HP Enterprise

Cloud Insights

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HP Enterprise

HP Enterprise Alletra 9000 / Primera Storage data collector

Cloud Insights uses the HP Enterprise Alletra 9000 / HP Enterprise Primera (previously 3PAR) data collector to discover inventory and performance.

Terminology

Cloud Insights acquires the following inventory information from this data collector. For each asset type acquired by Cloud Insights, the most common terminology used for this asset is shown. When viewing or troubleshooting this data collector, keep the following terminology in mind:

Field	Description
Physical Disk	Disk
Storage System	Storage
Controller Node	Storage Node
Common Provisioning Group	Storage Pool
Virtual Volume	Volume

Note: These are common terminology mappings only and might not represent every case for this data collector.

Requirements

The following are required to configure this data colletor:

- IP address or FQDN of the InServ cluster
- For inventory, read-only user name and password to the StoreServ Server
- For performance, read-write user name and password to the StoreServ Server
- Port requirements: 22 (inventory collection), 5988 or 5989 (performance collection) [Note: Performance is supported for StoreServ OS 3.x+]
- For performance collection confirm that SMI-S is enabled by logging into the array via SSH.

Configuration

Field	Description
Storage IP address	Storage IP address or fully-qualified domain name of the StoreServ cluster
User Name	User name for the StoreServ Server
Password	Password used for the StoreServ Server
SMI-S User Name	User name for the SMI-S Provider Host
SMI-S Password	Password used for the SMI-S Provider Host

Advanced configuration

Field	Description
Inventory Poll Interval (min)	Interval between inventory polls. The default is 40 minutes.
SMI-S Connectivity	Protocol used to connect to the SMI-S provider
Override SMI-S Default Port	If blank, use the default port from SMI-S Connectivity, otherwise enter the connection port to use
Performance Poll Interval (sec)	Interval between performance polls. The default is 300 seconds.

Troubleshooting

Some things to try if you encounter problems with this data collector:

Inventory

Problem:	Try this:
"showsys" command doesn’t return any result.	Run "showsys" and "showversion -a" from the command line and check if the version is supported by the array.

Performance

Problem:	Try this:
Failed to connect or login. Provider initialization failed.	An all-numeric array name can cause problems with SMI-S server. Try changing the array name.
SMI-S user configured does not have any domain	Grant appropriate domain privileges to the configured SMI-S user
Cloud Insights states that it cannot connect/login to SMI-S service.	Confirm there is no firewall between the CI AU and the array that would block the CI AU from making TCP connections to 5988 or 5989. Once that is done, and if you have confirmed there is no firewall, you should SSH to the array, and use the “showcim” command to confirm. Verify that: * Service is enabled * HTTPS is enabled * HTTPS port should be 5989 If those all are so, you can try to “stopcim” and then a “startcim” to restart the CIM (i.e. SMI-S service).

Additional information may be found from the Support page or in the Data Collector Support Matrix.

HP Enterprise Command View data collector

The HP Enterprise Command View Advanced Edition data collector supports discovering XP and P9500 arrays via Command View Advanced Edition (CVAE) server. Cloud Insights communicates with CVAE using the standard Command View API to collect inventory and performance data.

Terminology

Cloud Insights acquires the following inventory information from the HP Enterprise Command View data collector. For each asset type acquired by Cloud Insights, the most common terminology used for this asset is shown. When viewing or troubleshooting this data collector, keep the following terminology in mind:

Vendor/Model Term	Cloud Insights Term
PDEV	Disk
Journal Pool	Disk Group
Storage Array	Storage
Port Controller	Storage Node
Array Group, DP Pool	Storage Pool
Logical Unit, LDEV	Volume

Note: These are common terminology mappings only and might not represent every case for this data collector.

Inventory requirements

You must have the following in order to collect inventory data:

- IP address of the CVAE server
- Read-only user name and password for the CVAE software and peer privileges
- Port requirement: 2001

Performance requirements

The following requirements must be met in order to collect performance data:

- HDS USP, USP V, and VSP performance
  - Performance Monitor must be licensed.
  - Monitoring switch must be enabled.
  - The Export Tool (Export.exe) must be copied to the Cloud Insights AU and extracted to a location. On CI Linux AUs, ensure "cisys" has read and execute permissions.
  - The Export Tool version must match the microcode version of the target array.
- AMS performance:
  - Performance Monitor must be licensed.

    - The Storage Navigator Modular 2 (SNM2) CLI utility be installed on the Cloud Insights AU.
- Network requirements
    - The Export Tools are Java based, and use RMI to speak to the array. These tools may not be firewall-friendly as they may dynamically negotiate source and destination TCP ports on each invocation. Also, different model array's Export Tools may behave differently across the network - consult HPE for your model's requirements

Configuration

Field	Description
Command View Server	IP address or fully-qualified domain name of the Command View server
User Name	User name for the Command View server.
Password	Password used for the Command View server.
Devices - VSP G1000 (R800), VSP (R700), HUS VM (HM700) and USP storages	Device list for VSP G1000 (R800), VSP (R700), HUS VM (HM700) and USP storages. Each storage requires: * Array's IP: IP address of the storage * User Name: User name for the storage * Password: Password for the storage * Folder Containing Export Utility JAR Files
SNM2Devices - WMS/SMS/AMS Storages	Device list for WMS/SMS/AMS storages. Each storage requires: * Array's IP: IP address of the storage * Storage Navigator CLI Path: SNM2 CLI path * Account Authentication Valid: Select to choose valid account authentication * User Name: User name for the storage * Password: Password for the storage
Choose Tuning Manager for Performance	Override other performance options
Tuning Manager Host	IP address or fully-qualified domain name of tuning manager
Tuning Manager Port	Port used for Tuning Manager
Tuning Manager Username	User name for Tuning Manager
Tuning Manager Password	Password for Tuning Manager

Note: In HDS USP, USP V, and VSP, any disk can belong to more than one array group.

Advanced configuration

Field	Description
Command View Server Port	Port used for the Command View Server
HTTPs Enabled	Select to enable HTTPs

Inventory Poll Interval (min)	Interval between inventory polls. The default is 40.
Choose 'Exclude' or 'Include' to specify a list	Specify whether to include or exclude the array list below when collecting data.
Exclude or Include Devices	Comma-separated list of device ID’s or array names to include or exclude
Query Host Manager	Select to query host manager
Performance Polling Interval (sec)	Interval between performance polls. The default is 300.

Troubleshooting

Some things to try if you encounter problems with this data collector:

Inventory

Problem:	Try this:
Error: User does not have enough permission	Use a different user account that has more privilege or increase the privilege of user account configured in the data collector
Error: Storages list is empty. Either devices are not configured or the user does not have enough permission	* Use DeviceManager to check if the devices are configured. * Use a different user account that has more privilege, or increase the privilege of the user account
Error: HDS storage array was not refreshed for some days	Investigate why this array is not being refreshed in HP CommandView AE.

Performance

Problem:	Try this:
Error: * Error executing export utility * Error executing external command	* Confirm that Export Utility is installed on the Cloud Insights Acquisition Unit * Confirm that Export Utility location is correct in the data collector configuration * Confirm that the IP of the USP/R600 array is correct in the configuration of the data collector * Confirm that the User name and password are correct in the configuration of the data collector * Confirm that Export Utility version is compatible with storage array micro code version * From the Cloud Insights Acquisition Unit, open a CMD prompt and do the following: - Change the directory to the configured installation directory - Try to make a connection with the configured storage array by executing batch file runWin.bat

Problem:	Try this:
Error: Export tool login failed for target IP	* Confirm that username/password is correct * Create a user ID mainly for this HDS data collector * Confirm that no other data collectors are configured to acquire this array
Error: Export tools logged "Unable to get time range for monitoring".	* Confirm performance monitoring is enabled on the array. * Try invoking the export tools outside of Cloud Insights to confirm the problem lies outside of Cloud Insights.
Error: * Configuration error: Storage Array not supported by Export Utility * Configuration error: Storage Array not supported by Storage Navigator Modular CLI	* Configure only supported storage arrays. * Use “Filter Device List” to exclude unsupported storage arrays.
Error: * Error executing external command * Configuration error: Storage Array not reported by Inventory * Configuration error:export folder does not contains jar files	* Check Export utility location. * Check if Storage Array in question is configured in Command View server * Set Performance poll interval as multiple of 60 seconds.
Error: * Error Storage navigator CLI * Error executing auperform command * Error executing external command	* Confirm that Storage Navigator Modular CLI is installed on the Cloud Insights Acquisition Unit * Confirm that Storage Navigator Modular CLI location is correct in the data collector configuration * Confirm that the IP of the WMS/SMS/SMS array is correct in the configuration of the data collector * Confirm that Storage Navigator Modular CLI version is compatible with micro code version of storage array configured in the data collector * From the Cloud Insights Acquisition Unit, open a CMD prompt and do the following: - Change the directory to the configured installation directory - Try to make a connection with the configured storage array by executing following command “auunitref.exe”
Error: Configuration error: Storage Array not reported by Inventory	Check if Storage Array in question is configured in Command View server

Problem:	Try this:
Error: * No Array is registered with the Storage Navigator Modular 2 CLI * Array is not registered with the Storage Navigator Modular 2 CLI * Configuration error: Storage Array not registered with StorageNavigator Modular CLI	* Open Command prompt and change directory to the configured path * Run the command “set=STONAVM_HOME=.” * Run the command “auunitref” * Confirm that the command output contains details of the array with IP * If the output does not contain the array details then register the array with Storage Navigator CLI: - Open Command prompt and change directory to the configured path - Run the command “set=STONAVM_HOME=.” - Run command “auunitaddauto -ip ${ip}”. Replace ${ip} with real IP

Additional information may be found from the Support page or in the Data Collector Support Matrix.

HPE Alletra 6000 data collector

The HP Enterprise Alletra 6000 (previously Nimble) data collector supports inventory and performance data for Alletra 6000 storage arrays.

Terminology

Cloud Insights acquires the following inventory information from this collector. For each asset type acquired by Cloud Insights, the most common terminology used for this asset is shown. When viewing or troubleshooting this data collector, keep the following terminology in mind:

Vendor/Model Term	Cloud Insights Term
Array	Storage
Disk	Disk
Volume	Volume
Pool	Storage Pool
Initiator	Storage Host Alias
Controller	Storage Node
Fibre Channel Interface	Controller

Note: These are common terminology mappings only and might not represent every case for this data collector.

Requirements

You must have the following in order to collect inventory and configuration data from the storage array:

- The array must be installed and configured, and reachable from the client through its fully qualified domain name (FQDN) or array management IP address.

- The array must be running NimbleOS 2.3.x or later.
- You must have a valid user name and password to the array with at least "Operator" level role. The "Guest" role does not have sufficient access to understand initiator configurations.
- Port 5392 must be open on the array.

You must have the following in order to collect performance data from the storage array:

- The array must be running NimbleOS 4.0.0 or later
- The array must have volumes configured. The only performance API NimbleOS has is for volumes, and any statistics Cloud Insights reports are derived from the statistics on volumes

Configuration

Field	Description
Array Management IP Address	Fully qualified domain name (FQDN) or array management IP address.
User Name	User name for the array
Password	Password for the array

Advanced configuration

Field	Description
Port	Port used by Nimble REST API. The default is 5392.
Inventory Poll Interval (min)	Interval between inventory polls. The default is 60 minutes.

Note: The default performance poll interval is 300 seconds and can not be changed. This is the only interval supported by HPE Alletra 6000.

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