

# Pillar Axiom<sup>®</sup> 300



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Part Number 4420-00088-0100  
Pillar Axiom release 4.0  
2009 December

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# Preface

## Audience

This documentation is intended for service technicians, field engineers, and other individuals who install, maintain, and troubleshoot Pillar Axiom storage systems.

You should have the necessary skills and experience in using:

- Computer hardware and its operation.
- Electrostatic discharge (ESD) procedures.

To perform any of the following tasks, you should also have a basic understanding and working knowledge of Pillar Axiom systems:

- Cable the Storage System Fabric (SSF) and private management interface (PMI) easily.
- Enhance the capacity of an existing system by adding and cabling one or more Brick storage enclosures into an existing system.

## Before You Read This Reference

Being familiar with certain other Pillar Axiom technical documentation helps you succeed in the use of this guide.

In addition to this reference, review the late-breaking information described in the Pillar Axiom *Customer Release Notes*. That information includes important information that was not available at the time this reference was published, including:

- Slammer and Brick configuration limits
- Network requirements
- Known issues
- Errata for technical documents, including this reference

## How This Reference Is Organized

This reference provides reference information for cabling the Storage System Fabric (SSF), a private interconnect among the Bricks and Slammers in a Pillar Axiom 300 storage system.

The reference is divided into five major parts:

- Part I provides an introduction to cabling the SSF.
- Part II provides cabling examples, block diagrams, and port-to-port cabling connections for 1-Slammer systems configured with serial ATA (SATA) Bricks.
- Part III provides cabling examples, block diagrams, and port-to-port cabling connections for 1-Slammer systems configured with Fibre Channel (FC) Bricks.
- Part IV provides information on how to cable the private management interface (PMI) between the Pilot management controller and the Slammer.
- Part V provides two appendixes, which describe:
  - General rules for cabling Bricks.
  - Mapping of the hardware components within a rack.

## Related Documentation

Table 1 Additional information resources

Description	Title	Part number
Instructions for installing Pillar Axiom 300 hardware components into Pillar and non-Pillar racks and for expanding these systems by adding Bricks and Slammers.	<i>Pillar Axiom 300 Advanced Hardware Installation Guide</i>	4420-00090-0100
Removal and insertion instructions for Pillar Axiom 300 FRUs.	<i>Pillar Axiom 300 Service Guide</i>	4420-00091-0000

## Access Documentation

Pillar Data Systems technical documentation (including installation, service, cabling, integration, and administration guides) are available from several sources.

- Pillar Axiom GUI** After logging in to the AxiomONE Storage Services Manager on the Pilot, navigate to **Support > Technical Documentation** and click on the document of interest.
- Web sites**
- [Technical documents](http://www.pillardata.com/techdocs) (<http://www.pillardata.com/techdocs>)
  - [Customer support portal](https://support.pillardata.com/login.do) (<https://support.pillardata.com/login.do>)
- After logging in to the web site, click on **Documents** in the left navigation pane, and then click the appropriate category in the expanded list. Click on the document of interest.
- Product CD-ROM** Insert the Technical Documentation CD-ROM that came with your Pillar Axiom storage system into the CD player in a computer. Open the DocMenu PDF and click on the document of interest.

**Tip:** To search all technical documents on the CD-ROM, click the **Search all PDFs** icon in the top right corner. In the Search dialog, enter the word or phrase for which you would like to search.

## Typographical Conventions

Table 2 Special typography used to mark certain content

Convention	Meaning
<i>italics</i>	Within normal text, words in italics indicate: <ul style="list-style-type: none"> <li>• A reference to a book title.</li> <li>• New terms and emphasized words.</li> <li>• Command variables.</li> </ul>
monospace	Indicates one of the following, depending on the context: <ul style="list-style-type: none"> <li>• The name of a file or the path to the file.</li> <li>• <i>Output</i> displayed by the system on the command line.</li> </ul>
<b>monospace</b> (bold)	<i>Input</i> provided by an administrator on the command line.
>	Indicates a menu item or a navigation path in a graphical user interface (GUI). For example, “Click <b>Storage &gt; Clone LUNs</b> ” means to click the <b>Clone LUNs</b> link on the <b>Storage</b> page in the graphical user interface (GUI).

## Pillar Contacts

Table 3 Contacts at Pillar Data Systems

For help with...	Contact...
Error messages, usage questions, and other support issues	US and Canada: 877-4PILLAR (1-877-474-5527) Europe: +800 PILLAR FS (+800 74 55 27 37) Asia Pacific: +1-408-518-4515 South Africa: +0 800 980 400 Have your system serial number ready. <a href="mailto:support@pillardata.com">support@pillardata.com</a> <a href="https://support.pillardata.com/login.do">Customer support portal</a> ( <a href="https://support.pillardata.com/login.do">https://support.pillardata.com/login.do</a> )
Training (custom or packaged)	<a href="http://www.pillardata.com/support-education/training/">Training and Education</a> ( <a href="http://www.pillardata.com/support-education/training/">http://www.pillardata.com/support-education/training/</a> )
Sales and general contact information	<a href="http://www.pillardata.com/company/contact">Company contacts</a> ( <a href="http://www.pillardata.com/company/contact">http://www.pillardata.com/company/contact</a> )

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*Pillar Axiom 300 SSF Cabling Reference*

part number 4420-00088-0100


# Part I: Introduction to Cabling Pillar Axiom 300 Systems


SHEET 1


## About This Reference

### Cautions and Warnings

Hazard signal words conform to the American National Standards Institute (ANSI) Z535.4-1998 meanings.

 **Caution** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury or data loss.


 **Warning** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

 **Danger** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

**Important!** To emphasize a point, to remind you of something, or to indicate potential problems in the outcome of the in-process task.

### Supported Hardware Components

Pillar Data Systems supports only Pillar-supplied parts on a Pillar Axiom storage system.

 **Caution** Hardware that does not conform to Pillar specifications or is not a Pillar-supplied part voids the warranty and may compromise data integrity. For Pillar hardware specifications, refer to the *Pillar Axiom Service Guide* for your system.



## SHEET 2

## Introduction to Cabling the Storage System Fabric (SSF)

### About Cabling a Pillar Axiom System

Storage System Fabric (SSF) cabling information in this reference supports the following Pillar Axiom 300 configurations:

- 1 Pilot
- 1 Slammer
- 1 to 4 Bricks

The collection of Bricks is organized into one or more Brick strings. A *string* is defined as:

A set of Brick storage enclosures connected one to another and to two ports on a particular Slammer. Any given Brick in a string is connected to an upstream Brick or, for the head of the string, to two Slammer control units (CUs).

Brick storage enclosures used in Pillar Axiom storage systems can be based on Fibre Channel (FC) or Serial ATA (SATA) hard disk drive (HDD) technology. These types of Bricks can be mixed within the same system.

**Important!** Contact the Pillar World Wide Customer Support Center for any newly available, time-sensitive information regarding cabling.

### Different Versions of Hardware Components

Pillar Axiom storage systems support several versions of hardware to which the Storage System Fabric (SSF) cables connect.

SATA RAID controllers are located in Bricks. The cabling of these controllers depends on the version of the controller.

SATA RAID controllers come in two types:

- Version 1 (legacy) controllers have *one set of four* Fibre Channel (FC) ports and appear in the GUI as type SATA.
- Version 2 controllers have *two pair* of FC ports and appear in the GUI as type SATA v2.

Because version 1 and version 2 SATA controllers use different internal communication protocols, these two types of SATA controller cannot co-exist in the same Brick chassis. In other words, you cannot use a version 2 SATA controller to replace a legacy version 1 controller. A Pillar Axiom system can, however, contain a mix of version 1 and version 2 SATA Bricks.

Figure 1 SATA RAID controller versions



Legend
1 Version 1 SATA controller.
2 Version 2 SATA controller.
3 SATA Bricks.

**Note:** A Brick contains two homogeneous CUs: Both CUs contain either version 1 or version 2 SATA RAID controllers.

Additionally, the cabling of the Fibre Channel fabric among the Brick control units (CUs) and the Slammers differs, depending on the version of SATA controller in the Brick.

**Note:** This reference provides cabling diagrams and various notes to guide you in the cabling of the different versions of SATA RAID controllers.

### About Cable Labels

The FC cables that provide the pathways for the Storage System Fabric (SSF) are labeled at each end using a label such as that in the figure below. The label wraps around the cable and sticks to itself in a way that provides a colored flag with printed information. The printing is duplicated at each end of the label so it can be read from either side.

Figure 2 FC cable label sample



The colored flag identifies the port into which the end of the cable with the label connects. The color of the label matches the color of the port label on the Slammer or Brick chassis.

The encoding within the colored flag has the following meanings:

- *SLM-1* is Slammer 1.
- *CU-0* is control unit 0 of that Slammer.
- *FS-4* is the port number of that control unit.

The white section of the label contains two pieces of information:

- First line—the port information for the other end of the cable, formatted the same as above. This information is useful for debugging.
  - *BRX-1* is Brick 1.
  - *CU-0* is control unit 0 of that Brick.
  - *FC-2* is the port number of that control unit.
- Second line—the cable number. This cable number is the same at both ends of the cable and is useful when tracing the other end of a loose cable in a cabinet.

# Part II: Cabling Pillar Axiom 300 Systems Using SATA Bricks

SHEET 3

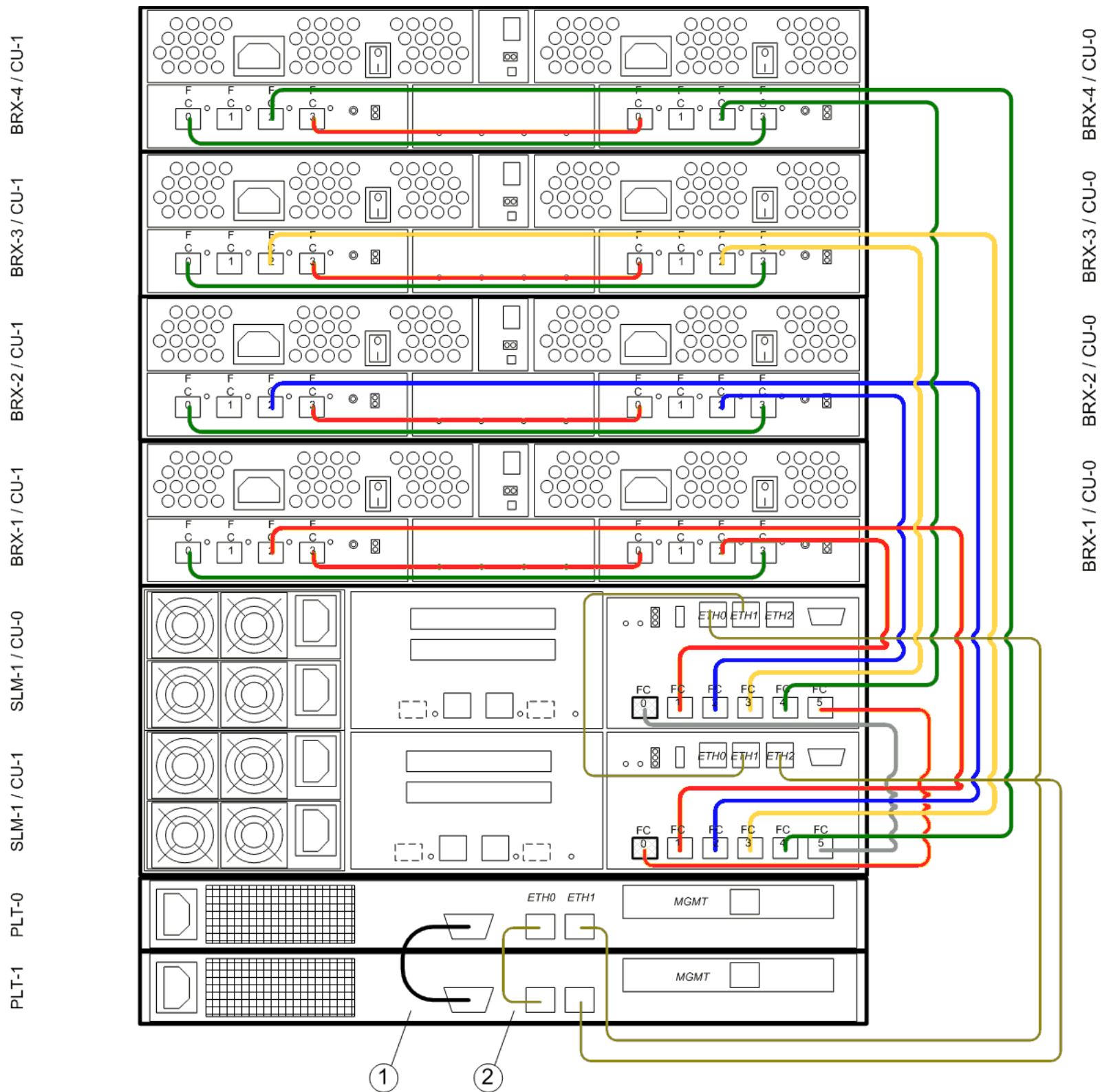
## Cabling Example for SATA Bricks

### Sample Wiring Diagram for a 1x4 System Using SATA Bricks

The figure below is an example of cabling a Pillar Axiom 300 system. The scheme shown is for a hardware configuration of one Slammer and four SATA Bricks.

**Important!** This cabling illustration is for reference only.

Figure 3 Sample cabling for a 1x4 Pillar Axiom 300 system (SATA Bricks only)



- Legend**
- 1 Serial null-modem cable.
  - 2 Cross connect the ports that support the Intelligent Platform Management Interface (IPMI). These ports are labeled ETH-0.

**Note:** The above figure does not show PDUs or customer equipment. The cabling shown illustrates all external Storage System Fabric (SSF) connections for a Pillar Axiom 300 system. These connections are part of the inter-connectivity that is private to a Pillar Axiom 300 system.

SHEET 4

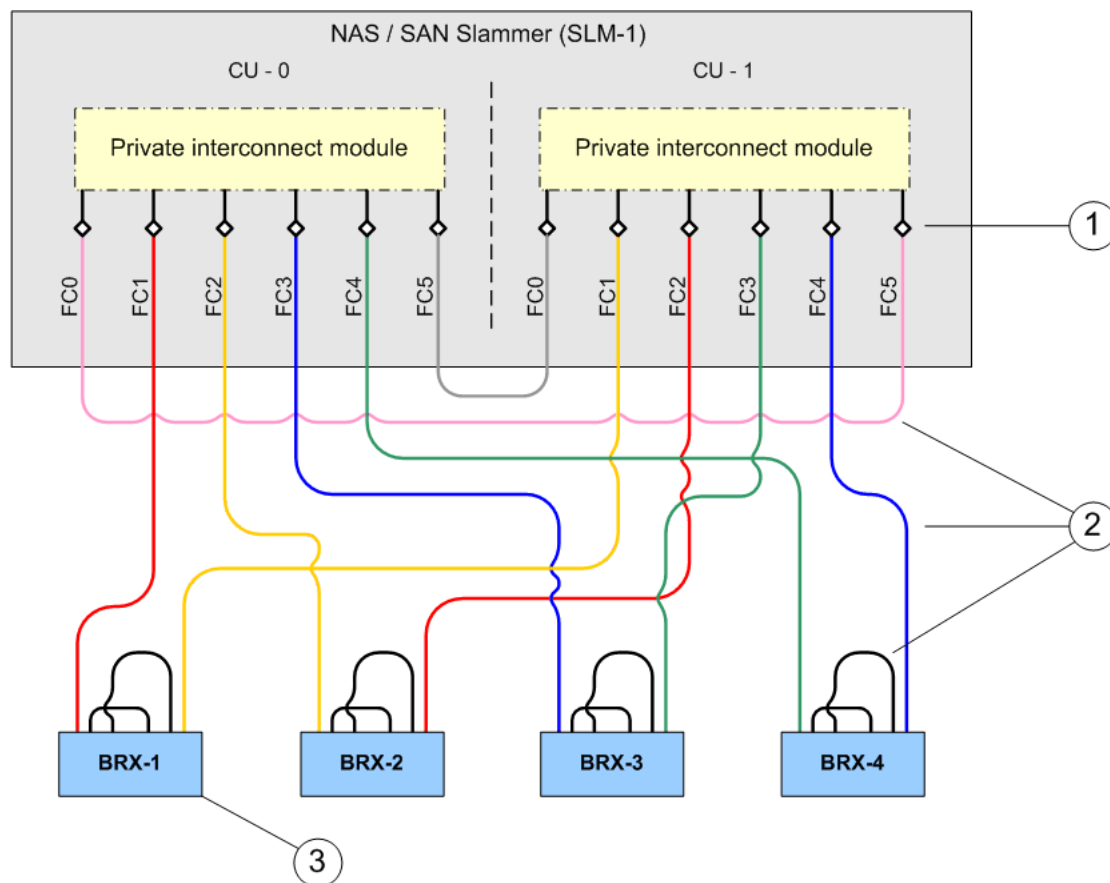
# Cabling Block Diagram

## Block Diagram for a 1x4 System Using SATA Bricks

The figure below illustrates the stringing of four Bricks in a one-Slammer Pillar Axiom 300 system.

**Important!** This block diagram is for reference only.

Figure 4 Cabling block diagram for a 1x4 Pillar Axiom 300 system (SATA Bricks only)



- Legend**
- 1 Ports ( ◊ ) on the private interconnect module.
  - 2 2 Gb Fibre Channel patch cables.
  - 3 This Brick comprises the minimum configuration.

## Notes on the 1x4 Block Diagram

- Pillar Axiom 300 systems support a maximum of four Bricks.
- The block diagram shows the order that Bricks are to be added to a NAS or SAN system.
- The minimum configuration is BRX-1. Add subsequent Bricks so that load imbalance between Fibre Channel (FC) switches and FC loops is minimized.
- The block diagram conforms to the following conventions:
  - On Slammers:
    - FC-0 connects to FC-5 on the same Slammer but opposite control unit (CU).
    - FC-1, FC-2, FC-3, and FC-4 are used for Brick connections.
  - On Bricks:
    - FC-2 connects to a Slammer port.
    - FC-0 connects to FC-3 on the same Brick but opposite CU.
- The configuration of systems upgraded in the field may differ somewhat from those built in the factory.

SHEET 5

# SSF Cable Connection List

## Cable the Slammer and SATA Bricks 1–4

The table below specifies all Fibre Channel (FC) cables and their connections for the Slammer and the first set of four SATA Bricks in a one-Slammer system. All such interconnections are part of the Storage System Fabric (SSF).

Figure 5 FC cable connections for the Slammer and the first set of four SATA Bricks

Cable	From Chassis / CU / Port	To Chassis / CU / Port	Cable Length (M)
<b>Slammer to Slammer Connections</b>			
CBL-301	SLM-1 / CU-0 FC-0	SLM-1 / CU-1 FC-5	0.5
CBL-302	SLM-1 / CU-1 FC-0	SLM-1 / CU-0 FC-5	0.5
<b>Bricks Connections</b>			
<b>BRX-1:</b>			
CBL-303	SLM-1 / CU-0 FC-1	BRX-1 / CU-0 FC-2	2
CBL-304	SLM-1 / CU-1 FC-1	BRX-1 / CU-1 FC-2	2
CBL-201	BRX-1 / CU-0 FC-0	BRX-1 / CU-1 FC-3	0.5
CBL-202	BRX-1 / CU-1 FC-0	BRX-1 / CU-0 FC-3	0.5
<b>BRX-2:</b>			
CBL-305	SLM-1 / CU-0 FC-2	BRX-2 / CU-0 FC-2	2
CBL-306	SLM-1 / CU-1 FC-2	BRX-2 / CU-1 FC-2	2
CBL-203	BRX-2 / CU-0 FC-0	BRX-2 / CU-1 FC-3	0.5
CBL-204	BRX-2 / CU-1 FC-0	BRX-2 / CU-0 FC-3	0.5
<b>BRX-3:</b>			
CBL-307	SLM-1 / CU-0 FC-3	BRX-3 / CU-0 FC-2	2
CBL-308	SLM-1 / CU-1 FC-3	BRX-3 / CU-1 FC-2	2
CBL-205	BRX-3 / CU-0 FC-0	BRX-3 / CU-1 FC-3	0.5
CBL-206	BRX-3 / CU-1 FC-0	BRX-3 / CU-0 FC-3	0.5
<b>BRX-4:</b>			
CBL-309	SLM-1 / CU-0 FC-4	BRX-4 / CU-0 FC-2	2
CBL-310	SLM-1 / CU-1 FC-4	BRX-4 / CU-1 FC-2	2
CBL-207	BRX-4 / CU-0 FC-0	BRX-4 / CU-1 FC-3	0.5
CBL-208	BRX-4 / CU-1 FC-0	BRX-4 / CU-0 FC-3	0.5

## Notes on Cabling SATA Bricks

- Connecting private interconnect modules (PIMs) on the Slammer and SATA RAID controllers:
  - Version 1 PIMs and version 1 SATA RAID controllers both use HSSDC2 (high-speed serial data connection) type connections.
  - Version 2 SATA RAID controllers use SFP (small form-factor pluggable) type connections.
  - When connecting a version 1 component to a version 2 component, use a hybrid HSSDC2-to-SFP adapter cable.
- Cable lengths:
  - For Slammer to Brick connections: 6.56 ft (2.0 m).
  - For Brick to Brick (FC-1 to FC-2) connections: 6.56 ft (2.0 m).
  - For cross connections (FC-0 to FC-3) between Brick control units depend on the Brick type:
    - Fibre Channel and version 1 SATA Bricks: 1.64 ft (0.5 m).
    - Version 2 SATA Bricks: 3.28 ft (1.0 m).
- The SSF cabling scheme is based on the following conventions:
  - Slammers and Bricks (all chassis) are numbered starting with 1.
  - Designators within Slammer and Brick chassis are numbered from 0 (zero), as in CU-0, FC-0, and so on.
  - The Pilot has two control units (CUs): PLT-0 and PLT-1.
- SSF cabling for one-Slammer systems is based on the following principles:
  - On the Slammer:
    - FC-0 connects to FC-5 (on the same Slammer but opposite control unit (CU)).
    - FC-1, FC-2, FC-3, and FC-4 are used for Brick connections.
  - On Bricks:
    - FC-0 connects to FC-3 of the opposite CU on the same Brick.
    - FC-2 connects to a Slammer port.
- In addition to the FC cables identified in Figure 5, install the private management interface (PMI) Ethernet cables specified in Table 4.

# Part III: Cabling Pillar Axiom 300 Systems Using FC Bricks

SHEET 6

## Cabling Example for FC Bricks

### Sample Wiring Diagram for a 1x4 System Using FC Bricks

The figure below is an example of cabling a Pillar Axiom 300 system that contains Fibre Channel (FC) Bricks. The scheme shown is for a hardware configuration of one Slammer, two FC RAID Bricks, two FC Expansion Bricks, and their inter-connections.

**Important!** This cabling illustration is for reference only.

Figure 6 Sample cabling for a 1x4 Pillar Axiom 300 system (FC Bricks)



**Note:** A working system would have additional connections for power, customer system connections, Ethernet connections to the Pilot to support the private management interface (PMI), and connections from the Pilot to the customer equipment. The cabling shown illustrates all external Storage System Fabric (SSF) connections for a Pillar Axiom 300 system.

### Notes on Wiring FC Bricks

- Fibre Channel (FC) RAID Bricks are identified with a *BRX-x* tag, identical to the scheme used for SATA Bricks. The *x* suffix indicates the order of adding the Brick to the system. FC Expansion Bricks are indicated by *BRX-Ex*, where the letter *E* denotes an expansion Brick.
- Slammer FC<sub>x</sub> to FS<sub>y</sub> cable color coding follows lowest *SLM-a* / *CU-b* port color. PNet cables are gray.
- FC Bricks are added as RAID, then expansion, then RAID, and then expansion.
- The minimum number of Bricks in a Pillar Axiom 300 system can be any of the following configurations:
  - One FC RAID Brick and one FC Expansion Brick.
  - One SATA Brick.
  - One SATA Brick and one FC RAID Brick.

- FC RAID Bricks can be connected to any of the ports on the Slammer. However, an FC RAID Brick should not be connected downstream of a SATA Brick.

SHEET 7

# SSF Cable Connection List for FC Bricks

## Cable the Slammer and FC Bricks 1–4

The table below specifies all Fibre Channel (FC) cables and their connections for the Slammer and the first set of four FC Bricks in a one-Slammer system. All such interconnections are part of the Storage System Fabric (SSF).

Figure 7 FC cable connections for the Slammer and the first set of four FC Bricks

Slammer-to-Slammer Connections		Single Slammer -- all FC Bricks		
From: Chassis / CU / Port	To: Chassis / CU / Port	From Chassis / CU / Port	To Chassis / CU / Port	
<b>SLM-1 / CU-0 FC-0</b>	<b>SLM-1 / CU-1 FC-5</b>			
<b>SLM-1 / CU-1 FC-0</b>	<b>SLM-1 / CU-0 FC-5</b>			
		<b>For BRX-1:</b>		
		<b>SLM-1 / CU-0 FC-1</b>	<b>BRX-1 / CU-0 FC-2</b>	} Install for a 2 Brick System
		<b>SLM-1 / CU-1 FC-1</b>	<b>BRX-1 / CU-1 FC-2</b>	
		<b>BRX-1 / CU-0 FC-0</b>	<b>BRX-1 / CU-1 FC-3</b>	
		<b>BRX-1 / CU-1 FC-0</b>	<b>BRX-1 / CU-0 FC-3</b>	
		<b>For BRX-E1:</b>		
		<b>BRX-1 / CU-0 J0</b>	<b>BRX-E1 / CU-0 J1</b>	} Install for a 3 Brick System
		<b>BRX-1 / CU-1 J0</b>	<b>BRX-E1 / CU-1 J1</b>	
		<b>BRX-1 / CU-0 PNet-0</b>	<b>BRX-E1 / CU-0 PNet-1</b>	
		<b>BRX-1 / CU-1 PNet-0</b>	<b>BRX-E1 / CU-1 PNet-1</b>	
				RJ-45 Cable
				RJ-45 Cable
		<b>For BRX-2:</b>		
		<b>SLM-1 / CU-0 FC-2</b>	<b>BRX-2 / CU-0 FC-2</b>	} Install for a 4 Brick System
		<b>SLM-1 / CU-1 FC-2</b>	<b>BRX-2 / CU-1 FC-2</b>	
		<b>BRX-2 / CU-0 FC-0</b>	<b>BRX-2 / CU-1 FC-3</b>	
		<b>BRX-2 / CU-1 FC-0</b>	<b>BRX-2 / CU-0 FC-3</b>	
		<b>For BRX-E2:</b>		
		<b>BRX-2 / CU-0 J0</b>	<b>BRX-E2 / CU-0 J1</b>	} Install for a 4 Brick System
		<b>BRX-2 / CU-1 J0</b>	<b>BRX-E2 / CU-1 J1</b>	
		<b>BRX-2 / CU-0 PNet-0</b>	<b>BRX-E2 / CU-0 PNet-1</b>	
		<b>BRX-2 / CU-1 PNet-0</b>	<b>BRX-E2 / CU-1 PNet-1</b>	
				RJ-45 Cable
				RJ-45 Cable



# Part IV: Cabling the Private Management Interface

SHEET 8

## PMI Cable Connection List and Schematic

### Cable the PMI Connections

The table below specifies all Ethernet cables and their connections for the private management interface (PMI) in all one-Slammer systems, regardless of the number of Bricks configured.

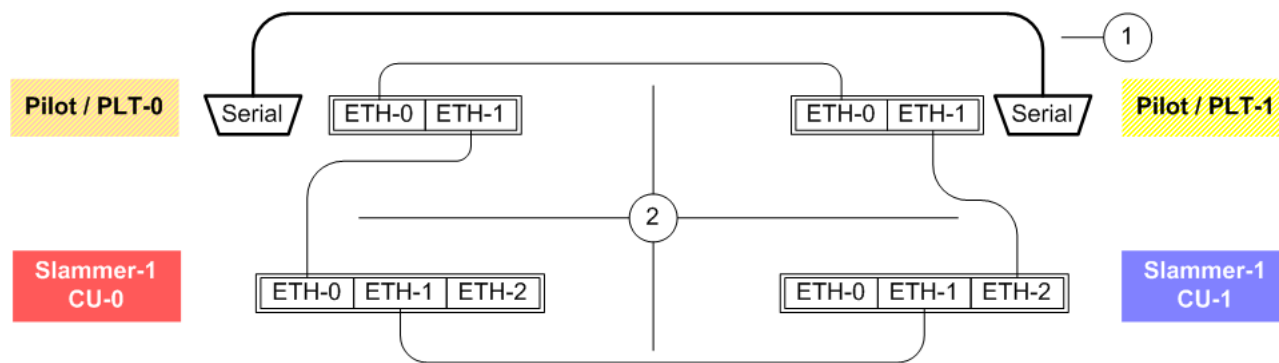
Table 4 Ethernet cable connections for the PMI

Cable	Chassis / CU / Port		Chassis / CU / Port	
CBL-60	PLT-0	ETH-0	PLT-1	ETH-0
CBL-61	PLT-0	ETH-1	SLM-1 / CU-0	ETH-0
CBL-63	PLT-1	ETH-1	SLM-1 / CU-1	ETH-2
CBL-65	SLM-1 / CU-0	ETH-1	SLM-1 / CU-1	ETH-1

### Schematic of PMI Ethernet Connections

The schematic below illustrates the Ethernet connections for the private management interface (PMI) in a Pillar Axiom 300 system.

Figure 8 PMI Ethernet schematic



- Legend**
- 1 Serial null-modem cable.
  - 2 Ethernet switch for management console connection (customer equipment).

# Part V: Appendixes

## APPENDIX A

### Summary of Cabling Rules

These cabling rules describe fundamental principles that need to be applied when cabling Fibre Channel (FC) and SATA Bricks in a Pillar Axiom storage system.

**Important!** FC Bricks and SATA Bricks containing solid state drives (SSDs) are not supported in the same system configuration.

#### Brick Strings

- A string is a collection of Bricks connected together. The head of the string connects to two Slammer ports. Each of the other Bricks in the string are connected to the previous Brick in the string.
- Strings contain combinations of FC RAID Bricks, FC Expansion Bricks, and SATA Bricks.
- A string may contain up to three Bricks but generally no more than two. A string may contain at most one FC RAID Brick plus one FC Expansion Brick.

#### Adding Bricks to Strings

- Add Bricks to strings so that the number of Bricks in any string differs by no more than two between the longest and the shortest strings.
- When adding SATA or FC RAID Bricks to a string, attach them to the last SATA or FC RAID Brick on that string.
- When adding SATA Bricks to a Pillar Axiom system that previously had only FC Bricks, add all the SATA Bricks before you respond to the **Media Placement Recommendations Administrator Action** item.

#### Connecting Bricks to Slammers

- SATA and FC RAID Bricks can connect to the private interconnect module (PIM) ports in Slammers.
- FC RAID Bricks and SATA Bricks can also be connected to other Bricks, which directly or indirectly connect to Slammer ports.
- FC RAID Bricks use Slammer ports in the same order as the scheme for connecting SATA Bricks. This scheme fosters balance among the strings while maintaining predictable assignment of Bricks to strings. A given Brick will always be on a particular string with particular Slammer ports. The same cable labels are used for SATA and FC RAID Bricks.

#### Use of Brick Network Ports

- Brick CU-0 upstream ports are connected to Slammer CU-0 ports or the CU-0 downstream ports of another Brick; likewise, Brick CU-1 ports are connected to Slammer CU-1 ports or Brick CU-1 ports.
- FC Expansion Bricks are connected to FC RAID Bricks using the J0, J1, and Pnet ports. The current release restricts FC Brick deployment to zero or one FC Expansion Brick on each FC RAID Brick.

#### Fibre Channel Brick Connections

- FC RAID Bricks can be configured alone or in pairs of one FC RAID Brick and one FC Expansion Brick.
- FC RAID Bricks, including pairs of RAID and Expansion Bricks, may be added to a running system as long as they are cabled within the rack, powered on, and have completed initialization prior to connecting them to the existing configuration.

**Tip:** After RAID controllers finish initializing, scrubbing normally starts on the disk drives. Scrubbing causes all the disk drive LEDs to blink rapidly.

**Important!** When adding pairs of FC RAID and Expansion Bricks, cable all the links between the new Bricks, power them up, allow them to initialize, and then add the links to the previously running system.

#### Factory Configurations

- Systems upgraded in the field may have a configuration different from those built in the factory.
- For systems built at the factory, strings that mix SATA Bricks and FC Bricks will have the FC RAID Bricks closest to the Slammer. Field upgrades may differ—newly added Bricks can be connected to the last FC RAID or SATA Brick at the end of existing strings.

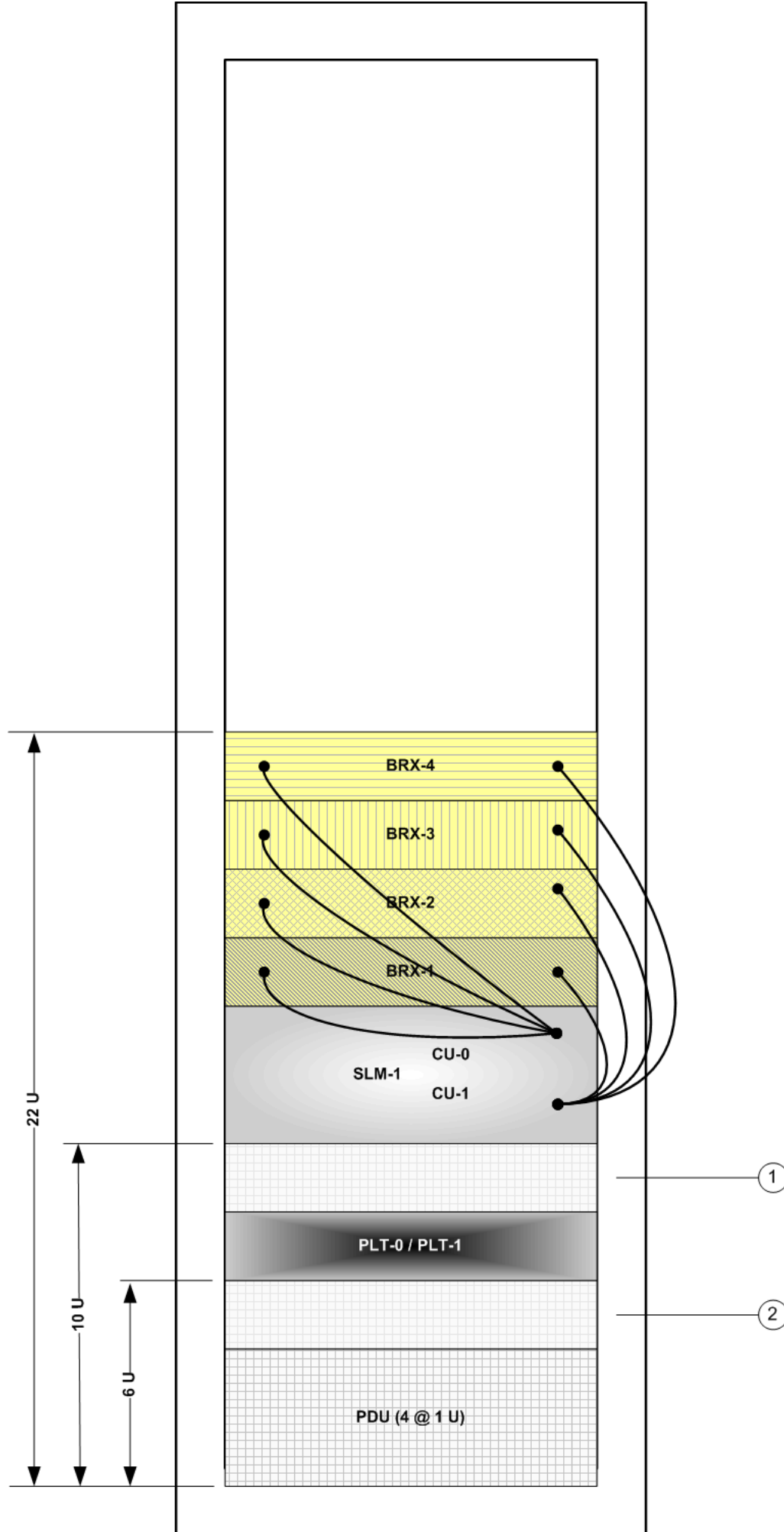
APPENDIX B

# Rack Configuration

## Hardware Component Mapping in Pillar Racks

The figure below illustrates a typical configuration within a Pillar rack.

Figure 9 Rack configuration



- Legend**
- 1 Reserved for an auxiliary system.
  - 2 2 U of clear space is needed between the power distribution units (PDUs) and the Pilot chassis to allow access to and routing of power cords.

## Notes on Hardware Component Mapping within Racks

- The configuration shown in [Figure 9](#) is only one of several possibilities for placing a storage controller (Slammer), a Pilot, and multiple storage enclosures (Bricks) in a rack. In this case a 42 U rack is used to house a 1-Slammer, 4-Brick system.
- All power distribution units (PDUs) mount with the circuit breaker accessible from the back of the rack.
- The cable paths that are shown indicate only internal connectivity within the Storage System Fabric (SSF). Specific ports are not shown. The point of this drawing is to show an arrangement of Bricks so that the 6.6 ft (2 m) interconnect cables that have been tested work.
- While cables are shown as arcs in this diagram, the design intent is to dress all these signal cables on the right side of the rack (as viewed from the rear). Cables need to be dressed so that FRUs can be replaced without necessitating disconnecting any cable other than those actually connected to the module being replaced.
- All power cords connect to the back of the PDUs, which face the front of the rack but are protected by a blank filler panel. The power cords are dressed on the left side of the rack (as viewed from the back).

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