

HP Systems Insight Manager with HP Command View EVA

White paper



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Executive summary

Businesses today face similar infrastructure challenges—too much under-utilized server and storage capacity, time and money spent on managing the infrastructure, and a relentless demand to meet changing business needs. And with each passing year, the costs associated with the management of the server and storage infrastructure take a larger chunk out of the data center budget.

This white paper describes the integration of HP Systems Insight Manager with HP Command View EVA. The following are key benefits of a unified server and storage management infrastructure:

- Provide a central point of integration to simplify and consolidate management of the entire server and storage infrastructure. Reduces deployment time and costs, and facilitates collaboration between traditional islands of server/storage management.
- Centralize event notifications in HP Systems Insight Manager for servers and storage. This is especially beneficial when there are multiple CV EVA servers in the environment. Simplify and improve response times when managing server-storage infrastructure alerts.
- Improve the detail of the EVA events through Insight Remote Support, ideal for both small and large environments needing to integrate remote support capabilities with a centralized management platform. Provide faster notification and subsequent resolution of server and storage events in your network.
- Provide high level summary of storage utilization for EVA.

The reader should be familiar with HP Systems Insight Manger and HP Command View EVA. Additionally, the reader should be familiar with HP service tools like Insight Remote Support and WEBES.

Terminology used

The following	definitions	are used	in	this	document:
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Term	Description
ABM	Array Based Management
CMS	Central Management Station
CVEVA	Command View EVA
DESTA	Distributed Enterprise Service Tools Architecture
ELMC	Event Log Monitoring Collector
EVA	Enterprise Virtual Arrays
GUI	Graphical User Interface
LUN	Logical Unit Number
MIB	Management Information Base
RSA	Remote Support Advanced
RSS	Remote Support Standard
SBM	Server Based Management
SIM	Systems Insight Manager
SMI-S	Storage Management Initiative Specification
SMS	Storage Management Server
SNIA	Storage Networking Industry Association
SSO	Single Sign-On
SSSU	Storage System Scripting Utility
UI	User Interface
UUID	Unique Unit Identifier
WBEM	Web-based Enterprise Management
WWN	World Wide Name
WCC	WEBES Common Components

HP Command View EVA overview

The HP Command View EVA software suite is used configure, manage, and monitor the EVA, a family of advanced, enterprise storage arrays from HP. The software suite includes:

- HP Command View EVA: Use the graphical user interface for initial configuration, storage provisioning, and ongoing storage system management and monitoring.
- HP StorageWorks Storage System Scripting Utility (SSSU): Use the command line interface to script and run repetitive and complex configuration tasks. Go to www.hp.com/go/cveva and then select "Support for your product". In "manuals" look for the document named "HP StorageWorks Storage System Scripting Utility reference".
- HP StorageWorks Command View EVAPerf: Use this tool to monitor array performance
- Storage Management Initiative Specification for Enterprise Virtual Array (SMI-S EVA): Install SMI-S EVA on a management server to provide a common management interface in a server-based management environment. It is a standard management interface developed by Storage Networking Industry Association (SNIA) to ease the management burden in multi-vendor SAN environments.

HP Command View EVA enables you to:

- Manage storage security and passwords
- License storage systems
- Provision storage to hosts
- Replicate storage using HP Business Copy EVA and HP Continuous Access EVA
- Maintain and manage storage systems
- Monitor storage system events

HP Systems Insight Manager overview

HP System Insight Manager (HP SIM) is the foundation for the HP unified server-storage management strategy. HP SIM is a hardware-level management product that supports multiple operating systems on HP ProLiant, Integrity and HP 9000 servers, HP StorageWorks MSA, EVA, XP arrays, and third-party arrays. Through a single management view of Microsoft[®] Windows[®], HP-UX 11iv1, HP-UX 11iv2, HP-UX 11iv3, and Red Hat and SuSE Linux, HP SIM provides the basic management features for the following:

- System discovery and identification
- Single-event view
- Inventory data collection
- Reporting

HP SIM uses:

- WBEM to deliver the essential capabilities required to manage all HP server platforms
- SMI-S to discover and manage the storage systems it supports

Installing Systems Insight Manager and Command View EVA

Please refer to the manuals at the following links for more information regarding the installation and setup of HP Systems Insight Manager and HP Command View EVA:

HP SIM: http://h18013.www1.hp.com/products/servers/management/hpsim/index.html

HP CVEVA: http://h18006.www1.hp.com/products/storage/software/cmdvieweva/index.html

Command View EVA deployment options

Command View EVA can be installed on a server called server-based management (SBM). On certain models, it can also be installed on the EVA's management module, called array-based management (ABM). The way that Command View EVA is deployed affects the way it interacts with Systems Insight Manager.

Option 1: Command View EVA (SBM) and Systems Insight Manager on separate servers

Option 2: Command View EVA (SBM) and Systems Insight Manager on the same server

Option 3: Command View EVA (SBM) and Command View EVA (ABM) and Systems Insight Manager

Option 4: Command View EVA (ABM) and Systems Insight Manager

Note that for options 3 and 4, the IP address of CV EVA on the ABM module must be added to the SMI-S proxy list. This procedure is detailed in the <u>Configure HP SIM and HP CVEVA on a Single</u> <u>Server</u> section.

Discovering EVAs in Systems Insight Manager

Following are the steps to be followed for HP SIM to discover each CV instance and the EVAs

1. Launch HP SIM and click on Options \rightarrow Discovery. Refer Figure 1.1 below.

Figure 1.1: Add a new discovery task—Step 1



 Click on the "New" button to create a new discovery task. Choose either of the two options "Discover a group of systems" or "Discover a single system" accordingly. To discover a group of systems, follow the "Help with Syntax" link on the HP SIM GUI. By default, the Schedule option is selected. Unselect it if not needed as it is possible to re-schedule it later. Refer Figure 1.2 below.

Figure 1.2: Add a new discovery task—Step 2

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3. Click on the "Credentials" button seen in Figure 1.2 and then enter the sign-in credentials for HP CVEVA. Refer Figure 1.3 below.

Note:

Additionally it is possible to configure global credentials using the "Configure Global Credentials" link seen in Figure 1.1.

Figure 1.3: Add new discovery task—Step 3

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- The newly created discovery task appears in the "Options → Discovery" page. Select the new discovery task and click on "Run Now" button to start the discovery and initial data collection. Refer Figure 1.1.
- 5. Once the Discovery and Initial Data Collection completes, Click on "All Systems" link in the Navigation Pane to see all the discovered systems. Select a particular system and browse through it for detailed information. Refer Figure 1.4 below.

Figure 1.4: View all the Discovered Systems

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Centralizing Event Notifications

There are two ways in which HP SIM can receive events. Both the options are detailed below.

- 6. SNMP
- 7. WBEM

SNMP

- 1. From HP CVEVA, configure the following under "System Options:"
 - a. SNMP event notification: Select all/specified events to be notified, and save the changes.
 - b. SNMP host notification: Add the IP address of HP SIM server and save the changes.

- 2. Ensure SNMP services are running on both HP SIM and HP CVEVA servers. The Windows Service Manager can be used to check for SNMP services that include "SNMP Service" and "SNMP Trap Service." If these two components are not found in Windows Service Manager, go to Windows "Add or Remove Programs" and click on "Add/Remove Windows Components." In the Windows Component Wizard that appears, select "Management and Monitoring Tools" and install it. If HP SIM and HP CVEVA reside on a single server, check for SNMP services only on that server.
- From CV, go to System Options → Configure SNMP/event log notification → Configure events for SNMP/event log notification. Click on "Get MIB" button to download and save the MIB files for the required EVA Types. The MIB file is saved with extension (.mib.idi). Remove the (.idi) extension and save it with only (.mib) extension. Refer Figure 2.1 below.

Figure 2.1: Locating the MIB File from HP CVEVA

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 □ Hardware □ � EVA4400_2C1D_4F50 	All events Critical events Warning events Normal events	Configure
	Configure events using a configuration file: Browse to a properly formatted configuration file or enter a complete fi Configure button to configure your event options. Browse	le path and click the

- 4. Copy the MIB saved to the following location on the HP SIM server: C:\Program Files\HP\Systems Insight Manager\mibs\.
- 5. Open a cmd window on HP SIM server and go the following path: C:\Program Files\HP\Systems Insight Manager\mibs.
- 6. Execute the following command "mcompile <MIB file>"; for example, "mcompile eva6400.mib." This operation will generate a .cfg file, here in our case eva6400.cfg.
- 7. The following output will appear on cmd window as shown in the following Figure 2.2.

Figure 2.2: Compiling the MIBs in HP SIM

🚾 Administrator: C:\Windows\system32\cmd.exe	_ 🗆 🗙
C:\Program Files (x86)\HP\Systems Insight Manager\mibs>mcompile eva6400.mib	
HP Systems Insight Manager Mib Compiler, Version 5.0.2.1 Copyright (c) 2003–2006 Hewlett Packard Corporation	
Compiling eva6400.mib	
Processing import file: RFC1155-SMI.mib Processing import file: RFC-1212.mib Processing import file: rfc1213.mib Processing import file: RFC-1215.mib Mib Compilation completed successfully	
C:\Program Files (x86)\HP\Systems Insight Manager\mibs>_	

8. Restart the "HP Systems Insight Manager" service.

Screenshot of events from HP SIM

• Click on "All Events" link from the navigation pane to see all the events. Refer Figure 2.3 below.

Figure 2.3: Snapshot of events from HP SIM

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Sample SNMP Events

• The keyword (SNMP) will be prefixed before every SNMP event as seen in Figure 2.4 below.

Figure 2.4: SNMP Events

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WBEM

WEBES and EVA 4400

The release of Command View V9.1 onwards for ABM includes ELMC (WCCProxy) running on the ABM. This allows WEBES a connection point to the array event data.

WEBES retrieves Managed Entity information from HP SIM when operating on the RSA CMS. A key point to remember is HP SIM communicates to the array via WBEM protocol using the SMI-S provider and WEBES communicates to the array using a network connection to ELMC (WCCProxy).

Follow these steps to setup HP SIM and WEBES to monitor the array.

Remote Support Advanced (RSA)

Setup the Command View Protocol credentials in the WEBES UI first. This enables the correct ELMC protocol to be selected when WEBES discovers the array and ABM.

The ABM firmware does not include SNMP or WBEM agents to support HP SIM communication for retrieval of hardware information. This requires the manual setting of certain fields. The HP SIM System and Entitlement information is tightly coupled to the WEBES Managed Entity information. WEBES detects the presence of HP SIM and populates the Managed Entity information from what is found in the HP SIM defined for newly added systems or changes made to existing systems. For more details on WEBES, IRSS (Insight Remote Support Standard), and IRSA (Insight Remote Support Advanced) refer to manuals available at:

http://h18023.www1.hp.com/support/svctools/webes/index.html

http://h18013.www1.hp.com/products/servers/management/insight-remote-support/index.html

http://h18013.www1.hp.com/products/servers/management/insight-remotesupport/supportpack/index.html The synchronization of this information has been found to cause the entity discovered by WEBES to be left in an incomplete and unrecoverable state if any of the required fields are missing. This may require deleting the Managed Entity from WEBES UI and re-discovering it once all the required information is entered in HP SIM. Re-discovery is triggered by stopping and re-starting the DESTA_Service.

Steps to setup EVA 4400 and ABM in HP SIM

- Discover the EVA 4400 array (managed by ABM) in HP SIM by performing a discovery to the server running SMI-S that has been setup to connect to the ABM using discoverer.bat (refer section <u>Configure HP SIM and HP CVEVA on Single Server</u> on how to use discoverer.bat to setup SMI-S to connect to ABM) or a SMS running SMI-S and managing the array.
- Edit the System Properties in HP SIM for the discovered EVA array including the Contract and Warranty information, Site Name and Primary Contact. These are required field before HP SIM can present this entitlement data to WEBES Managed Entity. The Customer-Entered Serial Number and Customer-Entered Product Number are not required for EVA 4400 array as WEBES retrieves this information from the array for the EVA Managed Entity.
- In HP SIM discover the ABM (by providing the IP address of ABM module) and set the System Name to be the fully qualified domain name for the ABM. This is required for WEBES Managed Entity to correctly detect and add the ABM as a connection for the EVA.
- Edit the System Properties in HP SIM for the discovered ABM. Note that this is a placeholder in the HP SIM System List but there are fields required for WEBES to create a Managed Entity and pass the Remote Support Eligibility (RSE) list check. Fill in the following fields:
 - System type = Storage Device
 - System subtype = Storage
 - Product Model = EVA ABM

In Figure 2.5 below, the text EVA is required for the RSE check. ABM is included is included in this example as a way to differentiate between the ABM and array in the HP SIM UI.

Figure 2.5: ABM Module System Properties—Section 1

Edit System Propertie	S	
l2-hpux-150.ind.hp.com		
Go back to I2-hpux-150.ind.hp.com (EV	A ABM)	
Product Description		
System type:	Storage Device 👻	
System subtype 1:	Storage	•
System subtype 2:	<make selection=""></make>	•
System subtype 3:	<make selection=""></make>	•
System subtype 4:	<make selection=""></make>	•
System subtype 5:	<make selection=""></make>	-
System subtype 6:	<make selection=""></make>	•
System subtype 7:	<make selection=""></make>	•
System subtype 8:	<make selection=""></make>	•
Product model:	EVA ABM	
Hardware description:	EVA4400 ABM	
Operating system description:		
Operating system for tool filtering:	Windows -	
Operating system version:		

Note:

In Figure 2.5 above, the Hardware description has also been populated for the ABM. This is not required but is a convenient location to add information presented in the HP SIM UI.

- Entitlement Information:
 - Customer-Entered Serial Number
 - Customer-Entered Product Number

This information can be obtained from

Command View UI \rightarrow array-name \rightarrow Hardware \rightarrow Controller Enclosure These fields are required for WEBES to set up the ABM Entity correctly.

- Site name
- Primary customer contact

Refer Figure 2.6 below for Entitlement Information, Site name, and Primary customer contact.

Figure 2.6: ABM Module System Properties—Section 2

Edit System Propertie	s	
Go back to I2-hpux-150.ind.hp.com (EV)	A ABM)	
Contract and Warranty Info	ormation	
Entitlement Information		
Customer-Entered serial number:	SGA81500AM	
Customer-Entered product number:	AG637A	
System Country code:	[Choose a country]	•
Entitlement type:	•	
Entitlement ID:		
Obligation ID:		
Custom Delivery ID:		
System Site Information		
Site name: *	FT06 SAN Lab 👻 Manage	Sites
Customer Contact		
Primary customer contact: *	ABC XYZ 👻 Manag	e Contacts
Secondary customer contact:	[None selected] -	
Primary service contact:	[None selected] -	

WEBES Managed Entity UI should now display the EVA 4400 array and the ABM Module.

Remote Support Standard (RSS)

WEBES cannot get the entitlement information from HP SIM since it is not installed on the RSS. The Managed Entity information is entered manually using the WEBES Managed Entity UI. Perform these steps to add the EVA 4400 array.

• Add the ABM Module to the WEBES Managed Entity UI using the fully qualified domain name. The ABM entity will show up in the Managed Entity UI as needing information which is denoted by the orange bar status. Refer Figure 2.7 below.





• When selecting the ABM Entity Name you will find blank fields needing information for Entitlement Serial Number and Entitlement Model Number. Refer Figure 2.8 below.

Figure 2.8: WEBES Managed Entity—Step 2



- Add the information required for the ABM entity by filling in the Entitlement Serial Number and Entitlement Model Number. These fields are required to have information added before WEBES can attempt to connect and discover the array.
- This information can be obtained from Command View UI → array-name → Hardware → Controller Enclosure. Note these fields are required for WEBES to set up the ABM entity correctly. Refer Figure 2.9.

Figure 2.9: Controller Enclosure Information

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 Virtual Disks Hosts Disk Groups 	Identification Name: World Wide ID:	Controller Enclosure	Condition/State	Good
Virtual Disks Hosts Disk Groups Data Replication	Identification Name: World Wide ID: 5001-4380-024C-E	Controller Enclosure	Condition/State Operational state:	Good able Unit
 Virtual Disks Hosts Disk Groups Data Replication Hardware 	Identification Name: World Wide ID: 5001-4380-024C-E	Controller Enclosure	Condition/State Operational state: Riser Module Replace Spare part number:	Good able Unit 461491-001
 Virtual Disks Hosts Disk Groups Data Replication Hardware ISCSI Devices 	Identification Name: World Wide ID: 5001-4380-024C-E Attributes	Controller Enclosure	Condition/State Operational state: Riser Module Replace Spare part number: Assembly part number:	Good able Unit 461491-001 AG637-60501
 Virtual Disks Hosts Disk Groups Data Replication Hardware iSCSI Devices Controller Enclosure 	Identification Name: World Wide ID: 5001-4380-024C-E Attributes Model number: Dradust number:	Controller Enclosure	Condition/State Operational state: Riser Module Replace Spare part number: Assembly part number: Assembly serial number:	Good able Unit 461491-001 AG637-60501 P6314E19SVX025
 Virtual Disks Hosts Disk Groups Data Replication Hardware ISCSI Devices Controller Enclosure Controller 2 	Identification Name: World Wide ID: 5001-4380-024C-E Attributes Model number: Product number: Product Serial number:	Controller Enclosure	Condition/State Operational state: Riser Module Replace Spare part number: Assembly part number: Assembly serial number: Hardware revision:	Good able Unit 461491-001 AG637-60501 P6314E19SVX025 005
 Virtual Disks Hosts Disk Groups Data Replication Hardware iSCSI Devices Controller Enclosure Controller 2 Controller 1 	Identification Name: World Wide ID: 5001-4380-024C-E Attributes Model number: Product number: Product Serial num	Controller Enclosure 3D64 HSV300 AG637A nber: SGA81500AM	Condition/State Operational state: Riser Module Replace Spare part number: Assembly part number: Assembly serial number: Hardware revision:	Good able Unit 461491-001 AG637-60501 P6314E19SVX025 005
 Virtual Disks Hosts Disk Groups Data Replication Hardware ISCSI Devices Controller Enclosure Controller 2 Controller 1 Management Module 	Identification Name: World Wide ID: 5001-4380-024C-E Attributes Model number: Product number: Product Serial num Comments	Controller Enclosure 3D64 HSV300 AG637A mber: SGA81500AM	Condition/State Operational state: Riser Module Replace Spare part number: Assembly part number: Assembly serial number: Hardware revision:	Good able Unit 461491-001 AG637-60501 P6314E19SVX025 005

 Once the required information is added and saved, WEBES will connect to the ABM Module and discover the EVA 4400

Note that the Managed Entity information for the EVA 4400 array like Serial Number and Model Number have been filled in by the WEBES discovery of the array as well as the WWN, UUID, and path to the array. Refer Figure 2.10.

Figure 2.10: WEBES Managed Entity Properties for EVA 4400 array

	Managed Entity Properties						
<u>Setting</u>	Value						
User-Definable Entity Name	EVA_LE1						
Entity Name on the Network	EVA_LE1						
System Type	EVA						
System Subtype	EVA						
Operating System							
Storage cell WorldWideName	5000-1FE1-1111-2000						
Storage cell UUID	10070008600508B40006A0870003D00000030000						
Storage cell management host	sele1tbm.fc.hp.com						
Warranty Check	Check						
Entitlement type	Warranty						
Entitlement Serial Number	SGA7440001						
Entitlement Product Number	AG637A [HSV300 - EVA4400]						

Settings to be done in HP SIM to receive events via WBEM

1. From HP SIM, first subscribe to WBEM events by selecting all the EVA's and then click on Options → Events → Subscribe to WBEM Events as shown in the following Figure 2.11.

Note:

To Unsubscribe from WBEM events use Options \rightarrow Events \rightarrow Unsubscribe to WBEM Events

Figure 2.11: How to Subscribe to WBEM Events from HP SIM-Step 1

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File Edit View Favorites Tools Hel	p						_				
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🙀 🕸 🔝 HP Systems Insight Manager											
Ø Systems Insight Mana	ager										
System Status 💠 🖂	Tools +	Deploy -	Configure +	Diagno	se + Reports +	Tasks & Logs		Options + Help	-		
Legend Customize	All Syst	tems						Discovery			1
Updated: Tue, 10/6/2009, 1:17 PM IST	-	Production Control Control and the						Events Outra Dalling	Automatic Even	t Handling	
₩ * * *	System(s)	System(s) Events Guick Launch					_	Status Polling	Delete Events		
0 0 0 Uncleared Event Status	Vew as: ta	New as: table -						Managed Eng. Event Filter Settings			
Search E	E Calent I	Salect "Al Systems" Realf					Protocol Sett Check Event Configuration				
Search		to aysome a				0		Cluster Monit	SNMP Trap Set	tings	
Advanced Search Tool Search	Summary: 😡	IS MP	2 Major di 1 Ma	nor O	S Normal Ellig Disables	C C Unknown	Te	System Prope	Status Change	Event Settings	Product Name
System and Event Collections								Directory Sen	Subscribe to W	IEM Events	Dest last Ri 200a Gr
Customize_		<u> </u>	0	0 0	adecay1		24	Data Collectio	Unsubscribe to	WEEM EVENTS	Proclant BC260C GS
Al Systems		<u> </u>		0 0	VA4400_2010_4F50		-	Home Page Setti	ings		EVA
Al Events	N N	<u> </u>		0 0	AV6400_5050_8000		-	Identify Systems			EVA
Systems	2	0		0 0	VA8000_2C20_0/20		24	Manage System	Types		EVA
Private		•		• °	in Server bladebay1		1	Registration		15.154.56.217	Integrated Lights-Out
Shared		0		() e	rathy223		Ur	Task Results Sett	ings	15.154.58.223	
All Systems							٦.	Version Control	Repository		
All Servers											
E HP Blade System											
All Storage Systems											
EVA4400_2C1D_4F50											
EVA6400_2C2D_80C0											
EVA8000_2C2D_0720											
an An storage nosts	1										

2. Once clicked, follow the "Step1: Verify Target System" and "Step2: Task Confirmation" and click on "Run Now." Once the operation is complete, subscription to WBEM events will be shown as successful. Refer Figure 2.12 below.

Figure 2.12: How to Subscribe to WBEM Events from HP SIM—Step 1

HP Systems Insight Manager - Windows In	nternet Explorer			
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C Market Market - 10 https://15.154.56.221:50000)/muportal/home/MxPortalFrames.j	sp		
🙀 🔅 🔛 HP Systems Insight Manager				
Ø Systems Insight Mana	ager			
System Status BI Customize Legend Customize Updated: Tue, 10/6/2009, 11-48 AM (ST O M A O Lange Ford Enter	Tools - Deploy - Configu Task Results View status and results of task inst Go back to All Systems	re • Diagnose • Reports • Tasks & Lops • Options • Help • ances		
Search Salus Advanced Search Tool Search System and Event Collections	Status: ID: Task name: Tool: Owner: Command:	Running 11016 Subscribe to WBEM Events Subscribe to WBEM Events BisdobayTu-d-ministrator mixrobemsub a-in EVA8000_2020_0720 EVA6400_2020_B000 EVA4400_2010_4F50	Target: Executed as: Start time: End time: Duration:	bladebay1 Administrator 15/6/09 11:48 AM
Customer. Customer. A Al Events Systems Private Shared Systems by Type A Al Systems A Systems A Systems A Systems Customers A Systems Customers	Stdowt Stdowr Create Subscriptions EVA8000_2C2D_0720 Indication subscripti EVA400_2C2D_BOC0 Indication subscripti Indication subscripti	CUS (Central Management Server) for: ion successfully created. ion successfully created. ion successfully created.	Lut code:	Ŷ

Sample WBEM Events

• The keyword (WBEM) will be prefixed before every WBEM event as seen in Figure 2.13 below.

Figure 2.13: WBEM Events

Event Details: (WBEM) CU	25 T: Informational only: EVA8000_2C2D_0720: A controller has begun booting
Event Identification and Details	
Event Severity	() Informational
Cherrod Status	Sid cleared
freed Source	EVA8000_3C20_6730
Associated System:	EV-48000_2020_0728
Associated System Status	A finer
finid firms	Tve. 1660009.223 PM 87
Searcasia	CUST: informational only EVA0000_2C20_ST28: A controller feas begun bonting
Assigned	
Comments	
Teste electricity officer	164003 maskeey/2@125487910888 1254879220082
Testa attantas entitas	164003 3milleon/2017254F19108588 1254F19229003
bolication Take	Tax, 104/2008, 2:23 PM (IIT
Percentanetta	A formation
Description	CUST: Informational profy EV-A0000_2C2D_0720: A controller has begun booling
AlertropManaperElement	HTTP /11.154.56.2220 ustive.it.MEV.A_DoragehiscensorSystem Name-1000008401000725 HD00FXAAA0001/ Creater/Canadiane-1HEV.A_DisrapehiscensorSystem
Anertragformentering	ChildendPan
AaciTpee	Devex Aarl
ProbableCases	Oter
ProfessionCassionDescription	CUST Informational only: EV-A000, 2C2D, 0720: A controller has begun hooting. FRU Last: Spalem Identification - Storage System Name: EV-A000, 2C2D, 0725 Storage System Wintel Web EV 5005-0884-0103-0726-0 Version: Window's 52 Service Reid 3 Maid 3750 Device Type: rSV Controller Loging Controller Servit Mander #2005/AAR3100 Command/ wei Version: 8 82:00 000104 is Storage System Rents" NO Tris X23 commisties: NOT = CO2 type: NVX 4 Phila controller 5005-0884-0200-0001 (Controller Controller Servit Mander #2005-0884-0103-027).
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and the second se	

Note:

The advantage of using WEBES over SNMP is that WEBES provides a higher quality event as an Alert Indication. If WEBES is configured to send "Type 3" traps, SMI-S provider will include event severities in alert indications sent to HP SIM.

Actions that can be taken based on events from HP SIM

The following actions can be taken from HP SIM based on events generated.

- Send page
- Send e-mail
- Run custom CMS tool
- Assign
- Forward as SNMP trap
- Write to system log
- Clear event

To understand how to configure actions, explore the following two links from HP SIM. Refer Figure 2.14.

- Options \rightarrow Events \rightarrow Automatic Event Handling \rightarrow New Task
- Options \rightarrow Events \rightarrow Automatic Event Handling \rightarrow E-mail Settings

Figure 2.14: Define a new task to do a particular action based on events

🖉 HP Systems Insight Manager - Windows In	itemet Explorer							
File Edit View Favorites Tools Hel	p.							
O - M https://15.154.56.221.50000	/mxportal/home/MxPortalFrames.jsp							
🚖 🐟 🔯 HP Systems Insight Manager								
3 Systems Insight Mana	ager							1
System Status	Tools - Deploy - Configure	Diagnose - R	leports •	Tasks & Logs 🔹	Options • Help	•		
Legend Customize	E-mail Settings				Discovery			-
Updated: Tue, 11/10/2009, 10:35 AM IST	Specify settings on the central manager	ent server for sending	email notifical	5014	Events	Automatic Event Han	New Task	
😆 🔻 🛦 🗢					Status Polling	Clear Events	Manage Tasks	
0 0 0 14 Uncleared Event Status					Security	Delete Events	E-mail Settings	
Search 🛛	SMTP host				Managed Em	Event Filter Settings	Modern Settings	
Search	Sender's email address:				Protocol Sett	SNMP Trap Settings	delott	
					Sustem Proce	Status Change Event	Settings	
Advanced Search 1001 Search					Directory Sen	Subscribe to WBEM E	vents	
System and Event Collections	Send test email:				Data Collection	Unsubscribe to WBEN	f Events	
Customize				Send texts	First Time Wigan	d		
Al Systems	Recipient email address				Home Page Sett	ings		
Al Events	Constant Description & Characteristics				Identify Systems	L.		
Systems .	Server Requires Authentication:				Manage System	Types		
Private					Registration			
Shared	Account name:				Task Results Sett	tings		
All Systems	Password:				Version Control	Repository		
All Servers								
HP Blade System								
Storage Systems								
All All Rocks						5.8		
All Clients								
All Networking Devices								

Note:

The HP SIM user guide has more detailed information about this topic.

Launching HP CVEVA from Systems Insight Manager

To launch HP CVEVA from HP SIM, follow the steps defined below.

- 1. Expand this path in the navigation pane.
 - a. Systems \rightarrow Shared \rightarrow Systems by Type \rightarrow Storage Systems \rightarrow All Storage Systems
- 2. Click on a particular EVA already discovered.
- 3. Now in the content pane, the following four different tab windows can be seen.
 - a. System
 - b. Tools & Links
 - c. Events
 - d. Essentials
- 4. Click on Tool & Links tab
- 5. Click on the link "URL of the Command View EVA web-based element manager"
- 6. Now HP CVEVA login page will be displayed asking for username and password. Enter the HP CVEVA login credentials and get started. Refer the following Figure 3.1.

Figure 3.1: Launching HP CVEVA from HP SIM

10 Systems Insight Ma	nager	
System Status III Lingent Cultorize Upstand Cultorize IV Two. 108/2005. 1 06 FM BT IV Two. 208/2005. 1 06 FM BT	Tools + Deptoy + Configure + Despecte + Reports + Tasks & Logs + Option EVA4400_2C1D_4F50 (EVA) System Tools & Links Prents Executions Duck Lautch.	in Help +
Consult Consult Consult Consult Advanced Search Advanced Search Constance Advanced Systems Systems Advanced Systems Systems	System Web Application Pages: EVA400_2C1D_4F50	HP Systems Insight Manager Pages Data Collector Report System Protocol Settings System Directoritis Ed System Reports Suscentificaume Montariog

Configure Trust Relationship in HP CVEVA for HP SIM

Important: Currently the SSO feature is disabled for HP CVEVA in HP SIM. However the below procedure explains how to configure SSO in HP SIM for HP CVEVA. This feature is enabled in HP SIM 6.0 and HP CVEVA 9.2

Adding a trust relationship enables you to automatically log on to HP Command View EVA from HP Systems Insight Manager. This feature is sometimes called single sign-on (SSO). HP Command View EVA imports a certificate from a trusted source, like HP Systems Insight Manager. Users who are authenticated by HP Systems Insight Manager are then allowed to automatically authenticate with HP Command View EVA without logging in again.

If you prefer to have HP Command View EVA users log in each time, do not create the trust relationship. Use the "Uninstall Certificates" button to remove the trust relationship and require each user to log in to HP Command View EVA.

1. Launch HP CVEVA. Go to Server Options and click on SIM/RSM trust relationships as shown in Figure 4.1 below.

BLADEBAY2: HSV Storage System - Windows Inten	et Explorer	
. + https://15.154.56.222:2372/Login		Certificate Error 🧤 🗙 HP Intranet Search 🖉
🔗 🛶 BLADEBAY2: HSV Storage System		👌 🔻 👩 👻 🖶 🔻 🔂 Page 🕶 🛞 Tools 🕶 🚳 🕶 📖
StorageWorks Command V	iew EVA	Mgmt Server: 15.154.56.222 User: BLADEBAY2levaadmi
		ve of the connect Home Server Options Help Log Off
torage Systems		
19 put carried	Server Options	
59 EVA Storage Network	OK	?
1 m EVA6400_2C2D_B0C0	Security Options	
1 @ EVA8000_2C2D_0720	Manage StorageWorks groups	
	Manage storage system password access	5
	Audit logging options	
	SIM/RSM trust relationships	
	Other application trust relationships	
	Notification Options	
	Email notification server options	
	WEBES notification options	
	Display Options	
	User interface options	
	Page footer message options	
	Other Options	
	Import/Export Licenses	
	Capture system information	
	Manage eXtension Framework (XF)	

Figure 4.1: Trust Relationship—Step 1

2. Click on Install Certificate after entering the HP SIM server IP address as shown in Figure 4.2 below.

Figure 4.2: Trust Relationship—Step 2

Storage Systems Install SIM/RSM Security Certificate ^ Install Certificate Cancel ? Install Certificate Cancel ? Storage Network Por login convenience, you can create a security trust relationship between your local management server and any number of System Insight Manager (SIM) or Replication Solutions ?	5 StorageWorks Command Vie	ew EVA New Server: 15.154.56.222. User: BLA	DEBAY2levaadmin [[
EVA8000_2C2D_0720 Manager (KSM) servers. Select a server type, enter the server's information, and click the Install Certificate button to create a trust relationship. Type: System Insight Manager Server: 15.154.56.221 Port: 280	Storage Systems	Install SIM/RSM Security Certificate Install Certificate Cancel ? For login convenience, you can create a security trust relationship between your local management server and any number of System Insight Manager (SIM) or Replication Solutions Manager (RSM) servers. Select a server type, enter the server's information, and click the Install Certificate button to create a trust relationship. Type: System Insight Manager Replication Solutions Manager Server: 15.154.56.221 Port: 280	E

Once the above steps are done, the trust relationship will be established successfully as shown in Figure 4.3 below.

Figure 4.3: Trust Relationship—Step 3

StorageWorks Command Vie	ew EVA	And	Mgnt Server: 15.154.56.222 User: BLADEBAY2levaadmin Home Server.Options Help Log.Off				
Storage Systems Storage Network Storage Network	SIM/RSM Trus Install Certificate For login convenience, and System Insight M relationship is defined are displayed below.	At Relationships Uninstall Certificates Cancel you can create security trust relationships betwa anager (SIM) or Replication Solutions Manager (F by an installed security certificate. Your installed	? een Command View EVA ISM) servers. Each trust SIM and RSM certificates				
	Installed Security Certificates						
	Application	Server	Expires				
		Source	Issuer				
	SIM	bladebay1	Sep 12 05:58:35 2019 GMT				
		15.154.56.221:280	bladebay1				

Viewing EVA LUNs and Capacity Information from Systems Insight Manager

To view the EVA LUNs, follow the steps defined below.

- 1. Expand this path in the navigation pane.
 - a. Systems \rightarrow Shared \rightarrow Systems by Type \rightarrow Storage Systems \rightarrow All Storage Systems
- 2. Click on a particular EVA already discovered.

- 3. Now in the content pane, the following categories will be seen under "System" tab
 - a. Identification
 - b. Product Description
 - c. Firmware and Software revision
 - d. Ports
 - e. Storage Volumes
 - f. Capacity Information
- 4. Expand the Storage Volumes tree to see all the LUN's for that particular EVA. Also, EVA Storage Capacity information can be seen from HP SIM by expanding the Capacity Information tree. Refer Figure 5.1 below.

Figure 5.1: LUN and Capacity Information

O Systems Insight Man	ager				User Advertise Date (Dec.0)	ŧ.			
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agend Committee	EVA8000 2C2D 0720 (EVA)								
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Note:

To get information about LUNs presented to a host, discover the host to which the LUNs are presented from HP SIM.

Configure HP SIM and HP CVEVA on Single Server

Port Settings

The default port assignment of 5989 for WBEM/WMI and SMI-S has posed a conflict for several versions. The following information is intended to describe changes that address this port assignment subject and provide a new solution for setting up HP SIM with Command View SMI-S on the same server.

The sequence of installation for HP SIM and Command View SMI-S on a CMS will have some affect on what the default ports will be set to. The current Best Practices suggestion is to install HP SIM first and allow the WMI Mapper to use the default port 5989. The subsequent Command View install can detect if the port 5989 is in use and redirect to a different port.

Get a snapshot of the Customer environment for the current assigned ports. This can be done from a command window by executing the following command:

C:\ netstat -anb >netstat.txt

HP SIM

The steps that follow are broken into two groups,

- New Installation
- Correcting an Existing Installation

New Installation

During the installation of HP SIM, the First Time Wizard has a step to configure WBEM/WMI Mapper Proxy. Refer Figure 6.1 below.

Figure 6.1: WBEM/WMI Mapper Proxy—First Time Wizard

Step 6 of 9 WBEM / WMI Mapper Proxy ✓ Introduction Options + Protocol Settings + WMI Mapper Proxy ✓ Managed Environment HP Systems insight Manager uses the WBEM protocol to identify and communicate with managed systems. ✓ Discovery	First Time Wizard Configure basic HP Systems Insight Manage	nsper settings	2
Credemoars Credemoars Credemoars Credemoars Credemoars Configure Managed Systems MocAll / VMM Mapper Proxy Privilege Devation E-mail Summary Hostname: bladebay1 Port Number: 5909	Step 6 of 9 ✓ Introduction ✓ Managed Environment ✓ Discovery ✓ Credentials ✓ Configure Managed Systems WEM //Whit Mager Proxy Privilege Elevation E-mail Summary	WBEM / WMI Mapper Proxy Options + Protocol Settings + WMM Mapper Proxy HP Systems Insight Manager uses the WBEM protocol to identify and communicate with managed systems. In order to communicate with Windows systems, which use Windows Management Instrumentation (WMI), a WMI mapper proxy must be configured so that HP Systems Insight Manager can retrieve managed system data via the proxy. Enter the mapper proxy system hostname and port number below. Hostname: bidebay1 Port Number: 5909	

Keep the default setting of port 5989. After completing the installation of HP SIM add the port that Command View SMI-S will be using to the xml file shown in the example below.

The next steps will identify the port that HP SIM will use to connect to SMI-S. In this example, we use port 60000 for SMI-S https connection to the interop namespace.

- Edit the following file:
 C:\Program Files\HP\Systems Insight Manager\config\ identification\wbemportlist.xml
- Add the following lines of text to the bottom. Note that the lines in BLUE are the new lines to add.

```
Example of the complete text in this file after adding the port for SMI-S:
<?xml version="1.0" encoding="UTF-8"?>
<wbemportlist>
  <port id="5989" protocol="https">
    <cimnamespacelist>
      <cimnamespace name="root/cimv2"/>
      <cimnamespace name="vmware/esxv2"/>
      <cimnamespace name="root/hpg"/>
    </cimnamespacelist>
    <interopnamespacelist>
      <interopnamespace name="root/pg_interop"/>
      <interopnamespace name="root"/>
      <interopnamespace name="root/emulex"/>
      <interopnamespace name="root/qlogic"/>
      <interopnamespace name="root/ibm"/>
      <interopnamespace name="root/emc"/>
      <interopnamespace name="root/smis/current"/>
      <interopnamespace name="root/hitachi/dm51"/>
      <interopnamespace name="interop"/>
      <interopnamespace name="root/interop"/>
      <interopnamespace name="root/switch"/>
      <interopnamespace name="root/cimv2"/>
    </interopnamespacelist>
  </port>
  <port id="60000" protocol="https">
    <interopnamespacelist>
      <interopnamespace name="interop"/>
    </interopnamespacelist>
  </port>
</wbemportlist>
```

- Save the changes
- Restart the HP System Insight Manager service

Correcting an Existing Installation

IMPORTANT: Do not execute the following steps if this is a first time install of HP SIM. The following steps are to be executed only if HP SIM has already been installed and the WMI Mapper port has been changed to something (say 6989) other than the default (5989).

Follow these steps to restore WMI Mapper port back to the default port. Note that the changes made in the cimserver_planned.conf file will be moved into the file named cimserver current.conf once the service is restarted.

- Stop the Pegasus WMI Mapper Service
- Edit the C:\Program Files\The Open Group\WMI Mapper\cimserver_planned.conf file
- Update the port number in the line that has "httpsPort=6989" to 5989 (The port number may have been set to something other than this example)
- Save the file
- Restart the Pegasus WMI Mapper Service
- Run the netstat command and verify the change took place

This is an example of the text in cimserver_planned.conf:

```
enableRemotePrivilegedUserAccess=true
enableHttpsConnection=true
enableHttpConnection=false
sslCertificateFilePath=C:\hp\sslshare\cert.pem
```

```
sslKeyFilePath=C:\hp\sslshare\file.pem
```

httpsPort=5989

Change the WMI Mapper Proxy port in the HP SIM GUI:

- Login to HP SIM GUI with Administrative privileges
- Verify credentials for the CMS itself are correct
 - Open the all systems list and Select the HP SIM CMS from the system list
 - Select the "Tools & links" tab
 - Click on "System Credentials" link
 - Select the check box preceding the CMS instance of WMI Mapper running on the localhost.
 - Click on "Edit system credentials" button.
 - Verify that either the sign-in credential exists and is correct for the CMS (preferred), or there are "Advanced" WBEM settings. Verify that the port number is 5989 and credential is correct for the WMI Mapper. Refer to the following Figure 6.2.

Figure 6.2: CMS System Credentials

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- Open Options \rightarrow Protocol Settings \rightarrow WMI Mapper Proxy.
- Select the radio button preceding the CMS instance of WMI Mapper running on the localhost.
- Click the Edit button
- Enter 5989 in the "port number" field.
- Click OK to save. Refer to the following Figure 6.3.

Figure 6.3: WBEM/WMI Mapper Proxy—Protocol Settings

Systems	Insight Man	ager				User Adaptedation		
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Troubleshooting SIM connectivity to Command View SMI-S

If the discovery process fails to find the Command View server and gather information about the EVAs a tool called WBEMDISCO can be used to determine if the SMI-S provider is responding and that the credentials are correct. WBEMDISCO is installed automatically by SIM.

Procedure to use WBEMDISCO

Note:

WBEMDISCO gets packaged along with HP SIM.

- 1. Open a cmd window.
- Go to the following path C:\Program Files\HP\Systems Insight Manager. On a 64-bit version of Windows the path will be C:\Program Files (x86)\HP\Systems Insight Manager.
- 3. Invoke WBEMDISCO.CMD from command line.
- 4. The following window will appear:

🥌 SI	miTest	: SMI-S Test Tool	_ 🗆 ×
File	Help		
		Profile Name	
		test_profile	•
		Address	
		Ip Address 15.154.60.152	_
		Port 5989	
		Login	
		Interop Namespace interop	
		User Name administrator	
		Password	
		· · · · · · · · · · · · · · · · · · ·	
		Run Exit	

- 5. Specify a name for the "Profile Name" field (optional).
- 6. Specify the IP address of the server where SMI-S is installed and the port (either http/https) on which SMI-S is running.
- 7. Specify the root namespace for CXWS Cimom which is "interop" along with SMI-S username and password credentials.
- 8. Click on "Run" button.
- 9. Once WBEMDISCO completes, the following output that lists the EVA's discovered can be seen in the "cmd" window.

📾 Administrator: C:\Windows\system32\cmd.exe
C:\Program Files (x86)\HP\Systems Insight Manager>WbemDisco.cmd
C:\Program Files (x86)\HP\Systems Insight Manager>echo Wed 12/09/2009 11:21:28.48 Wed 12/09/2009 11:21:28.48
C:\Program Files (x86)\HP\Systems Insight Manager>echo off WbemDisco 01.01.00
Gui: Gui starting Gui: Gui starting HOST = 15.154.60.152 PORT = 5989 NAMESP = interop USER = administrator PASSWD = ***** Connect to 15.154.60.152 in namespace interop with SSL=true
ObjectManager.Name=HP:CxwsCimom_15.154.60.152 ElementName=HP Cxws Server CimomVersion= <missing> Description=HP Cxws Server</missing>
Enumerating instances of CIM_RegisteredProfile
Profile.RegisteredName=Server RegisteredWersion=1.3.0 ProviderVersion= <missing> SubProfile.RegisteredName=Profile Registration</missing>
Profile.RegisteredName=SMI-S RegisteredUersion=1.3.0 ProviderUersion= <missing> Profile.RegisteredName=Array RegisteredUersion=1.3.0 ProviderUersion=9.2.0 HPUersion=EUA9.2-Deu220</missing>
SubProfile.RegisteredName=Software SubProfile.RegisteredName=Copy Services SubProfile.RegisteredName=Copy Services SubProfile.RegisteredName=Dick Services SubProfile.RegisteredName=Dick Drive Lite SubProfile.RegisteredName=FC Target Ports SubProfile.RegisteredName=Job control SubProfile.RegisteredName=Job control SubProfile.RegisteredName=Holtple Computer System SubProfile.RegisteredName=Block Server Performance SubProfile.RegisteredName=SAS Initiator Ports SubProfile.RegisteredName=SAS Initiator Ports SubProfile.RegisteredName=SAS Initiator Ports SubProfile.RegisteredName=SAS Initiator Ports SubProfile.RegisteredName=Thin Provisioning HPEUA_StorageSystem.Name="500508B401030720",CreationClassName="HPEUA_StorageSystem" NameSpace = root/eva Uendor=HP Name=EUA I dentifyingNumber=500508B401030720
C:\Program Files (x86)\HP\Systems Insight Manager>_

If the credentials are not correct, WBEMDISCO will display a message similar to this:

📾 Administrator: Command Prompt	
C:\Program Files (x86)\HP\Systems Insight Manager>wbemdisco	
C:\Program Files {x86}\HP\Systems Insight Manager>echo Wed 12/09/2009 10:47:40.66 Wed 12/09/2009 10:47:40.66	
C:\Program Files (x86)\HP\Systems Insight Manager>echo off WbemDisco_01.01.00	
Gui: Gui starting Gui: Creating frame HOST = 15.154.60.152 PORT = 5989 NAMESP = interop USER = test PASSWD = ***** Connect to 15.154.60.152 in namespace interop with SSL=true *** Error connecting with SSL=true - (CIM_ERR_ACCESS_DENIED) *** C:\Program Files (x86)\HP\Systems Insight Manager)_	

If this occurs, verify that the HP Storage Admins group on the Command View EVA server contains the user and password specified.

Restoring defaults to wbemportlist.xml

• Edit the following file:

```
C:\Program Files\HP\Systems Insight
Manager\config\identification\wbemportlist.xml
```

This would have been modified earlier with the following lines (in BLUE). This text needs to be removed.

```
<!-- WMI Mapper httpsPort=6989 -->
<port id="6989" protocol="https">
    <cimnamespacelist>
        <cimnamespace name="root/cimv2"/>
        </cimnamespacelist>
        </port>
```

• Add the following lines of text to the bottom. Note that the lines in BLUE are the new lines to add. Also, in this example the port number 60000 is being used as the https port for SMI-S

Here is an example of the complete text in this file with the added text in BLUE:

```
<?xml version="1.0" encoding="UTF-8"?>
<wbemportlist>
  <port id="5989" protocol="https">
    <cimnamespacelist>
      <cimnamespace name="root/cimv2"/>
      <cimnamespace name="vmware/esxv2"/>
      <cimnamespace name="root/hpg"/>
    </cimnamespacelist>
    <interopnamespacelist>
      <interopnamespace name="root/pg_interop"/>
      <interopnamespace name="root"/>
      <interopnamespace name="root/emulex"/>
      <interopnamespace name="root/qlogic"/>
      <interopnamespace name="root/ibm"/>
      <interopnamespace name="root/emc"/>
      <interopnamespace name="root/smis/current"/>
      <interopnamespace name="root/hitachi/dm51"/>
      <interopnamespace name="interop"/>
      <interopnamespace name="root/interop"/>
      <interopnamespace name="root/switch"/>
      <interopnamespace name="root/cimv2"/>
    </interopnamespacelist>
  </port>
  <port id="60000" protocol="https">
    <interopnamespacelist>
```

```
<interopnamespace name="interop"/>
</interopnamespacelist>
</port>
```

- </wbemportlist>
- · Save the changes
- Restart the HP System Insight Manager service
- Go to Options → Identify Systems. Re-identify all WBEM/WMI systems in HP SIM to correct the port reference.

HP Command View EVA

The CommandView EVA installation kit includes SMI-S as a component. SMI-S assigns only two ports at the time of installation. These are the default ports that SMI-S assigns if they are available,

- http port=5988
- https port=5989

If one or both of these ports are in use, the installation will show an additional install screen that allows the port numbers to be changed. The SMI-S installer will suggest port 60000 if that port is not in use. SMI-S will retain port 5988 if it is not in conflict. SMI-S uses these ports when the HP StorageWorks CIM Object Manager process starts.

Note, this screen will only display if a port conflict is detected. That is why the sequence to install HP SIM before CommandView is being recommended.

Figure 6.4 is a screen capture of SMI-S install on a RSA host that already has HP SIM installed with WMI Mapper.

	Get User Inp
 Introduction License Agreement Choose Install Set Choose Install Options Security Groups Configur Get User Input Pre-Installation Summary Installing Get User Input Install Complete 	The installer detected the default ports (5988, 5989) are busy. Use the available ports. Port1 5988 Port2 60000
Anywhere by Macrovision –	

Figure 6.4: SMI-S Install on a RSA with HP SIM

Once set, these ports can be verified by executing the *netstat* command mentioned above. You will see the following output:

.

ТСР	0.0.0.0:5988	0.0.0.0:0	LISTENING	1712 [JavaWrapper.exe]
ТСР	0.0.0.0:5989	0.0.0.0:0	LISTENING	460 [WMIServer.exe]
ТСР	0.0.0.0:60000	0.0.0.0:0	LISTENING	1712 [JavaWrapper.exe]

.....

Note that in this example (Figure 6.4 above) SMI-S is setup to use 5988 and 60000.

Procedure to reset the port numbers if Command View is already installed.

- Edit the following file: C:\Program Files\Hewlett-Packard\SMI-S\CXWSCimom\config\cxws.properties
- Locate the cxws.http.port and cxws.https.port and set to these values cxws.http.port=5988 cxws.https.port=60000
- Restart HP StorageWorks CIM Object Manager Service.

Command View operating on the EVA 4400

The SMI-S provider cannot currently be installed on the ABM so SMI-S is required to be installed elsewhere in the LAN to serve as a proxy connection to the array.

The Command View installation kit allows for SMI-S to be installed on a server independently. SMI-S can be installed on the HP SIM CMS or any other server in the LAN.

SMI-S includes a utility named discoverer.bat for setting up the connection to the array ABM. This allows the SMI-S to pass connection requests to the array by having the IP address and credentials for the target ABM. This procedure can be invoked by double clicking on the following file:

C:\Program Files\Hewlett-Packard\SMI-S\EVAProvider\bin\discoverer.bat

This will open a command window: Refer Figure 6.5 below.

Note that the first line has the <u>http://localhost:5988</u> defined as default for the path to where SMI-S is running. This http port may have been changed if operating on the CMS as described above in the Port Setting information. This is the http port. The second and third line requires the credentials of the account set up for HP Storage Group access. When these items are entered the MENU is displayed. Refer Figure 6.5.

Figure 6.5: Setup up SMI-S Proxy for ABM—Step 1

🖾 C:\WINDOWS\system32\cmd.exe
Enter the SMIS host [default: http://localhost:5988] : Enter the SMIS username :hpadmins Enter the SMIS password :
Connecting to EVA SMIS in http://localhost Please wait
1.Add a CV IP 2.Remove a CV IP 3.Get the list of CV IPs Ø.Exit
Please enter your choice :

- Select 1 to Add a CV IP.
- Enter the IP address and the credentials for Command View on the ABM. The IP Address of the HP CVEVA on ABM must get added successfully. Refer Figure 6.6 below.

Figure 6.6: Setup up SMI-S Proxy for ABM—Step 2



• Select 3 to view a list of the CV IPs. Refer Figure 6.7.

Figure 6.7: Setup up SMI-S Proxy for ABM—Step 3



Note that if Command View is installed on the local host running discoverer you will also see the IP address for the local host in this list.

- Enter 0 to exit the discoverer utility
- Restart "HP StorageWorks CIM Object Manager" Service.

Now that SMI-S has a connection to the ABM, HP SIM will discover the EVA 4400 array being managed on the ABM by doing a discovery of the server running SMI-S.

Configure HP SIM and HP CVEVA on Different Servers

When HP SIM and HP CVEVA are installed on 2 different servers, port conflict on port 5989 will not arise. Follow the regular installation procedures for both HP SIM and HP CVEVA as mentioned in the installation guide.

Summary

The benefits of a unified server and storage infrastructure are very compelling. HP System Insight Manager together with HP StorageWorks Command View EVA provides a solid foundation for a unified server-storage management strategy.

Technology for better business outcomes

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