219.	Select ‘OK’ in the error dialog box	The error dialog box will close.	
220.	Click on ‘Cancel’ button.	The Analysis Request will be cancelled.	
221.	**Print Report** Select ‘Report Selector’ from the control window tools menu.	The Report Selector window is displayed	
222.	Click the On-Demand toggle button Select Spacecraft type ‘AM1’ Select Report Category ‘ANA’ Select from Available Reports text area ‘User Specified Statistics’ Click ‘OK’ button	The On-Demand Report Specification window is displayed.	
223.	Enter Start Time: **TBD**	Report Start Time is displayed	
224.	Enter Stop Time: **TBD**	Report Stop Time is displayed	
225.	Enter Data Set: **TBD**	The Dataset to be used to crate the report will be displayed	
226.	Select parameters used in the report: Click on ‘Filter’ button	The Selection Filter Window is displayed.	

227.	Select the Spacecraft type '**AM1**'	The instruments associated with AM1 willbe displayed n the Instrument text area.	
228.	Select '**CDH**' in the Instrument text area.	The sample types associated with CDH will be displayed in the Sample Type Area	
229.	Select '**C**' in the Instrument text area Click on the 'Select' button	The subsystem mnemonic AM1_CDH_C is displayed in the Selected text area.	
230.	Select '**GNC**' in the Instrument text area.	The sample types associated with GNC will be displayed in the Sample Type Area	
231.	Select '**B**' in the Instrument text area Click on the 'Select' button	The subsystem mnemonic AM1_GNC_B is displayed in the Selected text area.	
232.	Select '**S**' in the Instrument text area Click on the 'Select' button	The subsystem mnemonic AM1_GNC_S is displayed in the Selected text area.	
233.	Click on the 'OK' button	The selected parameters will be displayed in the Selection Filter Area of the On-Demand Report Selector window.	
234.	Click on the '**AM1_GNC_B**' toggle button	A list mnemonics associated with AM1_GNC_B are displayed in the text area.	
235.	Select '**GNC_BR_TPRQ_MODE_2**' mnemonics from the text area Click on the → button	GNC_BR_TPRQ_MODE_2 mnemonic is displayed in the Selected text area.	
236.	Click on the '**AM1_GNC_B**' toggle button	A list mnemonics associated with AM1_GNC_B are removed.	

237.	Click on the '**AM1_GNC_S**' toggle button	A list mnemonics associated with AM1_GNC_S are displayed in the text area.	
238.	Select '**GNC_SR_SHDPB_TAM_Z**' mnemonics from the text area Click on the → button	GNC_SR_SHDPB_TAM_Z mnemonic is displayed in the Selected text area.	
239.	Click on the '**AM1_GNC_S**' toggle button	A list mnemonics associated with AM1_GNC_S are removed.	
240.	Click on the '**AM1_CDH_C**' toggle button	A list mnemonics associated with AM1_CDH_C are displayed in the text area.	
241.	Select '**CDH_CD_ACT_RPT_TYP**' mnemonics from the text area Click on the → button	CDH_CD_ACT_RPT_TYP mnemonic is displayed in the Selected text area.	
242.	Click on the '**AM1_CDH_C**' toggle button	A list mnemonics associated with AM1_CDH_C are removed.	
243.	Click 'OK' button	The report will generate	
244.	Click on 'Retrieve Report'	A list of available reports will be displayed	
245.	Select the 'User Specified Statistics' Click 'Apply' button	The report will print	
246.	Retrieve the ASCII printout	Verify the report header contains the following: -Date and time of the report -The starting spacecraft time of the data -The ending spacecraft time of the data	

		-The interval type of the statistic Verify each telemetry point has an associated mnemonic name in the report. Verify the report contains the following information: -Minimum value within each interval time -Spacecraft time for each minimum value -Maximum value within each interval time -Spacecraft time for each maximum value -Mean value for each interval time -Standard deviation for each interval time -Number of samples occurring within each interval time Verify the number of samples listed for each parameter matches the number of available selections in the time frame given. Verify that statistic computations from selected parameters are correct and are based on the time frame allocated by the user. Verify the spacecraft time associated with the minimum and maximum values is accurate.	
247.	Repeat the sub-routine **Print Report** as many times as needed.		

248.	End of test.		

Functional Requirement Analysis

Test Case No.: OPR-2000B

Test Configuration: See Appendix G

Test Support:

Test Support is supplied by documentation and procedures created for design, management, and operation of the AM-1 spacecraft.

Test Case Description:

This test verifies requirements that are met through document and procedures of design, management, and operation.

Success Criteria:

This test is considered successful when all set forth requirements are met and outlined in their appropriate documents.

Level 4 ID	Text	Clarification	Response	Pass/ Fail
F-ANA-04060	A dataset size shall only be limited by the maximum UNIX file size (2(GB)		System design verified by design analysis: reference305-CD-040-002: Section 4 - paragraphs 4.1 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8.	
F-DMS-01150	The EOC shall provide 2 days of storage for staging long-term telemetry data.	This requirement will be used for disk sizing. Long-term telemetry data is data that is retrieved from the SDPS.	System design verified by design analysis: reference305-CD-040-002: Section 4 - paragraphs 4.1 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8. reference 311-CD-001-004: section Appendix. FOS Database Schema - Table A-7.	

F-FOS-00040	The EOC shall have the capability to schedule its systems and communications interfaces that are used for multiple spacecraft and instrument operations and for other activities, including maintenance, upgrade, sustaining engineering, testing, and training.	The scheduling requirement will be implemented through operations at the EOC.	Requirement met through demonstrations of concurrent dry-runs and ECT-2.	
F-FOS-00045	The EOC shall participate in the scheduling of interface and end-to-end tests with the external elements involved, including the IP-ICCs, the spacecraft simulator(s), the SMC for other EOS elements, and EDOS for MO&DSD data delivery systems.	The scheduling requirement will be implemented through operations at the EOC.	Requirement met through ECT-1 and ECT-2. Will continue beyond Release B.	
F-FOS-00075	The EOC shall provide tests for validating, verifying, and checking functional capabilities and performance for EOC functions after the EOC has been repaired or upgraded.		Tests are documented in DID322, Test procedures document	
F-FOS-00080	The EOC shall provide standard test data sets to be used in the validation of EOC function.		Tests are documented in DID322, Test procedures document	
F-FOS-00085	The EOC shall support instrument integration activities associated with the spacecraft prior to launch.		EOC participation in Prelaunch activities is addressed in the mission specific integration & test documentation and demonstrated in ECT-2.	
F-FOS-00090	The EOC shall use simulations and test functions of the spacecraft simulator(s) to check out the EOC functions.		EOC participation in Prelaunch activities is addressed in the mission specific integration & test documentation. Post-B	

F-FOS-00095	The EOC shall support spacecraft and instrument tests at the integration site and at the launch site.		EOC participation in Prelaunch activities is addressed in the mission specific integration & test documentation. Post-B	
F-FOS-00110	The EOC shall be capable of simultaneously supporting the Independent Verification and Validation (IV&V) activities and ECS development activities, both before and after flight operations begin.		System design verified by design analysis: reference 305-CD-040-002: Section 4 - paragraphs 4.1 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8. Demonstrated in Release A. Post-B	
F-FOS-00115	The EOC shall provide the following to be used in the revalidation of its functional performance: a. Benchmark test(s) b. Standard test data sets.		EOC participation in Prelaunch activities is addressed in the mission specific integration & test documentation.	
F-FOS-00120	The EOC shall provide access to the following items used in the checkout and verification process: a. Stored test data sets b. Stored test plans c. Stored test procedures.		System design verified by design analysis: reference305-CD-040-002: Section 4 - paragraphs 4.1 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8 and DID322.	
F-FOS-00125	The EOC shall be able to validate at any time during the life-time of the ECS that the EOC primary functional performance is consistent with pre-defined operational benchmark tests.		EOC will establish regression test protocols to validate system capabilities before and after system upgrade or maintenance (DID322).	

F-FOS-00130	The EOC shall be capable of verifying the fidelity of the EOC interface to: a. Other ECS components at any time during the lifetime of the ECS b. Entities external to ECS at any time during the lifetime of the ECS		EOC participation in external test is documented EOS Integration and Test documentation (DID322) and demonstrated through ECT-2.	
F-FOS-00140	The EOC shall provide a set of real or simulated functions which interfaces with both ECS internal and external entities for use in the following types of test: a. FOS Subsystems b. EOC c. ECS System (integration of ECS components) d. EOSDIS System (Integration of EOSDIS components)		EOC will maintain and system simulation capability required to system I&T once the system becomes operational. EOC functions are demonstrated during Acceptance Tests per DID322.	
F-FOS-00145	The EOC shall support end-to-end EOS system testing and fault isolation.		EOC participation in end to end testing activities are addressed in the mission specific integration & test documentation and demonstrated through ECT-2.	
F-FOS-00155	The EOC shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.		EOC participation in ETE and Prelaunch activities is addressed in the mission specific integration & test documentation and demonstrated through ECT-2.	

F-FOS-00160	The EOC shall generate the following: a. (deleted) b. EOC resource utilization report c. EOC anomaly report d. EOC maintenance report e. EOC hardware/software configuration history	Reports are generated manually by the FOT.	Requirement met through mission specific integration & test documentation. (Tivoli, VDD, and NCR/DR)	
F-FOS-00165	The EOC shall prepare a compliance report with the LTSP and LTIP.	The compliance report with the LTSP and the LTIP will be manually prepared by the Flight Operations Team (FOT).	Requirement met through M&O procedures. Post-B	
F-FOS-00220	The EOC shall support the following simultaneous activities: a. Performing mission coordination, planning, scheduling, monitoring, and commanding of the U.S. spacecraft and instruments as listed in Appendix D of the ECS Functional and Performance Specification. b. At least two of the following: mission test activities, EOC system upgrades, training, and/or maintenance.		System design verified by design analysis: reference305-CD-040-002: Section 4 - paragraphs 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8.	

F-FOS-00225	The EOC computer hardware shall be able to grow without redesign to twice the processing, storage, and network communications capacities estimated for full system operation.		System design verified by design analysis: reference305-CD-040-002: Section 4 - paragraphs 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8.	
F-FOS-00300	The EOC shall interface with the EOS Project Scientist for resolution of conflicts between instrument activities of equal priority.	This requirement will be fulfilled manually between the FOS and the Project Scientist.	Conflict resolution procedures involving EOS Project Scientists will be documented in FOT procedures. Post-B	
F-FOS-00500	FOS functions shall have an operational availability of 0.96 at a minimum (.998 design goal) and an MDT of four (4) hours or less (1.5 hour design goal), unless otherwise specified.	The above requirement covers equipment including: a. "Non-critical" equipment configured with the critical equipment supporting the functional capabilities in the requirements b. Equipment providing other functionality not explicitly stated in the RMS requirements that follow.	System design verified by design analysis. Reference 305-CD-040-002: Section 5 - paragraphs 5.2.1, 5.2.2, 5.2.3, 5.5.	

F-FOS-00505	The FOS shall have an operational availability of 0.9998 at a minimum (.99997 design goal) and an MDT of one (1) minute or less (0.5 minute design goal) for critical real-time functions that support: a. Launch b. Early orbit checkout c. Orbit adjustment d. Anomaly investigation e. Recovery from safe mode f. Routine real-time commanding and associated monitoring for spacecraft and instrument health and safety		System design verified by design analysis. Reference 305-CD-040-002: Section 5 - paragraphs 5.2.1, 5.2.2, 5.2.3, 5.5.	
F-FOS-00510	The EOC shall have no single point of failure for functions associated with real-time operations of the spacecraft and instruments.		System design verified by design analysis. Reference: 305-CD-040-002: Sections 4 and 5 - paragraphs 4.1.3, 4.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.6, 4.2.7, 4.3.3 and 5.2.1.	
F-FOS-00515	The FOS shall have an operational availability of 0.99925 at a minimum (.99997 design goal) and an MDT of five (5) minutes or less (0.5 minute design goal) for non-critical real-time functions.		System design verified by design analysis. Reference 305-CD-040-002: Section 5 - paragraph 5.5.	
F-FOS-00520	The FOS shall have an operational availability of 0.992 at a minimum and a MDT of (1) hour or less for functions associated with Targets of Opportunity.		System design verified by design analysis. Reference 305-CD-040-002: Section 4 - paragraph 4.2.3.	

F-PAS-10410	The EOC shall provide the capability to schedule S-band contingency communication contacts.		Requirement met through M&O Procedures. Post-B	
F-PAS-10415	The EOC shall provide the capability to receive S-band contingency communication contact times.		Requirement met through M&O procedures. Post-B	