

IBM System Storage TS3000 System Console (TSSC)
29th Edition (November 2012)



Maintenance Information

System Console for Service

IBM System Storage TS3000 System Console (TSSC)
29th Edition (November 2012)



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Note!

Before using this information and the product it supports, be sure to read the general information in “Notices” on page A-1.

Review “Read This First” on page iii to learn about changes since the previous edition and to see a history of previous changes to this document.

29th Edition (November 2012)

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Read This First

This Maintenance Information (MI) is intended for use only by trained, IBM service personnel.

About This Information

- Go to the Maintenance Starting Point on page 1-1 to begin all service procedures.
- Examples of screens that are depicted in this MI may appear differently for you.
- The glossary, beginning on page B-1, provides terms and abbreviations that are used throughout this MI.

What's New In This 29th Edition (November 2012)

Revision bars (I), like the one to the left of this text, appear next to information that has been added or changed since the previous edition.

Changes in this 29th Edition:

- In Chapter 2, added new Security Settings and LDAP policy information and figures.
- In Chapter 2, Figure 2-94, Console Settings to display the new Security Settings menu
- In Chapter 3, AOS relay server list was changed. Updated Table 3-5
- In Chapter 3, New subtopics added under "Fix Acquisition"

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- Exact publication title
- Form number, or part number and EC level (located on the back cover)
- Page numbers to which you are referring

Contents

Read This First	iii
About This Information	iii
What's New In This 29th Edition (November 2012)	iii
Send Us Your Feedback	iii
Figures	ix
Tables	xv
Preface	xvii
Related Information	xvii
IBM 3584 Information.	xvii
IBM 3494 Automated Tape Library Information	xvii
IBM 3953 Information.	xvii
IBM 3592 Tape Controller	xvii
IBM 3592-C06 Tape Controller	xvii
IBM System Storage TS1120, TS1130, and TS1140 Tape drives.	xviii
IBM System p (AIX) Information.	xviii
IBM 7133 SSA Disk Subsystem Information	xviii
Device Drivers Information.	xviii
Web Site Information.	xviii
Chapter 1. Maintenance Starting Point	1-1
Quick Reference Table	1-1
Console Configuration Utility Screen Menu Tree	1-2
Chapter 2. Installation	2-1
Introduction	2-1
Overview	2-1
Feature Codes	2-2
Performing Installation	2-7
Tape System Call Home Setup for TS7700 Virtualization Engine	2-13
Setting Up Autonomic Ownership Takeover Manager (AOTM)	2-16
Testing Autonomic Ownership Takeover Connectivity To A Remote Cluster.	2-19
Tape System Call Home Setup for VTS, VTC, and Tape Controllers	2-21
Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller	2-26
Using 3494 ATL or 3953 Enterprise Library Controller Web Specialist to Change System Console Settings	2-30
Test Interface	2-31
Configure Settings	2-31
Flush Queue	2-32
Set Heartbeat	2-33
Configure Interface Parameters	2-33
Tape System Call Home Setup for 3584 Tape Library	2-34
Configuration	2-36
User Login	2-36
Login Options	2-37
Non-Authenticated	2-37
Authenticated	2-37
Adding Attached System Information.	2-39
Adding a Complex System	2-41
Adding a 3584 Model SC1 Complex System.	2-43
Installing DS6000 Graphical User Interface (GUI)	2-52

Installing Storage Manager (SM) Graphical User Interface (GUI)	2-53
Installing ProtecTIER Manager Graphical User Interface (GUI)	2-56
Upgrading ProtecTIER Manager Graphical User Interface (GUI)	2-58
Console Settings	2-60
Customizing Firewall Settings	2-69
Configuring Call Home Settings Electronic Customer Care	2-71
Initializing System Console Serial Port for connection to local devices	2-78
Setting Baud Rate for System Console Serial Port from System Console	2-78
Setting Baud Rate for System Console Serial Port from Remote Connection	2-80
Backing Up Configuration Data	2-80
Scheduling Configuration Backups	2-82
Restoring Configuration Data	2-83
Setting Console Date and Time	2-85
Test RETAIN Connection - During Installation	2-87
Test Electronic Customer Care (ECC) Connectivity	2-88
Logging Out of System Console	2-90
Test Call Home for 3494 VTS, VTC, 3590 A60, 3592 J70, and 3592 C06	2-90
Test Call Home Notification for 3494 ATL or 3953 Enterprise Library Controller	2-91
Setup for Remote Data Monitoring (VTS, VTC, A60, J70, C06)	2-92
Setup for Remote Data Monitoring (3494 ATL or 3953 Enterprise Library Controller)	2-96
Chapter 3. Procedures	3-1
Service Tools	3-1
Telnet to Attached Tape System	3-1
Telnet to Grid TSSC	3-2
Tape System Service Information (VTS, VTC, A60, J70, C06) - [Code Level Below V5.3]	3-4
Creating Attached Subsystems List	3-6
Remote Code Broadcast By Using the Web Interface	3-8
Tape Drive Service Information	3-12
Tape Drive Code Broadcast From Web Interface	3-16
Remote Access Using NetTerm	3-19
Configure NetTerm for Accessing a System Console's Modem	3-19
Connecting to a System Console's Modem	3-21
Call Home Queue Management	3-23
Failed Queue Management	3-26
Call Home Event Log	3-29
Offloading User Files	3-30
Starting and Stopping ALC (Automated Log Collector)	3-32
Configuring Assist On-Site (AOS)	3-41
Offloading User Files to Call Home Database (For Remote Users)	3-46
Console PE Package	3-48
Retrieving Subsystem Logs	3-49
Console Status	3-54
Console Message File	3-54
Test RETAIN Connection - As a Service Procedure	3-55
Console VPD	3-56
RAS Menus	3-56
Local access	3-57
Remote access	3-57
Taking Console Screenshots	3-57
Console Code Update	3-59
Code Load/Hard Drive Rebuild	3-60
Disk Rebuild and Configuration Restore	3-61
System Console Specialist	3-62
Customer Access to System Console via Specialist	3-62
Tape Drive Code Update via Specialist	3-62

Launching Specialists	3-65
Administer Users	3-65
Error or Defer Matrix Updates	3-66
Launching DS6000 Graphic User Interface (GUI)	3-68
Launching Storage Manager (SM) Graphic User Interface (GUI)	3-71
Launching ProtecTIER Manager Graphical User Interface (GUI)	3-73
Accessing Subsystem Interfaces	3-73
Managing InfoCenter From Web Interface.	3-74
Importing InfoCenter From CD-ROM.	3-76
Launching InfoCenter	3-76
Delete InfoCenter.	3-77
Updating TS7700 Cache Controller Microcode	3-77
Resetting Modem.	3-78
Opening SSH Tunnel	3-79
Sending User Feedback	3-80
Adding PFE Execs From Web Interface	3-80
Mksysb Broadcast from the Web Interface	3-82
Setting 3958 and 3592 SNMP Trap Forwarding.	3-85
Tape System Reporter (TSR)	3-85
Fix Acquisition	3-86
VTD Downloads	3-88
Fix Acquisitions General Settings	3-88
Fix Acquisition Report	3-88
Mount/Unmount USB or CD-ROM.	3-89
Mount/Unmount USB or CD-ROM Remotely	3-89
 Chapter 4. Repair/Troubleshooting	4-1
System Console Repair	4-1
Troubleshooting the TS3000 System Console.	4-1
Parts List	4-2
 Notices	A-1
Trademarks	A-2
Compliance Statements.	A-3
Federal Communications Commission (FCC) Class A Statement.	A-3
Industry Canada Class A Emission Compliance Statement	A-3
Avis de conformité à la réglementation d'Industrie Canada	A-3
Taiwan Class A Electronic Emission Statement	A-3
Taiwan Contact Information	A-3
Japan VCCI Council Class A Statement	A-4
European Union EMC Directive Conformance Statement	A-4
 Glossary	B-1
 Index	X-1
 How to send your comments	Y-1

Figures

1-1.	System Console Login Screen	1-1
2-1.	System Console Connection Diagram.	2-2
I 2-2.	Network Connection Diagram – x3250 M4, Type 2583 (FC 2704, FC 2734).	2-3
2-3.	Network Connection Diagram – x3250 M3, Type 4252 Model PCJ (FC 2722, FC 2732)	2-3
2-4.	Network Connection Diagram – 7946-PAR (FC 2722, FC 2732)	2-3
2-5.	Network Connection Diagram – 7946-PAR (FC 2722, FC 2732)	2-3
2-6.	Network Connection Diagram – 8836 (3953 Only) (FC 2718, FC 2719)	2-5
2-7.	Network Connection Diagram – 8849 (FC 2719, FC 2721)	2-6
2-8.	Network Connection Diagram – 7978 (FC 2719, FC 2721)	2-6
2-9.	Network Connection Diagram – 8482, 8485 (FC 2719, FC 2720).	2-6
2-10.	Network Connection Diagram – 4362 (FC 2719, FC 2720)	2-7
I 2-11.	Cables Plugged into the TSSC Server	2-11
2-12.	Securing the USB Modem to the Frame.	2-12
2-13.	Call Home / Remote Services Menu – Virtualization Engine Maintenance	2-13
2-14.	Subsystem Configuration Menus	2-13
2-15.	Call Home / Remote Services Menu – TCP/IP Configuration	2-14
2-16.	Set Service Console (TSSC) Customer Network Configuration Menu.	2-14
2-17.	Change / Show Call Home / Remote Services Menu.	2-15
2-18.	Call Home – Remote Data Monitoring Menu	2-15
2-19.	Autonomic Ownership Takeover Manager (AOTM) Layout	2-16
2-20.	Setting Local Grid TSSC IP Address.	2-17
2-21.	Selecting a Remote Cluster	2-17
2-22.	Configuring AOTM To Remote Cluster	2-17
2-23.	Warning Message for Processing AOTM To a Remote Cluster	2-18
2-24.	Processing AOTM To a Remote Cluster	2-18
2-25.	TSSC Firewall Settings	2-19
2-26.	Initiating Remote AOTM Cluster Test	2-19
2-27.	Testing AOTM Connectivity To Remote Cluster	2-20
2-28.	Verifying AOTM Change	2-20
2-29.	Processing AOTM Changes	2-20
2-30.	VTS,VTC, A60 , J70 & C06 Call Home / Remote Services Menu – Switch Call Home Selection	2-21
2-31.	Switch Call Home/Remote Services to/from System Console.	2-22
2-32.	Change / Show Modem Configuration	2-22
2-33.	3592-C07 - Subsystem Configuration Menus - Show / Change TSSC Connection	2-23
2-34.	Enable Call Home	2-23
2-35.	3592-C07 Subsystem Configuration Menus -> Call Home / Remote Services Menu	2-24
2-36.	Models VTS, VTC, A60 , J70 & C06 - Switch Call Home / Remote Services to/from System Console – IP Address	2-24
2-37.	Call Home / Remote Services Menu	2-25
2-38.	Minimum Configuration and Startup Menu.	2-25
2-39.	Plug Ethernet Cable Here (3494)	2-27
2-40.	Command Process Window List – Example	2-27
2-41.	Manage System Console Dialog Box	2-28
2-42.	3494 ATL or 3953 Specialist Settings	2-29
2-43.	3494 ATL or 3953 Web Specialist - Welcome Page	2-30
2-44.	3494 ATL Web Specialist - Test Interface	2-31
2-45.	3494 ATL Web Specialist - Configure Settings	2-32
2-46.	3494 ATL Web Specialist - Flush Queue	2-32
2-47.	3494 ATL Web Specialist - Set Heartbeat	2-33
2-48.	3494 ATL Web Specialist - Configure Interface Parameters	2-34
2-49.	Remote Serviceability via System Console	2-35
2-50.	Console Login Screen – Example.	2-37

2-51.	Authentication Menu – Sample	2-38
2-52.	System Console Main Menu.	2-39
2-53.	Login Username and Password Screen	2-40
2-54.	Console Configuration Utility Screen.	2-40
2-55.	Add System Screen	2-41
2-56.	Complex System Screen	2-42
2-57.	Add New Complex System Screen - 1	2-42
2-58.	Add New Complex System Screen - 2	2-42
2-59.	3584 Complex Screen	2-43
2-60.	Add Complex Screen	2-43
2-61.	3584 Complex Added	2-44
2-62.	Add Library	2-44
2-63.	Add Library to 3584 Complex	2-45
2-64.	Add Library	2-45
2-65.	Add Second Library in Shuttle Span	2-46
2-66.	Discover Connections	2-46
2-67.	Select System Where Car Located	2-47
2-68.	Select Station	2-47
2-69.	Execute Select Station	2-47
2-70.	Distribute Connections - Select Next Library in Shuttle String.	2-48
2-71.	Select Station	2-48
2-72.	Select Station - Execute	2-49
2-73.	Web UI Shuttle View	2-49
2-74.	Web UI Shuttle View	2-50
2-75.	Connection Verify.	2-50
2-76.	View/Set Connection Serial	2-51
2-77.	Connection Serial Number	2-51
2-78.	Install DS6000 GUI	2-52
2-79.	Welcome Screen	2-53
2-80.	Introduction Screen	2-53
2-81.	Copyright Statement.	2-54
2-82.	License Agreement	2-54
2-83.	Overwrite Warning	2-54
2-84.	Select Custom Installation Type	2-54
2-85.	Make sure the checkbox next to the Support Monitor entry is NOT selected. All other entries should remain checked.	2-55
2-86.	Pre-Installation Summary	2-55
2-87.	Installing the GUI.	2-55
2-88.	Install Complete	2-56
2-89.	Introduction to ProtecTIER GUI Manager InstallAnywhere Screen	2-57
2-90.	Pre-Installation Summary Screen	2-57
2-91.	Uninstall ProtecTIER Manager Window.	2-58
2-92.	Introduction Screen	2-59
2-93.	Pre-Installation Summary Screen	2-59
2-94.	Console Settings	2-61
2-95.	Security Settings	2-63
2-96.	Creating Storage Authentication Policy	2-65
2-97.	Creating LDAP Policy	2-66
2-98.	Policies Panel	2-67
2-99.	Test Policy	2-67
2-100.	SSL Certificates Page	2-68
2-101.	Customize Firewall Settings	2-70
2-102.	General Settings Screen (Call Home and Heartbeat).	2-71
2-103.	Unlock Call Home	2-72
2-104.	Site Location Settings Screen	2-74
2-105.	Call Home Phone Settings Screen	2-74

2-106.	Machine Settings Screen	2-75
2-107.	Disposition Settings Screen	2-76
2-108.	SNMP Settings screen	2-77
2-109.	AOS Settings Screen	2-78
2-110.	Serial Port Selection on System Console Screen	2-79
2-111.	Baud Rate Screen - From System Console	2-79
2-112.	Baud Rate Screen - From Remote Connection	2-80
2-113.	Backup Configuration Data Screen	2-81
2-114.	Offload Schedule Screen	2-83
2-115.	Restore Configuration Data Screen	2-84
2-116.	Restore Remote Host	2-85
2-117.	Console Time and Date	2-86
2-118.	Stop NTP Server Screen	2-87
2-119.	Start NTP Server Screen	2-87
2-120.	Test RETAIN Connection Request Screen - During Installation	2-88
2-121.	Test RETAIN Connection Results Screen - During Installation	2-88
2-122.	Test ECC Connectivity Screen	2-89
2-123.	ECC Test in progress showing successful connections being made	2-89
2-124.	Sample output showing ECC IP addresses and ports	2-90
2-125.	Call Home / Remote Services Menu – Send Test Notification Menu	2-90
2-126.	Send Test Notification Menu – Service Notification	2-91
2-127.	Send Notification Test Result Menu – Waiting	2-91
2-128.	Call Home Dialog Box	2-92
2-129.	Subsystem Configuration Menu – Call Home / Remote Services Menu	2-92
2-130.	Call Home / Remote Services Menu – Remote Data Monitoring.	2-93
2-131.	Remote Data Monitoring Menu – Change / Show Call Home Heartbeat Interval	2-93
2-132.	Remote Data Monitoring Menu	2-94
2-133.	Remote Data Monitoring Menu – Error Initiated Call Home Data Gathering Disabled	2-94
2-134.	Remote Data Monitoring Menu – Error Initiated Call Home Data Gathering Results	2-95
2-135.	Remote Data Monitoring Menu – Error Initiated Call Home Data Gathering Enabled	2-95
2-136.	COMMAND STATUS Screen – Running	2-96
2-137.	COMMAND STATUS Screen – OK	2-96
3-1.	Telnet to Attached Tape System – Selecting	3-1
3-2.	Telnet to Attached Tape System – Connection Successful	3-2
3-3.	Telnet to Grid TSSC	3-3
3-4.	Attached Systems List	3-3
3-5.	Tape System Service Information – Main Screen.	3-4
3-6.	Tape System Service Information – Events	3-5
3-7.	Tape System Service Information – Event Detail	3-6
3-8.	Attached Subsystems List Screen	3-7
3-9.	Health and Events Report Screen Example	3-8
3-10.	Remote Code Broadcast Options	3-9
3-11.	Choose Systems for Code Broadcast	3-10
3-12.	Remote Code Broadcast Log File	3-11
3-13.	Tape Drive Service Information – Main Screen	3-12
3-14.	Tape Drive Service Information – Tape Drive Error Log Details Screen	3-13
3-15.	Tape Drive Service Information – Tape Drive Status Screen	3-14
3-16.	View Tape Drive Service Information – Code Level V3.1.0 or Above	3-15
3-17.	File Viewer Showing a File Generated by Tape Drive Service Information – Code Level V3.1.0 or Above	3-15
3-18.	Drive Code Broadcast Web Interface	3-16
3-19.	Drive code listing	3-17
3-20.	The broadcast screen will display all available code images and valid broadcast targets.	3-18
3-21.	Display showing tape drive information for a selected system	3-19
3-22.	Enter Password Screen	3-21
3-23.	Connect to System Console Modem Screen	3-21

3-24.	Userid Screen	3-22
3-25.	Enter Password Screen	3-22
3-26.	Choose System Prompt	3-23
3-27.	Logout.	3-23
3-28.	Call Home Queue Management - Main Screen	3-23
3-29.	Call Home Queue Management – Call Home Queue Entry Details.	3-25
3-30.	Call Home Queue Management – Offload Queue Entry to Diskette	3-25
3-31.	Call Home Queue Screen.	3-26
3-32.	Call Home Queue Management	3-27
3-33.	Call Home Queue Management	3-28
3-34.	Failed Queue Log File	3-28
3-35.	Call Home Event Log	3-29
3-36.	Call Home Event Log entries showing the Detail link.	3-29
3-37.	Detailed Event Log Information.	3-30
3-38.	Offload User Files Menu Example.	3-31
3-39.	Subsystem Log Retrieval	3-32
3-40.	Select Logs	3-32
3-41.	Select Attached System	3-33
3-42.	Successfully Started ALC	3-34
3-43.	Subsystem Log Retrieval	3-34
3-44.	Select Logs	3-35
3-45.	Select Attached System	3-35
3-46.	Successfully Stopped ALC	3-36
3-47.	Start an ALC Process	3-36
3-48.	Start an ALC Process	3-37
3-49.	Start an ALC Process	3-37
3-50.	Start an ALC Process	3-38
3-51.	Start an ALC Process	3-38
3-52.	Start an ALC Process	3-39
3-53.	Start an ALC Process	3-39
3-54.	Start an ALC Process	3-40
3-55.	Stop an ALC Process	3-40
3-56.	Stop an ALC Process	3-41
3-57.	Stop an ALC Process	3-41
3-58.	AOS Manager Functions	3-42
3-59.	AOS Manager Functions	3-43
3-60.	Manage Port Forwarding Interface	3-44
3-61.	Proxy Example	3-45
3-62.	Port Forwarding Target List	3-46
3-63.	Offload Files to Call Home	3-47
3-64.	Data ID Sample	3-47
3-65.	Create Console PE Package Menu	3-49
3-66.	Create Console PE Package Menu	3-50
3-67.	Subsystem Log Retrieval Menu	3-50
3-68.	Retrieve Log - 3957 Menu	3-51
3-69.	Retrieve Log - 3592 Menu	3-51
3-70.	Retrieve Log - Library Manager	3-52
3-71.	Retrieve Log - 3584	3-53
3-72.	Retrieve Log - 3958	3-53
3-73.	Console Message File Screen	3-54
3-74.	Message File Screen	3-55
3-75.	Test RETAIN Connection Request Screen - As a Service Procedure	3-55
3-76.	Test RETAIN Connection Results Screen - As a Service Procedure	3-56
3-77.	Console VPD Screen	3-56
3-78.	The top-level menu as displayed in a terminal window	3-57
3-79.	Pre-Installation Menu	3-60

3-80.	Prompt for TSSC Product Recovery CD	3-61
3-81.	VTs, VTC, or Tape Controller Error or Defer Matrix Update Menu	3-66
3-82.	Error or Defer Matrix Update Menu	3-67
3-83.	Error or Defer Matrix Menu - Apply Update	3-67
3-84.	Error or Defer Matrix Menu - Compatible Systems.	3-67
3-85.	Error or Defer Matrix Menu - Systems Selection Broadcast	3-68
3-86.	Error or Defer Matrix Menu - Available Updates.	3-68
3-87.	DS6000 GUI Login Username and Password Screen	3-69
3-88.	Reset DS6000 GUI Password Screen	3-69
3-89.	Storage Manager Welcome Screen	3-70
3-90.	Storage Complexes : Real-time Screen.	3-70
3-91.	Add Storage Complex Screen	3-71
3-92.	Storage Manager GUI Initial Screen	3-72
3-93.	Main Configuration Screen	3-74
3-94.	System Selection Screen	3-74
3-95.	Manage InfoCenter from Web Interface.	3-75
3-96.	Different InfoCenter levels installed	3-75
3-97.	Insert InfoCenter CD Screen	3-76
3-98.	Launching InfoCenter Window	3-77
3-99.	Select Save Location Screen	3-77
3-100.	TS7700 Cache Microcode Copy Complete Screen	3-78
3-101.	Modem Reset Settings.	3-79
3-102.	SSH Tunnel Settings	3-80
3-103.	Adding PFE Exec from Web Interface	3-81
3-104.	PFE Exec Patch	3-81
3-105.	Multiple patch options	3-82
3-106.	Mksysb Broadcast Screen	3-83
3-107.	Mksysb Broadcast Screen - DVD Copy OK	3-83
3-108.	DVD Copy for Mksysb Broadcast	3-84
3-109.	Choose Systems for Code Broadcast	3-84
3-110.	Enabling ProtecTIER SNMP Trap Forwarding	3-85
3-111.	Enabling Control Unit SNMP Trap Forwarding	3-85
I 3-112.	Fix Acquisition Main Menu	3-86
I 3-113.	Fix Acquisition Updates	3-87
I 3-114.	Fix Acquisition Success	3-87
I 3-115.	Fix Acquisition VTD Downloads	3-88
I 3-116.	Fix Acquisition General Settings	3-88
3-117.	Fix Acquisition Report	3-89

Tables

1.	Information Web Site URLs	xviii
1-1.	Maintenance Starting Point - Quick Reference Table	1-1
1-2.	Console Configuration Utility Screen Menu Items	1-2
2-1.	System Console Components	2-2
2-2.	Current TSSC Feature Codes.	2-2
2-3.	Installation Prerequisites	2-7
2-4.	Console Configuration Sheet – Sample	2-9
2-5.	Console Configuration Sheet – Actual.	2-9
2-6.	Code Level 10.50 or Greater Installation Screens	2-53
2-7.	URL Table	2-73
3-1.	Color Indications for Health Check	3-7
3-2.	Code Load Status Messages - From Web Interface	3-11
3-3.	Call Home Record Types	3-24
3-4.	"Offload User Files" Options.	3-31
I 3-5.	Assist On-Site Table.	3-42
3-6.	Console Status Tool Function	3-54
3-7.	Code Upgrade Table	3-59
3-8.	Control Unit Error Codes	3-63
3-9.	Single Drive Error Codes	3-64
3-10.	TSSC IP Addresses	3-73
4-1.	Troubleshooting.	4-1

Preface

This manual is for use by service personnel who intend to install, remove, diagnose, repair, or test the IBM TS3000 System Console.

Related Information

Additional information related to the system console is available in the following publications:

- *IBM Virtualization Engine TS7700 Information Center*
- *IBM Virtualization Engine TS7700 Installation Roadmap for use with IBM System Storage TS3500, IBM 3584 Tape Library*
- *Systems Safety Notices* (formerly known as "eServer Safety Notices"), G229-9054

IBM 3584 Information

Additional information related to the IBM 3584 Automated Tape Library is available in the following publications:

- *IBM System Storage TS3500 Tape Library with ALMS Introduction and Planning Guide*, GA32-0593
- *IBM System Storage TS3500 Tape Library with ALMS Operator Guide*, GA32-0594
- *IBM System Storage TS3500 Tape Library SCSI Reference*, GA32-0561
- *IBM System Storage TS3500 Tape Library (3584) Maintenance Information*

IBM 3494 Automated Tape Library Information

Additional information related to the IBM 3494 Automated Tape Library is available in the following publications:

- *IBM 3494 Tape Library Operator's Guide*, GA32-0449
- *IBM 3494 Tape Library Operator's Quick Reference*, GX35-5049
- *IBM 3494 Tape Library Operator's Introduction and Planning Guide*, GA32-0448
- *IBM 3494 Tape Library Maintenance Information*

IBM 3953 Information

Additional information related to the IBM 3953 is available in the following publications:

- *IBM System Storage 3953 Tape System Introduction and Planning Guide*, GA32-0557
- *IBM System Storage 3953 Library Manager L05 Operator Guide*, GA32-0558
- *IBM 3953 Installation Road Map*

IBM 3592 Tape Controller

Additional information related to the IBM 3592 Tape Controller is available in the following publications:

- *IBM TotalStorage 3592-C07 Installation Roadmap Guide*
- <http://publib.boulder.ibm.com/infocenter/etc/serv/index.jsp>
- <http://publib.boulder.ibm.com/infocenter/etc/cust/index.jsp>

IBM 3592-C06 Tape Controller

Additional information related to the IBM 3592 Tape Controller is available in the following publications:

- *IBM System Storage TS1120 Tape Controller, 3592 C06 Maintenance Information, IBM 3592 Model C06 (MI)*
- *IBM System Storage 3592 Tape Drives and TS1120 Controller Operator Guide 3592 Models J1A, E05, E06, EU6, E07, J70 and C06 (Op Guide)*

- IBM System Storage 3592 Tape Drives and TS1120 Controller Introduction and Planning Guide 3592 Models J1A, E05, E06, EU6, E07, J70 and C06 (IPG)

IBM System Storage TS1120, TS1130, and TS1140 Tape drives

Additional information related to the IBM System Storage TS1120, TS1130, and TS1140 is available in the following publications:

- IBM System Storage 3592 Tape Drives and TS1120 Controller Introduction and Planning Guide 3592 Models J1A, E05, E06, EU6, E07, J70 and C06 (IPG)

IBM System p (AIX) Information

See “Web Site Information” for access to the latest System p information and publications.

IBM 7133 SSA Disk Subsystem Information

Additional information related to the 7133 SSA Disk Subsystem and software is available in the following publications:

- *7133 SSA Disk Subsystem: Operator Guide*, GA33-3259
- *7133 SSA Disk Subsystem: Service Guide*, SY33-0185
- *7133 Models D40 and T40 Serial Disk Systems: Service Guide*, GY33-0192
- *7133 Models D40 and T40 Serial Disk Systems: D40 Installation Guide*, GA33-3279
- *7133 Models 010 and 020 SSA Disk Subsystem Installation Guide*, GA33-3260
- *Adapters, Devices, and Cable Information for Micro Channel Bus Systems*, SA23-2764
- *SSA Adapters: User's Guide and Maintenance Information*, SA33-3272

Device Drivers Information

- *IBM Tape Device Drivers Installation and User's Guide*, GC27-2130

Web Site Information

Table 1. Information Web Site URLs

IBM® RMSS product manuals	http://www.storage.ibm.com/hardsoft/tape/pubs/pubs3592.html
Minimum microcode requirements	http://www-03.ibm.com/servers/storage/tape/drives/
FIPS PUB 140-2, Security Requirements for Cryptographic Modules	http://www.itl.nist.gov/fipspubs/
RMSS PFE home page	http://snjInt02.sanjose.ibm.com/tape/tapetec.nsf
Fix Central	http://www.ibm.com/support/fixcentral
Device drivers	ftp://ftp.software.ibm.com/storage/devdrv/Doc/
Terms not found in Glossary	www-01.ibm.com/software/globalization/terminology/index.jsp

Chapter 1. Maintenance Starting Point

Complete this task before starting any maintenance activity.

Attention: Some system console keyboards include an integral USB port. Do not use this USB port while using the system console.

Before beginning any maintenance activity using the IBM TS3000 System Console (System Console or TSSC, for short), you must determine the proper microcode (code) level of the System Console.

1. Go to the TS3000 System Console Screen Login screen and determine the code level.
2. Refer to the TSSC documentation for your symptom or reason.

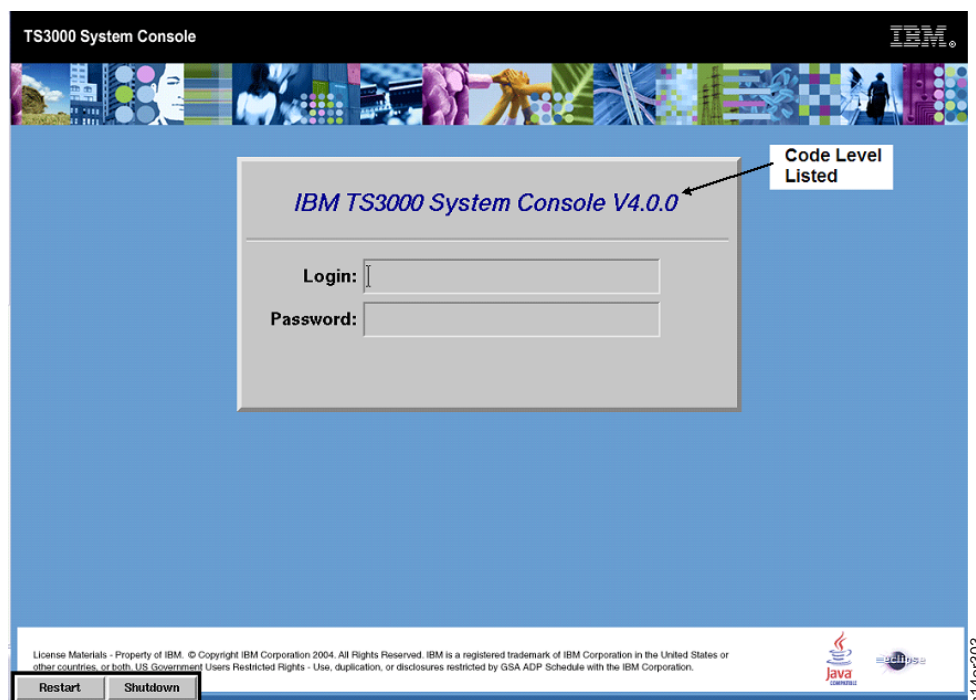


Figure 1-1. System Console Login Screen. - Code Level Listed

Quick Reference Table

Table 1-1. Maintenance Starting Point - Quick Reference Table. For Code Level V3.0.0 and Above

If you are here to then go to this section:
Install new System Console	"Performing Installation" on page 2-7
Configure remote system	"Tape System Call Home Setup for VTS, VTC, and Tape Controllers" on page 2-21 "Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller" on page 2-26
Configure System Console	"Configuration" on page 2-36
Authenticate login (password broadcast)	"Login Options" on page 2-37
Load code	"Code Load/Hard Drive Rebuild" on page 3-60
Rebuild hard drive	"Code Load/Hard Drive Rebuild" on page 3-60
Repair the System Console	"System Console Repair" on page 4-1

Table 1-1. Maintenance Starting Point - Quick Reference Table (continued). For Code Level V3.0.0 and Above

If you are here to then go to this section:
Restore configuration data	"Restoring Configuration Data" on page 2-83
Setup for remote data monitoring	"Setup for Remote Data Monitoring (VTS, VTC, A60, J70, C06)" on page 2-92 -- OR -- "Setup for Remote Data Monitoring (3494 ATL or 3953 Enterprise Library Controller)" on page 2-96
Telnet to an attached tape system	"Telnet to Attached Tape System" on page 3-1
Access system remotely	"Remote Access Using NetTerm" on page 3-19
Broadcast control unit code	"Remote Code Broadcast By Using the Web Interface" on page 3-8
Broadcast tape drive code	"Tape Drive Code Broadcast From Web Interface" on page 3-16
Set date and time	"Setting Console Date and Time" on page 2-85
Notes: <ul style="list-style-type: none"> If you are here to isolate or repair a PC problem, refer to the Maintenance Information (MI) for your PC. A softcopy of the IBM MI for the PC may be found on the Documents CD which shipped with the System Console. For the latest System Console information, go to the PFE website at: http://snj1nt02.sanjose.ibm.com/tape/tapetec.nsf/pages/TSSCinfo 	

Console Configuration Utility Screen Menu Tree

Table 1-2 provides a graphic view of the relationship of Console Configuration Utility screen menu items. These items appear on the screen shown in Figure 2-54 on page 2-40.

Table 1-2. Console Configuration Utility Screen Menu Items

Function Name	Screen Selection and Location
Attached Systems	Figure 2-55 on page 2-41
Backup/Restore <ul style="list-style-type: none"> Backup Console Configuration Data Restore Console Configuration Data 	<ul style="list-style-type: none"> Figure 2-113 on page 2-81 Figure 2-115 on page 2-84
Call Home Queue	Figure 3-28 on page 3-23
Call Home Settings <ul style="list-style-type: none"> General Settings Location Settings Phone Settings Machine Settings Disposition Settings 	<ul style="list-style-type: none"> Figure 2-102 on page 2-71 Figure 2-104 on page 2-74 Figure 2-105 on page 2-74 Figure 2-106 on page 2-75 Figure 2-107 on page 2-76
Console Settings <ul style="list-style-type: none"> IP Settings Custom Firewall Settings 	<ul style="list-style-type: none"> Figure 2-94 on page 2-61 Figure 2-101 on page 2-70
Console Status <ul style="list-style-type: none"> Console Message File Test RETAIN Connection Console VPD Test ECC Connectivity 	<ul style="list-style-type: none"> Figure 3-73 on page 3-54 Figure 2-120 on page 2-88 Figure 3-77 on page 3-56 Figure 2-122 on page 2-89
Console Time	Figure 2-117 on page 2-86
Fix Acquisition	"Fix Acquisition" on page 3-86
Modem Transmission	Query Modem Transmission (not shown)
Network Information	(Not shown)

Table 1-2. Console Configuration Utility Screen Menu Items (continued)

Function Name	Screen Selection and Location
Offload User Files	Figure 3-38 on page 3-31
PE Packages <ul style="list-style-type: none"> • System Console PE Package • Subsystem Log Retrieval 	<ul style="list-style-type: none"> • Figure 3-65 on page 3-49 • Figure 3-67 on page 3-50
System Interfaces	Figure 3-94 on page 3-74
System tools	<ul style="list-style-type: none"> • “Remote Code Broadcast By Using the Web Interface” on page 3-8 • “Tape Drive Code Broadcast From Web Interface” on page 3-16 • “Managing InfoCenter From Web Interface” on page 3-74 • “Adding PFE Execs From Web Interface” on page 3-80

Chapter 2. Installation

Introduction

The System Console can provide remote support for as many as forty-three attached tape systems. Remote support capabilities of the System Console, in conjunction with tape systems, include:

- Call Home problem reporting capability with staged, error-specific Data Gathering for support
- Call-in capability with authenticated access (via modem) including file transfer and multiple connections with attached systems
- Simultaneous call home and call-in capability using dual modems (not available with IBM 3953 models)
- Automatic wellness checking for attached systems
- Ability to defer certain types of call home activity to specific business hours
- Automatic archival of log files for most attached tape systems for subsequent support reference
- Automatic download and storage of new tape drive code images via modem connection with IBM Remote Technical Assistance Information Network (RETAIN)

Additionally, the System Console provides a convenient focal point for local service activities within the data center. The System Console is attached via 100 Mbps ethernet to each tape system. Many tape system service functions may actually be performed at the console. The System Console provides the following local service tool applications:

- Ability to telnet to multiple tape systems and simultaneously perform multiple service tasks from the System Console
- Graphic user interface for tape system and tape drive service diagnostic utilities
- Ability to broadcast control unit and tape drive code images to tape systems for subsequent activation from the System Console
- Diagnostic tools for verifying communications with IBM RETAIN
- Graphic user interface for configuring, backing up, and restoring System Console settings

The System Console is available as Feature Code 2724 for use with 3592 C07, 3952 F05, 3584 L23/L53, and 3958 AP1/DD5.

The data gathered during the call home process is available for IBM support personnel on the RMSS Call Home Database at:

<https://callhomedata.tucson.ibm.com>

Overview

Use Figure 2-1 on page 2-2 with Table 2-1 on page 2-2 as a representation of a potential connection scheme for the System Console.

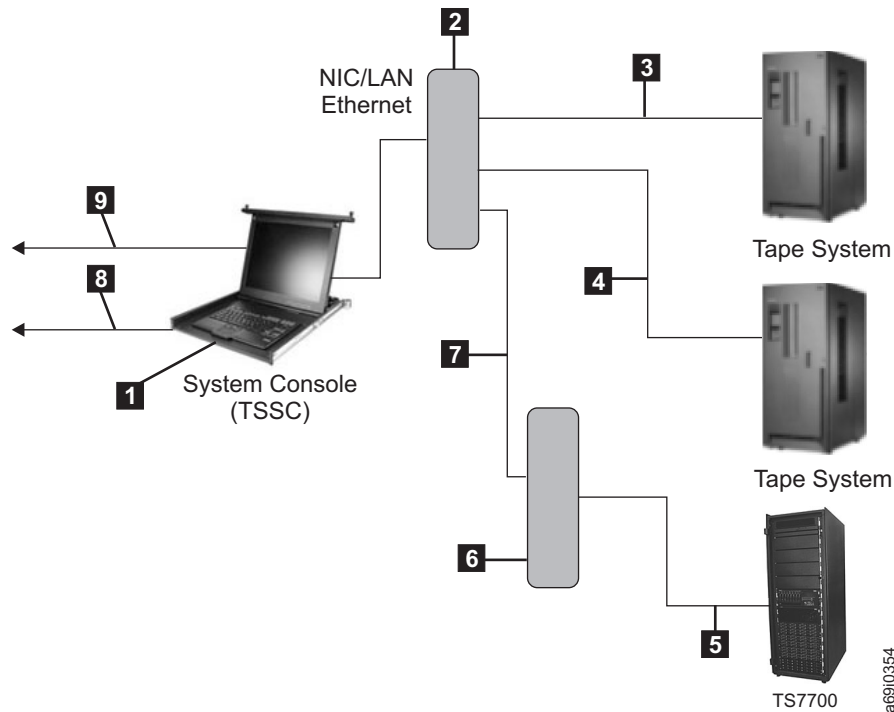


Figure 2-1. System Console Connection Diagram. Use with Table 2-1

Table 2-1. System Console Components. Use with Figure 2-1.

- | | |
|------------------------------------|--|
| 1 Serial connector | 6 Ethernet expansion FC 2714 |
| 2 Ethernet Switch FC 2722/2732 | 7 Cable supplied with FC 2714 |
| 3 Cable supplied with FC 2722/2732 | 8 Second modem FC 2716 (not on all RMSS products) |
| 4 Cable supplied with FC 2715 | 9 Customer supplied Ethernet connection FC 2722/2732 |
| 5 Cable supplied with FC 2714 | |

Note: Outbound modems can be replaced with high-speed internet connections.

Feature Codes

Feature Code 2715 (Cable Attachment / Console Attachment)

- This Cable Attachment (console attachment) feature drives a single 15.2-m (50-ft) ethernet cable for downstream-attached tape systems.
- For an IBM 7588, you will be shipped a four-port card and an ethernet cable.

Table 2-2. Current TSSC Feature Codes

3958 DD5	3958 AP1	3592 C07	3952 F05	3584 L23/D53
FC2704 26 Port switch	FC2702 16 Port switch	FC2704 26 Port switch	FC2704 26 Port switch	FC2704 26 Port switch
FC2724 TSSC M4 server	FC2724 TSSC M4 server	FC2724 TSSC M4 server	FC2724 TSSC M4 server	FC2724 TSSC M4 server
FC2734 External USB Modem	FC2734 External USB Modem	FC2734 External USB Modem	FC2734 External USB Modem	FC2734 External USB Modem
FC5512 Monitor/Keybd/Mouse	FC5512 Monitor/Keybd/Mouse	FC5512 Monitor/Keybd/Mouse	FC5512 Monitor/Keybd/Mouse	FC5512 Monitor/Keybd/Mouse

The server you received may be one of the following types as shown below.

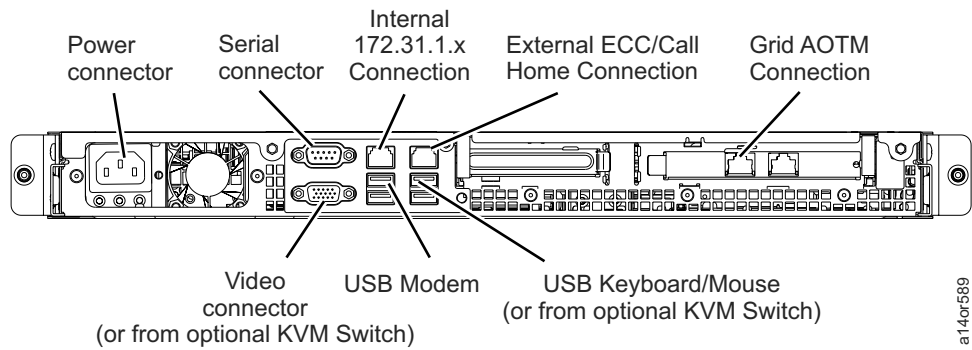


Figure 2-2. Network Connection Diagram – x3250 M4, Type 2583 (FC 2704, FC 2734)

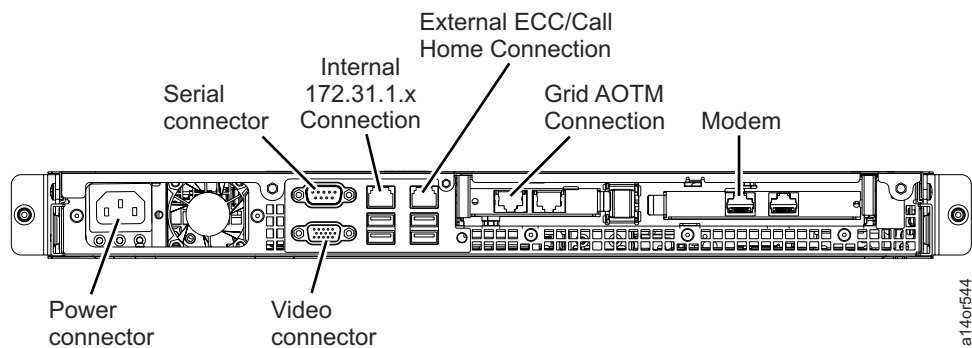


Figure 2-3. Network Connection Diagram – x3250 M3, Type 4252 Model PCJ (FC 2722, FC 2732)

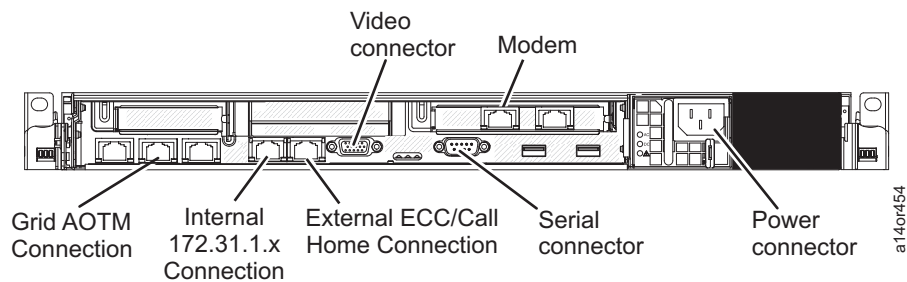


Figure 2-4. Network Connection Diagram – 7946-PAR (FC 2722, FC 2732)

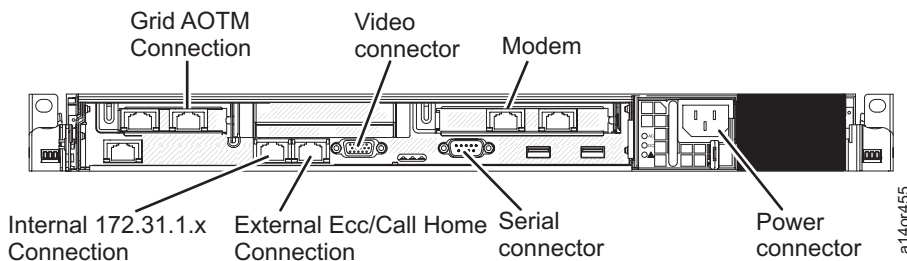


Figure 2-5. Network Connection Diagram – 7946-PAR (FC 2722, FC 2732)

Feature Code 2733 (TS3000 System Console Internal Modem)

This feature provides an internal modem and customer phone line (wall) adapter based on country order.

**** Feature Codes (Withdrawn) ****

Feature Code 2732 (Rack Mount TS3000 System Console. Available via Factory or MES)

This feature provides the enhanced rack-mountable TS3000 System Console, an Ethernet switch, an Ethernet cable, KVM cables, console kit, and connectors for connection of one machine to an IBM supplied internal or USB modem to enable remote enhanced service. This feature is an enhanced replacement of the IBM TS3000 System Console for Service (#2730). It includes console upgrade previously provided as FC #2719 (Memory upgrade to 4 GB total RAM and a second Ethernet card for the Service Console to allow redundant connections into the service network). This feature applies to 3958, 3593, and 3592 machine types.

Feature Code 2714 (LAN Attachment Expansion / Console Expansion)

- The LAN Attachment Expansion (Console Expansion) feature is required when additional LAN ports are required. Uplink ports are used to connect the network switches.

Note: This feature code also can be used on a 3953 Enterprise Library Controller, so you can use an existing feature code 2720 as the System Console.

Feature Code 2722 (Rack Mount TS3000 System Console. Available via Factory or MES)

This feature provides the enhanced rack-mountable TS3000 System Console, an Ethernet switch, an Ethernet cable, KVM cable, and connectors for connection of one machine to an IBM supplied internal modem to enable remote enhanced service. This feature is an enhanced replacement of the IBM TS3000 System Console for Service (#2721). Includes console upgrade previously provided as FC #2719 (Memory upgrade to 4 GB total RAM and a second Ethernet card for the Service Console to allow redundant connections into the service network). This feature applies to 3958, 3593, and 3592 machine types.

Feature Code 2716 (Second Modem) (not available for 3953)

- The Second Modem feature enables simultaneous, inbound and outbound communication (when two analog lines are provided) with the System Console. The feature includes an MT5600 BA external modem and a serial cable.

Notes:

- The Second Modem feature requires two analog telephone lines for simultaneous inbound and outbound communication. The system can be configured to operate with one modem.
- When two modems are installed, the modem on COM1 can be configured to be the inbound modem, and the modem on COM2 can be configured to be the outbound modem. If only one modem is installed, it must be installed on COM1. It will be used for inbound and outbound communication.

Feature Code 2717 (3592 A60 Attachment)

- This feature code enables the System Console to be attached to one or more A60s via a Net Interface Card added to the A60.

Note: The A60 must be at code level 1.16.x.xx or above in order to attach to the System Console.

Feature Code 2718

- This feature code has been replaced by feature code 2721.

Feature Code 2719 (Console Upgrade)

- This feature provides a memory upgrade to 2.14GB (2GiB) of total RAM and a second ethernet card for the System Console to allow redundant connections into the service network, and to allow broadband call home capability. This feature only applies to System Consoles shipped with feature codes 2718, 2720, and 2721.

Note: This feature code is required for TS7700 attachment.

Feature Code 2720 (System Console)

This feature includes the listed hardware that is required to support the System Console (see feature code 2721 for 3953 Enterprise Library Controller).

Note: An existing feature code 2720 can be used with the 3953 Enterprise Library Controller, if you select feature code 2714 for the 3953.

- IBM System Console
 - A PC, complete with an Ethernet port. One MT5600 BA external modem, serial cables, and a color monitor are packaged separately. The System Console is preloaded with software, and it is tested prior to shipment.
- LAN Switch Attachment
 - This is a 16-port unit. One switch is included with feature code 2720, and as many as two additional switches can be attached downstream, with cascading, using uplink ports. This allows a maximum of forty-three connections to each System Console.
- LAN Cabling
 - Two 15.2-m (50-ft) ethernet cables are supplied with feature code 2720. One cable is used to connect the System Console controller to the internal port on the ethernet switch. The second cable is used to connect the external port to the first downstream tape system. Additional cables are supplied with feature code 2714 or feature code 2715, depending on expansion port requirements.
- System Console Product Recovery CD-ROM
 - Feature code 2720 includes a Product Recovery CD-ROM that will serve as the basis for rebuilding the hard disk in the event of a failure. The code image CD is boot-able and is self-extracting. The CD-ROM includes:
 - Factory default hard drive image
 - System Console dynamic update capability
 - IBM PC Hardware Maintenance Information in PDF format, which may be viewed by placing the CD in a computer with Adobe Acrobat Reader (Version 4.0 or later)
 - IBM Enhanced Diagnostics CD-ROM

Feature Code 2721 (System Console - for 3953 Enterprise Library Controller only)

- This feature code is similar to feature code 2720, but is for the 3953 Enterprise Library Controller. Use the ethernet port that is identified as 'Internal Ethernet Connector' in the following figures.

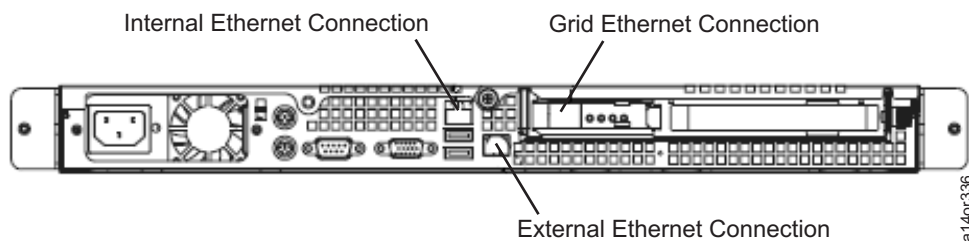


Figure 2-6. Network Connection Diagram – 8836 (3953 Only) (FC 2718, FC 2719)

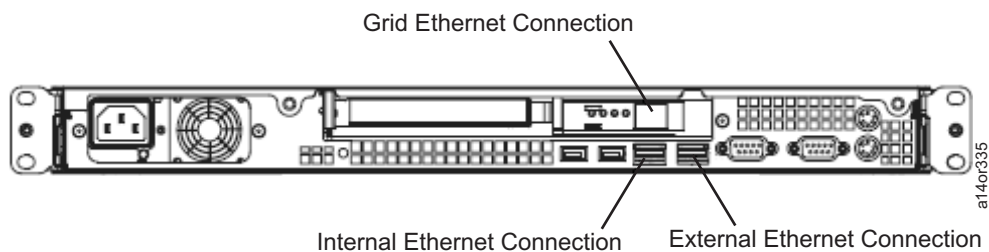


Figure 2-7. Network Connection Diagram – 8849 (FC 2719, FC 2721)

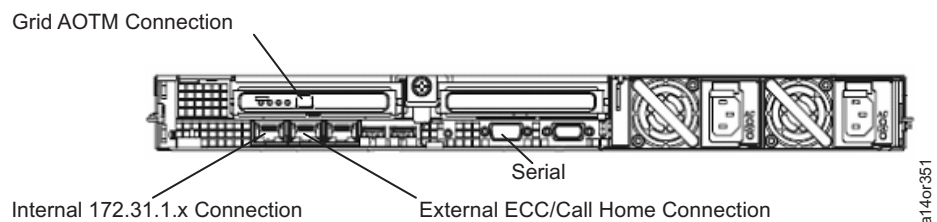


Figure 2-8. Network Connection Diagram – 7978 (FC 2719, FC 2721)

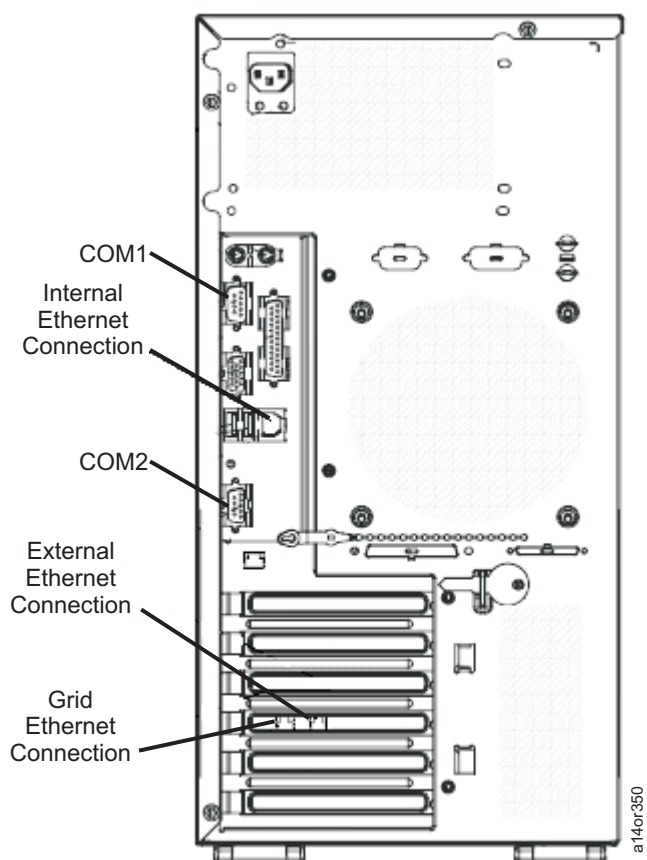


Figure 2-9. Network Connection Diagram – 8482, 8485 (FC 2719, FC 2720)

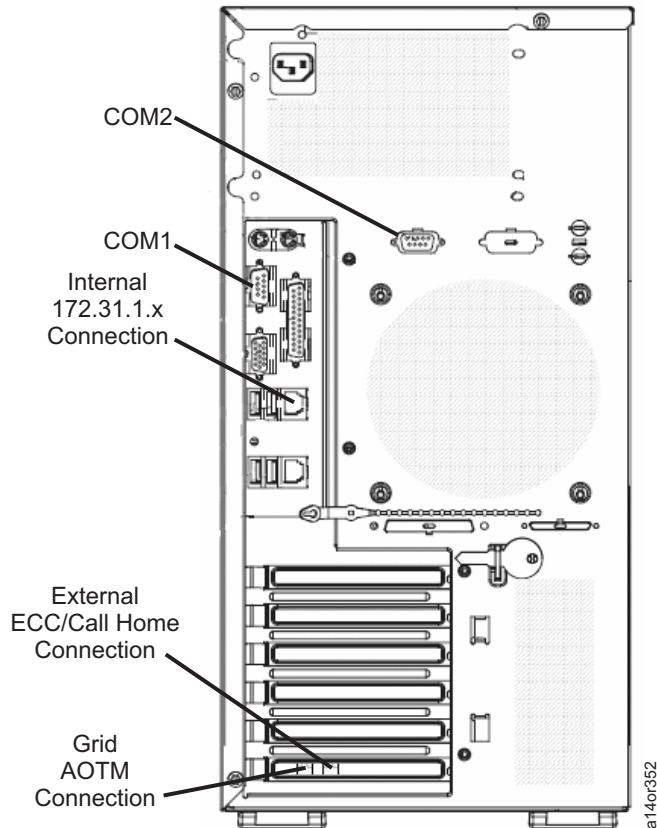


Figure 2-10. Network Connection Diagram – 4362 (FC 2719, FC 2720)

Performing Installation

Ensure that the prerequisites in Table 2-3 have been met before you begin the installation.

Notes:

- This connection will be used for high speed call home functionality. This connection is not required if a modem is being used.
- See “Feature Codes” on page 2-2 for details about feature code content.

Table 2-3. Installation Prerequisites

Prerequisites	Notes
Analog telephone lines - two preferred, one minimum (3953 only allows one)	Note the modem telephone numbers for the Console Configuration Sheet
One Ethernet connection	This connection will be used for high-speed, call home functionality, and is not required if a modem exists
One floppy diskette, a USB storage device, or a CD (model dependent)	For activities such as, backing up configuration files, offloading user files (recommended, but not required)
Completed Console Configuration Sheet	See Table 2-5 on page 2-9
Accessible area for installation and placement	Adequate space and location for installation, access, and operation

Here is a **summary** of the steps you will take in this section to install the System Console.

Note: If you are performing an MES for feature code FC 2724 and FC 2734, or if you are installing the FC 2724 and FC 2734 into a customer's rack, see the Installation Instructions provided with the TSSC server.

Note: If the TSSC server FC 2724 and the TSSC model FC 2734 are provided with the 3952 F05 frame, the TSSC server is already installed in the F05 and the modem needs to be installed on the cable routing bracket as shown in Figure 2-12 on page 2-12.

System Console Setup

1. Unpack and assemble System Console.
2. Install ethernet switch and connect to System Console.
3. Power on the System Console.

Tape System Setup and Configuration.

1. Complete network connection to tape system for System Console attachment.
2. Perform software configuration on tape systems for System Console attachment.

System Console Configuration

1. Login to System Console.
2. Add information for attached systems.
3. Configure call home settings.
4. Backup configuration settings (recommended, but not required).
5. Set console date and time.
6. Test network connection to tape systems.
7. Test modem connection to RETAIN.
8. Log out of System Console.

Test Tape System Configuration

1. Perform test call home notification.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

Completing Installation

1. Proceed with the physical layout and installation of the System Console unit in a central location at the customer's site. Power cords are supplied in the ship group with the feature to satisfy the various country power requirements. Ensure that power feeds are available for the following components (basic, wall-outlet power is sufficient). One of each of these items is provided:
 - System Console unit
 - Monitor *
 - Modem1 *
 - Modem2
 - LAN Switch 1
 - LAN Switch 2
 - LAN Switch 3

Note: * These items are integrated into the 3953 Enterprise Library Controller.

2. Before you configure any attached systems at the System Console, ensure that you have:
 - Chosen subsystem IP addresses
 - Completed a Console Configuration Sheet (see Table 2-5 on page 2-9)

Keep the completed Console Configuration Sheet near the System Console. Table 2-4 provides a sample of a completed Console Configuration Sheet.

Table 2-4. Console Configuration Sheet – Sample

IP Address	Attached System Type/Model	Serial No.	Host Name	Modem Tel. No.
172.31.1.1	System Console	N/A	tssnet1	202-555-1111
172.31.1.2	3494 B20	13AAA10	VTs1	202-555-1111
172.31.1.3	3494 B20	13ABC11	VTs2	202-555-1112
172.31.1.45	3592 J70	13ABC12	3592CU40	202-555-1113
...

IP addresses in the form 172.31.1.x (where 'x' is 2 through 253) may be assigned to tape subsystems. The IP address choice must conform to the following guidelines:

- Assign IP addresses by using the subnet 172.31.1.x; otherwise TCP/IP communication with the console will not work.
- IP addresses must be unique and must not be duplicated between subsystems. Entry fields on subsystems may be pre-filled with suggested, default values. You must change these values when more than one library complex is connected to the System Console.
- When connecting multiple subsystems with default IP address settings to the System Console network, connect and configure the systems one-at-a-time to prevent the possibility of duplicating IP addresses, which would create network errors. Refer to the maintenance information for each tape system for specific recommendations.
- The System Console supports attachment of as many as forty-three systems using as many as three ethernet hubs or switches for attachment. **Note:** The Ethernet Hubs restrict the network traffic to 10MB. Suggest replacing all Ethernet HUBs with Ethernet Switches.
- The maximum, total (cumulative), cable length for connection between the System Console and any subsystem is 100 m (300 ft).

Use the Console Configuration Sheet in Table 2-5 to choose and pre-assign IP address for attached tape systems. Consider making a photocopy of this blank configuration sheet, then filling-in the fields.

Note: Keep a current copy of the filled-in Console Configuration Sheet (Table 2-5) in an accessible location for future reference and modification. You can use this to retrieve subsystem information following a system failure.

Table 2-5. Console Configuration Sheet – Actual. Copy this table, and use that copy to fill in this information.

IP Address	Attached System Type/Model	Serial No.	Host Name	Modem Tel. No.
172.31.1.1	System Console		tssnet1	Modem1 Modem2
172.31.1.____				
172.31.1.____				
172.31.1.____				
172.31.1.____				
172.31.1.____				
172.31.1.____				

Table 2-5. Console Configuration Sheet – Actual (continued). Copy this table, and use that copy to fill in this information.

[illegible]

3. Unpack the System Console.
4. Attach the keyboard, the mouse, and the main power cord.
5. Unpack the monitor, and attach the appropriate power cord. The monitor VGA cable should be attached to the video card connector.

Attention: Do not attach the monitor cable to the planar video connector, if one is present (for NetVista models, only).

6. Locate the USB Modem.
7. See Figure 2-11. The reference keys are as follows:
 - **1** - USB Modem
 - **2** - TSSC Internal LAN
 - **3** - USB Keyboard/Mouse (or from optional KVM Switch)
 - **4** - TSSC External LAN
 - **5** - Video Cable (or from optional KVM Switch)
8. Plug the cables into the TSSC as shown.

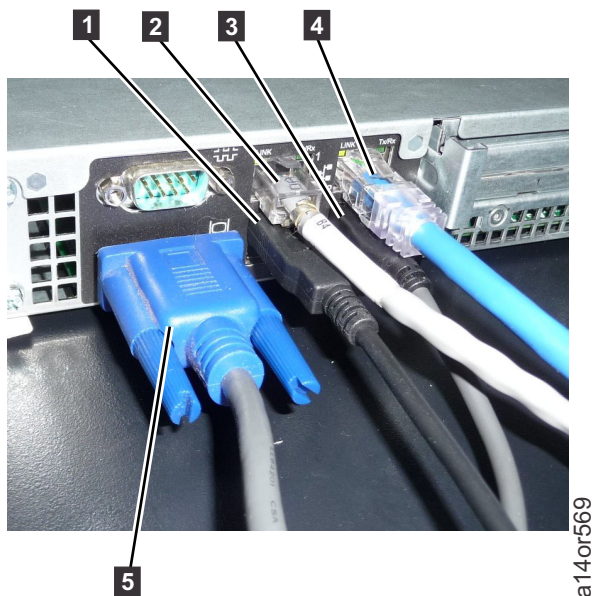


Figure 2-11. Cables Plugged into the TSSC Server

9. See **Figure 2-12 on page 2-12**.
10. Position the modem at the back of the frame. Use two 355 mm (14 in.) tie wraps **2** to secure it at the back of the frame.
11. Connect the phone cord **1** into the modem.
12. Use the other tie wraps to secure the USB modem cable to the frame as needed.

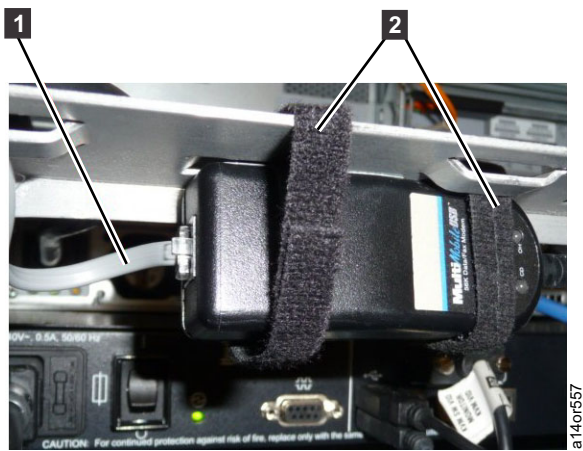


Figure 2-12. Securing the USB Modem to the Frame.

Tape System Call Home Setup for TS7700 Virtualization Engine

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Note: TS7700 attachment requires feature code 2718, 2720, or 2721. See “Feature Codes” on page 2-2 for details about feature code content.

1. From EBTERM or NetTerm login, at the **IBM TS7700 Virtualization Engine Maintenance** menu, select **Subsystem Configuration Menus**.

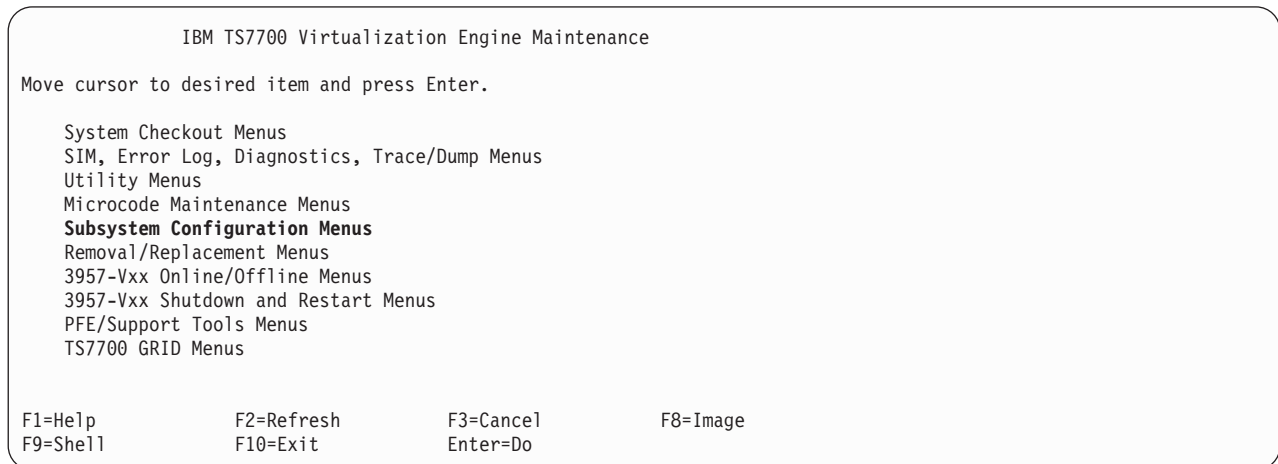


Figure 2-13. Call Home / Remote Services Menu – Virtualization Engine Maintenance

2. Select **Call Home / Remote Services Menu**. Press **Enter**. Following screen is displayed.

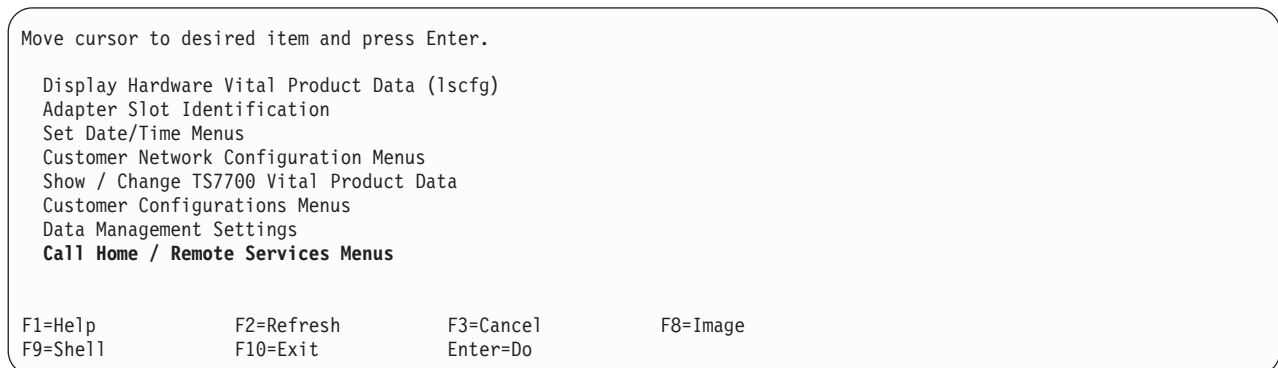


Figure 2-14. Subsystem Configuration Menus

3. Select **IBM TotalStorage Master Console TCP/IP Configuration**, and press **Enter**.

```

Call Home / Remote Services Menu

Move cursor to desired item and press Enter.

  IBM TotalStorage Master Console TCP/IP Configuration
Change / Show Call Home / Remote Services
Change / Show Call Home Filters
Send Test Notification Menu
Remote Data Monitoring
View Call Home Log
Reset Call Home Daemon
Configure Network Port for Remote Connection

F1=Help      F2=Refresh    F3=Cancel    F8=Image
F9=Shell     F10=Exit     Enter=Do

```

4. Select **Enter the Service Console IP Address:**

Figure 2-16. Set Service Console (TSSC) Customer Network Configuration Menu

Note: For the TS7700, the last octet of this IP address must be in an increment of 10 between 10 and 240 (that is, 10, 20 ... 230, 240). The router configuration will utilize this entire octet for System Console configuration. All ten of these addresses must not be used by another subsystem connected to the System Console.

Change / Show Call Home / Remote Services			
Type or select values in entry fields. Press Enter AFTER making all desired changes.			
		[Entry Fields]	
* Enable Serious and Acute SIMs to Call Home?		yes	
* LM Customer Initiated Call Home Allowed Frequency		disabled	
* Enable Paging?		no	
* Customer Business/Company Name"		[IBM]	
* Customer Location		[TUCSON]	
Remote Phone Number 1 (call home) :		[18005551234]	
Remote Phone Number 2 (call home) :		[]	
Callback Phone Number [modem]		[]	
Customer Phone Number [voice]		[]	
Customer Offshift Phone Number		[]	
F1=Help	F2=Refresh	F3=Cancel	F4=List
F5=Reset	F6=Command	F7=Edit	F8=Image
F9=Shell	F10=Exit	Enter=Do	

Figure 2-17. Change / Show Call Home / Remote Services Menu

- At Figure 2-17, verify that Serious and Acute SIMs to Call Home is enabled. If it is not enabled, highlight the text, and press **F4**. Move the cursor to **yes**, and press **Enter**.
- Press **F3** to return to Figure 2-15 on page 2-14. Select **Remote Data Monitoring**. Figure 2-18 displays.

Remote Data Monitoring			
Type or select values in entry fields. Press Enter AFTER making all desired changes.			
		[Entry Fields]	
* Change / Show Call Home Heartbeat Interval		3 days	
* Error Initiated Call Home Data Gathering		Enabled	
* Timeout Period Between Successive Data Call Homes (In hours between 1 and 99)		[24]	
F1=Help	F2=Refresh	F3=Cancel	F4=List
F5=Reset	F6=Command	F7=Edit	F8=Image
F9=Shell	F10=Exit	Enter=Do	

Figure 2-18. Call Home – Remote Data Monitoring Menu

- At Figure 2-18, verify that Call Home Data Gathering is enabled. If it is not enabled, highlight the text, and press **F4**. Move the cursor to **Enabled**, and press **Enter**.
- Press **F3** to return to Figure 2-15 on page 2-14. If more attached subsystems need configuration exit the EBTERM or NetTerm session and connect the net subsystem.
- Return to Step 2 on page 2-13 and configure all attached systems before continuing to Step 13.
- You have completed the TS7700 Virtualization Engine Configuration. Leave the screen active.
 - Go to “Setting Up Autonomic Ownership Takeover Manager (AOTM)” on page 2-16 if you want to set up the autonomic takeover manager, then return here.
 - **AND** —
 - Go to “Tape System Call Home Setup for VTS, VTC, and Tape Controllers” on page 2-21.
 - **OR** —
 - “Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller” on page 2-26, if necessary.

Setting Up Autonomic Ownership Takeover Manager (AOTM)

The Autonomic Ownership Takeover Manager (AOTM) allows the System Console to create a temporary communication path around a failing communication path in a multiple IBM TS7700 Virtualization Engine configuration to determine the health of the remote system. This activity is performed independently of human intervention. This activity is similar to actions taken by an operator who intervenes to reestablish communications by taking over ownership of the complex (or grid), or multiple clusters. But AOTM is done automatically by a TSSC, without a request being made by an operator.

See Figure 2-19. A complex (or grid) can be defined as multiple clusters. The preferred minimum configuration of a cluster contains one of each of the following:

- Two TS7700s
- Two TSSCs (one connected to each TS7700)
- Two grid switches (one supporting each TS7700 and TSSC pair)

Note: AOTM is also with one TSSC between two TS7700s, with the minimum configuration of the following:

- Two TS7700s
- One TSSC (connected to each TS7700)

Notes:

- The Grid Network Interface should only be used for TS7700 peer-to-peer networks with the AOTM function. Unless previously mentioned, other uses are not supported.
- No connection is made directly between any two TSSCs, but TSSCs are connected through the grid switches.

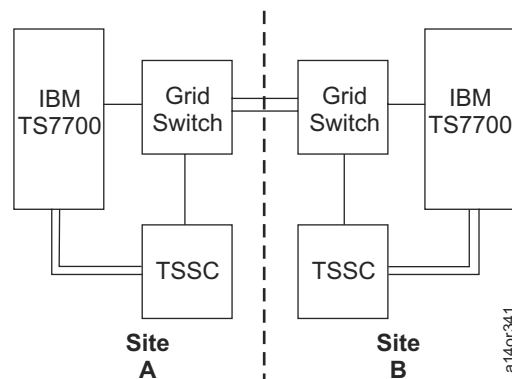


Figure 2-19. Autonomic Ownership Takeover Manager (AOTM) Layout. This is one example of how a customer might have a complex with physically-separated clusters at multiple, separate sites, such as in multiple cities or in multiple states.

1. You were directed here from “Console Settings” on page 2-60. On both clusters, configure the local TSSC Grid IP address. From the TS7700 Virtualization Engine Maintenance menu, select **TS7700 GRID Menus > TS7700 GRID Configuration Menus > Autonomic Ownership Takeover Manager Menus > Set Local GRID TSSC IP**. Press **Enter**. You see Figure 2-20 on page 2-17.

```

Set Local GRID TSSC IP

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry fields]
Enter the Local GRID TSSC IP address:      (10.11.110.40)

F1=Help      F2=Refresh      F3=Cancel
F8=Image     F10=Exit       Enter=Do
/=Find

```

Figure 2-20. Setting Local Grid TSSC IP Address

2. In the Entry Fields field, type the TSSC Grid IP address to which the cluster's local TSSC is configured (10.11.110.40, in this example). Press **Enter**.
3. Press F3 twice to return to the TS7700 Virtualization Engine Maintenance menu, and select **Configure Autonomic Ownership Takeover Manager to a Remote Cluster**.

Note: The remainder of these steps apply to the failing cluster from which you want to take over volumes.

4. Press **Enter**. Figure 2-21 appears.

```

Select a remote cluster

Move cursor to desired item and press Enter.

# Select the Remote Cluster from the list below
#
# Remote Cluster
#- - - - -
1 - V06

F1=Help      F2=Refresh      F3=Cancel
F8=Image     F10=Exit       Enter=Do
/=Find

```

Figure 2-21. Selecting a Remote Cluster. For this example, the cluster name is 'V06.'

5. Move the cursor to the desired cluster, and press **Enter**. Figure 2-22 displays.

```

Configure Autonomic Ownership-Takeover To a Remote Cluster

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry fields]
* Remote Cluster ID:      0
Enter the Autonomic Takeover Setting:      [enabled]

*
Enter the Takeover Mode:      WOT
*
Enter the minutes for the Grace Period:      [25]
Enter the minutes for the Retry Period:      [5]

F1=Help      F2=Refresh      F3=Cancel      F4=List
F5=REset     F6=Command     F7=Edit       F8=Image
F9=Shell     F10=Exit       Enter=Do
/=Find

```

Figure 2-22. Configuring AOTM To Remote Cluster

6. Add information in the appropriate fields, depicted in Figure 2-22:

Remote Cluster ID

Set to the ID that you chose in Figure 2-21 on page 2-17. (**0** in this example.) The default which appears in this field (0 or 1) depends on the cluster from which you are initiating this configuration.

Enter the Autonomic Takeover Setting

Set to Enabled or Disabled. (**enabled** in this example.)

Enter the Takeover Mode

Set to Read only takeover (ROT) or Write-enabled ownership takeover (WOT). ROT allows the local cluster to read (but not write to) volumes in the remote cluster. WOT allows the local cluster to read from and write to any volumes that it takes over from the remote cluster.

Enter the minutes for the Grace Period

Set the number of minutes before the local cluster takes over the volumes of the remote cluster.

Enter the minutes for the Retry Period

Set the number of minutes to wait before a retry of the takeover of the volumes occurs.

7. Press **Enter**. You see Figure 2-23.

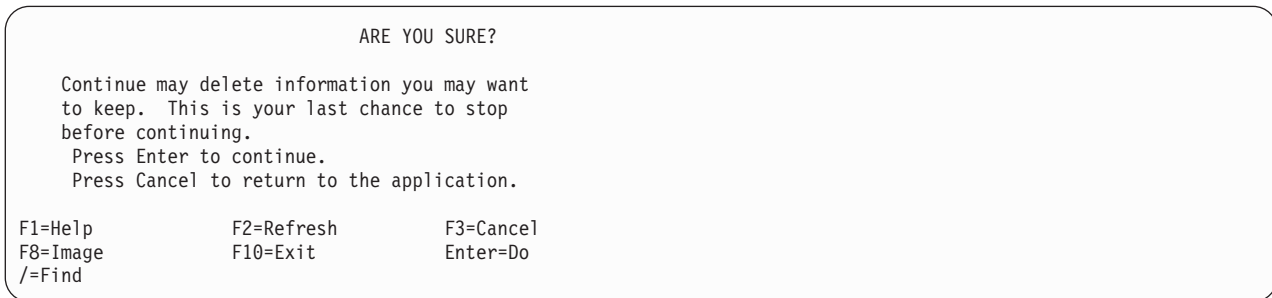


Figure 2-23. Warning Message for Processing AOTM To a Remote Cluster

8. Press **Enter**. You see Figure 2-24.

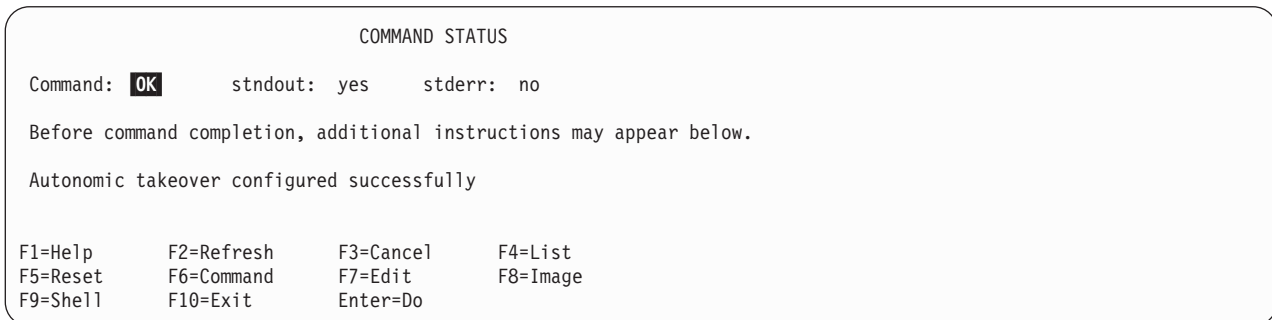


Figure 2-24. Processing AOTM To a Remote Cluster

9. Press **F3** until you are returned to the main menu for the TS7700 Virtualization Engine Service Terminal.
- Verify the TSSC Firewall settings:**
10. Click the **Custom Firewall Settings** link at the top of the Console Settings page.
11. Verify the HTTP entry is properly set for the Grid interface. You should see the Grid entries configured to allow HTTP connections, both in and out, as seen in the figure below. If either of them are set to drop, change it to allow by selecting the option in the leftmost column.





		Grid	IN	HTTP	80
		Grid	OUT	HTTP	80

Figure 2-25. TSSC Firewall Settings

Note: If the customer's network is configured to run AOTM over the same network as the TSSC's External adapter, you will need to repeat this step for the External firewall entries.

12. Once the settings have been verified, click the **Update Firewall Settings** button.
13. You will see a message stating the firewall settings have been successfully configured.
14. Close the open window.
15. To test the AOTM, go to "Testing Autonomic Ownership Takeover Connectivity To A Remote Cluster."

Testing Autonomic Ownership Takeover Connectivity To A Remote Cluster

This information provides a procedure for testing autonomic ownership takeover connectivity to a remote cluster.

The activity described in this section is a continuation of "Setting Up Autonomic Ownership Takeover Manager (AOTM)" on page 2-16. Your cluster should have been set up to allow the Autonomic Ownership Takeover Manager (AOTM) before you perform these steps.

1. From the TS7700 Virtualization Engine Maintenance, select **TS7700 GRID Menus > TS7700 GRID Configuration Menus > Autonomic Ownership Takeover Manager Menus > Test Autonomic Ownership Takeover Manager to a Remote Cluster**. Press **Enter**. You see Figure 2-26.

Select a remote cluster

Move cursor to desired item and press Enter.

Select the Remote Cluster from the list below

#

Remote Cluster

#- - - - -

0 - V06

F1=Help

F8=Image

/=Find

F2=Refresh

F10=Exit

F3=Cancel

Enter=Do

Figure 2-26. Initiating Remote AOTM Cluster Test. For this example, the cluster name is 'V06.'

2. Move the cursor to the desired cluster (V06 in this example), and press **Enter**. Figure 2-27 on page 2-20 displays.

```

Test Autonomic Ownership-Takeover To a Remote Cluster

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry fields]
* Remote Cluster ID:      0
Local Cluster IP:        [ 1]

F1=Help      F2=Refresh    F3=Cancel    F4=List
F5=Reset     F6=Command    F7=Edit     F8=Image
F9=Shell     F10=Exit     Enter=Do

```

Figure 2-27. Testing AOTM Connectivity To Remote Cluster

3. Add information in the appropriate fields, depicted in Figure 2-27:

Remote Cluster ID

This is the same setting that you chose in Figure 2-21 on page 2-17 ('0' in this example).

Local Cluster IP

This field contains a default setting, which you cannot change.

4. Press **Enter**. You see Figure 2-28.

```

ARE YOU SURE?

Continue may delete information you may want
to keep. This is your last chance to stop
before continuing.
Press Enter to continue.
Press Cancel to return to the application.

F1=Help      F2=Refresh    F3=Cancel
F8=Image     F10=Exit     Enter=Do
/=Find

```

Figure 2-28. Verifying AOTM Change

5. Press **Enter** to start the test, or press **Cancel** to return to application. If you press Enter, you see Figure 2-29.

```

COMMAND STATUS

Command: OK      stdout: yes      stderr: no

Before command completion, additional instructions may appear below.

Local TSSC Connection: Successssful
Remote TSSC Connection: Successssful
Remote Node connection: Successssful
Remote node state: online

Based on the conditions above, will ownership takeover occur? false

F1=Help      F2=Refresh    F3=Cancel    F6=Command
F8=Image     F9=Shell     F10=Exit     /=Find
n=Find Next

```

Figure 2-29. Processing AOTM Changes

Notes: In the Figure 2-29 field "Based on the conditions above, will ownership takeover occur?"

False The local cluster is **not** taking control of the remote cluster's volume.

True The local cluster **has** ownership and **is** taking control of the remote cluster's volume.

AOTM testing is complete.

Tape System Call Home Setup for VTS, VTC, and Tape Controllers

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. From EBTERM or NetTerm, perform the following:
 - a. Make the following selections from one of these screens:
 - IBM Virtual Tape Server (B10/B20 VTS) Maintenance
 - 3590 Subsystem Maintenance
 - 3592 Subsystem Maintenance
 - b. Select **Subsystem Configuration**, and press **Enter**.
 - c. Select **Call Home / Remote Services Menu**, and press **Enter**. Figure 2-30 displays.

Change / Show Call Home / Remote Services

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

* Enable Serious and Acute SIMs to Call Home?

Yes

+

* LM Customer Initiated Call Home Allowed Frequency

disabled

+

* Enable Paging?

no

+

Customer Business/Company Name:

* Remote Phone Number 1 (call home):

Remote Phone Number 2 (call home):

Callback Phone Number (modem)

Customer Phone Number (voice)

Customer Offshift Phone Number

F1=Help

F2=Refresh

F3=Cancel

F4=List

F5=Reset

F6=Command

F7=Edit

F8=Image

F9=Shell

F10=Exit

Enter=Do

Ensure Enable Serious and Acute SIMs to Call Home? is set to yes.

Figure 2-30. VTS,VTC, A60 , J70 & C06 Call Home / Remote Services Menu – Switch Call Home Selection

- Note:** Ensure that the Console Configuration Sheet (Table 2-5 on page 2-9) was completed before you perform the following steps.
2. At Figure 2-30, on Models VTS, VTC, A60 & J70, select **Switch Call Home / Remote Services to/from System Console**, and press **Enter**. Figure 2-31 on page 2-22 displays.

Switch Call Home / Remote Service to/from System Console

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry Fields]

* Switch Call Home/Remote Services to/from Console/WTI

System Console

IBM System Console TCP/IP Address (dotted decimal):

IBM System Console Hostname:

[172.31.1.1]

[]

F1=Help

F2=Refresh

F3=Cancel

F4=List

F5=Reset

F6=Command

F7=Edit

F8=Image

F9=Shell

F10=Exit

Enter=Do

Figure 2-31. Switch Call Home/Remote Services to/from System Console

Change / Show Modem Configuration

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry Fields]

Name of Modem Set:

* Dialer Phone System:

* Cancel the call if not connected within (seconds):

* Number of consecutive retries to connect:

MultiTech MT5600BA

tone

[45]

[1]

+

+

#

#

Name of Expander Set:

Expander port for modem:

Expander port for this Control Unit:

WTI APS 16 or MDS 16

1

2

+

+

+

F1=Help

F2=Refresh

F3=Cancel

F4=List

F5=Reset

F6=Command

F7=Edit

F8=Image

F9=Shell

F10=Exit

Enter=Do

VTS,VTC, A60, J70 & C6 Call Home / Remote Services Menu -> Change / Show Modem Configuration.
When the WTI is selected also select the Change / Show Modem Configuration and set as needed.

Figure 2-32. Change / Show Modem Configuration

Note: In Figure 2-33 on page 2-23 Change this controllers IP and hostname as needed.

Subsystem Configuration Menus -> Show / Change TSSC Connection
Show / Change Direct TSSC Connection

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

[Entry Fields]
* Enter this controllers IP address on TSSC network: [172.31.1.xxx]
* Enter the Service Console IP Address: [172.31.1.1]
NOTE: This is the IP Address for the TSSC
that will be attached to this Control Unit.
The values displayed are either the default
values or the current IP that is configured.
* Enter the Service Console Hostname (TSSC): []

F1=Help	F2=Refresh	F3=Cancel	F4=List
F5=Reset	F6=Command	F7=Edit	F8=Image
F9=Shell	F10=Exit	Enter=Do	

Figure 2-33. 3592-C07 - Subsystem Configuration Menus - Show / Change TSSC Connection

Enable call home using the following screen:

Subsystem Configuration Menus -> Call Home / Remote Services Menu
Call Home / Remote Services Menu

Move cursor to desired item and press Enter.

Change / Show Call Home / Remote Services
Remove Files from Call Home Send Queue
Change / Show Call Home Filters
Send Test Notification Menus
Remote Data Monitoring
View Call Home Log
View Call Home SNMP trap Log

F1=Help	F2=Refresh	F3=Cancel	F8=Image
F9=Shell	F10=Exit	Enter=Do	

Select: Change / Show Call Home / Remote Services

Note: Ensure Change / Show Call Home / Remote Services is set to yes.

Fill in the appropriate phone numbers.

Figure 2-34. Enable Call Home

Type or select values in entry fields.
Press Enter AFTER making all desired changes.

F1=Help	F2=Refresh	F3=Cancel	F4=List
F5=Reset	F6=Command	F7=Edit	F8=Image
F9=Shell	F10=Exit	Enter=Do	

Figure 2-35. 3592-C07 Subsystem Configuration Menus -> Call Home / Remote Services Menu

- At Figure 2-31 on page 2-22 and Figure 2-33 on page 2-23, verify that the IBM System Console IP Address is set to the IP address (defaults to 172.31.1.1). Press **F4** for the pop up menu displayed in Figure 2-36. Select **Console Call Home/Remote Services thru System Console**, and press **Enter** twice.

[illegible]

Figure 2-36. Models VTS, VTC, A60 , J70 & C06 - Switch Call Home / Remote Services to/from System Console – IP Address

- Step 4, Step 5, and Step 6 on page 2-26 apply to tape systems without SMC router WAN port connectivity.
- If your installation uses an SMC router for WAN port connectivity, do not use Steps 4, 5, and 6 on page 2-26, but refer to the product's maintenance information for instructions to configure the SMC router WAN and LAN IP addresses for connection to the System Console. You must set the router configuration before proceeding. Continue at Step 7 on page 2-26 after configuring the router WAN/LAN ports.

- Attention:** Select the illustrated line item **only at Figure 2-37**. No other menu display items are applicable for this process.

Figure 2-37. Call Home / Remote Services Menu

Figure 2-38. Minimum Configuration and Startup Menu

- Chapter 2. Installation
- 2-25**

- **An Internet ADDRESS of the form 172.31.1.x** (see Table 2-5 on page 2-9 for the value 'x'). It is important that no two internet addresses are set alike in the local Ethernet network. It is essential that the internet addresses are assigned using the network 172.31.1.x, otherwise TCP/IP communication with the console will not work.
- **A Network Mask of 255.255.255.0.** The Network Mask will be the same for each tape system.
- Change the START Now setting to **yes**.

Press **Enter**. Press **F3** to return to **Call Home / Remote Services Menu** displayed at Figure 2-30 on page 2-21.

6. Press **F3** twice to return to **Call Home / Remote Services Menu**. If more attached subsystems need configuration, exit the EBTERM/NetTerm session and connect to the next subsystem.
7. Return to Step 1 on page 2-21, and configure all attached tape systems before continuing to Step 8.
8. VTS, VTC, and tape controller configuration is complete at this point. **Leave the screen active.** Continue to "Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller" if necessary, then continue to "Configuration" on page 2-36 to perform System Console configuration.

Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

System Console

For 3494, Version 3.0.0 and above

For 3953, Version 3.2.0 and above

IBM 3494 ATL Models L12, L14, L22

Code Version 529 and above (LM531 and above for 3953), using a 7581 PC. If you are using a 7588 PC, you must have Feature Code 2715 installed, which will provide a 4-port ethernet adapter, if one is not installed.

Notes:

- Either FC 5219 or FC 5220 must have been installed to enable the 3494 Specialist.
 - The customer (usually an administrator) must authorize enabling the 3494 Specialist.
1. See Figure 2-39 on page 2-27. Ensure that an ethernet connection has been completed between the 3494 ATL or 3953 SBC card port 1 (lower port) and a port on one of the System Console ethernet switches. The ethernet cable should plug into the bottom port (Item 1 in Figure 2-39 on page 2-27). The SBC card is in slot 3 of the 7581.

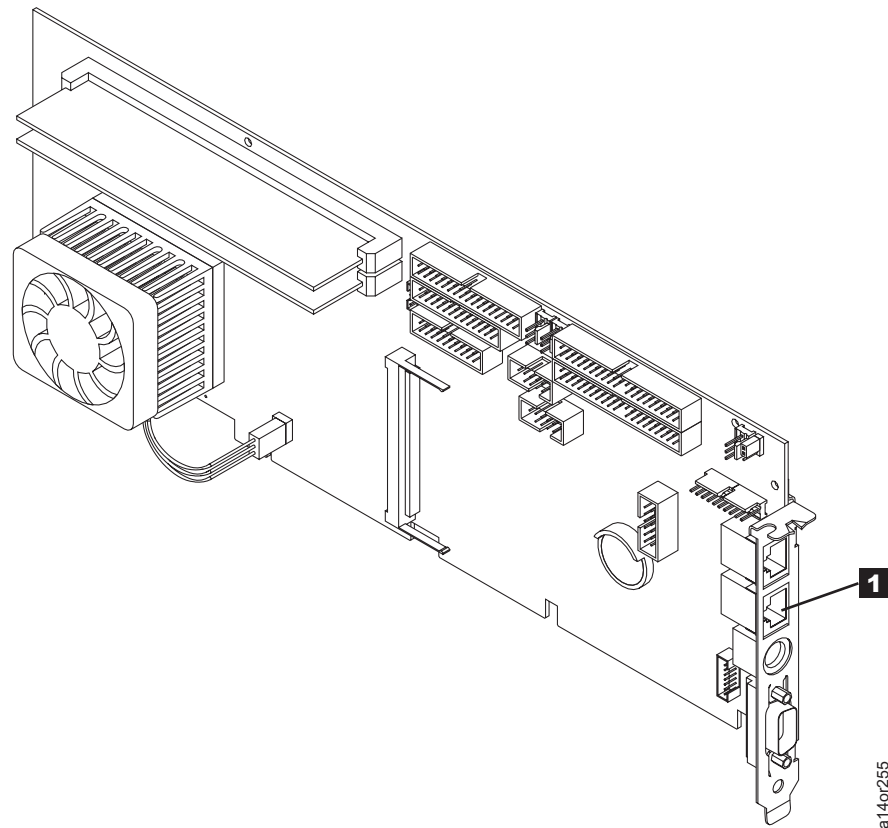


Figure 2-39. Plug Ethernet Cable Here (3494). Notice Item 1.

2. Ensure that the TSSC Server is listed in the command process window. Use **Ctrl + Esc** to view the window list. See Figure 2-40.

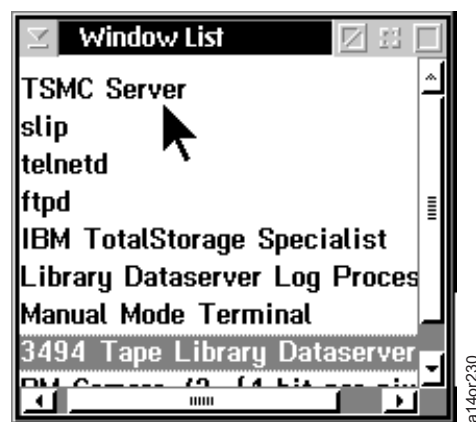


Figure 2-40. Command Process Window List – Example. The text on your screen may differ with various levels of code or with different machine model numbers.

Notes:

- If the TSSC Server is not included in the list depicted in Figure 2-40, you can start the TSSC Server by typing **tsmcstrt** from a command line.
- You can stop the TSSC Server. Right click **TSMC Server** from the Figure 2-40, then click on the **Close** button in the dialog box.
- You can restart the TSSC Server by stopping it, then starting it.

- If the "tsmcstrt" fails to start the "TSSC Server" window, the OS/2 device drivers may not be installed on the 3494 ATL or the 3953. Shutdown the 3494 ATL or the 3953, and open a service window. Run "tsmcinst". This loads the necessary OS/2 device drivers. Once loaded, the 3494 ATL or the 3953 must be rebooted.
3. Use the 3494 ATL or 3953 menu commands **Service --> Manage MasterConsole** to view the dialog box for setting any 3494 ATL or 3953 IP address or addresses. See Figure 2-41.

Configure the IP address of the 3494 ATL or 3953 for the System Console network. The default addressing scheme uses the subnet 172.31.1.x. The specific address must not be in use elsewhere on the System Console network.

Note: You must configure the library manager before you configure the System Console.

Figure 2-41. Manage System Console Dialog Box. The Library Manager Frame Serial Number must be the 3953 F05 base frame number or the 3494 LXX frame serial number. The text on your screen may differ with various levels of code or with different machine model numbers.

4. Change the default IP addresses in the entry box to be IP addresses that are unique to the System Console network. Click **Change**. After the address is successfully set, Configuration Successful is indicated in the Configuration column. Click **Exit** when complete.
5. Ensure that Call Home is enabled on the 3494 ATL or 3953. Use the 3494 ATL or 3953 Menu Commands **Utilities --> Enable/Disable Functions --> LM Call Home --> Enable** to enable Call Home on the LM.
6. In order to use the System Console "Telnet to Attached Systems" tool to access the 3494 ATL or 3953, you must enable Service Access. Use the 3494 ATL or 3953 menu commands **Commands --> Service Access --> Enable Service Access**. This will enable both the telnet services and the ftp services for the 3494 ATL or the 3953. "Service" is enabled if it appears unhighlighted (grayed-out) on the menu.

Notes:

- Either FC 5219 or FC 5220 must have been installed to enable the 3494 Specialist. Though these feature codes are 3494-only, they are included in the 3953 F05 base frame.
- The customer administrator must authorize enabling Service Access.
- The System Console tool "Telnet to Attached Systems" will be unable to connect with this 3494 ATL or 3953 if Service Access is disabled.
- System Console FTP access to this 3494 ATL or 3953 will be unable to connect, if Service Access is disabled.

- If the System Console tool “Telnet to Attached Systems” is unable to connect to a subsystem, the telnet terminal screen disappears without presenting a login prompt. No error message will be displayed.
 - The customer administrator must authorize enabling the 3494 Specialist.
7. In order to view the 3494 or 3953 Specialist from the System Console, you must enable the 3494/3953 Specialist. Use the 3494 ATL or 3953 Menu Commands: > **Utilities** > **Enable/Disable Functions** > **3494 Specialist** > **Activate**. You may be asked for a User ID and Password. The default User ID is 'service' and the default password is 'service'.
 8. After the 3494 or 3953 Specialist is enabled, wait for the hour glass icon on your screen to disappear, then select **Commands** --> **Specialist (Web Server)** --> **Settings...** from the 3494 ATL or 3953 menu.
 9. Either click **All Yes** or select **Yes** for each function you want to manage by using the 3494 or 3953 Specialist. Ensure that 'Manage TSSC' is set to 'Yes' to manage the System Console configuration via the 3494 or 3953 Specialist. Figure 2-42 appears. Ask the customer administrator for any settings that need to be changed on this screen from Yes to No, and check the No box for those settings.

3494 Specialist Settings	
Web Administrator	
Userid: <input type="button" value="Activate"/> <input type="button" value="Deactivate"/>	Password: <input type="button" value="Reset to default"/>
Web Browser Access	
Panel Name	Allow Access
Manage Storage Groups	<input checked="" type="radio"/> Yes <input type="radio"/> No
Manage Management Classes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Manage Storage Classes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Manage Data Classes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Manage Logical Volumes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Stacked Volume Pool Properties	<input checked="" type="radio"/> Yes <input type="radio"/> No
Move/Eject Stacked Volumes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Find Logical Volume's Home	<input checked="" type="radio"/> Yes <input type="radio"/> No
Stacked Volume Map	<input checked="" type="radio"/> Yes <input type="radio"/> No
Volser Ranges	<input checked="" type="radio"/> Yes <input type="radio"/> No
VPD Summary	<input checked="" type="radio"/> Yes <input type="radio"/> No
Database Search	<input checked="" type="radio"/> Yes <input type="radio"/> No
Operator Interventions	<input checked="" type="radio"/> Yes <input type="radio"/> No
VTs Management Policies	<input checked="" type="radio"/> Yes <input type="radio"/> No
Manage TSMC	<input checked="" type="radio"/> Yes <input type="radio"/> No
<input type="button" value="Submit Access Change"/> <input type="button" value="All Yes"/> <input type="button" value="All No"/>	
<input type="button" value="Exit"/> <input type="button" value="Help"/>	

Figure 2-42. 3494 ATL or 3953 Specialist Settings. The text on your screen may differ with various levels of code or with different machine model numbers.

10. Click **Submit Access Change** to change the Web Browser Access attributes. Wait for the message “Web browser access was successfully changed.”

Notes:

- The customer administrator must authorize enabling the 3494 or the 3953 Specialist.
 - No browser will be able to display the 3494 or 3953 Specialist, if the Specialist is not activated.
11. Return to the beginning of this procedure, and perform Steps 1 on page 2-26 through 6 on page 2-28 for each 3494 ATL that you will attach to the System Console.

This completes the configuration of the 3494 ATL or 3953 for the System Console attachment. Continue at “Test Call Home Notification for 3494 ATL or 3953 Enterprise Library Controller” on page 2-91, or go to “Configuration” on page 2-36 if you do not intend to test the call home notification.

Using 3494 ATL or 3953 Enterprise Library Controller Web Specialist to Change System Console Settings

This section provides supplemental information. You do not need this information to complete the setup for a 3494 ATL or 3953. You can, however, use the 3494 ATL or 3953 (Web) Specialist to change certain System Console settings on the 3494 ATL or 3953. You can access and enable the 3494 or 3953 Web Specialist by using a browser on the customer's network (common approach).



Figure 2-43. 3494 ATL or 3953 Web Specialist - Welcome Page

After you access the 3494 ATL or 3953 Web Specialist, you will see the Figure 2-43. A number of work items are listed on the left side of the screen.

1. Select **Service library manager**, then select **Administer call home**. This menu contains the tasks that are relevant for the System Console and call home. You may want to perform some or all of these actions. From this menu you can select (in any order):

Test interface

Test network interface to System Console or send a test call home record (see “Test Interface” on page 2-31)

Configure settings

Enable or disable problem call home or data call home activity (see “Configure Settings” on page 2-31)

Flush queue

Clears 3494 ATL or 3953 call home entries from the System Console call home queue (see “Flush Queue” on page 2-32)

Set heartbeat

Set the time interval of the heartbeat call home action (see “Set Heartbeat” on page 2-33)

Configure interface parameters

Configure IP addresses for the LM and the System Console. Set the hostname alias of the LM on the System Console network (see “Configure Interface Parameters” on page 2-33)

2. Wait for the message “The Action Completed Successfully” which indicates that the test of the interface or the test call home was successful.

Test Interface

1. From the "Administer call home" list on the Web Specialist screen (Figure 2-43 on page 2-30), click **Test interface** to see the options shown in Figure 2-44. If you are prompted for a username and password, use the default values of **service** for the username and **service** for the password. These values can be changed by the 3494 ATL system administrator.

From this screen (Figure 2-44), you can test the (network) interface between the LM and the System Console (from the perspective of the LM).

Test Interface

Tests the (network) interface between the LM and the System Console (from the perspective of the LM)

Test Call Home

Causes a test call-home record to be sent from the LM via the System Console

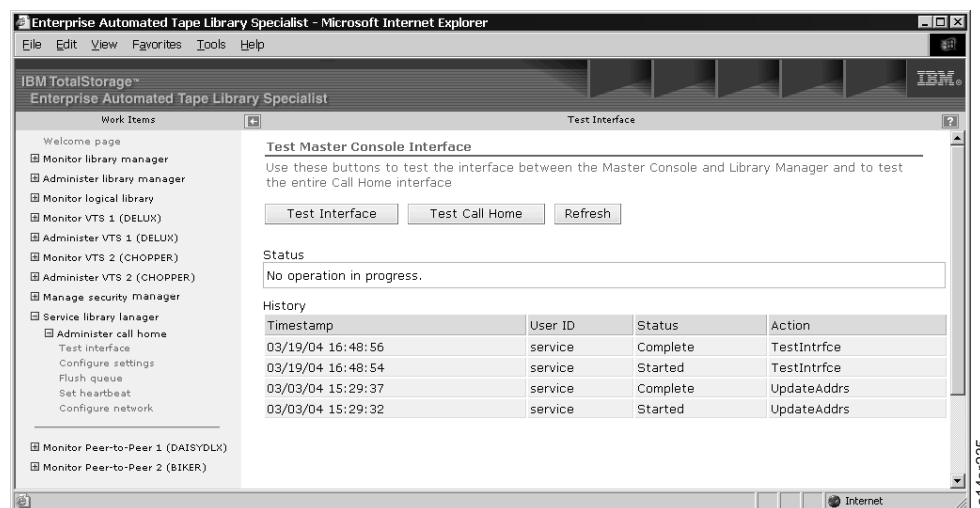


Figure 2-44. 3494 ATL Web Specialist - Test Interface

2. Wait for the message "The Action Completed Successfully," which indicates that the interface test was successful.

Configure Settings

1. From the "Administer call home" list on the Web Specialist screen (Figure 2-43 on page 2-30), click **Configure settings** to see Figure 2-45 on page 2-32. If you are prompted for a userid and password, use the default values of **service** for the userid and **service** for the password. These values can be changed by the 3494 ATL system administrator.
2. Call home communication is a default action that you must choose to disable. To disable call home, click **Send diagnostic data with Call Home**, select the **Disabled** button, click **Save Call Home Settings**.

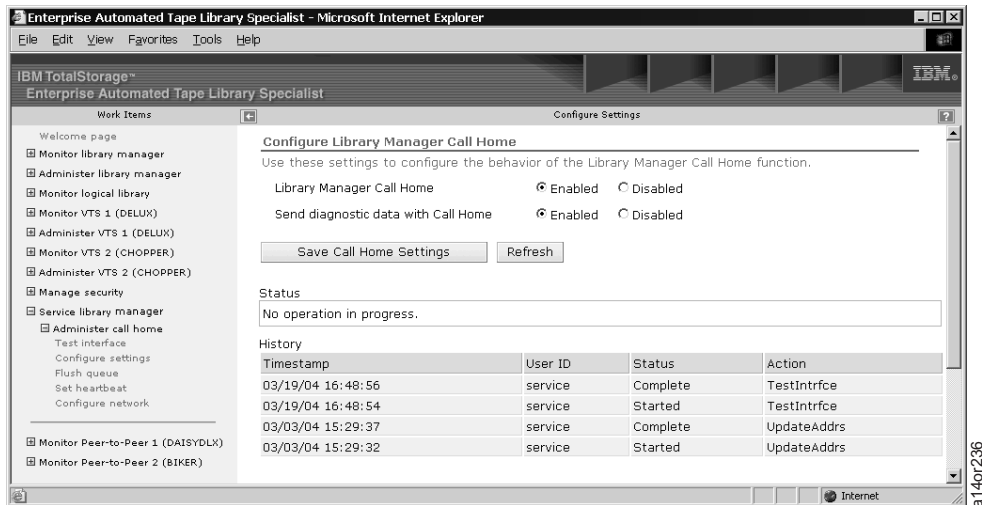


Figure 2-45. 3494 ATL Web Specialist - Configure Settings

- Wait for the message “The Action Completed Successfully,” which indicates that the call home settings were saved.

Flush Queue

Note: This function requires that the 3494 ATL be successfully attached to the System Console. See “Adding Attached System Information” on page 2-39.

- From the “Administer call home” list on the Web Specialist screen (Figure 2-43 on page 2-30), click **Flush queue** to see Figure 2-46. If you are prompted for a userid and password, use the default values of **service** for the userid and **service** for the password. These values can be changed by the 3494 ATL system administrator.

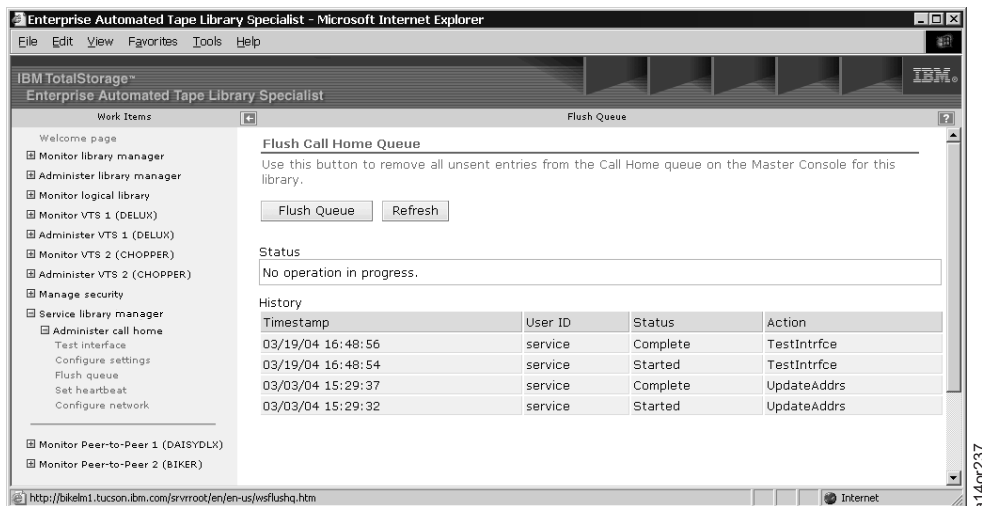


Figure 2-46. 3494 ATL Web Specialist - Flush Queue

- Click **Flush Queue** to delete (flush) all the call home records on the System Console that are associated with this 3494 ATL. All other call home records in the System Console's call home queue will remain in the queue.
- Wait for the message “The Action Completed Successfully,” which indicates that the System Console queue settings were deleted.

Set Heartbeat

The Heartbeat Interval Setting is the elapsed time between sending heartbeat call home records.

A heartbeat call home record is verification that the 3494 ATL is operating properly. A heartbeat call home record which does not arrive at its expected interval indicates a problem.

1. From the “Administer call home” list on the Web Specialist screen (Figure 2-43 on page 2-30), click **Set Heartbeat** to see Figure 2-47. If you are prompted for a userid and password, use the default values of **service** for the userid and **service** for the password. These values can be changed by the 3494 ATL system administrator.

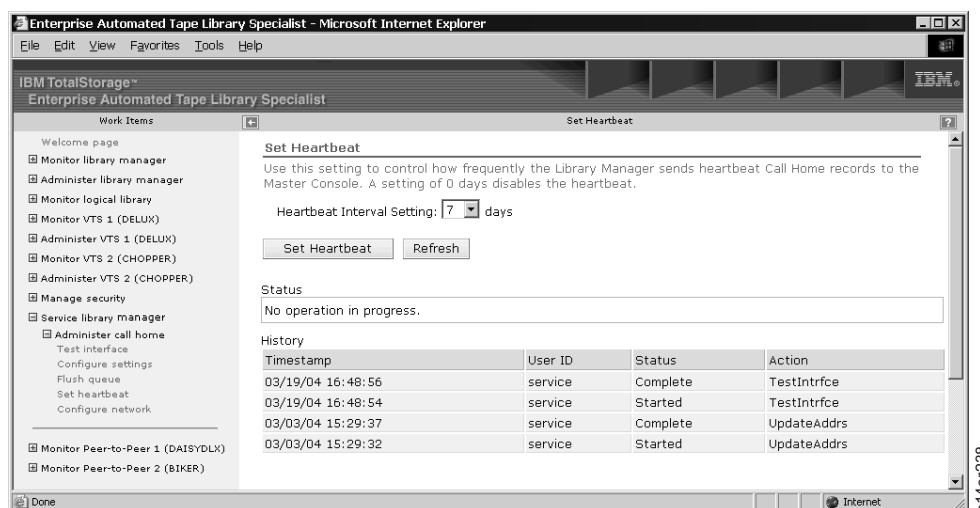


Figure 2-47. 3494 ATL Web Specialist - Set Heartbeat

2. From the drop-down box, select the number of the Heartbeat Interval Setting days between 1 and 28 days, then click **Set Heartbeat**. Set the Heartbeat Interval Setting to 0 to disable heartbeat call home activity.
3. Wait for the message “The Action Completed Successfully,” which indicates that the new heartbeat interval was set.

Configure Interface Parameters

You can use this option to set the IP address and hostname alias of the 3494 ATL on the System Console network. This option informs the 3494 ATL of the IP Address of the System Console. You also can use this option to set the IP addresses and hostname aliases for both 3494 accessors when the 3494 ATL is part of a high availability (HA) dual accessor complex.

This task most commonly will be used to reset the hostname alias for the 3494 ATL on the System Console network for system identification.

1. From the “Administer call home” list on the Web Specialist screen (Figure 2-43 on page 2-30), click **Configure Interface Parameters** to see Figure 2-48 on page 2-34. If you are prompted for a userid and password, use the default values of **service** for the userid and **service** for the password. These values can be changed by the 3494 ATL system administrator.

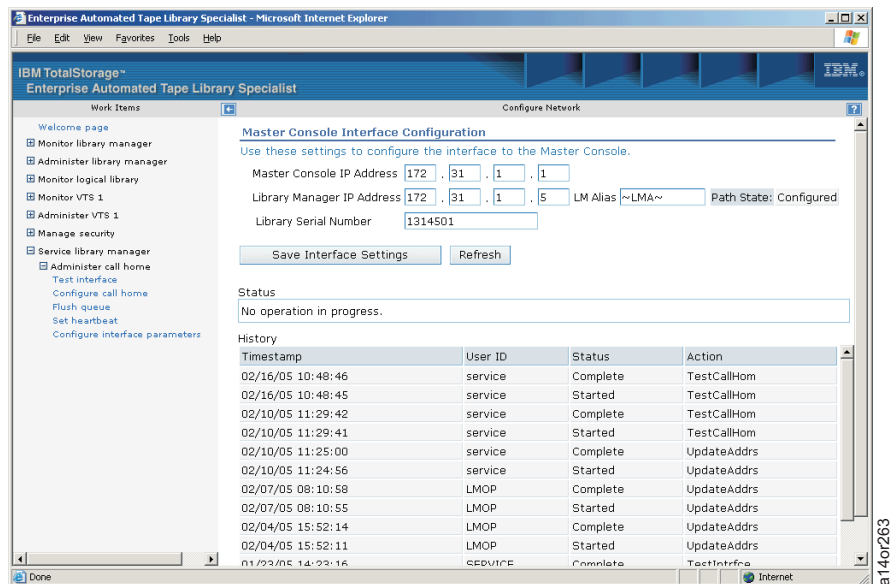


Figure 2-48. 3494 ATL Web Specialist - Configure Interface Parameters

2. Enter the appropriate values for the IP Addresses and hostnames, then click **Save Network Settings** to update the network information.
3. Wait for the message “The Action Completed Successfully,” which indicates that the new heartbeat interval was set.

Note: Avoid changing the System Console's IP address from the default value of 172.31.1.1. If you must change the System Console's IP address, change it first on the System Console. Then change to the new IP address setting on each tape system on the System Console network.

Tape System Call Home Setup for 3584 Tape Library

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Using CETool to Configure for Call Home. Follow this procedure to configure the library for Call Home via Master Console (FC 9217).

Notes:

- CETool is a tool that is run externally from a workstation which is directly connected to a 3584 library. CETool is not run from the System Console.
 - Use CETool version 3.10 or later for this procedure.
 - For more information about using CETool, refer to the 3584 MI.
1. Start the CETool program.
 2. Double click the CETool icon on your desktop.
 3. When the CETool screen displays, click Configure Remote Service. You see Figure 2-49 on page 2-35.

Figure 2-49. Remote Serviceability via System Console

4. At the Remote Serviceability Configuration screen, ensure that the Disable Call Home checkbox is **not** checked.
5. Ensure that the Disable Heart Beat /MRPD/Data Call Home checkbox is **not** checked.
6. Ensure that the Threshold Timeout field is set to 1440 minutes.
7. Enter the customer phone number in the Contact Phone # field.
8. Enter the customer offshift phone number in the Offshift Phone # field.
9. In the Master Console Options area, set the following fields:
 - a. Select **Enable Master Console**.
 - b. Set the Master Console IP Address field to **172.31.1.1**. This is the default IP address for the System Console.
 - c. Set the Master Console Subnet Mask field to **255.255.255.0**.
 - d. Set the Master Console Host Name field to the host name of the System Console.
 - e. Determine the 3584 frame number for the model Dxx frame containing the ethernet-capable MCP or MCA that will be used for the connection to the System Console. Type that number in the Library Frame (decimal) field.

Notes:

- The Lxx frame is always frame 1, even if an HA1 frame (Service Bay A) is attached.
 - Typically the two-character display on the MCP or the MCA will be flashing 00 and the frame number.
- f. Set the Library IP Address to 172.31.1.170. This is the default IP address for a 3584 library that is attached to a System Console. If you have more than one 3584 library attached to a single System Console, increment the last number for each additional library. As an example, the first

library would have an IP address of 172.31.1.170, the second library would have an IP address of 172.31.1.171, the third library would have an IP address of 172.31.1.172, and so forth.

10. Select **Submit**.
11. Click **Configure Remote Service** again, and review the configuration data that you entered above. Verify that all the data you entered is correct. Exit the CETool program. The 3584 library should now be configured to call home via the System Console.
12. To verify that the 3584 library is configured to call home via the System Console, initiate a test call home. At the 3584 operator panel, click **Menu**, and select **Service** —> **Tests/Tools** —> **Diagnostics** —> **Call Home**.

Configuration

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Prior to beginning System Console configuration, you must accommodate the following items:

- Attached subsystems should be configured for System Console operation. All physical cabling connections should be complete. Subsystem IP addresses should be known, available, and documented on a Console Configuration Sheet (see Table 2-5 on page 2-9).
- Have available the telephone number of the analog lines attached to the System Console modems, as well as tone/pulse and dial out prefix information, and 7-digit, 10-digit, or other local dialing conventions.
- Complete the Console Configuration Sheet (see Table 2-5 on page 2-9).

User Login

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

The System Console is ready for user login when you see the Console Login Screen, represented in Figure 2-50 on page 2-37 (microcode level may vary). There are two login options.

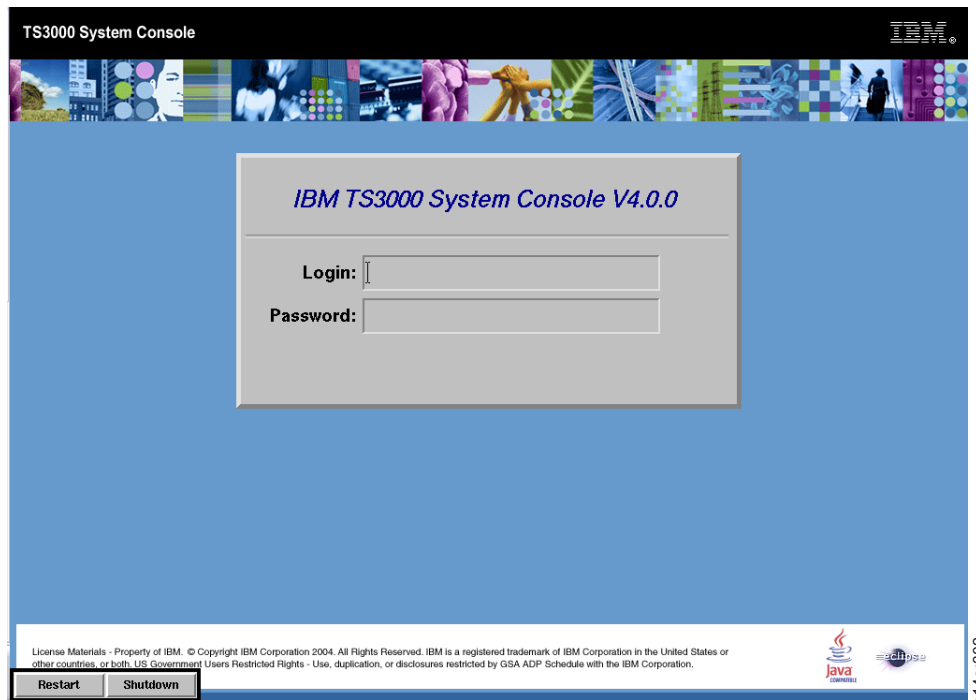


Figure 2-50. Console Login Screen – Example. The Version number (Vx.x.x) will reflect your level of microcode.

Login Options

There are two ways to login to the System Console:

- Non-Authenticated
- Authenticated

Non-Authenticated:

For a non-authenticated login, in the Login field (depicted in Figure 2-50) type **service**. Press the **Tab** key to move your cursor to the Password field and enter the case sensitive password **service**. This type of login will provide access to all console configuration and service tools. This username and this password are not valid for subsequent logins to any attached system. Non-authenticated logins are not available for remote access (see “Remote Access Using NetTerm” on page 3-19).

Authenticated:

Note: If not already done, contact IBM Support for access to the IBM Authentication Server and to be placed on the distribution list for the System Console authentication user passwords.

Follow these steps to login to the System Console. IBM Support will provide your level of authorized access and your personal authentication ID for accessing System Consoles and tape systems.

1. At the Console Login screen (Figure 2-50), in the username field enter **Service** (case sensitive). Press the **Tab** key to move your cursor to the Password field, and enter **ibm2serv** (case sensitive).
2. At the prompt “**Please enter your Authentication Id:**,” enter your personal authentication ID that was provided by IBM Support. Figure 2-51 on page 2-38 depicts a typical authentication session:

```

Group: Service    (<- Your Level of authorized access)
Creating user jdoe    (<- Your Authentication ID)
Account expires on: 07/02/02
6792-22U-:78-KA5XBA1:1:4:1920:jdoe
Changing password for user jdoe
New password:
Retype new password:
passwd: all authentication tokens updated successfully
Initiating broadcast to... vts1
Initiating broadcast to... vts2
Initiating broadcast to... vts3
Initiating broadcast to... vts4
Waiting for completion...
vts1: Ok
vts2: Ok
vts3: Could not execute remote command
vts4: Ok

Please logout and log back in with jdoe and password abclzyxw(<- New Password)

Press [c] to continue.

```

Figure 2-51. Authentication Menu – Sample

3. After successfully creating a user ID and password, the system attempts to copy them to all tape systems attached to the console (**making it possible to login to each device with the same user id and password**). It is possible that the attempt to copy the user id/password will not be successful. This process will always fail on VTS/VTC systems with code levels below 2.26, and for all attached 3494 ATLs.

Note: When the process of copying your userid/password to attached tape system is not successful, you will need to either authenticate separately for these systems (VTS code level 2.26 or above, A60 code level 1.16 or above, any 3592 J70, A60, or C06), or login using previous access methods (VTS code level 2.25 and below, all 3494 ATL).

The following is a list of possible responses to the process of attempting to copy user id/password to attached tape systems. Responses other than “Ok” are not successful responses.

- Ok
- Process timed out
- System subroutine failure
- Could not create socket
- Could not establish connection
- Could not send data
- Invalid /etc/hosts file
- Invalid request
- Could not validate client
- Could not send data file
- Could not receive data file
- Could not execute remote command

Notes:

- **Make a note of your password!** If you lose your password, you will need to authenticate again. Also, you will be able to use your password to log into attached subsystems (if broadcast was successful).
- Verify the results that appear following "Waiting for completion..." This indicates the success of copying your password to systems that are attached to the console.
- Your userid and password will be valid for the time indicated on the console, and all systems that indicate “Ok” after “Waiting for completion...”

- The “Waiting for completion...” process should take no longer than five minutes before timing out. During the “Waiting for completion” process, you may skip the results of the broadcast by simultaneously pressing **CTRL + C**. If you press **CTRL + C**, you will NOT be notified of a failed username broadcast.
4. Enter **c** to continue. You will be returned to the Console Login Screen.
 5. Login to the console using the ID and password posted on the screen. The System Console Main Menu shown in Figure 2-52 appears.

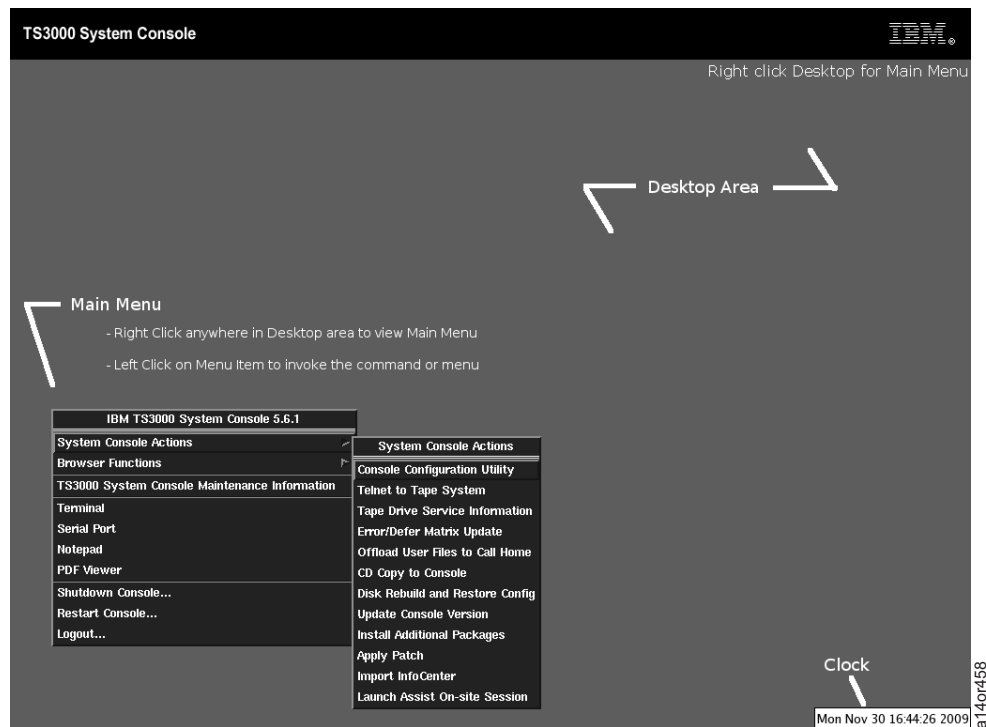


Figure 2-52. System Console Main Menu. Notice that the System Console Main Menu appears after you right click inside the Desktop Area.

Adding Attached System Information

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52.
2. From the Main Menu, select **System Console Actions** —> **Console Configuration Utility**. You see the Username and password screen shown in Figure 2-53 on page 2-40.

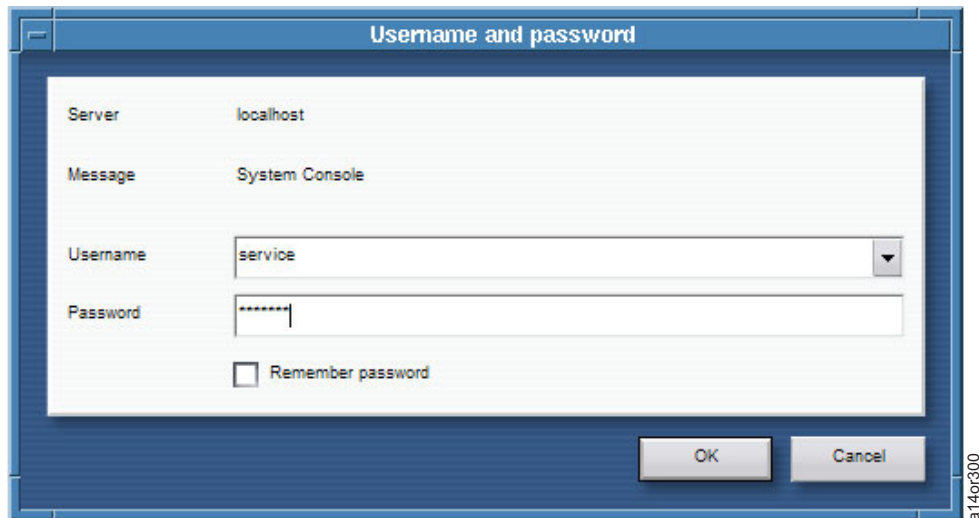


Figure 2-53. Login Username and Password Screen

3. Type **service** in the Username box, type **service** in the Password box, then click **OK** to start the Console Configuration application. You see the Console Configuration Utility screen shown in Figure 2-54.

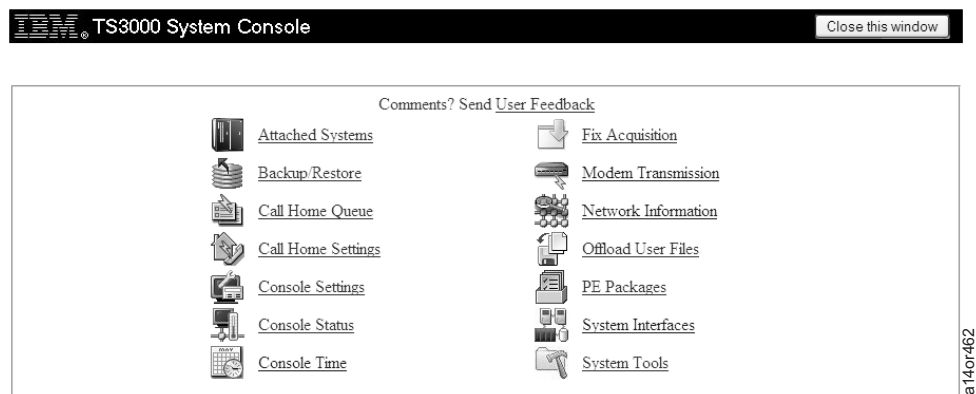


Figure 2-54. Console Configuration Utility Screen

4. Click **Attached Systems**. You see the screen shown in Figure 2-55 on page 2-41.
5. To add a new system, enter the system IP Address in the input fields next to Add System, and click **Add System**. A warning dialog box appears, informing you that it may take several minutes. Click **OK**. You may select numerous systems by using the check boxes to the left of the attached systems.
 - Use the Delete Selected, Edit Selected, and Query Selected buttons to work with the list of systems.
 - Use the Query All button to query all currently-attached systems.

If the application can establish contact with the attached system, the Device-Model, Serial Number, Host Name, and Subnet Mask fields will be filled-in automatically. Otherwise, these fields will be filled in with "NA."

<input type="checkbox"/>	Device-Model	Serial Number	ID	Host Name	IP address	Subnet Mask	Call Home Switched	Standby	Complex System
<input type="checkbox"/>	3584L23	78A3457	1	BLC-A	172.31.1.51	255.255.255.0	1	1	NA
<input type="checkbox"/>	3584L23	78A3629	2	BLC-B	172.31.1.50	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A3292	3	BLC-C	172.31.1.52	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A3628	4	BLC-D	172.31.1.53	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L52	1340013	5	MSBF 1	172.31.1.228	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L52	1340074	6	MSBF3	172.31.1.203	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L53	7819831	7	MSBF4	172.31.1.204	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A2022	8	MSBF11	172.31.1.212	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A2017	9	MSBF12	172.31.1.239	255.255.255.0	1	0	NA

172 . 31 . 1 . Add System

Delete Selected
Edit Selected
Query Selected
Query All
Toggle Standby

View Health
View Events
Update Health

Refresh

Health Legend:

No Problems Returned From System Health Check

Warning(s) Found in System Health Check

Failed Status(es) Found in System Health Check

Offline Status(es) Found in System Health Check

Communication Failure Between TSSC and Attached System

a14or504

Figure 2-55. Add System Screen

- You can set the System Console to periodically check for responses from attached systems (see Step 12 on page 2-75).

Call home records will not be sent for systems that are marked as Standby (such as **3584L23**, Serial Number **78A3457** in the example),

To set a system as Standby or to change a Standby setting, select the appropriate system by using the check boxes to the left of the attached systems. The numeral '1' in the Standby column indicates that system is in standby mode. A '0' in the Standby column indicates that this system is not in standby mode.

After you have selected the appropriate systems, you may toggle between the two settings by repeatedly pressing the button that is labeled Toggle Standby.

- When querying a large number of systems at one time, it can take from several minutes to as long as an hour for the attached system data to be retrieved. If you have a 3958-AP1 or 3958-DE2 configuration, continue at step 4 in "Adding a Complex System." If all systems have been added, click **Close this window** to close the screen.

Adding a Complex System

Use this task to add a complex system if you have a 3958-AP1 or 3958-DE2 configuration.

- Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-50 on page 2-37
- From the Main Menu, select **System Console Actions → Console Configuration Utility**. You will see the Username and password screen as shown in Figure 2-53 on page 2-40
- Type **service** in the Username field; type **service** in the Password field, then click **OK** to start the Console Configuration application. You will see the Console Configuration Utility screen as shown in Figure 2-54 on page 2-40
- Click **Attached Systems**. You will see the screen shown in Figure 2-55
- Click the **Complex View** link in the upper right hand corner.
- Select the type of Complex System you are adding from the drop down list:

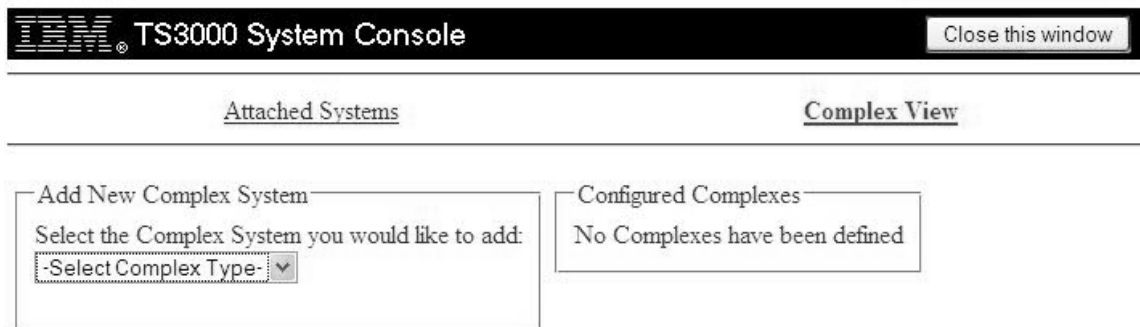


Figure 2-56. Complex System Screen.

7. Enter the serial number and host name of the complex system.
8. Enter the frame IP range for the complex system. **NOTE:** If the systems you are creating the complex for are 172.31.1.100 and 172.31.1.105, then enter 100 for the frame IP range. The TSSC will find the correct systems for creating the complex with, and add them to the complex. If the 3958-AP1 complex is a single 3958-AP1 cluster, it will only add the one system to the complex.
9. Click the **Add Complex** button, when the system is added correctly. You will see a message confirming the complex system was added successfully; the screen will return with the new system shown on the right:

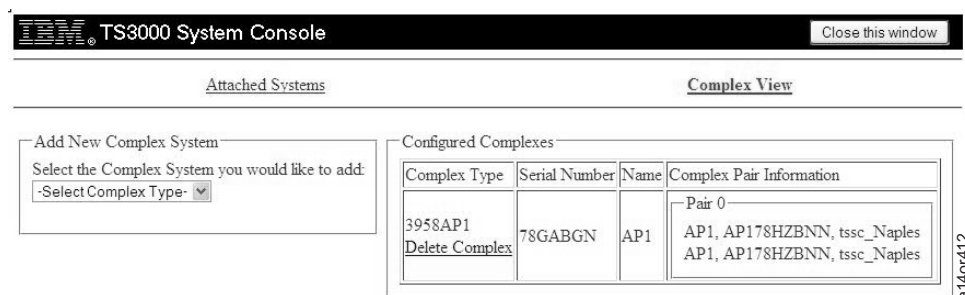


Figure 2-57. Add New Complex System Screen - 1.

10. To delete a complex system click the **Delete Complex** link below the Complex Type.

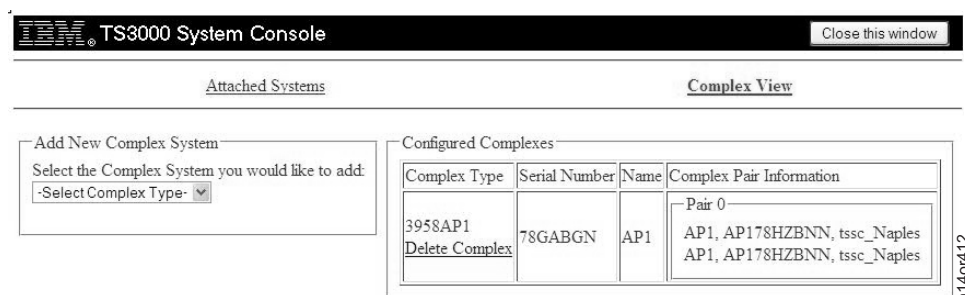


Figure 2-58. Add New Complex System Screen - 2.

11. When all systems have been added, click **Close this window** to close the screen.

Adding a 3584 Model SC1 Complex System

Use the following procedures to add a 3584 model SC1 shuttle complex system.

1. Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-50 on page 2-37
2. From the Main Menu, select **System Console Actions → Console Configuration Utility**. You will see the Username and password screen as shown in Figure 2-53 on page 2-40
3. Type **service** in the Username field; type **service** in the Password field, then click **OK** to start the Console Configuration application. You will see the Console Configuration Utility screen as shown in Figure 2-54 on page 2-40
4. Click **Attached Systems**. You will see the screen shown in Figure 2-55 on page 2-41
5. Click the **Complex View** link in the upper right hand corner.
6. Under **-Select Complex Type-** select **3584 Complex** from the drop down list:

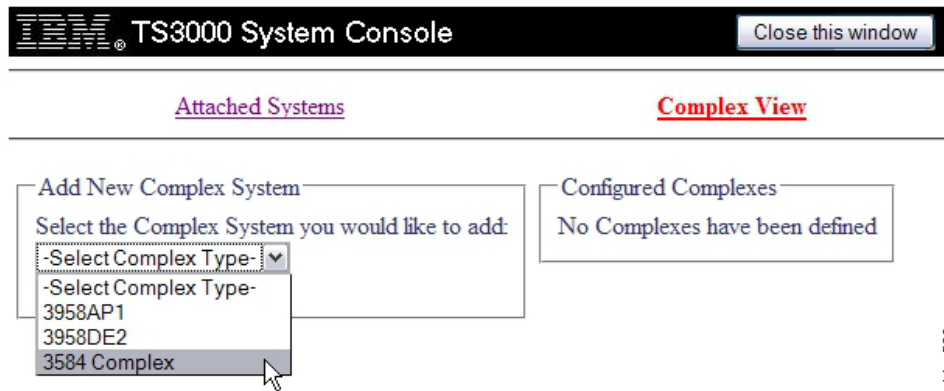


Figure 2-59. 3584 Complex Screen.

7. Enter a **3584 Complex Name** and click **Add Complex**.

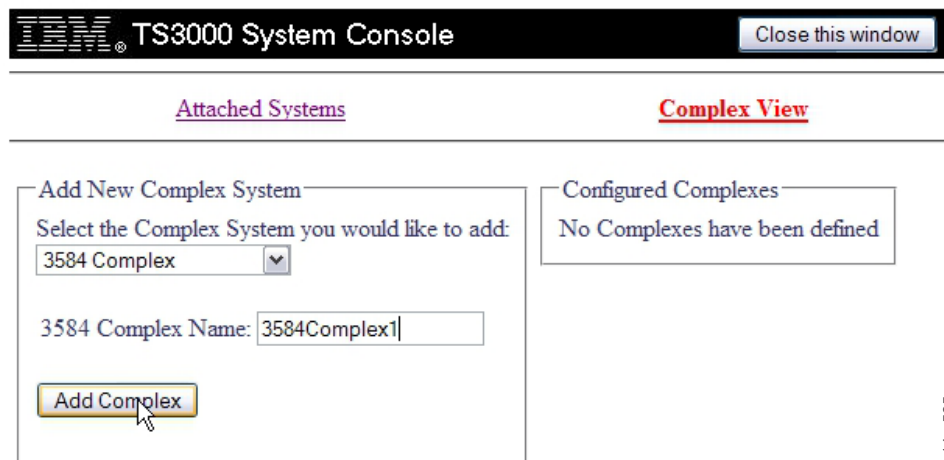


Figure 2-60. Add Complex Screen.

The following screen will be displayed showing the complex just added:

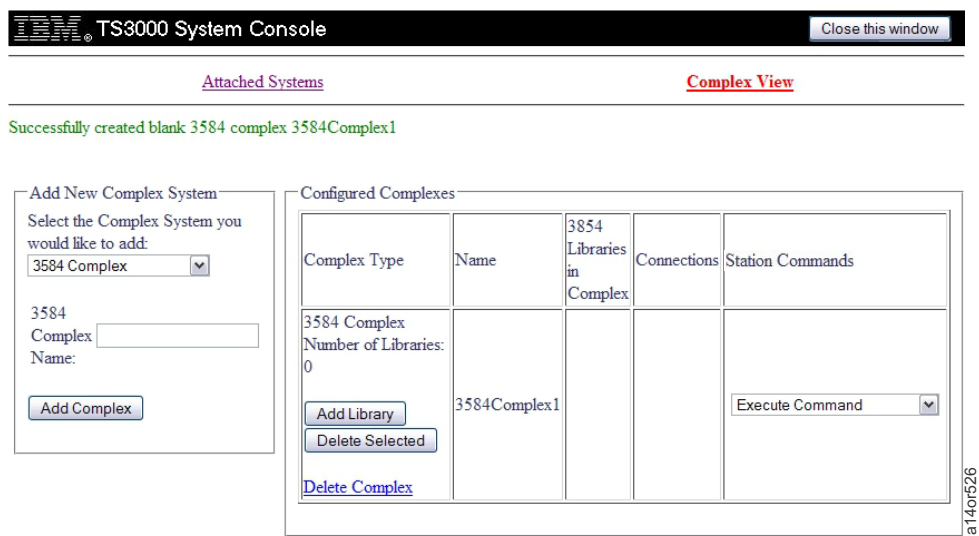


Figure 2-61. 3584 Complex Added.

8. Click **Add Library**.

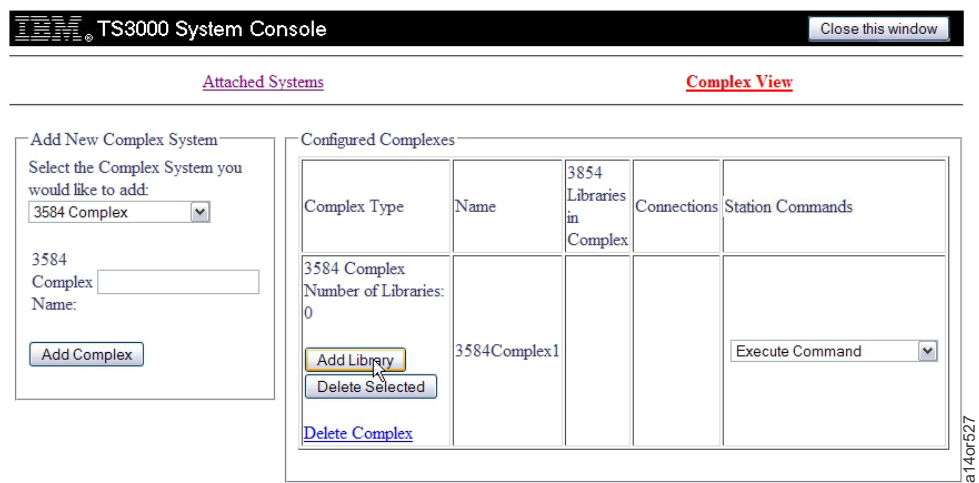


Figure 2-62. Add Library.

- Under "Add Library to 3584 Complex" click on the **Select 3584** dropdown box and select the first library in the shuttle span. Click **Apply**.

IBM TS3000 System Console

Close this window

Attached Systems **Complex View**

Add New Complex System
Select the Complex System you would like to add:
3584 Complex
3584 Complex Name:
Add Complex

Configured Complexes

Complex Type	Name	3584 Libraries in Complex	Connections	Station Commands
3584 Complex	3584Complex1	Number of Libraries: 0		Execute Command

Add Library to 3584 Complex

Select 3584
Select 3584
13AAA16 - 13AAA16
7822329 - 7822329
13AAA14 - cities

140r528

Figure 2-63. Add Library to 3584 Complex.

- The following screen shows the added library.

IBM TS3000 System Console

Close this window

Attached Systems **Complex View**

3584 library 13AAA16 successfully added to 3584Complex1

Add New Complex System
Select the Complex System you would like to add:
-SelectComplexType-
Add Library
Delete Selected
Delete Complex

Configured Complexes

Complex Type	Name	3584 Libraries in Complex	Connections	Station Commands
3584 Complex	3584Complex1	Number of Libraries: 1 13AAA16 13AAA16	000000000000	Execute Command

140r529

Figure 2-64. Add Library.

11. Select **Add Library** to add the next 3584 library in the shuttle span. The screen now shows TWO libraries. **Note:** To delete a library: Select a box under "3584 Libraries in Complex" and click **Delete Selected**).

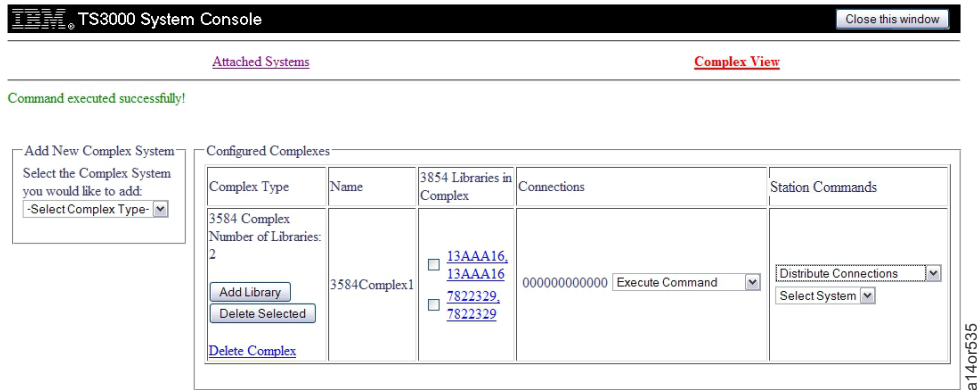


Figure 2-65. Add Second Library in Shuttle Span.

12. Click on the serial number of each library in the "3584 Libraries in Complex" column to bring up the Web Specialist for each library. Click **Library** → **Shuttle Stations**. Verify the shuttle stations are assigned to the correct logical library for each library.
13. See the following screen. In the "Station Commands" box, use the **Execute Command** dropdown box to select **Discover Connections**.

Note: The Discover Connections command is a process where the shuttle car will move and discover all the stations in a shuttle connection. It will then send the data gathered to all other libraries in the shuttle span.

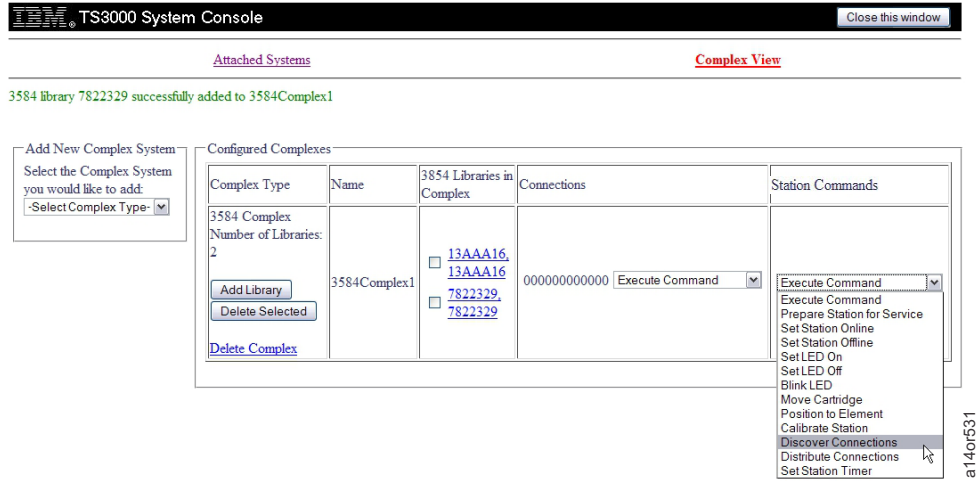


Figure 2-66. Discover Connections.

14. In the "Station Commands" box, under the **Select System** dropdown box, select the IP address of the library where the shuttle car is currently located.

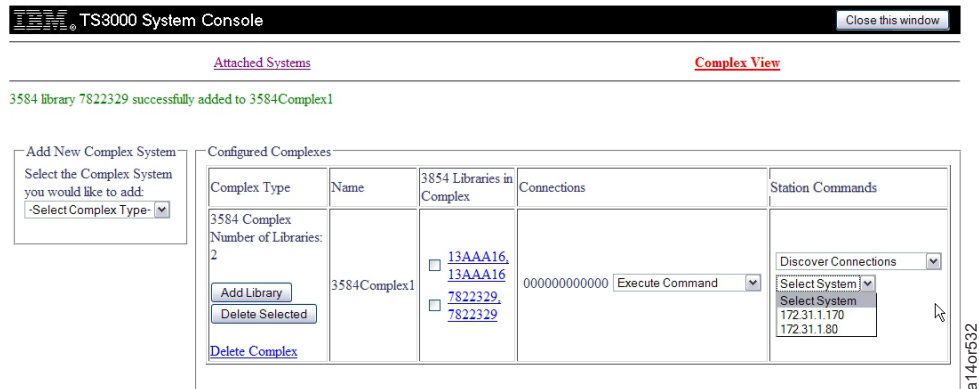


Figure 2-67. Select System Where Car Located.

15. See the following two screens. Under **Select Station** dropdown box, select the station number. In the example below the station is located in frame 3. Service Bays are **NOT** included in the frame count.
16. Click **Execute** and **OK**.

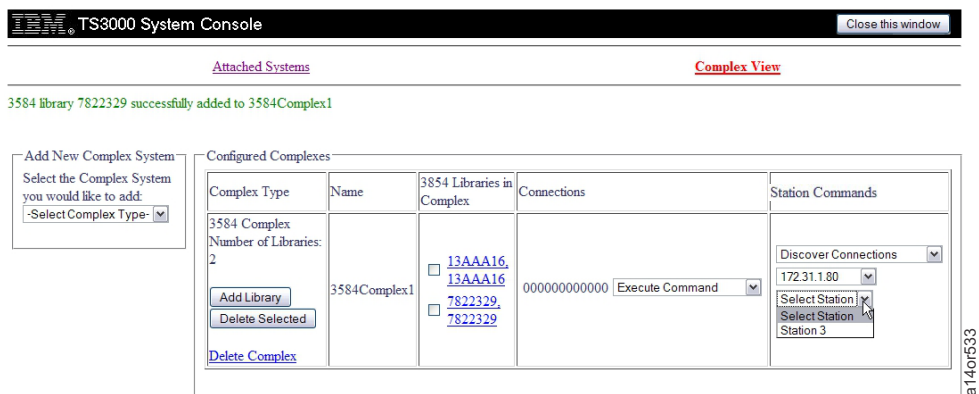


Figure 2-68. Select Station.

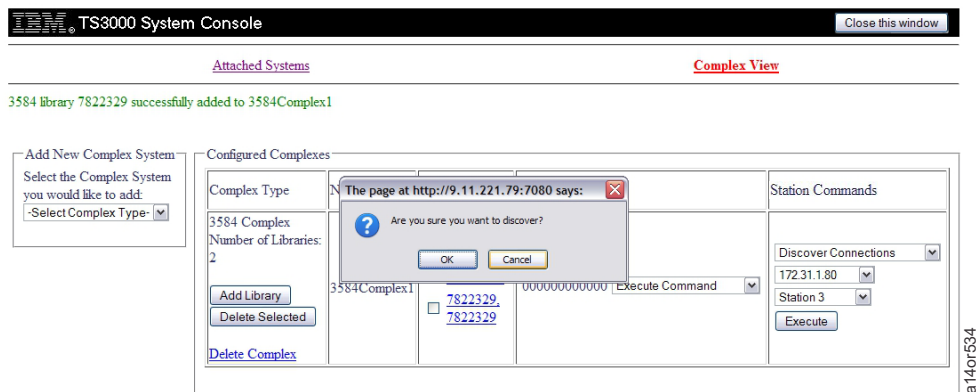


Figure 2-69. Execute Select Station.

17. See the following screen. In the "Station Commands" box, use the **Execute Command** dropdown box to select **Distribute Connections**.

Note: The Distribute Connections command is a process where the shuttle car sends the data from the Discover process to each library in the shuttle span.

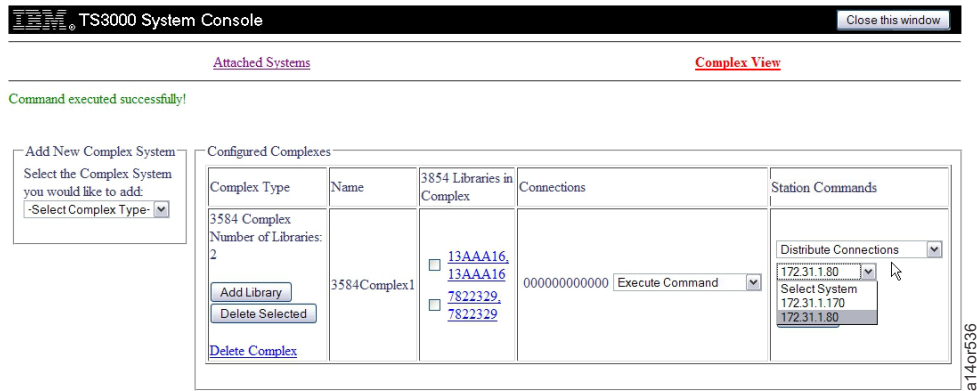


Figure 2-70. Distribute Connections - Select Next Library in Shuttle String.

18. In the "Station Commands" box, under the **Select System** dropdown box, select the IP address of the library where the shuttle car is currently located.
19. See the following screens. Under **Select Station** dropdown box, select the station number. In the example below the station is located in frame 3. Service Bays are **NOT** included in the frame count.
20. Click **Execute** and **OK**.

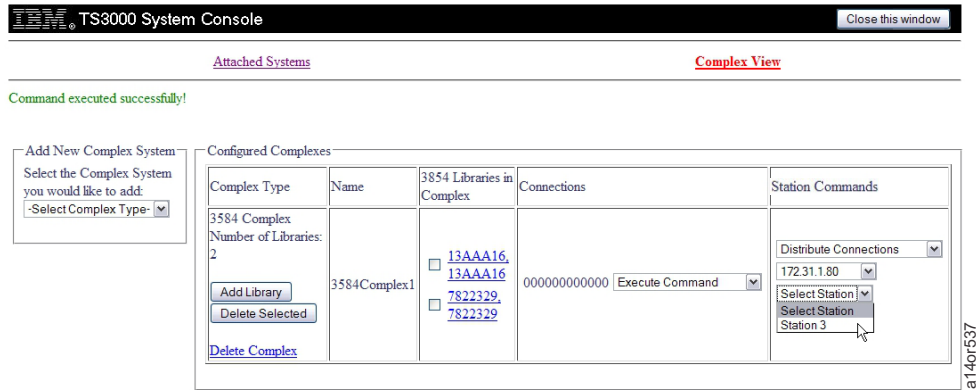


Figure 2-71. Select Station.

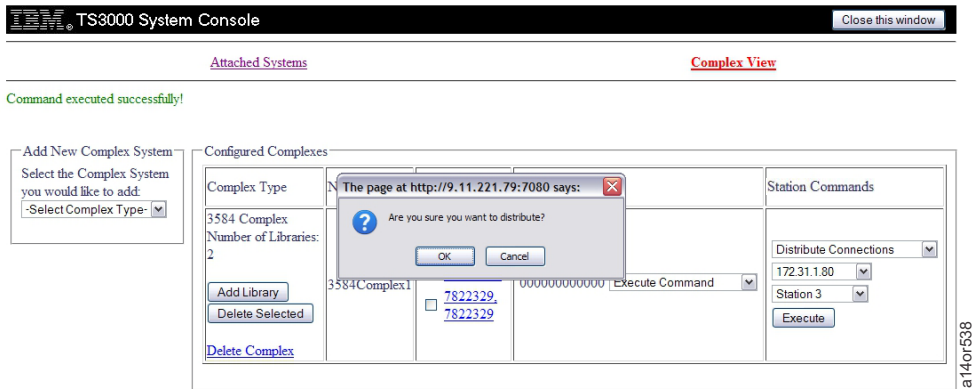


Figure 2-72. Select Station - Execute.

21. Repeat steps 13 on page 2-46 through 20 on page 2-48 for each shuttle span.
22. Ask the customer to run a host discovery command (SCS). The shuttle map is now created.
23. See the following screens. Go to the Web User Interface of each library in the span. Click on **Shuttle View X** where 'X' is the selected library, and verify the configuration is correct.

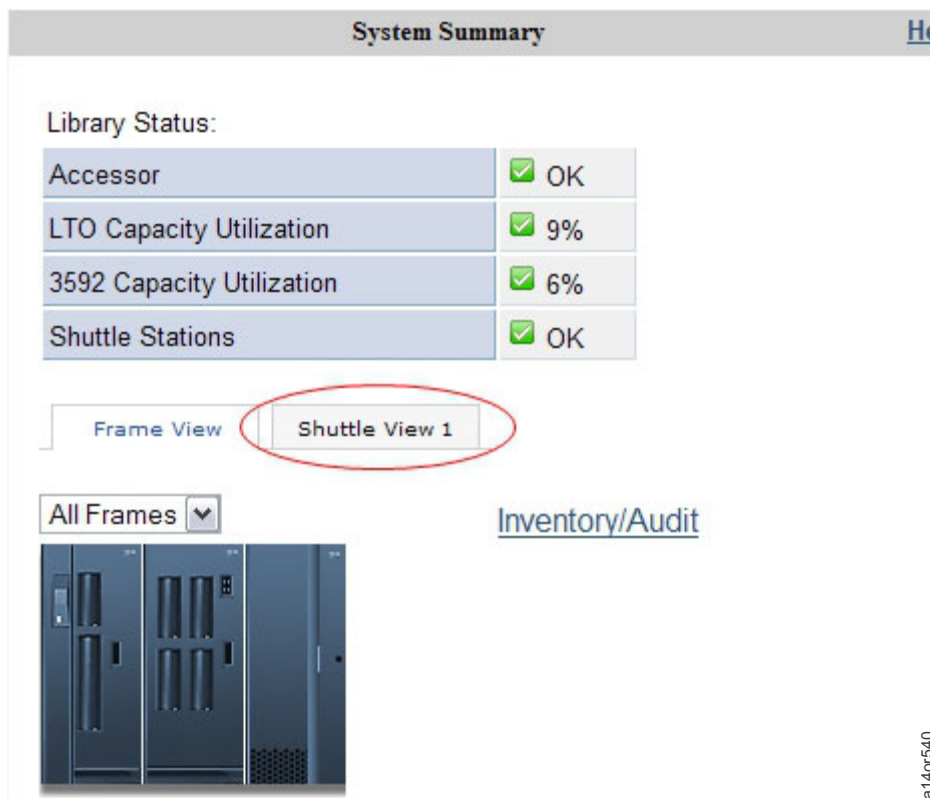


Figure 2-73. Web UI Shuttle View.

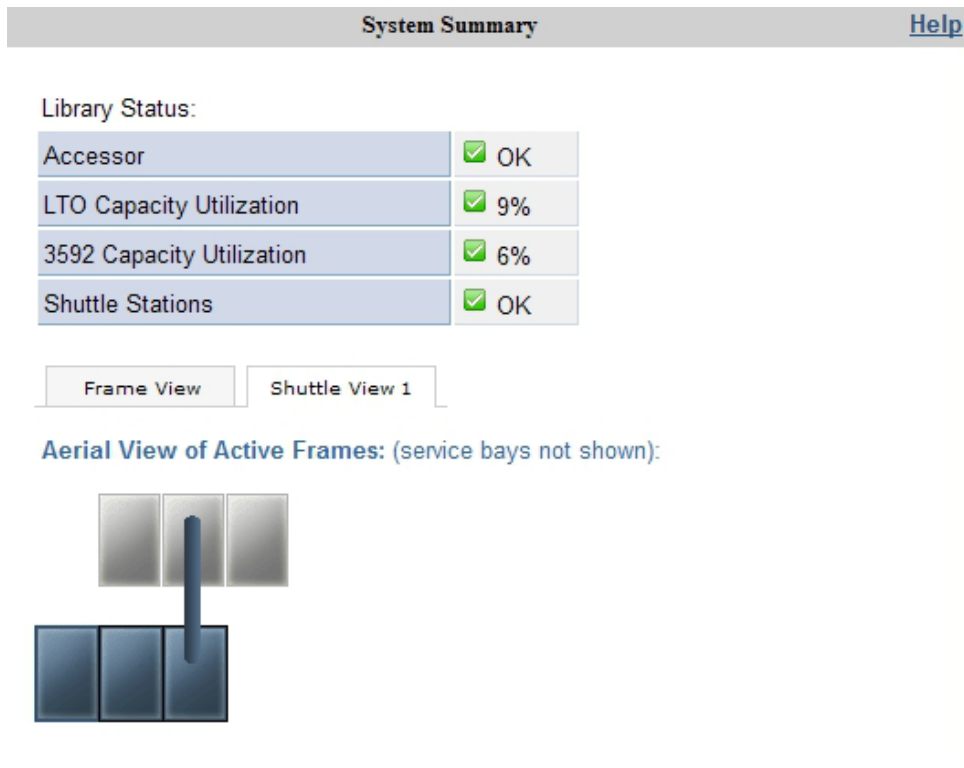


Figure 2-74. Web UI Shuttle View.

24. If the configuration and connections are good, this verifies the host discovery was successful.
25. Under **Connections**, use the **Execute Command** dropdown box to select **Connection Verify** which will retrieve and move a diagnostic cartridge to each station in the connection. Do this for each span in the complex. Connection Verify commands can be run concurrently.

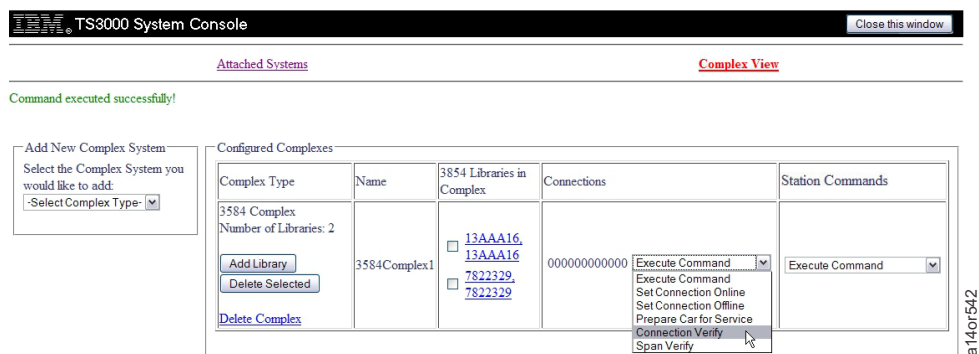


Figure 2-75. Connection Verify.

26. Under **Connections**, use the **Execute Command** dropdown box to select **View/Set Connection Serial**. Type in the serial number of the connection on the label located on the base station (where the agency label is located) and click **Update**.
27. Do the above step for each connection in the complex.

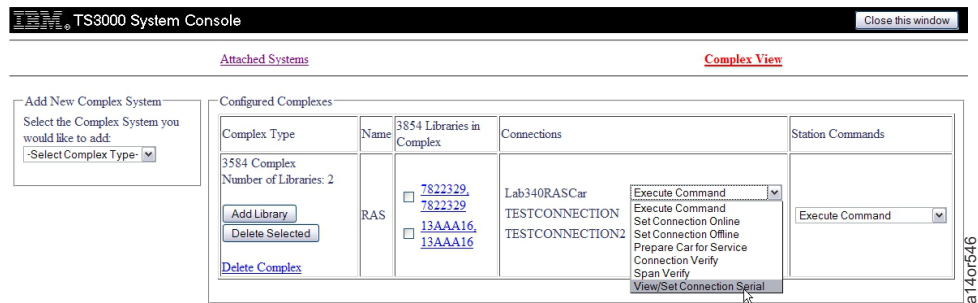


Figure 2-76. View/Set Connection Serial.

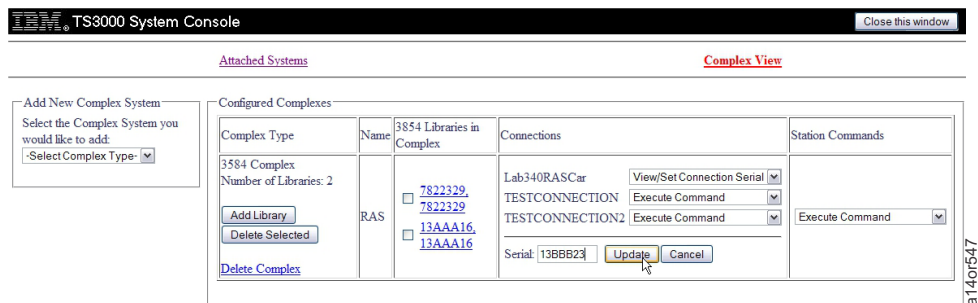


Figure 2-77. Connection Serial Number.

28. When completed, click **Close this window** to close the screen.
29. After successful completion, turn the system over to the customer.
30. Go back to the Shuttle Feature Code install instructions to complete the installation.

Installing DS6000 Graphical User Interface (GUI)

Use this procedure to install the DS6000 graphic user interface (GUI). Only perform this procedure if you are attaching a TS7740 (3957) with a 3956 CC6 to the System Console.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Browser Functions > DS6000 GUI Functions > Install GUI**. A Terminal window appears, and prompts you to insert the DS6000 Graphical User Interface CD-ROM.

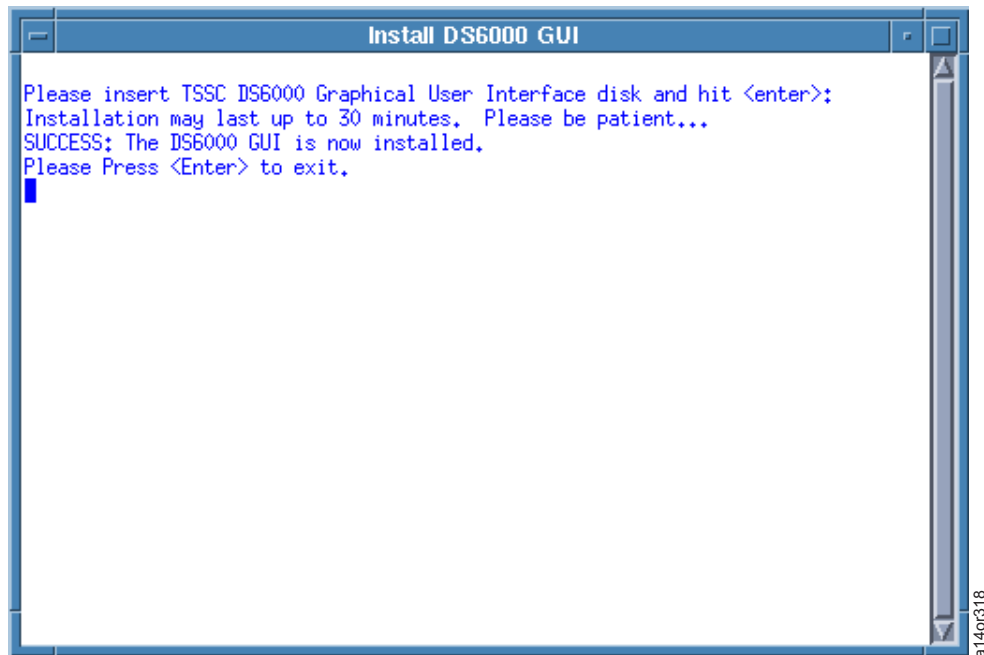


Figure 2-78. Install DS6000 GUI

3. Insert the CD-ROM, and press **Enter**. Installation of the GUI begins. This can take as long as thirty minutes to complete.
4. The message "SUCCESS" displays when the installation is complete. Remove the CD-ROM from the System Console.

Installing Storage Manager (SM) Graphical User Interface (GUI)

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. Please be sure to follow the installation screens exactly, as you must make sure to **not install the Support Monitor in code level 10.50 or greater.**

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Browser Functions > Storage Manager GUI Functions > Install GUI.** A Terminal window that is similar to Figure 2-78 on page 2-52 appears and prompts you to insert the appropriate Storage Manager Graphical User Interface CD-ROM.
3. Insert the CD-ROM, and press **Enter.** Installation of the GUI begins. This can take as long as thirty minutes to complete.

Use this procedure to install the Storage Manager graphic user interface (GUI). Only perform this procedure if you are attaching a 3957–V06/V07 (with a DS4000 cache), 3957–VEA/VEB, 3958–DD1, 3958–DD3, 3958–DD4, or a 3958–AP1 to the System Console.

If you have a previously installed Storage Manager GUI, you will be presented the current levels of code installed as well as the level you are currently installing. If you are installing the 10.50 level or greater of Storage Manager GUI, the *Versions to be installed:* section will be blank. Press **y** to continue with the install.

4. **Note:** If you are installing the 10.50 or greater GUI, continue through the following screen shots. If you are installing the 10.36 GUI continue at step 5 on page 2-56

Table 2-6. Code Level 10.50 or Greater Installation Screens

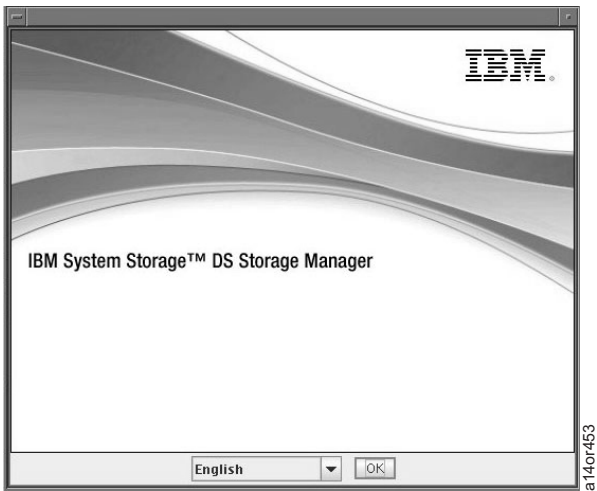


Figure 2-79. Welcome Screen

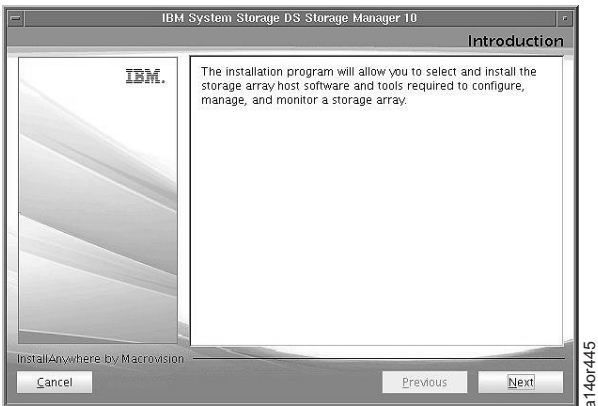


Figure 2-80. Introduction Screen

Table 2-6. Code Level 10.50 or Greater Installation Screens (continued)

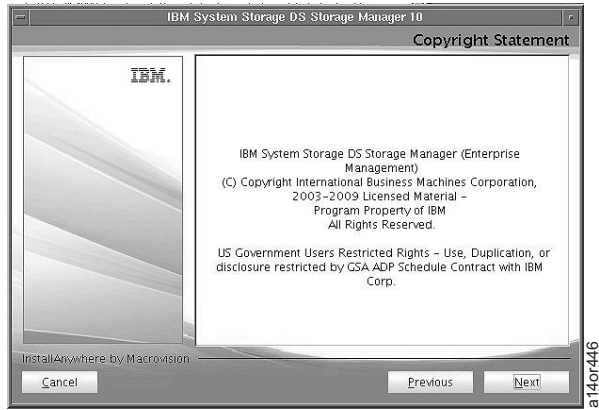


Figure 2-81. Copyright Statement



Figure 2-82. License Agreement



Figure 2-83. Overwrite Warning



Figure 2-84. Select Custom Installation Type

Table 2-6. Code Level 10.50 or Greater Installation Screens (continued)

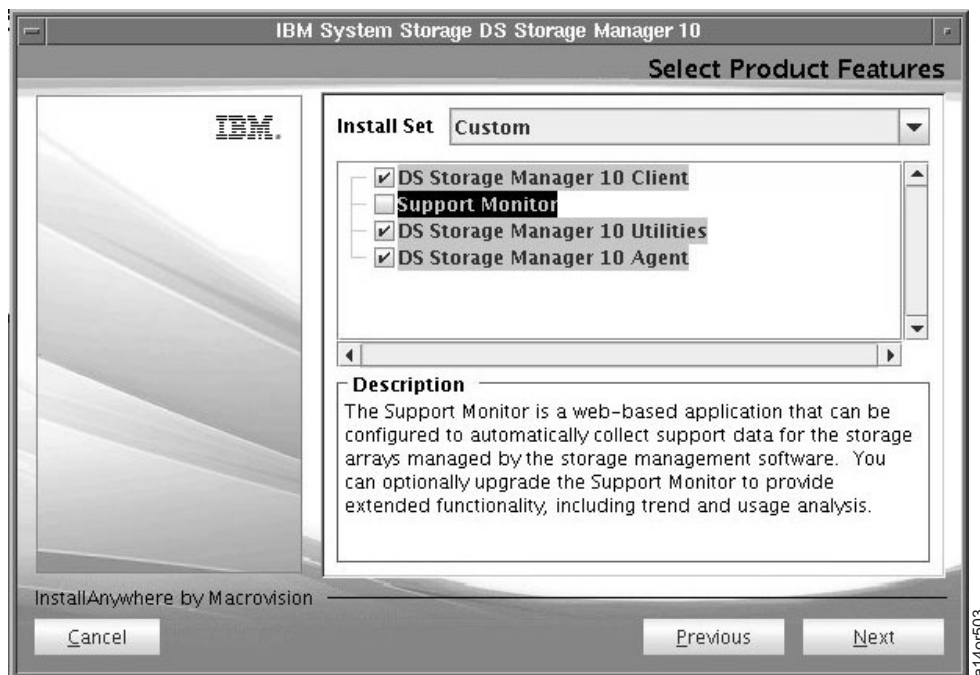


Figure 2-85. Make sure the checkbox next to the Support Monitor entry is **NOT** selected. All other entries should remain checked.

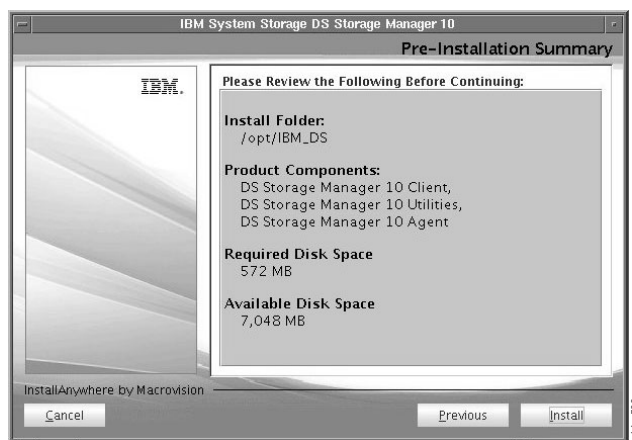


Figure 2-86. Pre-Installation Summary

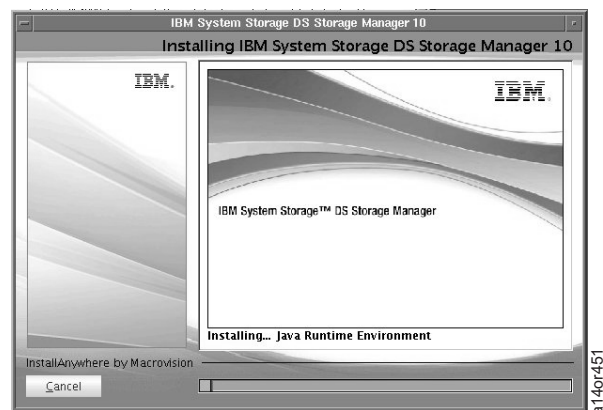


Figure 2-87. Installing the GUI

Table 2-6. Code Level 10.50 or Greater Installation Screens (continued)



Figure 2-88. Install Complete

5. The message "SUCCESS" displays when the installation is complete. Remove the CD-ROM from the System Console.

Installing ProtecTIER Manager Graphical User Interface (GUI)

Use this information to install the ProtecTIER Manager graphic user interface (GUI). Use this information only if you are installing a 3958 system to the System Console.

To read about launching the GUI, see “Launching ProtecTIER Manager Graphical User Interface (GUI)” on page 3-73.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **Browser Functions > ProtecTIER Functions > Install GUI**. You are prompted to insert the CD into the TSSC CD drive. Press **Enter**. Installation of the GUI begins.
3. You see the Introduction screen in Figure 2-89 on page 2-57. Click **Next**.

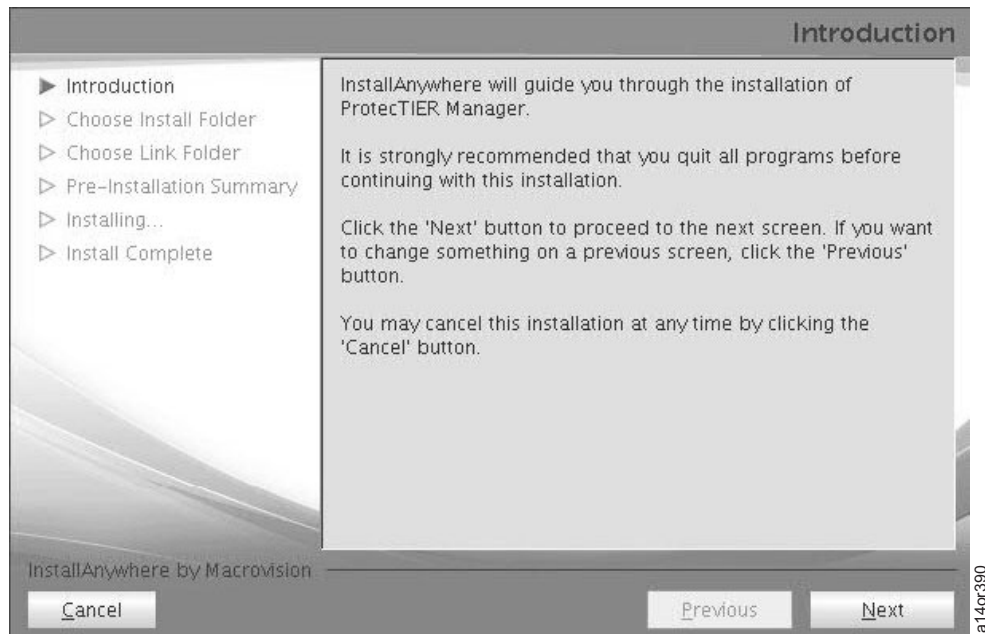


Figure 2-89. Introduction to ProtecTIER GUI Manager InstallAnywhere Screen

4. Read and accept the terms which are depicted on the License screen (not shown). Select **I accept both the IBM and the non-IBM terms**, and click **Next**.
5. You see Figure 2-90. This screen shows you where the ProtecTIER GUI Manager software will be installed.

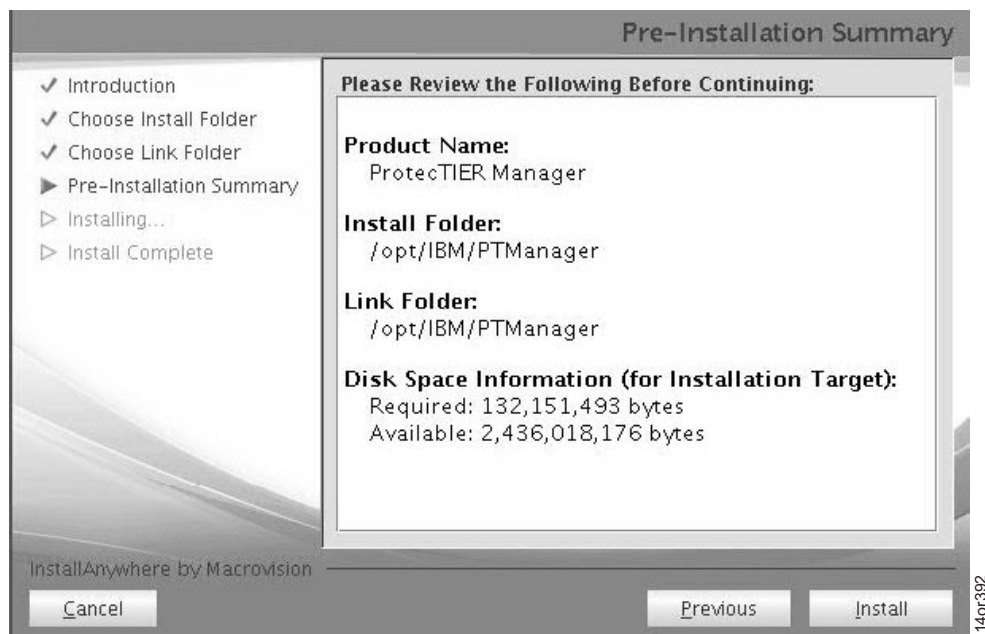


Figure 2-90. Pre-Installation Summary Screen

6. Click **Install** to continue. You see an Installing ProtecTIER Manager screen (not shown).
7. When the installation successfully completes, you see an Install Complete screen (not shown). Click **Done**.

Upgrading ProtecTIER Manager Graphical User Interface (GUI)

Use this information to upgrade the ProtecTIER Manager Graphical User Interface (GUI). Use this information only if you are installing a 3958 machine to the System Console.

To read about launching the GUI, see “Launching ProtecTIER Manager Graphical User Interface (GUI)” on page 3-73.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **Browser Functions -> ProtecTIER Functions -> Upgrade GUI**.
3. You will be informed that the existing version of ProtecTIER Manager will be uninstalled before updating. Continue by typing **y** and press Enter.
4. The uninstall program will launch and you will see the Uninstall ProtecTIER Manager window shown in Figure 2-91. Click **Uninstall**.

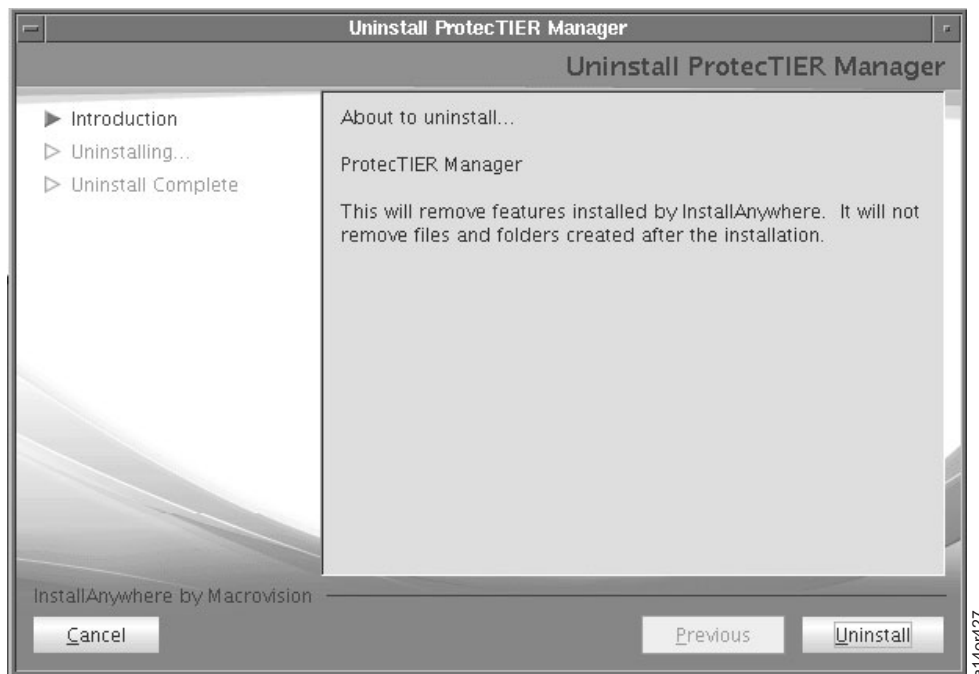


Figure 2-91. Uninstall ProtecTIER Manager Window

5. A message will be displayed stating that all items were successfully uninstalled. Press **Done** to close this window.
6. Next you are prompted to insert the ProtecTIER Manager Graphical User Interface disk. Insert the CD and press **Enter**.
7. You will see the Figure 2-92 on page 2-59. Click **Next**.

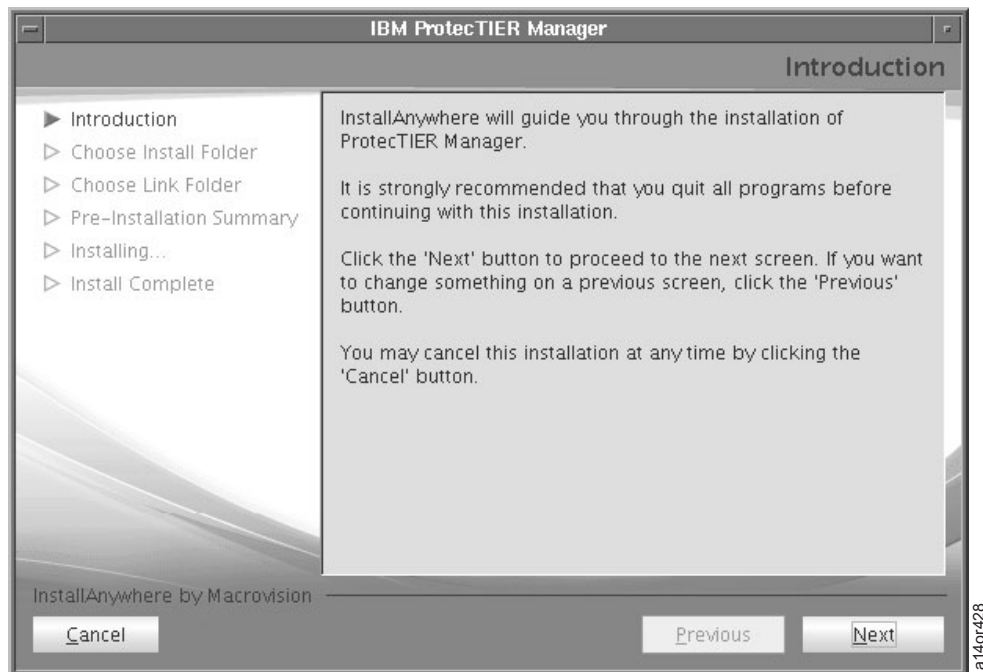


Figure 2-92. Introduction Screen

8. Read and accept the terms which are depicted on the License screen (not shown). Select **I accept both the IBM and the non-IBM terms**, and click **Next**.
9. You will see the Figure 2-93. This screen shows you where the ProtecTIER GUI Manager software will be installed.

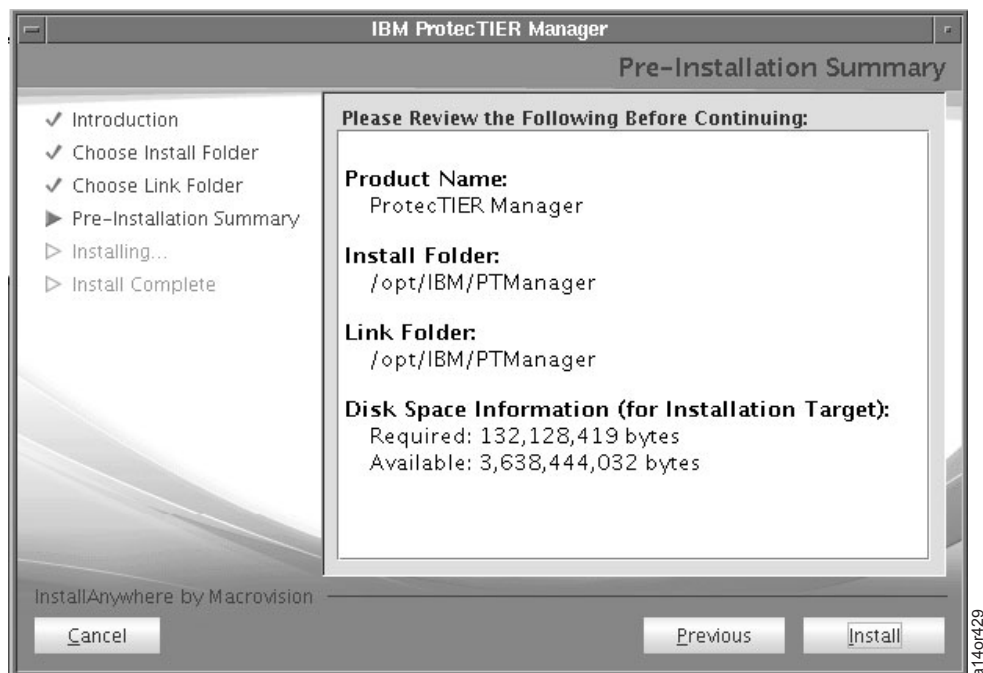


Figure 2-93. Pre-Installation Summary Screen

10. Click **Install** to continue. You see an Installing ProtecTIER Manager screen (not shown).

11. When the installation successfully completes, you see an Install Complete screen (not shown). Click **Done**.

Console Settings

The System Console comes pre-configured with the default IP address 172.31.1.1, subnet mask 255.255.0.0, and hostname 'tssnet1,' on the Internal Network Interface (see Figure 2-94 on page 2-61). This interface is used to communicate with the tape subsystems, as seen in Figure 2-1 on page 2-2. Normally, you will not need to change these settings, since the System Console operates on a dedicated network.

The System Console External and Grid Network Interfaces do not come pre-configured. You must use the Console Settings dialog box to set up these interfaces, if you are to use Intranet (high-speed) call home method or Autonomic Ownership Takeover Manager function.

1. Right click from anywhere in the Desktop to view the Main Menu, shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** --> **Console Configuration Utility**. The Login screen displays, as shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the Console Configuration Application screen shown in Figure 2-54 on page 2-40.

Note: To login remotely from another System Console, you must obtain an Authentication ID (see "Login Options" on page 2-37). Launch your browser, and enter the System Console location into the Address field. Enter your Authentication ID into the Username field and your password into the Password field. Click **OK** to start the Console Configuration utility.

4. Click **Console Settings**. You see Figure 2-94 on page 2-61.

TS3000 System Console Close this window

IP Settings [Security Settings](#) [SSL Certificates](#) [Custom Firewall Settings](#)

Internal Network Interface

IP Address: . . .
Subnet Mask: . . .
Status: **Connected**

External Network Interface

Enable: ☐ IPv4 ☐ IPv6 ☒ Both
☐ Obtain IP Address Automatically
IP Address: . . .
Subnet Mask: . . .
Obtain IPv6 Address: ☐ Using DHCP ☐ Using Stateless Autoconfig ☒ Manually
IPv6 Address: : : : : : : : /
Status: **Connected**

Grid Network Interface

Enable: ☐ IPv4 ☐ IPv6 ☒ Both
IP Address: . . .
Subnet Mask: . . .
Grid Gateway: . . .
Obtain IPv6 Address: ☐ Using DHCP ☐ Using Stateless Autoconfig ☒ Manually
IPv6 Address: : : : : : : : /
IPv6 Gateway: : : : : : : :
Status: **Disconnected**

System Properties

Hostname:
Domain Name:
DNS1: . . .
DNS2: . . .
DNS3: . . .
IPv6 DNS1: : : : : : : :
IPv6 DNS2: : : : : : : :
IPv6 DNS3: : : : : : : :
Search Domain 1:
Search Domain 2:
Search Domain 3:
Default Gateway: . . .
IPv6 Default Gateway: : : : : : : :
Refresh Save Changes Cancel

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Figure 2-94. Console Settings

- You can change the entries by typing new values in the indicated fields. If you need to change the hostname or the internal IP address of the System Console, you also will need to change this information on each tape system attached to the System Console. See “Tape System Call Home Setup for VTS, VTC, and Tape Controllers” on page 2-21 or “Using 3494 ATL or 3953 Enterprise Library Controller Web Specialist to Change System Console Settings” on page 2-30 to perform these additional tasks.

Note: See “Feature Codes” on page 2-2 to locate external ports for Grid and External Network Interfaces.

- All network interface entries display their status as either **Connected** or **Disconnected**. These designations signify whether or not the TSSC sees a working connection at each interface, and they can be used to help troubleshoot connectivity problems.

6. Contact your network administrator to obtain an unused Grid IP address if you plan to set up Autonomic Ownership Takeover Manager (AOTM) for the IBM TS7700 Virtualization Engine. To set up AOTM, connect your Grid network to the Grid Network Interface that is located in the back of your server. See Figure 2-6 on page 2-5, Figure 2-8 on page 2-6, and Figure 2-10 on page 2-7 for locations. Use “Setting Up Autonomic Ownership Takeover Manager (AOTM)” on page 2-16 to enter the connection settings. Return here after setting up and testing AOTM.

Note: The Grid Network Interface should only be used for TS7700 peer-to-peer networks with the AOTM function. Unless previously mentioned, other uses are not supported.

7. Contact your network administrator to obtain an internet connection, if you have selected the IBM Intranet or Autoselect call home methods. To set up the broadband interface, connect the internet connection to the External Ethernet Interface that is located in the back of your server. See Figure 2-6 on page 2-5, Figure 2-8 on page 2-6, or Figure 2-10 on page 2-7 for location. Enter the information for this interface into the External Network Interface input area depicted in Figure 2-94 on page 2-61.

Notes:

- The External Network Interface should only be used for call home purposes. Unless previously mentioned, other uses are not supported.
- When you set up the External Network Interface, you might need to enter a default gateway setting. Obtain this setting from your network administrator, and enter the address into the Default Gateway input area of Figure 2-94 on page 2-61.
- After you have entered an address, you can test the interface by pinging another location on the customer network. Click on Network Information from the screen in Figure 2-54 on page 2-40 for this option.
- The External and Grid networks can both be assigned IPv6 addresses. This can be done manually through DHCP (if a DHCPv6 server is running on the network) or by using IPv6 Stateless Auto-configuration.
- If IPv6 is enabled for External, the IPv6 DNS and IPv6 Default Gateway entries will appear in System Properties.
- Selecting IPv4 will hide these entries if they are not being used. Selecting IPv6 will hide the IPv4 entries.

8. Click **Save Changes**.

| **Security Settings**

| Use this page to create, modify, delete and assign authentication policies. There are two type of policies for authentication, System Storage™ Productivity Center or native LDAP using Microsoft Active Directory (MSAD). LDAP use is dictated by the customer's environment, so you must collect the pertinent information from the customer when creating policies and logging in to the TSSC.

| The authentication policy will apply to both local and remote accounts.

| Use this information to update Security settings.

- | 1. Right click from anywhere in the Desktop to view the Main Menu, shown in Figure 2-52 on page 2-39.
- | 2. From the Main Menu, select **System Console Actions -> Console Configuration Utility**.
- | 3. From Figure 3-93 on page 3-74, select **Console Settings -> Security Settings**. You see the screen shown in Figure 2-95 on page 2-63:

|

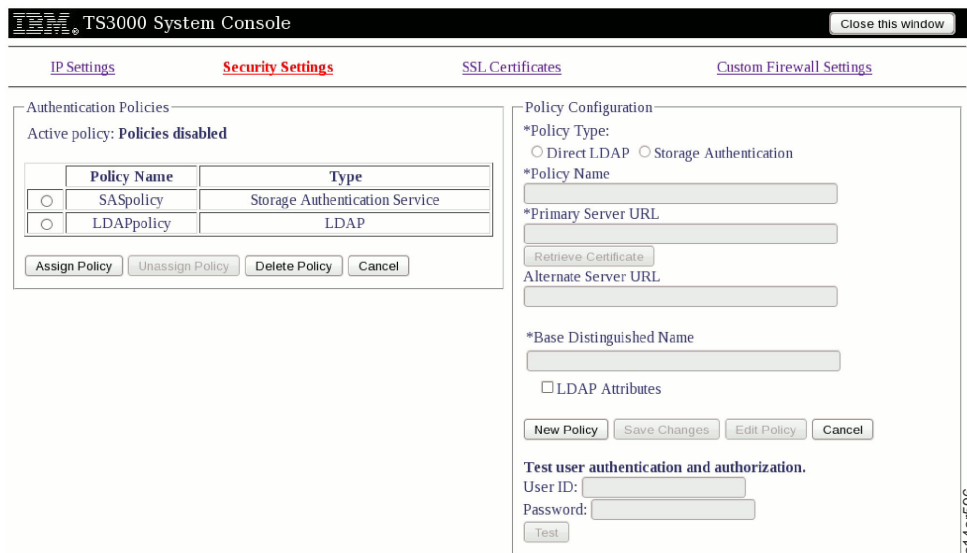


Figure 2-95. Security Settings

Creating a Storage Authentication Service (SAS) policy or Direct LDAP policy:

1. Click the **New Policy** Button in the Policy Configuration panel to enable the configuration fields.
2. Select the policy type **SAS** or **Direct LDAP**.
3. Enter values for the following required fields:

Policy Name

The name of the policy that defines the authentication settings. The policy name is a unique value composed of one to 50 Unicode characters. Blank spaces and special characters are not permitted.

Primary Server URL

The primary URL for the Storage Authentication Service. The value in this field is composed of one to 254 Unicode characters and takes one of the following formats:

```
https://<server_address>:secure_port/TokenService/services/Trust
ldap://<server_address>:port
```

Note: If this value is a Domain Name Server (DNS) address you must activate and configure a DNS server on **Console Settings** -> **IP Settings** page.

Enter values for any of the optional fields you want to define:

Alternate Server URL

The alternate URL for the Storage Authentication Service if the primary URL cannot be accessed. The value in this field is composed of one to 254 Unicode characters and takes one of the following formats:

```
https://<server_address>:secure_port/TokenService/services/Trust
ldap://<server_address>:port
```

| Notelist:

| The server address value in the Primary or Alternate Server URL can be an IP or DNS address. Valid IP formats include:

| **IPv4**

| Is 32 bits long, consists of four decimal numbers, each ranging from 0 to 255, separated by periods, like:

| 98.104.120.12

| **IPv6**

| Is an 128-bit long hexadecimal value enclosed by brackets and separated into 16-bit fields by colons, like:

| [3afa:1910:2535:3:110:e8ef:ef41:91cf]

| Leading zeros can be omitted in each field, so that :0003: can be written as :3:. A double colon (::) can be used once per address to replace multiple fields of zeros. For example,

| [3afa:0:0:0:200:2535:e8ef:91cf]
| can be written as:
| [3afa::200:2535:e8ef:91cf]

| If the Primary or Alternate Server URL uses the https protocol, a certificate for that address must be defined on the SSL Certificates page or retrieved with the Retrieve Certificates.

| **Server Authentication**

| Values in the following fields are required if WebSphere® Application Server security is enabled on the WebSphere Application Server hosting the Authentication Service.

| User ID

| The user name used with HTTP basic authentication for authenticating to the Storage Authentication Service. This field supports a maximum length of 254 Unicode characters.

| Password

| The password used with HTTP basic authentication for authenticating to the Storage Authentication Service. This field supports a maximum length of 254 Unicode characters.

Policy Configuration

*Policy Type:
☐ Direct LDAP ☒ Storage Authentication

*Policy Name

*Primary Server URL

Alternate Server URL

A user ID and password are required if authentication is enabled on the server hosting the authentication service.

*User ID:

*Password:

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Figure 2-96. Creating Storage Authentication Policy

Direct LDAP

Values in the following fields are required.

User Distinguished Name

The user distinguished name used to authenticate to the LDAP authentication service. This field supports a maximum length of 254 Unicode characters. For example:

CN=Administrator,CN=users,DC=mycompany,DC=com

If you selected Add Direct LDAP Policy in Step 2, enter values for LDAP Attributes:

Base Distinguish Name

The LDAP distinguished name (DN) that uniquely identifies a set of entries in a realm. This field is required but blank by default. The value in this field is composed of one to 254 Unicode characters.

Username Attribute

The attribute name used for the username during authentication. This field is required and contains the value uid by default. The value in this field is composed of one to 61 Unicode characters.

Group Member Attribute

The attribute name used to identify group members. This field is optional and contains the value member by default. This field can contain up to 61 Unicode characters.

| **Group Name Attribute**

| The attribute name used to identify the group during authorization. This field is optional and contains the value cn by default. This field can contain up to 61 Unicode characters.

| **Username filter**

| Used to filter and verify validity of an entered username. This field is optional and contains the value (uid={0}) by default. This field can contain up to 254 Unicode characters.

| **Group Name filter**

| Used to filter and verify validity of an entered group name. This field is optional and contains the value (cn={0}) by default. This field can contain up to 254 Unicode characters.

|
|

The screenshot shows a 'Policy Configuration' dialog box. At the top, it has a title bar 'Policy Configuration'. Below the title bar, there are several sections. The first section is '*Policy Type:' with two radio buttons: 'Direct LDAP' (selected) and 'Storage Authentication'. The second section is '*Policy Name' with a text box containing 'LDAPpolicy'. The third section is '*Primary Server URL' with a text box containing 'ldap://127.0.0.1:8080' and a 'Retrieve Certificate' button. Below that is 'Alternate Server URL' with an empty text box. The fourth section is '*Base Distinguished Name' with a text box containing 'CN=Administrator,CN=users,DC=mycompany,DC=com'. The fifth section is 'LDAP Attributes' with a checked checkbox. Below this are five rows of labels and text boxes: 'Username Attribute:' with 'uid', 'Group Member Attribute:' with 'member', 'Group Name Attribute:' with 'cn', 'User name filter:' with '(uid={0})', and 'Group name filter:' with '(cn={0})'. At the bottom, there are four buttons: 'New Policy', 'Save Changes', 'Edit Policy', and 'Cancel'. On the right side of the dialog box, there is a vertical text label 'at14cr595'.

| *Figure 2-97. Creating LDAP Policy*

| **Note:** These fields will depend on the customer's individual network configuration. Consult with them to collect the necessary values.

| 4. Click **Save Changes** to save the policy.

Notes:

- The Retrieve Certificates button will retrieve certificates for both the primary and alternate server.

Edit Policy

- In the Authentication Policies Panel (**figure n**) select the policy to be edited.
- Click the **Edit Policy** Button and the fields will be enabled in the Policy Configuration panel.
- Make the changes.
- Click **Save Changes**.

Authentication Policies

Active policy: **Policies disabled**

	Policy Name	Type
<input checked="" type="radio"/>	SASpolicy	Storage Authentication Service
<input type="radio"/>	LDAPpolicy	LDAP

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Figure 2-98. Policies Panel

Notes:

- If the URL changed, it is necessary to Retrieve another Certificate
- If the policy name changed, a new policy will be created
- You are required to re-enter the Authentication Password to save any changes made to SAS policies
- Every time a policy is edited, it must be re-tested before it can be assigned as the active policy

Test Policy

This section is to test policies already saved. With this function you can verify that the configuration of the policy is correct.

- Enter a valid user and password.
- Click Test.

Test user authentication and authorization.

User ID:

Password:

a14or594

Figure 2-99. Test Policy

Notes:

- This function will be only available on policies already saved.
- Before assigning a policy, the policy should be tested to guarantee a correct log in.

Assign Policy

1. In the Authentication Policies Panel (figure [Policies panel figure above]) select the policy.
2. Test the policy in the right panel at the bottom to make sure that is correctly configured (figure [Test Policy figure above]).
3. Click the **Assign Policy** button in the Authentication Policies panel.

Notes:

- If the Policy has not been tested, you will not be able to assign the policy
- Only one policy can be active at a time.

Delete Policy

1. In the Authentication Policies Panel (figure [Policies panel figure above]) select the policy to delete.
2. Click **Delete Policy**.

Note: When LDAP authentication is enabled, remote and local access is controlled by the LDAP server. Service access requires the user to authenticate through the normal service login and then authenticate again using the IBM service representative Direct LDAP Policy.

System Storage Productivity Center and Tivoli Storage Productivity Center

You can use the System Storage Productivity Center (SSPC), a server operating with the Tivoli® Storage Productivity Center (TPC) software, as an LDAP proxy to enforce Access Controls on the TSSC.

Native LDAP

You can use a Microsoft Active Directory (MSAD) Lightweight Directory Access Protocol (LDAP) server directly to centrally manage access controls on the TSSC.

SSL Certificates

Use this page to display, add, and delete SSL Certificates.

If any SSL certificates have been retrieved, they will be displayed in a table as seen below.

Alias	Issued To	Fingerprint (SHA Digest)	Expiration
<input type="radio"/> sascert	CN=WIN-TLUVOSBNM9T, O=IBM, C=US	AF:22:65:1B:E9:C5:F9:24:39:AA:22:AD:79:A3:17:CA:12:36:5B:9	Thu May 27 21:05:50 UTC 2027

Delete Selected Entry

*Alias

*Server URL

*Port

Retrieve Certificate Cancel

Figure 2-100. SSL Certificates Page

| **Add SSL Certificate**

- | 1. Enter an Alias for the Certificate
- | 2. Type the URL
- | 3. Type the port
- | 4. Click the **Retrieve Certificate** button.

| **Delete SSL Certificate**

- | 1. Select a SSL Certificate
- | 2. Click the **Delete Selected Entry** button.

Customizing Firewall Settings

Attention:

- Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.
- You must request and receive permission from the customer each time that you update firewall properties.

Use this information to update the firewall settings.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Console Configuration Utility**.
3. From the Figure 3-93 on page 3-74, select **Console Settings > Custom Firewall Settings**. You see the screen shown in Figure 2-101 on page 2-70

Accept	Drop	Interface	Direction	Port Name	Port Number
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	FTP	21
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	HTTP	80
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	HTTPS	443
<input checked="" type="radio"/>	<input type="radio"/>	External	IN	PING	ICMP
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	SSH	22
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	SSHTUNNEL	9088
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	TELNET	23
<input type="radio"/>	<input checked="" type="radio"/>	External	IN	TSSCGUI	7080
<input checked="" type="radio"/>	<input type="radio"/>	External	OUT	DNS	53
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	FTP	21
<input checked="" type="radio"/>	<input type="radio"/>	External	OUT	HTTP	80
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	HTTPPROXY	N/A
<input checked="" type="radio"/>	<input type="radio"/>	External	OUT	HTTPS	443
<input checked="" type="radio"/>	<input type="radio"/>	External	OUT	PING	ICMP
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	SNMPTRAP	162
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	SSH	22
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	SSHTUNNEL	9088
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	TELNET	23
<input type="radio"/>	<input checked="" type="radio"/>	External	OUT	TSSCGUI	7080
<input checked="" type="radio"/>	<input type="radio"/>	Grid	IN	COMM	9666
<input type="radio"/>	<input checked="" type="radio"/>	Grid	IN	FTP	21
<input checked="" type="radio"/>	<input type="radio"/>	Grid	IN	HTTP	80
<input checked="" type="radio"/>	<input type="radio"/>	Grid	IN	HTTPS	443
<input checked="" type="radio"/>	<input type="radio"/>	Grid	IN	PING	ICMP
<input checked="" type="radio"/>	<input type="radio"/>	Grid	IN	SSH	22
<input type="radio"/>	<input checked="" type="radio"/>	Grid	IN	TELNET	23
<input type="radio"/>	<input checked="" type="radio"/>	Grid	IN	TSSCGUI	7080
<input checked="" type="radio"/>	<input type="radio"/>	Grid	OUT	COMM	9666
<input type="radio"/>	<input checked="" type="radio"/>	Grid	OUT	FTP	21
<input checked="" type="radio"/>	<input type="radio"/>	Grid	OUT	HTTP	80
<input checked="" type="radio"/>	<input type="radio"/>	Grid	OUT	HTTPS	443
<input checked="" type="radio"/>	<input type="radio"/>	Grid	OUT	PING	ICMP
<input checked="" type="radio"/>	<input type="radio"/>	Grid	OUT	SSH	22
<input type="radio"/>	<input checked="" type="radio"/>	Grid	OUT	TELNET	23
<input type="radio"/>	<input checked="" type="radio"/>	Grid	OUT	TSSCGUI	7080

Cancel
Update Firewall Settings
Restore Defaults

a 140r442

Figure 2-101. Customize Firewall Settings

- Click the radio button in the Accept column to authorize a port or in the Drop column to disallow a port name, then Click on **Update Firewall Settings** after you have made all your selections.

Configuring Call Home Settings Electronic Customer Care

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action -> Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the menu shown in Figure 2-54 on page 2-40.
4. Select **Call Home Settings**. You see the screen shown in Figure 2-102.

Note: In the following steps, for any changes made to other than *Delay Call Home*, *Unlock Call Home*, or *Reset Modem*, you must scroll down, if necessary, and click '**Apply**'.

The screenshot shows the 'TS3000 System Console' window with a 'Close this window' button in the top right. The 'General Settings' tab is selected, with other tabs like 'Location Settings', 'Phone Settings', 'Machine Settings', 'Disposition Settings', 'SNMP Settings', and 'AOS Settings' visible. The 'Call Home' section contains a checkbox for 'Enable Call Home' (checked), a 'Delay Call Home' button, and a 'Select Call Home Interface' section with radio buttons for 'Modem', 'Ethernet' (selected), and 'Autoselect'. Below this is the 'Call Home Communication Setup' section, which includes a 'Modem Port' dropdown menu (showing '/dev/ttyS0'), a 'Reset Modem' button, and an 'Ethernet Communication' section with radio buttons for 'Direct Connection' (selected) and 'Connect Through HTTP Proxy'. The 'Connect Through HTTP Proxy' section has a checkbox for 'Proxy server requires authentication' (unchecked) and input fields for 'Proxy Address' and 'Proxy Port'. The 'Heartbeat' section on the right has a checkbox for 'Enable System Console Heartbeat' (checked) and a 'Heartbeat interval' dropdown menu (showing '12' and 'Day(s)'). The 'Modem Connections' section has radio buttons for 'Allow Inbound' (selected) and 'Disallow Inbound'. At the bottom left are 'Apply' and 'Cancel' buttons. A vertical text 'a140r559' is on the right side of the window.

Figure 2-102. General Settings Screen (Call Home and Heartbeat)

5. Select an interface to be used for call home. See Figure 2-102.
 - Modem
 - If you select the modem call home interface, the Modem Port selection box under Call Home Communication Setup enables.
 - If you select the modem port by using the Modem Port selection box: Select `"/dev/ttyS0"` (`"/dev/ttyS0"` is the serial port COM1 and `"/dev/ttyS1"` is serial port COM2, as labeled on the back of the System Console).

OR

If the System Console has two modems and has two analog telephone lines attached, in the Modem Port display, select `"/dev/ttyS1"` as the Call Home Modem Port.

Notes:

- Using this method will disable all broadband call home.
- If `"/dev/ttyS1"` is selected but unavailable, no call home activity will take place on the console and there will be no warning or error messages given.
- When two modems are installed, the modem on COM1 can be configured to be the inbound modem, and the modem on COM2 can be configured to be the outbound

modem. If only one modem is installed, it must be installed on COM1, and it will be used for inbound and outbound communication.

- Call Homes that are present in the Call Home Queue will be sent home every 5 minutes to ensure the modem line is not always in use.
- IBM Intranet:
 - If you select the IBM Intranet call home interface, the Ethernet Communication section will enable, under the Call Home Communication Setup.
 - Select a method for broadband call home based on the customer's network configuration:
 - Direct Communication implies there is not an HTTP proxy between the configured TS3000 and the outside network to IBM. Selecting this method requires no further setup.
 - Connect Through HTTP Proxy implies there is a customer HTTP Proxy server which the customer requires all call home traffic to go through. When selecting this option, enter the Proxy IP Address and Proxy Port. If necessary, enter any required proxy server username and password. The customer should supply these values.

Notes:

- Using this method will disable all modem call home transmission (outbound only).
- Ensure that the External Network Interface has been set up in Console Settings.
- Obtain the IP Address, Subnet Mask, and Default Gateway from the customer.
- Port 443 (HTTPS) must be free for outbound traffic. You can verify this with the customer if a firewall is present.
- If ECC has been locked due to too many failed tries, you can clear the lock by clicking the "Unlock Call Home" button as shown in Figure 2-103.
- Call Homes will be sent home back-to-back until the Call Home queue is empty.

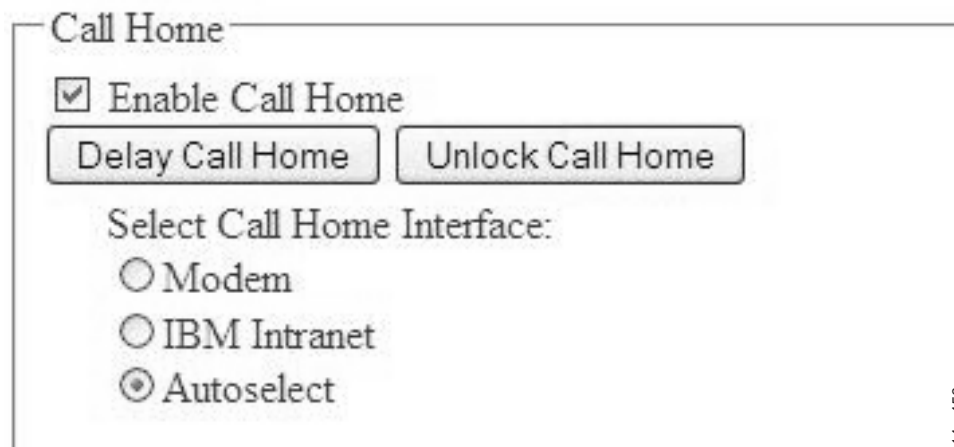


Figure 2-103. Unlock Call Home

- Autoselect
 - If you select Autoselect call home interface, the System Console will first attempt to call home over the IBM Intranet. If an intranet interface failure is encountered, call home is attempted over the modem. Both Modem Port and Ethernet Connection sections should become enabled below.
 - Select a modem port and Ethernet Communication settings, as described in Modem and IBM Intranet section above.

Notes:

- If you have a 3958DD1/DD3/DD4/AP1 attached, you will add the values you recorded in the note in Step 10 on page 2-74 into the fields of Figure 2-108 on page 2-77.
- To determine whether you need to check the Enable Software Problem Call Home box in Figure 2-108 on page 2-77, contact your next level of support. They can help you to determine if this option is available in your region.
- If you are uncertain whether you need to check the Enable Software Problem Call Home box in Figure 2-108 on page 2-77, your next level of support can help you to determine if this option is available in your region.
- If you have selected Autoselect or IBM Intranet, the call home code will connect the TSSC to one of the following URLs.
- Call Homes that are present in the Call Home Queue will be sent home every 5 minutes to ensure the modem line is not always in use.

Table 2-7. URL Table

Hostname	IP	Port(s)	Description
eccgw01.boulder.ibm.com	207.25.252.197	443	ECC transaction gateway
eccgw02.rochester.ibm.com	129.42.160.51	443	ECC transaction gateway
www.ecurep.ibm.com	192.109.81.20	443	File upload for status reporting and problem reporting.
www6.software.ibm.com	170.225.15.41	443	File upload for status reporting and problem reporting. Proxy to testcase.boulder.ibm.com
www-945.ibm.com	129.42.26.224	443	Problem reporting server v4
www-945.ibm.com	129.42.34.224	443	Problem reporting server v4
www-945.ibm.com	129.42.42.224	443	Problem reporting server v4
www.ibm.com	129.42.56.216	80, 443	Service provider file (CCF) download
www.ibm.com	129.42.58.216	80, 443	Service provider file (CCF) download
www.ibm.com	129.42.60.216	80, 443	Service provider file (CCF) download
www-03.ibm.com	204.146.30.17	80, 443	Service provider file (CCF) download

6. Ensure that the customer's network is properly configured for ECC functionality.
7. If you want to enable the System Console heartbeat, check **Enable System Console Heartbeat**, then select the day interval (usually set to **3**). This is the number of days between heartbeats. Select **Apply**.

If Software Problem Call Home is disabled, the call home packages are deposited in the /var/enc/SWCH directory. You may need to know this if your next level of support requests that you locate the call home package.

8. You may disallow inbound modem connections by selecting the **Disallow Inbound** option in the **Modem Connections** section and click **Apply**. This will allow outbound connectivity through the modem for call home while ignoring any incoming calls. To allow incoming calls, select the **Allow Inbound** option and click **Apply**.
9. From the top menu, select **Location Settings**. Figure 2-104 on page 2-74 appears.

Note: This screen has an 'Override tape system location settings' checkbox. If this box is **NOT** checked, the information on this screen will **NOT** be sent along with all Call Home records sent to the TSSC from attached systems. If this box **IS** checked, information on this screen can be changed and

sent with all Call Home records from attached systems. These changes will also be sent back to any attached 3957 and 3592 remote systems. It will therefore be unnecessary to update this information in those remote systems.

The screenshot shows the 'TS3000 System Console' window with the 'Location Settings' tab selected. The 'Location Settings For This Site' section contains several input fields, some marked with an asterisk (*) to indicate they are required. The fields are: 'Customer Business/Company Name*' (containing 'IBM'), 'Customer Location*' (containing 'Tucson'), 'Customer email address*' (containing 'user@company.com'), 'Customer Phone Number (modem)*' (containing '1-123-555-1212'), 'Customer Phone Number (voice)*' (containing '1-213-555-1212'), and 'Customer Offshift Phone Number'. There is also an unchecked checkbox for 'Override tape system location settings' and a note that '(*) Indicates a required field'. At the bottom are 'Apply' and 'Cancel' buttons. A vertical text 'a140r560' is visible on the right side of the window.

Figure 2-104. Site Location Settings Screen

Enter the information into the input areas of the Location Settings For This Site. The fields that require you to enter information are denoted by an asterisk. Select **Apply**.

10. From the top menu, click **Phone Settings**. Figure 2-105 appears. **This is required even if you have selected the IBM intranet option.**

The screenshot shows the 'TS3000 System Console' window with the 'Phone Settings' tab selected. The 'Configure the Call Home Phone Settings' section contains two main areas. On the left, the 'Dialing Options' section has three radio buttons: 'Tone Dialing' (selected), 'Pulse Dialing', and 'Do not wait for dial tone'. Below these is a 'Dial Out Prefix' field containing '9'. On the right, the 'Phone List Selection' section contains a numbered list of instructions: 1. Select a country, 2. If the country is United States or Canada, select a state or province, 3. Select a location, 4. Click an import button to import the selected location phone number to one of the 'to dial' fields below, and 5. Modify the number to dial as required by your local telecommunications provider. Below the list is a note: 'Note: If possible configure all four numbers with the last one(s) being nationwide toll free numbers.' There are three dropdown menus: 'Country' (set to 'United States'), 'State or Province (US and Canada)' (set to 'Arizona'), and 'Set Location : Phone Number' (set to 'Nationwide Toll : 1-800-586-3089'). At the bottom, the 'Phone Numbers To Dial' section contains four input fields: 'First Number To Dial' (555-000), 'Second Number To Dial' (555-0001), 'Third Number To Dial' (1-800-555-0001), and 'Fourth Number To Dial' (1-800-555-0002). Each field has an 'Import' button next to it. At the bottom are 'Apply' and 'Cancel' buttons. A vertical text 'a140r561' is visible on the right side of the window.

Figure 2-105. Call Home Phone Settings Screen

11. Choose one of the Dialing Options.

Note: The input areas in the Phone Numbers To Dial fields are limited. If a dial-out prefix such as '9' is needed to get to a dialing network, put the prefix number in the field that is labeled Dial Out Prefix. **This is required even if you have selected the IBM intranet option.**

In the Phone List Selection area, select a country, select a state or province (U.S.A. and Canada only), and select a location for the Location: Phone Number input area from one of the Phone Numbers To Dial fields.

Enter information in the Phone Numbers To Dial fields. (Remove the area code if System Console will be placing a seven-digit call.)

Select **Apply**.

12. From the top menu, select **Machine Settings**. You see the Machine Settings screen in Figure 2-106.

Enter information into the Machine Settings input areas. Enter a four-digit Machine Type (such as, 3494), a three digit model (such as, B20), and a Machine Serial Number, such as the example shown '1370806' for one of the attached systems. The machine serial number, entered as a seven-character alphanumeric, **with no dashes**, is developed from the first two digits and last five digits of the actual machine number. For example, 13-0070806 would be entered as 1370806.

Note: For TSSCs with 3958-DE2 or 3958-AP1 complexes attached, the complex's information may be entered into the **Machine Settings** section.

The System Console periodically checks for responses from attached tape systems. If a system fails to respond, the following choices are available:

- Create and Send a Problem Report to RETAIN
- Create an Entry in the Console Log (only)
- Do nothing

The default selection is "Create and Send a Problem Report to RETAIN." However, either of the other choices is available for selection from this panel by clicking the appropriate button located next to the desired selection.

Mark any standby systems in the attached systems page to avoid the transmission of unnecessary call home records(see Step 6 on page 2-41). Make a selection from the Response Check for Attached Systems choices. Select **Apply**.

Figure 2-106. Machine Settings Screen

13. From the top menu, select **Disposition Settings** to develop, specify, or change a schedule for when you would like Disposition Code 2 records to be sent to the IBM server. The Disposition Settings screen in Figure 2-107 appears. In the Weekdays and the Weekends fields, choose on what days of the week and during what time periods you would like notices to be sent. Select **Apply**.

A Disposition Code 2 problem record is typically a lower severity problem which should be sent during normal business hours. The System Console defaults to sending these records from 0900 to 1500 Monday through Friday.

Weekdays					
Monday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	09:00 and 15:00
Tuesday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	09:00 and 15:00
Wednesday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	09:00 and 15:00
Thursday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	09:00 and 15:00
Friday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	09:00 and 15:00

Weekends					
Saturday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	00:00 and 00:00
Sunday	<input type="radio"/> Always	<input type="radio"/> Never	<input checked="" type="radio"/> Sometimes	Send between	00:00 and 00:00

a14or563

Figure 2-107. Disposition Settings Screen

14. Select **Apply** to enable the new disposition information, or **Restore Defaults** if you want to return to the defaults.

Note: Before ending the installation, ensure that you test the call home setup.

15. From the top menu, select **SNMP Settings** to request to set up SNMP trap alerts. The two options for sending traps are:

- a. Send Traps for Call Home Failures - This option will alert the customer that the TSSC was unable to call home for one of three reasons: the failing machine is not entitled for call home, the file already is present in ECC, and the system is not attached to the TSSC.
- b. Send traps for Login/Logout - This option will alert the customer when a remote user logs into the TSSC.

After setting the trap types, the Community, IP or Hostname and Port need to be updated.

- c. The value for the Community field needs to match what is set in the customer's SNMP manager. The default value is set to **public**.
- d. The value for the IP or Hostname field should represent the destination server that hosts the SNMP manager. The default value is set to **localhost**.
- e. The value for the Port field should represent the port that the customer's SNMP manager is **listening on**. The default value is set to **162**.

Figure 2-108. SNMP Settings screen

16. To test the SNMP settings, click the **Send Test Trap** button to send an SNMP trap to the configured recipient.
17. See **Figure 2-109 on page 2-78**. To configure Assist-on-Site (AOS), click the **AOS Settings** link at the top of the page.
 - To **Start**, **Stop**, or **Restart** the AOS service, click the corresponding button in the **AOS Configuration** section.
 - If you want to enable AOS Lights Out (unattended mode), place a checkmark next to **Enable AOS Lights Out** and click **Apply**. If you want Lights On (attended mode), uncheck the box next to **Enable AOS Lights Out** and click **Apply**.
 - If a customer is not using DNS, place a checkmark next to **Enable No-DNS mode**. You will be prompted to enter the IP address of the AOS relay server. If this is not known, click the **Default** button to populate the field with the last known IP address. Click **Apply**.
 - Connect Through HTTP Proxy implies there is a customer HTTP Proxy server which the customer requires all call home traffic to go through. When selecting this option, enter the Proxy IP Address and Proxy Port. If necessary, enter any required proxy server username and password. The customer should supply these values.
 - You may add and delete AOS port forwarding targets in the **Manage Port Forwarding** section.
 - To add a new port forwarding entry, enter the Hostname or IP address of your port forwarding target in the text field under **Host Target**. Enter the destination port in the text field under **Port**. Click the **Add** button to save this entries.
 - To delete a port forwarding entry, place a checkmark next to one or more entries in the port forwarding target list. Click **Delete Selected Entries** to remove these port forwarding targets.
 - Adding or removing port forwarding entries will restart the AOS service.

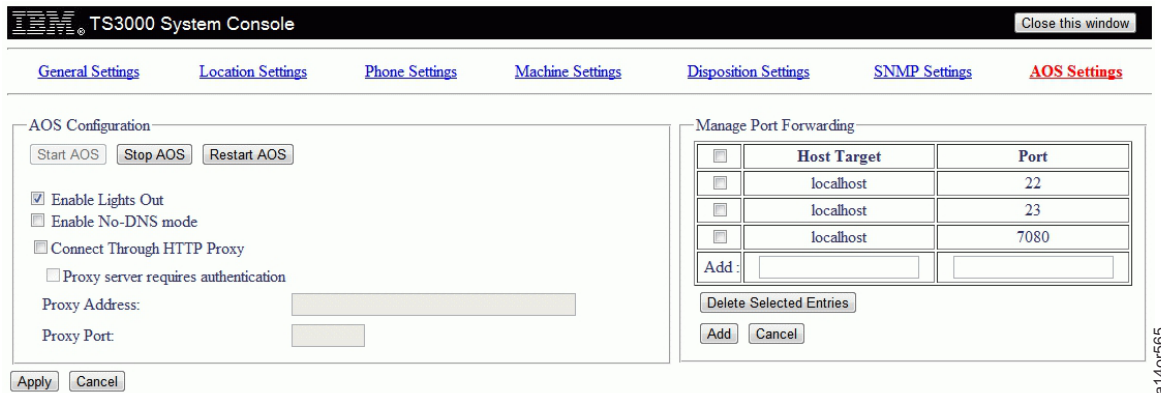


Figure 2-109. AOS Settings Screen

Initializing System Console Serial Port for connection to local devices

Complete this task to initialize a serial port on the system console.

Use this procedure to initialize a serial port on the system console. You use the serial port to set the baud rate (or 'data transmission speed').

1. Attach to the system console the null modem adapter and serial cable that shipped with the system console.
2. Set the system console serial port baud rate for the serial connection by using one of the following procedures.
 - "Setting Baud Rate for System Console Serial Port from System Console"

– – OR – –

- "Setting Baud Rate for System Console Serial Port from Remote Connection" on page 2-80

Setting Baud Rate for System Console Serial Port from System Console

Complete this task to set the baud rate for a System Console serial port from the System Console.

Perform the following steps to set the baud rate for a System Console serial port:

1. After logging in to the System Console, from the System Console desktop, right click on the desktop to see Figure 2-110 on page 2-79.

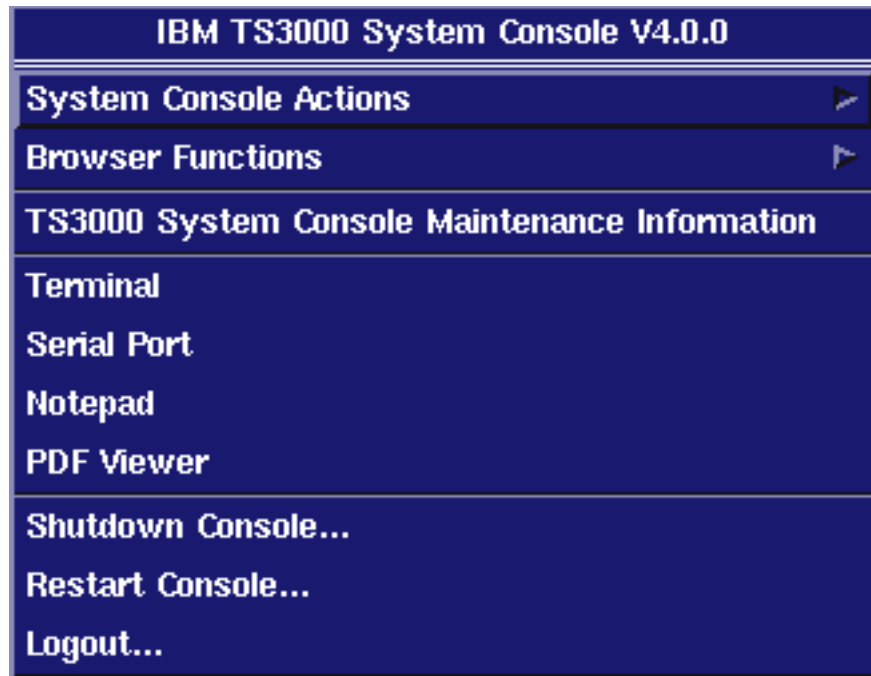


Figure 2-110. Serial Port Selection on System Console Screen

2. Select **Serial Port**. You see Figure 2-111. Type the number of the port speed (baud rate) for the device to which you will be connecting. The message 'Connected' appears. Press **Enter**.

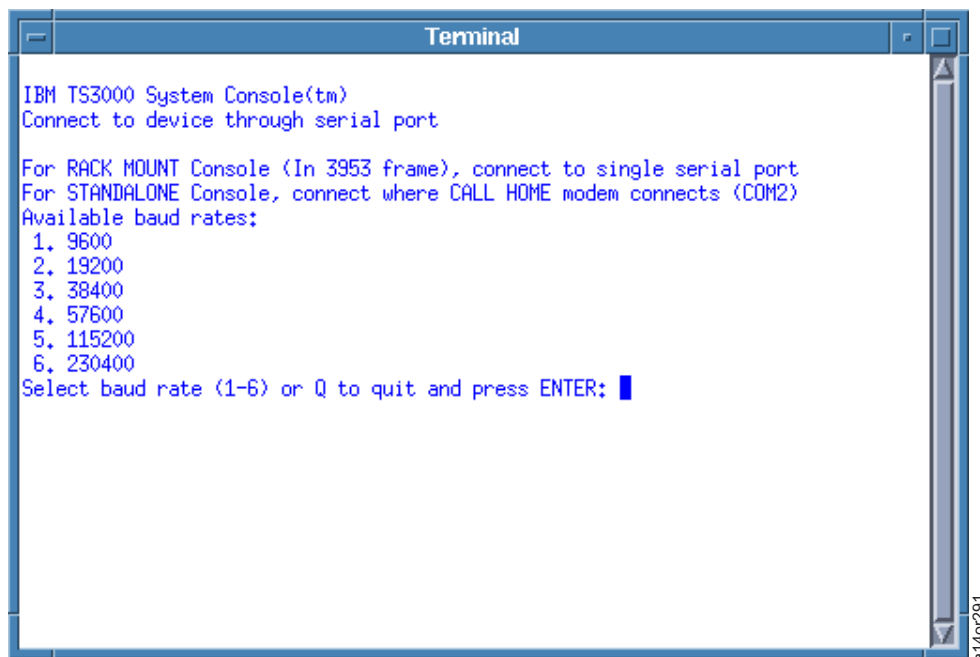


Figure 2-111. Baud Rate Screen - From System Console

Notes:

- You may need to try various baud rates if 19200 (2) does not work for your application.

- After you have completed setting the baud rate, if unexpected characters appear while you are typing, you may have set a baud rate that is not correct for your device. Refer to the documentation for the device to which you have connected, and confirm that you are using the correct baud rate for your device.
- Use the ~. command to end the connection from the System Console serial port at any time.

Setting Baud Rate for System Console Serial Port from Remote Connection

Complete this task to set the baud rate for a System Console serial port from a remote connection.

Use this procedure to set the baud rate (transmission speed) for a System Console serial port from a remote connection. You may need to try various baud rates if 19200 (2) does not work for your application.

1. After logging in to the System Console, at the command line enter the **serialport** command, on the prompt line, and press **Enter**.

```
raselmc: ~ # serialport
```

The baud rate screen depicted in Figure 2-112 appears.

```
IBM TS3000 System Console(tm)
Connect to device through serial port
For RACK MOUNT Console (In 3953 frame), connect to single serial port
For STANDALONE Console, connect where CALL HOME modem connects (COM2)
Available baud rates:
1. 9600
2. 19200
3. 38400
4. 57600
5. 115200
6. 230400
Select baud rate (1-6) or Q to quit and press ENTER:
```

Figure 2-112. Baud Rate Screen - From Remote Connection

2. At the prompt, type the number (from the list) for the port speed for the device to which you will be connecting. The message 'Connected' appears. Press **Enter**. The baud rate is now set.

Notes:

- After you have completed setting the baud rate, if unexpected characters appear while you are typing, you may have set a baud rate that is not correct for your device. Refer to the documentation for the device to which you have connected, and confirm that you are using the correct baud rate for your device.
- Use the ~. command to end the connection from the system console serial port at any time.

Backing Up Configuration Data

Complete this task to back up configuration data.

Note: It is recommended, but not required, that you back up configuration data.

Attention: Many procedures in this book are code-specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

1. System Console configuration is complete. You may now backup your configuration settings if you need to re-image the hard disk drive or load a new version of software. You will need a 1.44MB DOS-formatted floppy diskette (model dependent), a USB storage device, or a CD for this procedure. Use this procedure when reconfiguring:
 - Attached systems
 - Call Home settings

Notes:

- You can store multiple configurations by using unique backup names. Follow the convention for backup configuration names of <host name>-<machine type>-<serial number>.tgz when you create a unique name.
 - Model 8849: The 306m does not contain a floppy diskette drive. A USB device is the only option.
 - USB devices must support USB storage standards.
2. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
 3. From the Main Menu, select **System Console Actions** --> **Console Configuration Utility**. You see the screen shown in Figure 2-53 on page 2-40.
 4. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the screen shown in Figure 2-54 on page 2-40.
 5. Click **Backup/Restore**. You see the screen shown in Figure 2-113.

Backup Console Configuration Data

Restore Console Configuration Data

Backup Configuration Data

This page allows you to backup Console configuration data to a diskette, USB device, or CD.
The configuration data contains the current Console settings, such as Call Home and Remote Support settings.

Please Note:

- A diskette must be a DOS formatted diskette
- All data on a diskette will be erased
- A CD must be a CD-RW or a blank CD-R

Click your selection below to begin the backup process.

☐ Backup to USB device
☐ Backup to CD
☐ Backup to Remote Host

Backup file name: raselmc-7978-KQHGCC

Offload Schedule

Backup files can be periodically offloaded to an attached 3957 or 3958 system.

Please Note:

- The default backup schedule is weekly.
- The default backup host is the primary system defined in Machine Settings under the Call Home Settings menu.
- You may click Check Offload Status to display information about the last successful backup that occurred.

Enter the desired backup schedule.

☒ Weekly ☐ Monthly

Backup Host IP Address: 172.31.1.150

a14or395

Figure 2-113. Backup Configuration Data Screen. The options you will see on this screen are model dependent.

6. Click **Backup Console Configuration Data**. You see the Restore Console Configuration Data screen, which is similar to the Backup Configuration Data screen.
7. Click **Backup Console Configuration Data To Diskette**.

-- OR --

Click **Backup Console Configuration Data to a USB Drive**.

-- OR --

Click **Backup Console Configuration Data to a CD**.

-- OR --

If you are attached to a 3957, 3958, or 3592, you can backup to a remote host. You are shown a box into which you enter the IP address of the system you want to back up to. You can do this with all 3958's, but only with 3957's with code at V8.5 or higher and 3592's with microcode levels at 1.23.1.54 or higher.

Notes:

- Record the IP address of the remote host that you backed up to. You may need this when you perform a Restore in Step 7 on page 2-84.

Remote host IP address:

_____ . _____ . _____ . _____

- If you changed the hostname to something other than tssnet1, record the new host name here.

Remote host name (if you changed it from tssnet1):

8. A dialog box appears, requesting that you perform one of the following steps.

- Insert a 1.44MB DOS-formatted floppy diskette.
- Insert a CD.

– – **OR** – –

- Plug in a USB storage device.

9. Click **OK**. A message appears which informs you of the success of the procedure.

10. Click **OK**.

Note: If you have SNMP Trap Forwarding enabled for the 3958-DD1, collect and manually record the IP addresses as a backup. You may need this address information for a later procedure:

- On the Backup Console Configuration screen, click **Close This Window**.
- From the home page, click **Call Home Settings > SNMP Settings**.
- Record the IP addresses which you can acquire from the DS4000 Forwarding IP and RSA IP fields.

DS4000 _____ . _____ . _____ . _____

RSA IP _____ . _____ . _____ . _____

11. Click **Close this window** to exit the Backup screen.

Scheduling Configuration Backups

Note: This procedure only works with 3958's, 3957's with microcode levels higher than V8.5, 3592-C06, and (Enterprise Control Units in 3958-DE2) with microcode levels higher than 1.23.1.54.

- 3957 backups will be stored in the /vtd_hydlog/tsscBRConfig/ directory
- 3958 backups will be stored in the /opt/ras/persist/ directory
- 3592 backups will be stored in the /var/adm/ras/ directory.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Console Configuration Utility**. Type **service** in the Username field, type **service** in the Password field, then click **OK**.
3. Select **Backup/Restore**. You see Figure 2-114 on page 2-83.

Figure 2-114. Offload Schedule Screen

4. Click on the:
 - **Weekly** button to request a weekly backup (default)

– – OR – –

Monthly button to request a monthly backup

If you do not want to reschedule configuration backups, go to Step 7.

Note:

5. Choose the host system you want to back up to, or the Backup Host IP Address will default to the IP address of the main attached system.
6. Select **Save Backup Schedule**. You are prompted with a confirmation screen. Click **OK** to continue.
7. If you want to determine when the last offload was performed, select **Check Offload Status**. The screen refreshes. In the upper left corner, you see a message like:

Last offload was performed on Wed Feb 13 11:25:28 UTC 2008
Files were offloaded to: 172.31.1.150

8. To reset to the default schedule, select **Restore Defaults**.

Note: The default backup host is the primary system that is defined in Machine Settings, under the submenu Call Home Settings.

Restoring Configuration Data

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Notes:

- Perform this procedure **ONLY if it is necessary to restore Console Configuration Data**.
- Restoration of configuration data from System Console Code Level V1.x.x to a system with Code Level Version V3.x.x or V4.x.x will not work. It will be necessary to reconfigure the console settings manually.

1. Log in to the System Console using one of the login options in “User Login” on page 2-36.

2. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
3. From the Main Menu, select **System Console Action** → **Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
4. Type **service** in the Username field, **service** in the Password field, then single click **OK** to start the Console Configuration application. The menu shown in Figure 2-54 on page 2-40 appears.

Notes:

- To login remotely from another system console, you must obtain an Authentication ID (see “Login Options” on page 2-37). Launch your browser, and enter the System Console location into the Address field. Enter your Authentication ID into the Username field and your password into the Password field. Click **OK** to start the Console Configuration utility.
 - If you are restoring configuration from a remote system, and the hostname of the TSSC is not going to be remain tsscnet1, use the hostname that you recorded in Step 7 on page 2-81. Also you will need to reattach the subsystem that you wish to retrieve the backup from. To reattach the subsystem, See “Adding Attached System Information” on page 2-39.
5. Click **Backup/Restore**. You see Figure 2-113 on page 2-81.
 6. Click **Restore Console Configuration Data**. You see the screen shown in Figure 2-115.
 7. Select **Restore from diskette**, **Restore from CD**, or **Restore from USB drive**. Confirm that the floppy diskette or the CD is inserted in the drive or that the USB device is attached.

– – OR – –

If you are restoring configuration data to the default settings, select **Restore to factory defaults**.

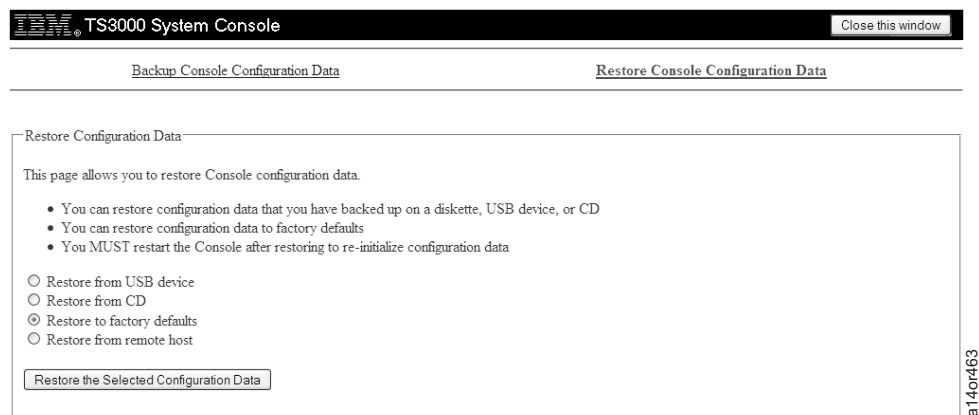


Figure 2-115. Restore Configuration Data Screen

– – OR – –

If you are restoring configuration data from a remote host, select **Restore from remote host**. You can use the default remote host IP address or you can type in a different address, such as the one you would have recorded in Step 7 on page 2-81.

Figure 2-116. Restore Remote Host. In the Remote host field, add the IP address you recorded in Step 7 on page 2-81.

8. In the Remote host input area, type the host IP address you recorded in Step 7 on page 2-81.
9. Click **Restore the Selected Configuration Data** to begin the Restore. Another dialog box appears, which informs you of the success of the previous operation, and informs you that the System Console must be rebooted to complete the restore operation.

Note: When you select **OK** to continue, the System Console will reboot without further warning!

However, to close any open applications and reboot the system manually, select **Cancel**. Your new configuration settings will not be fully in effect until the system console reboots. Remove the floppy diskette from the diskette drive if you installed one.

10. If you chose Cancel as is mentioned in Step 9, you will need to perform the following steps to reboot the system console:
 - a. Click **Close this window** to close the Restore Console Configuration Data screen.
 - b. Click on **File** → **Exit** to exit the browser.
 - c. Right click from anywhere in the Desktop to view the **Main Menu** shown in Figure 2-52 on page 2-39.
 - d. Select **Restart Console**. The restored configuration data will be available once the System Console restarts.
11. If you collected and recorded the SNMP Trap Forwarding IPs in Step 10 on page 2-82, as a backup for the 3958 configuration:
 - a. After the system has rebooted, from the TSSC Main Menu, select **System Console Actions > Console Configuration Utility > Call Home Settings > SNMP Settings**.
 - b. Into the boxes, enter the IP addresses that you collected and recorded in Step 10 on page 2-82.
 - c. Click **Apply**.

Setting Console Date and Time

Complete this task to set the date and time on the TS3000 System Console (TSSC).

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Note: If the TSSC is connected to a 3958-DE2 complex and you have replaced the system planar board, first remove the Internal Ethernet cable from the back of the TSSC. Use the time on the lower

ProtectTIER server as the TSSC time for NTP Server re-syncing. Once you have updated the time on the TSSC, you can reconnect the Internal Ethernet cable, and then start the NTP server.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-118 on page 2-87.
2. From the Main Menu, select **System Console Actions** → **Console Configuration Utility**. The Login screen displays, as shown in Figure 2-117.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the Console Configuration Application screen, shown in Figure 2-118 on page 2-87.

Note: To login remotely from another System Console, you must obtain an Authentication ID. Launch your browser, and enter the System Console location into the Address field. Enter your Authentication ID into the Username field and your password into the Password field. Click **OK** to start the Console Configuration utility.

4. Click **Console Time**. The screen in Figure 2-117 appears.

The screenshot shows a web-based utility interface. The top section is titled "Console Time" and contains a note: "Note: Clicking inside or tabbing to a field will stop the clock so that you can edit the time and date. To restart the clock click 'Cancel/Refresh' or 'Save Changes'." Below the note are input fields for time and date. The time fields are labeled HH, MM, and SS, with values 14, 36, and 59 respectively, followed by "UTC". The date fields are labeled MM, DD, and YYYY, with values 05, 13, and 2009 respectively. Below the date fields are two buttons: "Cancel/Refresh" and "Save Changes". The bottom section is titled "NTP Server Settings" and contains the text "NTP Server is off" and a button labeled "Start NTP server". A vertical text label "a14rd00" is located on the right side of the NTP Server Settings section.

Figure 2-117. Console Time and Date

5. See Figure 2-118 on page 2-87. If you need to change the system clock on the TSSC, you must first ensure the NTP server is stopped. To do this, click the Stop NTP server button.
6. Enter the correct values in the Time and Date fields.
7. Click **Save Changes** when you are finished.
8. See Figure 2-119 on page 2-87. To start the NTP server, click the Start the NTP server button.

Note: It may be necessary to log out and log in again to refresh the date and time indicator on the desktop application bar. It is also possible that the screensaver may be invoked when resetting the time.

NTP Server successfully started.

Console Time

Note: Clicking inside or tabbing to a field will stop the clock so that you can edit the time and date.
To restart the clock click "Cancel/Refresh" or "Save Changes".

*Note: NTP server is running, you can not change the TSSC time.

HH MM SS
Time 20 : 23 : 59 UTC

MM DD YYYY
Date 08 / 31 / 2009

Cancel/Refresh Save Changes

NTP Server Settings

NTP Server is on

Stop NTP server

a14or430

Figure 2-118. Stop NTP Server Screen

Console Time

Note: Clicking inside or tabbing to a field will stop the clock so that you can edit the time and date.
To restart the clock click "Cancel/Refresh" or "Save Changes".

HH MM SS
Time 14 : 36 : 59 UTC

MM DD YYYY
Date 05 / 13 / 2009

Cancel/Refresh Save Changes

NTP Server Settings

NTP Server is off

Start NTP server

a14or400

Figure 2-119. Start NTP Server Screen

Test RETAIN Connection - During Installation

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** → **Console Configuration Utility**. The Login screen displays, as shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration Utility. You see the screen shown in Figure 2-54 on page 2-40.

Note: To login remotely from another System Console, you must obtain an Authentication ID (see "Login Options" on page 2-37). Launch your browser, and enter the System Console location into the Address field. Enter your Authentication ID into the Username field and your password into the Password field. Click on **OK** to start the Console Configuration Utility.

4. Click **Console Status**. The Test RETAIN Connection screen shown in Figure 2-120 on page 2-88 appears.

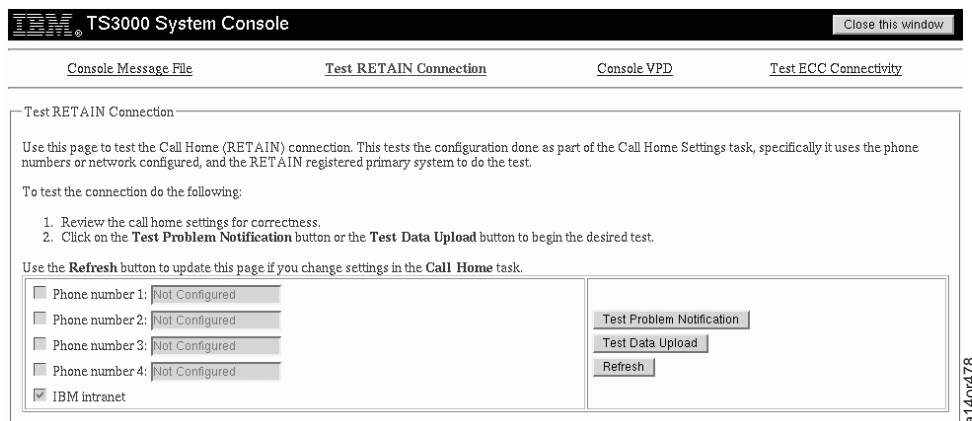


Figure 2-120. Test RETAIN Connection Request Screen - During Installation

- Click **Test RETAIN Connection**.
- Click one of the configured telephone numbers.
- Click **Test Problem Notification** in the right-hand panel to test the PMR path, or click **Test Data Upload** in the right-hand panel to test the data upload path. Details of the results of the test appear in the screen shown in Figure 2-121. If you changed a telephone number, click **Refresh** to refresh the display, then again perform Step 7.

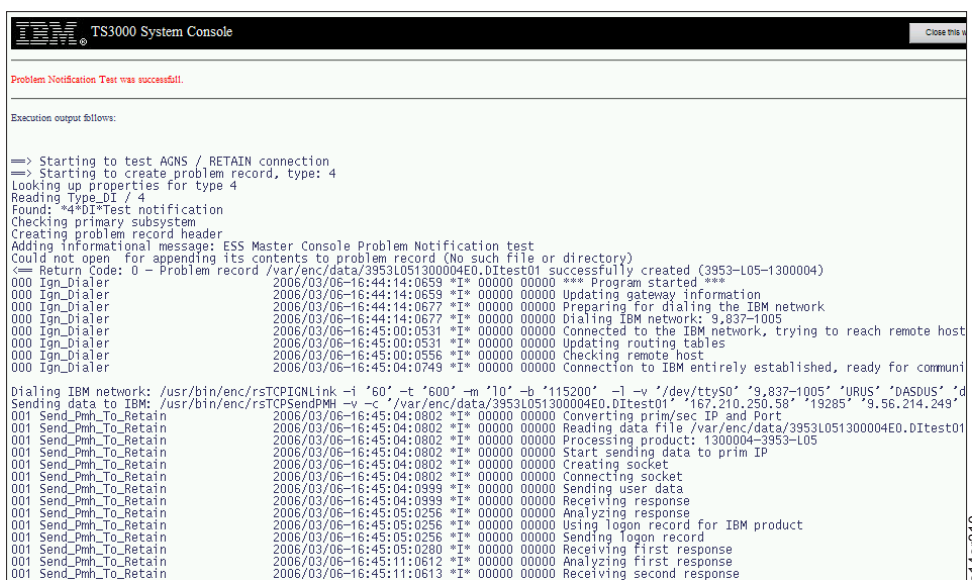


Figure 2-121. Test RETAIN Connection Results Screen - During Installation

Test Electronic Customer Care (ECC) Connectivity

This feature can be used to assist in both setting up and troubleshooting problems with ECC call home.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** → **Console Configuration Utility**. The Login screen displays, as shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration Utility. You see the screen shown in Figure 2-54 on page 2-40.

4. Click **Console Status**. Click the **Test ECC Connectivity** link at the top of the page. You will see the following screen:

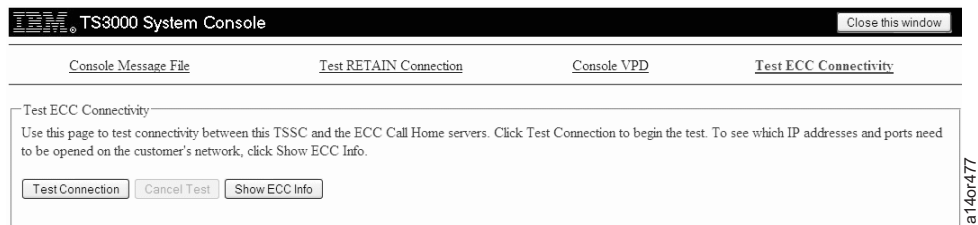


Figure 2-122. Test ECC Connectivity Screen

5. To test connectivity to the ECC servers, click on the **Test Connection** button. The test will begin immediately, and you should see the results of the test on the screen.

Note: If any of the tests report "NOT OK", the listed IP address and port will need to be opened through the customer's firewall in order to gain access to the ECC service.

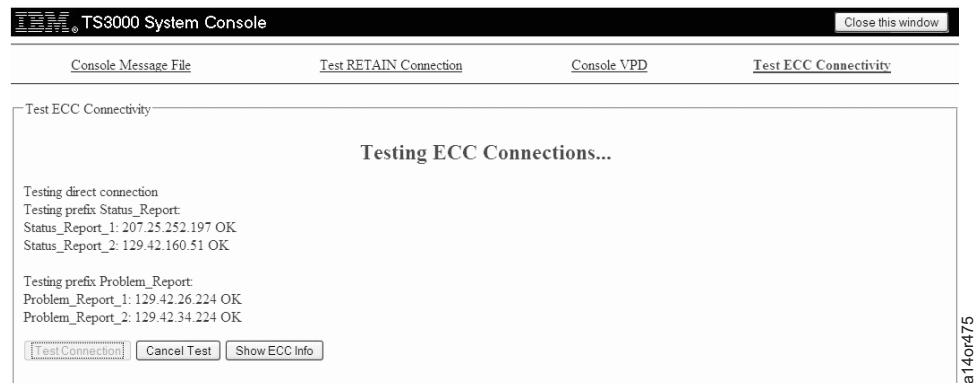


Figure 2-123. ECC Test in progress showing successful connections being made

6. To cancel the connectivity test, click the **Cancel Test** button while the test is active.
7. If you would simply like to see the current IP address and ports used by ECC, click the **Show ECC Info** button. You will see results similar to the figure in the following image:

Note: All IP addresses and ports must be allowed through a customer's network in order to use all ECC features.

<

Figure 2-124. Sample output showing ECC IP addresses and ports

Logging Out of System Console

After you complete your current task on the System Console, you will need to log out of the System Console.

See Figure 2-52 on page 2-39.

- 1. Using the right mouse button, click on the desktop to view the Main Menu.
- 2. Using the left mouse button, click on **Logout...** You are logged out of this console session.

You can use the Shutdown Console... menu item if you need to log out and halt the System Console. You would use this if you needed to physically power OFF the System Console at the end of the shutdown process. Use the Restart Console... menu item to reboot the System Console. You also can use the Shutdown and Restart buttons on the System Console Login screen (Figure 1-1 on page 1-1) to halt or reboot the System Console without logging in.

Test Call Home for 3494 VTS, VTC, 3590 A60, 3592 J70, and 3592 C06

- 1. Return to the tape system's Call Home / Remote Service Menu at the Library Manager EBTERM Service Screen (if available). To test a call home through the System Console, select **Send Test Notification Menu**, as shown at Figure 2-125. Press **Enter**. Figure 2-126 on page 2-91 displays.

Attention: Select the illustrated line item **only at Figure 2-125**. No other menu display items are applicable for this process.

Call Home / Remote Services Menu

Move cursor to desired item and press Enter.

Send Test Notification Menu

F1=Help F2=Refresh F3=Cancel F8=Image

F9=Shell F10=Exit Enter=Do

Figure 2-125. Call Home / Remote Services Menu – Send Test Notification Menu

- 2. At Figure 2-126 on page 2-91, select **Service Notification (via modem)**. Press **Enter**. Figure 2-127 on page 2-91 displays.

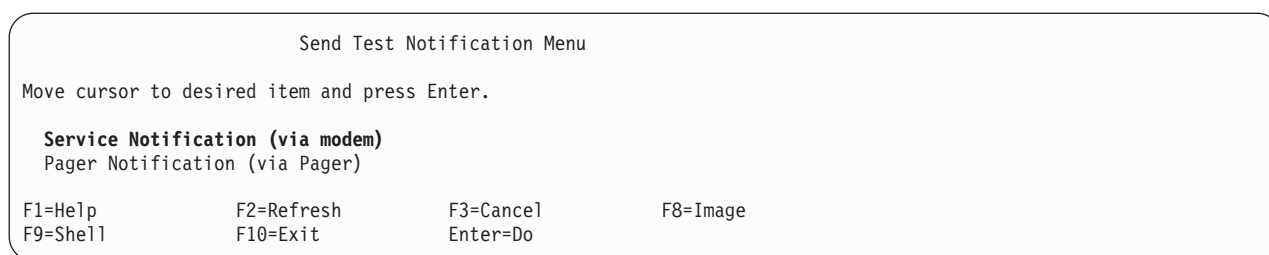


Figure 2-126. Send Test Notification Menu – Service Notification

3. Verify that the following message is received, and verify that the Test Message was received in RETAIN®.

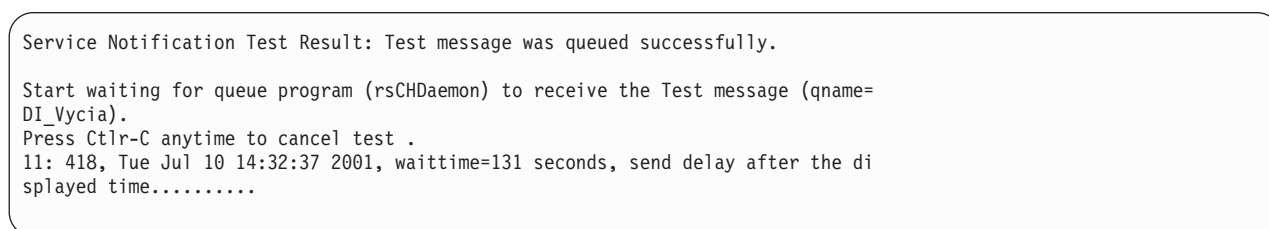


Figure 2-127. Send Notification Test Result Menu – Waiting

Test Call Home Notification for 3494 ATL or 3953 Enterprise Library Controller

Note: This function requires that the 3494 ATL or 3953 be successfully attached to the System Console. See “Adding Attached System Information” on page 2-39.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

This procedure requires that you previously performed “Tape System Setup for 3494 ATL (Library Manager) or 3953 Enterprise Library Controller” on page 2-26.

1. To test call home through the System Console, use the 3494 ATL or the 3953 menu commands **Commands --> Call Home...** to view the Call Home Dialog box (see Figure 2-128 on page 2-92).

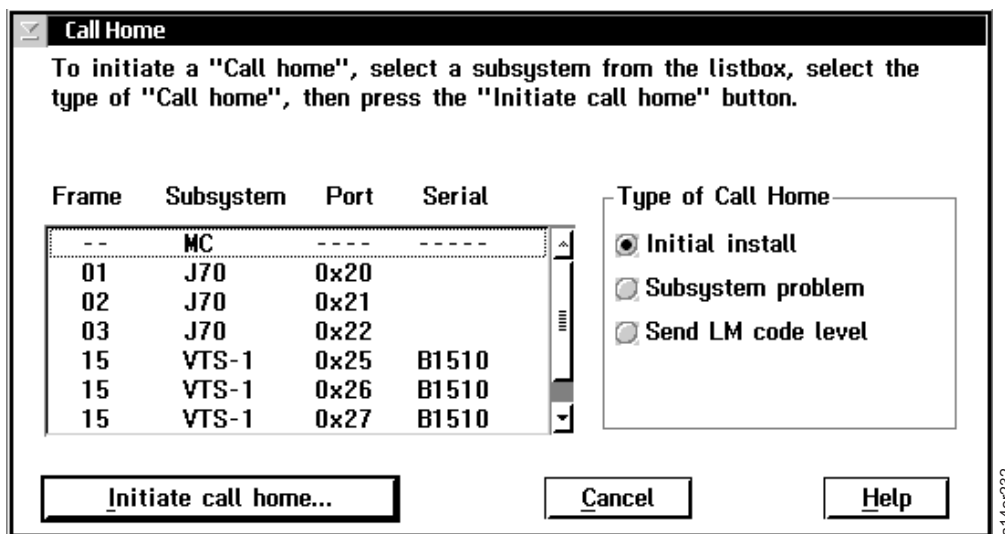


Figure 2-128. Call Home Dialog Box

- Highlight the line containing 'MC' in the Subsystem column. Click **Subsystem problem -> Initiate call home...** Once the call home has been created, a dialog box appears which indicates that the call home was successfully created and sent to the System Console. The call home package should be available for viewing within two or three minutes by using the System Console's Queue Management tool (see "Call Home Queue Management" on page 3-23).

Once the System Console has sent the package to RETAIN, the PMR number will be available by viewing the Call Home Log tool. To verify the record, log into the RETAIN system and search for the PMR, or search for records from the type, model, and serial number of the 3494 ATL or the 3953.

Setup for Remote Data Monitoring (VTS, VTC, A60, J70, C06)

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

Perform this procedure **ONLY** if **Remote Data Monitoring** is to be activated.

- From the tape system Maintenance menu, select **Subsystem Configuration**, and press **Enter**.
- At Figure 2-129, select **Call Home / Remote Services Menu**, and press **Enter**.

Attention: Select the illustrated line item only at **Figure 2-129**. No other menu display items are applicable for this process.

Note: To activate Remote Data Monitoring, ensure that the Call Home/Remote Services are set through the System Console. See Step 2 on page 2-21 and Step 3 on page 2-24.

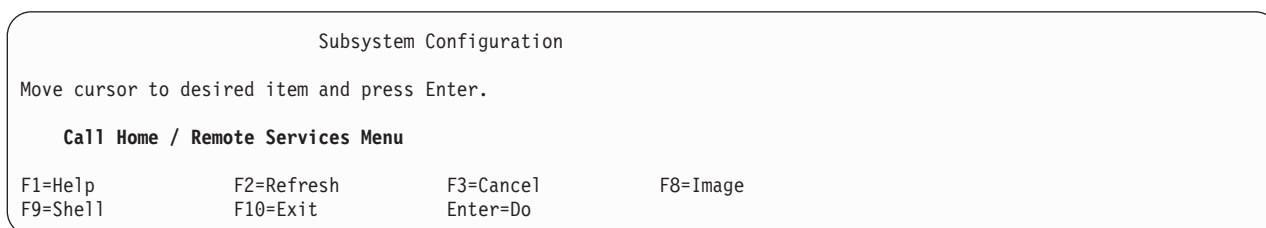


Figure 2-129. Subsystem Configuration Menu – Call Home / Remote Services Menu

- At Figure 2-130 on page 2-93, select **Remote Data Monitoring**, and press **Enter**. Figure 2-131 on page 2-93 displays.

Attention: Select the illustrated line item only at **Figure 2-130**. No other menu display items are applicable for this process.



Figure 2-130. Call Home / Remote Services Menu – Remote Data Monitoring

4. At Figure 2-131, select **Change / Show Call Home Heartbeat Interval**, and press **Enter**.
- Attention:** Select the illustrated line item only at **Figure 2-131**. No other menu display items are applicable for this process.

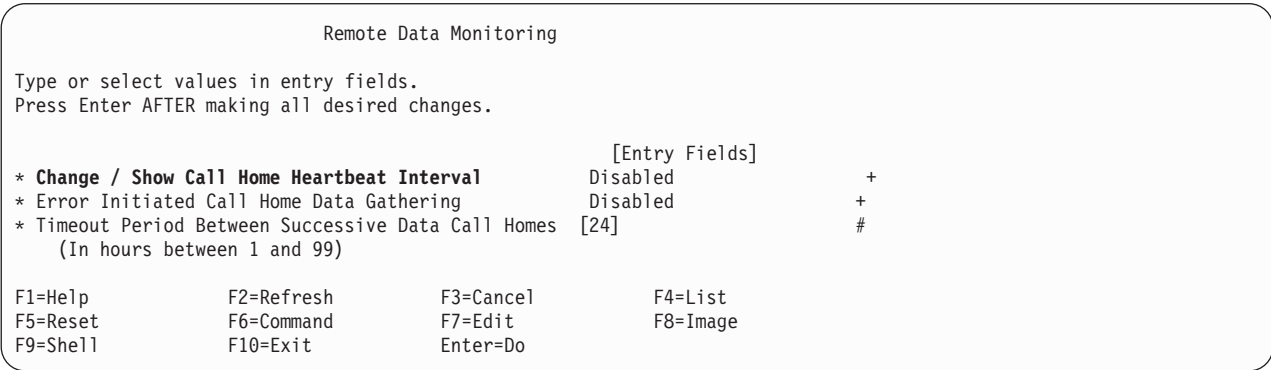


Figure 2-131. Remote Data Monitoring Menu – Change / Show Call Home Heartbeat Interval

5. In the example in Figure 2-132 on page 2-94, **7 days** has been selected. Press **Enter**. Figure 2-133 on page 2-94 displays.
- Note:** The Change / Show Call Home Heartbeat Interval option allows the user to select how often a heartbeat is sent home. A heartbeat consists of Machine Reportable Product Data (MRPD), such as installed features and code levels, and the output of a health check program like VTS Checkout. The frequency of these heartbeats can be between 1 and 15 days. The heartbeat can be disabled.

Figure 2-132. Remote Data Monitoring Menu

- Note:** The Error Initiated Call Home Data Gathering option allows the user to enable or disable data gathering when a call home occurs. If enabled, data collection and diagnostic programs will be run whenever a call home event occurs, and the collected output will be sent to the Support Center. The data that is collected contains information that will help in determining what caused the problem leading to the call home. If disabled, no data collection will occur when a call home event occurs.

Figure 2-133. Remote Data Monitoring Menu – Error Initiated Call Home Data Gathering Disabled

[illegible]

7. Select **Enabled**, and press **Enter**. Figure 2-135 appears with the selected values displayed.

Figure 2-135. Remote Data Monitoring Menu – Error Initiated Call Home Data Gathering Enabled

8. At Figure 2-135, press **Enter**. A COMMAND STATUS screen (Figure 2-136 on page 2-96) displays showing that a command is running.

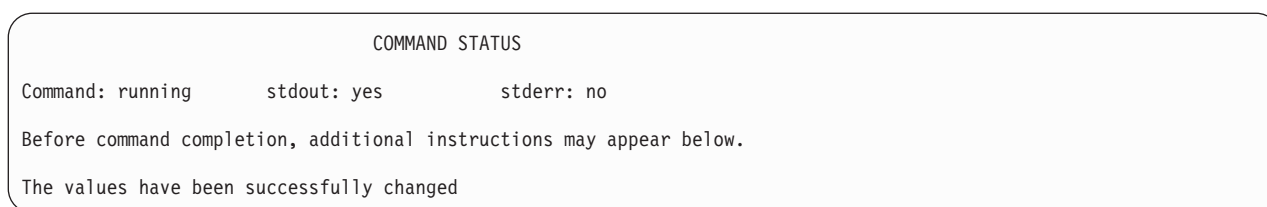


Figure 2-136. *COMMAND STATUS* Screen – *Running*

9. The Command Status screen (Figure 2-136) displays for as long as five minutes. It is normal for there to be no response for this period of time. **DO NOT press any keys** while the command is running.
10. When the execution of the command is complete, the screen shown in Figure 2-137 displays. "OK" appears in the "Command" field.

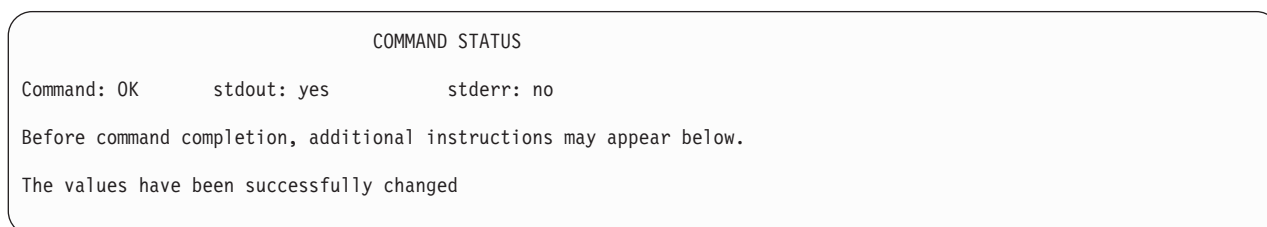


Figure 2-137. *COMMAND STATUS* Screen – *OK*

11. Press **F3** twice to return to the "Call Home / Remote Services Menu."

Setup for Remote Data Monitoring (3494 ATL or 3953 Enterprise Library Controller)

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

See "Set Heartbeat" on page 2-33.

Chapter 3. Procedures

Service Tools

Telnet to Attached Tape System

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

After you complete the System Console configuration, the tool to establish telnet connections to attached systems is automatically enabled.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39) and select **Telnet to Tape System**. You see the screen shown in Figure 3-1.

```
IBM TS3000 System Console
Telnet to Attached Tape System
```

#	Make/Model	Serial Number	IP Address	Hostname
1:	3953L05	1300005	172.31.1.12	RASELB
2:	3953L05	1300005	172.31.1.11	RASELA
3:	3592J70	78C4049	172.31.1.45	elcj7040
4:	3592C06	78C5011	172.31.1.35	elcc0630
5:	3592C06	78C5009	172.31.1.36	rasc06
6:	3590A60	7800239	172.31.1.26	rasa60
7:	3957V06	780092A	172.31.1.160	rasts7740
8:	3494L22	1314501	172.31.1.5	RASLMS
9:	3592C06	78C5023	172.31.1.25	rasC06
10:	3592J70	100B89A	172.31.1.15	elcj7010
11:	3957V06	78083EG	172.31.1.150	rasmatazz
12:	3592C06	78C5007	172.31.1.27	rascu357
13:	3592C06	78C5025	172.31.1.28	rasdev
14:	3957V06	78H2910	172.31.1.210	rashorse
15:	3957VEA	78HH123	172.31.1.220	raswolf
16:	3584L32	13AAA15	172.31.1.170	RAS3584
17:	3957V06	78008BA	172.31.1.190	rashydra

Which system would you like to connect to (or 'q' to quit)? █

a14or457

Figure 3-1. Telnet to Attached Tape System – Selecting

2. Enter the number of the system you want to telnet to, and press enter.
3. When you have a successful telnet connection, you see the screen shown in Figure 3-2 on page 3-2.

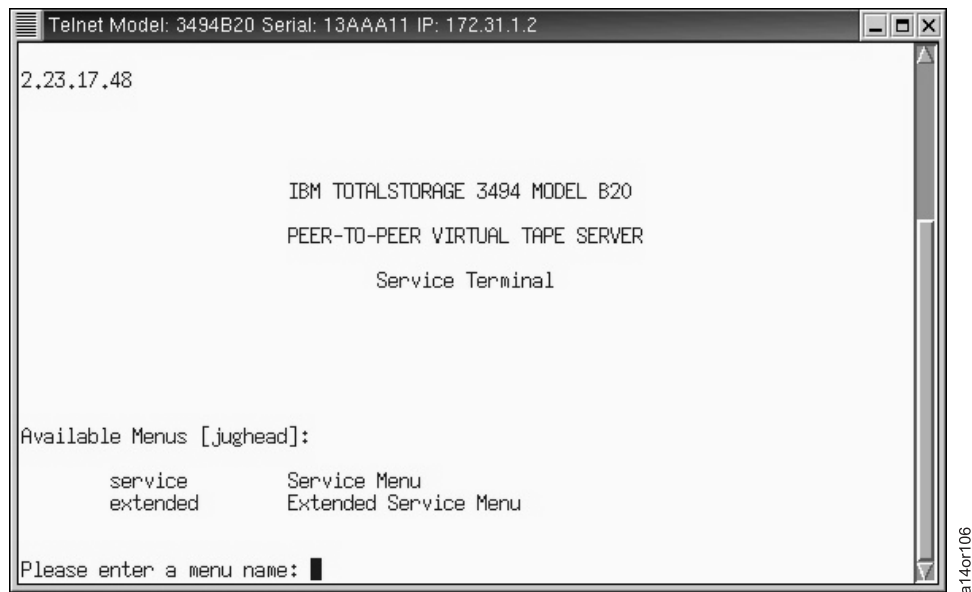


Figure 3-2. Telnet to Attached Tape System – Connection Successful

Notes:

- Log into the system using the established security procedures for that device. If your ID and password were successfully propagated, they can be used to log in.
- You may establish as many telnet sessions at one time, as necessary.
- You may establish multiple telnet sessions with a single system.
- If the function keys (F3, F4, F10, and so forth) do not work as intended in the SMIT screens, use ESC+3, ESC+4, ESC+0 key sequences instead.
- The telnet screen must be a minimum of eighty columns-by-twenty-five lines in order for SMIT screens to display properly. To change the size of the telnet screen, click and drag the lower right corner of the screen.
- If a communication attempt with an attached system fails, the telnet screen will disappear from the desktop, and no error message will display.

Telnet to Grid TSSC

Use this procedure to connect to another TSSC within the Grid network.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Telnet to Grid TSSC**. You see the figure shown below. You will see information about each Grid system as it is available, including IP address, hostname and location.

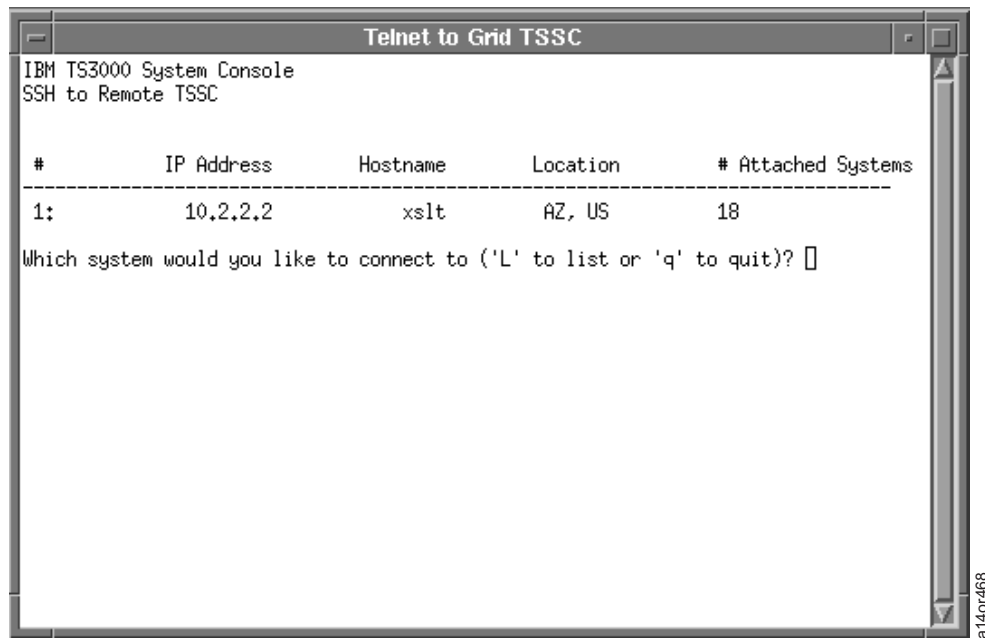


Figure 3-3. Telnet to Grid TSSC

3. To connect to a system, press its corresponding list number. To see attached system information about a particular system, press **L**. Press **q** to exit this application.
4. If you would like to see attached system information for a particular system, press **L**. You will be prompted to enter the system number. Attached System information will look like the following:

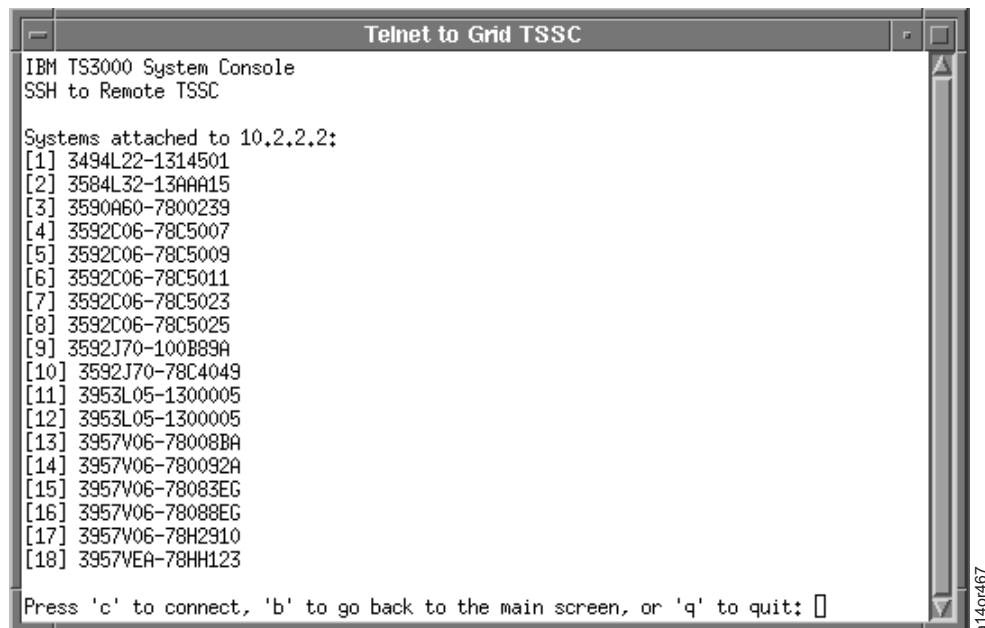


Figure 3-4. Attached Systems List

5. After viewing the Attached Systems, you can connect to the selected TSSC by pressing **c**. Pressing **b** will take you back to the main screen.

Tape System Service Information (VTS, VTC, A60, J70, C06) - [Code Level Below V5.3]

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

After you complete the System Console configuration, the tool to update and review service information for attached systems is automatically enabled.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions, Tape System Service Information**. You see the Tape System Service Information screen shown in Figure 3-5.

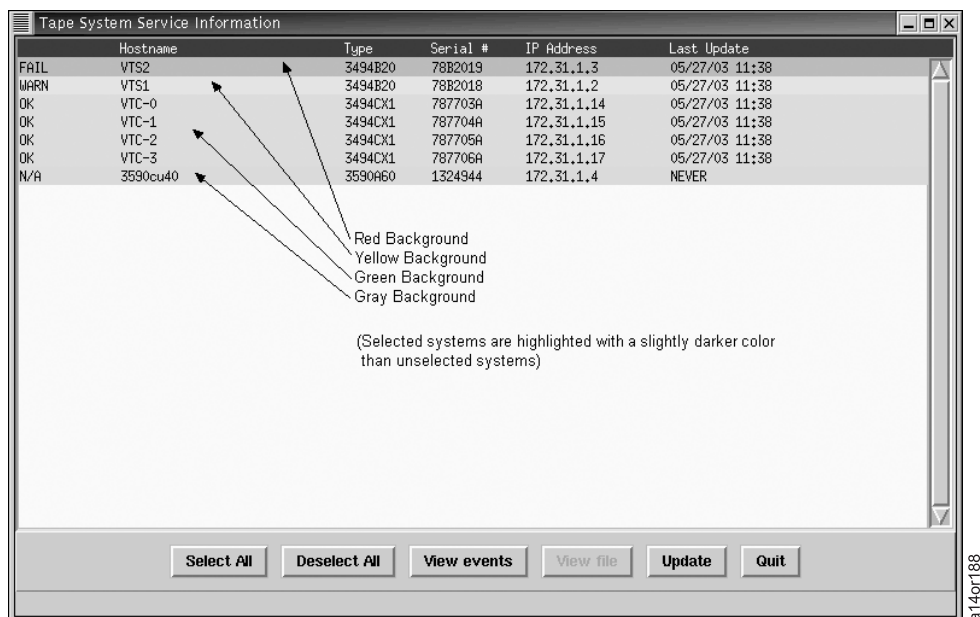


Figure 3-5. Tape System Service Information – Main Screen

3. The Tape System Service Information screen, as depicted in Figure 3-5, shows a summary of the status of the systems that are attached to the System Console as of the date and time that are included in the Last Update column. The system listing is sorted in descending order of status severity. The background color scheme provides this information:
 - Red Background - A Failure has occurred
 - Yellow Background - A Warning has occurred
 - Green Background - No Failures or Warnings have occurred
 - Gray (or White) Background - No status has ever been reported to the System Console
4. Tape System Service Information status is NOT run automatically. It is performed by selecting any number of systems in the listing and then clicking the **Update** button. Systems may be selected individually by pointing to the system list entry and clicking the left mouse button once. (Clicking the entry again deselects the system.) Alternatively, you can select all of the systems on the list by clicking **Select All** (or deselect by clicking **Deselect All**).
5. As the System Console receives service information from the selected tape systems during the update process, the selected systems become deselected (un-highlighted), the date and time of last update is changed to the current date and time, and the new status is indicated by the background color of the system entry listing and the STATUS column (located on the left side).

Note: The update process can be lengthy for a large number of attached systems. However, this tool will time-out at ten minutes for unresponsive systems and return control to the user. The tool is normally unresponsive during the Update process and may appear to be locked up if attached systems are not responding.

6. The Tape System Service Information may be reviewed at various levels of detail. The main screen shows a one-line status summary for each system attached to the console. Selecting one or more of the systems in the listing and clicking **View Events** results in a listing of the specific service events that resulted in the failure or warning status, as shown in Figure 3-6.

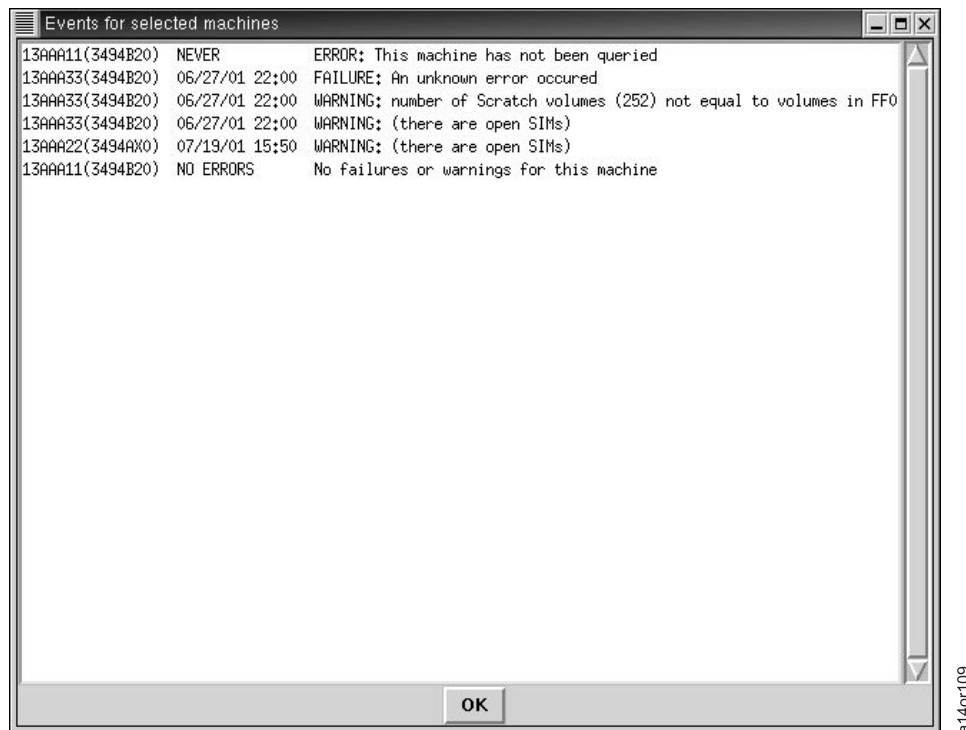


Figure 3-6. Tape System Service Information – Events

7. Double-clicking one of the events shown in Figure 3-6 results in the full details of the event, as shown in Figure 3-7 on page 3-6.

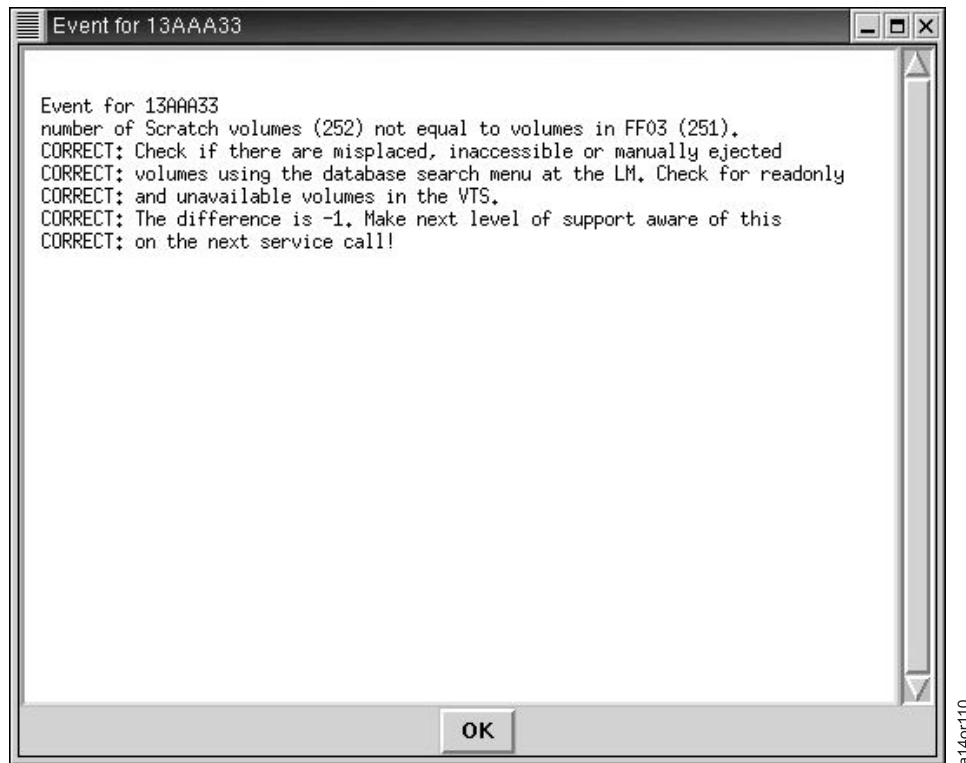


Figure 3-7. Tape System Service Information – Event Detail

You also can view the contents of the entire service status file for an attached system by selecting it at the Tape System Service Information main screen (Figure 3-5 on page 3-4) and clicking **View File**.

Note: The Tape System Service Information tool remotely invokes `rdm_bc_check` (Models B10, B18, B20) or `rdm_gm_check` (tape subsystem control units) service diagnostic programs and then presents the results to the System Console as a local convenience. No modification of the results of the diagnostic programs is performed by the console, and the service programs remain available for direct invocation on the attached systems with proper user access.

8. From the Main Screen in Figure 3-5 on page 3-4, select **Quit** to quit.

Creating Attached Subsystems List

Use this procedure to create a list of all the subsystems that the System Console is attached to.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions > Console Configuration Utility**. Login, as required.
3. Select **Attached Subsystems**. You see Figure 3-8 on page 3-7. You can sort the list by clicking on a column heading.

<input type="checkbox"/>	Device-Model	Serial Number	ID	Host Name	IP address	Subnet Mask	Call Home Switched	Standby	Complex System
<input type="checkbox"/>	3584L23	78A3457	1	BLC-A	172.31.1.51	255.255.255.0	1	1	NA
<input type="checkbox"/>	3584L23	78A3629	2	BLC-B	172.31.1.50	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A3292	3	BLC-C	172.31.1.52	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A3628	4	BLC-D	172.31.1.53	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L52	1340013	5	MSBF 1	172.31.1.228	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L52	1340074	6	MSBF3	172.31.1.203	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L53	7819831	7	MSBF4	172.31.1.204	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A2022	8	MSBF11	172.31.1.212	255.255.255.0	1	0	NA
<input type="checkbox"/>	3584L23	78A2017	9	MSBF12	172.31.1.239	255.255.255.0	1	0	NA

172 . 31 . 1 . Add System

Delete Selected
Edit Selected
Query Selected
Query All
Toggle Standby

View Health
View Events
Update Health

Refresh

Health Legend:

No Problems Returned From System Health Check

Warning(s) Found in System Health Check

Failed Status(es) Found in System Health Check

Offline Status(es) Found in System Health Check

Communication Failure Between TSSC and Attached System

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Figure 3-8. Attached Subsystems List Screen. Use with Table 3-1.

Table 3-1. Color Indications for Health Check. Use with Figure 3-8.

Health Legend Color	Health Legend Indication
Green	No problem returned from system health check
Yellow	Warnings found in system health check
Red	Failed statuses found in system health check
Black	Offline Status(es) Found in the System Health Check
Blue	Communication failure between TSSC and attached systems

- You can use one group of buttons to perform Delete, Edit, and Query operations on the list of attached subsystems. You also can use another set of buttons to interrogate the System Console for the following operations. Click on any quantity of attached subsystems and select one of the button titles. You see a screen like Figure 3-9 on page 3-8 with one of these reports:

Note: These choices are not available for a 3584 or a 3494L.

View Health

Returns information about the machines you choose

View Events

Returns event information on any machines for which a problem has been logged

Update Health

Performs another machine health check

Refresh

Refreshes the information and the color scheme in Table 3-1 to reflect your most recent activity

Detailed Output:

```
----- SYSTEM REPORT(S) -----
M-Type:3957-V06  Hostname:rashydra  IP:172.31.1.190  SN:78-00008BA  Clstr:c0
---- Time Initiated from TSSC: 05/16/08   14:13:33  -----
---- Time It Ran On Subsystem : 05/16/08   14:15:07  -----

TS7740 Checkout Version 1.01 executed on: 05/16/08 at 14:15:07
Command syntax and parameters: /usr/vtd/scripts/vtd_check -P
```

Figure 3-9. Health and Events Report Screen Example.

5. View the properties of the Attached system by selecting the hyperlinked serial number. This will display all of the properties of that attached system. To go back to the list of the attached systems, click the **Attached Systems** link at the top of the screen.

Remote Code Broadcast By Using the Web Interface

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. The code level requirements are:

System Console

Code Version 5.3.x and above

IBM TS7700 Virtualization Engine

System Console must be a hardware model 8485 (x206m) or 8849 (x306m). Code Versions 8.5.XX.XX and lower. For higher code levels, refer to “Mksysb Broadcast from the Web Interface” on page 3-82.

IBM 3494 Virtual Tape Server and Virtual Tape Controller

Code Version 2.26.xx.xx and above

IBM 3590 A60 Tape Controller

Code Version 1.16.xx.xx and above

IBM 3592 J70 Tape Controller

Code Version 1.17.xx.xx and above

IBM 3592 C06 Tape Controller

Code Version 1.20.x.x and above

IBM 3494 ATL (L12, L14, L22)

Not currently operational

You can use the web interface to copy control unit code from a source CD that you place in the CD drive of the System Console. You then can broadcast this code to another device.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions** > **Console Configuration Utility**. Type **service** in the Username field, **service** in the Password field, then click **OK**.
3. Select **System Tools** > **Remote Code Broadcast**. You see the screen shown in Figure 3-10 on page 3-9.

Remote Code Broadcast Options

This servlet will provide functions to copy the broadcast code from a disc to the console. It will *NOT* work for Mksysb images. Select "Do not overwrite existing controller code..." if you think the console may not need updating, and view the log file afterwards. Select "Delete code images..." if you wish to select on which machines to delete already existing code.

Note: This servlet has two phases. The first copies files from the disc and prepares a list of machines to broadcast to. The second does the broadcast. For large code images this process can take time. Please wait for the page to reload.

VTD/VTS/VTC/Tape Controller Remote Code Broadcast Menu

1.

☐ Do not overwrite existing controller code if already on this console.

☐ Delete code images on attached machines to make room for broadcast image.

2.

3.

4.

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Figure 3-10. Remote Code Broadcast Options

4. Insert the disc which has the code you wish to broadcast into the optical disc drive of the TSSC.
5. Select one of the options for Broadcast Code Disc, then select **Broadcast Code CD**.

Do not overwrite existing controller code if already on this console

Select this option if you previously broadcast code to a system using the code disc that you just inserted into the drive. This eliminates the time it takes to load code from the disc.

Note: If the image copy failed, select **View the Log File**. Retry **Broadcast Code Disc** after you determine the cause.

Delete code images on attached machines to make room for broadcast image

Select this option to choose which images you want to delete from the target system. A list displays. To add an image to the target system, ensure that the target system has no more than one image.

Note: If you selected "Delete code images on attached machines to make room for broadcast image" the screen reloads and refreshes the list of images to delete. Select the images you want to delete. Type in the numbers of the images that you wish to delete. Separate the numbers by spaces (for example, "0 1 4 5"). Select **Submit Choices**.

6. When the code copy completes, a message appears, and prompts you to select which system to broadcast the code image to. You see a box entitled "Systems for Code Broadcast" at the bottom of the screen.

This box contains a list of the attached systems that can be broadcast to. Table 3-2 on page 3-11 lists the possible status conditions you might anticipate.

Choose Systems for Code Broadcast

Select systems for broadcast by typing in the box below the numbers you wish to delete separated by spaces, or leave it empty. (e.g. 0 1 2 3)
If you wish to broadcast to all systems, type "all" and hit submit

Systems to choose from:

NO	MODEL	SERIAL	IP ADDRESS	HOSTNAME	CODE LEVEL
0	3592	C06	78C5011	172.31.1.35	rasC06 Unavailable
1	3592	C06	1300BEA	172.31.1.35	rasC06 Unavailable

Systems for Code Broadcast:

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Figure 3-11. Choose Systems for Code Broadcast

7. Select the systems to which you want to broadcast a code image. In the "Systems for Code Broadcast" column, type the numbers of the systems, separated by spaces. Leave this field blank if you do not want to broadcast a code image, or you can select the **Cancel** button. Click on **Submit Choices**.

Notes:

- This can take as long as five minutes per system.
 - Figure 3-10 on page 3-9 provides an example, which depicts that the code broadcast will fail because the attached control units are "Unavailable."
 - If an error occurs, select **View the Log File** from Figure 3-10 on page 3-9 to check the log file to determine the failure.
 - If the status is 2+ IMGS (which indicates "2 or more images") on the attached system you wish to broadcast to, the image is not broadcast unless you select the "Delete images..." option depicted in Figure 3-10 on page 3-9, and you remove the images from the target system.
8. You also can use the following additional options which are depicted in Figure 3-10 on page 3-9:
 - Option 2: After you select the systems to broadcast and the page reloads, you see a status message at the top of the screen. Use option 2 "View the Log File" to see the details of the broadcast. This log lists the code that was successfully broadcast and the code that was successfully finalized. If an error occurred, the log file will specify where the load failed. Figure 3-12 on page 3-11 shows you a sample of status in a log file.

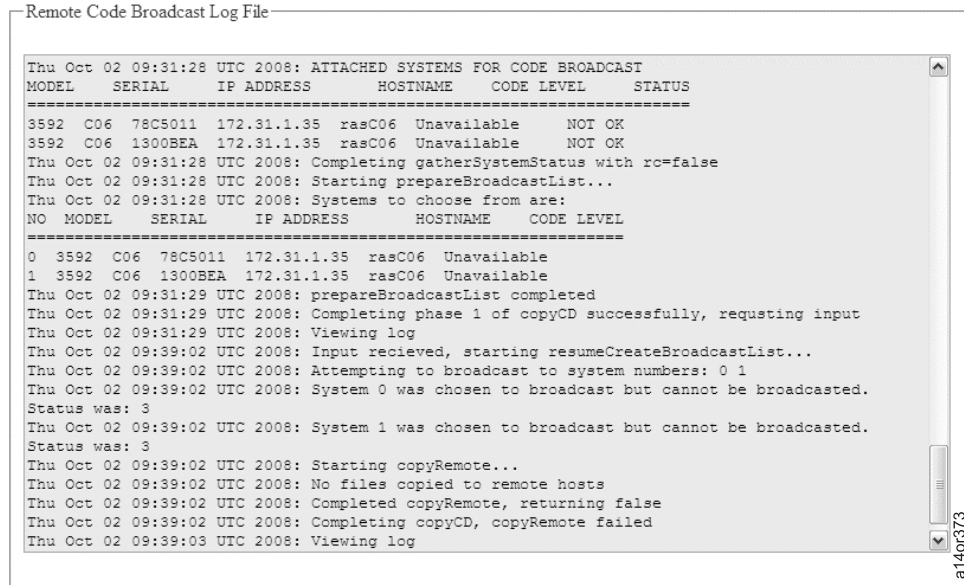


Figure 3-12. Remote Code Broadcast Log File. See Table 3-2 for a list of the possible status messages.

Table 3-2. Code Load Status Messages - From Web Interface. See Figure 3-12 for an example of broadcast status.

Status	Meaning
OK	OK to copy code to attached system
NO DIR	No temporary directory exists on attached system to copy code into
PREV VER	The temporary directory on the attached system is not empty
NO COMM	Unable to communicate with attached system (possibly due to downlevel code on attached system or bad physical connection)
NO SPACE	Insufficient space on attached system for copying code
NO SPC 1	Insufficient space on attached system's gdc file system for copying code
NO SPC 2	Insufficient space on attached system's usr file system for copying code
NO SPC 3	Insufficient space on attached system's gdc and usr file systems for copying code
2+ IMGS	There are two or more code images on the attached system (will not broadcast code unless you remove images by using the "Delete code images..." option.
NOT OK	Unspecified error condition has occurred

- Option 3, "Clear the Log File," deletes the log file and clears this screen. Use this when the previous log file is irrelevant. Only use this option if you no longer need the old log file for reference to an error.
- Option 4, "Eject the CD," should be used when the disc is no longer in use or when you are attempting to copy the code from the disc for a second time. If the program reports that there is an error mounting the disc, remove and insert the disc again.

Tape Drive Service Information

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. The code level requirements are:

System Console

Code Version 3.0.0 and above

IBM 3494 Virtual Tape Server and Virtual Tape Controller

Code Version 2.28.700.xx and above

IBM 3590 A60 Tape Controller

Code Version 1.16.5.xx and above

IBM 3592 J70 Tape Controller

Code Version 1.17.xx.xx and above

IBM 3592 C06 Tape Controller

Code Version 1.20.x.x and above

IBM 3494 ATL (L12, L14, L22)

Not currently operational

1. See Figure 3-13. After you complete the System Console configuration, the tool to update and review tape drive service information for attached systems is automatically enabled. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Action --> Tape Drive Service Information**.

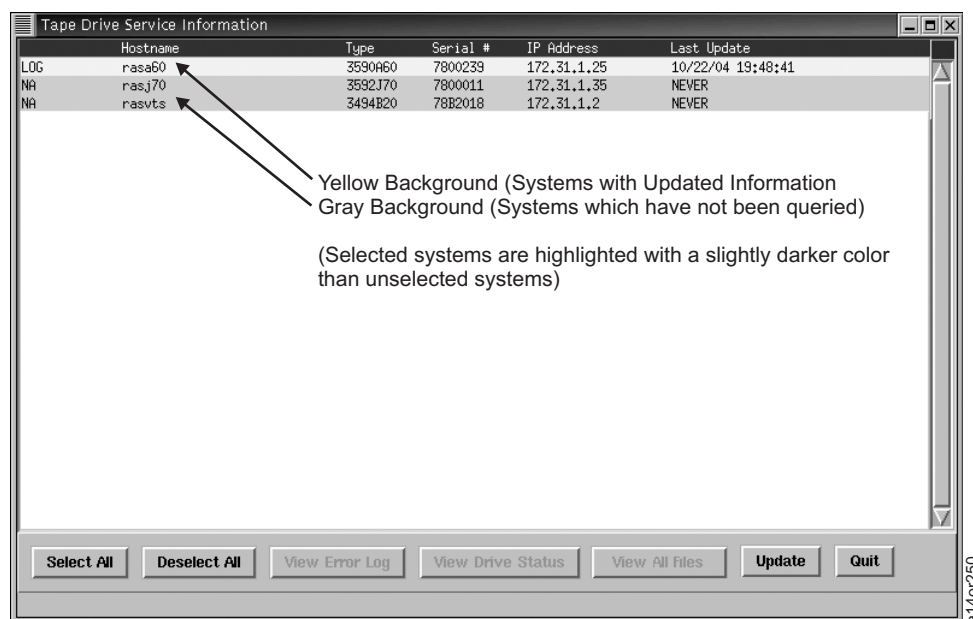


Figure 3-13. Tape Drive Service Information – Main Screen

3. The Figure 3-13 lists all systems attached to the System Console which might have tape drive information available. The Main Screen shows a summary of the update status of the systems attached to the System Console as of the DATE and TIME INDICATED in the right column. The systems listed are highlighted according to the following color scheme:

Yellow Background

Tape drive information for this system has been updated

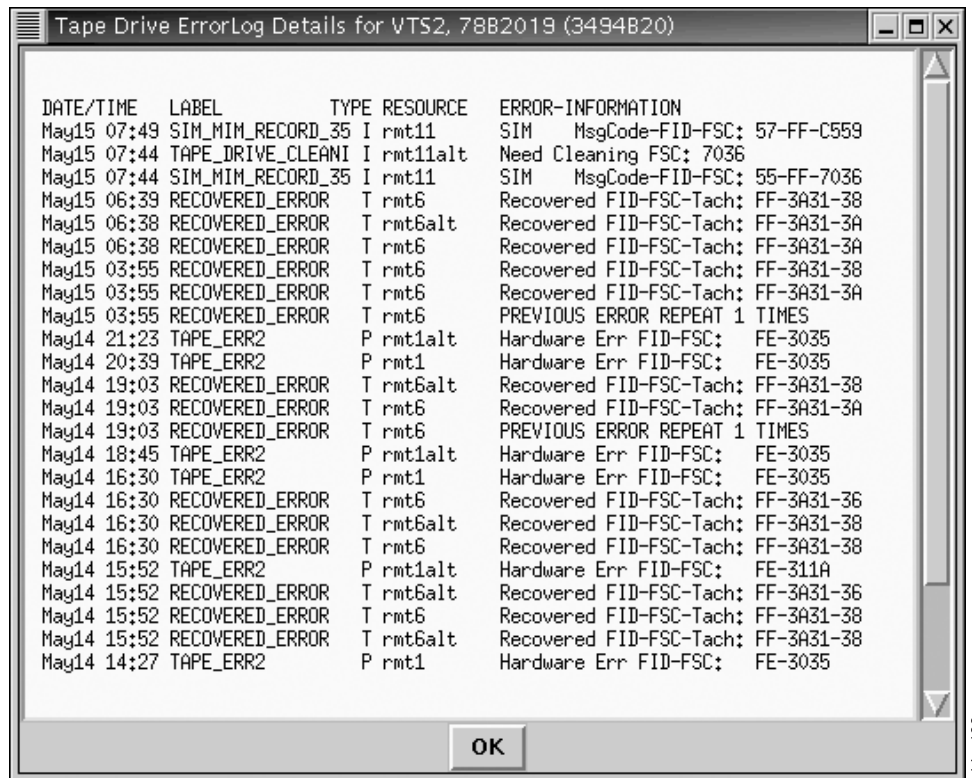
Gray (or White) Background

No tape drive information has ever been reported to the System Console

4. Tape Drive Service Information is NOT run automatically. It is performed by selecting any number of systems in the listing and then clicking **Update**. You can select individual systems by pointing to the system list entry and clicking the left mouse button once. (Click the entry again to deselect the system.) Alternatively, you can select all of the systems on the list by clicking **Select All** (or deselect by clicking **Deselect All**).
5. As the System Console receives service information from the selected tape systems during the update process, the selected systems become deselected (un-highlighted), the date and time of last update is changed to the current time, and the new status is indicated by the background color of the system entry listing.

Note: The update process can be lengthy with a large number of attached systems. However, this tool will time-out after ten minutes for unresponsive systems and return control to the user. The tool is normally unresponsive during the Update process and may appear to be locked up if attached systems are not responding.

6. The Control Unit Tape Drive Service Information Files (code level V3.1.0 and above) show the following information for each attached tape system, following a successful update (see Figure 3-16 on page 3-15 and Figure 3-17 on page 3-15):
 - Control Unit Error Log showing tape drive entries (see Figure 3-14)
 - Control Unit Tape Drive Status (see Figure 3-15 on page 3-14)



DATE/TIME	LABEL	TYPE	RESOURCE	ERROR-INFORMATION
May15 07:49	SIM_MIM_RECORD_35	I	rmt11	SIM MsgCode-FID-FSC: 57-FF-C559
May15 07:44	TAPE_DRIVE_CLEANI	I	rmt11alt	Need Cleaning FSC: 7036
May15 07:44	SIM_MIM_RECORD_35	I	rmt11	SIM MsgCode-FID-FSC: 55-FF-7036
May15 06:39	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-38
May15 06:38	RECOVERED_ERROR	T	rmt6alt	Recovered FID-FSC-Tach: FF-3A31-3A
May15 06:38	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-3A
May15 03:55	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-38
May15 03:55	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-3A
May15 03:55	RECOVERED_ERROR	T	rmt6	PREVIOUS ERROR REPEAT 1 TIMES
May14 21:23	TAPE_ERR2	P	rmt1alt	Hardware Err FID-FSC: FE-3035
May14 20:39	TAPE_ERR2	P	rmt1	Hardware Err FID-FSC: FE-3035
May14 19:03	RECOVERED_ERROR	T	rmt6alt	Recovered FID-FSC-Tach: FF-3A31-38
May14 19:03	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-3A
May14 19:03	RECOVERED_ERROR	T	rmt6	PREVIOUS ERROR REPEAT 1 TIMES
May14 18:45	TAPE_ERR2	P	rmt1alt	Hardware Err FID-FSC: FE-3035
May14 16:30	TAPE_ERR2	P	rmt1	Hardware Err FID-FSC: FE-3035
May14 16:30	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-36
May14 16:30	RECOVERED_ERROR	T	rmt6alt	Recovered FID-FSC-Tach: FF-3A31-38
May14 16:30	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-38
May14 15:52	TAPE_ERR2	P	rmt1alt	Hardware Err FID-FSC: FE-311A
May14 15:52	RECOVERED_ERROR	T	rmt6alt	Recovered FID-FSC-Tach: FF-3A31-36
May14 15:52	RECOVERED_ERROR	T	rmt6	Recovered FID-FSC-Tach: FF-3A31-38
May14 15:52	RECOVERED_ERROR	T	rmt6alt	Recovered FID-FSC-Tach: FF-3A31-38
May14 14:27	TAPE_ERR2	P	rmt1	Hardware Err FID-FSC: FE-3035

Figure 3-14. Tape Drive Service Information – Tape Drive Error Log Details Screen

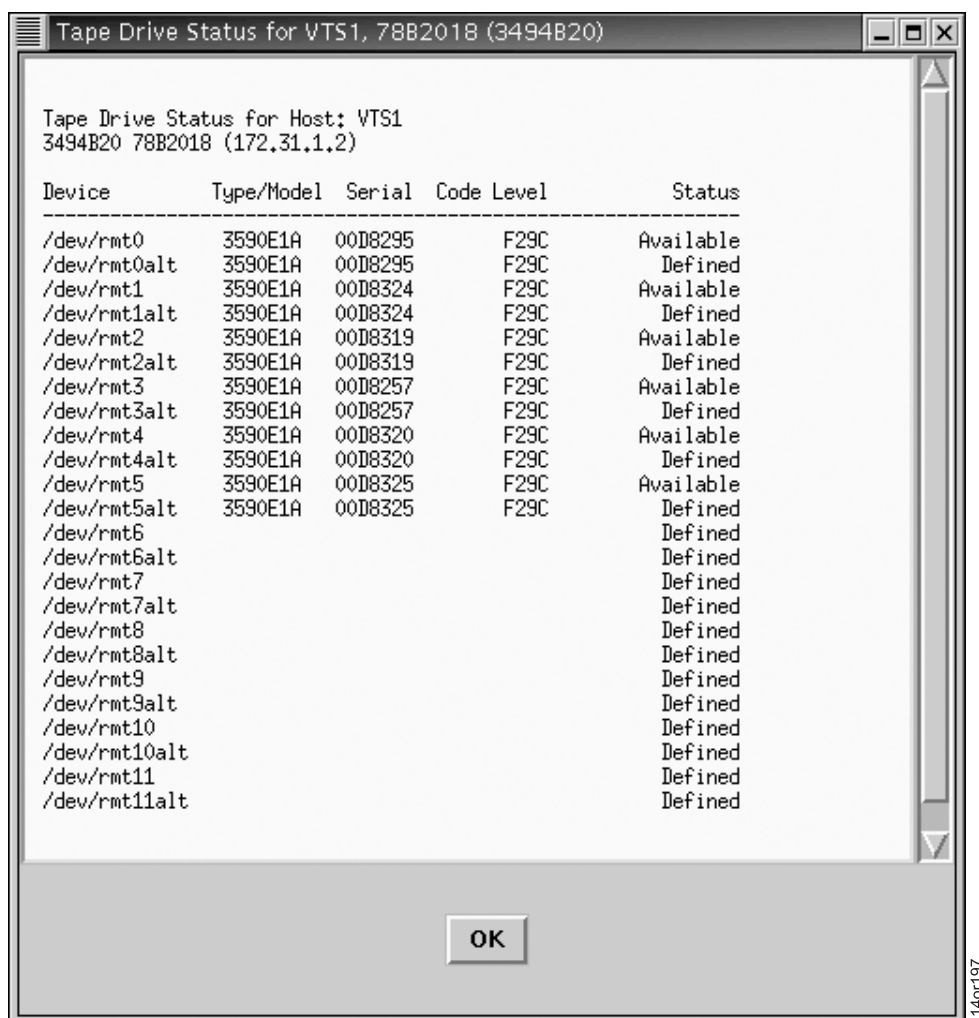


Figure 3-15. Tape Drive Service Information – Tape Drive Status Screen

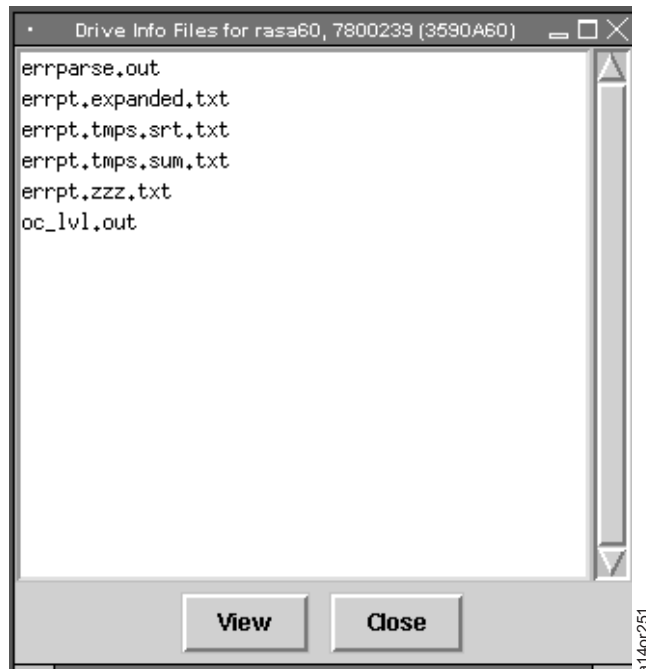


Figure 3-16. View Tape Drive Service Information – Code Level V3.1.0 or Above

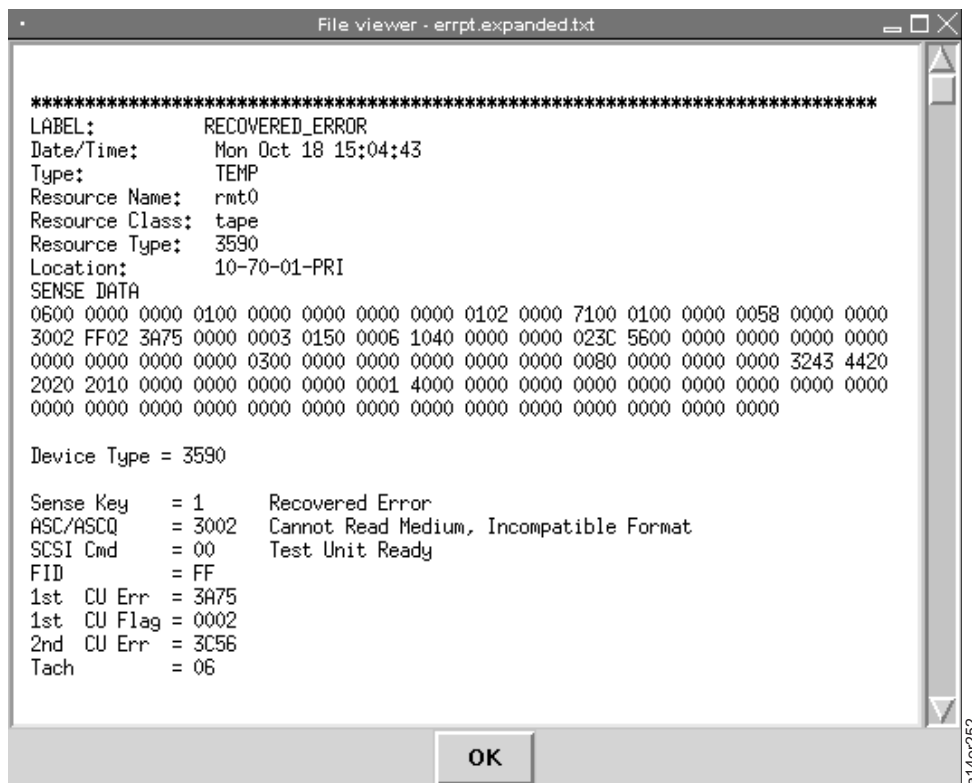


Figure 3-17. File Viewer Showing a File Generated by Tape Drive Service Information – Code Level V3.1.0 or Above

- Each report may be viewed by selecting one of the systems listed on the Main Screen (Figure 3-13 on page 3-12), then clicking **View Error Log** or **View Drive Status**. Systems may be selected by pointing to the system list entry, and clicking the left mouse button once. (Clicking the entry a second time deselects the system.)

For code level V3.1.0 and above, you can use the additional action **View All Files**. This action allows you to view all drive service information returned by a tape system. You also can find additional formatted or unformatted error information in these files.

- From the Main Screen in Figure 3-13 on page 3-12, select **Quit** to quit.

Tape Drive Code Broadcast From Web Interface

Attention: Many procedures in this MI are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. The code level requirements are:

System Console

Code Version 5.3.x and above

IBM TS7700 Virtualization Engine

System Console must be a hardware model 8485 (x206m) or 8849 (x306m)

IBM 3494 Virtual Tape Server and Virtual Tape Controller

Code Version 2.26.xx.xx and above

IBM 3590 A60 Tape Controller

Code Version 1.16.xx.xx and above

IBM 3592 J70 Tape Controller

Code Version 1.17.xx.xx and above

IBM 3592 C06 Tape Controller

Code Version 1.20.x.x and above

IBM 3494 ATL (L12, L14, L22)

Not currently operational

- Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
- From the Main Menu, select **System Console Actions > Console Configuration Utility**. Type **service** in the Username field, type **service** in the Password field, then click **OK**.
- Select **System Tools > Drive Code Broadcast**. You see Figure 3-18.

Figure 3-18. Drive Code Broadcast Web Interface

- Select the **Manage tape drive code on this console** option under **Actions** to view tape drive code currently on the TSSC. From this screen you may add new code to the console or delete existing code.
- To add code, click on the **Add new tape drive code to this console** button. You will be prompted to insert a CD-ROM containing tape drive code into the optical disc drive. Once the disc has been inserted into the console, click **OK** to continue. If a valid drive code CD was inserted, you will see a listing of the drive code on the disc, similar to Figure 3-19 on page 3-17. Check the box next to each

entry you want to copy to the console and click **Copy selected code to console**. If you don't want to copy any code from this disc to the console, click the **Cancel** button.

The screenshot shows the IBM TS3000 System Console interface. At the top, there is a black header with the IBM logo and the text "TS3000 System Console". Below the header, there are two tabs: "Remote Code Broadcast" and "Drive Code Broadcast". The "Drive Code Broadcast" tab is selected. Under this tab, there is a section titled "Actions" with the text "Use this servlet to manage tape drive code on this console, broadcast drive". Below this, it says "Make your selection below:" followed by three radio button options: "Manage tape drive code on this console" (which is selected), "Broadcast tape drive code", and "Gather tape drive information". Below the "Actions" section, there is a section titled "Manage Tape Drive Code" with the text "Select the code images to copy to this console:". Below this text is a table with three columns: "Filename", "Date", and "Size (bytes)". The table contains one row with the following data: "D310_C8E.fmr", "Thu Jun 12 22:51:16 UTC 2008", and "3596584". To the left of the table, there is a checkbox. Below the table, there are two buttons: "Copy selected code to console" and "Cancel".


	Filename	Date	Size (bytes)
<input type="checkbox"/>	D310_C8E.fmr	Thu Jun 12 22:51:16 UTC 2008	3596584

☐

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Figure 3-19. Drive code listing. You may copy selected drive code to the console

6. Similarly, to delete existing code, place a check mark next to the code images you wish to delete. Click the **Delete selected code** button and you will be prompted to verify the delete operation. Click **OK** to continue deleting the selected drive code or **Cancel** to return to the previous screen.
7. See Figure 3-20 on page 3-18. To broadcast tape drive code to systems attached to this console, select the **Broadcast tape drive code** option under **Actions**. The display will change to show the existing code on this console and all valid broadcast targets attached to this TSSC. (Optionally, you will also see other TSSCs connected over the Grid network.) Place a check mark next to each code image to broadcast and each target system that should receive the broadcast. You must select at least one image and one attached system. Once your selections have been made, click the **Broadcast Selected Code** button. You will be prompted to verify the operation, so click **OK** to continue the broadcast or **Cancel** to return to the previous screen. The broadcast may take several minutes to complete depending on how many target systems were selected. Once the broadcast has finished, you will see a message displaying the status of each individual broadcast.


TS3000 System Console

Remote Code Broadcast

Drive Code Broadcast

Actions

Use this servlet to manage tape drive code on this console, broadcast drive code, or gather tape drive information.

Make your selection below:

☐ Manage tape drive code on this console
☒ Broadcast tape drive code
☐ Gather tape drive information

Broadcast Tape Drive Code

Select the code images to broadcast:

<input type="checkbox"/>	Filename	Date	Size (bytes)
<input type="checkbox"/>	D3I0_C8E.fmrz	Wed Jul 21 10:04:32 UTC 2010	3596584

Select your broadcast targets:

<input type="checkbox"/>	Machine type	Serial number	Hostname	IP address
<input type="checkbox"/>	3592C06	78C5024	3590cu20	172.31.1.247
<input type="checkbox"/>	3592C06	78C5838	3590cu10	172.31.1.242

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Figure 3-20. The broadcast screen will display all available code images and valid broadcast targets.

- See Figure 3-21 on page 3-19. You may gather tape drive information from attached systems by selecting the **Gather tape drive information** option under **Actions**. The display will show all valid attached systems. Place a check mark next to each system for which you would like to see tape drive information. Once your selections have been made, click the **Gather information from selected systems** button. You will be prompted before information is gathered. Click **OK** to continue or **Cancel** to end this process. Clicking OK will proceed with the gathering process. It may take several minutes depending on the number of systems selected. Once finished, the screen will display tape drive information for the selected systems.

Remote Code Broadcast

Successfully gathered tape drive information from all selected systems.

Actions

Use this servlet to manage tape drive code on this console, broadcast drive code, or

Make your selection below:

- ☐ Manage tape drive code on this console
- ☐ Broadcast tape drive code
- ☒ Gather tape drive information

Gather Tape Drive Information

Tape drive information from selected systems:

Hostname	Images	Device	Type	Serial	Code
rasc06	D3I0_C90.fmrz	/dev/rmt0priA	3592-E06	1326806	268F
	D3I1_E8B.fmrz				
	D3I1_EA8.fmrz	/dev/rmt0priB	3592-E06	1326806	268F
	D3I2_68F.fmrz				

Gather information from selected systems

Cancel

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Figure 3-21. Display showing tape drive information for a selected system

Remote Access Using NetTerm

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

When using a workstation or notebook (laptop) computer with a modem, it is first necessary to establish a connection to the System Console modem. The following instructions apply for using the NetTerm tool. (Other tools also may be used.)

Configure NetTerm for Accessing a System Console's Modem

1. From the Phone Directory window, click **OK**.
2. Start the NetTerm program.
3. From the NetTerm Start-up Window tool bar, select **File**.
4. From the File pop-up list, select **Phone Directory**.
5. From the Phone Directory window, select **Modem Test**.
6. From the Phone Directory window, modify the following fields to the values listed:

Field	Entry
Name	(select a name with which you are comfortable. An example would be Customer name.)
Phone Number of Modem	(from Configuration Sheet-Select modem attached to COM1-ttyS0)
Emulation	IBM_3151
Keys	IBM_3151

7. From the Phone Directory window, verify that the Connection field has **Modem** selected.
8. From the Phone Directory window, click **Modem Settings**. This will bring up a Communications Setup window.
9. From the Communications Setup window, click **Modems**. This will bring up a Select Modem window.
10. From the Select Modem window, click **Default**. You can be returned to the Phone Directory window or the Communications Setup window. To return to:
 - Phone Directory window, go to Step 11.
 - Communications Setup window, go to Step 12.
11. From the Phone Directory window, click **Modem Settings** to bring up the Communications Setup window.
12. From the Communications Setup window, modify the following fields to the values listed:

Field	Entry
Port:	xxxx (Select the port for your PC/Laptop modem)
Baud Rate:	56000
Data Bits:	8
Parity:	None
Stop bits:	1
Modem Initialize command-Accept Default:AT E1 V1 M1 Q0 &B1 &C1 &D2 &H1 &R2 &N0 &K1 S11=50 S7=60	

Control Settings (click on box to change)

DTR/DSR	box unchecked
RTS/CTS	box checked
XON/OFF	box unchecked
Tone Dialing	box checked
Direct Line	box unchecked
Ignore Carrier	box unchecked

Use TAPI box unchecked

13. After making the changes to the Communications Setup window, click **OK**. You will be returned to the Phone Directory window.
14. From the Phone Directory window, click **Desktop**.
15. From the Desktop window, change the following settings:
 - a. Click on the **Autowrap** box to place a check mark (✓) in that box.
 - b. Click on the **Exit NetTerm on disconnect** box to remove the check mark from that box.
16. From the Desktop window, click **OK**. You will be returned back to the phone Directory window.
17. From the Phone Directory window, click **Color**.
18. From the Screen Colors window, click on the **Allow Graphics rendition code of 0 to reset colors to default** to place a check mark (✓) in that box.
19. From the Screen Colors window, click **OK**. You will be returned to the Phone Directory window.
20. From the Phone Directory window, click **Add**.

Note: The Phone Directory entry (the name for this activity that you selected in Step 6 on page 3-19) may not be displayed in the phone directory list until you exit and restart the NetTerm program.

21. From the Phone Directory window, click **OK**.

Connecting to a System Console's Modem

1. From the NetTerm main menu, select **File**.
2. Select **Phone Directory**.
3. Select the Phone Directory Entry established for this console (entry previously created in Step 6 on page 3-19).
4. Select **Connect**.

Note: If the LAN network is down, have the service representative or the customer administrator install the 30.5-m (100-ft) serial cable that was shipped with the IBM 3953. It attaches to the S0 port (S1 port on IBM 3953).

```
CONNECT 33600

IBM TS3000 System Console Version 4.0.0-121905 Level: gint-1021

raselmc.storage.tucson.ibm.com login: |
```

Figure 3-22. Enter Password Screen

5. Login to the System Console as user **Service** (this login is case-sensitive) Use the password provided from IBM Support to begin the authentication process. Enter your Authentication ID when prompted. This will be your unique userid also provided by IBM Support.

```
3.0.0
=
tssnet1 login: Service
Password:
Last login: Tue Apr  2 15:32:20 on ttyS0

Please enter your Authentication ID: jdoe

Group: Service
userdel: user jdoe does not exist
Creating user jdoe
Account expires on: 05/25/04
Changing password for user jdoe
New password:
Retype new password:
passwd: all authentication tokens updated successfully
Initiating broadcast to... vts1
Initiating broadcast to... vts2
Initiating broadcast to... vts3
Initiating broadcast to... vts4
Waiting for completion...
vts1: Ok
vts2: Ok
vts3: Could not execute remote command
vts4: Ok
Continue with the following key code.

Key: en7260wv93Lzg577XXLR7A2X2UxBh155bv8fjy1o5me?1

Press [c] to continue.
c
Exiting
```

Figure 3-23. Connect to System Console Modem Screen

Notes:

- This process attempts to copy your userid and password to attached VTS, VTC, or Tape Controller systems. This process may not complete successfully on all attached systems.

- Note the results after "Waiting for completion..." This indicates the success of copying your password to systems attached to the console.
 - Your userid and password will be valid for the time indicated on the console and for all systems that indicate **"Ok"** after "Waiting for completion..."
 - The "Waiting for completion..." process should not take longer than five minutes before timing out.
 - For systems which do not respond with "Ok", you will need to either perform a separate authentication, or login using methods from previous code levels.
 - See "Login Options" on page 2-37 (Authenticated) for more information about systems that do not respond "Ok".
6. Use the mouse to highlight the line containing the "Key ..." string. From the NetTerm main menu, select **Edit** --> **Copy** to place the key on the clipboard. Enter **c**, and press **Enter** to continue and to exit the session.

Note: Access to an IBM Authentication Server is required to perform the following step.

7. Using the key that was generated in Step 6, login to the IBM Authentication Server to retrieve your authentication password. When requested, use the NetTerm main menu commands **Edit** --> **Paste** to provide the key to the authentication server.

```

UserId is jdoe, AccessLvl is Service
Please enter Key Code.

Key: en7260wv93Lzg577XXLR7A2X2UxBh155bv8fjy1o5me?l
Key: en7260wv93Lzg577XXLR7A2X2UxBh155bv8fjy1o5me?l

Hello jdoe Please login using password: abcd321

```

Figure 3-24. Userid Screen

8. Make a note of your password from the IBM Authentication Server. Continue logging in to the System Console. Your password will be valid for as long as twenty-four hours.

Note: Do not use a Copy/Paste keyboard function to enter your password for System Console login.

9. Login to the System Console, by using your unique userid and the password that were provided by the IBM Authentication server.

```

IBM TS3000 System Console Version 4.0.0-121905 Level: gint-1021

rase1mc.storage.tucson.ibm.com login: jdoe
Password:
COLOR NETTERM
jdoe@rase1mc:"> █

```

Figure 3-25. Enter Password Screen

10. From the command prompt, you may perform console tasks or you may alternatively communicate with tape systems that are attached to the System Console.

Note: It is possible that the keyboard function keys (F1, F2, and so forth) and the Backspace/Delete keys will not work as they should. When this happens, enter the following command at the command prompt: **export TERM=vt100**. If the function keys still do not work as they should, use the combination **Esc+xx**, where **xx** is the number of the function key.

11. To telnet to systems that are attached to the System Console, issue the **'tsys'** command, and enter the number of the system to which you would like to connect (see Figure 3-26 on page 3-23). You can use the command **tsys-?** to view the choices for reordering the list.

IBM TS3000 System Console
Telnet to Attached Tape System

#	Make/Model	Serial Number	IP Address	Hostname
1:	3494B20	78B2018	172.31.1.40	rasvts
2:	3494L22	1314501	172.31.1.5	"LMA"
3:	3590A60	7000239	172.31.1.26	rasa60
4:	3592J70	100B89A	172.31.1.36	rasj70
5:	3953L05	1300004	172.31.1.11	"LMA"
6:	3953L05	1300004	172.31.1.12	"LMB"

Which system would you like to connect to (or 'q' to quit)? █

Figure 3-26. Choose System Prompt

You may login with your userid and password to any of the attached systems that responded with "Waiting for completion..." -> "Ok" in Step 5 on page 3-21, above. See "Authenticated" in "Login Options" on page 2-37 for information on how to login to systems that did not respond "Ok."

- To logoff from the System Console, type **exit** at the command prompt, and press **Enter**.

```
[jdoe@tssnet1 jdoe]# exit
logout
```

Figure 3-27. Logout

- From the NetTerm main screen, select **File**, then **Exit** to close the NetTerm tool.

Call Home Queue Management

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

- Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
- From the Main Menu, select **System Console Actions** -> **Console Configuration Utility**. You see the Figure 2-53 on page 2-40.
- Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application.
- Click **Call Home Queue**. You see the Figure 3-28. The various call home record types (in the "Type" column) are described in Table 3-3 on page 3-24.

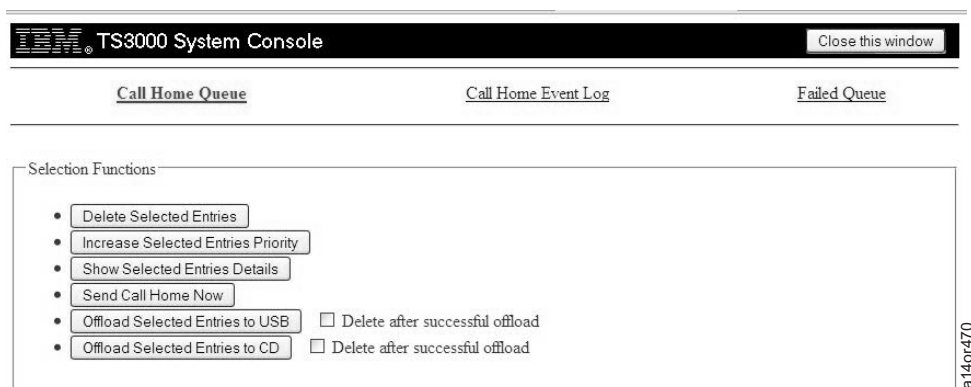


Figure 3-28. Call Home Queue Management - Main Screen

Table 3-3. Call Home Record Types. From the Type column in Figure 3-28 on page 3-23.

Type	Description
DC	Data Call Home (Binary)
DI	Information - EC Install, Call Home Test
DT	Dump/Trace (Binary)
EC	EC Activation
HB	Heartbeat MRPD
IS	Install
PB	Problem Record
PE	PE Package (Binary)
PG	Problem Page
PI	Proactive / Warning
PT	Pager Test
RI	Close Problem
RL	Remote Dial-In
SW	Software Problem Record

The Queue Management tool offers the following capabilities:

- View current entries in Call Home queue on the System Console
 - Delete or Change priority of entries
 - View details of specific entries
 - Offload individual packages immediately
 - Offload Call Home Entries to Diskette
5. To Delete or Force Delete a Call Home Queue Entry, select the entry by clicking on the check box next to the corresponding entry. Click **Delete Selected Entries**. To Show Details for a Call Home Queue Entry, select the entry by clicking the checkbox next to the corresponding entry.
 6. Click **Show Selected Entry Details**. Figure 3-29 on page 3-25 displays.

Note: For DC and PE packages, the TSSC will provide the following features:

- To download a specific file from the call home package, click on the **Data Package** link. This will allow you to extract the files from the package, but will not affect the contents of the package when the call home file is offloaded.
- Below the package's header information you will see a listing of all of the packages in the call home file.

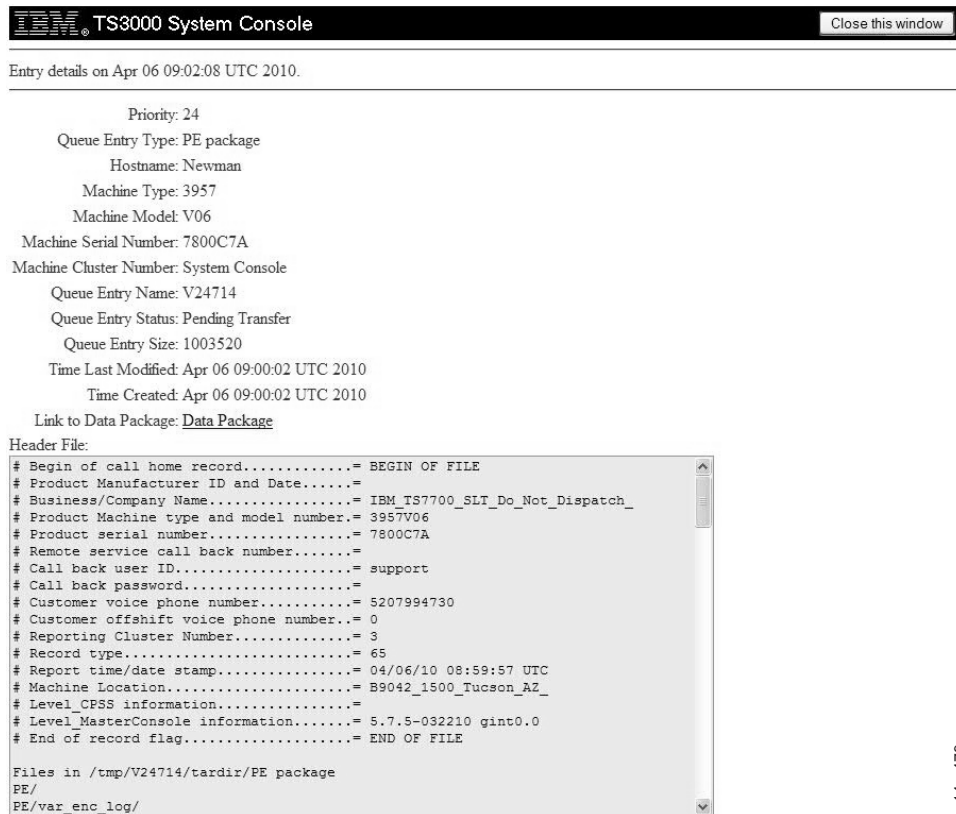


Figure 3-29. Call Home Queue Management – Call Home Queue Entry Details

7. To refresh the Call Home Queue listing table, select **Refresh Queue**.
8. To offload a Call Home Queue Entry to Diskette, select the entry by clicking the check box next to the corresponding entry.
9. Select **Offload Selected Entries to Diskette**. Figure 3-30 displays.

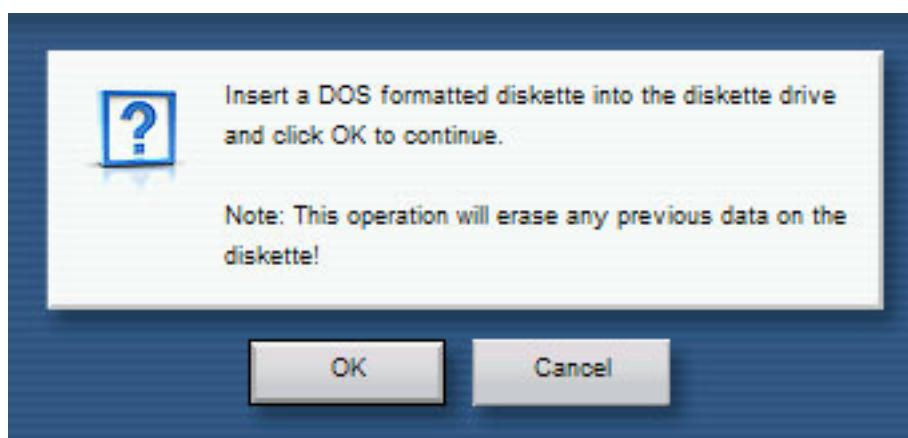


Figure 3-30. Call Home Queue Management – Offload Queue Entry to Diskette

10. Click **OK**.
11. To Offload an individual package immediately, select the check box next to the package you want offloaded and click the **Send Call Home Now** button. The page will return with a message to confirm the completed action.

Failed Queue Management

You can use the System Console to view the Failed Queue Management screens.

1. Right click from anywhere in the Desktop.
2. From the Main Menu, select **System Console Actions** → **Console Configuration Utility**.
3. Type **service** in the Username field, type **service** in the Password field, then click **OK** to start the Console Configuration application.
4. Click **Call Home Queue**.
5. Click **Failed Queue** at the top of the page. See screen shot below.

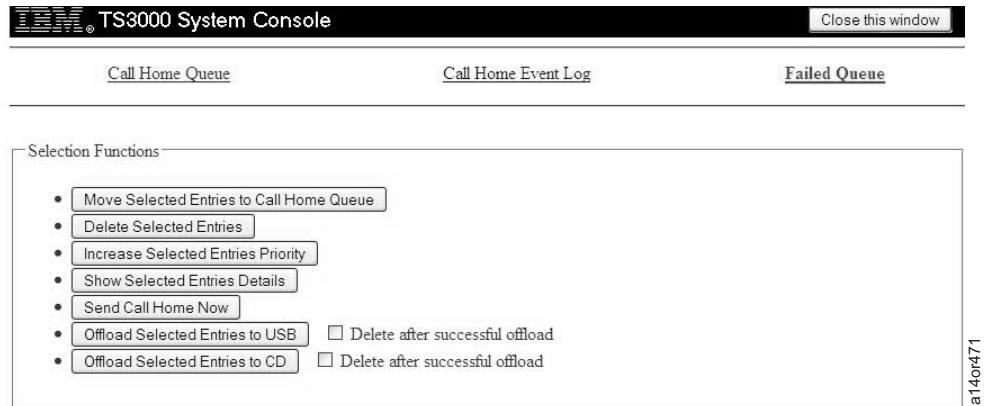


Figure 3-31. Call Home Queue Screen.

This screen shows the new Failed Queue interface. The Failed Queue Management tool offers the following capabilities:

- a. View Call Home entries that have failed on the System Console.
 - b. Return a failed queue entry back to the active Call Home queue.
 - c. Delete failed queue entries.
 - d. Offload individual packages immediately
 - e. View the details and associated log files of failed queue entries.
 - f. Offload failed Call Home entries.
6. To Delete or Force Delete a Failed Call Home Queue Entry, select the entry by clicking on the check box next to the corresponding entry. Click **Delete Selected Entries**.
 7. To Show Details for a Failed Call Home Queue Entry, select the entry by clicking the checkbox next to the corresponding entry. Click **Show Selected Entry Details**. See the following figure.

Note: For DC and PE packages, the TSSC will provide the following features:

- To download a specific file from the call home package, click on the **Data Package** link. This will allow you to extract the files from the package, but will not affect the contents of the package when the call home file is offloaded.
- Below the package's header information you will see a listing of all of the packages in the call home file.

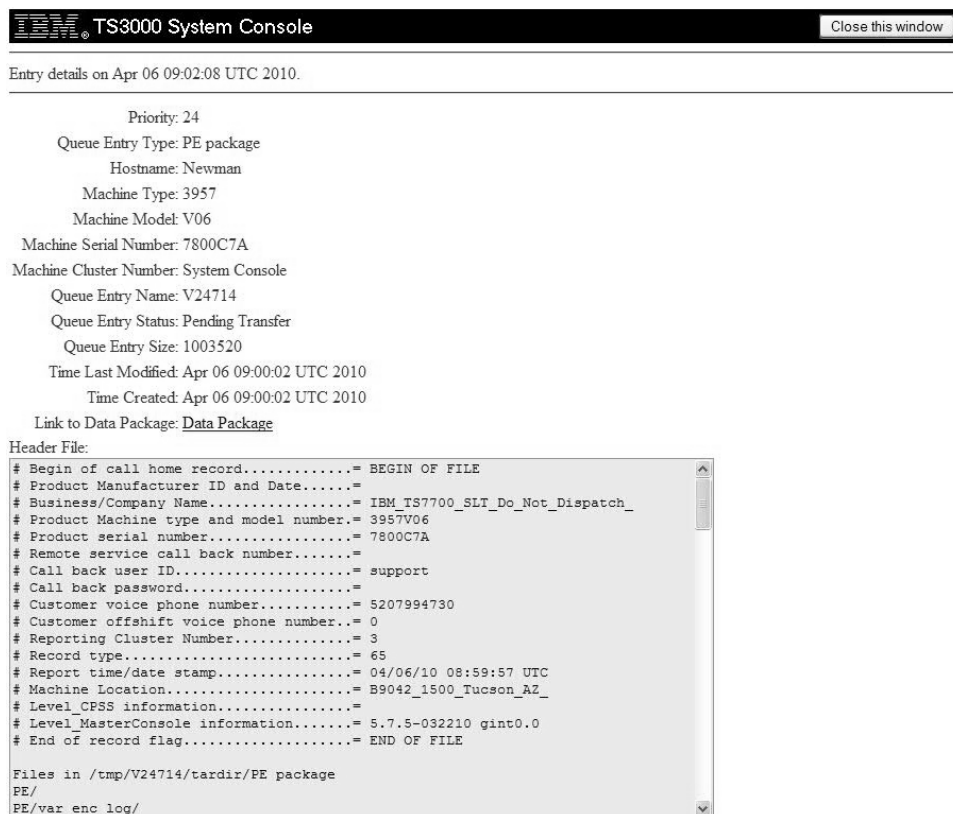


Figure 3-32. Call Home Queue Management. Call Home Queue Entry Details

8. To refresh the Failed Call Home Queue listing table, select **Refresh Queue**.
9. To offload a Failed Call Home Queue Entry to Diskette, select the entry by clicking the check box next to the corresponding entry.

10. Select **Offload Selected Entries to Diskette**. The following figure is displayed.

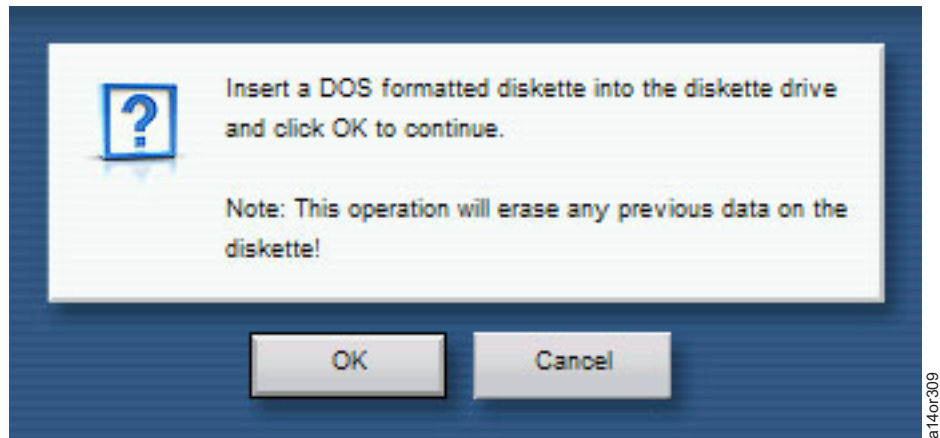


Figure 3-33. Call Home Queue Management. Offload Queue Entry to Diskette

11. Click **OK**.
12. To view the log for a specific Failed Call Home entry, click **view** in the Log File column for the corresponding entry. The following screen will be displayed at the bottom of the page.
13. To Offload an individual package immediately, select the check box next to the package you want offloaded and click the **Send Call Home Now** button. The page will return with a message to confirm the completed action.

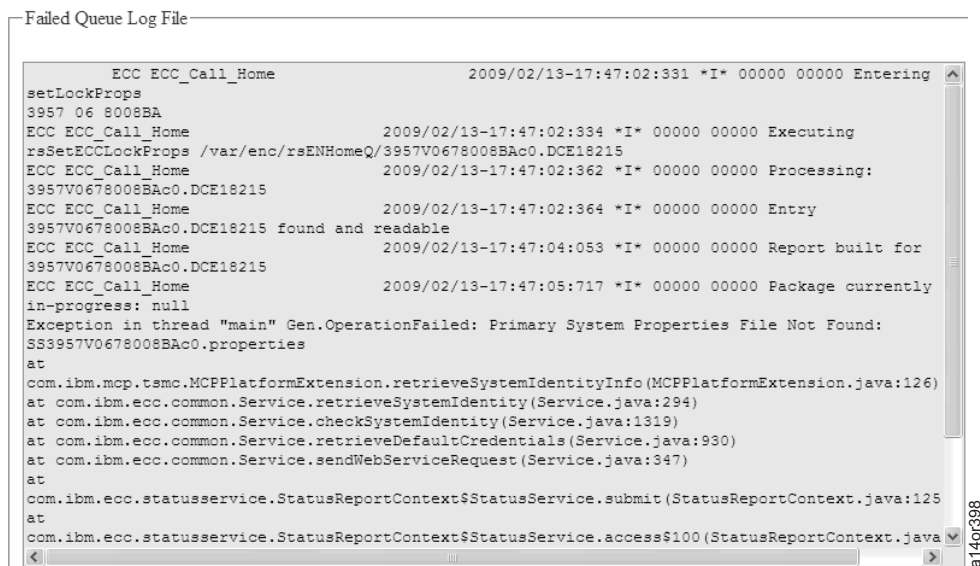


Figure 3-34. Failed Queue Log File.

Note: There are generally three cases to look for in the log file to determine why a particular call home failed.

- a. If you see a message stating the "Primary System Properties File Not Found," this means the system attempting to call home is not attached to the TSSC. The system must be attached to the TSSC before it can call home. When the machine is attached, this package can be moved back to the Call Home Queue.

- b. For logs containing "Failing Machine Type: [####] Serial: [#####] is NOT REGISTERED in the [CCPF] system," the attached machine is no longer under warranty and cannot call home. The next line of support should be contacted if further help is required.
- c. The last case will say that a "Duplicate file is in testcase." This means this call home package has already been called home, and this copy can be discarded.

Call Home Event Log

You can use the System Console to view the Call Home Event Log and see the history of Call Home packages that have been sent by the System Console.

1. Right click from anywhere in the Desktop.
2. From the Main Menu, select **System Console Actions →Console Configuration Utility**.
3. Type **service** in the Username field, type **service** in the Password field, then click **OK** to start the Console Configuration application.
4. Click **Call Home Queue**.
5. Click **Call Home Event Log** at the top of the page. See screen shot below.

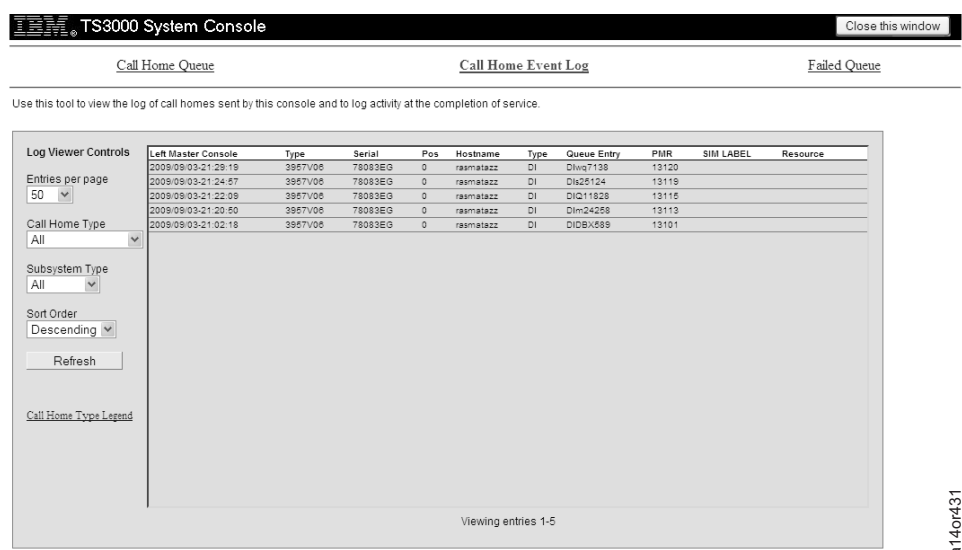


Figure 3-35. Call Home Event Log.

6. You can use the Log Viewer Controls to sort the event log entries. Sort categories include the following:
 - a. Number of entries per page
 - b. Type of Call Home package
 - c. Subsystem Type
7. Certain Call Home packages offer detailed information in addition to what is displayed in the event log. When additional information is available, a **Detail** link will be displayed in the far right column. See the following figure.

2009/09/03-13:46:11	3957V06	78083EG	0	rasmatazz	PB	PB1pUa	13136	CORE_DUMP	SYSPROC	Detail
2009/09/03-11:45:59	3957V06	78083EG	0	rasmatazz	PB	PB123Bhz	13048			Detail
2009/09/03-00:19:11	3957V06	78083EG	0	rasmatazz	PB	PBQN3hM/s	12787	OC_ENV_ERR_PERM	Router	Detail

Figure 3-36. Call Home Event Log entries showing the Detail link

8. Clicking the **Detail** link brings up another window with additional event information as shown in the following figure.

Call Home Queue Entry PBT-ipUa	
Hostname	rasmatazz
System Type	3957V06
Serial Number	78083EG
Rack Position	0
PMR Number	13136
Data Record Locator	e78-083EGp0030920092035402040050
SIM Details	
RC/RQC Index	3
Message Modifier	2204
Message Data	00 00 00
SIM Identifier	4
Unit Identifier	600
Refcodes	e000 8082 0000
Label	CORE_DUMP
Identifier	A924A5FC
Resource Name	SYSPROC

a14o433

Figure 3-37. Detailed Event Log Information

Offloading User Files

You can use the System Console to offload user files by various means. For example, for user **service**, the directory would be `/home/service/offload`. If you are logging on remotely, you can use the browser to download the files onto your system.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions** → **Console Configuration Utility**. Login, as required.
3. Select **Offload User Files**. You see Figure 3-38 on page 3-31. The directory setting defaults to your user's offload directory. For the user **service**, you will be prompted for the directory you wish to download the data. The suggested directory is `/home/service/offload`. You can change to a different directory by adding another name in the "Specify a different offload directory" field, and clicking the **Refresh** button next to that input area. You may also change directories by clicking a directory name in the file list field.



Figure 3-38. Offload User Files Menu Example. This example does not include Copy to Diskette.

4. Left click the check boxes next to the file names to select individual files, or left click the box next to the heading "File Name" to select all the files. You can press Refresh below the list to clear from the check boxes all the choices you made.

Note: Your hardware platform will determine the options that are available on this menu. Only those options that are available for your server type appear in the list.

5. Ensure that you have installed the media you are going to offload files to. Use Table 3-4 to determine the media type or the method you are going to use to offload user files.

Table 3-4. "Offload User Files" Options

Menu Option	Purpose
Copy to Diskette	Copies files to the media type you select
Copy to USB	
Copy to CD	
Copy to Call Home	Packages files in a data call home and places them in a Call Home queue for transmission
Delete Selected	Deletes files from the directory Warning: Do not delete files that are vital to System Console function.
Download Selected	Compresses files into a file called ServiceOffloadBundle.zip. Notes: <ul style="list-style-type: none"> You also may save a single, raw file by clicking on the filename, or right-clicking the filename and selecting "Save target as." You will be prompted with a download box. If you rename this file, do not allow in any blank spaces in the title you give it. Download Selected compresses the files into a smaller package to lessen the transmission time. This is used primarily by IBM Support.
Refresh	Refresh the screen (Figure 3-38)

Note: Select "Delete After Successful Copy" if you want to remove the files that you are copying from the listing after you copy them.

6. You see a confirmation box. Ensure that you read all the text in the confirmation box. Click **OK** to copy the files.
7. If you are logged in remotely, you may offload the files directly to your hard drive by clicking on the filename in the table.

Starting and Stopping ALC (Automated Log Collector)

This tool is used to gather log data associated with specific 3584 errors.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions** → **Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Select **PE Packages** → **Subsystem Log Retrieval** link. You will see the image below.

IBM TS3000 System Console

Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

- Select a Machine Type -

Action

Please select a system to the left.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

a14or480

Figure 3-39. Subsystem Log Retrieval

5. In the “Select Logs” section, use the drop down to select a 3584.

IBM TS3000 System Console

Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3584L32

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

- Select an Attached System -

Action

Please select a system to the left.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

a14or481

Figure 3-40. Select Logs

6. From the new drop down that appeared, select an attached system.

TS3000 System Console
Close this window

System Console PE Package
Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3584L32

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

RAS3584 Serial Number: 13AAA15

Library Logs:

☒ LIBLG_01_OP
☒ LIBLG_01_NO
☒ LIBLG_01_ER
☒ LIBLG_01_AC
☒ LIBLG_01_NV
☒ LIBLG_01_SV

Drive Logs:

☐ DRIVE_01_01
☐ DRIVE_01_02
☐ DRIVE_02_01
☐ DRIVE_02_02
☐ DRIVE_02_03
☐ DRIVE_02_04

Action

Retrieve Logs

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

ALC

Error code identification strings:

(all, none, 2FXX (separate multiple entries with a comma))

Turn on NVRAM log gathering? ☐

Turn on early termination? ☐

Turn on debugging? ☐

How long do you want ALC to run (in days):

7

Start ALC

Figure 3-41. Select Attached System

- In the error code identification strings text box type the error codes you want ALC to check for. You can type **all** (which will include all error codes for log gathering), **none** (which will not gather logs for any error code), or **a list of comma-separated 4 digit hexadecimal numbers** (an X may be used as a wildcard and will match any number in its position).

If you want to turn on NVRAM log gathering, early termination, or debugging, simply check the check box next to the options you want.

Then input how many days you want ALC to run. Don't try to run ALC forever, and run only under the guidance and direction of a PFE.

- Then click **Start ALC**.

Chapter 3. Procedures **3-33**

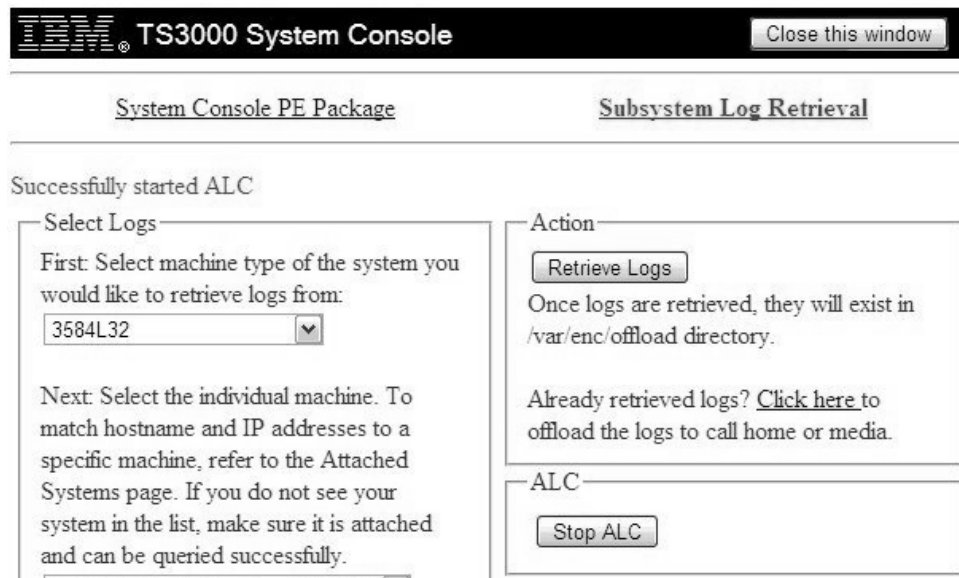


Figure 3-42. Successfully Started ALC

ALC has been successfully started on your selected 3584 library.
Every heartbeat error found by ALC will be called home.

Stop ALC from the Web Interface

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions** → **Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Select **PE Packages** → **Subsystem Log Retrieval** link. You will see the image below.

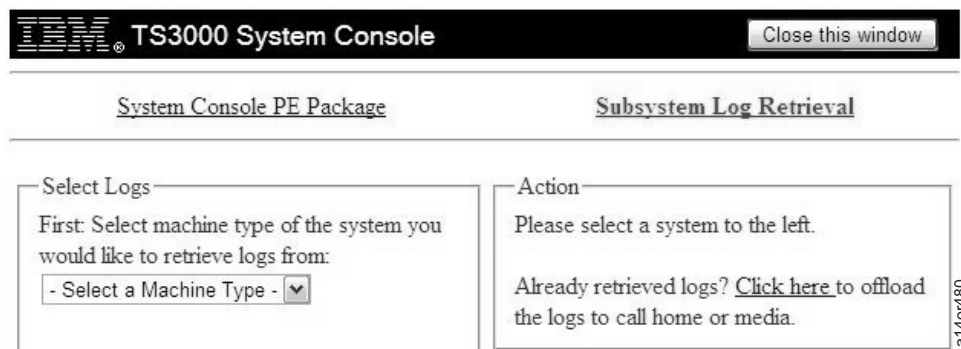


Figure 3-43. Subsystem Log Retrieval

5. In the "Select Logs" section, use the drop down to select a 3584.

IBM TS3000 System Console Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3584L32 ▼

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

- Select an Attached System - ▼

Action

Please select a system to the left.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

a14or481

Figure 3-44. Select Logs

- From the new drop down that appeared, select an attached system.

IBM TS3000 System Console Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3584L32 ▼

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

Action

Retrieve Logs

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

ALC

Stop ALC

a14or486

Figure 3-45. Select Attached System

- Click **Stop ALC**.

Figure 3-46. Successfully Stopped ALC

ALC has been stopped on the selected 3584 library.

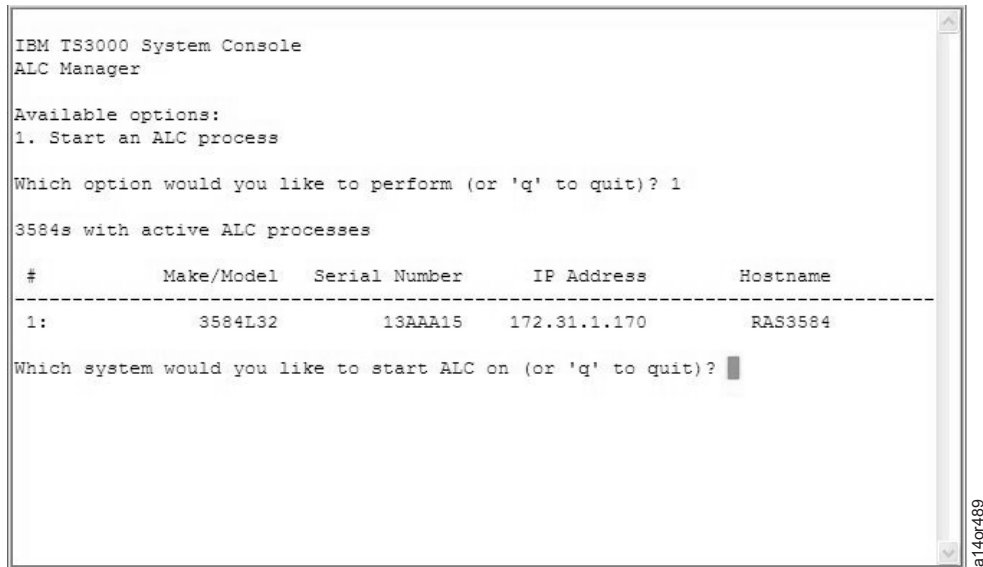
Start ALC from the Command Line

1. Log into the TSSC. See Figure 2-52 on page 2-39.
2. Click anywhere on the desktop, select **Browser Functions → Launch ALC Manager**. You see the figure shown below.

Figure 3-47. Start an ALC Process

Note: If there are 3584s to start ALC against, the option “Start an ALC process” will appear.

3. To start ALC press the **corresponding number** next to “Start an ALC process” then press **Enter**.



```
IBM TS3000 System Console
ALC Manager

Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

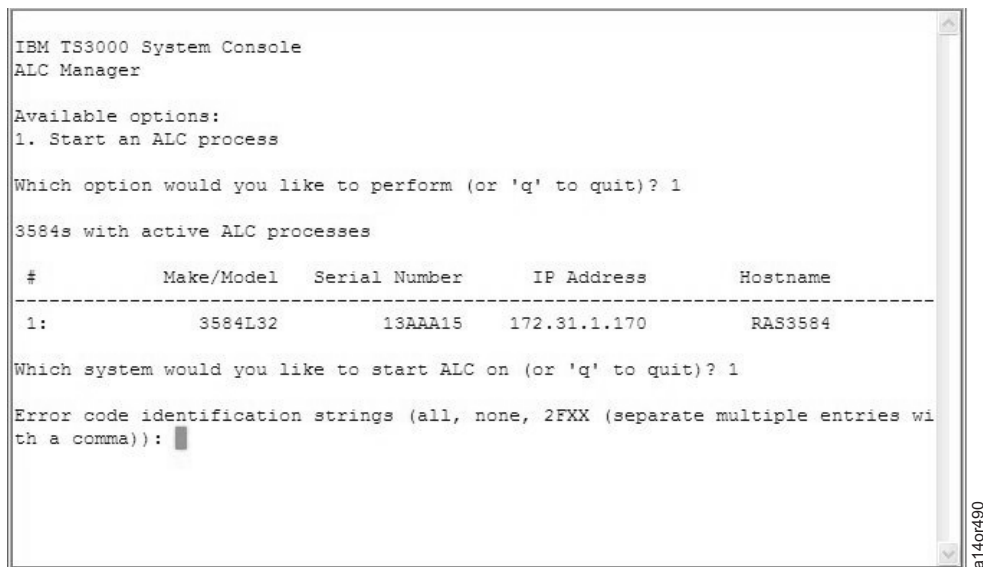
#           Make/Model   Serial Number   IP Address      Hostname
-----
1:          3584L32      13AAA15        172.31.1.170    RAS3584

Which system would you like to start ALC on (or 'q' to quit)?
```

Figure 3-48. Start an ALC Process

A list of attached 3584 libraries appear. Libraries that already have ALC running will not show up here.

4. Find the 3584 you want to start ALC against from the list. Press the **corresponding number**, then press **Enter**.



```
IBM TS3000 System Console
ALC Manager

Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address      Hostname
-----
1:          3584L32      13AAA15        172.31.1.170    RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)):
```

Figure 3-49. Start an ALC Process

The script will now ask for the error code identification strings to define which error codes to check for.

5. Type **all** (which will include all error codes for log gathering), **none** (which will not gather logs for any error code), or **a list of comma separated 4 digit hexadecimal numbers** (an X may be used as a wildcard and will match any number in its position), then press **Enter**.

```
IBM TS3000 System Console
ALC Manager

Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)): all

Turn on NVRAM log gathering? █
```

a14or491

Figure 3-50. Start an ALC Process

You will now be asked if you want to turn on NVRAM log gathering.

6. Type **Yes** or **No**, then press **Enter**.

```
IBM TS3000 System Console
ALC Manager

Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)): all

Turn on NVRAM log gathering? No

Turn on early termination? █
```

a14or492

Figure 3-51. Start an ALC Process

You now will be asked to turn on early termination.

7. Type **Yes** or **No**, then press **Enter**.

```
IBM TS3000 System Console
ALC Manager

Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)): all

Turn on NVRAM log gathering? No

Turn on early termination? No

Turn on debugging? █
```

Figure 3-52. Start an ALC Process

Next, you will be asked to turn on debugging.

8. Type **Yes** or **No**, then press **Enter**.

```
Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)): all

Turn on NVRAM log gathering? No

Turn on early termination? No

Turn on debugging? No

How long do you want ALC to run (in days) or press enter for default (7 days)? █
```

Figure 3-53. Start an ALC Process

Finally, you will be asked how long you want ALC to run.

9. Type a number greater than zero. Don't try to run ALC forever, and run only under the guidance and direction of a PFE.

```
Available options:
1. Start an ALC process

Which option would you like to perform (or 'q' to quit)? 1

3584s with active ALC processes

#           Make/Model   Serial Number   IP Address      Hostname
-----
1:          3584L32      13AAA15        172.31.1.170    RAS3584

Which system would you like to start ALC on (or 'q' to quit)? 1

Error code identification strings (all, none, 2FXX (separate multiple entries with a comma)): all

Turn on NVRAM log gathering? No

Turn on early termination? No

Turn on debugging? No

ALC started successfully.
raselmc:~ #
```

Figure 3-54. Start an ALC Process

ALC will now start.

Every heartbeat error found by ALC will be called home.

Stop ALC from the Command Line

1. Log into the TSSC. See Figure 2-52 on page 2-39.
2. Click anywhere on the desktop, select **Browser Functions → Launch ALC Manager**. You see the figure shown below.

```
IBM TS3000 System Console
ALC Manager

Available options:
1. Stop an active ALC process

Which option would you like to perform (or 'q' to quit)?
```

Figure 3-55. Stop an ALC Process

Note: If there are ALC processes running, you will be given the option to stop them.

3. To continue, press **the corresponding number** next to "Stop an active ALC process", then press **Enter**.

```

IBM TS3000 System Console
ALC Manager

Available options:
1. Stop an active ALC process

Which option would you like to perform (or 'q' to quit)? 1

Attached 3584s

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to stop ALC on (or 'q' to quit)? █

```

Figure 3-56. Stop an ALC Process

A list of 3584s with ALC running against them appear.

4. To stop ALC on one of the 3584s press **the corresponding number** of the desired library and **Enter**.

```

IBM TS3000 System Console
ALC Manager

Available options:
1. Stop an active ALC process

Which option would you like to perform (or 'q' to quit)? 1

Attached 3584s

#           Make/Model   Serial Number   IP Address   Hostname
-----
1:          3584L32      13AAA15        172.31.1.170 RAS3584

Which system would you like to stop ALC on (or 'q' to quit)? 1

The process was killed.

ALC stopped.
raselmc:~ # █

```

Figure 3-57. Stop an ALC Process

ALC has now stopped collecting logs against that 3584 library.

Configuring Assist On-Site (AOS)

AOS is a tool that allows remote desktop connections over the External broadband ethernet adapter to the TSSC. It utilizes the same network as broadband call home and will work on either HTTP or HTTPS. The AOS daemon will allow outbound connections only. It will establish connections by periodically connecting to the AOS servers to determine if remote access is needed. If so, the daemon will establish the connection and the remote user will have desktop access to the TSSC. For information on AOS, check its internal website: https://aos.us.ihost.com/AssistOnSiteAdmin/docs/AOS_User_Guide.pdf

Note: A DNS is required for AOS to find the AOS servers. To establish connection to a DNS, see section “Console Settings” on page 2-60. Outbound traffic needs to be enabled to the following ports:

If HTTPS traffic only is required, remove the 72.15.208.234 IP from the firewall rules.

Table 3-5. Assist On-Site Table

Hostname	IP	Ports
aos.us.ihost.com	72.15.208.234	80, 443
aosback.us.ihost.com	72.15.223.61	80, 443
aosrelay1.us.ihost.com	72.15.223.60	80, 443
aos.uk.ihost.com	195.171.173.165	80, 443

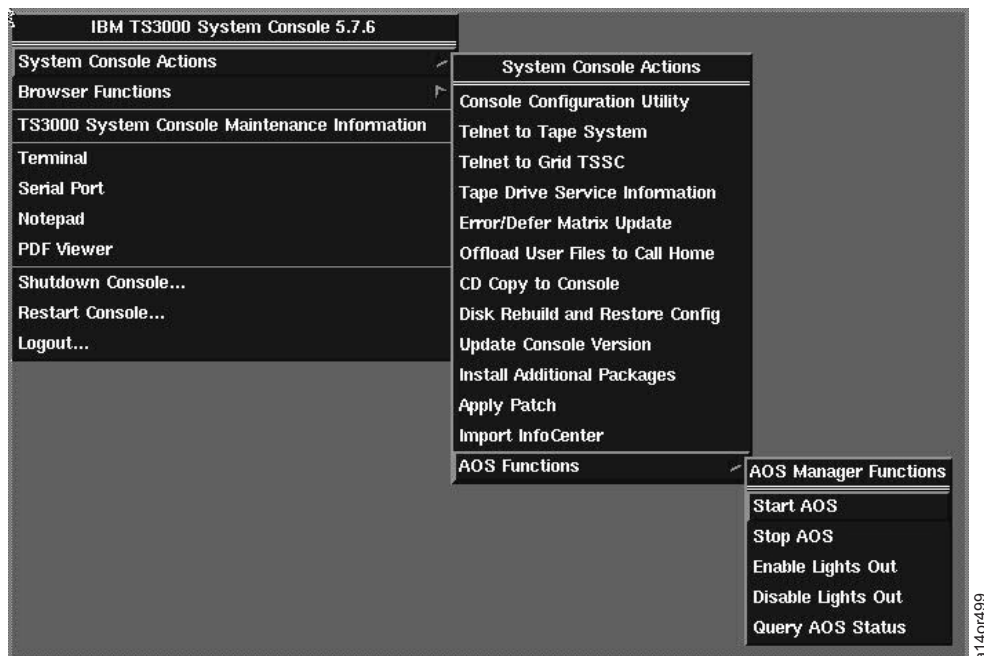


Figure 3-58. AOS Manager Functions

To Enable AOS Lights Out:

Right click the desktop → **System Console Actions** → **AOS Functions** → **Enable Lights Out**.

This will enable AOS to allow for remote access without the need to confirm the remote takeover of the TSSC.

To Disable AOS Lights Out:

Right click the desktop → **System Console Actions** → **AOS Functions** → **Disable Lights Out**.

This will set AOS to require local confirmation of the remote takeover TSSC.

To Start AOS:

Right click the desktop → **System Console Actions** → **AOS Functions** → **Start AOS**.

This will launch the AOS daemon and will enable AOS to run and establish connections based on the AOS settings on the TSSC.

To Stop AOS:

Right click the desktop → **System Console Actions** → **AOS Functions** → **Stop AOS**.

This will stop the AOS daemon from making any new connections. Any sessions currently in progress will not be stopped. The remote user or a local user will be required to stop any established connections if there are any.

To Query AOS:

Right click the desktop → **System Console Actions** → **AOS Functions** → **Query AOS Status**.

The function will show you the current AOS settings on the TSSC. The query command checks the following settings:

- If Lights out is enabled or disabled
- If AOS is running or not
- The customer name that will be presented by the AOS client for establishing a connection to this TSSC. AOS currently reports the hostname of the TSSC.

Note: If your TSSC is set to the default tssnet1, it will be very difficult to find your TSSC in the AOS client. We strongly suggest updating the hostname to a unique hostname.

- The AOS customer number. All TSSC's customer number is 1010000, and this field is not configurable.
- Tests connectivity to the AOS site, and if it is not successful, the script displays the reason for not being able to connect to the URL.

Note: A DNS server is required for AOS to find the appropriate IP for establishing the connection with the AOS server. To set a DNS server, see section: "Console Settings" on page 2-60.

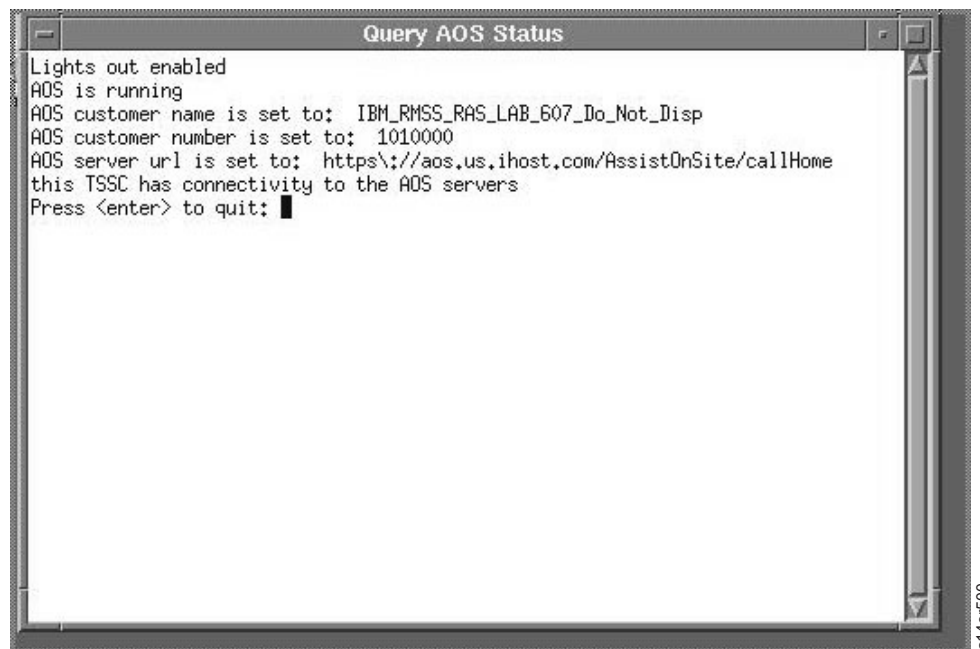


Figure 3-59. AOS Manager Functions

To Configure a Proxy Server:

1. Right click the desktop → **System Console Actions** → **AOS Functions** → **Configure Proxy Server**.

This function will allow you to configure a proxy server for use with AOS Lights Out.

You will be prompted for three pieces of information. This information is all provided by the customer.

- the proxy server hostname (or IP address)
- the proxy server port
- the (optional) authentication credentials.

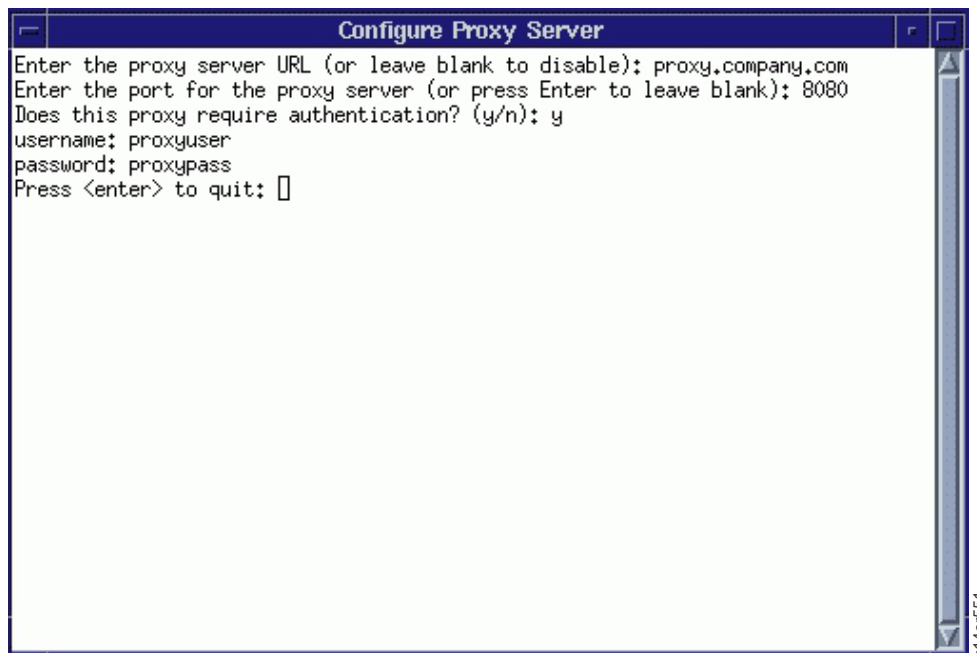


Figure 3-60. Manage Port Forwarding Interface

To Configure Port Forwarding:

1. Right click the desktop → **System Console Actions** → **AOS Functions** → **Manage Port Forwarding**.

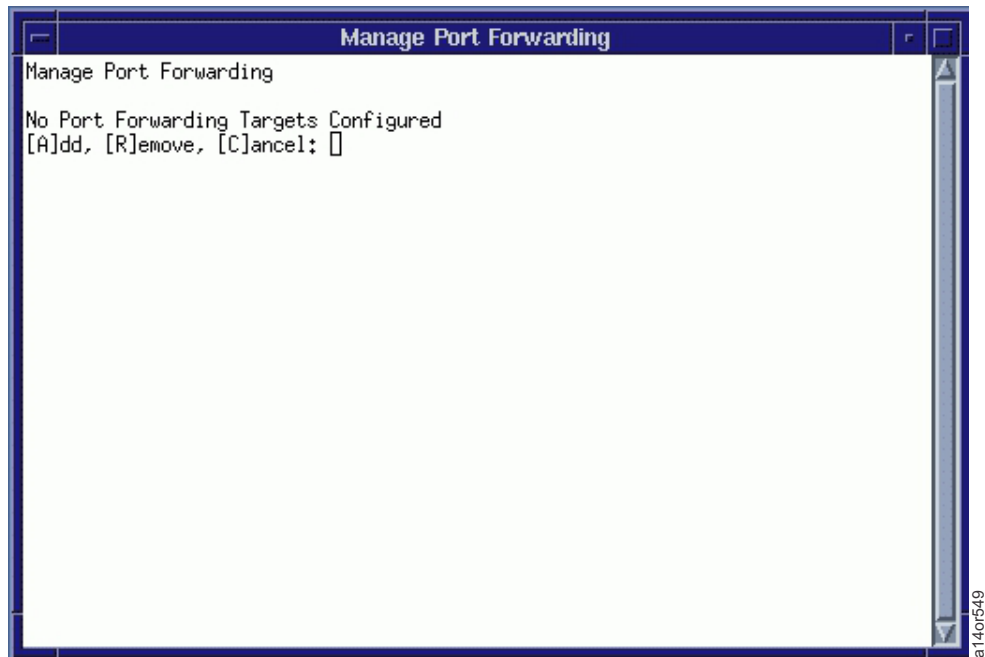


Figure 3-61. Proxy Example

You will see an interface like the image above. There are three possible actions to take:

1. To add a port forwarding target, press **a** and hit enter.

You will be prompted for a port forwarding hostname. This is the target to receive the forwarded traffic. For example, if you want to forward traffic back to the TSSC itself, enter **localhost**, or if you want to forward traffic to a machine at 172.31.1.10, enter that address.

Next, you will be prompted for the port to be forwarded. This port will depend on the traffic you wish to forward. Some common choices can be found in the table below:

Port	Service
22	SSH
23	Telnet
7080	TSSC Web GUI

Press **Enter** to save your new entry.

2. To remove a port forwarding target, press **r** and hit enter.

You will be asked to enter a number corresponding to the entry you wish to delete.

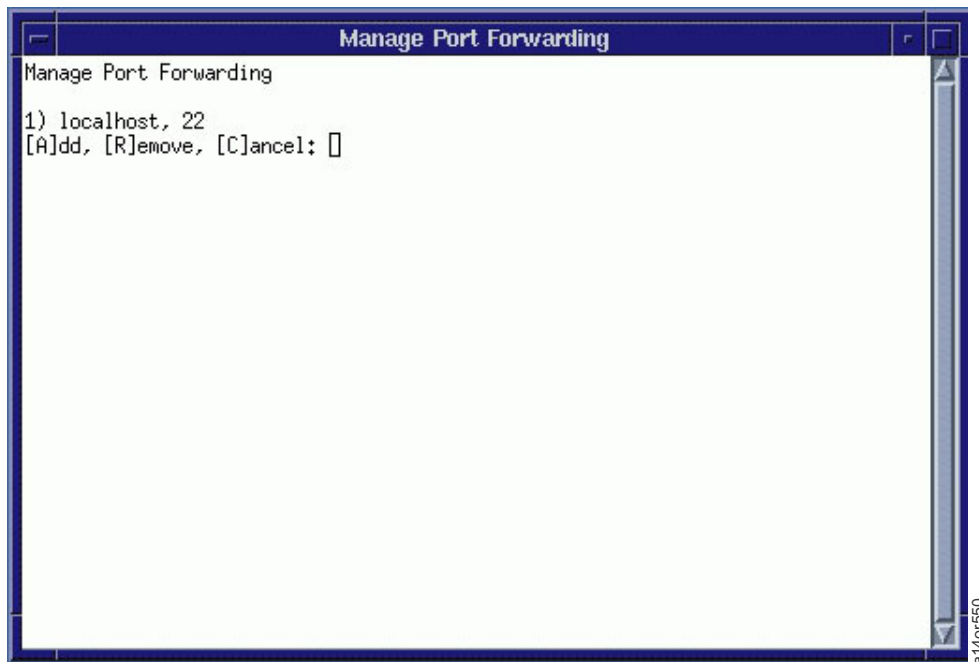


Figure 3-62. Port Forwarding Target List

For example, to delete the entry corresponding to *localhost, 22* (in the picture above) choose 1.
Enter the entry to delete and press **Enter**.

3. To simply cancel without making any changes, press **c** and hit **Enter**.

Offloading User Files to Call Home Database (For Remote Users)

In addition to offloading files to various media types, you can offload larger files, files for later use, and files requested by your next level of support to be sent to the RMSS Call Home Database: <https://callhomedata.tucson.ibm.com>. The files must reside in the user's offload directory. For example, for the user "service" the directory would be /home/service/offload. Subdirectories will not be included.

Note: Files that you offload to the Call Home Database use the same call home path as normal call homes. Call Home Setup must be complete in order to use this function. See "Configuring Call Home Settings Electronic Customer Care" on page 2-71 for more information on Call Home Setup.

1. From the main menu, select **System Console Actions > Offload User Files to Call Home**. If you are using a dial-in session, issue the command **offloadpkg**. File offload begins. The window depicted in Figure 3-63 on page 3-47 appears.

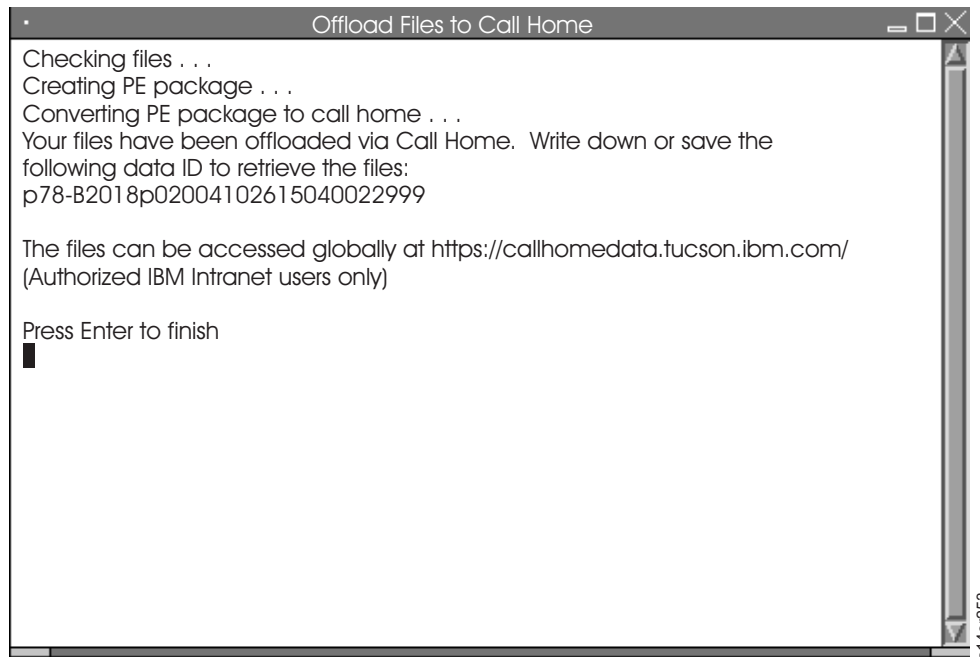


Figure 3-63. Offload Files to Call Home

Notes:

- If the user's files exceed 10MB, a warning displays that includes a prompt to abort. Before you offload files larger than 10MB, consider that this may delay other call home activity on this System Console. Additionally, if subdirectories are found in the user's offload directory, a warning displays reminding the user that subdirectories are not included. The user may choose to abort at this warning and move the files if the files within subdirectories are desired to be included.
 - An attempt to offload user files will fail if there are no files to be found in the user's offload directory.
2. See Figure 3-63. A data ID is assigned to the user's files. This data ID must be entered to retrieve the files on the RMSS Call Home Database. Make note of this ID for future reference. If the ID is lost, the user's files can still be found by locating call homes from the System Console's Primary System on the Call Home Database. The Primary System is set in Call Home Setup (see "Configuring Call Home Settings Electronic Customer Care" on page 2-71). To assist in recording the ID, note that the ID always takes the form described in the following example.

Example Data ID: p78-B2018p02004102615040022999

p78-B2018p02004102615040022999

p - The first character in the data ID is always a **p**

p78-B2018p02004102615040022999

78-B2018 - The serial number of the Primary System, with a dash (-) in the 3rd position

p78-B2018p02004102615040022999

p0 - A **p** followed by position in frame (always 0 except for when a VTC is the primary system)

p78-B2018p02004102615040022999

20041026 - The date in the form YYYYMMDD

p78-B2018p02004102615040022999

150400 - The time (24-hr) in the form HHMMSS

p78-B2018p02004102615040022999

22999 - These digits, usually the process ID of the Offload Files program, uniquely identify this call home

Figure 3-64. Data ID Sample

You can use the above information to confirm that you have correctly noted (for later use) a data ID.

3. The user's files are sent using a special call home package. Because this package must propagate through the normal call home path it can take a few minutes to arrive at the Call Home Database. Once it arrives, you can locate it by using the data ID given.
4. Once loaded on the Call Home Database, the user's files will appear as a regular call home, arriving from the System Console's Primary System, as set in Call Home Setup (see "Configuring Call Home Settings Electronic Customer Care" on page 2-71).
5. To locate the offloaded data that is on the Call Home Database, use a web browser on the IBM intranet to go to the address: <https://callhomedata.tucson.ibm.com/>
6. From the left-side of the menu, choose **Single System**.
7. At the Call Home ID prompt, enter the data ID that appeared while files were unloading.
8. Click **Look Up Call Home Data ID**.
9. After the call home has been loaded, scroll down to the Files section to find the file you offloaded from the System Console. You can use a web browser to download these files by clicking on the filename.

Console PE Package

Note: For 3956 CC6 (DS6000) PE Package creation, refer to the TS7700 Information Center search string "problem determination DS6000."

You can use the System Console to create a PE (Product Engineering) package, then send that package to IBM RETAIN by using the call home path. You derive this PE Package from console events log files and trace files which reside on the System Console. Use the console creation tool to tailor the PE Package to specific requirements, and to investigate and diagnose System Console problems.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39).
2. From the Main Menu, select **System Console Actions --> Console Configuration Utility**. You see Figure 2-53 on page 2-40.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the Console Configuration Application screen shown in Figure 2-54 on page 2-40.
4. Click the **PE Packages** icon. You see Figure 3-65 on page 3-49.

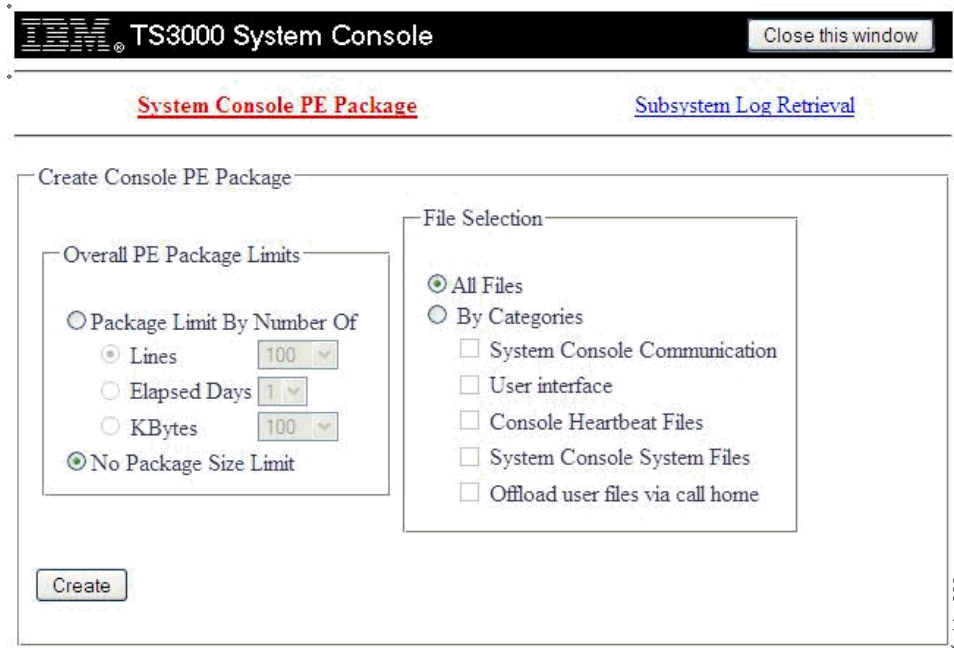


Figure 3-65. Create Console PE Package Menu

5. Choose one of the selections in the **Overall PE Package Limits** box.

- Lines - Number of lines
- Elapsed Days - Number of days
- KBytes - Size of package

-- OR --

- No Package Size Limit - Accepts any size

6. Choose one of the selections in the **File Selection** box.

- All files - Include all the files

-- OR --

- By Category - Choose those which apply to your installation

Retrieving Subsystem Logs

Complete this task to retrieve subsystem logs.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 3-67 on page 3-50).
2. From the Main Menu, select **System Console Actions** --> **Console Configuration Utility**. You see Figure 3-66 on page 3-50.
3. Type **service** in the Username field, type **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the Console Configuration Application screen shown in Figure 3-67 on page 3-50.
4. Click the **PE Packages** icon. You see Figure 3-66 on page 3-50.

Figure 3-66. Create Console PE Package Menu

- Click the **Subsystem Log Retrieval** tab at the top of the page. You see Figure 3-67. Follow the instructions in the Select Logs box to select an attached system from which you would like to retrieve logs.

Figure 3-67. Subsystem Log Retrieval Menu

Notes:

- The list you see will contain only those subsystems which are eligible for log retrieval through the System Console.
- Some early levels of subsystem code do not support Subsystem Log Retrieval.
- If you do not see your system listed, verify that it is attached and can be queried successfully from the attached systems page.

After you have selected your desired subsystem, you see one of the following options:

- 3957** - A getlogs options menu displays. All selections are optional. You may specify a start time, including month, day, and hour for which to gather logs. All logs will be gathered from this time forward. You also may specify one or more components to gather logs from as well as a specific file you would like to gather.

TS3000 System Console Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

Start Time:
Day:
Hour [1-24]:

Component:

Specify a File:

Action

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

Figure 3-68. Retrieve Log - 3957 Menu

- **3592** - A minimal getlogs menu displays. All selections are optional. You may specify a start time, including month, day, and hour for which to gather logs. All logs will be gathered from this time forward. You also may specify a specific file you would like to gather.

TS3000 System Console Close this window

System Console PE Package Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

Start Time:
Day:
Hour [1-24]:

Specify a File:


Action

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

Figure 3-69. Retrieve Log - 3592 Menu

- **Library Manager** - A savelogs options menu displays. All selections are REQUIRED. You must specify a start time and an end time, including year, month, day, and hour. You must specify at least one log type. You can specify multiple log types.


TS3000 System Console
Close this window

[System Console PE Package](#)
[Subsystem Log Retrieval](#)

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3494L22

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

RASLMS Serial Number: 1314501

Start Time (All fields are required)

Year:
Month:

Month

Day:
Hour [1-24]:

End Time (All fields are required)

Year:
Month:

Month

Day:
Hour [1-24]:

Log Type:

Hold CTRL to select multiple

All Types
DB2
DMP

Action

Retrieve Logs

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

a14or360

Figure 3-70. Retrieve Log - Library Manager

- **3584** - After you select an individual 3584, the TSSC will query the library for the list of logs that are available for download. When the log query is successful, the available logs display for you to select. Select the logs you would like to retrieve.

Note: The System Console uses HTTP sessions to gather the 3584 logs. If gathering the log takes excessive time between queries, the session will expire. Refresh the page to open a new session.

TS3000 System Console

System Console PE Package

Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3584L32

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

RAS3584 Serial Number: 13AAA15

Library Logs:

- ☒ LIBLG_01_OP
- ☒ LIBLG_01_NO
- ☒ LIBLG_01_ER
- ☒ LIBLG_01_AC
- ☒ LIBLG_01_NV

Drive Logs:

- ☐ DRIVE_01_01
- ☐ DRIVE_01_02
- ☐ DRIVE_02_01
- ☐ DRIVE_02_02
- ☐ DRIVE_02_03

Action

Retrieve Logs

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

Figure 3-71. Retrieve Log - 3584

- **3958** - You will be prompted for a start time and day, the components you want to retrieve, and the package size. You must select either a component or you must specify a filename.

Note: The "Big" option is not available in TSSC v 5.8 and higher with ProtecTIER RAS levels 7121 and higher.

TS3000 System Console

System Console PE Package

Subsystem Log Retrieval

Select Logs

First: Select machine type of the system you would like to retrieve logs from:

3958DD1

Next: Select the individual machine. To match hostname and IP addresses to a specific machine, refer to the Attached Systems page. If you do not see your system in the list, make sure it is attached and can be queried successfully.

TSSC_172.31.1.120 Serial Number: 78C5011

Start Time

Year:

Month: Month

Day:

Hour [1-24]:

Component: Hold CTRL to select multiple
All Components
COMMON
DISK

Specify a File:

Package Size: ☐ Small ☒ Big

Action

Retrieve Logs

Once logs are retrieved, they will exist in /var/enc/offload directory.

Already retrieved logs? [Click here](#) to offload the logs to call home or media.

Figure 3-72. Retrieve Log - 3958

6. After you have selected a means of retrieving a log, click **Retrieve Logs** in the Action box. The TS3000 System Console (TSSC) gathers your logs. You see a message when your request is fulfilled. The logs are gathered and are placed in the /var/enc/offload directory.
7. Click on **Click here** to offload the logs you gathered.

Console Status

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** → **Console Configuration Utility**. You see Figure 2-53 on page 2-40.
3. To login from the System Console, enter **service** in the Username field, enter **service** in the Password field, and select OK to start the Console Configuration utility. You see Figure 2-54 on page 2-40.

– – OR – –

To login remotely (from another System Console), you must obtain an authentication ID (see “Login Options” on page 2-37 for information on obtaining an ID). Launch your browser.

- a. Enter the System Console location into the Address field.
 - b. Type your Authentication ID into the Username field, and your password into the Password field. Click **OK** to start the Console Configuration utility. You see Figure 2-54 on page 2-40.
4. Click **Console Status**. You see Figure 3-73.

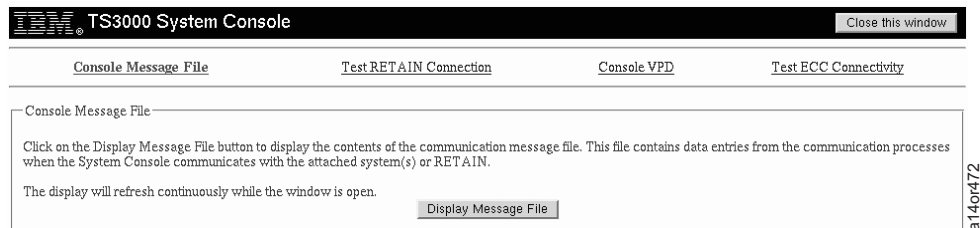


Figure 3-73. Console Message File Screen

5. Use Table 3-6 to determine the path which you wish to follow.

Table 3-6. Console Status Tool Function

Function	Description
Console Message File	<ul style="list-style-type: none"> • Displays the contents of the communication message file • Provides a "Find..." tool for searching the file for a specific word or phrase <p>See “Console Message File.”</p>
Test RETAIN Connection	Tests the telecommunication path between the System Console and RETAIN (see “Test RETAIN Connection - As a Service Procedure” on page 3-55)
Console VPD	Displays Vital Product Data (VPD) information for the System Console (see “Console VPD” on page 3-56)
Test ECC Connectivity	Test communication path between the System Console and Electronic Customer Care. This can also be used to show ECC configuration info. (See “Test Electronic Customer Care (ECC) Connectivity” on page 2-88).

Console Message File

1. From the Console Message File screen shown in Figure 3-73, select **Console Message File**.
2. Click **Display Message File** to view the message file. You see Figure 3-74 on page 3-55.

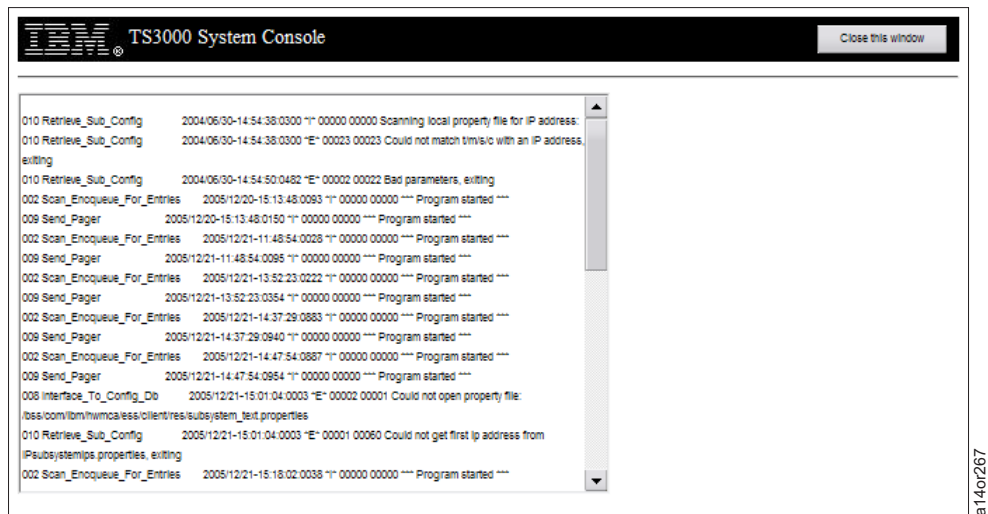


Figure 3-74. Message File Screen

Test RETAIN Connection - As a Service Procedure

1. From the Console Message File screen shown in Figure 3-73 on page 3-54, select **Test RETAIN Connection**. You see Figure 3-75.

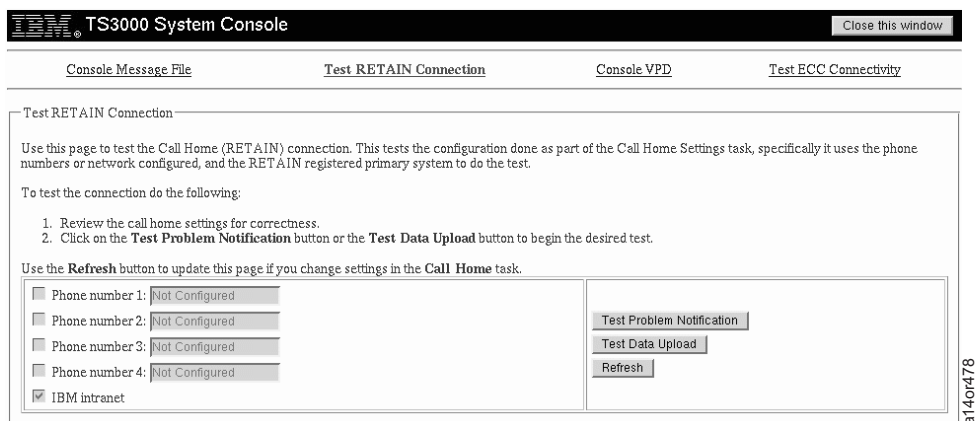


Figure 3-75. Test RETAIN Connection Request Screen - As a Service Procedure

2. Select the test you want to run from the list on this menu. You see Figure 3-76 on page 3-56.

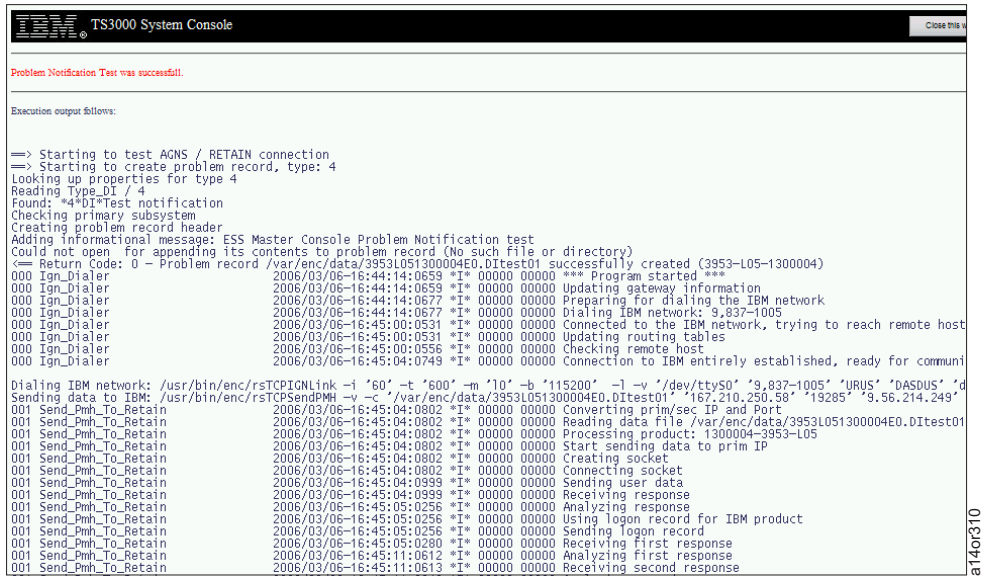


Figure 3-76. Test RETAIN Connection Results Screen - As a Service Procedure

3. Select **Close This Window** after you have performed your choice of tests.

Console VPD

From the Console Message File screen shown in Figure 3-73 on page 3-54, select **Console VPD**. You see Figure 3-77. The VPD information is listed for you in the System Console Product Information box.



Figure 3-77. Console VPD Screen

RAS Menus

The RAS Menu system is a comprehensive tool used to enhance remote support capabilities from the command line. It is an interactive, menu-driven tool that provides the same service functionality as the web interface.

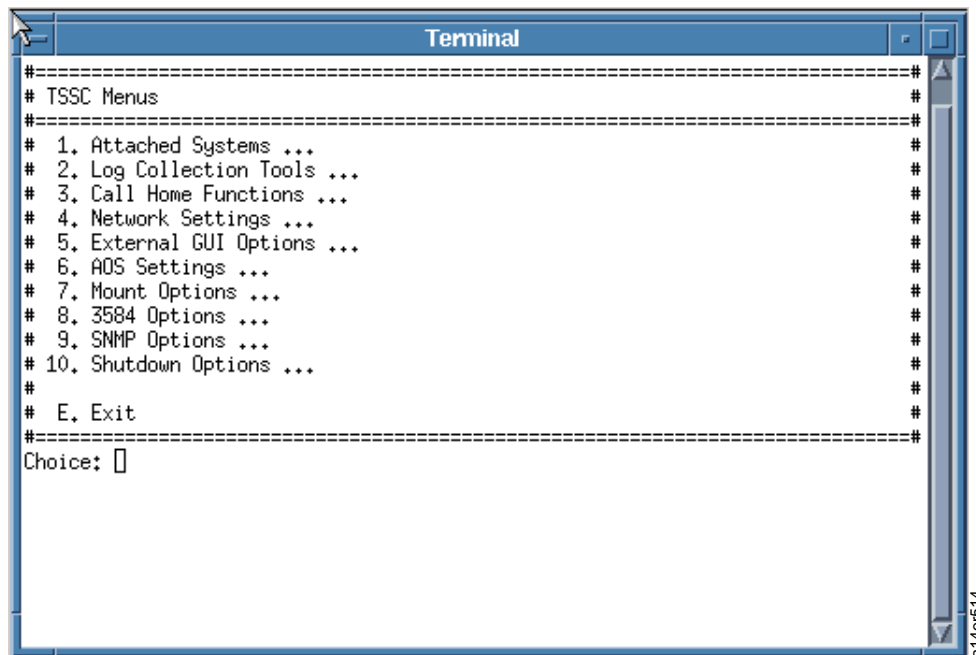


Figure 3-78. The top-level menu as displayed in a terminal window

Local access

To access the RAS menu system locally:

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the main menu, select the **Terminal** entry.
3. Enter the command `rsRasMenu` to open the RAS menus. The interactive menu system will display in the terminal as seen in “RAS Menus” on page 3-56.
4. The main menu is broken down into categories. Make a selection by entering the number next to any top-level menu entry. You will be taken to submenus that correspond to your selection.
5. You may exit the menus at any time by pressing **E**. To navigate back to the previous menu, enter **B** when prompted.

Remote access

To access the RAS menu system remotely:

1. Connect to the target TSSC via an SSH session or modem.
2. Authenticate as a Service or Enhanced RMSS user and log in to the TSSC.
3. Once logged in at the command line, enter the `rsRasMenu` command. The interactive menu system will be displayed as seen in “RAS Menus” on page 3-56.
4. The main menu is broken down into categories. Make a selection by entering the number next to any top-level menu entry. You will be taken to submenus that correspond to your selection.
5. You may exit the menus at any time by pressing **E**. To navigate back to the previous menu, enter **B** when prompted.

Taking Console Screenshots

1. To take a screen shot of the System Console, press the **Print Screen** button on the console keyboard.
 - It is sometimes useful to delay the screen shot command. If you would like to initiate a delayed screen shot press **Shift + PrintScreen** on the console keyboard. This will capture the screen five seconds later.

2. Screen shots will be placed in the offload directory of the currently logged in user. For example, if the service user is logged in, this would be /home/service/offload.
3. To offload these screenshots, see “Offloading User Files” on page 3-30.

Console Code Update

Use this procedure to upgrade the System Console microcode version to a newer level. This procedure cannot be used for all code levels. If upgrades are not supported, the update console process will prompt you for “Code Load/Hard Drive Rebuild” on page 3-60 if you are updating from 5.7.8 and higher.

Please refer to the following matrix to determine whether or not a code update will work.

Table 3-7. Code Upgrade Table

Release Levels		
Upgrading to:	From:	Update Available?
5.0 - 5.2.11	< 5.0	No
5.0 - 5.2.11	5.0 - 5.2.11	Yes
5.3.7 - 5.4.11	< 5.3.7	No
5.3.7 - 5.4.11	5.3.7 - 5.4.11	Yes
5.5.12	< 5.5.12	No
5.5.22 - 5.5.28	< 5.5.22	No
5.5.28 - 5.6.5	5.5.22	Yes
5.7.X	< 5.7.X	No
5.8.X	< 5.8.X	No
5.9.X	< 5.9.X	No
5.10.X	< 5.10.X	No
5.11.5	< 5.11.5	No
5.11.23	< 5.11.5	No
5.11.23	5.11.5	Yes
5.12.x	< 5.12.x	No
7.0.x	< 7.0.x	No

1. Right click from anywhere in the Desktop to view the Main Menu, shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Update Console Version**. A Terminal screen appears and requests you to insert the TSSC Product Recovery CD.
3. Insert the CD labeled "IBM TS3000 System Console Product Recovery CD." Press **Enter**.

Note: You can use this procedure only to upgrade to a newer version of microcode. To reload this level of microcode or to load an older version of microcode, use the procedure in “Code Load/Hard Drive Rebuild” on page 3-60.

The tool will compare the code version on the CD with the code version on the System Console. The tool will inform you that the versions are compatible for upgrade, and that the upgrade will begin. If the levels are not compatible for upgrade, the tool will prompt you to perform a “Code Load/Hard Drive Rebuild” on page 3-60. The update process can take as long as fifteen minutes.

4. After a successful upgrade, right click on the desktop of the main menu to logout.
5. Select **Logout**. You are returned to the login screen seen in Figure 1-1 on page 1-1. This screen displays the new code level.
6. Click on the **Restart** button to restart the System Console. After the System Console has restarted, you are returned to this same login screen. The microcode upgrade is complete.

Code Load/Hard Drive Rebuild

Attention:

- Many procedures in this book are specific to the level of code on the System Console. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.
- Rebuilding the hard disk drive will permanently destroy any local data present on the drive. Using the Product Recovery CD-ROM will return the console to its “as shipped” state.
- Do not load or attempt to use the Product Recovery CD-ROM on any machine type other than 6579, 6792, 7978, 7946, 8480, 8482, 8485, 8836, or 8849. If you use the Product Recovery CD-ROM on any other machine type, the installation will fail and that machine will be unusable.

Notes:

- Backup the Console configuration files before you re-image the hard drive. See “Backing Up Configuration Data” on page 2-80 and “Restoring Configuration Data” on page 2-83).
 - Do not attempt to restore configuration settings from a V1.x.x console onto a V3.x.x or higher console. The files are incompatible. V2.x.x files are compatible with V3.x.x or higher.
 - After you use this procedure, you will need to reload some software packages if you have TS7700s in the Attached Systems list. Some examples of affected packages might include:
 - “Installing DS6000 Graphical User Interface (GUI)” on page 2-52
 - “Importing InfoCenter From CD-ROM” on page 3-76
1. Place the System Console Product Recovery CD-ROM in the CD Drive.
 2. Log out of the System Console by right-clicking the desktop area and choosing **Logout**. Click **OK**.
 3. After returning to the login screen, click **Restart** in the lower left area of the screen, and click **Ok** when prompted to restart.
 4. The prompt in Figure 3-79 appears after the System Console reboots (with the CD-ROM in place in the CD drive).

TSSC Not Installed. Proceed. . .

This will install the Console onto /dev/sda which will erase everything on that device
Continue? ('yes' or 'no')
Abort

Figure 3-79. Pre-Installation Menu

5. Type **y** (or **yes**) and press **Enter** to start the hard drive re-image process.
6. You can monitor the progress of the installation from the screen. After the re-image is complete, the System Console will reboot automatically. Remove the CD-ROM from the CD drive.

Notes:

- This procedure can take as long as 15 minutes to complete.
 - You must be present at the completion of a reboot or the re-image will restart automatically. If you are not present to remove the CD-ROM from the CD drive tray, the tray will retract into the CD drive and the installation will start again. At the confirmation screen, type **no**, and press **Enter**. Remove the CD-ROM from the CD drive, and allow the reboot to occur.
7. After initial reboot, the software will discover the machine type and model number of the computer, automatically configure the appropriate drivers and settings, and automatically reboot the System Console. During the second boot-up, the start up background and text may look slightly different. The second boot will produce the login screen shown in Figure 2-50 on page 2-37. If the software determines that the machine type is not 6579, 6792, 7978, 7946, 8480, 8482, 8485, 8836, or 8849, a warning message will display on the screen and the System Console will halt. This will continue each time the System Console is powered on. Similar symptoms occur after software installation if the System Console is unable to determine its machine type and model.

Note: If a product with a machine type of 6579, 6792, 7978, 7946, 8480, 8482, 8485, 8836, or 8849 reports a different machine type during an installation, the BIOS may have been corrupted. Reboot the server, and make the appropriate selection during the reboot to enter BIOS setup. In the BIOS, check the machine type that is configured. If the machine type does not match the specific server, you should reinstall the system BIOS. Refer to the server documentation to reinstall the BIOS and to set the correct machine type.

8. If you backed up the configuration, restore it now. See “Restoring Configuration Data” on page 2-83.

Disk Rebuild and Configuration Restore

Attention:

- Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.
 - Rebuilding the hard disk drive will permanently destroy any local data present on the drive. Using this feature will re-install the System Console while preserving all existing settings.
1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
 2. From the Main Menu, select **System Console Actions → Disk Rebuild and Config Restore**. You will see Figure 3-80.

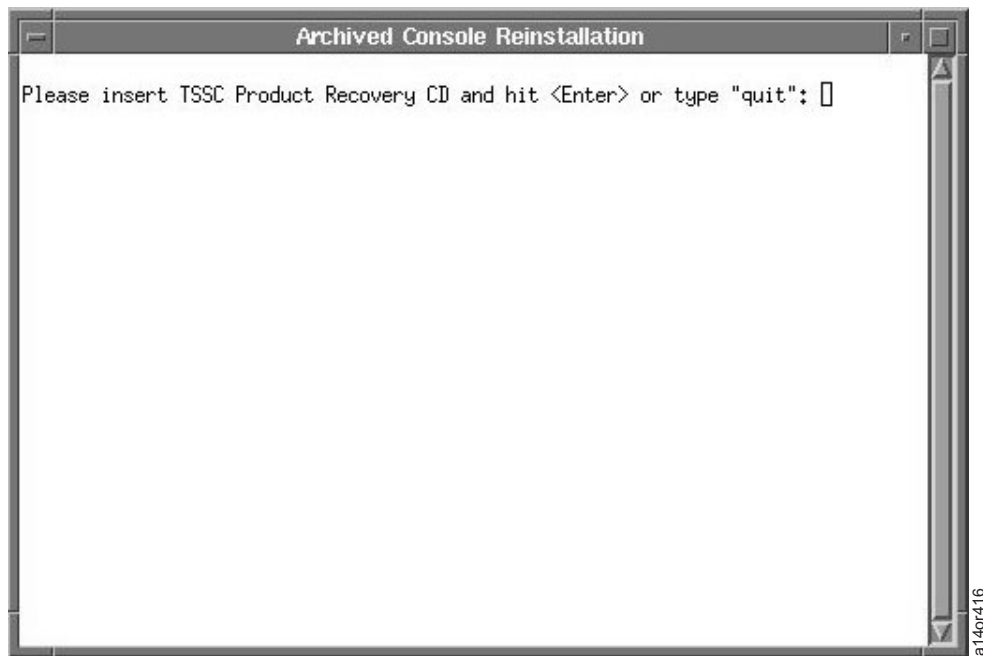


Figure 3-80. Prompt for TSSC Product Recovery CD.

3. Insert your TSSC Product Recovery CD and press Enter.

Note: Your configuration will be backed up and the system will restart. Leave the Product Recovery CD in the drive to launch the installation.

4. Once the system reboots, you will be prompted to install the System Console. Type "yes" to begin installation.
5. After several minutes the installation will complete and you will be brought back to the login screen seen in [Figure 1-1]. After the re-image is complete, the System Console will reboot automatically. Remove the CD-ROM from the CD drive.

System Console Specialist

IBM service personnel and the customer (usually an administrator) can use the System Console Specialist for the following purposes:

- Change the System Console display language
- Perform tape drive code updates
- Launch library manager and Peer-to-Peer VTS specialists
- Administer users

Online help is available from the System Console Specialist by clicking the (?) Help icon located in the upper, right of each screen. Online help is provided using Eclipse technology. For further information, access the website at:

<http://www.eclipse.org>

Customer Access to System Console via Specialist

The customer user (usually an administrator) can login to the System Console by using a userid (use “customer”) and a password (use “customer” again). After logging in, the customer user sees the System Console Specialist screen.

Notes:

- A customer user may add users, delete users, or change passwords for any users in the customer group who use the Administer Users tools.
- The 'customer' userid may not be deleted.
- Anytime a customer user exits the System Console Specialist, the customer user will be logged out of the System Console.
- A customer user cannot make changes to the user ids for service users, but service users can make changes to customer group users.

Tape Drive Code Update via Specialist

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. The code level requirements are:

System Console

Code Version 2.5.0 and above

IBM 3494 Virtual Tape Server

Code Version 2.30.xx.xx and above

IBM 3590 A60 Tape Controller

Code Version 1.16.7.xx and above

IBM 3592 J70 Tape Controller

Code Version 1.17.4.xx and above

IBM 3592 C06 Tape Controller

Code Version 1.20.x.x and above

IBM 3494 ATL (L12, L14, L22)

Not currently operational

1. Ensure that the tape drives that are attached to 3590 A60 and 3592 tape controllers are varied offline at the host before attempting a microcode update.
2. Launch the System Console Specialist by selecting **Main Menu --> Browser Functions --> System Console Specialist**. A Welcome Page displays, with links (in the left navigation area) to functions.
3. Click **Update Drive Code**. A screen appears which allows you to filter which drives are displayed and are available for updating.

4. Select the drive types you wish to display, and select the sorting preference. Click **Submit**. A page displays which presents the controllers that meet the selected criteria and that are currently available for a code update.
5. Select drives to update by clicking the small plus sign next to the Controller Type column of the controller that contains the drives to update. This will expand the entry in the table for that controller, listing the available drives. The current code level will be displayed in the Current Code Level column. Select a new code level from the Available Code Levels column.
6. Once all desired code level updates are selected, proceed with the update by clicking **Update Code**.
7. Verify that the microcode level update is complete by viewing the History table. This table will show when each code update has started and when it has completed. It also will indicate if the process has failed. It will be necessary to refresh the page periodically to view the status of the operation. Clicking an entry in the History table displays details for the entry. See Table 3-8 for control unit error codes and see Table 3-9 on page 3-64 for single tape drive error codes.
8. Click **Refresh** to refresh the status. You can click on an entry in the History table to obtain more information about it.
9. Vary online all drives that are attached to 3590 A60 and 3592 control units which were previously varied offline.

Note: Consult with your next level of support for questions and/or direction on code levels to apply to tape drives.

Table 3-8. Control Unit Error Codes

This error code...	...informs you that...
0	Code update process is completed and all code updates are complete
22	Code update process is completed with some incomplete code updates
23	Code update process is completed with errors
24	Could not receive codeloadstatus file from subsystem. Code update process completed
1	Code activation is currently in progress on the specified subsystem
2	Subsystem code activation function did not receive the code update request file
3	rsENDriveCodeLoad.pl -L already running on System Console
4	Could not retrieve configuration for the subsystem with specified IP address
5	Specified subsystem does not support code updates through the System Console
6	No requested images are available on System Console
7	Error creating drive code package
8	Error creating drive code update request file
9	Subsystem does not have enough storage space available for code transfer
10	Communications error prevented a command from being sent to the subsystem
11	Incorrect arguments sent to subsystem drivecodecheck program
12	Warning: the subsystem could not remove the temporary archive file
13	Code image extraction failed on subsystem
14	Code image permissions change failed on subsystem.
15	Code image archive not received on subsystem
16	Subsystem command execution failed for an unknown reason
17	Lost process synchronization between System Console and subsystem
18	Status of code update is unknown. fork() call to launch drive code update command failed
19	Multiple status update failures while waiting for drive code update process

Table 3-8. Control Unit Error Codes (continued)

20	Code update process did not return, status of code update unknown
21	Code update process returned with unexpected failure code

Table 3-9. Single Drive Error Codes

This error code...	...informs you that...
25	Unable to communicate with drive
26	Device is open and in use (for example, not offline)
27	Device has no more internal memory
28	Device rejected command, incompatible or corrupted microcode file
29	Non-tape drive error when loading drive code
30	Code update process has been started

Launching Specialists

1. Launch the System Console Specialist by selecting **Main Menu --> Browser Functions --> System Console Specialist**. A Welcome Page displays, with links (in the left navigation area) to functions.
2. Click the **Launch Specialists** link in the left navigation area of the System Console specialist user interface. A screen appears, which displays links to Specialist user interfaces for library managers and peer-to-peer Virtual Tape Server controllers that are attached to the System Console.
3. Click the link of the Specialist user interface that you wish to launch.

Notes:

- If unique hostname aliases have not been assigned to library managers, all of the displayed names will be the same for the library manager specialists. The IP address displays in the bottom status bar of the browser.
- Web specialists for tape systems are optimized for certain Microsoft Windows-based web browsers. You may receive a warning message that states this when you attempt to display the tape system specialist. The tape system specialists display and operate by using the System Console's browser. However, it is possible that some functions may not display or operate correctly. Discontinue using the System Console's browser for tape system specialists if this occurs.
- The specialists must be operational on the tape systems in order to view them on the System Console. Refer to the Maintenance Information manual for the appropriate tape system for activating and configuring its web specialist.

Administer Users

Launch the System Console Specialist by selecting **Main Menu --> Browser Functions --> System Console Specialist**. A Welcome Page displays, with links (in the left navigation area) to functions. Click the **Administer Users** link in the left navigation area of the System Console user interface. A screen will load with options to add users, delete users, or change user passwords.

Adding a User

To add a user to the customer group, under the Add User heading:

1. Enter a new user id in the User ID field (8-character maximum).
2. Enter a password in the New Password field and repeat the password in the Confirm Password field. (8-character maximum).
3. Click **Add**.

Deleting a User

To delete a user from the customer group, under the Delete User heading:

1. Select a user ID from the User ID drop-down list.
2. Click **Delete**.

Changing a User Password

To change a user's password, under the Change User Password heading:

1. Select a user ID from the User ID drop-down list.
2. Enter a password in the New Password field and repeat the password in the Confirm Password field.
3. Click **Change**.

Error or Defer Matrix Updates

Occasionally, updates become available for the Error Call Home and Deferred Call Home capabilities of attached subsystems. You can use the System Console to broadcast and activate these updates to attached subsystems or to remove previously-applied updates. Do not manually download the updates. The System Console will automatically download these updates as they become available.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level. The code level requirements are:

System Console

Code Version 3.2.0 and above

IBM 3494 Virtual Tape Server and Virtual Tape Controller

Code Version 2.32.xx.xx and above

IBM 3592 J70 Tape Controller

Code Version 1.19.xx.xx and above

IBM 3592 C06 Tape Controller

Code Version 1.20.x.x and above

Broadcast and Activate Updates

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. Select **System Console Actions --> Error/Defer Matrix Updates** to start the Error and Defer Matrix updates tool. The dialog window in Figure 3-81 displays. This tool enables copying error/defer matrix updates at the System Console to attached VTS, VTC, or tape controller systems over the local network.

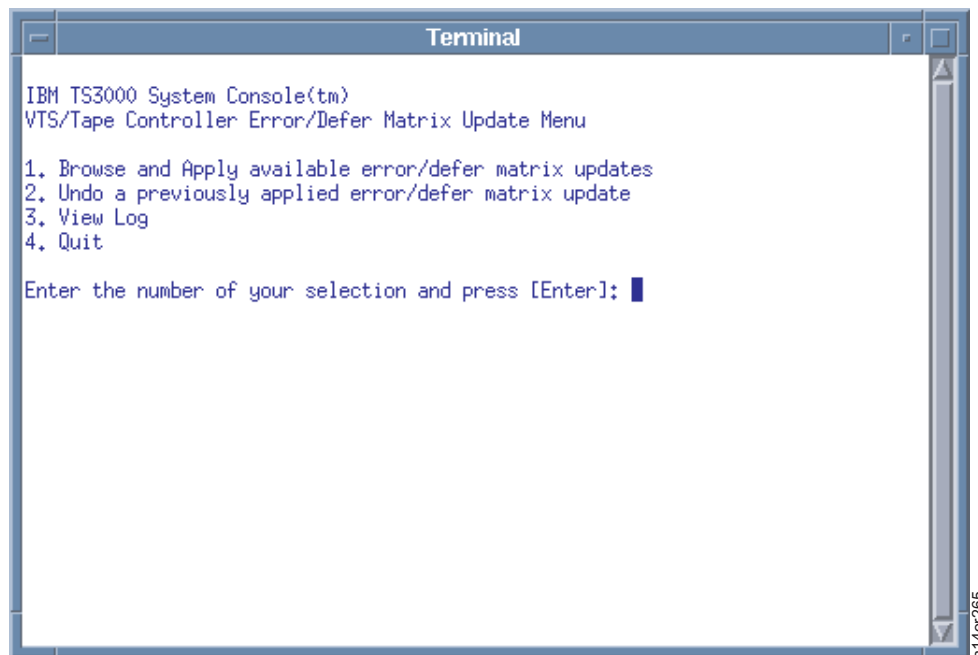


Figure 3-81. VTS, VTC, or Tape Controller Error or Defer Matrix Update Menu

3. Type **1** to select 'Browse and Apply available error/defer matrix updates,' and press **Enter** to display Figure 3-82 on page 3-67.

```

IBM TS3000 System Console(tm)
VTS/Tape Controller Error/Defer Matrix Update Menu

1. Browse and Apply available error/defer matrix updates
2. Undo a previously applied error/defer matrix update
3. View Log
4. Quit

```

```

Enter the number of your selection and press [Enter]: 1
Reading files...

```

#	Update name	Date	Compatibility
[1]	FID80B9	3/18/2005	3494-B20 3494-B10

```

Select error/defer matrix update to activate
Enter selection or just press [Enter] when complete:

```

Figure 3-82. Error or Defer Matrix Update Menu

4. Enter the number of the update you wish to apply or remove, and press **Enter**. A description of the update displays (Figure 3-83). Read the description of the update. To apply the update, type **y** at the prompt, and press **Enter**.

```

Enter selection or just press [Enter] when complete:

```

```

1
Selection:
FID80B9
# Filename: FID80B9
# Compatibility: 3494-B20 3494-B10
# Created: 3/18/2005
#
# Defer call home for SIMs with refcode1 of
# 60B9.
#

```

```

Please read the update description above.
Are you sure you want to use this update? [y/N]
y

```

Figure 3-83. Error or Defer Matrix Menu - Apply Update

5. A list of compatible subsystems appears (Figure 3-84). Only subsystems that are compatible with the selected update are shown. Select any subsystems for which you want to activate this update by typing their numbers into the input area of the screen ('1' in this example). Press **Enter**.

```

Select compatible systems to activate matrix update.
Only compatible systems are shown.
NO  MODEL  SERIAL  HOSTNAME  IP ADDRESS  SELECT
=====
1  3494B10  78B1510  rase1vts  172.31.1.150  No

Enter selections (or de-selections) separated by spaces (ex: 1 3 5 7)
or press [Enter] when complete:
1

```

Figure 3-84. Error or Defer Matrix Menu - Compatible Systems

6. When you have finished selecting systems, with your cursor in an inactive area on the screen (on a blank line), press **Enter**. The update will be broadcast to each system, 'Yes' will replace 'No,' and the status of the update will be shown as 'complete.' See Figure 3-85 on page 3-68.

```

Select compatible systems to activate matrix update.
Only compatible systems are shown.
NO      MODEL    SERIAL    HOSTNAME    IP ADDRESS    SELECT
=====
1  3494B10  78B1510   rase1vts    172.31.1.150   Yes

Enter selections (or de-selections) separated by spaces (ex: 1 3 5 7)
or press [Enter] when complete:

Applying changes to rase1vts...complete

```

Figure 3-85. Error or Defer Matrix Menu - Systems Selection Broadcast

Remove Previously-Applied Updates

This utility also can remove previously applied error and defer matrix updates. Removing or attempting to remove an update from a system that did not have the update has no effect.

- To remove an update, select **2** from the main menu. A list of available updates appears, as shown in Figure 3-86.

```

IBM TS3000 System Console(tm)
VTS/Tape Controller Error/Defer Matrix Update Menu

1. Browse and Apply available error/defer matrix updates
2. Undo a previously applied error/defer matrix update
3. View Log
4. Quit

Enter the number of your selection and press [Enter]: 2
PLEASE NOTE: You are deactivating an error matrix update. This action will
have no effect on systems that never had the update applied.
Reading files...

#      Update name      Date      Compatibility
-----
[1]    FID80B9          3/18/2005  3494-B20
                               3494-B10

Select error/defer matrix update to DEACTIVATE
Enter selection or just press [Enter] when complete:

```

Figure 3-86. Error or Defer Matrix Menu - Available Updates

- Repeat Step 4 on page 3-67 through Step 6 on page 3-67 to remove an update.

Launching DS6000 Graphic User Interface (GUI)

Use this procedure to launch the DS6000 graphic user interface (GUI). To read about installing the GUI, see “Installing DS6000 Graphical User Interface (GUI)” on page 2-52.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

- Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
- From the Main Menu, select **Browser Functions > DS6000 Functions > Launch GUI**. You see the browser window in Figure 3-87 on page 3-69.

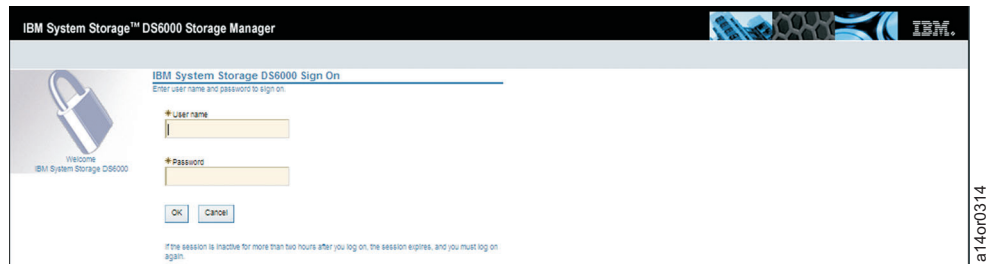


Figure 3-87. DS6000 GUI Login Username and Password Screen

3. At the login screen, enter the username 'admin' and the password 'ibm2serv'.

Note: If an excess quantity of failed user-authentication attempts occurred, the GUI will lock out users who attempt to login. If this occurs, return to the System Console desktop screen. Right click to bring up the main menu. Select **Browser Functions > DS6000 Functions > Reset GUI Password**. You will see Figure 3-88, which provides status on the password reset.



Figure 3-88. Reset DS6000 GUI Password Screen

When the reset has completed, press **Enter**. Return to Step 2 on page 3-68 to continue.

4. Once the DS6000 GUI is launched, Figure 3-89 on page 3-70 displays.

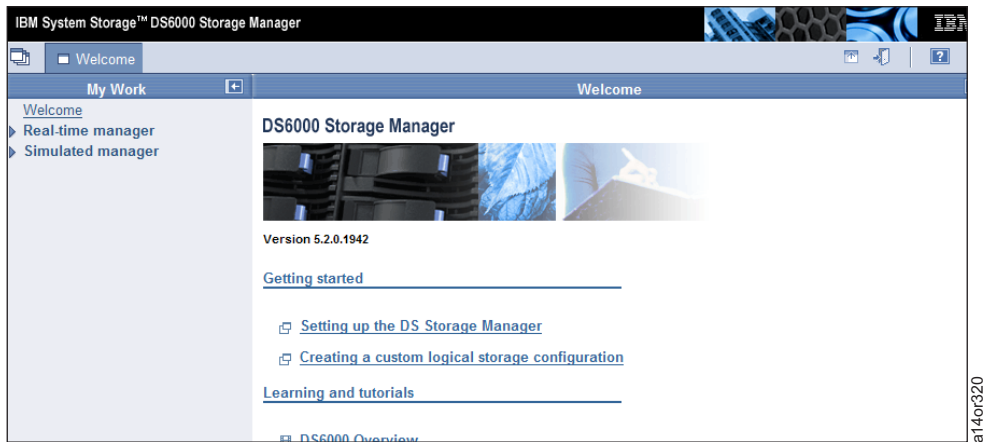


Figure 3-89. Storage Manager Welcome Screen

5. To set up communication with a TS7700 cache subsystem, from the Welcome column in the left frame, click on **Real-time manager**.
6. From the resulting list (not shown), select **Manage hardware**, then select **Storage complexes** from that resulting list. Figure 3-90 displays.

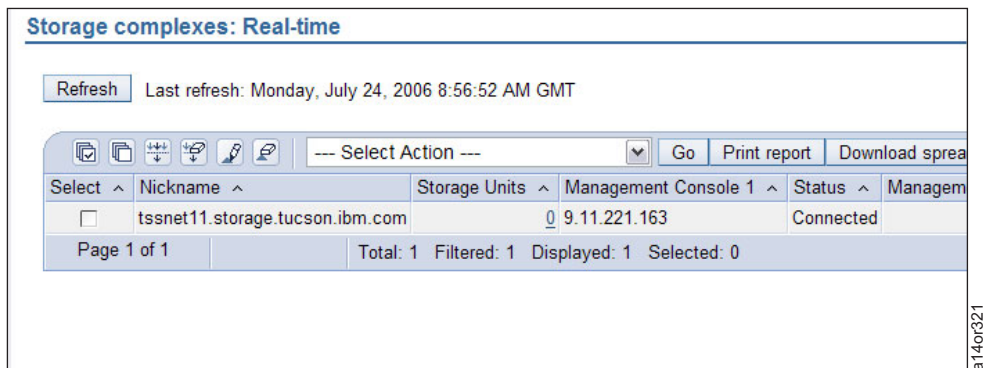


Figure 3-90. Storage Complexes : Real-time Screen

7. Click on **Select Action**, and from the resulting drop-down menu select **Add Storage Complex**. Click on **Go**. Figure 3-91 on page 3-71 displays.

Figure 3-91. Add Storage Complex Screen

8. Enter into the "Management console 1 IP address" field the TS7700 IP Address that was used for TSSC attachment. This address should be in the form '172.31.1.x'. Select **OK**. This returns you to Figure 3-90 on page 3-70. Your storage complex should now be listed. For all further DS6000 service information including firmware upgrade, refer to the DS6000 InfoCenter.

Launching Storage Manager (SM) Graphic User Interface (GUI)

Use this procedure to launch the Storage Manager graphic user interface (GUI). To read about installing the GUI, see "Installing Storage Manager (SM) Graphical User Interface (GUI)" on page 2-53.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, "Maintenance Starting Point," on page 1-1 to determine the code level.

1. If you are not already logged into the TSSC, login. In the field for **Username**, type *service*, and in the field for **Password**, type *service*.
2. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
3. From the TSSC desktop, right click to invoke the menu for **IBM TS3000 System Console**.
4. From the Main Menu, select **Browser Functions > Storage Manager GUI Functions > Launch GUI**. You see the browser window in Figure 3-92 on page 3-72.

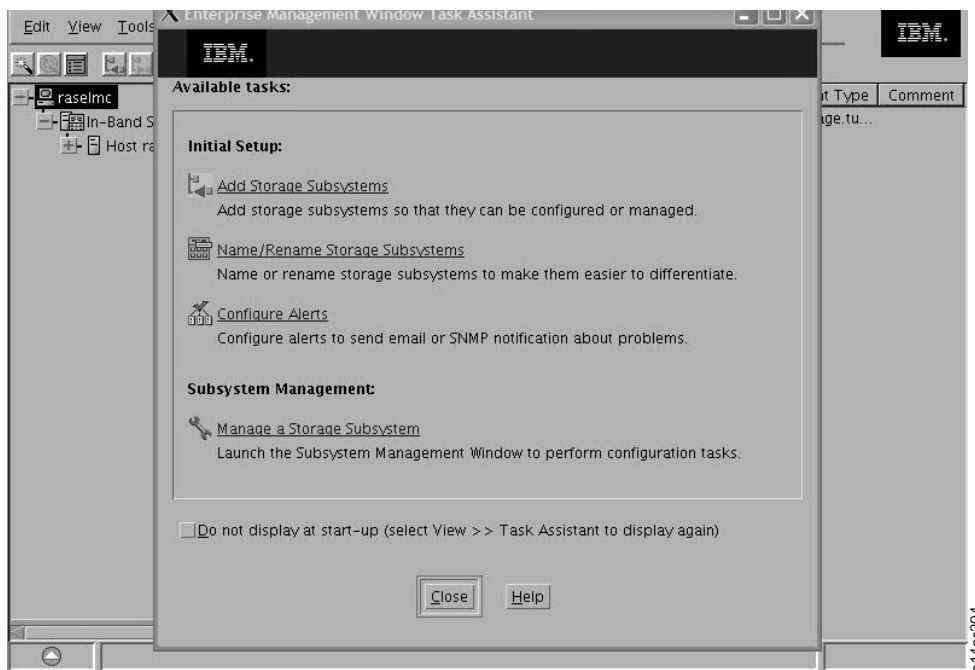


Figure 3-92. Storage Manager GUI Initial Screen

5. From the Enterprise Management Window Tape Assistant screen, select **Add Storage Subsystems** to add a storage subsystem.
6. If you just installed this GUI for the **first time**, or want to add another subsystem, perform the following. If not, go to Step 9. From the Select Addition Method screen, choose one of these options:
 - **Automatic** - to interrogate for storage subsystems and to add storage subsystems that are within the local subnetwork. Go to Step 7
 - - OR - -
 - **Manual** - to add a storage subsystem that is outside the local subnetwork. Go to Step 8
7. From the Automatic Discovery screen, select **OK** to begin an automatic discovery of storage subsystems on the local sub-network, or select **Cancel** to discontinue. When this is completed, go to Step 9.
8. Select **Additional Method > Manual** and press **OK**.
 - a. From the dialog box for **Add Storage Subsystem - Manual**, select the radio button for **In-band management**, then type the TCP/IP address for the TS7700 in the field for **Host (DNS/Network name, IPv4 address, or IPv6 address)**.

Note: The address you type should be 172.31.1.xxx that is listed in Table 3-10 on page 3-73.
 - b. Click **Add**.
 - c. If you add a storage subsystem successfully, you will see a dialog box that says: *The specified host was added successfully.*
 - d. If you have more than one storage subsystem to add, click **Yes**, otherwise click **No**.
9. From the navigation for **IBM System Storage Manager**, select **Devices**.
10. Verify that the status is optimal. If so, exit. If not, contact the next level of support.
11. Return to the procedure that sent you here.

Table 3-10. TSSC IP Addresses

Field	Value	Notes
Master Console IP address	172.31.1.1	IP address of the Master Console.
Master Console Hostname	tssnet1	This is the recommended hostname for the Master Console.
3957-VEA / VEB IP address on the Master Console Network	172.31.1.xx	This is the recommended IP address for the first TS7720 attached to a master console. The last octet of this IP address must be in an increment of 10 between 10 and 240 (that is, 10, 20 ... 230, 240). The TS7720 router configuration will utilize this and the following 9 IP addresses (example: .150 - .159) so no other device should be set to an IP address in this range.
Subnet Mask on the Master Console Network	255.255.255.0	

Launching ProtecTIER Manager Graphical User Interface (GUI)

Use this information to launch the ProtecTIER Manager graphic user interface (GUI). To read about installing the GUI, see “Installing ProtecTIER Manager Graphical User Interface (GUI)” on page 2-56.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Browser Functions > ProtecTIER Functions > Launch GUI**.
3. Refer to the TS7650 User's Guide (3958 family) for additional launching instructions.

Accessing Subsystem Interfaces

Use this procedure to access available subsystem web interfaces including Specialists and the IBM TS7700 Management Interface.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions --> Console Configuration Utility**. You see the Main Configuration screen shown in Figure 3-93 on page 3-74.

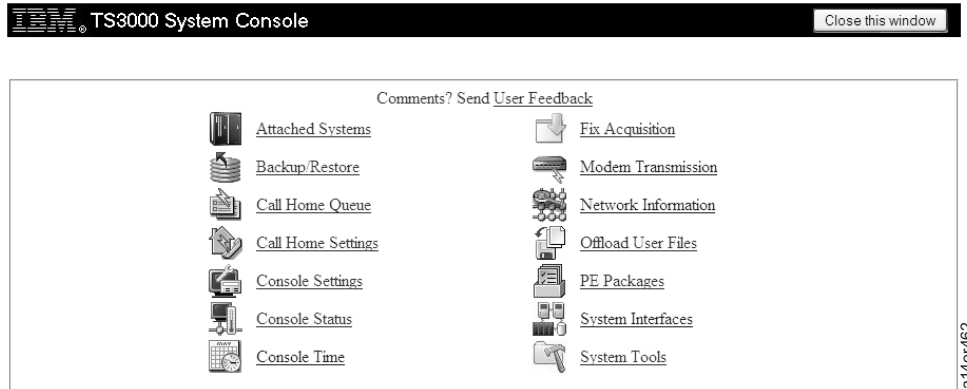


Figure 3-93. Main Configuration Screen

3. Click on **System Interfaces**. You see Figure 3-94.

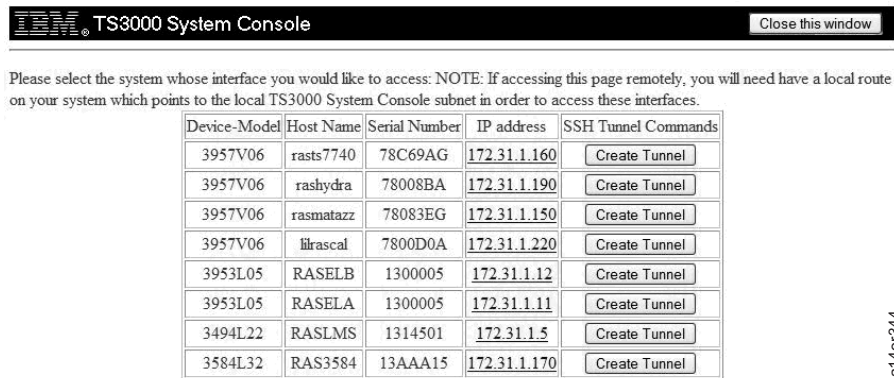


Figure 3-94. System Selection Screen

4. Click on the system you would like to connect to. This opens a browser tab that is connected to the system you selected. The tab contains either the Specialist or the TS7700 Management Interface for the system you selected. Refer to the documentation that applies to your selected system for more help.

Managing InfoCenter From Web Interface

Use this web interface as an alternate way to add the Information Center (InfoCenter), or to launch the Information Center from or to delete an InfoCenter level from the TSSC.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action** → **Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK** to start the Console Configuration application. You see the menu shown in Figure 2-54 on page 2-40.
4. Select **System Tools** > **Manage InfoCenter**. You see Figure 3-95 on page 3-75.

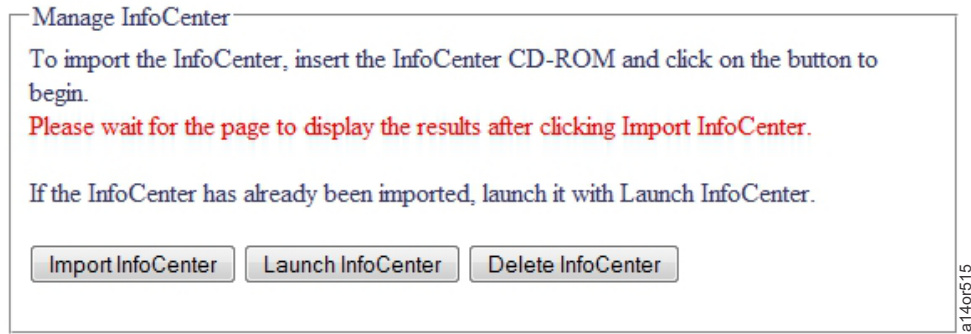


Figure 3-95. Manage InfoCenter from Web Interface

5. To import the InfoCenter from a CD-ROM, insert the CD-ROM into the CD drive of the System Console, and click on **Import InfoCenter**.
6. After the import completes, the CD ejects. The page displays at the top if it was a success or if an error occurred.
7. To launch the InfoCenter, from Figure 3-95, click on **Launch InfoCenter**. A new window opens in your browser which points to the InfoCenter.
8. To delete a level of InfoCenter, from Figure 3-95, click on **Delete InfoCenter**. If there is at least one level of InfoCenter installed it will be displayed in a box similar to the one shown in Figure 3-96.

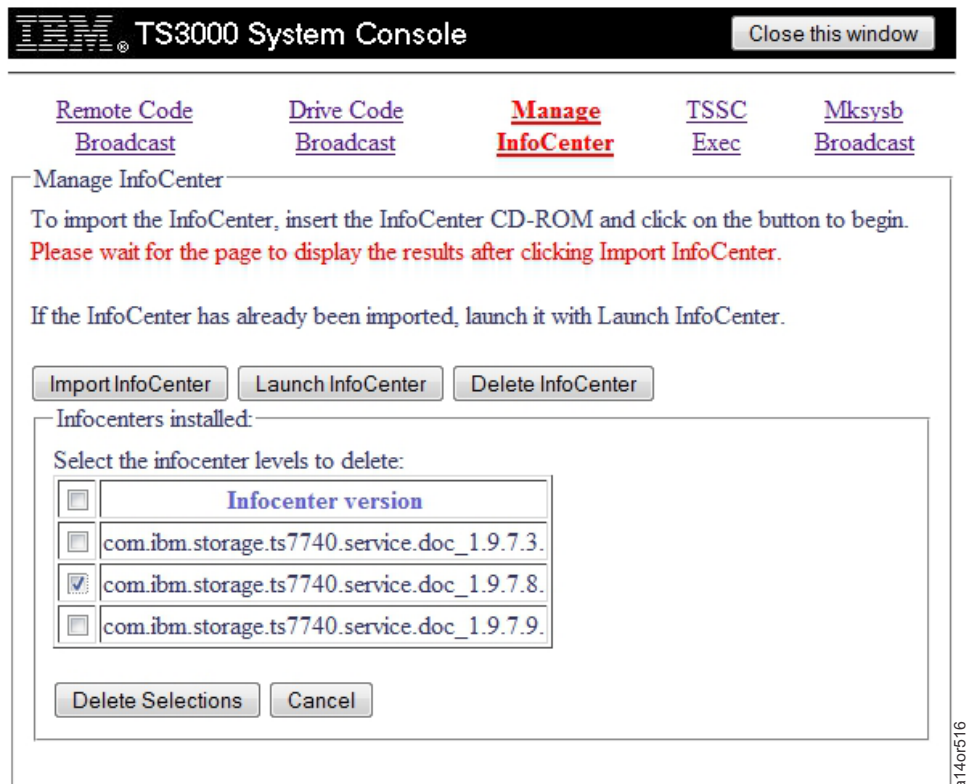


Figure 3-96. Different InfoCenter levels installed

9. From this box select the InfoCenter Level(s) you want to be deleted and click on **Delete Selections** to confirm.

Importing InfoCenter From CD-ROM

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** → **Import InfoCenter**. The Terminal screen shown in Figure 3-97 appears, and asks you to insert the InfoCenter CD.

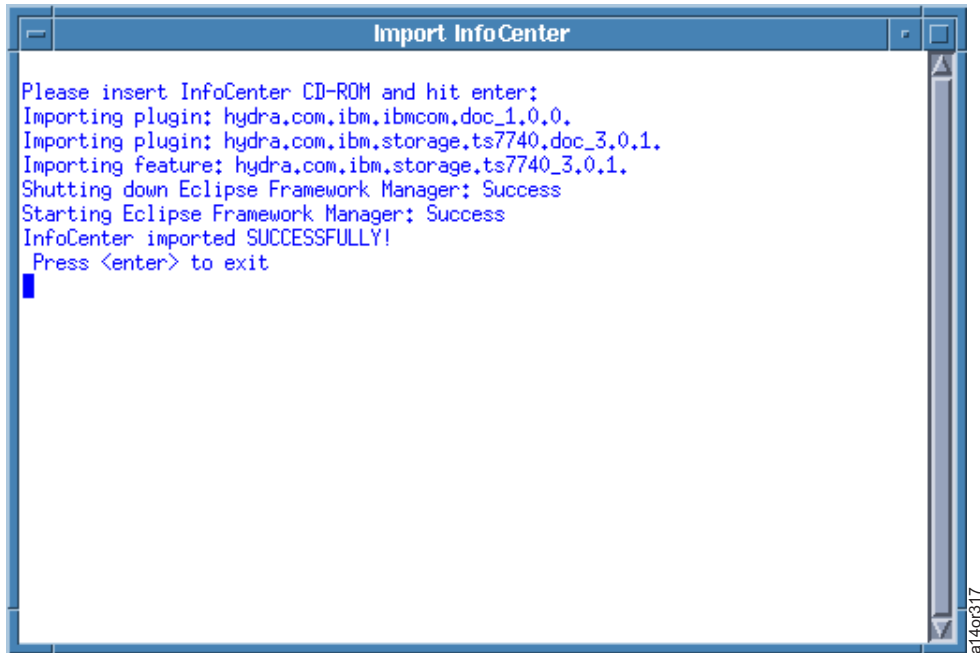


Figure 3-97. Insert InfoCenter CD Screen

3. Insert the InfoCenter CD-ROM for the desired product, and press **Enter**. You will see the imported Eclipse plugins and features. Eclipse restarts.
4. You may now Launch the InfoCenter. The imported information appears. Go to "Launching InfoCenter."

Launching InfoCenter

Use this procedure to launch the InfoCenter. To read about installing the InfoCenter, see "Importing InfoCenter From CD-ROM."

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Browser Functions** > **Launch InfoCenter**. A browser window appears, as seen in Figure 3-98 on page 3-77. This can take as long as 15 seconds to open.

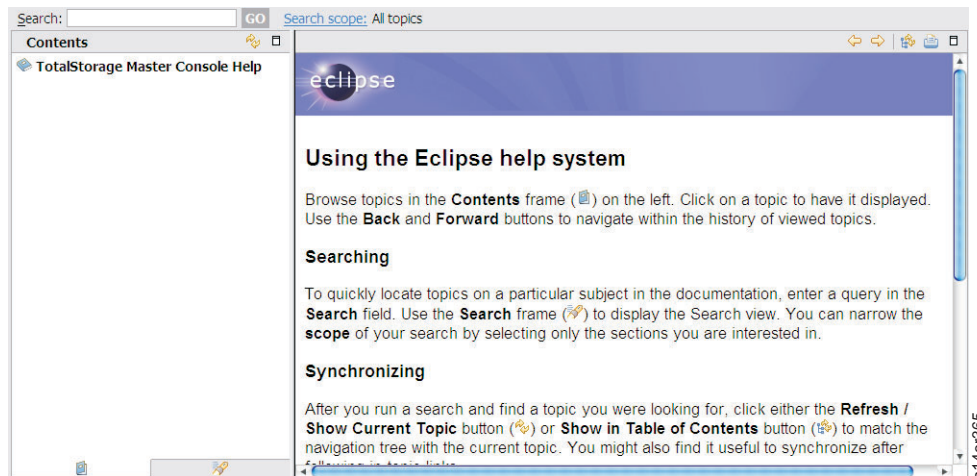


Figure 3-98. Launching InfoCenter Window. Though not shown here, your selection will appear below "TotalStorage Master Console Help."

3. You should see the TSSC InfoCenter topics, as well as any imported InfoCenter in the column to the left. You may select your appropriate topic or use the search box to navigate through the help information.

Delete InfoCenter

Use this procedure to delete an InfoCenter level.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **Browser Functions > Delete InfoCenter**. A Terminal screen appears displaying the different InfoCenter levels that are installed. (If there are no InfoCenter installed, a message indicating this will be displayed). The user can select the Infocenter to delete by entering the number of InfoCenter displayed on screen.

Updating TS7700 Cache Controller Microcode

Note: Before you begin this procedure, you must obtain the CD-ROM that includes the latest level of the DS6000 microcode and the SEA.jar file. You should receive a CD-ROM whenever there is an update to the DS6000 microcode.

Use this procedure to update the TS7700 Cache Controller microcode.

1. Ensure that you close all TSSC browser sessions. From the TSSC menu, click **File > Close**.
2. Insert the microcode CD-ROM into the CD drive of the TSSC.
3. Right click from anywhere in the Desktop, and select **System Console Actions > CD Copy to Console**. You see Figure 3-99.

```
Select Save Location:
1. /var/enc/cdrom/
2. /home/root/offload/
3. /home/service/offload/
4. Exit Program

Your Selection: █
```

a14or345

Figure 3-99. Select Save Location Screen

4. At the command prompt (Your Selection), type **1** to select **/var/enc/cdrom**. Press **Enter**. Expect a delay as the CD drive copies information from the CD-ROM. This can take as long as 15 minutes to

complete. You will see Figure 3-100 when the copy is complete.

```
SUCCESS: Disk contents can now be found in
/var/enc/cdrom

Press <Enter> to exit
```

a14or346

Figure 3-100. TS7700 Cache Microcode Copy Complete Screen

Note: If the directory has an existing microcode image installed, you will be prompted to overwrite that existing image with the new image. Select **Yes** to continue.

5. Right click the desktop of the TSSC, and select **Browser Functions > DS6000 Functions > Launch GUI**. This action invokes the TS7700 Cache Controller graphical user interface.
6. Login by typing the username **admin** and the password **ibm2serv**.
7. From the left hand navigation menu, select **Real Time Manager > Manage Hardware > Storage Units**. You must wait for several minutes while the system builds the list of storage devices.
8. If you found in the list, the TS7700 Cache Controller onto which you want to install the DS6000 microcode, go to Step 10.

– – OR – –

If you did **not** find the TS7700 Cache Controller onto which you want to install the DS6000 microcode, go to “Launching DS6000 Graphic User Interface (GUI)” on page 3-68 to add the TS7700 Cache Controller to the TS7700 Virtualization Engine. Return here to Step 9.

9. Click **Refresh** to highlight the TS7700 Cache Controller in the list.
10. Click the check box to select the TS7700 Cache Controller on which you want to upgrade the microcode.
11. In the drop-down menu for Select Action, select **Apply Firmware Update**.
12. Ensure that the drop-down box for Apply Firmware Update Real Time is set to **Concurrent**.
13. Click **Select a file**.
14. Select the file directory, or type the file directory path to where you downloaded the SEA.jar file in Step 2 on page 3-77 through Step 5. As shown in this example, you would scroll to (or type) the directory name **/var/enc/cdrom**.
15. Click **Open**, then click **OK**. This action copies the SEA.jar file to the TS7700 Cache Controller.
16. Scroll to and click **Transfer File**. The microcode is copied to the TS7700 Cache Controller. This task can take as long as fifteen minutes to complete.
17. Click **Activate** after the Transfer File task completes. This Activate task can take as long as 1.5 hours to complete.

Resetting Modem

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

If your modem is hung after you dial in, you can use this information to use the Reset Modem button.

Note: Some modems have internal locks which prevent a software reset. If you are unsuccessful using the procedure, you might need to power cycle the modem. Consult the modem documentation for procedures.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.

2. From the Main Menu, select **System Console Actions** > **Console Configuration Utility** > **Call Home Settings**. You see the screen shown in Figure 3-101.

Call Home

☒ Enable Call Home

Select Call Home Interface:

☐ Modem

☐ IBM Intranet

☒ Autoselect

Call Home Communication Setup:

Modem Port: /dev/ttyS0

Reset Modem

Ethernet Communication:

☒ Direct Connection

☐ Connect Through HTTP Proxy

Proxy Address:

Proxy Port:

a14or355

Figure 3-101. Modem Reset Settings

3. Under Call Home Communication Setup on this screen, select the Modem Port from the list. Click **Reset Modem**.

Opening SSH Tunnel

Notes:

- Use this only when directed by your next level of support.
- This function may not be available for all levels of TS7700 code.
- To use this function to remotely access any of the interfaces that are listed, you need a local route on your system that points to the local TSSC.

Your Support contact might ask you to open a tunnel so that they can gain access. Use this procedure to open a Secure SHell (SSH) tunnel to access one of the attached subsystems from a remote location.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions** > **Console Configuration Utility** > **System Interfaces**. You see the screen shown in Figure 3-102 on page 3-80

Tunnel open to 172.31.1.12

Device-Model	Host Name	Serial Number	IP address	SSH Tunnel Commands
3957V06	rasts7740	78C69AG	172.31.1.160	Create Tunnel
3957V06	rashydra	78008BA	172.31.1.190	Create Tunnel
3957V06	rasmatazz	78083EG	172.31.1.150	Create Tunnel
3957V06	lilrascal	7800D0A	172.31.1.220	Create Tunnel
3953L05	RASELB	1300005	172.31.1.12	Close Tunnel
3953L05	RASELA	1300005	172.31.1.11	Create Tunnel
3494L22	RASLMS	1314501	172.31.1.5	Create Tunnel
3584L32	RAS3584	13AAA15	172.31.1.170	Create Tunnel

Figure 3-102. SSH Tunnel Settings

3. Click **Create Tunnel** next to the system to which you want to open a tunnel. You are granting system access to a Support person.
4. After you and Support are satisfied with your activity, click on **Close Tunnel** to release the connection.

Note: If you do not close this tunnel, it will close automatically after four hours regardless of any current operating status. You will need to reopen the tunnel to continue your activity.

Sending User Feedback

Use this information to send a comment to an IBM support group about the System Console. for comments about this MI, see "Send Us Your Feedback" in the "Read This First" section of this MI.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Console Configuration Utility > User Feedback**. Enter information into the User Name, User email address, and Comments fields.

Note: Do not add or allow spaces in the username.

3. Click **Send Comments**. This will create and send a PE package. You can review your comments in a file entitled "userFeedback(firstname.lastname).(timestamp).txt" that is located in the /var/enc/log/feedback directory.

Adding PFE Execs From Web Interface

You can add PFE Exec patches to the TSSC from the web interface. This web interface allows an alternate way to add a PFE Exec patch to the TSSC, other than using menu options from the desktop menu.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Console Configuration Utility**. Type **service** in the Username field, type **service** in the Password field, then click **OK**.
3. Select the **System Tools** link.
4. Select the option at the top for TSSC Exec. You see Figure 3-103 on page 3-81

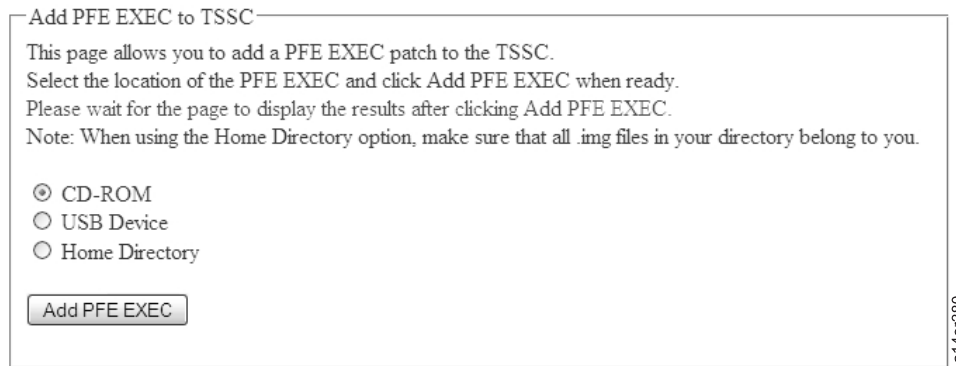


Figure 3-103. Adding PFE Exec from Web Interface

5. If you wish to use a CD-ROM that has the patch:
 - a. Insert the CD-ROM that has the patch on it.
 - b. Select **CD-ROM > Add PFE EXEC**.

-- OR --
6. If you wish to use a USB Device that has the patch on it:
 - a. Plug in a USB device that has the patch on it.
 - b. Select **USB Device > Add PFE EXEC**.

-- OR --
7. You also can add the patch if it is in your Home Directory.
 - a. If you know the patch is in your Home Directory, select **Home Directory > Add PFE EXEC**.
8. You see the window in Figure 3-104 which prompts you to verify that the PFE EXEC patch is on the selected media. Select **OK**.

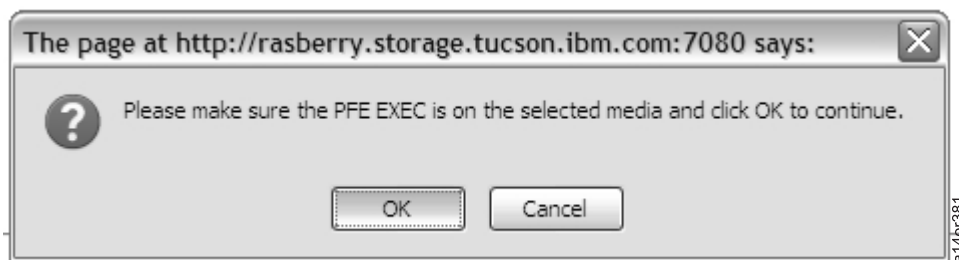


Figure 3-104. PFE Exec Patch

9. A box showing the available PFE EXEC patches on the selected media is displayed:

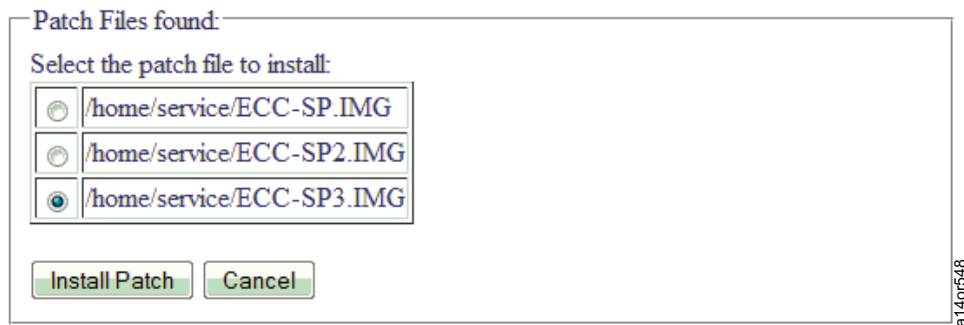


Figure 3-105. Multiple patch options

10. Select the desired patch and click on **Install Patch**.
11. The process proceeds, then the page reloads. A message appears above the text depicted in Figure 3-103 on page 3-81, noting the success or providing an error message.

Mksysb Broadcast from the Web Interface

Note: This process will keep only one version of the mksysb images. If you have a previous level on the 3957 and TSSC, this process will remove it before it downloads the new version.

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level. The code level requirements are:

System Console:

Code Version 5.5.20 and higher. DVD drive is required for this process. TSSCs with DVD drives are: 4362, 8485, 8849, 7978, 7946.

3957 - 8.6.x and higher

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action -> Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Select **System Tools ->Mksysb Broadcast** link. You will see the image below.

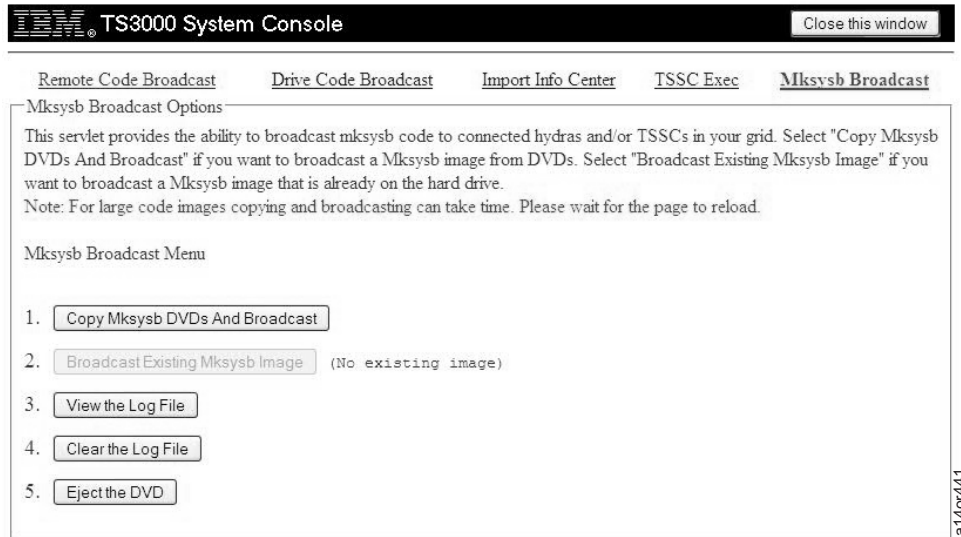


Figure 3-106. Mksysb Broadcast Screen

If you have already downloaded an image that you want to broadcast, skip to step 8 on page 3-84, otherwise, continue to the next step.

5. Select the **Copy Mksysb DVDs And Broadcast** button. This will prompt you to enter the first DVD and select **OK**. Once you have inserted the first DVD, select **OK** to continue. The process of downloading the first disk may take up to 20 minutes.
6. When the download has completed, you are prompted to insert the second DVD and continue:

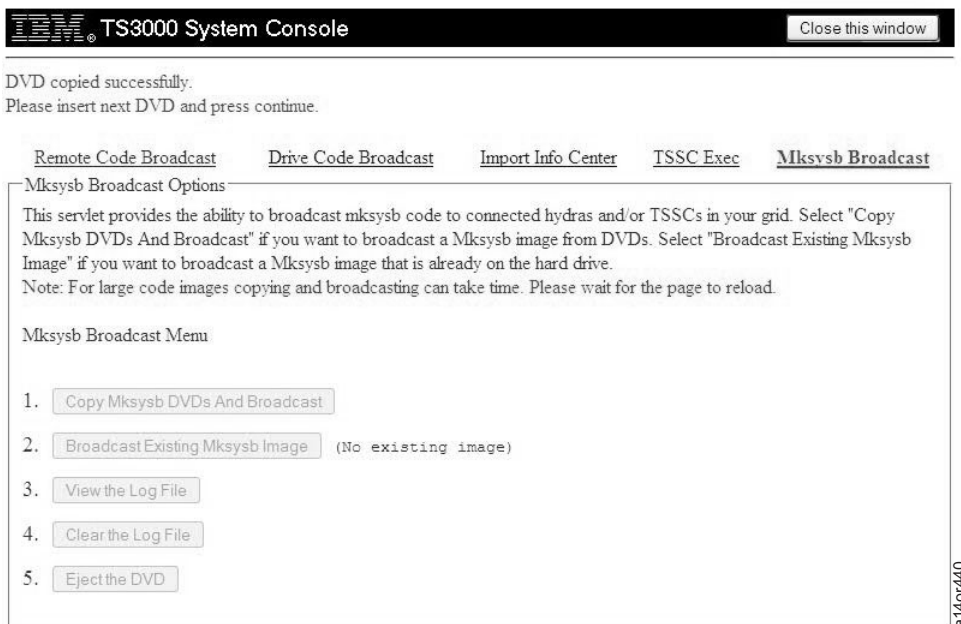


Figure 3-107. Mksysb Broadcast Screen - DVD Copy OK

The continue button is located above the log output. Remove the first DVD, insert the second DVD and press the **Continue** button as shown below. If you wish to cancel this process, press the **Cancel Copy** button, and you will return to the initial screen.



Figure 3-108. DVD Copy for Mksysb Broadcast

7. When the download of the second DVD has completed, a success message, "Broadcast list created successfully. Please select machines to broadcast to" will display.
8. Below the logs, you will be able to select which machines you can broadcast this new mksysb image to.

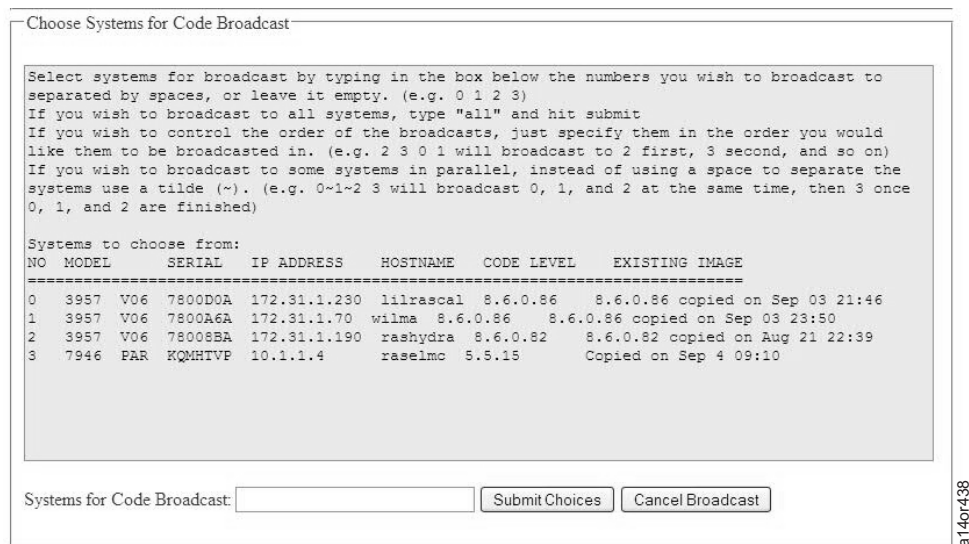


Figure 3-109. Choose Systems for Code Broadcast

9. When submitting your systems for broadcasting you can send to an attached 3957-V06/V07 and 3957-VEA/VEBs, as well as other TSSCs with 5.5.20 or higher code levels in the same AOTM network. The list of available systems will be presented as shown in the screen above. The screen presents the Machine Type, Model, Manufacturing Code and Serial number, Local IP address, Hostname, Code Level, and if the system has a copy of a mksysb image already present as well as the date and time the file was sent.

Note: The 3957 will only keep one level of mksysb on the machine at a time.

Select systems for broadcast by typing the numbers in the box you wish to broadcast to (separated by spaces) or leave it empty (for example 0 1 2 3).

- If you wish to broadcast to all systems, type "all" and hit submit
- If you wish to control the order of the broadcasts, specify them in the order you would like them to be broadcast. (for example 2 3 0 1 will broadcast to 2 first, 3 second, 0 third, and 1 fourth)
- If you wish to broadcast to some systems in parallel, then instead of using a space to separate the systems use a tilde (~). For example 0~1~2 3 will broadcast 0, 1, and 2 at the same time. Then 3 will broadcast as soon as 0, 1, and 2 have finished.

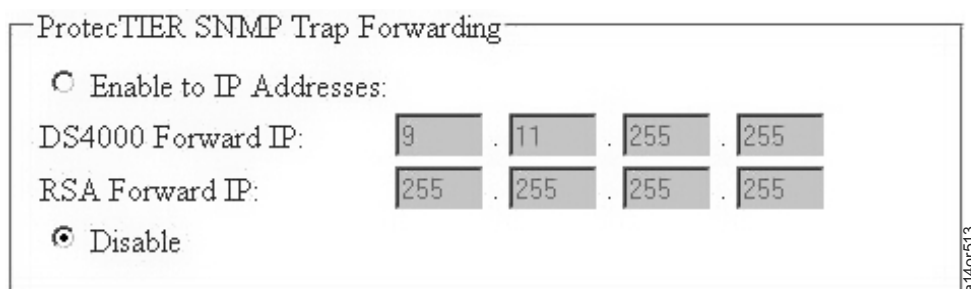
When the image broadcasting is complete, the screen will return and will present logs of the transactions.

10. Select **System Tools → Mksysb Broadcast** link. See Figure 3-106 on page 3-83. Make the appropriate selection(s) as follows:
 - Select **3. View the Log File**
 - Select **4. Clear the Log File**
 - Select **5. Eject the DVD**

Setting 3958 and 3592 SNMP Trap Forwarding

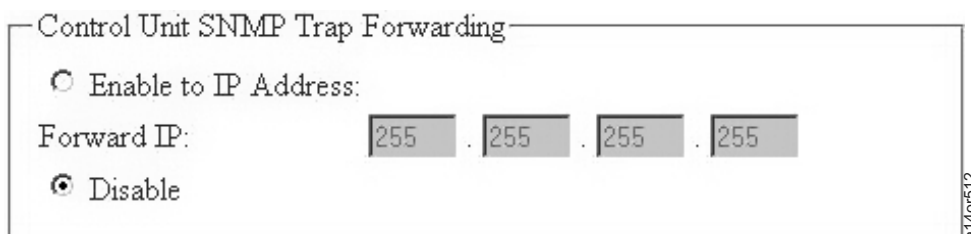
Note: To use this to forward SNMP traps to the customer's network, you must obtain the IP address from the customer.

1. Right click from anywhere in the Desktop to view the Main Menu shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Actions > Console Configuration Utility > Call Home Settings > SNMP Settings**.
3. You will see a box for ProtecTIER SNMP Trap Forwarding if a 3958 is attached, and a box for Control Unit SNMP Trap Forwarding if a 3592 is attached. You will see one of the following screens:



The screenshot shows a window titled "ProtecTIER SNMP Trap Forwarding". It contains two radio buttons: "Enable to IP Addresses:" and "Disable". The "Enable to IP Addresses:" option is selected. Below it, there are two rows of IP address input fields. The first row is labeled "DS4000 Forward IP:" and contains four fields with values 9, 11, 255, and 255. The second row is labeled "RSA Forward IP:" and contains four fields with values 255, 255, 255, and 255. A vertical label "a14or513" is on the right side of the window.

Figure 3-110. Enabling ProtecTIER SNMP Trap Forwarding



The screenshot shows a window titled "Control Unit SNMP Trap Forwarding". It contains two radio buttons: "Enable to IP Address:" and "Disable". The "Disable" option is selected. Below it, there is a single row of IP address input fields labeled "Forward IP:" with four fields, all containing the value 255. A vertical label "a14or512" is on the right side of the window.

Figure 3-111. Enabling Control Unit SNMP Trap Forwarding

4. Select the **Enable to IP Address** button. This allows you to enter the IP address into the fields on this screen.
5. Enter the IP address to which you want to forward SNMP traps. Select **Apply**.

Note: Select **Disable** to stop sending traps to the customer's network.

Tape System Reporter (TSR)

Note: The Tape System Reporter is a tool developed by the 3584 team that gathers statistical information about the usage of the 3584 libraries attached to the TSSC. TSR data will be sent to the Call Home Database when the TSSC performs a Heartbeat call home. See Figure 2-102 on page 2-71.

Starting Tape System Reporter (TSR)

1. Log into the TSSC. Figure 2-52 on page 2-39.

2. Click anywhere on the desktop, select **Browser Functions → TSR Functions → Start TSR**.

Note: If TSR is running when a backup and restore is issued, TSR will restart. Also when the TSSC reboots, TSR will restart.

Stopping Tape System Reporter (TSR)

1. Log into the TSSC.
2. Click anywhere on the desktop, select **Browser Functions → TSR Functions → Stop TSR**.

Fix Acquisition

Use this feature to find and download system and microcode updates for IBM Tape Storage devices.

1. Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action → Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Select the Fix Acquisition link. You will see the following image:

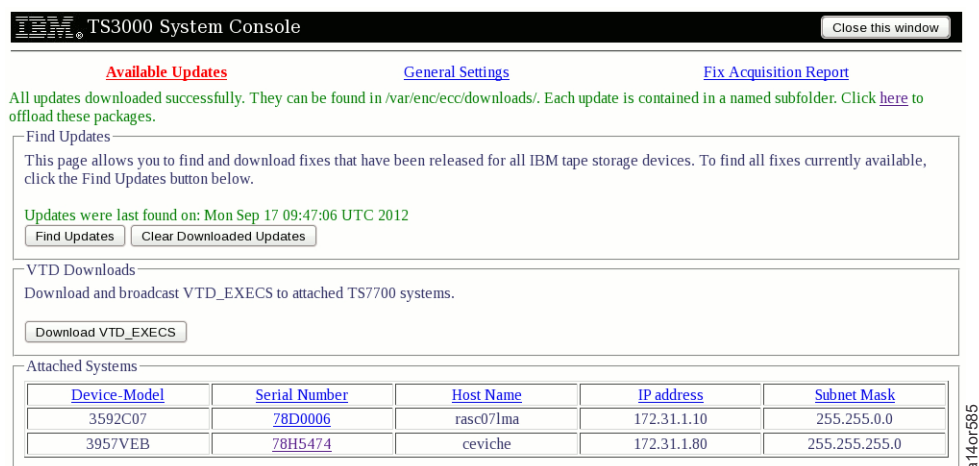
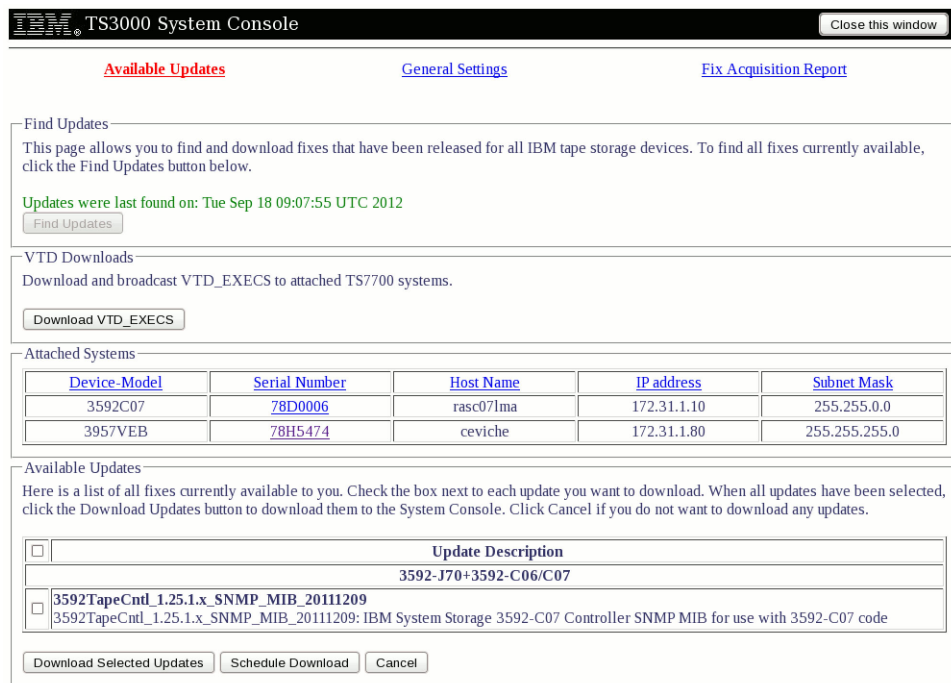


Figure 3-112. Fix Acquisition Main Menu

5. To find all available updates, click the **Find Updates** button. Once the updates have been found, they will be displayed on a screen similar to the image shown below:



IBM TS3000 System Console Close this window

[Available Updates](#) [General Settings](#) [Fix Acquisition Report](#)

Find Updates
This page allows you to find and download fixes that have been released for all IBM tape storage devices. To find all fixes currently available, click the Find Updates button below.

Updates were last found on: Tue Sep 18 09:07:55 UTC 2012
Find Updates

VTD Downloads
Download and broadcast VTD_EXECS to attached TS7700 systems.
Download VTD_EXECS

Attached Systems

Device-Model	Serial Number	Host Name	IP address	Subnet Mask
3592C07	78D0006	rasc07lma	172.31.1.10	255.255.0.0
3957VEB	78H5474	ceviche	172.31.1.80	255.255.255.0

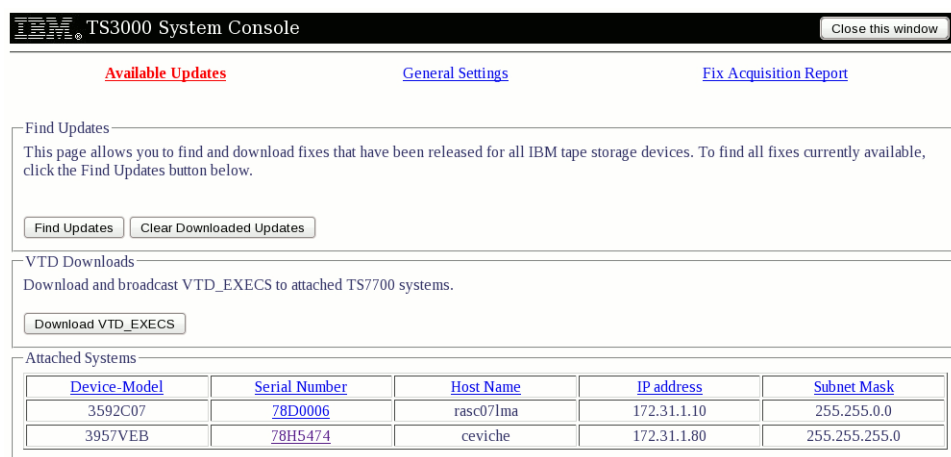
Available Updates
Here is a list of all fixes currently available to you. Check the box next to each update you want to download. When all updates have been selected, click the Download Updates button to download them to the System Console. Click Cancel if you do not want to download any updates.

<input type="checkbox"/>	Update Description
<input type="checkbox"/>	3592-J70+3592-C06/C07
<input type="checkbox"/>	3592TapeCntl_1.25.1.x_SNMP_MIB_20111209
<input type="checkbox"/>	3592TapeCntl_1.25.1.x_SNMP_MIB_20111209: IBM System Storage 3592-C07 Controller SNMP MIB for use with 3592-C07 code

Download Selected Updates Schedule Download Cancel

Figure 3-113. Fix Acquisition Updates

6. Place a check in the box next to each update you wish to download. When the download selections have been made, click the **Download Selected Updates** button to continue. If you want to exit without downloading any updates, click the **Cancel** button instead.
7. Once all updates have been downloaded, you will see a success message.
 - All downloaded updates can be found in the /var/enc/ecc/downloads folder. Each update is placed in its own unique subdirectory.
 - The TSSC can be used to offload these packages, see “Offloading User Files” on page 3-30.



IBM TS3000 System Console Close this window

[Available Updates](#) [General Settings](#) [Fix Acquisition Report](#)

Find Updates
This page allows you to find and download fixes that have been released for all IBM tape storage devices. To find all fixes currently available, click the Find Updates button below.

Find Updates Clear Downloaded Updates

VTD Downloads
Download and broadcast VTD_EXECS to attached TS7700 systems.
Download VTD_EXECS

Attached Systems

Device-Model	Serial Number	Host Name	IP address	Subnet Mask
3592C07	78D0006	rasc07lma	172.31.1.10	255.255.0.0
3957VEB	78H5474	ceviche	172.31.1.80	255.255.255.0

Figure 3-114. Fix Acquisition Success

8. To delete previously downloaded updates from the TSSC, click the **Clear Downloaded Updates** button as shown on Figure 3-112 on page 3-86

VTD Downloads

This section is available only if a TS7700 system is attached. The TSSC will query Fix Central for any applicable VTD_EXECs, and they will be downloaded and broadcasted to all appropriate machines.

1. Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action --> Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Click on Fix Acquisition.
5. Click the **Download VTD_EXECS** button
6. Once the process has completed, you will see a success message.



Figure 3-115. Fix Acquisition VTD Downloads

Fix Acquisitions General Settings

Use this settings page to enable and set the interval of the auto VTD_EXEC downloads. The interval is the number of days between checks for VTD_EXEC packages on Fix Central.

1. Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action --> Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Select Fix Acquisition, then click on the General Settings header. You will see the following screen:

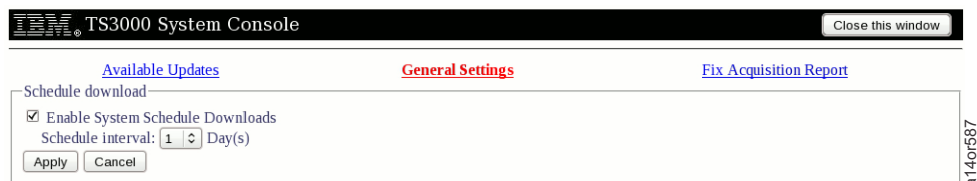


Figure 3-116. Fix Acquisition General Settings

5. Select Enable System Schedule Downloads to activate the auto VTD_EXEC downloads feature.
6. Set the Schedule Interval and click **Apply** for changes to take effect.

Fix Acquisition Report

You can see the results of manual and scheduled VTD_EXEC downloads in this section.

1. Right click anywhere in the Desktop to view the Main Menu as shown in Figure 2-52 on page 2-39.
2. From the Main Menu, select **System Console Action --> Console Configuration Utility**. You see the login prompt shown in Figure 2-53 on page 2-40.
3. Type **service** in the Username field, **service** in the Password field, then single click **OK**.
4. Click on Fix Acquisition, then click on the Fix Acquisition Report header.
5. You will see the following screen:

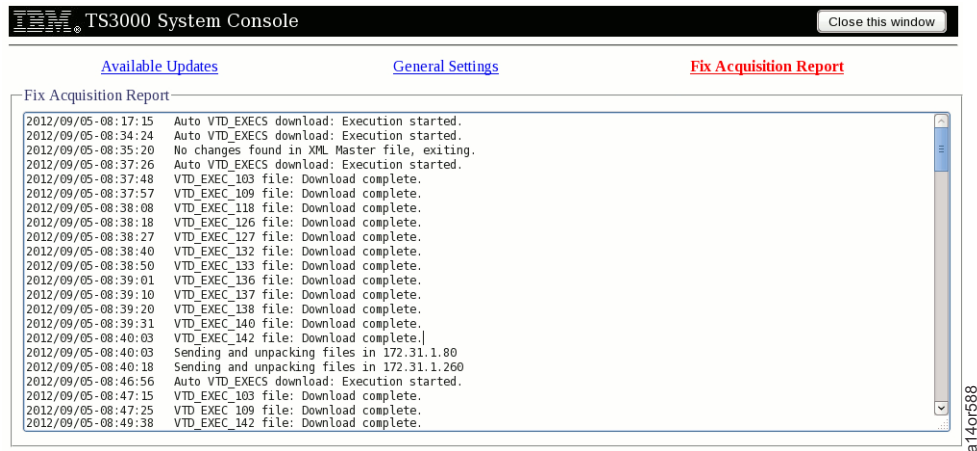


Figure 3-117. Fix Acquisition Report

Mount/Unmount USB or CD-ROM

Note: This task mounts and unmounts a USB or CD-ROM drive.

1. Ensure the desired USB drive is connected to the TSSC, or a usable disk is inserted in the CD-ROM drive.
2. Right click on the desktop and go to **System Console Actions**.
3. Under **System Console Actions** go to **Mount Functions**.
4. If a USB device has been connected and needs to be mounted, select **Mount USB**. If a disk was inserted and needs to be accessed, select **Mount CD-ROM**. Select **Unmount USB** or **Unmount CD-ROM** if the USB or CD-ROM device is no longer in use.

Mount/Unmount USB or CD-ROM Remotely

Note: A user can mount and unmount USB devices and CD-ROMs remotely through the command line.

1. To mount a USB device remotely type **rsMount.sh usb** and press Enter.
2. To unmount a USB device remotely type **sudo rsUnmount.sh usb** and press Enter.
3. To mount a CD-ROM remotely type **rsMount.sh cd** and press Enter.
4. To unmount a CD-ROM remotely type **sudo rsUnmount.sh cd** and press Enter.

Chapter 4. Repair/Troubleshooting

System Console Repair

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

In most cases, the standard procedures for PC repair apply for the System Console. The Product Recovery CD-ROM contains the file XXXXSVC.PDF (the XXXX represents the PC Type, that is, 6579, 6792, 8480, or 8482) which is the Hardware Maintenance Information for the IBM PC.

| This System Console MI details repair and replacement procedures for the System Console, and does not
| address PC repair.

There are two procedures which will require additional attention:

- **Hard Disk Drive Replacement:** When replacing the hard disk drive, replace it with at least a (30GB) drive. After replacing the hard disk drive, follow the procedure outlined in “Code Load/Hard Drive Rebuild” on page 3-60 to install the System Console for Service software (Model 8482 requires (80GB) serial ATA HDD; see “Parts List” on page 4-2).
- **Planar Replacement:** When replacing the system planar, transfer the microprocessor and memory modules from the removed system planar to the new system planar [at least 268MB (256MiB) of RAM is required]. It also is important to reset the BIOS settings for Console Date/Time and Drive Selection Startup Sequence, as outlined in Table 4-1.

It may be necessary to download the BIOS for a new planar upon installation. For downloadable files for your machine type and model, see

<http://www.ibm.com/support/us>

Troubleshooting the TS3000 System Console

Attention: Many procedures in this book are code specific. Before starting any procedure, go to Chapter 1, “Maintenance Starting Point,” on page 1-1 to determine the code level.

Table 4-1. Troubleshooting

You are here for this reason	Perform this action
User interface "Lock Up" (mouse/menu items inoperative)	Simultaneously press the Alt , Ctrl , and Backspace keys to end the session and return to the login screen.
External modems connected and powered ON but cannot be detected, and call home does not function	Use the reset modem function in call home settings to reset the firmware settings for external modems. See “Configuring Call Home Settings Electronic Customer Care” on page 2-71 for instructions.
Simultaneously pressing the Alt + Ctrl + Backspace keys does not properly end session	(Only to be done as a last resort; can result in loss of data) Disconnect the power cord, wait 10 seconds, reconnect the power cord, and power ON the System Console.
Review hardware maintenance manual for IBM PC	Insert the Product Recovery CD-ROM into a computer with Adobe Acrobat Reader (version 4.0 or later). Open the file on the CD-ROM entitled XXXXSVC.PDF (the XXXX represents the PC Type, such as 6579, 6792, 8480, or 8482). Attention: Do not attempt to install the Product Recovery CD-ROM into any machine other than a System Console. You will cause permanent and unrecoverable damage to that other machine.

Table 4-1. Troubleshooting (continued)

You are here for this reason	Perform this action
Perform procedure to set console date and time. (See also "Setting Console Date and Time" on page 2-85.)	<ol style="list-style-type: none"> 1. Power OFF the System Console for at least 10 seconds. 2. During power-up initialization, press F1 to enter the BIOS Configuration/Setup Utility. Power ON the System Console. 3. Use the Up/Down keyboard arrow keys to navigate to Date/Time, then press Enter. 4. Enter the correct time of day HH:MM:SS (HH is 00 to 24; use the arrow keys to navigate). 5. Enter the correct date MM:DD:YYYY. 6. Press ESC when finished. 7. Use the down arrow to select Save Settings. Press Enter to continue. 8. Use the down arrow to select Exit Setup. Select Yes to exit the Setup Utility. <p>Normal reboot should now occur.</p>
Perform procedure to reset the proper drive selection startup sequence. In the event of a planar replacement, it will be necessary to reset the boot-up sequence to Floppy Drive -> CD-ROM -> Hard Disk Drive in order for the System Console to boot the CD-ROM, if present.	<ol style="list-style-type: none"> 1. During power-up initialization, press F1 to enter the BIOS Configuration/Setup Utility. Power ON the System Console. 2. Use the Up/Down keyboard arrow keys to navigate to Start Options, then press Enter. 3. Press Enter again to set the Startup Sequence. 4. Use the arrow keys to navigate and to set the following: <ul style="list-style-type: none"> • [Diskette Drive 0] • [CD-ROM] • [Hard Disk 0] • [Disabled] Automatic Power On Startup Sequence 5. Press the Esc key twice when finished. 6. Use the Down arrow key to select Save Settings. Press Enter to continue. 7. Use the Down arrow key to select to Exit Setup. Select Yes to exit the Setup Utility. <p>Normal reboot should now occur.</p>

Parts List

This topic provides information for locating the parts list.

For part numbers that are related specifically to the PC, insert the IBM TS3000 System Console Documentation CD-ROM in a Windows PC or notebook with Adobe Acrobat Reader (version 4.0 or later). From the CD-ROM, open the file entitled IBM xSeries XXXX.PDF (the XXXX represents the PC Type; that is, 6579, 6792, 8480, 8482, 8836, or 8849). Also open 'TSSC_Parts_Master_List.PDF' which lists specific field replacable units (FRUs) for each model type.

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Glossary

This glossary defines the special terms, abbreviations, and acronyms that are used in this publication. If you do not find the term you are looking for, see the “Index” on page X-1, or refer to the IBM Glossary of Computing Terms, which is located at the website:

www.ibm.com/ibm/terminology

Italicized text indicates terms found elsewhere in this glossary.

A

AIX. (1) Advanced Interactive Executive. (2) IBM's implementation of the UNIX operating system. The RS/6000 system, among others, runs the AIX operating system

AOTM. autonomic ownership takeover manager

ATL. Automated Tape Library

attention (notice). A word for calling attention to the possibility of danger to a program, device, or system, or to data. Contrast with *caution* and *danger*

B

baud. (1) A unit of signaling speed equal to the number of discrete conditions or signal events per second. (2) In asynchronous transmission, the unit of modulation rate corresponding to one unit interval per second; that is, if the duration of that unit interval is 20 milliseconds, the modulation rate is 50 baud. Also see *baud rate*.

baud rate. (1) In remote communications, the transmission rate that is synonymous with signal events. The baud rate, or signal change rate, is usually expressed in bits per second. Stated another way, the baud rate is a measure of how many times per second a signal changes or could change. (2) The default rate of the IBM 3592 drive is 9600 baud. Also see *baud*.

BIOS. basic input/output system

C

caution (notice). A word to call attention to possible personal harm to people. Contrast with *attention* and *compact disk-read only memory*

CD-ROM. compact disk-read only memory

CE. (1) IBM customer engineer (2) Synonym for *service representative*

code. A shortened term for *microcode*, which is used throughout this *MI*

command. A control signal that initiates an action or the start of a sequence of actions

controller. *Deprecated* term for *control unit*

control unit. (1) A device that provides the interface between a system and one or more tape drives. (2) Synonym for *controller*

CU. *control unit*

customer engineer (CE). Synonym for IBM *service representative*

D

danger (notice). A word to call attention to possible lethal harm to people. Contrast with *attention* and *caution*

data. Any representations such as characters or analog quantities to which meaning is or might be assigned

deprecated. Not favored or not fully approved

E

EBTERM. Terminal emulator for OS/2

ELC. Enterprise Library Controller

EMT. electronic master transfer

error log. A dataset or file in a product or system where error information is stored for later access

ESCON. Enterprise Systems Connection

F

FCC. Federal Communications Commission

FE. (1) field engineer (2) Though the term is not used in this *MI*, it may be used in other documentation as a synonym for *customer engineer*. (3) Synonymous with *service representative*

Federal Information Processing Standards. See *FIPS*

field replaceable unit (FRU). An assembly that is replaced in its entirety when any one of its components fails

FIPS. (1) Federal Information Processing Standards (2) Standards and guidelines developed and issued by the National Institute of Standards and Technology (NIST) and approved for Federal computer systems by the Secretary of Commerce. When no acceptable industry standards or solutions exist, NIST develops FIPS to satisfy compelling Federal government requirements, such as for interoperability and for security measures like encryption. The pertinent standard for this publication is FIPS PUB 140-2, Security Requirements for Cryptographic Modules

format. The arrangement or layout of data on a data medium

FP. file protect

FRU. *field replaceable unit*

G

GUI. graphical user interface

I

IBM. International Business Machines Corporation

identifier (ID). (1) In programming languages, a lexical unit that names a language object. For example, the names of variables, arrays, records, labels, or procedures. An identifier usually consists of a letter optionally followed by letters, digits, or other characters (2) One or more characters used to identify or name a data element and possibly to indicate certain properties of that data element (3) A sequence of bits or characters that identifies a program, device, or system to another program, device, or system

intervention required. Manual action is needed

I/O. input/output

IOP. input/output processor

IPL. initial program load

L

LAN. (1) local area network (2) In a comparison of geographic breadth, a LAN is a computer network that is smaller than a *MAN* or a *WAN*

LED. light-emitting diode

LM. library manager

M

MAN. (1) metropolitan area network (2) Data network designed for a town or a city. In a comparison of

geographic breadth, a MAN is a computer network that is larger than a *LAN* but smaller than a *WAN*

MB. (1) megabyte (2) one million bytes

MI. Maintenance Information

microcode. (1) One or more micro-instructions (also called 'microprogram'). Resides in a part of storage that is not program-addressable (2) Also called *code* in this *MI*

MRPD. machine reportable product data

N

N/A. not applicable

NVS. (1) nonvolatile storage (2) A storage device whose contents are not lost when power is cut off

O

offline. Pertaining to the operation of a functional unit without the continual control of a computer, a server, or other peripheral device. Contrast with *online*

online. Pertaining to the operation of a functional unit that is under the continual control of a computer, a server, or other peripheral device. Contrast with *offline*

P

PE. Product Engineering

PMH. problem management hardware

PMR. (1) problem management record (2) A PMR number is assigned by *RETAIN*. This number is returned to the system console when a problem is successfully opened in *RETAIN*. In conjunction with a Branch Office number, this uniquely identifies a problem event for tracking through the *RETAIN* process

PMS. problem management software

R

RAM. random access memory

RAS. (1) reliability, availability, and serviceability (2) Abbreviated term for product design characteristics, and the Development team that manages those characteristics

RETAIN. (1) IBM Remote Technical Assistance Information Network (2) IBM Employees use this online system to help resolve customer problems with IBM products. The system contains records about reported problems and the solutions (or fixes) that are developed

for those problems. RETAIN also holds records of the hardware and software owned by each IBM customer.

RMSS. Removable Media Storage Solutions sector of IBM

S

SBC. system controller board

SCSI. *small computer system interface*

service representative. (1) Person who services your equipment. (2) Synonymous with CE and customer engineer

SIM. service information message

small computer system interface (SCSI). An input and output bus that provides a standard interface between the host system and the drive

SNMP. simple network management protocol

subsystem. A secondary or subordinate system, usually capable of operating independently of, or asynchronously with, a controlling system

System i. Term for IBM AS/400 products formerly known as iSeries

System p. Term for IBM AIX-type products formerly known as pSeries

System x. Term for IBM personal computer/server-type products formerly known as xSeries

System z. Term for IBM S/390-type processor products formerly known as zSeries

T

TCP/IP. Transmission Control Protocol/Internet Protocol. When in a tape library, the LAN communication path between the host and the Library Manager. This communication path is used for tape library commands that do not require the tape drive, while the SCSI bus is used for commands, data, and responses that require the tape drive. All SCSI-attached processors require an RS-232 or a LAN attachment for library control

TSMC. (1) TotalStorage Master Console (2) Original name of the TS3000 System Console (TSSC)

TSSC. TS3000 System Console

U

utility. *utility program*

utility program. A computer program in general support of the processes of a computer. For instance, a diagnostic program

V

VPD. (1) Vital Product Data. (2) The information contained within the tape drive that requires nonvolatile storage used by functional areas of the drive, and information required for Manufacturing, RAS, and Engineering

VTC. Virtual Tape Controller

VTS. Virtual Tape Server

W

WAN. (1) wide area network (2) In a comparison of geographic breadth, a WAN is a computer network that is larger than a LAN or a MAN

WEEE. European Union's Waste Electrical and Electronic Equipment standards directive

Index

Special characters

(Automated Log Collector), Starting and Stopping 3-32
(ECC) Connectivity, Test Electronic Customer 2-88
(TSR), Tape System Reporter 3-85

Numerics

3494

ATL

remote data monitoring 2-96
set up (LM) 2-26
test call home notification 2-91
web specialist 2-30

publications xvii

3584 publications xvii

3953

ATL remote data monitoring 2-96
feature code 2-5
frame serial number 2-28
modem 2-8
publications xvii
set up 2-26
specialist settings 2-29

3956 CC6

creating PE package (also refer to the TS7700
Information Center) 3-48
feature code 2-1

3958

enabling SNMP trap forwarding 3-85

A

abbreviations B-1

about this document

sending comments Y-1

access

for customer or CE to specialist 3-62
management interfaces 3-73
remote using NetTerm 3-19
tape drive code for update 3-62
via specialist to
system console 3-62
tape drive code update 3-62

acronyms B-1

add

attached system information 2-39
PFE exec from web interface 3-80
users to customer group 3-65

Adding a 3584 Model SC1 Complex System 2-43

Adding a Complex System 2-41

administer users 3-65

ALC (Automated Log Collector), Starting and
Stopping 3-32

AOTM

setting up 2-16
testing 2-19

ATL web specialist (3494)

tape system setup 2-26

using to change system console settings 2-30

authenticate server userid 2-37

autonomic ownership takeover manager

setting up 2-16

testing 2-19

B

backing up configuration data 2-80

baud rate, set for system console from

remote connection 2-80

system console 2-78

BIOS

definition B-1

enter 4-1

reload corrupted 3-60

broadcast

drive code from web interface 3-16

remote code from

web interface 3-8

Broadcast from the Web Interface, Mksysb 3-82

C

call home

configuring 2-71

notification test for

3494 ATL or 3953 Enterprise 2-91

VTS, VTC, A60, J70, and C06 2-90

offload contents to database (for remote
users) 3-46

queue management 3-23

record types 3-24

setting up 2-71

test notification for

3494 ATL or 3953 Enterprise 2-91

VTS, VTC, A60, and J70 2-90

TS7700 set up 2-13

VTS set up 2-21

Call Home Event Log 3-29

catalog, parts 4-2

CD-ROM

drive rebuild 3-60

feature code for drive rebuild 2-5

offloading user files to 3-26, 3-30

product recovery 3-60

CD-ROM, Mount/Unmount USB 3-89

CD-ROM, Mount/Unmount USB Remotely 3-89

change

configuration 2-36

language 3-62

password 3-65

system console settings 2-30

- code
 - broadcast
 - from web interface 3-16
 - remote from web interface 3-8
 - load 3-60
 - rebuild 3-60
 - update console 3-59
 - update drive 3-62
- code level V3.0.0 and above
 - access for tape drive code update 3-62
 - adding attached system information 2-39
 - backing up configuration data 2-80
 - call home queue management 3-23
 - call home record types 3-24
 - code load/hard drive rebuild 3-60
 - configuration 2-36
 - configure call home settings 2-71
 - console configuration sheet
 - sample 2-9
 - usable 2-9
 - console date and time, setting 2-85
 - console settings 2-60
 - console status 3-54
 - electronic customer care 2-71
 - error or defer matrix updates 3-66
 - feature codes 2-2
 - installing system console
 - about 2-1
 - performing 2-7
 - introduction 2-1
 - maintenance starting point quick reference table 1-1
 - offload
 - user files 3-30
 - user files to call home database (for remote users) 3-46
 - procedures 3-1
 - restoring configuration data 2-83
 - service tools 3-1
 - set up for 3494 ATL (LM) 2-26
 - set up for 3953 Enterprise Library Controller 2-26
 - set up VTS, VTC, tape controllers 2-21
 - setting console date and time 2-85
 - setup for remote data monitoring 2-92
 - system overview 2-1
 - tape system service information 3-4
 - telnet to attached tape system 3-1
 - user login 2-36
- code level V3.1.0
 - control unit tape drive service information files 3-13
 - view all files 3-16
- code level V5.3.0 and above
 - remote code broadcast from web interface 3-8
 - schedule configuration backups 2-82
- code load status
 - from web interface 3-11
- code load/hard drive rebuild 3-60
- comments
 - sending Y-1
- comments about this MI iii
- communication statements A-3
- compliance statements A-3
- components, system console 2-2
- configuration
 - adding attached system information 2-39
 - backing up configuration data 2-80
 - call home settings 2-71
 - console date and time 2-85
 - data, backing up 2-80
 - electronic customer care 2-71
 - interface parameters 2-33
 - login options
 - authenticated 2-37
 - non-authenticated 2-37
 - prerequisites 2-36
 - restoring configuration data 2-83
 - router 2-25
 - schedule backups (code level V5.3.0 and above) 2-82
 - setting baud rate for system console serial port
 - from remote connection 2-80
 - from system console 2-78
 - settings 2-31
 - sheet
 - sample 2-9
 - usable 2-9
 - test call home notification 2-90
 - test call home notification for 3494 ATL 2-91
 - user login 2-36
 - web specialist settings 2-31
- configuring
 - Assist-on Site Session 3-41
- Configuring Assist On-Site (AOS) 3-41
- connect
 - to modem 3-21
 - to RETAIN 2-87
- console
 - code update 3-59
 - configuration sheet
 - sample 2-9
 - usable 2-9
 - logout 2-90
 - microcode update 3-59
 - PE package, creating 3-48
 - setting date and time 2-85
 - settings 2-60
 - specialist (system) 3-62
 - status 3-54
 - VPD, display 3-56
- Console Screenshots, how to take 3-57
- create
 - attached subsystems list 3-6
 - MI user feedback iii
 - SSH tunnel 3-79
 - system console user feedback 3-80
- custom firewall settings 2-69
- customer
 - access for tape drive code update 3-62
 - access to system console specialist 3-62
 - group, add users to or delete users from 3-65
 - publications and information
 - 3494 xvii
 - 3584 xvii

customer (*continued*)
 publications and information (*continued*)
 3953 xvii
 7133 xviii
 AIX (RS/6000) xviii
 device drivers xviii
 userid 3-62

D

date and time, setting console 2-85
defer or error matrix updates 3-66
definitions B-1
delete
 infocenter (CD-ROM) 3-77
delete users from the customer group 3-65
device drivers publications xviii
disable 3958 SNMP trap forwarding 3-85
disk rebuild 3-61
disk rebuild and configuration restore 3-61
diskette
 backing up configuration data to 2-80
 offloading user files to 3-26, 3-30
display
 console VPD 3-56
 tape drive service information 3-12
 tape system service information 3-4
DO NOT USE - USB port on keyboard 1-1
documentation
 improvement Y-1
drive
 code broadcast from web interface 3-16
 feature code for rebuilding from CD-ROM 2-5
 rebuild from CD-ROM 3-60
 service information
 tape drive 3-12
 tape system 3-4
DS4000
 recording the IP and RSA forwarding
 addresses 2-80
DS6000
 creating PE package (also refer to the TS7700
 Information Center) 3-48
 GUI
 installing 2-52
 launching 3-68
 resetting password 3-68

E

ECC (electronic customer care) 2-71
edition
 changes
 this 29th edition iii
 notice ii
electronic customer care (ECC) 2-71
Electronic Customer Care (ECC) Connectivity,
 Test 2-88
enable
 3958 SNMP trap forwarding 3-85
 console heartbeat 2-73

error or defer matrix updates 3-66

F

Failed Queue Management 3-26
feature codes 2-2
feature codes withdrawn 2-4
feedback sending, user 3-80
feedback to IBM iii
FIPS
 definition B-2
 website xviii
firewall settings, customize 2-69
Fix Acquisition 3-86
Fix Acquisition Report 3-88
Fix Acquisitions General Settings 3-88
floppy diskette
 backing up configuration data to 2-80
 offloading user files to 3-26, 3-30
forwarding, enabling 3958 SNMP trap 3-85

G

glossary B-1
GUI
 DS6000
 installing 2-52
 launching 3-68
 resetting password 3-68
 ProtecTIER Manager
 installing 2-56
 launching 3-73
 upgrading 2-58
 Storage Manager
 installing 2-53
 launching 3-71
 resetting password 3-71

H

hard drive rebuild 3-60
heartbeat, set 2-33
help
 system console specialist online 3-62
helpful URLs xviii

I

importing
 InfoCenter
 from CD-ROM 3-76
infocenter
 delete 3-77
 importing
 from CD-ROM 3-76
 launching (CD-ROM) 3-76
install
 DS6000 GUI 2-52
 prerequisites to 2-7
 ProtecTIER Manager GUI 2-56

- install *(continued)*
 - Storage Manager GUI 2-53
 - system console
 - about 2-1
 - performing 2-7
- interface
 - access management 3-73
 - test 2-31
- Interface, Mksysb Broadcast from the Web 3-82
- introduction 2-1
- IP address
 - HTTP proxy 2-71
 - HTTP proxy IP address 2-71
- IP address, setting 2-33

K

- keyboard USB port - DO NOT USE 1-1

L

- language
 - for online help 3-62
 - select system console specialist 3-62
- launch
 - DS6000 GUI 3-68
 - InfoCenter
 - from web interface 3-74
 - infocenter (CD-ROM) 3-76
 - ProtecTIER Manager GUI 3-73
 - specialists 3-65
 - Storage Manager GUI 3-71
- list
 - create attached subsystems 3-6
 - parts 4-2
- login options
 - authenticated 2-37
 - non-authenticated 2-37
- logout 2-90
- logs, retrieving subsystem 3-49

M

- management interfaces, access 3-73
- managing
 - InfoCenter
 - from web interface 3-74
- master menu (system console screen) 2-39
- matrix updates, error or defer 3-66
- media, offloading user files (for non-remote users)
 - to 3-26, 3-30
- menu tree 1-2
- microcode
 - broadcast
 - remote from web interface 3-8
 - load 3-60
 - update
 - console 3-59
 - drive (via Specialist) 3-62
 - TS7700 cache controller 3-77
- Mksysb Broadcast from the Web Interface 3-82

- modem
 - connecting to 3-21
 - reset 3-78
- modem reset 3-78
- Mount/Unmount USB or CD-ROM 3-89
- Mount/Unmount USB or CD-ROM Remotely 3-89

N

- NetTerm
 - configure for accessing modem 3-19
 - remote access using 3-19
- notice
 - edition ii
 - general A-1

O

- offload
 - PE package 3-48
 - user files
 - to call home database (for remote users) 3-46
 - to media (for non-remote users) 3-26, 3-30
- online help
 - system console specialist 3-62
- open SSH tunnel 3-79
- overview of product 2-1

P

- parameters, configure interface 2-33
- parts list 4-2
- password
 - change 3-65
 - resetting DS6000 GUI 3-68
 - resetting Storage Manager GUI 3-71
- PE package, creating console (also refer to the TS7700 Information Center) 3-48
- PFE exec from web interface, add 3-80
- port on keyboard (USB) - DO NOT USE 1-1
- preface xvii
- problem report to RETAIN, send 2-71
- procedures 3-1
- product
 - overview 2-1
 - recovery 3-60
- ProtecTIER Manager GUI
 - installing 2-56
 - launching 3-73
 - upgrading 2-58
- publications
 - 3494 xvii
 - 3584 xvii
 - 3953 xvii
 - 7133 xviii
 - AIX xviii
 - device drivers xviii
 - RS/6000 xviii

Q

- queue
 - flush 2-32
 - management (call home) 3-23
- quick reference table, maintenance starting point 1-1

R

- RAS menu
 - local access 3-57
 - remote access 3-57
- RAS Menu 3-56
- read this first iii
- reader feedback
 - sending Y-1
- rebuild disk 3-61
- rebuild hard drive 3-60
- related information and publications xvii
- remote
 - access using NetTerm 3-19
 - code broadcast
 - from web interface 3-8
 - code broadcast from web interface 3-8
 - data monitoring (3494 ATL) 2-96
 - support 2-1
- remote data monitoring
 - set up for 3494 ATL or 3953 ELC 2-96
 - set up for VTS, VTC, A60, J70 2-92
- repair of system console 4-1
- report to RETAIN, send problem 2-71
- reset
 - DS6000 GUI password 3-68
 - modem 3-78
 - Storage Manager GUI password 3-71
- restoring configuration data 2-83
- RETAIN
 - about 2-1
 - information sent to 2-71
 - send problem report to 2-71
 - test connection
 - during installation 2-87
 - during service 3-55
- retrieving subsystem logs 3-49
- router 2-25
- RSA forwarding addresses 2-80

S

- scheduling configuration backups 2-82
- secure shell tunnel, 3-79
- sending
 - comments Y-1
- sending user feedback about
 - the system console 3-80
 - this MI iii
- serial port
 - connecting to
 - x306 2-2
 - x306m 2-2

- serial port (*continued*)
 - initializing for connection to local devices 2-78
 - setting baud rate
 - from remote connection 2-80
 - from system console 2-78
- service
 - information
 - tape drive 3-12
 - tape system 3-4
 - marks A-2
 - publications
 - 3494 xvii
 - 3584 xvii
 - 3953 xvii
 - 7133 xviii
 - AIX xviii
 - device drivers xviii
 - RS/6000 xviii
 - tools 3-1
- service information
 - tape drive 3-12
 - tape system 3-4
- set up
 - 3494 ATL LM 2-26
 - 3953 ELC 2-26
 - autonomic ownership takeover manager (AOTM) 2-16
 - remote data monitoring
 - 3494 ATL or 3953 ELC 2-96
 - VTS, VTC, A60, J70 2-92
 - TS7700 virtual engine 2-13
 - VTS, VTC, tape controllers
 - call home 2-21
 - for remote data monitoring 2-92
- setting
 - 3958 SNMP trap forwarding 3-85
 - autonomic ownership takeover manager (AOTM) 2-16
 - baud rate for system console from
 - remote connection 2-80
 - system console 2-78
 - call home configuration 2-71
 - configuration 2-31
 - configure web specialist 2-31
 - console 2-60
 - console date and time 2-85
 - customize firewall 2-69
 - ECC (electronic customer care) 2-71
 - electronic customer care (ECC) 2-71
 - heartbeat 2-33
 - IP address 2-33
 - modem 3-78
 - signal speed for system console from
 - remote connection 2-80
 - system console 2-78
 - SSH tunneling 3-79
 - user feedback 3-80
 - web specialist 2-30
- settings, configuring
 - call home 2-71
 - console heartbeat 2-73

- settings, configuring (*continued*)
 - disposition 2-76
 - entry point 2-31
 - machine 2-75
 - phone 2-74
 - site location 2-73
- sheet, configuration
 - sample 2-9
 - usable 2-9
- signal speed - setting from
 - remote connection 2-80
 - system console 2-78
- specialist
 - about 3-62
 - access to
 - system console 3-62
 - tape drive code 3-62
 - administer users 3-65
 - configure interface parameters 2-33
 - configure settings 2-31
 - flush queue 2-32
 - launch 3-65
 - online help 3-62
 - set heartbeat 2-33
 - system console 3-62
 - update tape drive code 3-62
 - using to
 - change language 3-62
 - change or configure system console settings (web) 2-30
 - using web 2-30
 - welcome page 2-30
- SSH tunneling 3-79
- Starting and Stopping ALC (Automated Log Collector) 3-32
- statements
 - communication A-3
 - compliance A-3
- status, console 3-54
- Stopping ALC (Automated Log Collector) 3-32
- Storage Manager
 - GUI
 - installing 2-53
 - launching 3-71
 - resetting password 3-71
- subsystem
 - list, create attached 3-6
 - logs, retrieving 3-49
- system console
 - main menu 2-39
 - overview 2-1
 - repair 4-1
 - specialist
 - about 3-62
 - access to tape drive code 3-62
 - administer users 3-65
 - changing language using 3-62
 - launch 3-65
 - using for customer access 3-62
- System Reporter (TSR), Tape 3-85

T

- tables
 - call home record types 3-24
 - code load status
 - from web interface 3-11
 - console configuration sheet
 - actual 2-9
 - sample 2-9
 - console status tool function 3-54
 - control unit error codes 3-63
 - installation prerequisites 2-7
 - maintenance starting point 1-1
 - parts list 4-2
 - quick reference for maintenance starting point 1-1
 - single drive error codes 3-64
 - system console components 2-2
 - troubleshooting 4-1
- Taking Console Screenshots 3-57
- tape drive
 - service information 3-12
- tape system
 - call home 2-21
 - service information 3-4
- Tape System Reporter (TSR) 3-85
- telephone information for modems 2-36
- telnet to attached tape system 3-1
- telnet to Grid TSSC 3-2
- terms B-1
- test
 - autonomic ownership takeover manager (AOTM) 2-19
 - call home notification for
 - 3494 ATL 2-91
 - VTS, VTC, A60, J70, and C06 2-90
 - connection to RETAIN
 - during installation 2-87
 - during service 3-55
 - interface 2-31
 - RETAIN connection
 - during installation 2-87
 - during service 3-55
- Test Electronic Customer Care (ECC)
 - Connectivity 2-88
- time and date, setting console 2-85
- tools, service 3-1
- trademarks A-2
- transmission rate, setting from
 - remote connection 2-80
 - system console 2-78
- transmission speed - setting from
 - remote connection 2-80
 - system console 2-78
- trap forwarding, enabling 3958 SNMP 3-85
- tree, menu 1-2
- troubleshooting 4-1
- TS7700
 - autonomic ownership takeover manager (AOTM)
 - set up 2-16
 - test 2-19
 - call home 2-13
 - virtual engine set up 2-13

tunneling, SSH 3-79

U

update

- console code 3-59
- error or defer matrix 3-66
- ProtecTIER Manager GUI 2-58
- tape drive code via specialist 3-62
- TS7700 cache controller microcode 3-77

URLs for information and help xviii

USB device

- add PFE execs 3-80
- backing up configuration data by using 2-80
- DO NOT plug into port on keyboard 1-1
- offloading user files by using 3-26, 3-30

USB or CD-ROM, Mount/Unmount 3-89

USB port on keyboard - DO NOT USE 1-1

user feedback about

- system console 3-80
- this MI iii

userid

- non-authenticated login 2-37
- server authentication 2-37

users

- add or delete 3-65
- administer 3-65
- login 2-36

V

V3.0.0 and above code level

- access for tape drive code update 3-62
- adding attached system information 2-39
- backing up configuration data 2-80
- call home queue management 3-23
- call home record types 3-24
- code load/hard drive rebuild 3-60
- configuration 2-36
- configure call home settings 2-71
- console configuration sheet
 - sample 2-9
 - usable 2-9
- console date and time, setting 2-85
- console settings 2-60
- console status 3-54
- electronic customer care 2-71
- error or defer matrix updates 3-66
- feature codes current 2-2
- installing system console
 - about 2-1
 - performing 2-7
- introduction 2-1
- maintenance starting point quick reference table 1-1
- offload
 - user files 3-30
 - user files to call home database (for remote users) 3-46
- procedures 3-1
- restoring configuration data 2-83
- service tools 3-1

V3.0.0 and above code level (*continued*)

- set up for 3494 ATL (LM) 2-26
- set up for 3953 Enterprise Library Controller 2-26
- set up VTS, VTC, tape controllers 2-21
- setting console date and time 2-85
- setup for remote data monitoring 2-92
- system overview 2-1
- tape system service information 3-4
- telnet to attached tape system 3-1
- user login 2-36

V3.1.0 and above code level

- control unit tape drive service information files 3-13
- view all files 3-16

V5.3.0 and above code level

- remote code broadcast from web interface 3-8

view all files 3-16

virtual engine (TS7700) set up 2-13

VTD Downloads 3-88

VTS

- call home set up 2-21
- set up 2-21

W

web interface

- add PFE execs by using 3-80
- broadcast drive code 3-16
- managing InfoCenter 3-74
 - from web interface 3-74
- remote code broadcast 3-8

Web Interface, Mksysb Broadcast from 3-82

Web Interface, Mksysb Broadcast from the 3-82

web specialist

- configure interface parameters 2-33
- configure settings 2-31
- flush queue 2-32
- launch 3-65
- online help 3-62
- set heartbeat 2-33
- system console 3-62
 - using 2-30
- using to change system console settings 2-30
- welcome page 2-30

websites xviii

what's new

- this 29th edition iii

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