Quantum

Site Planning and Installation Guide

Scalar LTFS Appliance

6-67516-07 Rev A

Quantum Scalar LTFS Site Planning and Installation Guide, 6-67516-07 Rev A, September 2016, Product of USA.

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Preface

This manual introduces the Quantum Scalar LTFS Appliance and discusses:

- Site Planning for your Scalar LTFS Appliance
- Installing your Scalar LTFS Appliance
- Initial configuration using the Setup Wizard

Audience

This manual is written for Scalar LTFS Appliance customers planning the location site and installing the Scalar LTFS Appliance.

Note: It is useful for the audience to have a basic understanding of UNIX® and backup/recovery systems.

Document Organization

Following is a brief description of chapter contents.

Chapter 1, Introduction provides a picture of the appliance and a product overview.

Chapter 2, Site Planning provides specifications to assist in planning your site for housing your new Scalar LTFS Appliance. This chapter provides:

Chapter 3, Installing Hardware provides guidelines for choosing a location, preparing for installing the hardware, unpacking the appliance, and installing the appliance in a rack.

Chapter 4, Configuration Prerequisites provides instructions for obtaining your license key, and setting up your library.

Chapter 5, Cabling the Appliance describes how to connect the appliance to power, a library and a network.

Chapter 6, Configuring Scalar LTFS using the Setup Wizard walks through the Setup Wizard for the initial appliance configuration.

Chapter 8, Wrapping Up provides instructions for disconnecting the Eth1 cable and for installing the bezel.

Glossary provides definitions for commonly referenced terminology and acronyms.

Notational Conventions

This manual uses the following conventions:

Convention	Example
User input is shown in bold font.	**./DARTinstall**
Computer output and command line examples are shown in monospace font.	`./DARTinstall`
User input variables are enclosed in angle brackets.	**http://<ip_address>/cgi-bin/stats**

For UNIX and Linux commands, the command prompt is implied.	`./DARTinstall`
	`is the same as`
	`# ./DARTinstall`

File and directory names, menu commands, button names, and window names are shown in bold font.	**/data/upload**
Menu names separated by arrows indicate a sequence of menus to be navigated.	**Utilities > Firmware**

The following formats indicate important information:

Note: Note emphasizes important information related to the main topic.

Caution: Caution indicates potential hazards to equipment or data.

WARNING: Warning indicates potential hazards to personal safety.

- Right side of the system — Refers to the right side as you face the component being described.
- Left side of the system — Refers to the left side as you face the component being described.

Product Safety Statements

Quantum will not be held liable for damage arising from unauthorized use of the product. The user assumes all risk in this aspect.

This unit is engineered and manufactured to meet all safety and regulatory requirements. Be aware that improper use may result in bodily injury, damage to the equipment, or interference with other equipment.

WARNING: Before operating this product, read all instructions and warnings in this document and in the system, safety, and regulatory guide.

警告 在使用本产品之前，请先阅读本文档及系统、安全和法规信息指南中所有的说明和警告信息。

警告 操作本產品前，請先閱讀本文件及系統、安全與法規資訊指南中的指示與警告說明。

ADVERSAL	Læs alle instruktioner og advarsler i dette dokument og i *Vejledning om system-sikkerheds- og lovgivningsoplysninger*, før produktet betjenes.
AVERTISSEMENT	Avant d'utiliser ce produit, lisez la totalité des instructions et avertissements de ce document et du *Guide d'informations sur le système, la sécurité et la réglementation*.
HINWEIS	Lesen Sie vor der Verwendung dieses Produkts alle Anweisungen und Warnhinweise in diesem Dokument und im System, Safety, and Regulatory Information Guide (Info-Handbuch: System, Sicherheit und Richtlinien).
אזהרה	לפני ההפעלה של מוצר זה, קרא את כל ההוראות והאזהרות הכלולות במסמך זה וכן במדריך *מידע בנושאי מערכת, בטיחות ותקינה*
警告	この製品を使用する前に、本文書、および『システム、安全、規制に関する情報ガイド』に記載しているすべての警告と指示をお読みください。
경고	이 제품을 작동하기 전에 이 문서 및 시스템, 안전, 및 규제 정보 안내서에 수록된 모든 지침과 경고 표지를 숙지하십시오.
ПРЕДУПРЕЖДЕНИЕ	всеми инструкциями и предупреждениями, приведенными в данном документе и в *Справочном руководстве по устройству, технике безопасности и действующим нормативам*.
ADVERTENCIA	Antes de utilizar este producto, lea todas las instrucciones y advertencias en este documento y en la Guia informativa sobre sistema, seguridad y normas.
VARNING	Läs alla anvisningar och varningar i detta dokument och i *System, säkerhet och krav från myndigheter - Informationshandbok* innan denna produkt tas i bruk.

Related Documents

The following Quantum documents are also available for the Quantum Scalar LTFS Appliance:

Document No.	Document Title
6-67514-xx	*Scalar LTFS Appliance User's Guide*

Release Notes are also provided for this project. The Release Notes provide a list of any known issues and workarounds, and compatibility information.

For the most up to date information on the Scalar LTFS Appliance, see:

http://www.quantum.com/ServiceandSupport/Index.aspx

Contacts

Visit the Quantum home page at:

http://www.quantum.com

Getting More Information or Help

StorageCare™, Quantum's comprehensive service approach, leverages advanced data access and diagnostics technologies with cross-environment, multi-vendor expertise to resolve backup issues faster and at lower cost.

Accelerate service issue resolution with these exclusive Quantum StorageCare services:

Quantum. Global Services

- **Service and Support Web site** - Register products, license software, browse Quantum Learning courses, check backup software and operating system support, and locate manuals, FAQs, firmware downloads, product updates and more in one convenient location. Benefit today at:

  http://www.quantum.com/ServiceandSupport/Index.aspx

- **eSupport** - Submit online service requests, update contact information, add attachments, and receive status updates via e-mail. Online Service accounts are free from Quantum. That account can also be used to access Quantum's Knowledge Base, a comprehensive repository of product support information. Sign up today at:

http://www.quantum.com/osr

For further assistance, or if training is desired, contact the Quantum Customer Support Center:

United States	800-284-5101 (toll free) 949-725-2100
EMEA	00800-4-782-6886 (toll free) +49 6131 3241 1164
APAC	+800 7826 8887 (toll free) +603 7953 3010
For worldwide support: http://www.quantum.com/ServiceandSupport/Index.aspx	

Worldwide End-User Product Warranty

For more information on the Quantum Worldwide End-User Standard Limited Product Warranty:

http://www.quantum.com/pdf/QuantumWarranty.pdf

Chapter 1

Introduction

The *Quantum Scalar LTFS Site Planning and Installation Guide* provides basic site planning and installation and configuration instructions for the Scalar LTFS Appliance (see Figure 1).

Figure 1 Scalar LTFS Appliance

Product Overview

The Scalar LTFS Appliance is a Quantum-proprietary file system that provides drag and drop access to files that reside on the Quantum

libraries including Scalar i40 and i80, Scalar i500, Scalar i2000, and Scalar i6000. This appliance makes files viewable as if they resided on your local disk.

The Scalar LTFS Appliance provides large file portability so that you can quickly and easily retrieve large files, whether they are active or archived, from your library, exchange files with other organizations (inside and outside of your company) for collaborative and sequential workflow applications, and drag and drop files to and from tape.

Chapter 2
Site Planning

This chapter provides specifications to assist in planning your site for housing your new Scalar LTFS Appliance. This chapter provides:

Note: After you can completed the installation and general configuration of the Scalar LTFS Appliance, please refer to the *Best Practices* chapter of the *Scalar LTFS User's Guide* for more detailed information.

Available Scalar LTFS Appliance Configurations

The Scalar LTFS Appliance can be ordered in the following configurations (see Table 1).

Table 1 Scalar LTFS Configuration

Scalar LTFS Appliance Configuration	Rack Space Required
Scalar LTFS 1 GbE SAS Appliance 5 x 1 GbE Ethernet ports 2 x 6 Gbps SAS ports	2U
Scalar LTFS 1 GbE FC Appliance 5 x 1 GbE Ethernet ports 2 x 8 Gbps Fibre Channel ports	2U
Scalar LTFS 10 GbE SAS Appliance 2 x 10 GbE Ethernet ports 1 x 1 GbE Ethernet port 2 x 6 Gbps SAS ports	2U
Scalar LTFS 10 GbE FC Appliance 2 x 10 GbE Ethernet ports 1 x 1 GbE Ethernet port 4 x 8 Gbps Fibre Channel ports	2U

Materials Included in Shipment

The Scalar LTFS Appliance is fully configured to your specifications and pre-tested in the factory. Every Scalar LTFS Appliance configuration arrives with all necessary parts included.

Table 2 Scalar LTFS Appliance Shipping Configurations

Configuration	Number of Shipping Boxes	Shipping Box Weight
Scalar LTFS 10 GbE SAS Appliance	1	75 lbs (28 kg)
Scalar LTFS 10 GbE FC Appliance		
Scalar LTFS 1 GbE SAS Appliance		
Scalar LTFS 1 GbE FC Appliance		

Each system is shipped containing the following materials:

- Scalar LTFS Appliance chassis
- Front bezel with key
- (4) power cords, (2) U.S. and (2) C13 hooded connector
- (2) hooded power cords (U.S.)
- Left and right slide assemblies
- Registration card
- Information sheet with link to documentation
- Terms and conditions
- A license certificate indicating the number of partitions and drives you are licensed to use.

Scalar LTFS Specifications

This section lists the characteristics and specifications for the Scalar LTFS Appliance. These characteristics and specifications are categorized as follows:

- Rack Compatibility
- Physical Characteristics

- Environmental Conditions

Note: For hard drive specifications see the appropriate hard drive product manual received with your product.

Rack Compatibility

Nearly all standard four-post EIA 19" server racks are compatible with the Scalar LTFS Appliance rack mount kits.

See Table 3 on page 7 for system rack space requirements.

Physical Characteristics

The following tables provide dimensions and other physical characteristics of the Scalar LTFS Appliance components:

- Table 3 - System Space Rack Requirements
- Table 4 - Storage Capacity
- Table 5 - Cable Drops
- Table 6 - Interfaces
- Table 7 - Power Requirements

Table 3 System Space Rack Requirements

Height	3.40 in (86 cm)
Width (side to side)	17.19 in (43.6 cm)
Depth (front to back)	24.09 in (61 cm)
Weight (stand alone)	37 lbs (16.78 Kg)
Rack Space Required	2U
Air clearance	Open 4 in (10.2 cm) behind unit for proper air flow

Table 4 Storage Capacity

Usable capacity	Up to: • 8 media changers (also referenced as partitions) • 8 tape drives • 40 million files across all volumes • 5000 volumes (including vaulted) • Minimum of 1 Gb file is recommended (bigger files help increase read performance)

Table 5 Cable Drops

Ethernet Cable Drops	**Scalar LTFS 1 GbE SAS Appliance Configuration**	5 x 1GbE Ethernet data ports
	Scalar LTFS 1 GbE FC Appliance Configuration	5 x 1GbE Ethernet data ports
	Scalar LTFS 10 GbE SAS Appliance Configuration	2 x 10 GbE Ethernet ports 1 x 1 GbE Ethernet port
	Scalar LTFS 10 GbE FC Appliance Configuration	2 x 10 GbE Ethernet optical or copper data ports 1 x 1 GbE Ethernet data port

Power Outlets	**All**	**System** - 2 USA type 3-prong power outlets (**Nema 5-15**) or 2 SCHUKU type 3-prong power outlets (**CEE 7**).

Table 6 Interfaces

Host Interfaces	**NAS target -** NFS v3 (Linux) or CIFS (Windows and Mac OS) Samba version: 3.5.2
Library Tape Drive Interfaces	SAS Fibre Channel

Table 7 Power Requirements

Caution: To safeguard backups in the event of a power outage, Quantum recommends that you connect the Scalar LTFS Appliance to a UPS (un-interruptible power supply). Two circuits should be used (one per power supply)

Power Supplies and Cords		Two (2) hot swappable redundant power supplies Two (2) USA type 3-prong power cords with **IEC320 C13** to **Nema 5-15** connectors Two (2) C13 to C14 type 3-prong power cords with **IEC320 C13** to **IEC320 C14** connectors
Voltage		100–240 VAC
Frequency		50–60Hz
	Inrush	2.81A @ 100V 1.20A @ 240V
	Typical	2.59A @100V 1.15A @240V 259W 885 BTU / HR
	Maximum	7.5A @100V 4.0A @ 240V 750W

Environmental Conditions

The Scalar LTFS Appliance is designed to be installed in a rack enclosure. Ensure that the operating temperature inside the rack enclosure does not exceed the maximum rated ambient temperature. Do not restrict air flow to the Scalar LTFS Appliance components. The installation site must have the following environmental conditions:

- Humidity: 20% to 80% (non-condensing)
- Temperature: 10 to 35 °C (50 to 95 °F), Altitude = 900 m or 2952.75 ft (28 °C or 82.4 ºF Max, Altitude = 3048 m or 10,000 ft)

These environmental conditions apply when the Scalar LTFS Appliance is in operation.

Table 8 on page 10 provides Scalar LTFS Appliance environmental specifications for:

- Climactic environment
- Vibration and shock
- Acoustic
- Agency approvals

Table 8 Environmental Specifications

Climatic Environment		
Temperature and Altitude	Operating	10 to 35 °C (50 to 95 °F), Altitude = 900 m or 2952.75 ft (28 °C or 82.4 ºF Max, Altitude = 3048 m or 10,000 ft)
	Shipping and storage	-40 to 65 °C (-40 to 149 °F) up 12,000m (39,370 ft)
Relative humidity	Operating	20% to 80% (non-condensing)
	Shipping and storage	5% to 95% (non-condensing)
Vibration and Shock		
Operational Shock	Peak Acceleration	31G
	Duration	2.6 milliseconds
	Wave Shape	½ Sine
Operational Vibration	Mode	Random Vibration
	Frequency Range	5Hz–350Hz
	Amplitude	0.26Grms
	Application	Operational Orientations
Shipping and Storage	Mode	Random Vibration
	Frequency Range	10Hz–250Hz
	Amplitude	1.54 Grms
	Rate/Duration	(PSD can be provided) 15 minutes all operational orientations
Acoustic		

Acoustic output	Operating	< 67 dBA at 1 meter, room temperature (20C)
Agency Approvals		
Safety	IEC 60950-1 (ed. 1), CSA 60950-1-03/UL 60950-1 1st Edition	
Emissions	EN55022 Class A, Fibre Channel C Part 15 Class A, ICES-003 Class A, VCCI Class A, CISPR 22 Class A, CNS13438 Class A, KN22 Class A	
Immunity	EN55024/KN24: EN 61000-3-2 - Harmonic current emissions test EN 61000-3-3 - Voltage fluctuations and flicker in low-voltage supply systems test EN 55024:1998 - Information technology equipment - Immunity characteristics - Limits and methods of measurements EN 61000-4-2 - Electrostatic discharge immunity test EN 61000-4-3 - Radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-4 - Electrical fast transient/burst immunity test EN 61000-4-5 - Surge immunity test EN 61000-4-6 - Immunity to conducted disturbances, induced by radio-frequency fields EN 61000-4-8 - Power frequency magnetic field immunity test EN 61000-4-11 - Voltage dips, short interruptions and voltage variations immunity test	

System Requirements

This section lists the system requirements and a description of each requirement.

Requirement	Description
Use with library	Scalar i40, Scalar i80, Scalar i500, Scalar i6000, Dell ML6000
Drives	HP LTO-5 and LTO-6 IBM LTO-5, LTO-6 and LTO-7
Library Connectivity	Fibre channel SAS
Network Connectivity	Recommended minimum 1GbE
Media	LTO-5 or later
Operating System	Tested operating systems **CIFS** • Windows Server 2003 • Windows Server 2008 • Windows Server 2012 • Windows 7 • Mac OS X 10.7 **NFS v4** • Linux RHEL 5.6 • Linux Ubuntu 10.4
Internet Browsers	Tested Internet Browsers: • Firefox 18.0.2, 19.0, 26.0, 40.0.3 • Chrome 18.0, 25.0.x, 32.0.x, 45.0.x • Internet Explorer 8.0.x, 9.x • Safari 5.0.6
Adobe Flash Player	• 10 or higher

Note: The Scalar LTFS Appliance doesn't support the 6404 IO Blade.

Service and Support

Installation Support

The Scalar LTFS Appliance is customer installable. However, Quantum recommends that only qualified network or system administrators who have a working knowledge of software setup and configuration should install the appliance.

If you wish to purchase professional installation services, please contact your Quantum Sales representative to discuss installation services.

Phone support for the installation process is available via the Quantum support number for your area. Quantum World Wide phone support is as follows:

Americas:

800-284-5101 (toll free)

949-725-2100

Europe, Middle East and Africa:

00800-4-782-6886 (toll free)

+49 6131 3241 1164

Asia Pacific:

+800 7826 8887 (toll free)

+603 7953 3010

Scalar LTFS Appliance Warranty

The Scalar LTFS Appliance warranty includes one year of Quantum's Bronze Support Plan. This plan includes one year on-site support Monday through Friday, next-day on-site target response time, 5x9 telephone support, and Internet access to Quantum's online Customer Support Web site.

The Quantum Customer Support web site features online service request processing, Web-based event status tracking, and a comprehensive Knowledge Base. Quantum's Knowledge Base gives you 7x24 real-time electronic access to complete product and support resources and the expertise of Quantum's Global Services organization.

Support Option Upgrades

Quantum's Global Services organization is geared towards delivering the fastest possible response and root cause resolution, helping you maximize your backup investments, better manage processes, and make the best use of your resources. We ensure total customer satisfaction by providing comprehensive, responsive services on a worldwide basis.

A variety of support options are available to you via Quantum's tiered hardware support plans to meet a range of budget and availability requirements. Quantum's Support Plans include the following offerings:

- **Next Business Day Gold** includes (Next Business Day Onsite, 7x24 Phone Support)
- **Gold** (7x24x4 Hr on-site, 7x24 phone support
- A customized **Platinum** offering
- A Warranty extension of **Bronze** (5x9xNBD on-site, 5x9 phone support) is also an option for the second and third year of ownership.

Features of these plans include: 24-hour telephone support, on-site response, access to strategic account management (available with select service packages), priority call handling, strategically located spares parts, online resources, and software/firmware upgrades. For more information on these service plans, please visit www.quantum.com or contact your Quantum Sales Representative.

Quantum service engineers are available around the world and are deployed to respond to on-site service demands. In addition, spare part depots are strategically located around the globe so that service technicians have access to the parts and equipment necessary to maintain or repair your Scalar LTFS Appliance.

Chapter 3

Installing Hardware

This chapter provides step by step instructions to assist you in installing Scalar LTFS Appliance hardware, including:

Choosing a Location

Quantum recommends installing the Scalar LTFS Appliance in a controlled or restricted area to prevent access by untrained personnel.

Prior to installing the Scalar LTFS Appliance, ensure you read Chapter 2, Site Planning to learn the requirements for your site.

Preparing for the Installation

Before you begin the installation procedure, make the following preparations as described in these sections:

- Service and Support on page 13
- Taking ESD Precautions on page 16
- Pre-Installation Checklist on page 16

WARNING: Do not connect the Scalar LTFS Appliance directly to your company network during initial installation.

Taking ESD Precautions

Some components within the Scalar LTFS Appliance contain static-sensitive parts. To avoid damaging these parts while performing installation procedures, always observe the following precautions:

- Keep the Scalar LTFS Appliance turned off during all installation procedures.
- Keep static-sensitive parts in their original shipping containers until ready for installation.
- Do not place static-sensitive parts on a metal surface. Place them inside their protective shipping bag or on an antistatic mat.
- Avoid touching connectors and other components.

Note: Dry climates and cold-weather heating environments have lower relative humidity and are more likely to produce static electricity.

Pre-Installation Checklist

Prior to installing the Scalar LTFS Appliance, there are a few items that must be completed. They include:

- **Document the Scalar LTFS Appliance serial number** - Currently the serial number can only be obtained from the label on the back of the appliance. So to avoid having to remove the appliance

halfway through the installation, write it down for use during the Setup Wizard procedures.

- **Provide cables** - The Scalar LTFS Appliance currently doesn't ship SAS or FC cables so it must be provided by the customer. The customer must also provide either a 1 GB or 10 GB ethernet cable.

  The Scalar LTFS Appliance only supports SAS cables 4 meters or less in length. These include the following part numbers:

  - 1-00827-01 1 meter
  - 1-00827-02 2 meter
  - 1-00827-03 3 meter
  - 1-00827-04 4 meter

- **Partition libraries** - Having your libraries setup prior to installation allows the Scalar LTFS Appliance to find and setup the proper data structures immediately instead of a much more complicated process after the installation is complete.
- **PC or laptop** (for setting up initial system configuration)

Unpacking the Scalar LTFS Appliance

By following these instructions, you help ensure that the system will continue to be safeguarded after it arrives at the installation site.

Unpack and remove the following components from the packing materials (see Figure 2 on page 19):

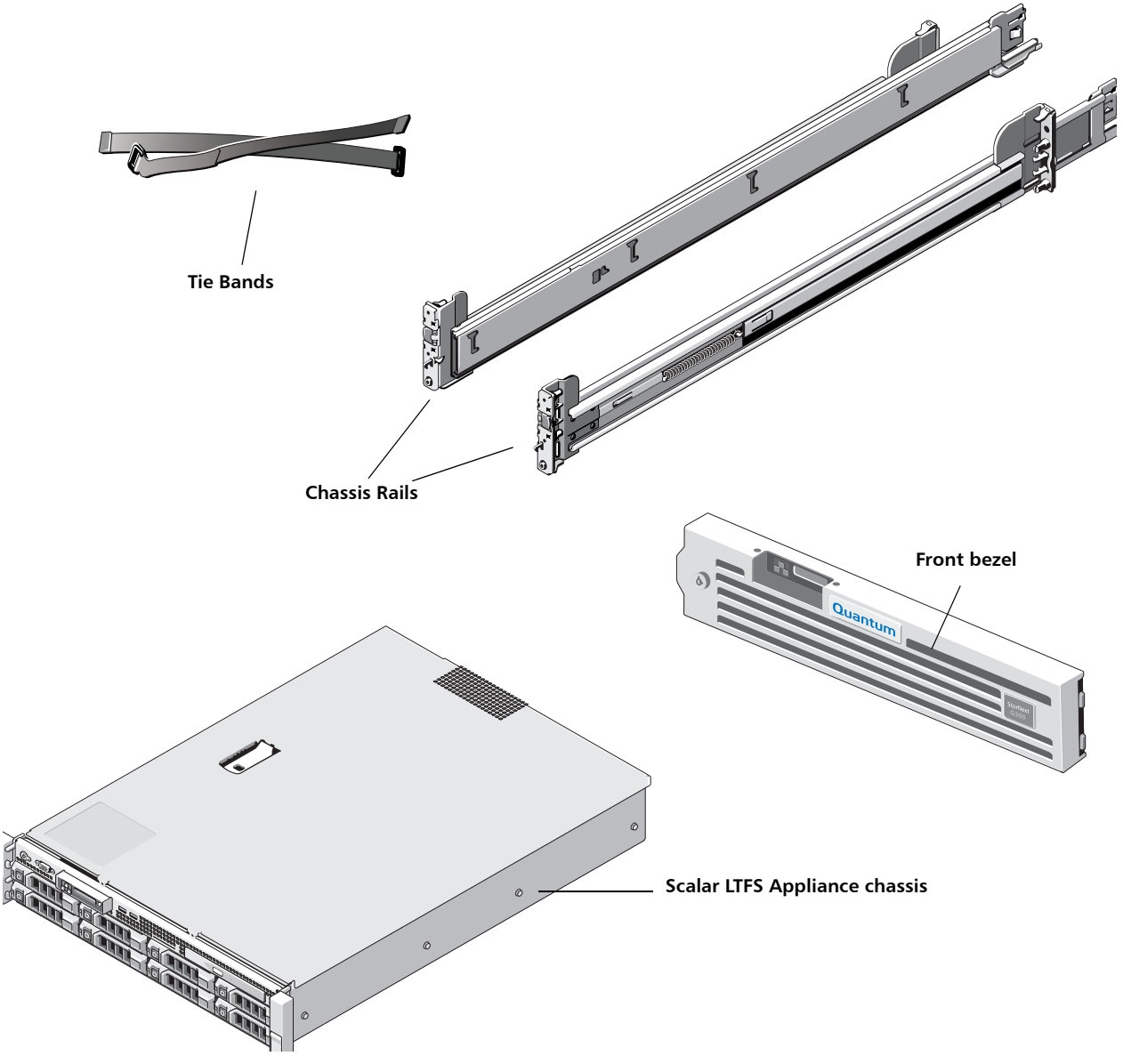
- Scalar LTFS Appliance chassis
- Front bezel with key
- (4) power cords, (2) U.S. and (2) C13 hooded connector
- (2) hooded power cables (U.S.)
- Left and right slide assemblies
- Registration card
- Information sheet with link to documentation

- Terms and conditions
- A license certificate indicating the number of partitions and drives you are licensed to use.

Caution: Do NOT discard the packing materials after the system is unpacked. The packaging materials must be used if the system is relocated.

WARNING: The Scalar LTFS Appliance weighs 37 lbs (16.78 Kg). Two people are required to lift the chassis.

Figure 2 Unpacking the Scalar LTFS Appliance



Installing the Scalar LTFS Appliance in Rack

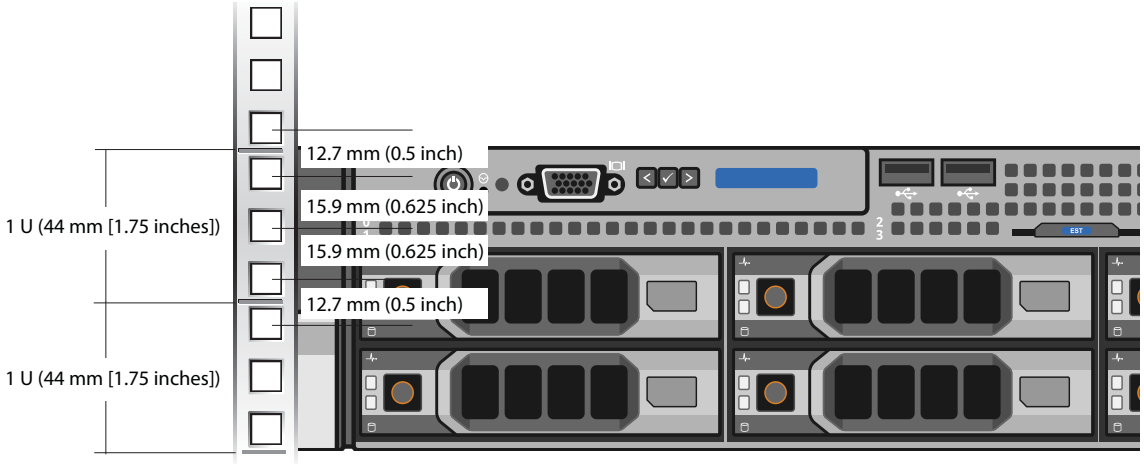
Installing the Scalar LTFS Appliance in a rack consists of the following steps:

1. Locating the Mounting Position on page 20
2. Installing Hardware on page 21

Locating the Mounting Position

The Scalar LTFS Appliance is designed to fit in a standard 19 inch wide rack. It is important for the chassis installation to locate the hole pattern in the rack rails. You must allow 2U (3.5 in (8.9 cm) of vertical space for the Scalar LTFS Appliance. Rack cabinets that meet EIA-310 standards have an alternating pattern of three holes per rack unit with center-to-center hole spacing (beginning at the top hole of a 1-U space) of 15.9 mm, 15.9 mm, and 12.7 mm (0.625 inch, 0.625 inch, and 0.5 inch) for the front and back vertical rails (see Figure 3). Rack cabinets may have round or square holes.

Figure 3 Rail Hole Pattern



WARNING: If the rack is empty at the time of installation, do NOT install the Scalar LTFS chassis too high in the rack. The weight of the chassis may cause the rack to become top heavy and unstable if installed in the top of an empty rack.

To mark the rack, perform the following step:

1 Place a mark (or tape) on the rack's front vertical rails where you want to locate the bottom of the system you are installing in the rack. The bottom of each 1-U space is at the middle of the narrowest metal area between holes (marked with a horizontal line on some rack cabinets).

Installing Hardware

Installing the Scalar LTFS Appliance consists of the following steps:

1 Installing the Scalar LTFS Appliance Rack Mounting Rails on page 21

2 Installing the Scalar LTFS Appliance Chassis on page 24

Installing the Scalar LTFS Appliance Rack Mounting Rails

1 Install the rack mounting rails (see Figure 4 on page 22 for square holes and Figure 5 on page 23 for round holes):

   a Position the left and right rail end pieces of the rail module labeled **FRONT** facing inward and orient each end piece to seat in the square holes on the front side of the vertical rack flanges.

   b Align each end piece to seat the pegs in the bottom hole of the first U space and the top hole of the second U space.

   Note: Align the rails at the bottom of the U space.

   c Engage the back end of the rail until it fully seats on the vertical rack flange and the second tooth on the latch locks in place.

   d Repeat these steps to position and seat the front end piece on the vertical rack flange.

   Note: To remove the rack mounting rails, pull the **Release** latch located on the front of the rail.

Figure 4 Installing the Rack Mounting Rails (Square Holes)—Right Side Rail view

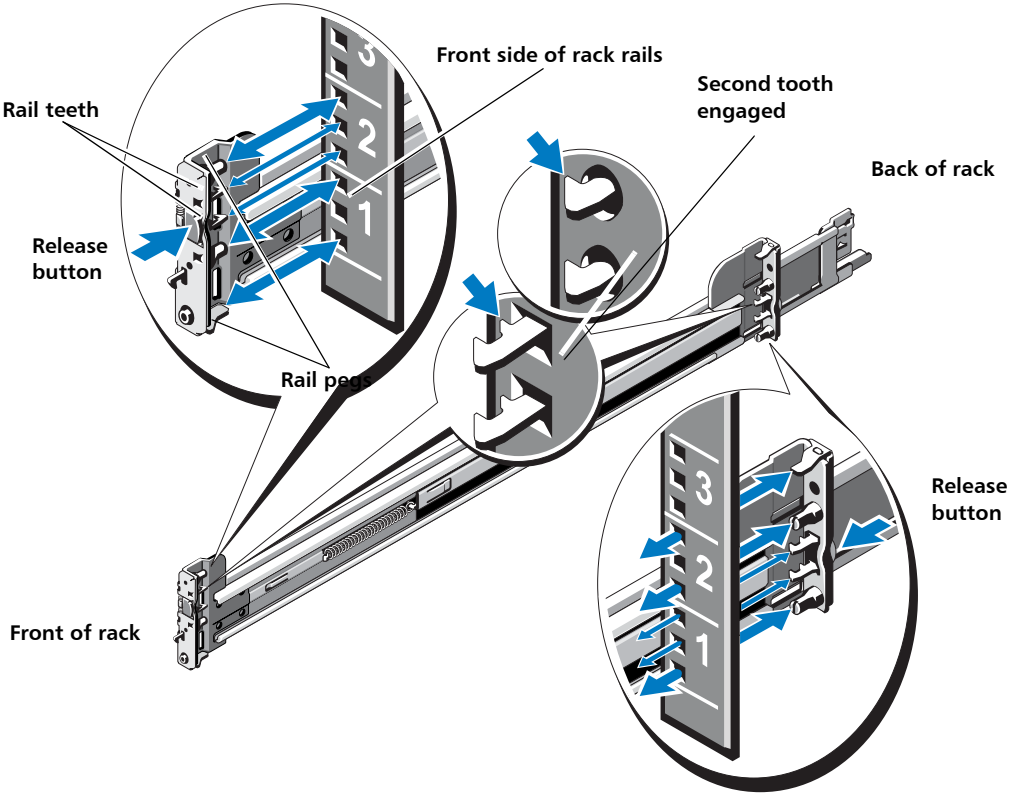
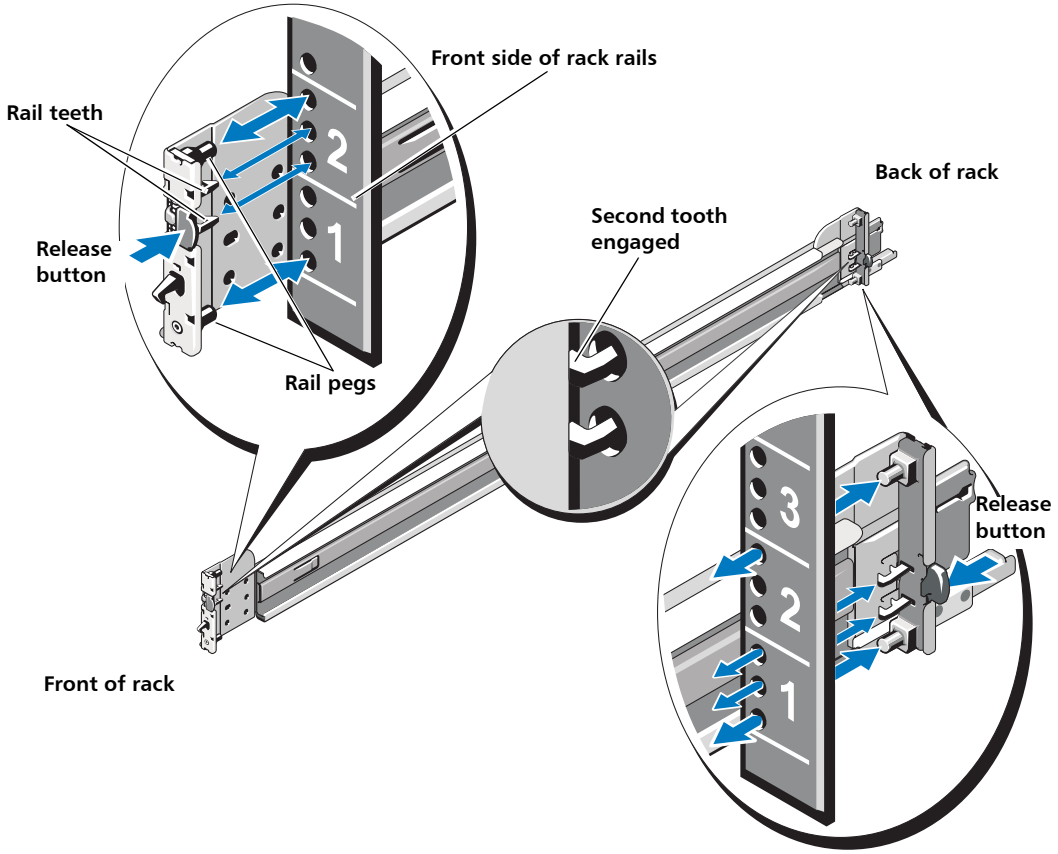


Figure 5 Installing the Rack Mounting Rails (Round Holes)—Right Side Rail view



2 Place the Scalar LTFS Appliance on a level surface and align the four keyhole slots on the chassis rails with the corresponding pins on the system. Slide the chassis rails towards the back of the system until each one locks into place (see Figure 6 on page 25).

WARNING: The Scalar LTFS Appliance weighs 37 lbs (16.78 Kg). Two people are required to lift the chassis.

Note: To disengage the chassis rails, pull the latch and push the rails toward the front of the chassis.

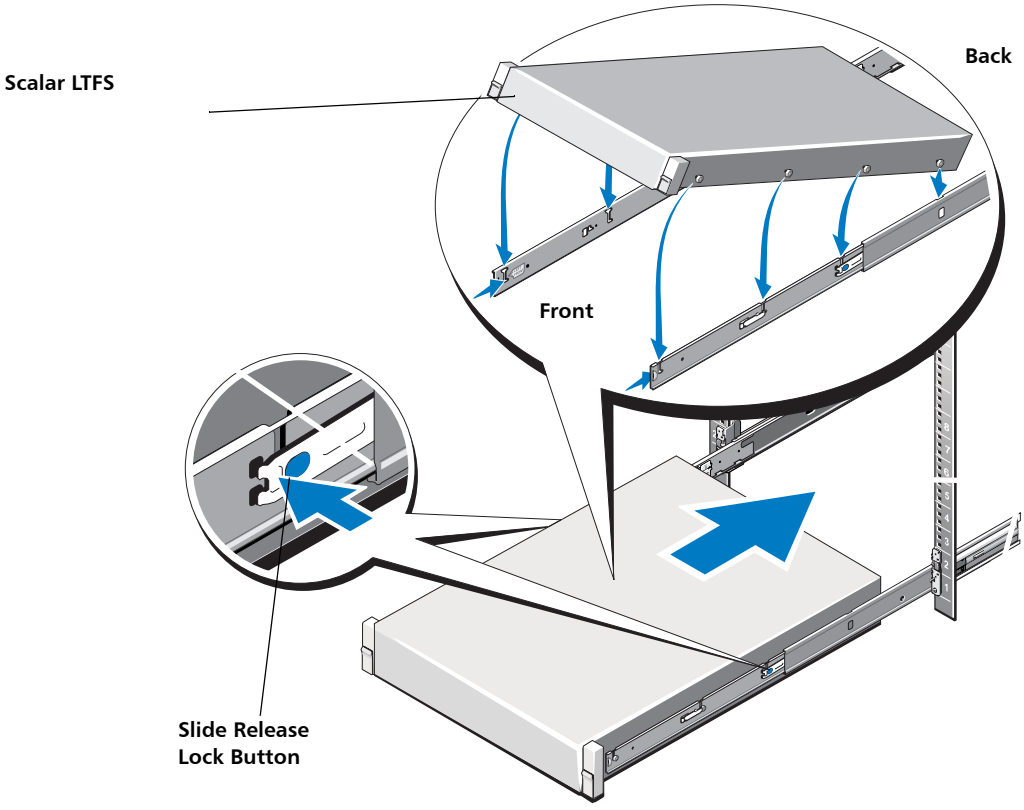
Installing the Scalar LTFS Appliance Chassis

WARNING: Ensure that the system is properly supported until the chassis rails are locked into the slide rails on both sides.

Follow the steps below to install the chassis (see Figure 6 on page 25):

WARNING: The Scalar LTFS Appliance weighs 37 lbs (16.78 Kg). Two people are required to lift the chassis.

Figure 6 Installing the Scalar LTFS Appliance Chassis



1. Pull the inner slide rails out of the rack until they lock into place.
2. Locate the rear rail standoff on each side of the system and lower them into the rear J-slots on the slide assemblies.Align and insert the ends of the chassis rails into the ends of the slide rails. Push the system inward until the chassis rails lock into place.
3. Rotate the system downward until all of the rail standoffs are seated in the J-slots.Push or pull the blue tab located near the front of the system and slide the system into the rack
4. Push the system inward until the lock levers click into place.

5 Press the slide-release lock buttons on both rails and slide the system into the rack.

You are ready to cable your appliance. Refer to Chapter 5, Cabling the Appliance.

Chapter 4
Configuration Prerequisites

Prior to cabling and configuring your Scalar LTFS Appliance, ensure you have performed the following procedures, including:

Obtaining Your License Key

License Authorization Keys are purchased along with the system. Your first two drives are licensed and activated at the factory. If you purchased additional license keys, certificates for those drives are included in your shipment.

Prior to configuring your appliance, document the Scalar LTFS Appliance serial number from the back of the appliance as well as the Dell serial number. When you configure your system for the first time (as described in Chapter 6, Configuring Scalar LTFS using the Setup Wizard), you will enter this license key into the Setup Wizard to activate your purchase.

Copy and paste this number for reference and save to a safe location on your computer.

Additional license keys can be purchased in the following increments:

- 1 drive
- 2 drives
- 4 drives

Setting Up your Library

Prior to cabling and configuring the appliance, prepare your library to allow Scalar LTFS Appliance access.

Caution: Minimum drive codes are required for proper functioning of the LTO-5 and LTO-6 drives. See the Scalar LTFS Release Notes for details.

Note: For instructions on library operations, refer to your library's User's Guide.

These preparation tasks include:

- Configuring Library Partitions on page 28
- Control Path on page 29
- Setting Drive Topology on page 29
- Setting Fibre Channel Switch Drive Visibility on page 30

Configuring Library Partitions

Note: Prior to installing the Scalar LTFS Appliance, configure your library partitions as described in your library's User's Guide.

Note: Ensure that all requirements of the Service and Support on page 13 have been completed prior to installation.

The partitions used for the Scalar LTFS Appliance need to be dedicated to the appliance and not be used by other hosts/applications. In your library, do the following:

1 Create partitions exclusively for use by the Scalar LTFS Appliance.

Note: Scalar i40 /i80, Scalar i500 and Scalar i6000 support creating partitions for exclusive use.

2 Request a System Information report from your library containing system information including partition names and logical serial numbers.

3 Using these logical serial numbers, identify the partitions you want to attach in the appliance.

Control Path

Verify a control path drive is configured in the library partition. For more details, refer to your library's user's guide.

Inserting Media

Load and import the LTO-5 or LTO-6 media into your library's dedicated Scalar LTFS partition.

Setting Drive Topology

On your library, ensure that drive topology is set using the following guidelines:

- If a Fibre Channel switch or I/O Blade is used, any drives that are control path or failover drives need to have their topology configured as Point to Point.
- Fibre Channel drives with a direct connection, or connected via a switch but not used as control path or failover drives, can have their topology set to any of the available options.

Setting Fibre Channel Switch Drive Visibility

If you are using a Fibre Channel switch configure the zoning of the library partition so it is visible from the Scalar LTFS Appliance.

You are now ready to cable your library and Scalar LTFS Appliance. Go to Chapter 5, Cabling the Appliance.

Chapter 5
Cabling the Appliance

This chapter describes how to connect cables to the library and appliance, including:

Note: Prior to beginning these procedures, ensure your library setup is complete. Refer to Chapter 4, Configuration Prerequisites.

Connecting the Power Supplies

Note: Two power cables are included with your shipment.

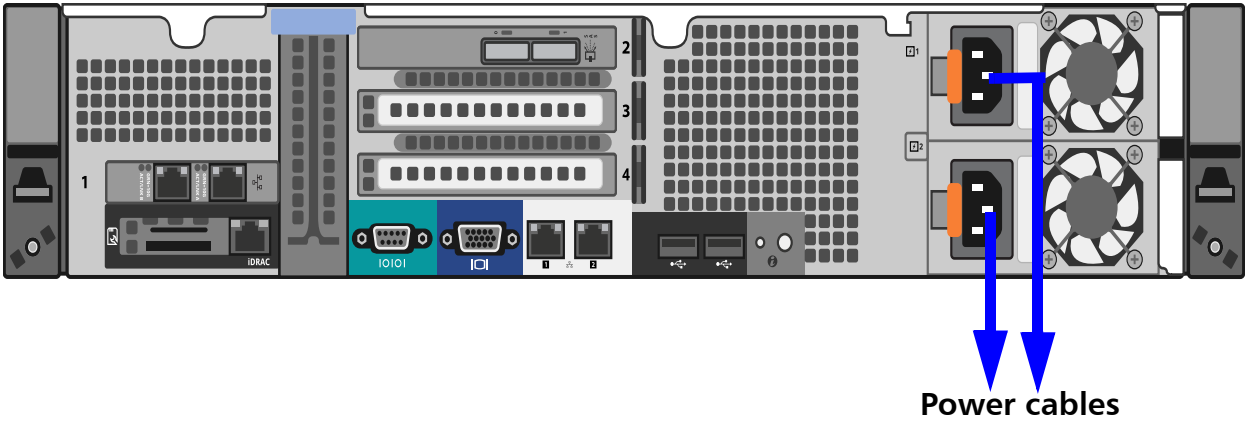
To connect power supplies in your Scalar LTFS Appliance (see Figure 7 on page 32):

1 Connect power cable to each power supply (two).

2 Connect the other end of each power cord to grounded AC outlets.

Note: It is recommended that you connect each power cord to a separate AC circuit to ensure system availability in case of a power failure.

Figure 7 Connecting to power



Cabling your Library

Depending on the number of tape drives you plan to use, and your Scalar LTFS Appliance's configuration you may choose to connect the appliance directly to your tape drives or connect via a Fibre Channel switch.

1 Connect cables to your library.

SAS Configuration

- Connect the SAS connector cable(s) from the appliance to the SAS connector on your library's tape drives.
- There are two SAS ports on the appliance - for each port you can connect to up to 4 tape drives on your library (using a Y cable or fan-out cable).

The number of library tape drives you are able to access **Fibre Channel Configuration**

- Use a Fibre Channel switch to connect the cables from your appliance to the library.

Note: Ensure that the Fibre Channel switch or SAN allows the Scalar LTFS Appliance to discover the library partition. Refer to Setting Drive Topology on page 29 or your library documentation regarding the Fibre Channel drive topology settings.

---

2 Ensure library is powered on.

Disabling Laptop Network Connections

To prevent any IP address conflicts, temporarily disable all external network connections by removing wired connections and disabling wireless connections on your laptop until after the Setup Wizard is completed.

Connecting Cables to Appliance

To aid cabling your Scalar LTFS appliance, Figure 8, Figure 9, Figure 10, and Figure 11 display the four (4) different appliance types and the location of the SAS or Fibre Channel ports as well as Ethernet ports:

Figure 8 SLTFS 1 GbE SAS

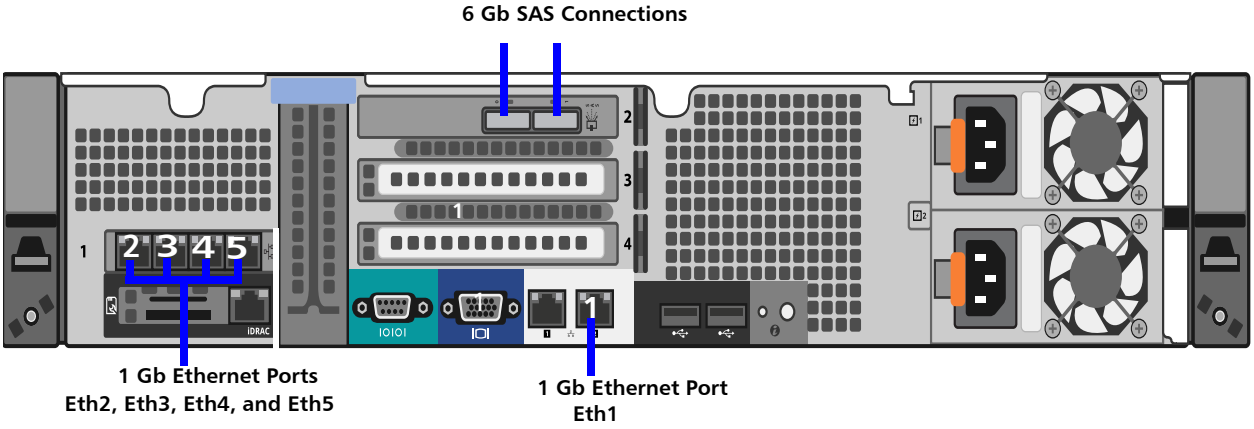


Figure 9 SLTFS 10 GbE SAS

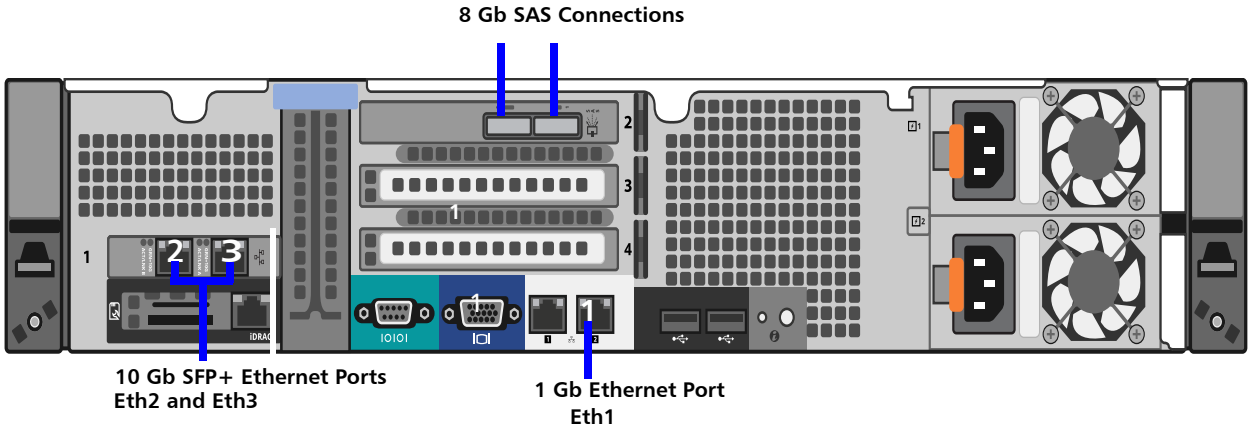


Figure 10 SLTFS 1 GbE FC

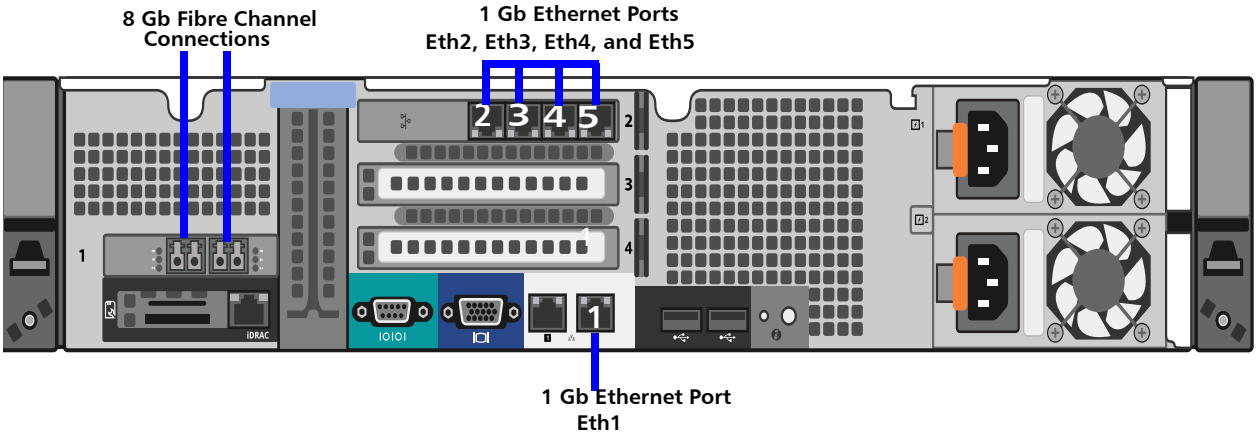
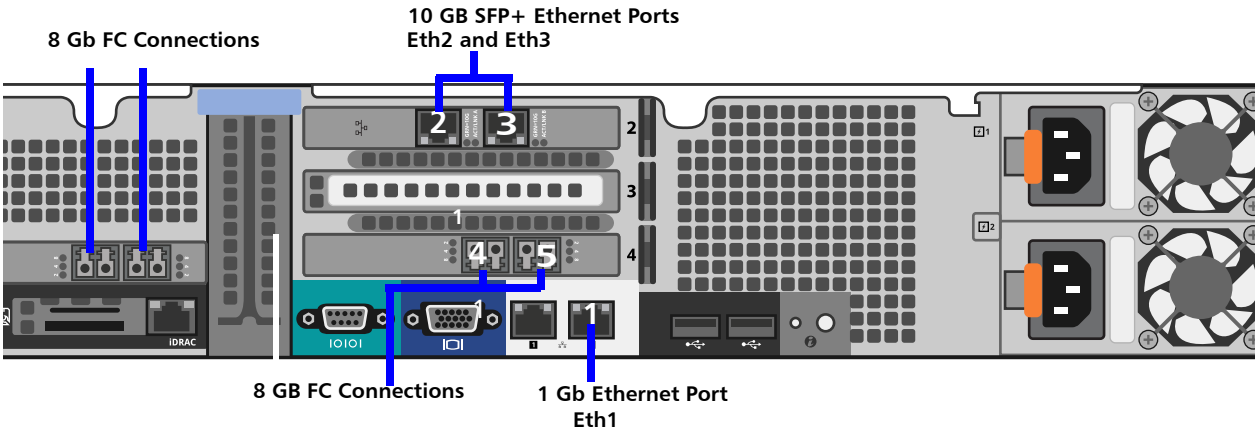


Figure 11 SLTFS 10 GbE FC



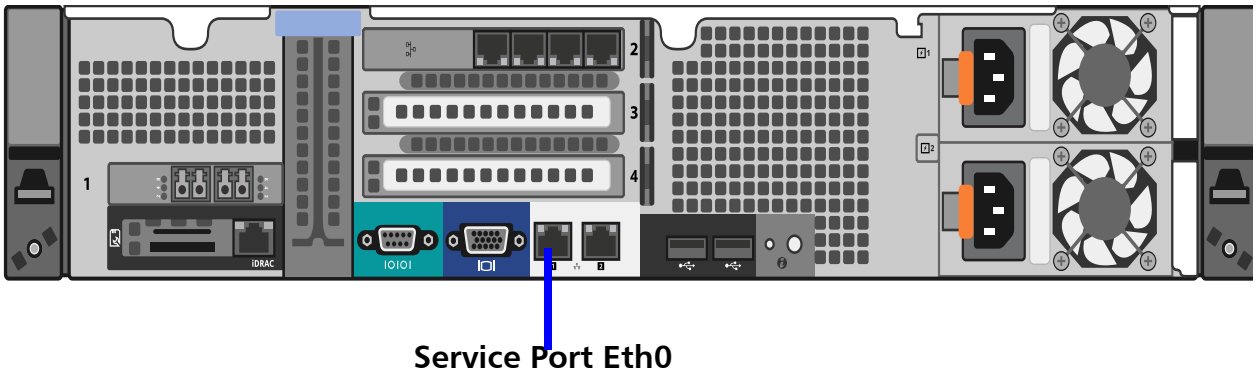
1 Ensure the appliance is powered off.

2 Attach Fibre Channel or SAS connector cables to the appliance.

- SAS - Figure 8 and Figure 9
- Fibre Channel - Figure 10 and Figure 11

3 Use an Ethernet cable to connect your laptop to the Ethernet service port (Eth0) located on the back of the Scalar LTFS Appliance, as shown in Figure 12.

Figure 12 Ethernet Service Port



Note: As shown above, the Ethernet port 0 (Eth0) is next to the customer Ethernet port 1 (Eth1) as you face the back of the system.

4 Attach all required Ethernet cables to the Scalar LTFS Appliance.

WARNING: Ensure that you do not connect the Service Port (Eth0) to your network. Doing so may cause accessibility issues with your network.

Caution: If using a DNS server, ensure that the Scalar LTFS Appliance has access to the DNS server. Failure to connect to a configured DNS server can prevent the GUI from attaching to the Scalar LTFS Appliance.

5 Power on the Scalar LTFS Appliance.

Caution: Ensure your library is powered on *before* powering on the Scalar LTFS Appliance.

6 Run the Scalar LTFS Appliance Setup Wizard.

Sample Configurations

Here are example diagrams of the two type of configurations for the Scalar LTFS Appliance:

Figure 13 Sample Direct Connect Configuration

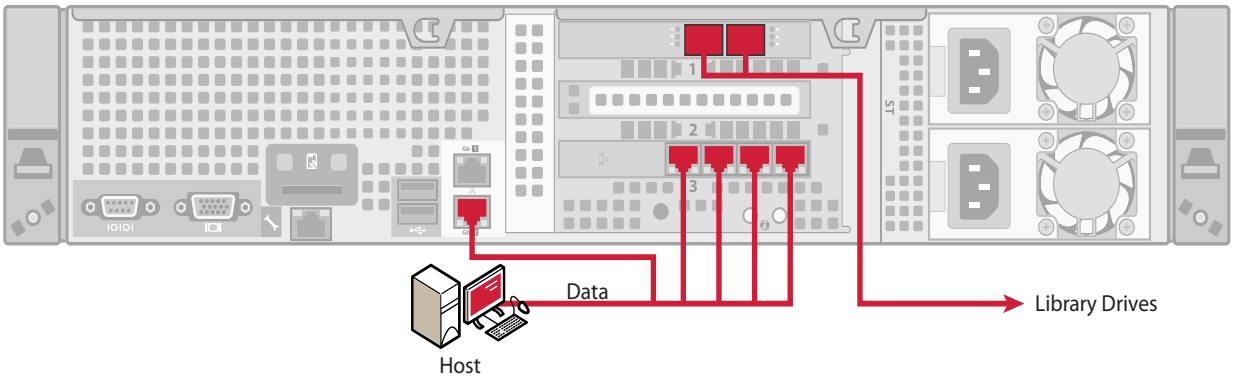
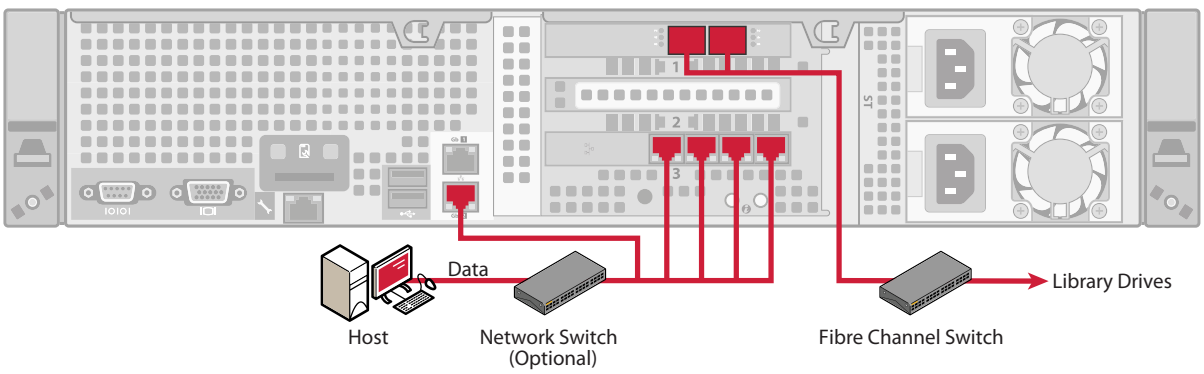


Figure 14 Sample Switch Connect Configuration



Chapter 6
Configuring Scalar LTFS using the Setup Wizard

Note: You can opt to cancel out of the Setup Wizard and configure your appliance manually. From the GUI navigation panel, perform the tasks listed below. For additional instructions, refer to the *Quantum Scalar LTFS Appliance User's Guide.*

Note: Before the Scalar LTFS Appliance is operational, you must obtain your license key (see Obtaining Your License Key on page 27). The Setup Wizard requires a license key.

Note: Prior to installation, you must have the Adobe Flash plugin, version 10 or higher, installed. Go go www.Adobe.com to download the plugin.

Once your appliance is connected via the service port as defined below in Accessing Scalar LTFS Appliance Remote Management Console via Service Port on page 40, the Setup Wizard walks you through the following windows:

- System Configuration on page 43
- License Configuration on page 48
- Date and Time Configuration on page 50

- Network Configuration on page 52
- User Configuration on page 54
- Partition Configuration on page 56

After completing the Setup Wizard, complete the following tasks, including:

- Saving the Configuration on page 63
- Registering the Appliance on page 65

Accessing Scalar LTFS Appliance Remote Management Console via Service Port

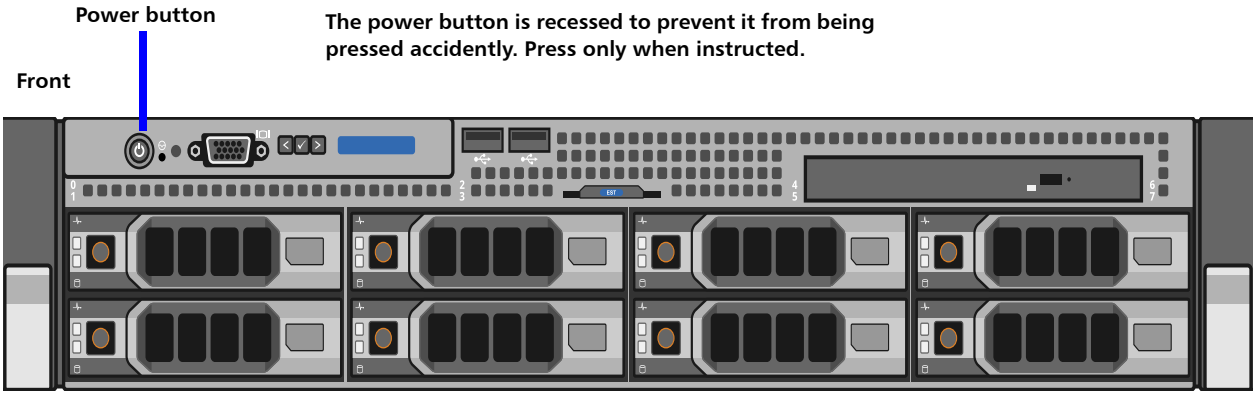
To access the Scalar LTFS Appliance GUI via the service port:

Note: Ensure you have connected an Ethernet cable to your laptop and to the Ethernet service port (Eth0) on the back of the Scalar LTFS Appliance, as instructed in Step 3 of Connecting Cables to Appliance on page 34.

1 Power on the Scalar LTFS Appliance by pressing the power button located on the front of the chassis (see Figure 15 on page 41).

Note: Wait 15 minutes for the system to boot up before continuing with the procedure.

Figure 15 Power Buttons



2 Open a Web browser on your laptop and type the following IP address: `10.17.21.1.` The GUI Login window displays.

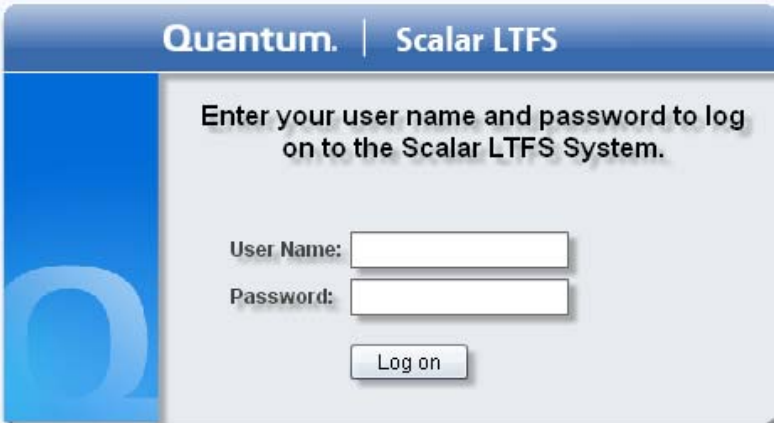
You are connected through the service port to the GUI.

Note: If you encounter a window indicating that the site's security certificate is not trusted, click the button to proceed and the **Login** screen displays.

Note: Ensure your host machine is configured to automatically retrieve an IP address through DHCP. This will allow the service port to work correctly.

Note: If the Scalar LTFS GUI displays an error message when first launching the Web browser, refresh after one minute and continue to do so until the error message is no longer present. This can happen when attempting to use the Scalar LTFS GUI before the system is completely initialized.

Figure 16 GUI Login Window



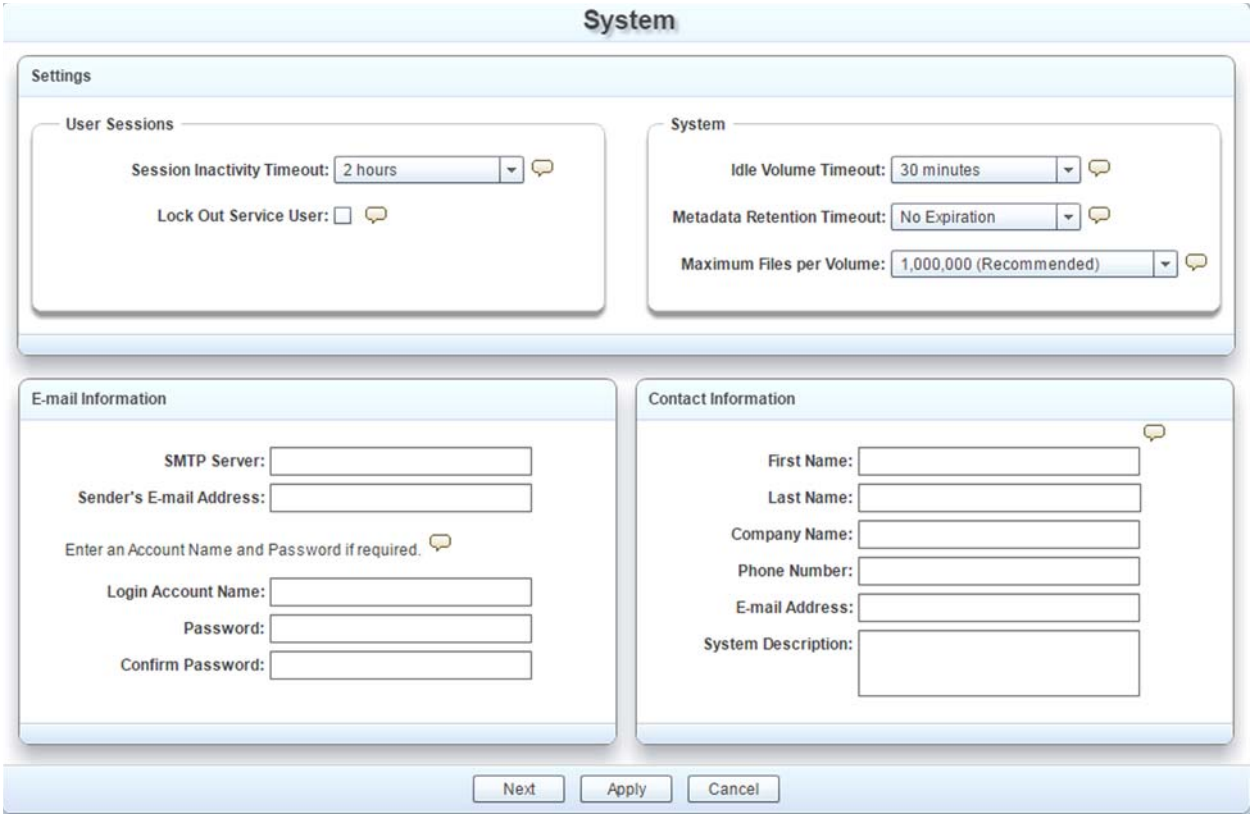
3 Type the **User Name** `admin` and **Password** `password` and click **Log on**. The Setup Wizard commences and the first window displays.

4 Click **Next.** The System Configuration window displays. See System Configuration on page 43.

System Configuration

Configure your system settings to set session time-out, idle volume time out, network sharing, and e-mail accounts for system mail.

Figure 17 Setup Wizard System Window



Setting the Session Inactivity Time-out

You can set your desired session inactivity time-out from 15 to 480 minutes. The default session time-out is 120 minutes. Once set, the currently logged in session automatically logs out after the specified period of inactivity.

1. In the **Session Inactivity Time-out** field, select the number of minutes or use the up and down buttons to increase or decrease the number of minutes.
2. Select the **Lock Out Service User** check box if you want to prevent the service user account from logging into the system.

Setting the Idle Volume Time-out

You can set your desired time an idle volume will remain loaded in a drive before it is automatically ejected. The default is 300 seconds.

1 In the **Idle Volume Timeout** field, select the number of minutes or use the up and down buttons to increase or decrease the number of minutes.

Setting the Metadata Retention Time-out

You can set how long you want to keep volume and media metadata. The default is No Expiration.

1 In the **Metadata Retention Timeout** field, select the length of time you want to retain volume and media metadata. Value range from 1 week to 1 year.

Configuring E-Mail

The Scalar LTFS Appliance uses the system e-mail account whenever the system's e-mail services are used, such as when the system automatically sends e-mail notifications about system issues. Before configuring the e-mail account, ask your network administrator for the IP address, valid login account (optional), and valid password (optional) of your SMTP server. E-mail account settings are not case-sensitive.

Note: You may use a host name for the SMTP server instead of an IP address only if the system is set up to use Domain Name System (DNS) servers.

Once an e-mail account is configured, the recipient receives e-mail generated by the appliance, including snapshots and diagnostic ticket notifications.

To receive notifications from Scalar LTFS Appliance, indicate the desired server and recipient using the System Configuration window. The system uses this server to send e-mail.

1 Type the following information:

SMTP Server	Type the IP address or host name of the SMTP server.
Sender's E-mail Address	Type the e-mail address that sends system e-mail notifications, for example, *mysltfs@companyname.com*.

Login Account Name	If needed for verification, type the name of a valid account on the SMTP server.
Password	Type the password for the account that you specified in the **Login Account Name** text box.
Confirm Password	Confirm the password.

Contact Information

The contact information must be completed to register the appliance.

1. Type the contact information for the appliance, including:
   - **First Name**
   - **Last Name**
   - **Company Name**
   - **Phone Number**
   - **E-Mail Address**
   - **System Description**.
2. Click **Apply**.
3. Click **Next**. The **Receivers** window displays.

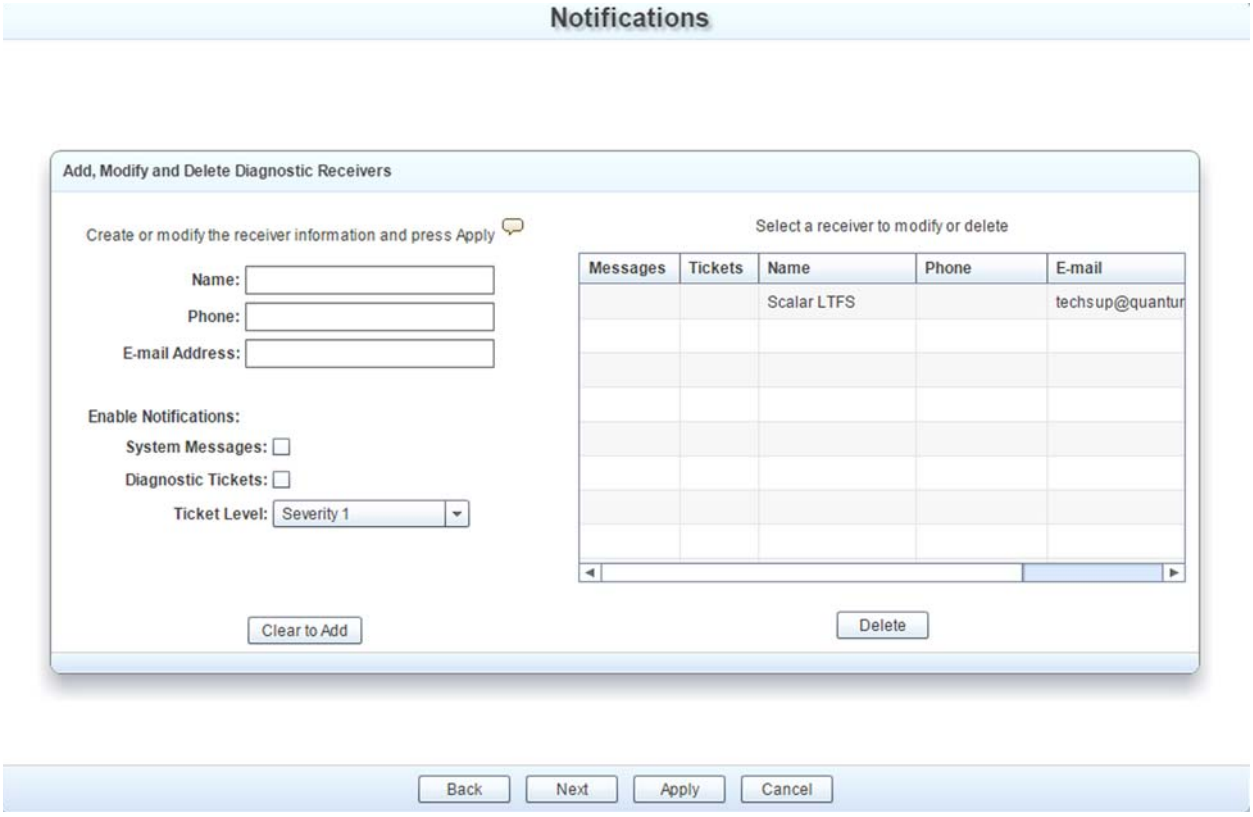
Adding Notifications

Add e-mail addresses for recipients who should receive system notifications for diagnostic tickets generated by the system, and specify the type of tickets received based on urgency level.

Note: Receivers are designated by e-mail address not name. When adding receivers, you must use a unique e-mail address. If you enter an e-mail address already listed, any new settings will update the current receiver, not create a new receiver.

Note: Set the **Notification Level** drop-down menu to *Low* to receive all system notifications.

Figure 18 Setup Wizard Notifications Window



Adding a Receiver

1 For the person you are about to add, do the following:

- To enable an e-mail address to receive system notifications immediately as they are generated, select the **Send Notifications** check box. The check box displays a check mark and changes to **Enabled**.

- To disable this e-mail address from receiving system notifications immediately, do not select the **Send Notifications** check box at this time.

Note: You may at any time use this window to enable an e-mail address to receive system notifications. Refer to License Configuration on page 48.

2 In the **Name** field, type the name that should appear in the e-mail subject line, for example `Scalar LTFS`.

3 From the **Notification Level** drop down menu, choose the urgency of the notification:

If you choose:	You receive:
High	High priority tickets
Medium	High and medium priority tickets
Low	All priority tickets—high, medium, and low.

4 In the **E-Mail Address** field, type the recipient's e-mail address.

5 Click **Apply**.

The receiver's information appears in the table on the right.

6 To add another receiver, click **Clear to add**, and then return to step 1. Otherwise, click **Next**.

The **License Configuration** window displays. See License Configuration on page 48.

License Configuration

If you have not yet obtained your license key, see Obtaining Your License Key on page 27.

Figure 19 Setup Wizard
Licenses Window

1 In the **Enter New License Key** field, type the license key.

2 Click **Apply**.

3 **Click Next.**

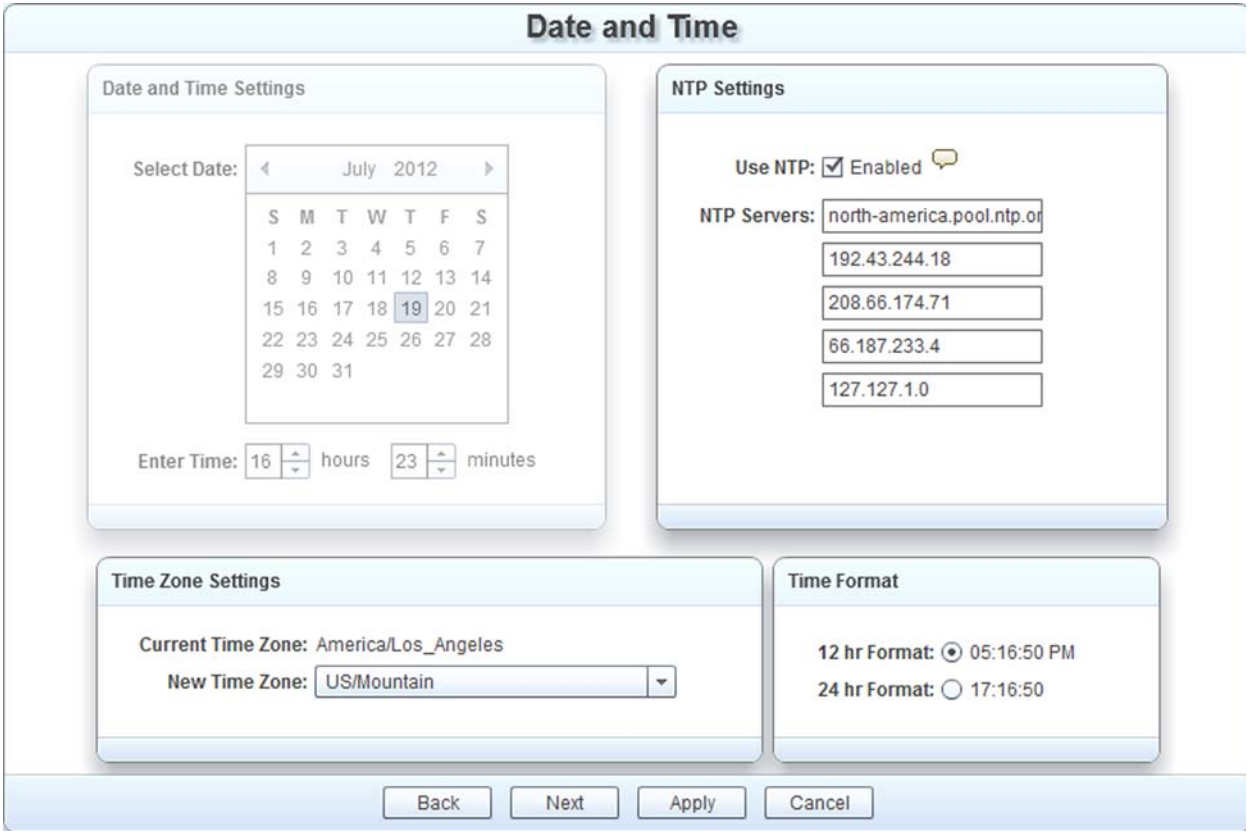
The Date and Time Configuration window displays. See Date and Time Configuration on page 50.

Note: If you have more than one license key, you will need to enter each one separately.

Date and Time Configuration

The Scalar LTFS Appliance supports user-defined and NTP date and time settings.

Figure 20 Setup Wizard Date and Time Window



NTP Settings

1 If available, using NTP is recommended. The **Use NTP** check box is already selected and NTP is enabled by default. If NTP is not

available, you'll have to deselect the **Use NTP** check box to disable NTP.

The **Use NTP** label displays **Enabled**. Five NTP address fields are enabled and the date and time settings (on the left) are grayed out.

Note: To enter date and time manually, refer to Manually Entering Date and Time Settings on page 51.

2 The system checks for a valid server from the top entry down until one is found.

Five NTP address fields are enabled. The default IP addresses listed for the NTP servers should be valid.

3 As needed, you can change the NTP address if the appliance does not have Internet access or if you have an NTP server in-house.

4 In the **Time Zone Settings** section, review selection to ensure correct. As needed, select correct time zone from drop down menu.

Search Tip: To find your time zone setting, in the **New Time Zone** field, you can type the first letter for the region, for example type **u** for USA. You are taken to the area of the menu that displays the first time zone starting with that letter. Use the scroll bar to find the correct time zone.

5 In the **Time Format** section, select the time display format—**12 hr Format** or **24 hr Format**.

6 Click **Apply**.

7 Click **Next.**

The Network Configuration window displays. See User Configuration on page 54.

Manually Entering Date and Time Settings

1 From the **Select Date** calendar, select today's date.

2 In the **Enter Time** field, use the up/down arrows to select the time in 24 hour notation, for example 3:00 p.m. is 15 00.

3 In the **Time Zone Settings** section, review selection to ensure correct. As needed, select correct time zone from drop down menu.

4 Click **Apply**.

5 Click **Next.**

The **Network Configuration** window displays. See Network Configuration on page 52.

Network Configuration

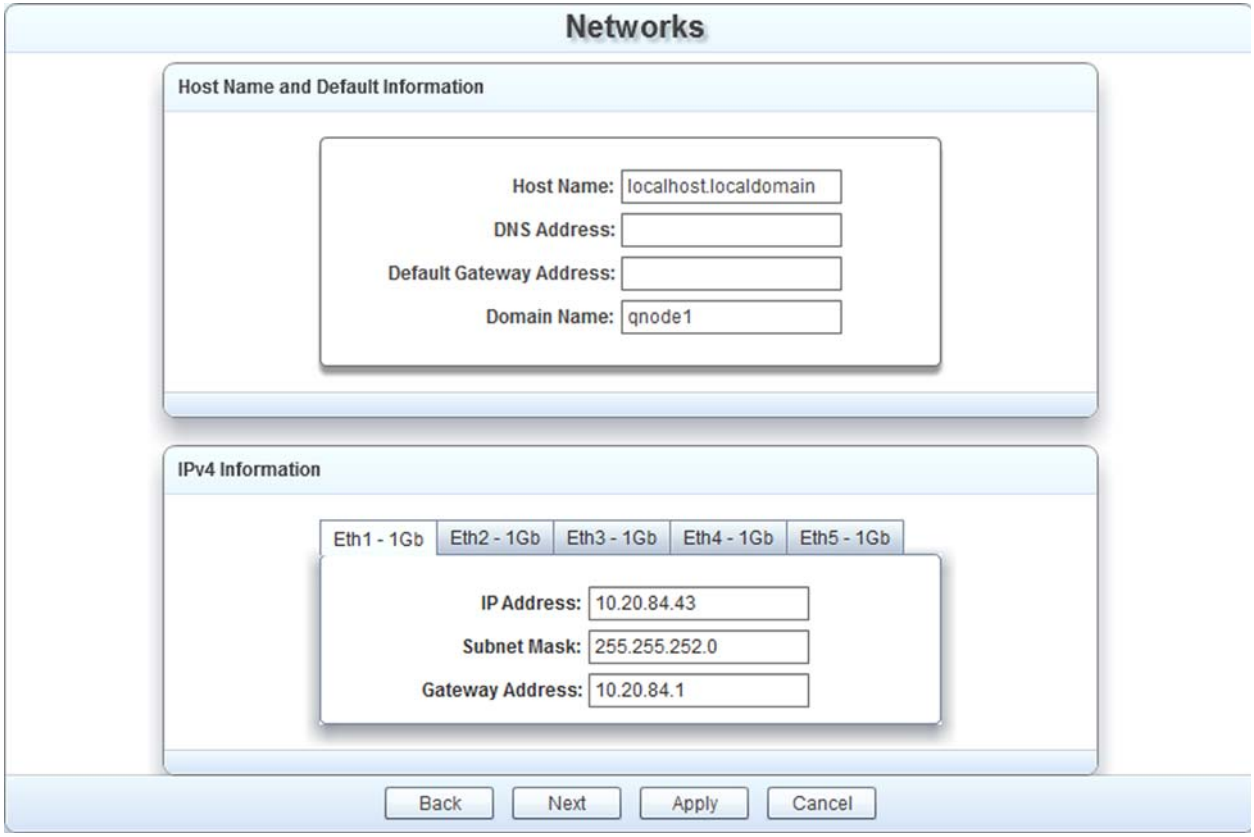
Note: Your network administrator should provide you with the IP address information. The Scalar LTFS Appliance does not support DHCP.

Caution: Make sure you enter the correct IP address information and that you write this information down. If you enter the incorrect IP address information and reboot, you will not be able to access the system.

Ethernet Configuration Tips

- You need only one ETH connection to configure the network.
- The IP address for each Ethernet port *must* be unique. It is recommended that the Subnet also be unique to get the best performance. The Subnet and gateway address entered for the first Ethernet port is copied over to subsequent Ethernet port fields. Change as appropriate.
- For 10 Gb configurations, you'll see 2 additional ports (3 total) in the **IPv4 Information** area.
- For 1 Gb configurations, you will see 4 additional ports (5 total) in the **IPv4 Information** area.

Figure 21 Setup Wizard Network Configuration Window



If you want to use DNS, enter the following information in the **Host Name and Default Information** section of the window:

Note: If you will not be using DNS, leave the **Host Name** and **Domain Name** text boxes populated with their default values. Do not leave these text boxes blank.

1. Type the **Host Name** used to identify the Scalar LTFS system.
2. Type the **DNS Address** and the **Default Gateway Address** you want to use to join the Scalar LTFS to your network.

3 In the **IPV4 Information** portion of screen in **Eth1, Eth2, Eth3, Eth4**, and **Eth5** tabs, type your static IP, Subnet and Gateway address information for Eth1 through Eth5 as cabled.

Caution: For best performance, it is recommended that each Ethernet port use a different Subnet.

4 Click **Apply**.

The network restarts. Once restarted, the User Configuration window displays. See User Configuration on page 54.

5 Click **Next**.

Note: Since the network restarts after clicking **Apply**, it is recommended that users complete all changes/additions to the network tabs before clicking **Apply**.

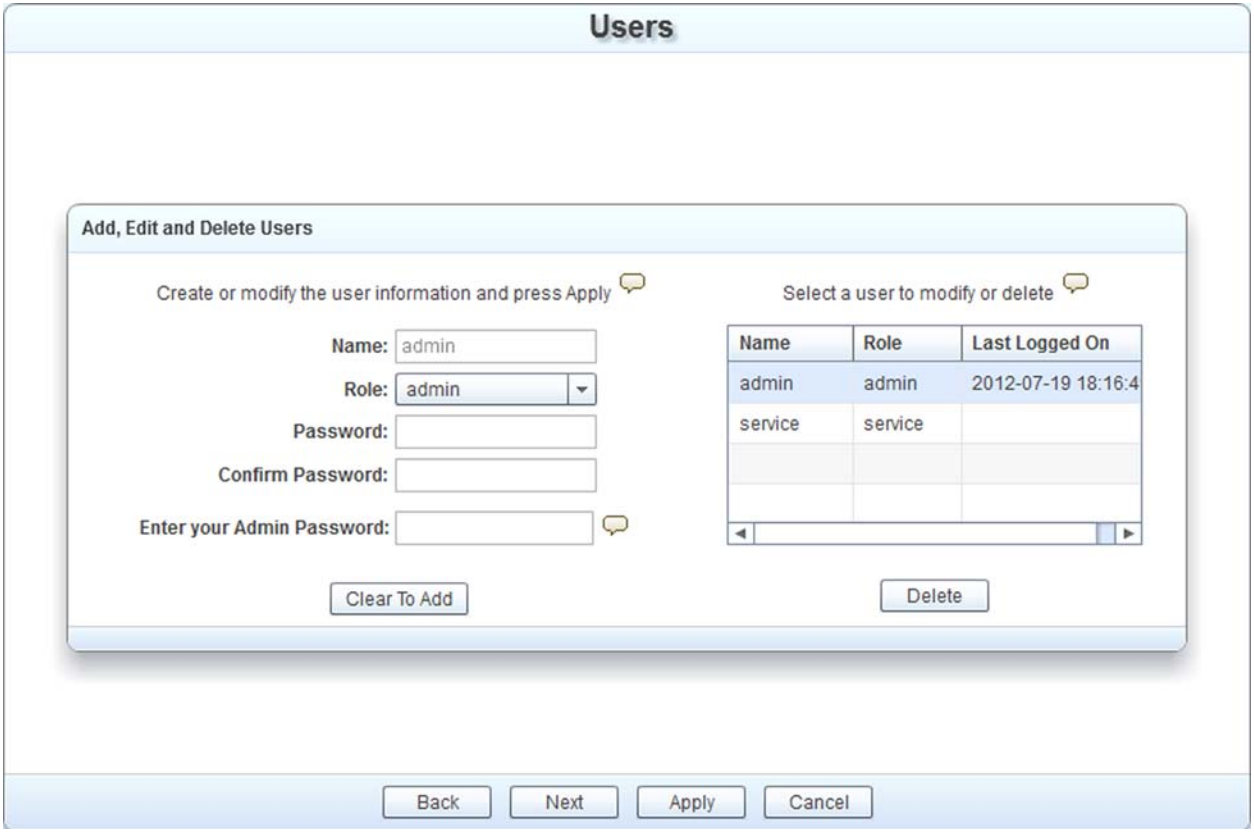
User Configuration

By default, the Scalar LTFS Appliance comes configured with the following user accounts:

- One default **Administrator** account. You cannot disable this user account, but you can change the password.
- One **Service** account. You cannot modify this account, although an administrator can lock out the service account if necessary.

Based on the role—administrator or user—you have certain permission levels in the GUI appliance. Refer to Appendix A, User Roles for a detailed list of permissions.

Figure 22 Setup Wizard User Configuration Window



Adding a User

1 Click **Clear to Add**. This makes sure that all the fields are cleared of any previous data.

2 In the **User Information** fields, type the following:

Name	Type the user's name. **Note:** Only a single administrator with the admin name is allowed but multiple users can be created that have the admin role.

Role	From the drop down menu, select the desired role of **admin** or **user**. **Best Practice**: Use personalized account user IDs if you want to track *who* made system changes.
Password	Type the password. Passwords must be at least 6 characters in length and cannot contain the following characters: • _ @ . - * \ **Note:** The Name and Password cannot be same.
Confirm Password	Retype the password.
Enter your admin password	When changing your password, you are required to type your current password.

3 Click **Apply**.

The added user is displayed in the existing users table on the right side of the window.

4 Repeat step 1 thru 3 to add each additional user.

5 Click **Next**.

The Partition Policies window displays. See Partition Configuration on page 56.

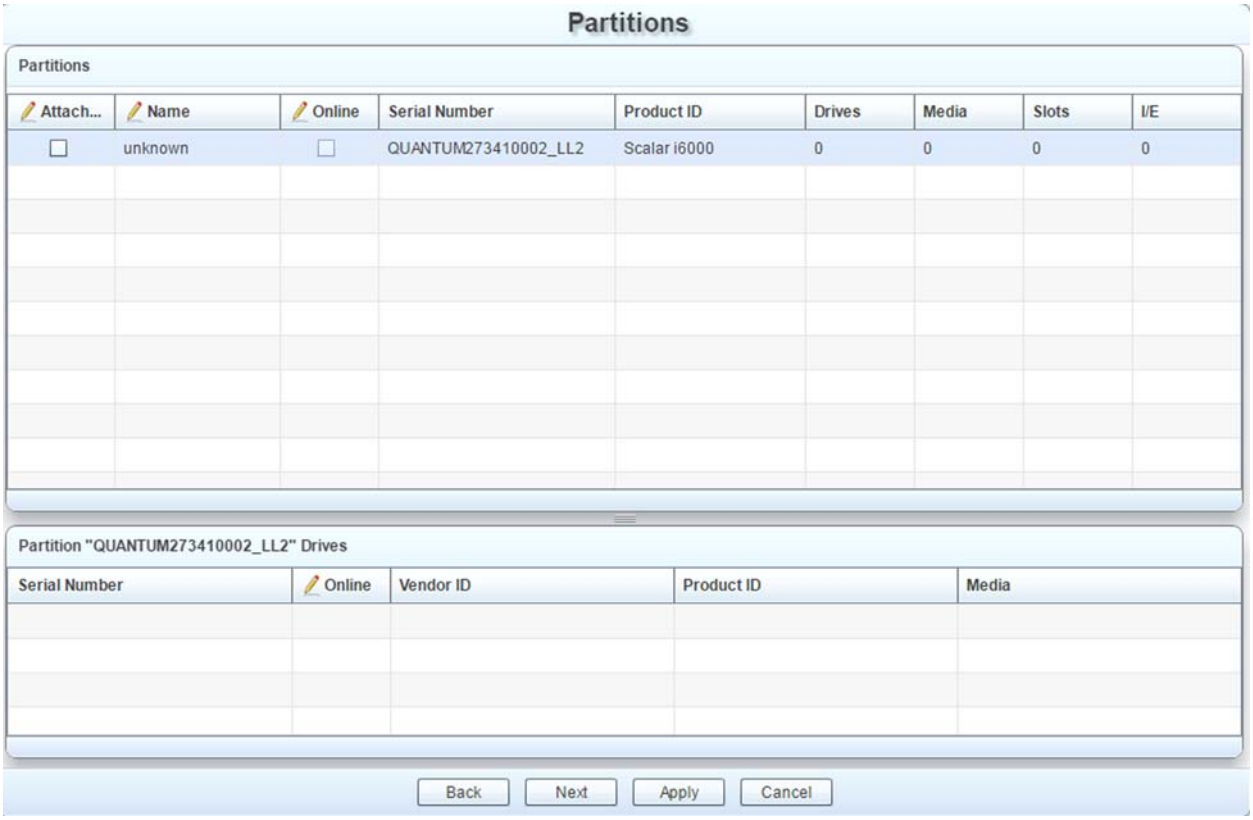
Partition Configuration

Before you work with partitions on the Scalar LTFS Appliance, ensure you have configured library partitions, generated a list of partition names and logical serial numbers from your library and using this list, identified the partitions that you want to attach to the appliance. Refer to Configuring Library Partitions on page 28.

Note: In order to access the Scalar LTFS file system, the designated library partition must be attached and online.

Note: It may take sometime for partitions to populate. If the partitions do not display after a time, click the **Refresh** button. If the partitions still do not display, ensure that the cabling is correct.

Figure 23 Setup Wizard Partitions Window



The Partitions table, as shown in Figure 23 displays all partitions that have been physically attached via Fibre Channel, I/O blade, or SAS and exposed to the Scalar LTFS Appliance host.

Note: Columns marked with the icon are editable.

Table 9 on page 58 and Table 10 on page 59 define the data listed in each field on the **Partitions** window.

Table 9 Partitions Table Descriptions

Partitions Table Column	Description
Attached	Check box to attach the partition. Uncheck the box to detach the partition.
Name	Type the name of the partition. Quantum recommends that you name the partition with the same name as identified in the tape library. The following characters are supported: • 0-9 • a-z • A-Z • @();:,._-
Online	Check box to bring partition online. If unchecked, partition is offline. If offline, clients cannot access volumes in the partition.
Serial Number	The tape library identifier from the from library medium changer. This logical serial number is a combination of the library serial number and a Logical Library letter (for example, LLA, LLB, LLC).
Product ID	The product name of your library.
Drives	The number of drives within the partition.
Media	The number of media within the partition.
Slots	The number of storage slots in the partition.
I/E	The number of I/E slots in the partition.

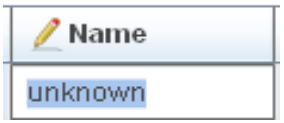
Table 10 Partitions Drives Table Descriptions

Partition Drives Table Column	Description
Serial Number	Drive serial number. **Note:** If logical serial number addressing is enabled, this will be the logical drive serial number. If not, it is the drive's physical serial number.
Online/Offline	Check the box to bring a drive online. Uncheck the box to take a drive offline. **Note:** Taking a solitary drive offline makes it unavailable for file system activity.
Vendor ID	ID of the drive vendor.
Product ID	Product name of the tape drive.
Media	If loaded, identifies the media.

Follow the steps below to configure partitions:

Attach the desired partitions by row by clicking the **Attached** check box. A check mark displays.

6 Rename the partition using the same name as the library partition. In the **Name** column, click the current name to highlight it and type the new partition name. For example, if the library partition is named "Library A," change the partition's name in the GUI to "Library A" as well.



7 Click **Apply**.

8 Click **Apply**.

9 Click **Next**. The Volume Group Configuration window displays. See Volume Group Configuration on page 60.

Volume Group Configuration

A volume group is a collection of one or more media that is presented to end users and applications as a directory in the file system. Before using the Scalar LTFS Appliance, at least one volume group of media must be configured.

1 From the navigation panel, click **Configuration > Volume Group**. The **Volume Group** screen displays.

Figure 24 Volume Group Window

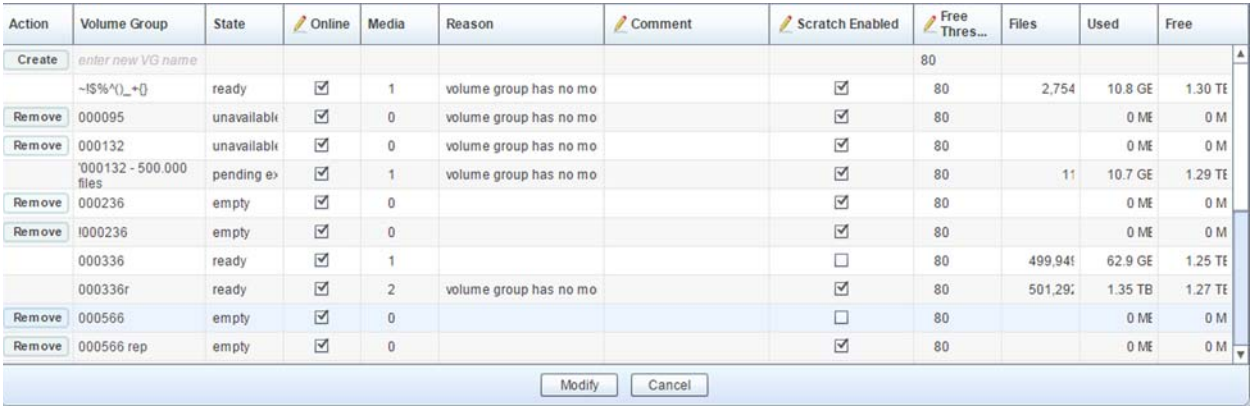


Table 11 on page 60 describes the data on the **Volume Group** window.

Table 11 Volume Group Configuration

Volume Group Table Column	Description
Action	Displays a button to either create or remove a volume group. The Create button only appears in the first row and the Remove button only appears in volume groups that have no media assigned.
Volume Group	Displays the name of the volume group.

Volume Group Table Column	Description
State	The current state of the media: **Auto-attachable** - indicates the media is available for auto-attaching to a volume group **Attached** - indicates the media is attached to a VG **Sequestered** - indicates the media is unavailable **Vaulted** - indicates the media is unavailable and is not physically in the library **Pending attach** - indicates the media is in the process of being attached **Pending format** - indicates the media is in the process of being formatted **Preparing for export** - indicates the media is being prepared for export **Ready for export** - indicates the media is ready for export **Pending export** - indicates the media is in the process of being exported **Repair in progress** - indicates the media is in the process of being repaired **Merging volume groups** - indicates the media is in the process of being merged **Verifying** - indicates the media is in the process of being verified **Busy reclaiming** - indicates the media is in the process of being reclaimed **Busy repairing** - indicates the media is in the process of being repaired **Operation in progress** - indicates the media is in the process of being replicated
Online	An editable field that indicates whether the volume group is online.
Media	Indicates the number of media assigned to the volume group.
Reason	Describes the state the volume group is in.
Comment	An editable field allowing administrators to add comments about the volume group.
Scratch Enabled	An editable field allowing administrators to set the volume group to automatically get blank media when necessary.
Free Threshold	An editable field allowing administrators to set a threshold percentage. An alert is generated when this threshold is exceeded.
Files	Indicates the number of files in a volume group.

Volume Group Table Column	Description
Used	Indicates the amount of physical space used in the volume group.
Free	Indicates the amount of physical space available in the volume group.

Create a Volume Group

Volume groups can be created manually or when your Scalar LTFS firmware is upgraded or initially installed (see *Scalar LTFS Installation and Planning Guide*). Any volume groups created during installation or upgrade will use the media barcode as the name. Changes to a volume group name can only be done through a file system interface, such as Explorer or muCommander - Quantum Edition.

2 At the top row of the table, click in the box in the **Volume Group** column next to the **Create** button in the **Action** column.

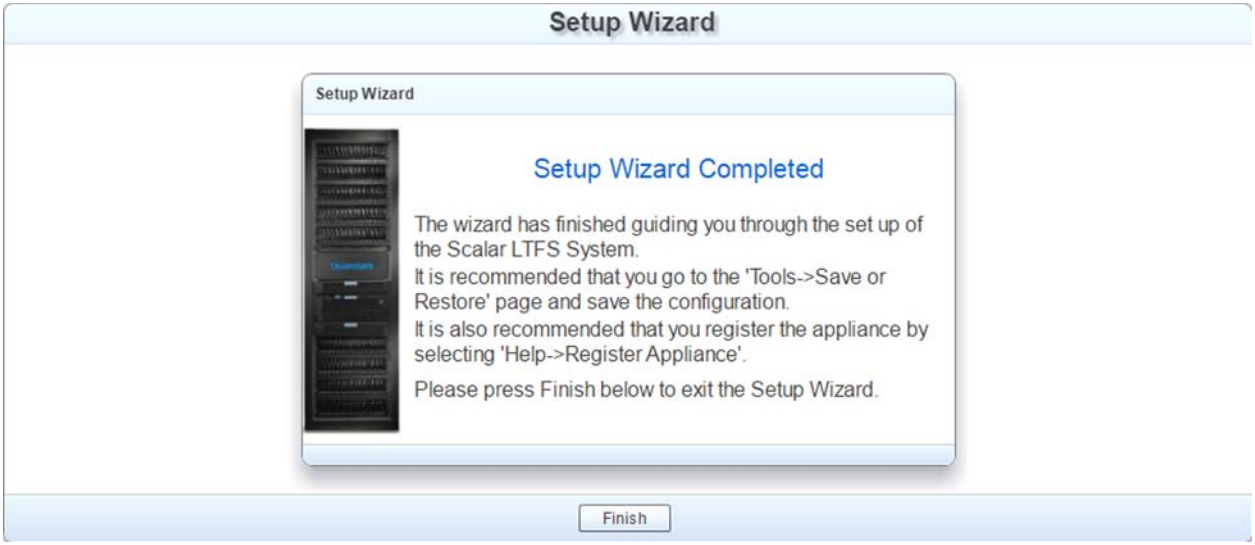
3 Type the name of the new volume group.

4 Click **Create**. The button changes to an **Add** button.

5 Click **Add**. A dialog displays indicating that your new volume group has been created.

Note: Once a volume group has been created, you must assign media or merge it with another volume group(s) to use it.

Click **Next**. The **Setup Wizard Complete** window displays.



6 Click **Finish** to exit the Setup Wizard. The Scalar LTFS Appliance initial configuration is complete.

7 Save your configuration. Go to Saving the Configuration on page 63.

Note: When the setup wizard is complete, a dialog box will display showing you Scalar LTFS Best Practices. It is recommended that you review these best practices to understand how the features and functionality of Scalar LTFS work. This information will help prevent unnecessary calls to Quantum Support.

Saving the Configuration

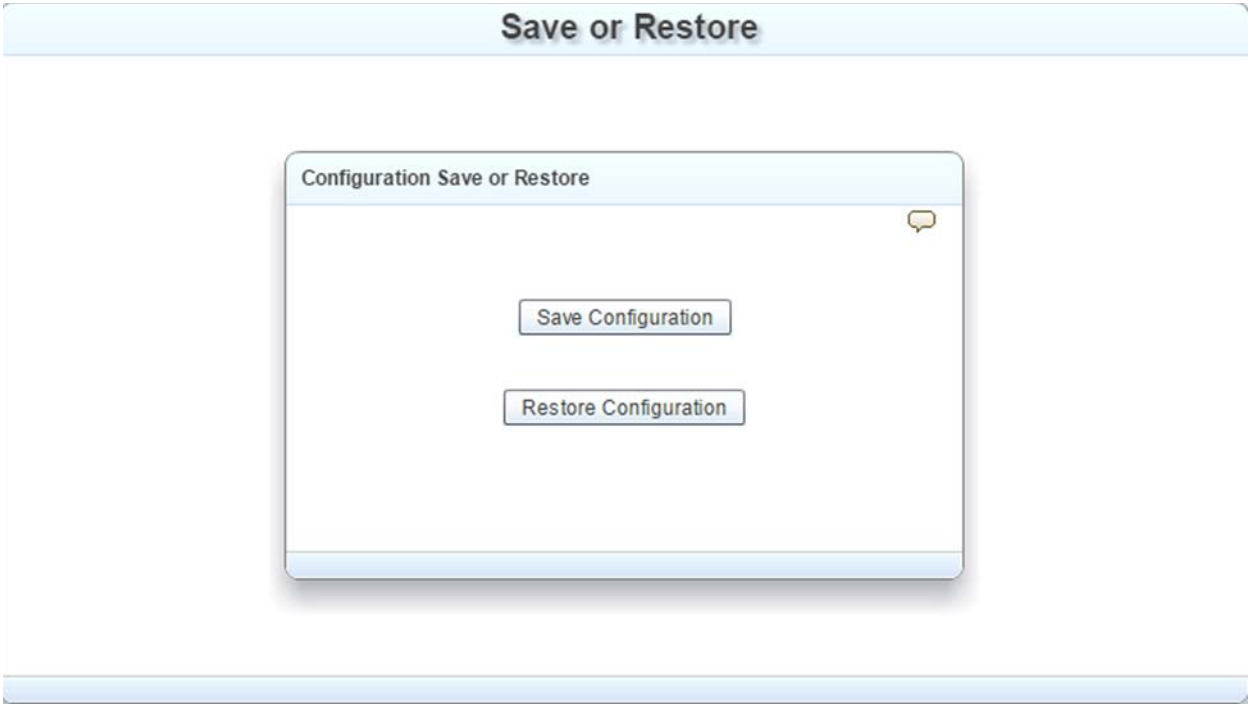
Ensure that you save your initial configuration in case you need to restore it at a later date. The configuration you save includes a current image of the system.

A configuration record is saved in a format that is readable and is used when users want to recreate an LTFS configuration.

Restore/Save a System Configuration

Figure 25 Save or Restore Window

1 Go to **Tools > Save or Restore**.



2 Click **Save Configuration**.

The **Processing....Please Wait** message and the **Save As** window displays.

Note: The saved system configuration filename contains a .qtm suffix.

3 Save the current configuration to your desired network location.

4 Register the Scalar LTFS Appliance. See Registering the Appliance on page 65.

Registering the Appliance

Note: In order to complete registration, the contact information must be filled out in the System submenu.

1 On the navigation panel click **Help > Register Appliance**.

The **Register Appliance** window displays.

Figure 26 Register Appliance Window.

2 Click **Yes** to continue.

3 If a security warning window displays, click **Yes** to allow the Web site to display.

The Quantum Product Registration Web site displays.

Follow the instructions on the Web site to register your product.

Installation is complete. Refer to Chapter 8, Wrapping Up for final steps.

Note: After initial setup of Scalar LTFS, the first time users login to the established IP addresses they will encounter a security certificate page. They should click the **Proceed anyway** button to display the login window.

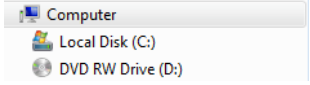
Chapter 7
Host Connectivity

Now that the setup of the Scalar LTFS Appliance is complete, you need to map the appliance to a host. Scalar LTFS supports Window, Mac and Linux operating systems. Instructions on how to map these host types is detailed in this chapter.

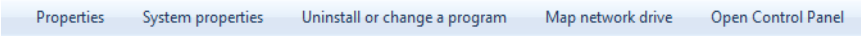
Windows

Depending on the windows operating system being used, the dialog boxes and menu items may differ. The following instructions use Windows 7 as an example. To see the supported Windows operating systems for Scalar LTFS, see System Requirements on page 12.

1 Display the computer view on the host machine. Clicking My Computer is one way to display the options.



2 At the top of window, menu options will display. Click **Map network drive**.



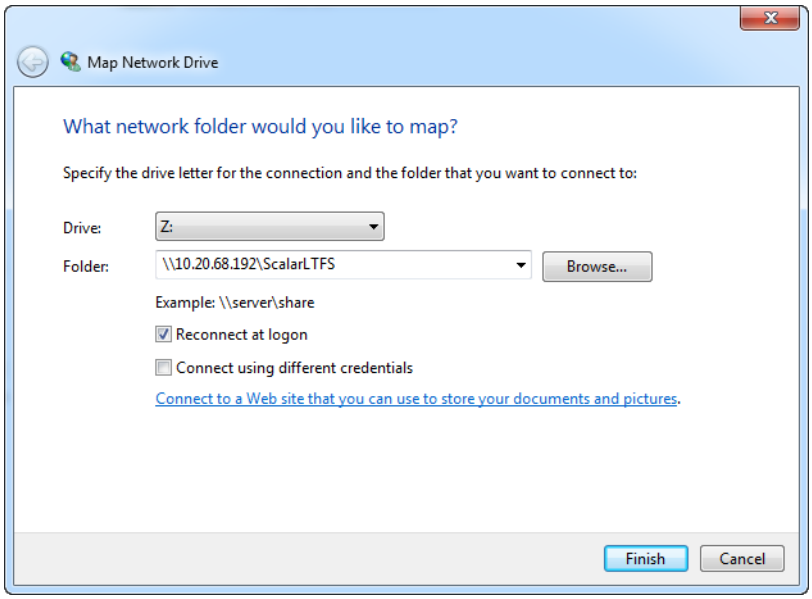
3 On the **Map Network Drive** window,

   a Select an available drive letter from the **Drive:** drop-down menu.

b Type in the Scalar LTFS Appliance IP address that was entered as part of the Setup Wizard in the **Folder** field. For example:

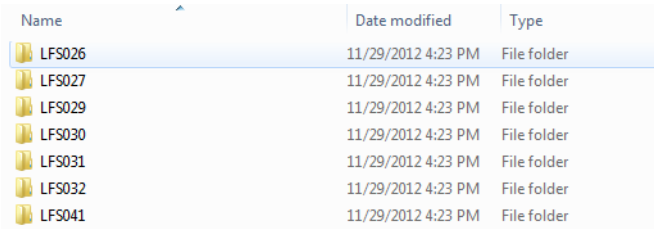
\\10.20.68.192\ScalarLTFS

c It is recommended to select the **Reconnect at Logon** check box.



Caution: **ScalarLTFS** must be included after the IP address in the **Folder** field.

4 Click **Finish**. The drive maps and displays the ScalarLTFS folder.



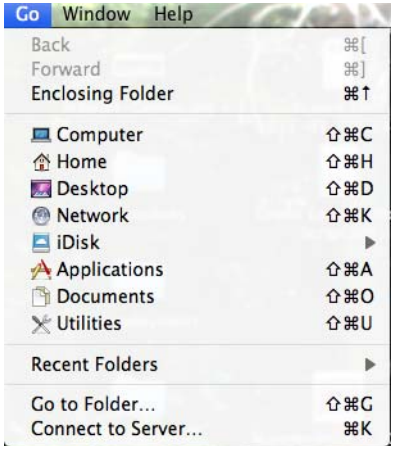
Note: Unless you have attached and/or formatted media prior to mapping the ScalarLTFS drive, you will see an empty folder. For information on attaching and formatting media, see the *Scalar LTFS User's Guide*.

Once media folders are present, you can begin to read and write files into these folders.

MacOS

The following instructions use MacOS 10.7 as an example. To see the supported Mac operating systems for Scalar LTFS, see System Requirements on page 12.

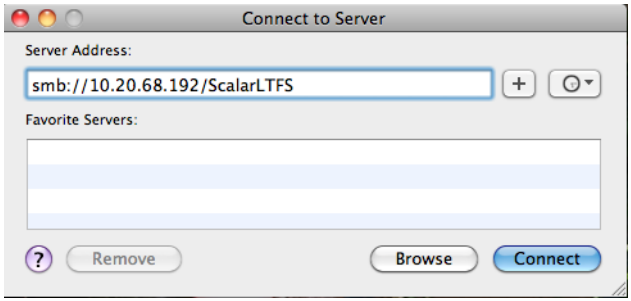
1 From the **Finder**, select **Go > Connect to Server**.



2 Type in the Scalar LTFS Appliance IP address that was entered as part of the Setup Wizard in the **Server Address** field.

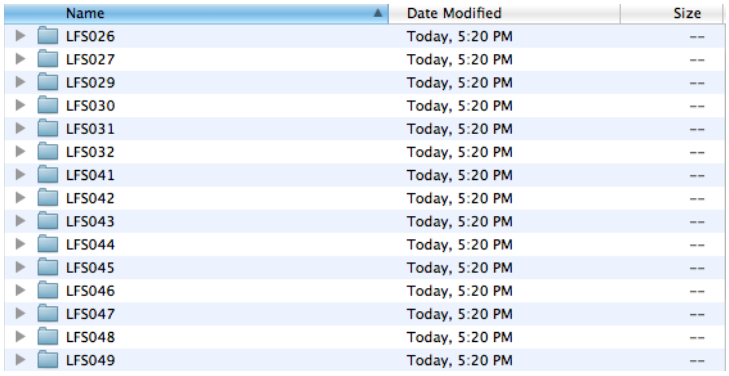
`smb://10.20.68.192/ScalarLTFS`

For example:



Note: You can use either **`smb://`** or **`cifs://`** in the Server Address field. Using **`smb://`** is recommended because it keeps the connection active longer.

3 Click **Connect**. The drive maps and displays the ScalarLTFS folder.



Note: Unless you have attached and/or formatted media prior to mapping the ScalarLTFS drive, you will see an empty folder. For information on attaching and formatting media, see the *Scalar LTFS User's Guide*.

Once media folders are present, you can begin to read and write files into these folders.

Linux

The following instructions use Linux command line utilities as an example. To see the supported Linux operating systems for Scalar LTFS, see System Requirements on page 12.

1. Edit the **/etc/fstab** with your preferred editor and type the following line:

   10.20.68.192:/ScalarLTFS /ScalarLTFS nfs4 timeo=12000,mountproto=tcp,users,rw,hard,intr,bg,rsize=1048576,wsize=1048576 0 0

2. **Save** and **Exit** the **/etc/fstab** file.
3. Create the /ScalarLTFS directory:

   mkdir /ScalarLTFS

4. Mount the /ScalarLTFS file system:

   mount /ScalarLTFS

5. Display the contents of the /ScalarLTFS directory:

   ls -al /ScalarLTFS

```
:~$ ls -al /3sltfs/
total 4
drwxrwxrwx  1 root root    0 1969-12-31 17:00 .
drwxr-xr-x 38 root root 4096 2012-10-06 09:53 ..
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS026
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS027
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS029
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS030
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS031
drwxrwxrwx  1 root root    0 2012-11-29 17:10 LFS032
```

Note: Unless you have attached and/or formatted media prior to mounting the ScalarLTFS file system, you will see an empty directory. For information on attaching and formatting media, see the *Scalar LTFS User's Guide*.

Once media directories are present, you can begin to read and write files into these folders.

Chapter 8

Wrapping Up

Final steps to complete installation include:

Saving the Configuration

If you made any changes to the Scalar LTFS configuration after completing the Setup Wizard, you should save a new version of the configuration. See Saving the Configuration on page 63 for instructions on saving a configuration.

Disconnecting Cable from Service Port

Once the setup wizard is complete, disconnect the Ethernet cable from your service port and laptop.

The appliance should now be accessible at the IP addresses that were entered during the Setup Wizard.

Reconnecting Laptop Network Connections

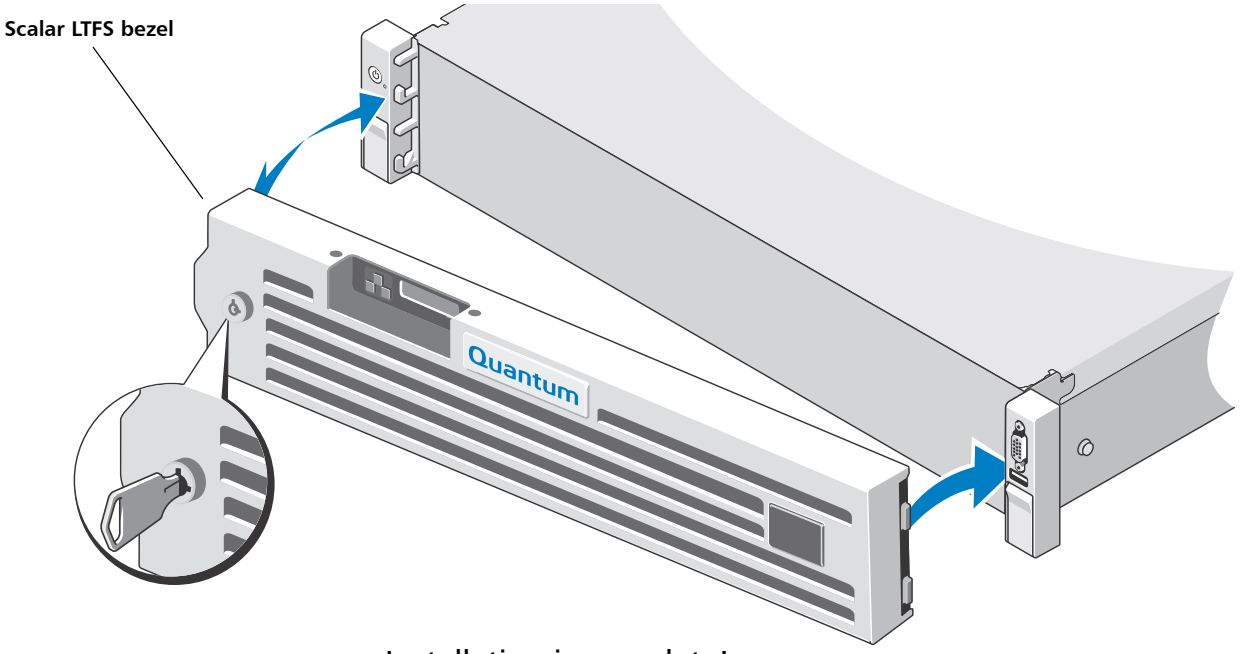
You can now enable network connections by reconnecting wired and wireless connections on your laptop.

Installing the Bezel

The bezel snaps into place on the front of the Scalar LTFS Appliance to prevent the removal of the system from the rack (see Figure 27 on page 75).

Note: The keys that lock and unlock the front bezel are located in the accessory kit.

Figure 27 Installing the Front Bezel



Installation is complete!

Appendix A
User Roles

Based on your login credentials as a user or administrator, you can perform the following functions by role:

Table 12 Role Matrix

Administrator Permission Level	User Permission Level	Function by Window
Add, change	View	Configuration > System
Add, change	View	Configuration > Notifications
Add	View	Configuration > Licenses
Add, change	View	Configuration > Date and Time
Add, change	View	Configuration > Networks
Add, change, delete	View, change password	Configuration > Users
Add, change, delete	View	Configuration > Partition Policies
Add, change	View	Configuration > Partitions
Change	View, attach, sequester	Operations > Media
Execute	Execute	Operations > Logoff

:

Administrator Permission Level	User Permission Level	Function by Window
Execute	None	Tools > Capture Snapshot
Execute	None	Tools > Save or Restore
Execute	None	Tools > Security
Execute	None	Tools > Update Firmware
Execute	View	Tools > Diagnostic Tickets
Send, save	Send, save	Reports > Component Information
Send, save	None	Reports > Configuration Record
Send, save	Send, save	Reports > Diagnostic Ticket
Send, save	Send, save	Reports > Media
View	View	Help > About Scalar LTFS
Execute	None	Help > Register Appliance

Appendix B
Installation Checklist

The Installation Checklist guides you through the necessary prerequisites and installation steps to successfully install the Scalar LTFS Appliance. Print a copy of this checklist and check off tasks as they are performed. This checklist also provides a reference of the location of the step-by step instructions in the document.

		Task	Reference / Notes	Completion Date or N/A
Prerequisites				
	1	Obtain a license key	Obtaining Your License Key on page 27	
	2	Configure library partitions	Configuring Library Partitions on page 28	
	3	Insert media	Control Path on page 29	
	4	Set drive topology	Setting Drive Topology on page 29	
	5	Set Fibre Channel switch visibility	Setting Fibre Channel Switch Drive Visibility on page 30	

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		Task	Reference / Notes	Completion Date or N/A
Cabling the Appliance				
	6	Connect power supply	Connecting the Power Supplies on page 31	
	7	Cable the library	Cabling your Library on page 33	
	8	Disable laptop network connections	Disabling Laptop Network Connections on page 33	
	9	Cable the appliance	Connecting Cables to Appliance on page 34	
Configuring the Appliance using Setup Wizard				
	10	Access GUI via service port	Accessing Scalar LTFS Appliance Remote Management Console via Service Port on page 40	
	11	Setup wizard: System Configuration	System Configuration on page 43	
	12	Setup wizard: License Configuration	License Configuration on page 48	
	13	Setup wizard: Date / Time Configuration	Date and Time Configuration on page 50	
	14	Setup wizard: Network Configuration	Network Configuration on page 52	
	15	Setup wizard: User Configuration	User Configuration on page 54	
	16	Setup wizard: Partition Policies	Partition Configuration on page 56	
	17	Setup wizard: Partition Configuration	Partition Configuration on page 56	
	18	Save configuration	Saving the Configuration on page 63	
	19	Register the appliance	Registering the Appliance on page 65	

		Task	Reference / Notes	Completion Date or N/A
Host Connectivity				
	20	Connect to Host - Windows	Windows on page 67	
		Connect to Host - MacOS	MacOS on page 69	
		Connect to Host - Linux	Linux on page 70	
Wrapping Up - Final Tasks				
	21	Save the configuration	Saving the Configuration on page 73	
	22	Disconnect cable from service port	Disconnecting Cable from Service Port on page 74	
	23	Reconnect Laptop Network Connections	Reconnecting Laptop Network Connections on page 74	
	24	Install bezel	Installing the Bezel on page 74	
Installation is complete!				

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