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SVATM ADMINISTRATOR

SOFTWARE

INSTALLATION GUIDE

For Windows

PRODUCT TYPE
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Shared Virtual Array Administrator

Version 3.1.0

for Windows

Installation Guide

Part Number: 313457004

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Preface

This book describes how to install the Shared Virtual Array Administrator for Windows (referred to as “SVAA”). SVAA provides configuration and administration functions for the StorageTek Shared Virtual Array (SVA). The instructions in this book apply to both new SVA installations as well as existing SVA installations to which you are connecting a new SVAA server.

Who Should Read This Book

This book is for system administrators responsible for installation and configuration of SVAA for Windows. This book assumes that you are familiar with Windows system administration.

Note: In this book, Windows 2000 Server and Windows 2003 Server are referred to collectively as Windows. In the few instances where there are differences in SVAA function, the specific operating system is identified.

Conventions

The following typographic conventions are used in this book for showing command syntax and examples.

Table 0-1 *Typographic conventions for commands and examples. Page 1 of 2*

Typeface or symbol	Meaning	Example
AaBb123	Name of command, reserved keywords, mandatory punctuation.	query subsystem
<i>AaBb123</i>	Variable placeholder, to be replaced with a real name or value.	formary -subsys <i>subsys_name</i>
[]	Square brackets contain arguments that are optional.	dropconnection [-force]
	The pipe separates arguments, only one of which may be used at a time.	-ckdrw yes no
...	The ellipsis indicates that a parameter supports either a list or a range of values.	-dmod <i>u.t.s</i> ...
,	The comma indicates that the parameter supports only a list of values (no ranges).	-aryid <i>array_id</i> [, <i>array_id</i>]
:	The colon indicates that the parameter supports only a range of values (no lists).	-dates <i>startdate</i> [: <i>enddate</i>]

Table 0-1 *Typographic conventions for commands and examples. Page 2 of 2*

Typeface or symbol	Meaning	Example
AaBb123	Name of command, reserved keywords, mandatory punctuation.	query subsystem
C:\>	Indicates the Windows Command Prompt.	C:\> sibadmin
SIB>	Indicates the SVAA CLI shell prompt.	SIB> formaray -subsys ABC1

Shared Virtual Array Documentation

This section lists software and hardware documentation for the Shared Virtual Array products.

How to Obtain Software Documentation

All of the Shared Virtual Array software publications are available from the following sources:

- On the “Software Publications” CD-ROM (part number 3134524nn). To order a copy, contact StorageTek Publication Sales and Service at 800-436-5554 or send a fax to 303-661-7367.
- Online (for viewing and printing), at the StorageTek Customer Resource Center (CRC) website at: www.support.storageitek.com. To access the SVAA publications, use the following steps:
 - a. Log in.

Note: Logging in requires a customer login ID and password which can be obtained by calling StorageTek Customer Support at 800-678-4430.
 - b. In the navigation bar on the left side of the screen, click **Software** under **Current Products**.
 - c. Scroll down to **Virtual Disk (SVA) Software**, and click on the product and platform you want.
 - d. The SVAA publications are available under the “Manuals and Guides” heading. You may need to click **View More** to see the complete list.

SVAA Administrator for Windows Library

- *Shared Virtual Array Administrator for Windows Command Quick Reference*
- *Shared Virtual Array Administrator for Windows Installation Guide*
- *Shared Virtual Array Administrator for Windows Messages*
- *Shared Virtual Array Administrator for Windows Quick Start Guide*

- *Shared Virtual Array Administrator for Windows User's Guide*

Related SVA Software Publications

SVA Console for Windows NT (SVAC):

- *Shared Virtual Array Console for Windows Quick Start Guide*

For any StorageTek software:

- *Requesting Help from Software Support*

SVA Hardware Publications

Shared Virtual Array hardware publications are available from the following sources:

- On the “SVA Hardware Publications” CD-ROM (part number 3118447nn). To order a copy, contact StorageTek Publication Sales and Service at 800-436-5554 or send a fax to 303-661-7367.
- Online (for viewing and printing), at the StorageTek Customer Resource Center (CRC) website at: www.support.storagetek.com. To access the Shared Virtual Array publications, use the following steps:
 - a. Log in.

Note: Logging in requires a customer login ID and password which can be obtained by calling StorageTek Customer Support at 800-678-4430.
 - b. In the navigation bar on the left side of the screen, click **Disk** under **Current Products**.
 - c. Scroll down to **Virtual Disk Storage**, and click on the product you want.
 - d. The SVA publications are available under the “Manuals and Guides” heading. You may need to click **View More** to see the complete list.

The V2X Shared Virtual Array (SVA) library consists of:

- *V2X Shared Virtual Array General Information*
- *V2X Shared Virtual Array Installation and Maintenance*
- *V2X Shared Virtual Array Introduction*
- *V2X Shared Virtual Array Operations and Recovery*
- *V2X Shared Virtual Array Planning*
- *V2X Shared Virtual Array Reference*

- *V2X Shared Virtual Array System Assurance*
- *Peer to Peer Remote Copy Configuration Guide*

The V960 Shared Virtual Array (SVA) library consists of:

- *V960 Shared Virtual Array General Information*
- *V960 Shared Virtual Array Installation and Maintenance*
- *V960 Shared Virtual Array Introduction*
- *V960 Shared Virtual Array Operations and Recovery*
- *V960 Shared Virtual Array Planning*
- *V960 Shared Virtual Array Reference*
- *V960 Shared Virtual Array System Assurance*
- *Peer to Peer Remote Copy Configuration Guide*

The 9500 Shared Virtual Array (SVA) library consists of:

- *9500 Shared Virtual Array General Information*
- *9500 Shared Virtual Array Installation*
- *9500 Shared Virtual Array Introduction*
- *9500 Shared Virtual Array Maintenance*
- *9500 Shared Virtual Array Operation and Recovery*
- *9500 Shared Virtual Array Planning, Implementation, and Usage*
- *9500 Shared Virtual Array Reference*
- *9500 Shared Virtual Array System Assurance*
- *Peer to Peer Remote Copy Configuration*

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- Shared Virtual Array
- StorageTek
- SVA

The following terms are trademarks of Microsoft Corporation:

- Windows
- Windows NT
- Windows 2000
- Windows 2003

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Summary of Changes

Fourth Edition (Rev D) February 2003

This edition includes the following changes:

- Updated SVA subsystem microcode level requirements. See “Verify Minimum System Requirements,” on page 1.
- Updated “Configure the SVAA Server,” on page 11 for new prompts supporting the SVAA Web-based interface.

Third Edition (Rev C) September 2002

This edition includes the following changes:

- Updated V2X microcode level requirements.
- Added V2X documents to the “SVA Hardware Publications” section.
- Made the following changes to the “Configure the SVAA Server” section:
 - Clarified that the server Description field must be filled in.
 - Clarified that the folders specified in Install Path, Config Path, and Log File fields must already exist.
 - Added “Service Tab” section.
- Updated instructions in “Preface” for obtaining product documentation from the StorageTek Customer Resource Center (CRC).

Chapter 1. Pre-installation

You should perform the following pre-installation tasks to ensure that your site is ready for installation of the Shared Virtual Array Administrator (SVAA) for Windows.

Verify Minimum System Requirements

Before beginning the installation, please contact StorageTek Software Support to verify that your site meets the minimum hardware and software requirements supported by StorageTek. You will need to provide details about your site configuration, including:

- Host system processor and memory
- Host disk space
- Host operating system level
- SVA subsystem microcode
- Host bus attachments (HBAs)
- Switches
- High-availability software
- Third-party disk management software

If you are upgrading from SVAA V1.1.0 (or a subsequent maintenance patch), you should review this information.

- Multiple SVAA servers running on the same host cannot use the same server names and port numbers. Therefore, if you want to install and test SVAA V3.1.0 while still running SVAA V1.1.0 on the same host, you must assign a different name and port number to the new SVAA server.
- When you configure the V3.1.0 SVAA server you will be prompted whether you want to “Write startup daemon to”. If you want the V3.1.0 SVAA server to be started automatically at system startup, you should enter “y”. If, however, you want to continue with the V1.1.x SVAA server as the default server, you should enter “n”. You can re-run the configuration script at any time and change this value. You can start the non-default server manually with the `sibserv` command.
- If you are using SVA Console (SVAC) for Windows NT, you should be aware that both SVAA and SVAC must be at the same version level in order to be compatible. In other words, SVAC V1.1.x cannot run with SVAA V3.1.0; conversely, SVAC V3.1.0 cannot run with SVAA V1.1.x.

Therefore, if you are unable to upgrade all servers and clients at the same time, you should not de-install any prior versions of the products until they are all upgraded.

Verify SVA Subsystem Readiness

Perform the following procedure at the SVA subsystem LOP (local operator panel) to verify that the subsystem is ready for SVAA installation.

Note: If any of the following steps do not verify readiness, refer to the *Shared Virtual Array Installation* guide for instructions on setting up the Shared Virtual Array (SVA) subsystem hardware correctly.

1. Perform the following steps to verify that at least one ICF card in the SVA subsystem has been configured for fibre:
 - a. From the Subsystem Main Menu, press F6, Configuration/Drain Menu.
 - b. Press F7, Configure Interface Menu.
 - c. Verify that the ICF card you want to dedicate to fibre shows a “2” (fibre) in the “Type” column.
 - d. Press F3 until you return to the Subsystem Main Menu.
2. Use the following steps to verify that the SVA subsystem has been assigned a name:
 - a. From the Main Menu, press F5, Information/Status.
 - b. Press F5, Subsystem Configuration Status.
 - c. On the Subsystem Status screen, verify that an alphanumeric name is displayed in the “Subsystem Name” field.
 - d. Press F3 until you return to the Subsystem Main Menu.
3. Use the following steps to verify that at least one Production array has been formed:
 - a. From the Main Menu, press F6, Configuration/Drain Menu.
 - b. Press F5, Configure Subsystem Menu.
 - c. Press F8, Partition Status Array Status.
 - d. Verify that at least one array has been defined for the Production partition.
 - e. Press F3 until you return to the Subsystem Main Menu.
4. Use the following steps to verify that at least one privileged ECAM device has been assigned:
 - a. From the Main Menu, press F6 Configuration/Drain Menu.
 - b. Press F5, Configure Subsystem Menu.

- c. Press F7, Functional Device Configuration.
- d. Verify that at least one 3390-3 or 3390-9 type device displays a “Y” in the “Priv” column.

Note: On the SVAA server, 3390-3 devices are identified as SCSIA, and 3390-9 devices are identified as SCSIB, if those devices have been defined as SCSI on the LOP.
- e. Press F3 until you return to the Subsystem Main Menu.

Verify Windows Computer Hardware Readiness

Perform the following procedure on the Windows computer hardware to verify that it is ready for SVAA installation.

Verify Hardware Configuration

Use the following steps to verify the devices you want to be able to access from the Windows operating system.

1. Determine which LUNs (logical unit numbers) you want to be able to access on the SVA now and in the foreseeable future.
2. Verify with your hardware administrator which ICF cards are being used to attach the Windows host to the SVA subsystem.
3. When the host bus adapter (HBA) driver was installed, the host should have been configured to access functional devices on the SVA. Verify with your hardware administrator that the configuration is correct.

Configure the Devices

Note: To have drive letters assigned permanently, you should log on as `userid Administrator` before performing these steps. If you log on as any other `userid`, the drive letters you assign may be later reassigned to other disks by the `Administrator` user.

1. Access the disk management tool for your operating system.
2. Create a primary partition. Be sure to assign a partition size, a drive letter, and a format. You can give the drive a volume label if you want.

Note: SVAA does not support extended partitions.

Note: If you are using dynamic disks, you should be aware that you cannot snap a dynamic disk and you cannot use a dynamic disk as an ECAM device.

The Windows computer is now ready for the SVAA server installation.

Chapter 2. Installation

Note: SnapShot is automatically installed with SVAA for Windows V3.1.0.

Verify Free Space

In order to complete the installation, on the Windows computer you must have at least 10MB of free space in the file system where you plan to install the SVAA server software (C:\Program Files\StorageTek\Shared Virtual Array Administrator 3.1.0\ is the default directory).

Install SVAA Software

1. Log in as a user with administrative privileges (such as userid Administrator).
2. Insert the Installation CD in your CD-ROM drive. The Shared Virtual Array Administrator installation program will run automatically (Autorun), taking you through the installation process step-by-step.

Or press the Shift key while you insert the CD. In this case, the installation program will not run automatically. To start the installation, open Windows Explorer, go to D:\ (where D: is your CD-ROM drive identifier), and double-click Setup.exe.

3. A dialog box is displayed warning you that the installation may reboot your computer. Click **Yes** to continue with the installation (you should choose this only if you currently have no open applications on your computer). Click **No** to exit the installation.
4. On the **Welcome** screen, review the information displayed and click **Next>** to continue.
5. On the **Launch ReadMe** screen, select the Launch ReadMe file check box to view the SVAA V3.1.0 ReadMe.txt file now. De-select the box to view the file at a later time. Click **Next>** to continue.

Note: It is strongly recommended that you view the ReadMe.txt file before continuing with the installation. While viewing the file, select **File>Print** to print it. Select **File>Exit** to exit the file and continue with the installation.

6. On the **Customer Information** screen:
 - Enter your User Name and Organization.
 - You can use the radio buttons to designate who will be able to run the SVAA server from your computer. Select “Anyone who uses this

computer” to allow any login ID on this computer to run SVAA. Select “Only for me” to allow only your current login ID to be able to run SVAA.

Click **Next>** to continue.

7. On the **Setup Type** screen you can designate the type of installation.
 - Select “Complete” to install SVAA in the default installation directory (C:*programs_folder*\StorageTek\Shared Virtual Array Administrator 3.1.0), where *programs_folder* is your computer’s default program installation directory—usually Program Files).
 - Select “Custom” to designate a different installation directory.



Caution: Because SVAA runs as a service under the System Account, SVAA does not have access to network resources. Therefore, SVAA must be installed on a local disk.

In either case, the entire SVAA product will be installed; there are no options for a partial installation. Click **Next>** to continue.

8. If you chose Custom on the previous screen, the **Custom Setup** screen appears.
 - Click “**Change...**” to specify a different installation directory. This opens a **Change Current Destination Folder** dialog box. You can type in a folder name, or you can select a folder from the drop-down menu. Click **OK** to continue.



Caution: Because SVAA runs as a service under the System Account, SVAA does not have access to network resources. Therefore, SVAA must be installed on a local disk.

- Click “Space” to view the disk space requirements and availability on your computer. Click **OK** to continue.
9. On the **Install Desktop Icon** screen, select the check box to add the SVAA Manager shortcut icon to your Desktop. Leave the box unchecked to not add the icon.

Note: SVAA Manager is used to configure, start, and stop the SVAA server.

Click **Next>** to continue.

10. On the **Ready to Install the Program** screen, click **Install** to begin the installation.
11. When the installation is complete, the **InstallShield Wizard Completed** dialog box appears. Click **Finish** to exit InstallShield.
12. In some cases, after you click **Finish** you will see a dialog box prompting you to restart your computer. Click **Yes** to restart now. Click **No** to not restart; you will need to restart at a later time in order for SVAA to run correctly.

Install Necessary Patch(es)

Before continuing to the next procedure, you should install the latest SVAA for Windows patch level. To do so, access the StorageTek Customer Resource Center (CRC) website at www.support.storageitek.com and download any necessary patches, then install them according to the given instructions.

Configure the SVAA Server

Use the following steps to configure the SVAA server for your installation.

1. Log in as a user with administrative privileges, if you haven't already.
2. Start the SVAA Manager program from the Windows **Start** menu: Click **Start**, and then click **Programs>StorageTek>Shared Virtual Array Administrator 3.1.0>SVAA Manager**.
3. Click the **Server** tab.
4. Click **New**.
5. Define the new configuration by filling in all the fields on the dialog box. See "Server Tab" for instructions on how to fill in the fields.
6. Click the **Service** tab.
7. Enter a value in the Description field. See "Service Tab," on page 9 for details.
8. Click **Save**.

The SVAA server configuration will appear in the SVAA server list box, on the right-hand side of the dialog box.

Server Tab Following are descriptions of the fields on the **Server** tab dialog box.

Name:

Each SVAA server must have a unique name. This name is displayed during server execution.

Enter any string up to 256 characters in length. The following characters are accepted, even as the first one: a to z, A to Z, 0 to 9, \$, @, #, -, _, +, &, ., and /.

Caution: You must not have two SVAA servers with the same name, even if they are running on different hardware platforms, as this can have unpredictable results.

Port:

The TCP/IP port number for this SVAA server configuration. The default is 41248.

Enter any integer between 1024 and 64567.

Note: This value should be unique for each SVAA server configuration.

Install Path:

The folder where the SVAA server software is installed. Typically, this would be C:\Program Files\StorageTek\Shared Virtual Array Administrator 3.1.0\.

Enter the full pathname of the folder, such as C:\Program Files\StorageTek\Shared Virtual Array Administrator 3.1.0\. The folder must already exist. The path must be on a local drive, as the SVAA server cannot access any network resources.

Config Path:

The folder where the config.dat file is located. This file contains the values you define for this SVAA server configuration, and it serves as a backup to the Windows Registry.

Enter a full pathname of the folder, such as C:\Program Files\StorageTek\Shared Virtual Array Administrator 3.1.0\Server31\. The folder must already exist. The path must be on a local drive, as the SVAA server cannot access any network resources.

Note: This value should be unique for each SVAA server configuration.

Log File:

The name of the file where the SVAA server will write error messages.

Enter the full pathname, including the file name, such as C:\Program Files\StorageTek\Shared Virtual Array Administrator 3.1.0\Server31\Server31log. The folder where the file will be located must already exist. The path must be on a local drive, as the SVAA server cannot access any network resources.

Note: This value should be unique for each SVAA server configuration.

Enable Web Interface

Indicates whether you want to enable the SVAA server Web-based interface. The Web-based interface is used to produce point-in-time reports for one or more SVA subsystems.

A check mark enables the Web-based interface; a blank check box disables it.

Web Interface Port:

The TCP/IP port number to be used for communication between the Web-based interface and the SVAA server.

Enter any integer between 1024 and 57602.

Note: This value must be unique for all SVAA server configurations on the host system. It also must be different from the **Port** value.

All Devices:

Lists all fixed disks on the host. This includes local hard drives as well as SVA subsystem devices. Network drives and other devices (such as floppy drives and CD-ROM drives) are not included in the list.

ECAM Devices:

Lists devices that have been designated as ECAM devices for the server. ECAM devices are used by the SVAA server to communicate with the SVA subsystem.

Note: To move a drive between the All Devices and ECAM Devices scroll lists, select the drive letter and double-click it or click an arrow (<< or >>). To move all drive letters from one scroll list to the other, Shift-click an arrow.

Note: See “Installing SVA Path with SVA Administrator” in the *SVA Path for Windows User’s Guide* for instructions on updating the ECAM device configuration in SVA Path.

Service Tab Following are descriptions of the fields on the **Service** tab dialog box.

Name:

Displays the name of the selected SVAA server configuration Registry key. This value is generated automatically. It has the form SVAA_StorageTek_*nn*, where *nn* is a two-digit number.

This field is display only.

Description:

A description of the SVAA server configuration. This name will be displayed in the Services dialog. It is also displayed in the SVAA server list box.

Enter any string up to 256 characters in length. The following characters are accepted, even as the first one: a to z, A to Z, 0 to 9, \$, @, #, -, _, +, &, ., and /.

Startup Type:

Specifies whether this SVAA server service will be started manually or automatically.

Click **Manual** to allow the service to be started manually on demand. Click **Automatic** to have the service started automatically during the Windows startup process.

Status:

Displays the current status of the SVAA service. Normal values are Stopped or Running. For short periods of time the service can be in an intermediate state, such as Starting or Stopping. Abnormal states include Pausing, Paused, Continuing, or Unknown. Also, an abnormal condition exists if the service is in an intermediate state for more than a minute or so.

This field is display only.

Parameters:

Provides a place to enter optional parameters to be passed to the SVAA server as it starts up. The parameters are described below.

Note: Parameter values containing spaces must be enclosed in quotes.

-config *pathname*

Optional parameter. Specifies the location of the `config.dat` file to be used by the SVAA server. When the server starts up, it will use the values specified in this file instead of those in the Windows Registry which were defined during SVAA configuration.

Enter the full pathname where the `config.dat` file is located.

-debug *format*

Optional parameter. Activates trace logging on the server side for diagnostic purposes.

format (an integer from 1 to 7) specifies the format for the trace entries. You can enter only one value at a time. Ranges, lists, and wildcards are not supported.

Note: Normally, you would use this parameter only under the direction of StorageTek Software Support. Your support representative will give you the appropriate *format* value to use.

-ecamdev *device_path*

Optional parameter. Specifies the ECAM device to be used by the SVAA server to access the SVA subsystem. This entry overrides the default ECAM device specified in the Windows Registry.

Entry must be a valid ECAM device previously defined with the `addsubsystempath` command. Enter the full pathname of the device.

-file

Optional parameter. Used for Windows-based SVAA servers only. Specifies to repopulate the Windows Registry with values from the SVAA configuration file (`config.dat`). This is useful for restoring the SVAA configuration information in the Windows Registry in the event that the Registry data has been corrupted in some way.

The file to use is determined as follows:

- If you are using the `-config` parameter on this command to explicitly specify a `config.dat` file, the values will be taken from there.
- If you are not using the `-config` parameter, the values will be taken from the default `config.dat` file for this server configuration, as specified in the **Config Path** field on the **Server** tab dialog box.

-log *file_name*

Optional parameter. Specifies the log file to be used by the SVAA server (where SVAA error messages are sent). This entry overrides the log file specified in the Windows Registry.

Enter the full pathname, including the file name.

-nowebport

Optional parameter. Disables the Web-based interface for this SVAA server. This entry overwrites the Web-based interface status in the Windows Registry, disabling the Web-based interface for this SVAA server.

Once this parameter is used, the Web-based interface remains disabled for this SVAA server until the interface is explicitly re-enabled.

`-port port_number`

Optional parameter. Specifies the port number to be used by the SVAA server's TCP/IP connections. This entry overrides the port number in the Windows Registry.

Enter any integer between 1024 and 64567.

Note: If you have multiple SVAA servers running on a single host machine, each server must have a unique port number.

`-serveridletime minutes`

Optional parameter. Specifies that the SVAA cache refresh cycle is to be suspended if there is no cache activity for the specified number of minutes. The cache refresh cycle will be restarted as soon as cache activity is resumed. "Cache activity" is defined as any request that queries or modifies data in the SVAA cache, such as `displaydevice`, `startdrain`, or `refreshcache`; commands such as `queryversion` and `setadministratorgroup` do not affect SVAA cache and therefore do not affect this option.

Enter the number of minutes; entry can be any integer between 1 and 10080 (seven days). You must specify a value; there is no default.

If you do not specify this parameter, SVAA server cache refreshes will never be suspended for this instance of the server.

`-webport port_number`

Optional parameter. Specifies the TCP/IP port number to be used for communications between the SVAA server and the Web-based interface. This entry overrides the port number in the Windows Registry, making it the new default Web-based interface port number for this SVAA server..

Note: This entry must not be the same as the port number of any active SVAA servers (SVAA server port numbers are defined in the Windows Registry and can be overridden by the `-port` parameter).

Enter any integer between 1024 and 64567.

Note: If the Web-based interface was previously disabled for this SVAA server, specifying this parameter re-enables it. The Web-based interface will remain enabled until explicitly disabled.

Validate the SVAA Server and CLI

Use the following steps to start the SVAA server and the CLI (command line interface) and verify that they are running correctly.

1. Log in as a user with administrative privileges, if you haven't already.
2. Start the SVAA Manager: Click **Start**, and then click **Programs>StorageTek>Shared Virtual Array Administrator 3.1.0>SVAA Manager**.
3. Click the **Service** tab.
4. In the SVAA server list box, select the SVAA server configuration you created in "Configure the SVAA Server," on page 7.
5. Click **Start**.

As soon as you see the message Running SVAA Server, proceed to the next step.

6. Start the `sibadmin` program which runs the SVAA CLI (command line interface): Click **Start**, and then click **Programs>StorageTek>Shared Virtual Array Administrator 3.1.0>sibadmin**.

Note: Refer to the *SVAA for Windows User's Guide* for a complete explanation of `sibadmin` and its options.

7. To verify that the SVAA server is communicating with the SVA subsystem, type the following at the CLI prompt:

```
SIB> querysubsystem
```

The display should appear similar to the following example:

```
SVAA Server: Server1      Date/Time: 11-24-2000 22:20:07 MDT
SubsysDev
SubsysProd
SubsysTest
```

8. To verify that the CLI is communicating with the SVAA server, type the following at the CLI prompt:

```
SIB> queryversion
```

The display should appear similar to the following example:

```
SVAA Server: Server1      Date/Time: 11-24-2000 22:25:07 MDT
Shared Virtual Array Administrator 3.1.0 Windows 2000
```

9. Exit from the CLI:

```
SIB> exit
```

10. Use the following steps to stop the SVAA server:

- a. Return to the SVAA Manager **Service** dialog.
- b. In the SVAA server list box, select the SVAA server configuration that you started earlier.
- c. Click **Stop**.

Validation is now complete.

SVAA Server Security Considerations

SVAA server administration functions are limited to the user “Administrator” and to users in the SVAA server administrator group. When the SVAA server is first installed, the default SVAA administrator group is Administrators or Domain Admins”. If you want to assign SVAA administrator privileges to a different group, you can perform the following steps after the SVAA server installation and configuration are finished:

1. Login as Administrator.
2. Use the SVAA Manager program to start the SVAA server.
3. Use the sibadmin program to start the CLI.
4. Use the dropadministratorgroup command to remove SVAA administrator privileges from the Administrators or Domain Admins group.
5. Use the setadministratorgroup command to assign administrator privileges to the desired group. The group must be an existing Windows group. It can be a global group. The new group takes effect immediately.

Note: SVAA administrator privileges apply only to SVAA server administration functions. In order for any user (including members of the SVAA administrator group and Administrator) to be able to perform functions that modify the SVA subsystem (such as defining devices or forming arrays), the user must have write-access to a privileged ECAM device. Other restrictions apply for specific functions, such as snapping a partition. For complete details, see the following sections in the *SVAA User's Guide*:

- “Chapter 2, Security”—Describes the SVAA server security system.
- “Chapter 5, SVAA CLI Commands”—Describes how to use the CLI and provides detailed reference on all commands.

De-installation

The SVAA software can be de-installed using the standard Windows de-installation tools.

Glossary

A

array—A group of drive modules used collectively to achieve data redundancy and/or improved performance. An array consists of either 7 or 15 drive modules (15 only for V960 or V2X subsystems). There can be up to 8 arrays in a subsystem.

array device—The disk devices that are logically grouped together when a `formarray` command is issued at the local operator panel or from SVAA.

B

back-end storage—The data storage portion of a storage system. In the Shared Virtual Array, this is the disk array on the subsystem.

C

cache—Solid-state, random-access memory that is located in a controller. The cache retains frequently used data for faster access. In the Shared Virtual Array, all data access is through cache.

channel interface—See “I/O interface”.

CKD device—A storage device that uses the “count-key-data (CKD)” format.

CLI (command line interface)—In SVAA, a user interface on the Windows host system used to issue commands for configuring and monitoring the SVAA server and the SVA subsystem.

client—the CLI (command line interface) is a client of the SVAA server.

count-key-data (CKD)—A recording format that writes variable-length records. Each record consists of 1) a count field, which specifies the length of the (optional) key field and the data field of the record, 2) the (optional) key field, and 3) a data field. The first record on each track contains a fourth field, home address. Contrast with “fixed-block architecture (FBA)”.

D

disk array—The logical grouping of drive modules on a Shared Virtual Array.

domain—An SVA subsystem addressing scheme, prefixed to SCSI target and LUN addresses, that extends the number of addressable devices from SCSI-attached hosts.

drain—The Shared Virtual Array process that gradually moves data stored on a drive module or a disk array to other devices. Drains allow for the non-disruptive de-installation of a device.

drive module—One of the inexpensive disks comprising the storage in an SVA subsystem. A physical device.

dynamic configuration—A Shared Virtual Array feature that allows the I/O interfaces and up to 1024 (in the case of V960 or earlier subsystems) or 4096 (in the case of V2X subsystems) functional devices to be defined and/or altered. The functional configuration of a Shared Virtual Array can be determined by user requirements, rather than available physical devices.

E

ECAM (extended control and monitoring facility)—The communications protocol that permits communication between SVAA and the SVA subsystem. See also “ECAM device” and “privileged ECAM device”.

ECAM device—A functional device over which ECAM messages are exchanged between the Shared Virtual Array disk array controller and the SVAA server.

ESCON—Enterprise Systems Connection. An IBM standard for connecting peripheral devices to a host system via fibre-optic cables.

ESCON channel—A channel that uses fiber-optic (ESCON) cables to transmit data between the host and the disk array controller.

F

FDID—Functional device ID. The ID for a functional device as it is known to the SVA subsystem and the SVAA server. FDIDs range from 0 to 3FF, hexadecimal, for V960 and earlier subsystems; 0 to FFF, hexadecimal, for V2X subsystems. See “functional device”.

fixed-block architecture (FBA)—A recording format in which every track of the device is formatted with a fixed number of fixed-length records (generally called sectors), each of which contains an identifier (ID) field and a data field. Contrast with “count-key-data (CKD)”.

functional—The term used to describe the Shared Virtual Array system interface as viewed by the host, application, and users. This interface appears as a SCSI or 3990-3 system interface.

functional device—The disk device image viewed by the host operating system.

I

index 0 device—The parent device in a SCSI larger LUN device. Child devices are devices 1–n.

initiator—A device that begins a SCSI transaction by issuing a command to another device (the target) to perform a task. Typically, a SCSI host adaptor is the initiator. Contrast with “target”.

I/O interface—The Shared Virtual Array circuitry that attaches to the host system. Can be fibre or ESCON.

K

known SVA subsystem—A subsystem to which the local SVAA server has access.

L

larger LUN (LLUN) device—See “SCSI larger LUN (LLUN) device”.

local operator panel (LOP)—A user interface, located on the front door of the SVA subsystem, used to control and configure the SVA subsystem.

logical unit number (LUN)—A method to expand the number of devices on a SCSI bus. LUNs address up to eight devices at each SCSI ID.

LOP—See “local operator panel (LOP)”.

LUN—See “logical unit number (LUN)”.

M

MAT partition—The SVA subsystem partition consisting of drive modules that are not yet available for storing user data. Drive modules are automatically members of the MAT partition when they are first physically inserted in the SVA subsystem or when they have been drained of data.

N

NCL—See “net capacity load (NCL)”.

net capacity load (NCL)—A percentage of the total number of sectors used to store user data. It is based on physical capacity used. This number is 2KB times the number of physical sectors actually used to store user data, not including redundancy data.

P

parallel channel—A channel that uses bus-and-tag cables to transmit data between the mainframe and the disk array controller.

partition—In the SVA subsystem, the logical separation of devices, arrays, or groups of arrays to allow different modes of operation. The SVAA for Windows server supports the following partitions: MAT, Production, Spares, and Unavailable.

physical device—See “drive module”.

point-in-time reports—SVA subsystem reports generated through the SVAA WBI.

PPRC bridge pair—A primary bridge volume and its associated secondary bridge volume. There are both PPRC data bridge pairs and PPRC status bridge pairs.

PPRC data bridge volume—Used by Power PPRC as a staging area for PPRC data.

PPRC link—The physical ESCON connection between two SVA subsystems.

PPRC pair—A primary volume and its associated secondary volume. PPRC pairs are established and de-established using SVAA commands.

PPRC path—The logical connection between two virtual control units (VCUs) used by PPRC.

PPRC primary volume—A device that is being mirrored under PPRC control. A primary volume can be copied to only one secondary volume.

PPRC secondary volume—A device that is receiving mirrored data from a primary volume.

PPRC status bridge volume—Used by Power PPRC for acknowledgments that PPRC data has been successfully transmitted and received.

privileged ECAM device—One of the only devices that SVAA can use to send messages to the SVA subsystem to request a change in the subsystem's state. Such messages include those that alter the subsystem configuration or start a drain.

At least one privileged ECAM device must be defined in each SVA subsystem.

Production partition—The SVA subsystem partition consisting of drive modules used for storing and retrieving user data.

S

SCSI—See “Small Computer Systems Interface (SCSI)”.

SCSI bus—A pathway for data that conforms to the SCSI standard.

SCSI device—A device that conforms to the SCSI standard.

SCSI ID—The unique address of a SCSI device. SCSI IDs range from 0 to 7 for 8-bit systems, 0 to 15 for 16-bit systems, and 0 to 31 for 32-bit systems.

SCSI larger LUN (LLUN) device—A device consisting of one or more functional devices, viewed by the host system as a single logical device. SCSI larger LUN devices can be virtually any size.

serial channel—See “ESCON channel”.

Shared Virtual Array (SVA)—An online, random access disk array storage system composed of disk storage and control unit combined into a single frame.

Shared Virtual Array Administrator (SVAA)—A server-based product providing SVA subsystem configuration and administration functions. Runs on UNIX, Windows, and S/390 platforms.

Shared Virtual Array Console (SVAC)—A GUI interface that connects to an SVAA server and provides SVA subsystem configuration, administration, and reporting functions.

slot—The physical location of a Shared Virtual Array drive module.

Small Computer Systems Interface (SCSI)—An I/O interface with a standard, device-independent protocol that allows many different peripheral devices to be attached to a host system.

space release—An SVAA facility that informs an SVA subsystem that the space in a SCSI partition can be released because the information in the partition is no longer needed.

Spares partition—The SVA subsystem partition consisting of drive modules that are physically installed but not logically associated with an array. Drive modules in the Spares partition are used to form production arrays, to reconstruct failed disks, and to receive data from drive modules being drained.

subsystem—A secondary or subordinate system, usually capable of operating independently of a controlling system.

SVA—See “Shared Virtual Array (SVA)”.

SVA subsystem—See “Shared Virtual Array (SVA)”.

SVAA—See “Shared Virtual Array Administrator (SVAA)”.

SVAA server—See “Shared Virtual Array Administrator (SVAA)”.

SVAA server cache—A cache of information maintained by the SVAA server for each SVA subsystem to which it has access. Includes information about the overall SVA subsystem, its I/O interfaces, physical devices, and functional devices.

SVAC—See “Shared Virtual Array Console (SVAC)”.

T

target—A SCSI device that executes a command from another device (the initiator) to perform a task. Typically, a SCSI peripheral device is the target. Contrast with “initiator”.

tray—The physical packaging of eight drive modules in a Shared Virtual Array.

U

Unavailable partition—The SVA subsystem partition consisting of drive modules that are not available for use in an array. This includes drive modules that have failed or that are not yet physically installed.

unknown SVA subsystem—A subsystem to which the local SVAA server does not have access.

V

virtual storage architecture—The innovative storage architecture used by Shared Virtual Array storage to extend the capabilities of traditional online storage.

VSAM volume data set (VVDS)—Mainframe term referring to the volume data set that describes the characteristics of VSAM (virtual storage access method) or SMS (storage management subsystem) managed data sets residing on the volume. There is one, and only one, VVDS for each volume containing either SMS-managed data sets or VSAM data sets cataloged in an ICF (integrated catalog facility) catalog.

volume table of contents (VTOC)—Mainframe term referring to the volume data set that describes the characteristics of each data set stored and the space remaining available for use on the volume. There is one VTOC per volume.

W

WBI—Graphical user interface (GUI) to the SVAA server that can be accessed through a Web browser.

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