Dell EMC PowerStore

Service Scripts Guide

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Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

Preface

As part of an improvement effort, revisions of the software and hardware are periodically released. Some functions that are described in this document are not supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information about product features. Contact your service provider if a product does not function properly or does not function as described in this document.

Where to get help

Support, product, and licensing information can be obtained as follows:

- **Product information**

  For product and feature documentation or release notes, go to the PowerStore Documentation page at https://www.dell.com/powerstoredocs.

- **Troubleshooting**

  For information about products, software updates, licensing, and service, go to https://www.dell.com/support and locate the appropriate product support page.

- **Technical support**

  For technical support and service requests, go to https://www.dell.com/support and locate the **Service Requests** page. To open a service request, you must have a valid support agreement. Contact your Sales Representative for details about obtaining a valid support agreement or to answer any questions about your account.

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Introduction

PowerStore includes service scripts that enable you to diagnose issues, solve common problems, perform certain operational tasks, and recover your system from an error state. These scripts provide in-depth level of information and a lower level of system control than is available through other interfaces such as PowerStore Manager, CLI, and REST API. This document describes these service scripts and how you can use them.

NOTE: The service scripts that are described in this document are a subset of the operating environment software tools for servicing your system. You can use the CLI or REST API for scriptable system configuration for additional capability. For more information about these interfaces, see the *PowerStore CLI Guide* and *PowerStore REST API Developers Guide*.

This chapter contains the following topics:

Topics:

Audience

Although no special knowledge is needed to run most of the service commands or understand the results, the service commands are designed with storage system administrators, field service personnel, and support personnel in mind. The service commands run on the PowerStore appliance's Linux-based operating environment. Ensure that you are familiar with the Linux shell, associated commands, PowerStore's installed hardware, and the PowerStore operating environment.

Certain commands may require more training or require you to obtain root privileges. If the command description specifies more training or greater privileges, do not run the commands without an approval from your authorized service representative.

Running the service scripts

Prerequisites

- Obtain the password for the Service account.
- In PowerStore Manager, under **Settings**, enable SSH.
- Download and install an SSH client, such as PuTTY, to a computer that has network access to the cluster. You use the SSH client to run the scripts.

About this task

To run the service scripts:

Steps

1. Launch an SSH client, and connect to the cluster using the management IP address.

   For example, in PuTTY, enter the management IP for the destination.
2. Enter the username and password for the service account to log in to the system.
   Once logged in, you should be connected directly to the serviceability docker container.
3. Type the name of the script to run.

   For example, to see the list of scripts, type the following: `svc_help`

   Each script includes a `--help` option. Type a space and --help after the name of a script for usage information as seen in the following example:

   ```
   svc_diag --help
   ```

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Service Commands

This chapter contains the following topics:

Topics:

Shut down and reboot an appliance (svc_appliance)

This service script allows you to perform a managed shutdown and reboot of a single appliance in SAN mode.

Usage

Function	Diagnostic and recovery
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_appliance [-h] [-d] {reboot,shutdown}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Increase logging level to debug and print logs to console.

Actions

Action	Description
`reboot`	Reboot an appliance.
`shutdown`	Shut down an appliance.

Reboot an appliance (svc_appliance reboot)

This service script is used to reboot an appliance.

Format

```
svc_appliance reboot [-h] [-d] [-f] [-a]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debugging purposes.
`-f, --force`	Ignore warnings when starting the action; force reboot, which may result in data becoming unavailable.
`-a, --async`	Run in asynchronous mode.

Shut down an appliance (svc_appliance shutdown)

This service script is used to shutdown an appliance.

Format

```
svc_appliance shutdown [-h] [-d] [-f] [-a]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debugging purposes.
`-f, --force`	Ignore warnings; force shutdown, which may result in data becoming unavailable.
`-a, --async`	Run in asynchronous mode.

Provision an appliance (svc_appliance_provisioning)

This service script enables or disables the autoprovisioning function on a selected appliance.

Usage

Function	Configuration
Mode	Service and Normal
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_appliance_provisioning [-h] {enable,list,disable}
```

Optional Arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`enable`	Enable provisioning on the appliance.
`list`	List provisioning on the appliance.
`disable`	Disable provisioning on the appliance.

Usage Example

The following example shows appliance provisioning being disabled for appliance A2. After disablement, new storage objects are not placed on appliance A2:

```
svc_appliance_provisioning disable    A2
```

Capture array configuration data (svc_arrayconfig)

This service script captures a snapshot of the current cluster configuration.

Usage

Function	Diagnostic
Mode	Normal
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	Master appliance must be operating in normal mode.

Format

```
svc_arrayconfig [-h] {run}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`run`	Capture the current cluster configuration.

Capture current cluster configuration (svc_arrayconfig run)

This service script captures the current cluster configuration.

Format

```
svc_arrayconfig run [-h] [-l file size in MB] [-c configuration file] [-m] [-f
{json,csv}]
                           [-t {full,delta,metrics,full_metrics}] [-b base directory]
                           [--timestamp timestamp] [--response path name]
                           [--ts TS] [--ts_query timestamp for sql query]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-l, --limit`	Specify a file size (in MB) limit. The default is no limit.
`-t {full, delta, full_metrics, metrics}, --type {full,delta, metrics, full_metrics}`	Specify the type of capture to perform. If the type is delta, then you must specify the --base option to also specify the base from which to produce the delta.
`-b, --base`	The base directory from which to produce a delta. The base is an output directory of a previous 'full' capture.
`-f {json,csv}, --format {json,csv}`	The format of the output capture files. The default format is JSON.
`-c, --config`	Specify the configuration file to use to control the configuration capture.
`-m, --master-only`	Only run if this command is being invoked from one of the nodes on the master appliance.
`--timestamp`	The base timestamp used to derive the capture time range. Format is 'YYYY-MM-DD HH:mm:SS'. Defaults to now if unspecified or empty string.
`--response`	A path name that specifies where to write response data (if any).
`--ts`	Timestamp to be set on filename and full metrics objects.
`--ts_query`	Timestamp to be used for sql queries.

Examples

The following example shows the script being run from the service container as root:

```
svc_arrayconfig run -f json --output /cyc_host/cyc_service/tmp1 --type full --config /
cyc_host/cyc_service/conf/ConfigCaptureConfig.json
```

```
svc_arrayconfig run -f json --output /cyc_host/cyc_service/tmp1 --type metrics --config
/cyc_host/cyc_service/conf/MetricsCaptureConfig.json
```

Make space on the root partition (svc_cleanup)

This service script allows service personnel or customers to gain access to a system that is 100% full. This script enables access by removing a large file that is consuming space on the root partition.

The cleanup deletes old data collections, old journal logs, and old core dumps.

Verify that the root partition is full. If the root partition is not full, the system asks if you want to continue.

Remove old data collections from `/cyc_var/cyc_service/data_collection`. If a data collection is not found, you can find old journal logs in `/var/log/journal` and delete oldest one.

If a journal log is not found, you can find a core dump at `/cyc_var/cyc_dumps/processed/` and delete it.

Usage

Function	System Operations
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_cleanup [-h] [-a] [-j] [-c] [-t] [-d] [-y]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --dataCollection`	Clean up the data collections.
`-c, --coreDump`	Clean up stored core files.
`-a, --all`	Clean up the data collections, core dumps, journals, logs, and temporary data collection directory.

Qualifier	Description
`-j, --journalFiles`	Clean up the journal files.
`-t, --tmpDataCollection`	Clean up the temporary data collection directory.
`-y, --noConfirm`	Bypass confirmation messages.

Clear firmware update (svc_clear_fw_update_alert)

This service script enables you to clear the firmware update alert on a given node.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	Yes
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_clear_fw_update_alert [-h] {clear_alert}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`clear_alert`	Clears the firmware update alert on a given node.

Positional arguments

Qualifier	Description
`A`	One node that is in a node pair.
`B`	One node that is in a node pair.

Example

The following example shows the firmware update alerts being cleared on nodes A and B:

```
svc_clear_fw_update_alert clear_alert [-h] {A,B}
```

Shut down a SAN cluster (svc_cluster)

This service script enables you to shut down all the appliances in a SAN cluster. This operation can only be performed on SAN clusters.

Usage

Function	Diagnostic and Recovery
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Cluster
Prerequisites	The master appliance must be operating in normal mode.

Format

```
svc_cluster [-h] [-d] [-f] {shutdown}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debugging purposes.
`-f, --force`	Ignore warnings. Force a shutdown that might result in data becoming unavailable.

Actions

Action	Description
`shutdown`	Shut down all the appliances in a SAN cluster. This operation is only allowed for SAN clusters.

Diagnose a create cluster failure (svc_cluster_diag)

This service script is intended to be run in order to help troubleshoot issues that may happen during create cluster, adding an appliance, or removing an appliance.

This script performs the following functions:

1. Search for a hardware check in the journal.

   This step looks for hardware faults that may have happened before the create cluster operation.

2. Run a current hardware check on this system using `svc_diag list --icw_hardware`.

   Running the script shows any hardware issues in the system. This step is useful if the create cluster operation has failed with the message `UNCONFIGURED_FAULTED`.

   If there is a hardware fault, a create cluster operation cannot be performed. If a fault is detected, the state changes to `UNCONFIGURED_FAULTED` and the create cluster operation fails. This check finds the hardware fault.

3. Ask if you want to perform a data collect.

   This step is critical after a create cluster operation failure and allows the data to be collected before the log rotation.

   This step also allows the user to set an IP for the system. This way the user can use the direct path to the data collect and the IP address to copy off the data collect from the system.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Node, cluster
Prerequisites	None

Format

```
svc_cluster_diag [-h] [-w] [-d] [-e] [-i]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-w, --warningLevel`	Display WARN level logs.
`-i,--infoLevel`	Display INFO level logs.
`-e,--errorLevel`	Display ERROR level logs.
`-d,--debugLevel`	Display DEBUG level logs.

Example

The following output indicates that no logs are available and the system is running a support materials bundle after you have entered the `svc_cluster_diag -w` command:

```
svc_cluster_diag -w

The log statements that are needed to collect information for the command:
     'journalctl --utc -t control-path | egrep "\[CC\]"  | grep WARN' are no longer
available

Would you like to perform a data collection? Please enter 'yes' or 'no'
yes

Running data collection - This might take awhile

data collection ID f10a1ebb-5727-4a84-aa29-58df29274bcc
Status             OK
HTTP Code          201
```

Cluster management (svc_cluster_management)

This service script enables service providers to attach, detach, and view the status of each appliance in a cluster. If an appliance in a two-appliance cluster fails or can no longer communicate with the other appliance, the remaining appliance becomes unmanageable.

You can ask your service provider to detach the failed appliance from the cluster and restore the ability to manage the remaining appliance. Once the issue with the appliance is resolved, you can then use the prep-attach and attach commands to reattach the appliance back into the cluster.

Usage

Function	Recovery
Mode	Normal
Usage	Service
Requires service user password?	N/A
Requires root privileges?	Yes
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_cluster_management [-h]
{GetClusterStatus,DetachFailedAppliance,PrepReattachAppliance,ReattachAppliance,MoveMaste
rAppliance}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`GetClusterStatus`	Display current cluster status.
`DetachFailedAppliance`	Detach a failed appliance.
`ReattachAppliance`	Reattach an appliance.
`PrepReattachAppliance`	Prepare an appliance for reattachment.
`MoveMasterAppliance`	Move the master role to a different appliance.

Remove and reattach an appliance

1. If a two-appliance cluster has a failed appliance, you can use the `svc_cluster_management` script to detach the appliance and reattach it when the problem is resolved.

```
svc_cluster_management status
---CLUSTER STATUS---

local is master: False
master id: 0

---APPLIANCE LIST---
id: 2
name: appliance_j8xxmd2
ip address: fd73:51fc:80d:0:201:4471:dcbb:4bce
online: False
id: 1
name: appliance_j8y1nd2
ip address: fd73:51fc:80d:0:201:4432:1df9:41da
online: True
```

2. Detach the failed appliance: `svc_cluster_management detach`

```
svc_cluster_management detach
detach failed appliance success!
```

3. Prepare to attach the appliance back to the cluster: `svc_cluster_management prep_attach`

```
svc_cluster_management prep_attach
prep reattach appliance success
```

4. Attach the appliance back to the cluster: `svc_cluster_management attach`

```
svc_cluster_management attach
reattach appliance success
```

Remove and reattach an appliance

If a two-appliance cluster has a failed appliance, you can use the **svc_cluster_management** script to detach the appliance and reattach it when the problem is resolved.

Steps

1. Run the following command to view the status of the appliances in the cluster: **svc_cluster_management status**

```
svc_cluster_management status

---CLUSTER STATUS---

    local is master: False
    master id: 0

---APPLIANCE LIST---

    id: 2
    name: appliance_j8xxmd2
    ip address: fd73:51fc:80d:0:201:4471:dcbb:4bce
    online: False

    id: 1
    name: appliance_j8y1nd2
    ip address: fd73:51fc:80d:0:201:4432:1df9:41da
    online: True
```

2. Detach the failed appliance: **svc_cluster_management detach**

```
svc_cluster_management detach

detach failed appliance success!
```

3. Prepare to attach the appliance back to the cluster: **svc_cluster_management prep_attach**

```
svc_cluster_management prep_attach

prep reattach appliance success
```

4. Attach the appliance back to the cluster: **svc_cluster_management attach**

```
svc_cluster_management attach

reattach appliance success
```

Configure new SLICs (svc_commit_slic)

This service script activates commit pair of SLIC logic. Use this script after you insert the SLICs into slots. The script enables you to create all necessary configuration for new SLICs on this appliance and on remote appliances (in the cluster). This script must be started on primary node.

Specify the number of slots for which you want to configure SLICs. If no SLICs are ready, an error message is returned.

Three types of objects must be configured when adding a SLIC and running the commit SLIC operation:

- Autodiscovered hardware objects: These objects include SFP and FEPort.

  These objects are discovered automatically after the SLIC is inserted and before the commit procedure.

- Network configurations: These objects include the target and net device.

  These objects are created during the commit procedure.

- Cluster-wide configurations: These objects include the IP port, remote target, and remote NVMe port.

  These objects are created across the cluster, not just on the appliance.

Usage

Function	System Operations
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_commit_slic [-h] [-v] {status,reset,activate,replay}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-v,--verbose`	Output more details.

Actions

Qualifier	Description
`activate`	Activate the commit procedure. If there are no SLICs that are ready to be committed, the service script returns an error message. Create configuration (Targets, Network Devices, NVMe ports) for inserted IOMs.
`replay`	Continue a failed commit procedure. In HA configurations, the commit operation is restarted automatically. Replay should be used if either the `activate` or `activate --resume` command reports a failed state. It is a best practice to retry the `activate` or `activate --resume` action before attempting the `replay` command.
`status`	Show information about the SLICs in specific slots and objects that are configured on these SLICs. Use this command before running the `activate` command to check that all autodiscovered objects are configured. After running the `activate` command, use the `status` command to confirm that the configuration has been created successfully. The `status` command also includes the option `--raw` that displays more information about the configured objects in a JSON format.
`reset`	Terminate the commit procedure if an unrecoverable failure occurs and reset the activation state machine. This action does not clean the already created configuration. Use with caution.

Usage Examples

```
 svc_commit_slic activate 1
            Configure inserted SLICs with slot index 1

        svc_commit_slic activate 0 --resume
            Resume commit procedure if it is interrupted by HA case (a component or node
reboot)

        svc_commit_slic status 0
            Show info about the SLICs, its children objects and activation state machine
status for specific SLICs

        svc_commit_slic reset 0
            Resets activation state machine, if there is no activation in progress.

        svc_commit_slic replay 1
            Recover and retry activation if previous run failes

        svc_commit_slic replay 1 --cp_only
            Call replay only for cluster reconfiguration (IP ports, SCSI Targets, NVMe
ports)
```

Check status of or restart container (svc_container_mgmt)

This service script enables you to check the status of a container or restart it. Currently, you can only restart the CP container.

Usage

Function	System Operations
Mode	Normal and Service
Usage	General Use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_container_mgmt [-h] {status,restart}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`status`	Show the status of the container.
`restart`	Restart the container.

Support materials (svc_dc)

This service script generates a support materials bundle, or data collection (dc) bundle, for technical analysis. Depending on the option you choose, support materials can include system logs, configuration details, and other diagnostic information.

Use this information to analyze performance issues, or send it to your service provider so they can diagnose and help you resolve the issues. This process does not collect user data.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_dc [-h] [-v] {run,delete,list,list_profiles,list_dumps,download,upload}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-v, --version`	Show the programs version number and exit.

Actions

Action	Description
`run`	Run a data collection.
`delete`	Delete an existing data collection.
`list`	List all data collections or details for one collection.
`list_dumps`	List all system dumps for the entire cluster.

Action	Description
`list_profiles`	List data collection profiles.
`download`	Download an existing support materials bundle.
`upload`	Upload an existing data collection.

Generate a support materials bundle (svc_dc run)

This service script is used to generate a new support materials bundle, or data collection, on the local appliance using the default profile. A support materials archive is generated for each appliance in a cluster and stored locally on the appliance.

Format

```
svc_dc run [-h] [--debug] [-v] [--output {json}] [-p PROFILES]
               [-a APPLIANCES] [-vol VOLUMES] [-vvol VIRTUAL_VOLUMES]
               [-d DESCRIPTION] [-u]
```

Optional arguments

Qualifier	Description
`-a, --appliances`	List of appliance IDs to include, in the format of A1, A2, and so on. Use `svc_diag --basic` to find the ID of this appliance. **NOTE:** The default value for this option is local appliance only.
`-vol, --volumes`	List of volume IDs to include.
`-vvol, --virtual_volumes`	List of virtual volumes IDs to include.
`-p, --profiles`	List of profiles to use.
`-d, --description`	The text description associated with the data collection.
`-h, --help`	Show the help message and exit.
`--u, --upload`	Upload the generated DC.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Show output in the JSON format.

Example

Generate a new support materials bundle on appliances APM00162303297and APM00152832910 using the Essential profile. Gather support materials on the local appliance using the default profile. Each appliance in a cluster gathers its own support materials archive and stores it locally on that appliance.

```
svc_dc run --profiles=essential --appliance=APM00162303297,APM00152832910

start_timestamp     status  description      creator_type profile appliances
2019-05-20 17:49:33 Success                  Scheduled    Ess,Det APM00162303297+1
2019-05-21 12:10:31 Success SR 87936386      System       Ess,Det APM00152832910
2019-05-21 17:49:33 Success                  Scheduled    Perf    APM00162303297+1
2019-05-22 17:49:33 Success After switch reb Manual       Ess     APM00162303297   <<
New collection
```

Delete a support materials bundle (svc_dc delete)

This service script is used to delete a support materials bundle. If no ID is specified, the script runs in interactive mode. All saved support materials bundles appear. Pick the bundle that you want to delete by using a short identifier. If an ID is specified, that support materials bundle is deleted.

Format

```
svc_dc delete [-h] [--debug] [-v] [--output {json}] [id]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Show the output in JSON format.

Positional arguments

Qualifier	Description
`id`	Data collection index ID.

Example

The following example shows the `svc_dc delete` command being run in interactive mode. The command lists all collections; a collection would be deleted when its index number is entered.

```
svc_dc delete


Index start_timestamp           id
0     2019-09-15 19:01:24       b3a42a8a-874b-4dfa-b812-1e0a9a35f105
1     2019-09-15 20:25:26       d97e6a7a-4eeb-4edb-b6bc-c1e80f787576
2     2019-09-15 20:26:05       0fcd64ae-9b50-4143-8bba-af817b6e9910
3     2019-09-15 20:52:17       40bb350f-9924-4c3d-b982-ec3c61087442
4     2019-09-18 16:02:46       9f82faec-2d32-48ad-b40c-02a36c30ab09
5     2019-09-18 16:13:12       77aed64d-7282-45b7-a691-d069a05b009b
6     2019-09-18 16:13:46       a773fd98-ce53-4ce3-8b67-60dae42b03a9
7     2019-09-18 18:24:35       a9ec44a0-09c2-47dc-baef-7a8e4a7bd3c3
8     2019-09-18 18:28:43       683a4339-0c25-4445-b5fc-9e9f16a5f4d0

Select a data collection index (q to quit): 4
```

List support materials (svc_dc list)

This service script is used to retrieve a summary of support materials across all appliances in the cluster or the local appliance. When you run this script on the master appliance, the support materials inventory is retrieved across all appliances in the cluster. If you run this script on an appliance that is not the master, only the inventory on the appliance is retrieved.

Format

```
svc_dc list [-h] [--debug] [-v] [--output {json}] [id]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Specify the output format. JSON is the only available output format. Without JSON, the command fails.

Positional arguments

Qualifier	Description
`id`	Specify the data collection index ID.

Example

Retrieve the list of support materials bundles on the master appliance using the `verbose` option to retrieve additional information.

```
svc_dc list --verbose


start_timestamp     status  description  creator_type profiles      id       appliances
2019-09-20 17:49:33 Success              Scheduled    Ess,Det       b3a42a8a
APM00162303297
2019-09-21 12:10:31 Success              System       Ess,Det       d97e6a7a
APM00152832910
2019-09-21 17:49:33 Success              Scheduled    Ess,Det,Hyp+1 8b0a69c2
APM00162303297

2019-09-22 17:49:33 Success              Scheduled    Ess,Det       b6bc2a8a
APM00162303297
```

List all support material profiles (svc_dc list_profiles)

This service script is used to list the available data collection profiles and descriptions.

Format

```
svc_dc list_profiles [-h] [--debug] [-v] [--output {json}]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Qualifier	Description
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Render the output in JSON format.

Example

Retrieve the support materials profiles using the **`svc_dc list_profiles`** script. The following example lists all the valid profile values:

```
svc_dc list_profiles
Name                    Prompt
essential               Collect essential data.
detailed                Collect detailed information.
hypervisor              My problem may involve the hypervisor
controlpathHeapDump     Collect CP information.
nas                     Collect NAS information.
```

List all system dump files (svc_dc list_dumps)

This service script is used to retrieve all available system dump files for the entire cluster, when run on the master appliance. If you run this script on an appliance that is not the master, only the inventory for the local appliance is retrieved.

Format

```
svc_dc list_dumps [-h] [--debug] [-v] [--output {json}] [id]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Specify the output format.

Positional arguments

Qualifier	Description
`id`	Data collection index ID.

Example

The following example would generate a list of the system dumps found on this cluster. The verbose option would include additional information.

```
svc_dc list_dumps --verbose
         List a summary of the system dumps on the cluster.
```

Download an existing support materials bundle (svc_dc download)

This service script is used to download a support materials bundle to the provided destination. If no ID is specified, the script runs in interactive mode. All saved support materials bundles appear, and you can pick the bundle that you want to download using a short identifier. If an ID is specified, that support materials bundle is downloaded.

Format

```
svc_dc download [-h] [--debug] [-v] [--output {json}] --ip IP --path PATH
                              --username USERNAME [-do] [-so] [id]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Specify the JSON output format.
`--ip`	Destination IP on the remote host.
`--path`	Destination path on the remote host
`--username`	Username for the remote host
`-do, --dump_only`	Download dump data only.
`-so, --service_only`	Download service data only.

Positional arguments

Qualifier	Description
`id`	Data collection index ID.

Required name arguments

Qualifier	Description
`-ip`	Destination IP address on the remote host.
`-path`	Destination path on the remote host.
`-username`	Username for the remote host.
`-password`	Password associated with the remote username.

Example

Run the following command to download a support materials bundle with the identifier `40bb350f-9924-4c3d-b982-ec3c61087442` to the `/home/eng` directory:

```
svc_dc download --ip=10.12.13.45 --path=/home/eng
                --username=tom
```

```
                --password=password
                40bb350f-9924-4c3d-b982-ec3c61087442
```

Upload a support materials bundle (svc_dc upload)

This service script is used to upload a data collection to CloudIQ through Secure Remote Services. If no data collection id is specified, the command runs in interactive mode. This script lists all collections and allows you to select the collection to upload using a short identifier. If you specify an ID for a collection, that collection is uploaded. The option `--skip-cp` is used to upload the data collection without using CP, even CP is working.

Format

```
svc_dc upload [-h] [--debug] [-v] [--output {json}] [--skip-cp] [-f] [id]
```

Positional Arguments

Qualifier	Description
`id`	Unique identifier of the support materials bundle.

Optional Arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--debug`	Initiate verbose logging for debug.
`-v, --verbose`	Initiate verbose command output.
`--output {json}`	Render output in the JSON format.
`--skip-cp`	Upload support materials without CP, even if CP is working.
`-f, --force`	Force an upload of support materials even if the materials are already uploaded.

System diagnostics (svc_diag)

This service script is used as your first tool, when diagnosing issues with your system. The script enables you to check for specific issues and gather system information. This information includes the current system topology, key configuration information, and the statuses of certain major system components.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No

Scope	Appliance
Prerequisites	None

Format

```
svc_diag [-h] [-v] {run,list}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-v, --verbose`	List additional content.

Actions

Action	Description
`run`	Run a diagnostic check. For detailed subcommand usage, use the help flag (`svc_diag run --help`).
`list`	List diagnostic information. For detailed subcommand usage, use the help flag (`svc_diag list --help`).

Available options for diagnostic checks (run)

Option	Description
`-h, --help`	Show the help message and exit.
`--cw_hardware`	Run the diagnostics to check for any hardware-related issues that may cause the initial configuration to fail.
`--network`	Run the diagnostics to check the network configuration. To check the management network cabling, specify `--mgmt_cabling_check` as an additional argument.
`--workloads`	Run the diagnostics to check whether an appliance contains any workloads such as storage or virtual machines.

Available options for listing diagnostic information (list)

Option	Description
`--basic`	List a high-level topology of the cluster and its state along with the appliances and nodes that are found in the cluster.
`--alerts`	List the last ten active, unacknowledged alerts. Use the following additional arguments to list further specific information: • `--closed`—List the alerts that were closed in the last 24 hours. • `--acknowledged`—List the last ten acknowledged alerts. To view alerts, closed and acknowledged, in the last 24 hours, you can specify both these arguments together. For example, `--alerts --closed --acknowledged`
`--hardware`	List all information that is related to the hardware. You can specify the following additional arguments to list information about specific components: • `--fault_status`—List information from the fault status register

Option	Description
	• `--inventory`—List the hardware inventory • `--sensors`—List sensor information • `--sel`—List serial log (SEL) information • `--firmware`—List firmware information • `--local_drive`—List local drive Smartdata information • `--dimm`—List DIMM information
`--storage`	List all information that is related to the storage. To view information about the RAID configuration on the appliance, specify `--raid` as an additional argument.
`--nvme_drive`	List all information about the nonvolatile memory express (NVMe) drives in the appliance.
`--network`	List network configuration information. To view information about management network cabling, specify `--mgmt_cabling` as an additional argument.
`--icw_hardware`	List all information that is related to the hardware checks during initial configuration.
`--workloads`	List information about the workloads, such as storage resources, hosts, and virtual machines, on the appliance. You can specify the following additional arguments to list specific workloads: • `--jobs` • `--sdnas` • `--volume` • `--hosts` • `--host_groups` • `--vm_vvols`
`--hypervisor`	List diagnostic information for the hypervisor. This information includes information about the vSphere Installation Bundles (VIBs) and changes that are made after the installation.
`--show_drives`	List the drives on the system.
`--expansion_resume`	Show the output for any attached expansion shelves (DAEs) that are connected.
`--cluster`	Show information about the cluster.
`--services`	List all system services across nodes and containers.
`--info`	Get information such as the node ID, appliance name, service tag, model, IP, and so on.
`--energy_star`	List all the Energy Star-related information for the appliance.

Example

Use the following command to view local drive Smartdata:

```
svc_diag list --hardware --sub_options local_drive

Hardware: ========== Local Drive Smartdata  ===========

smartctl 7.0 2018-12-30 r4883 [x86_64-linux-4.14.19-coreos-r9999.1551750807-541] (local
build)
Copyright (C) 2002-18, Bruce Allen, Christian Franke, www.smartmontools.org

=== START OF INFORMATION SECTION ===
Model Family:     SMART Modular Technologies mSATA XR+ M.2 2280 SafeData MLC
Device Model:     SHM2S86Q240GLM22EM            118000653
Serial Number:    SPG18040AR2
Firmware Version: FW1146
User Capacity:    240,057,409,536 bytes [240 GB]
Sector Size:      512 bytes logical/physical
Rotation Rate:    Solid State Device
Form Factor:      M.2
Device is:        In smartctl database [for details use: -P show]
ATA Version is:   ACS-2 (minor revision not indicated)
SATA Version is:  SATA 3.1, 6.0 Gb/s (current: 6.0 Gb/s)
```

```
Local Time is:    Tue Apr  2 19:25:58 2019 UTC
SMART support is: Available - device has SMART capability.
SMART support is: Enabled
```

Example

Use the following command to list all the Energy Star-related information for the appliance:

```
svc_diag list --energy_star

***** System Energy Star Information *****
Base Enclosure:
    Air Inlet Temperature (Celsius) : 22.00 (valid)
    Input Power (Watts)             : 1360.00 (valid)
Total Appliance InputPower (Watts)  : 1360 (valid)
```

Check datapath stats (svc_dp_oos_check)

This service script enables you to check the datapath stats under out-of-space status.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_dp_oos_check [-h] [-dc] [-f]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-dc, --dc`	Send the output to screen.
`-f, --File`	Send the output to a log file.

Collect flash and NVMe statistics (svc_drive_stats)

This service script collects flash and NVME stats from each drive in an appliance and stores that data in a file. This data sent to Dell EMC support if SupportAssist has been enabled.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_drive_stats [-h] [-v] {list,run}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-v, --verbose`	Initiate verbose logging for debugging purposes.

Actions

Action	Description
`list`	List the drive statistics collection. For details, run the --sub_options argument (`svc_drive_stats list --smartData --sub_options`).
`run`	Run the drive statistics collection. For details, run the --sub_options argument (`svc_drive_stats run --` *<option>* `--sub_options`).

Factory reset (svc_factory_reset)

This service script returns an appliance back to its factory-delivered state, deleting all user data and persistent configurations. You can run this script only on the master appliance.

This script is used to factory reset both nodes of a system. Both nodes must be put in service mode before running this script.

NOTE: The script must be run on Node A.

To put a node in service mode, run the following commands:

- `svc_rescue_state set` (on Node A and Node B)
- `svc_node reboot` (on Node A and Node B)
- `svc_factory_reset` (on Node A only)

WARNING:

- **This script starts a system-wide operation that resets both nodes in the system to their factory-delivered states.**
- **Only trained service personnel should run this script.**

For more information about resetting an appliance back to the factory-delivered state, see the *PowerStore Security Configuration Guide*.

Usage

Function	Recovery
Mode	Service
Usage	Technical Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Appliance
Prerequisites	• Obtain a support materials bundle, and consult with your service provider. • Ensure that both nodes in the appliance are in service mode.

Format

```
svc_factory_reset [-h] [-p POWERSTOREOS] [-c]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-p, --powerstoreos`	Use this option to factory reset the appliance to a different OS version.
`-c, --healthcheck`	Use this option to only run the health check.

Perform a health check on the appliance (svc_health_check)

This service script enables you to perform a health check on an appliance and list other appliance health checks.

Usage

Function	Diagnostic
Mode	Normal or Service

Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_health_check [-h] {run,list,list-profiles,list-health_checks}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Positional arguments

Qualifier	Description
`run`	Start an appliance health check.
`list`	List the preview health checks.
`list-profiles`	List the profiles health checks.
`list-health_checks`	List the health checks.

Help (svc_help)

This service script lists the available service scripts.

Usage

Function	System operations
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_help [-h] [-a] [-s SCRIPT]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-a, --all`	Show all scripts.
`-s, --script`	Show the help message for the script.

Hypervisor diagnostics (svc_hypervisor)

This service script enables you to collect support materials from the hypervisor on the appliances. This script also enables you to take a snapshot of the current hypervisor installation so that your service provider can identify any changes to the installation.

NOTE: This script only applies to ESXi-related information.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	Only applies to PowerStore X model appliances.

Format

```
svc_hypervisor [-h] {run}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`run`	Collect support materials from the hypervisor on the appliance. Use the `-o` or `-output` argument to specify a directory where you want to save the collected materials.

Example

The following command shows support materials being collected and saved:

```
svc_hypervisor run --output /home/user32/hypervisor/download/

vm-support v3.3: 10:48:41, action threads 4

Non-fatal errors encountered during the run:
   Cmd "/usr/sbin/vmkping -D -v" failed with exit code 255
Please attach this file when submitting an incident report.
To file a support incident, go to http://www.vmware.com/support/sr/sr_login.jsp

To see the files collected, check '/vmfs/volumes/9XFVDH2.A.INTERNAL/esx-H0111-
host-1-2019-05-01--10.48-2358636.tgz'

Finished successfully.
/home/user32/hypervisor/download/esx-H0111-host-1-2019-05-01--10.48-2358636.tgz
Script svc_hypervisor finished successfully
```

Inject troubleshooting software tool (svc_inject)

This service script provides you a secure and simple way to install validated service tools, copy software upgrade files, or install secure remote support recovery packages.

Usage

Function	Recovery
Mode	Normal
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node or Appliance
Prerequisites	Ensure that you copy the tool or package to the primary node on the appliance.

Format

```
svc_inject [-h] {status,info,generate-key,run,deactivate,delete}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`run`	Install the service tool or package you have specified or enable service escalation.
`delete`	Delete an injected service tool or package.
`info`	Display information about a specific package.
`generate-key`	Generate a root or SupportAssist recovery package key.
`deactivate`	Deactivate the service escalation.
`status`	Report the service escalation status.

Install service tools (svc_inject run)

This service script installs a package or enables a service escalation.

Format

```
svc_inject run [-h] [-s] [-q] package
```

Optional Arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-s, --single`	Specify this argument to install the tool on the current node only.
`-q, --quiet`	Suppress any additional prompts or messages.

Positional Arguments

Qualifier	Description
`package`	The full path to the package OR the response key for the root injection key.

Example

```
svc_inject run 18328-61346-CD9BD-AD4DC-A33B2-B8EDF-FC4BC-FD15D-00
Current Challenge: FFCD6-29923-77FEB-70E6E-B97E7-3E879

INFO: Response successfully validated!
INFO: Enabling tool ...
INFO: Successfully enabled svc_service_shell
INFO: Run "svc_service_shell" to be granted root level access for servicing this system
```

```
Script svc_inject finished successfully
```

Delete an injected service tool (svc_inject delete)

This service script deletes an injected service tool.

Format

```
svc_inject delete [-h] tool_name
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Positional arguments

Qualifier	Description
`tool_name`	Name of the injected tool.

Example

```
svc_inject delete test_esx_image-0.5.0.487325.tgz.bin
[No response if deletion was successful]
```

Display information about a specific package (svc_inject info)

This service script shows information about an injected tool.

Format

```
svc_inject info [-h] tool_name
```

Optional Arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Positional arguments

Qualifier	Description
`tool_name`	The name of the injected tool.

Generate a root or recovery package key (svc_inject generate-key)

This service script generates a root or SupportAssist recovery package key.

Format

```
svc_inject generate-key [-h] [-s] [r]
```

Optional Arguments

Qualifier	Description
-h, --help	Show the help message and exit.
-s, --srs	Specify this argument to generate a SupportAssist recovery package key.
-r, --root	Specify this argument to generate a root injection key.

Example

```
svc_inject generate-key -r
Current Challenge: 671FD-217B7-2F7CC-AB547-45814-40D99
```

Deactivate service escalation (svc_inject deactivate)

This service script deactivates service escalation.

Format

```
svc_inject deactivate [-h]
```

Optional arguments

Qualifier	Description
-h, --help	Show the help message and exit.

Example

```
svc_inject deactivate
Service escalation has been deactivated
```

View service escalation status (svc_inject status)

This service script reports service escalation status.

Format

```
svc_inject status [-h]
```

Optional Arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Example

```
svc_inject status
INFO: Access is currently DISABLED
INFO: Current attempt is: 0 (MAX: 3)

Script svc_inject finished successfully
```

Review system journal logs (svc_journalctl)

This service script enables you to view log messages from the system journal in a consistent format. It also enables you to specify additional arguments and to filter or display additional information. Use this script as a triage tool to troubleshoot issues.

Usage

Function	Diagnostic and Recovery
Mode	Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_journalctl [-h][-r][-b ID][-k][-t value][-p value][-g value][--case-sensitive=TRUE/
FALSE][-S value][-U value][--system][--user][-D value][--file value][-f][--output-fields
value]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Qualifier	Description
`-r, --reverse`	Show the newest entries first.
`-b, --boot`	Show current boot or the boot for the specified ID.
`-k, --dmesg`	Show the kernel message log from the current boot.
`-t, --identifier`	Show entries with the specified syslog identifier.
`-p, --priority`	Filter output by message priorities or priority range.
`-g, --grep`	Filter output to entries where the specified field matches the specified regular expression.
`--case-sensitive`	Make pattern matching case sensitive or case insensitive. Valid values are *TRUE* or *FALSE*.
`-S, --since`	Show entries not older than the specified date.
`-U, --until`	Show entries not newer than the specified date.
`--system`	Show the system journal.
`--user`	Show the user journal for the current user.
`-D, --directory`	Show journal files from the specified directory.
`--file`	Show the specified journal file.
`-f, --follow`	Show only the most recent journal entries, and continuously print new entries as they are appended to the journal.
`--output-fields`	Show a comma-separated list of the fields that you want to include in the output.

Fields

The system journal contains entries with information (binary data) stored in fields with specific meaning. In addition, you can use the optional arguments to filter the information that is based on these fields or on the value that these fields contain. For example:

- The following command establishes a basic field matching query to view log messages associated with the `Platform` component. The command has a marker value of `NDU` and a message priority level of `ERROR`:

  ```
  svc_journalctl COMPONENT=Platform MARKER=NDU PRIORITY=ERROR
  ```

- The following command enables you to search for a specific case-sensitive text pattern in the log messages associated with the `Platform` component:

  ```
  svc_journalctl -g --case-sensitive=TRUE CONTEXT_ID=456abc COMPONENT=Platform
  ```

For more information about the journal fields, see System Journal Fields on page 90.

Output Format

When you run the script, the output appears in a set order of default fields. The following is a sample of the default output from the script:

```
2019 Mar 11 14:51:45 FNM00175000815-A DEBUG CC CP bedrock.config.ConfigManagerVerticle
vert.x-eventloop-thread-0 no_ctx_id Starting to set injector.
```

Where:

Field	Value
`__REALTIME_TIMESTAMP`	`2019 Mar 11 14:51:45`
`_HOSTNAME`	`FNM00175000815-A`

Field	Value
PRIORITY	DEBUG
MARKER	CC
COMPONENT	CP
SUB_COMPONENT	bedrock.config.ConfigManagerVerticle
THREAD_NAME	vert.x-eventloop-thread-0
CONTEXT_ID	no_ctx_id
MESSAGE	Starting to set injector.

If you want to view additional fields in the output, specify them in the `--output-fields` argument. For example:

```
svc_journalctl --output-fields=CODE_LINE,CODE_FUNC

2019 Mar 11 14:51:45 FNM00175000815-A DEBUG CC CP bedrock.config.ConfigManagerVerticle
vert.x-eventloop-thread-0 no_ctx_id [814] [validatePlatformResponseStateTask] Starting
to set injector.
```

Where:

Field	Value
CODE_LINE	[814]
CODE_FUNC	[validatePlatformResponseStateTask]

Install the PowerStore system (svc_manufacturing)

This service script eases the installation process and includes options to assist with automation and triage processes.

CAUTION: Only trained service personnel should use this script.

Usage

Function	Configuration
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	Yes
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Node or appliance
Prerequisites	None

Format

```
svc_manufacturing [-h] [--firmware_report_full] [--check_mfg_mode_flag]
                       [--health_check] [--disable_kernel_messages]
                       [--eve_args EVE_ARGS] [--show_reinit_states]
                       [--firmware_report] [--stack_up] [--show_ssd]
                       [--show_network] [--show_dare]
```

```
                        [--network_ip_and_gateway NETWORK_IP_AND_GATEWAY]
                        [--run_all_triage] [--show_psus] [--verify_stack_up]
                        [--hardware_report] [--eve_download]
                        [--disable_network] [--verify_stack_down]
                        [--stack_down] [--enable_network]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--health_check`	Perform a health check.
`--eve_args`	Show the arguments for the `eve_download` command.
`--firmware_report`	Show firmware information.
`--stack_up`	Bring the stack up.
`--show_network`	Display network interfaces with IP addresses.
`--network_ip_and_gateway`	Specify the network IP or netmask gateway.
`--show_psus`	Show power supply information.
`--eve_download`	Download the EVE.
`--hardware_report`	Display resume information.
`--enable_network`	Enable the network.
`--stack_down`	Bring the stack down.
`--firmware_report_full`	Show detailed firmware information.
`--check_mfg_mode_flag`	Verify that the manufacturing process is not still in progress.
`--disable_kernel_messages`	Turn off kernel debug messaging.
`--show_reinit_states`	Display the contents of the `cyc_state` directory.
`--show_ssd`	Display SSD information.
`--show_dare`	Display D@RE information.
`--run_all_triage`	Run the full suite of triage commands.
`--verify_stack_up`	Verify that the operating system stack is up.
`--disable_network`	Disable the network.
`--verify_stack_down`	Verify that the operating system is in the factory state.

Example

The following example shows how to enable the network, specifying the network IP address and gateway:

```
svc_manufacturing --enable_network --network_ip_and_gateway 'network IP address/gateway server'
```

Retrieve information as a root user (svc_mgmt_operations)

This service script enables you to retrieve information using the service tool as a root user. The service tool retrieves information from the command table and the `job_request` table.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	Yes
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_mgmt_operations [-h]
{all_locks,all_top_level_commands,command_tree,commands_by_type,pending_locks,granted_locks_with_pending_locks,command_type_summary,failed_top_level_commands,command_by_id,locks_by_command_id,locks_by_resource_id}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`all_locks`	Query the lock request table for all locks.
`all_top_level_commands`	Query the command table for all top-level successful commands.
`command_tree`	Query the command tree.
`commands_by_type`	Query the command table by the command type.
`command_type_summary`	Query the command table by the type summary.
`failed_top_level_commands`	Query the command table for all top-level failed commands.
`command_by_id`	Query the command table by the command ID.
`locks_by_command_id`	Query the lock request table by the command ID.
`locks_by_resource_id`	Query the lock request table by the resource ID.

Action	Description
`pending_locks`	Query for all pending locks.
`granted_locks_with_pending_locks`	Query all granted locks with pending locks.

Example

The following command reports information for the command tree for single or multiple commands, depending upon which option is chosen:

```
svc_mgmt_operations command_tree [-h] [--command_type <value>] [--failed_commands] [--
all_commands]
[--command_id <value>]
```

Migrate a cluster or DVS to another vCenter (svc_migrate_to_vcenter)

This service script enables you to restore or migrate a PowerStore Cluster and Distributed Virtual Switch (DVS) configuration from one vCenter to another.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	vCenter
Prerequisites	None

Format

```
svc_migrate_to_vcenter [-h] [--force] [--verbose] [--debug] [--quiet]
                            {restore_on_vcenter,migrate_to_vcenter,fix_restore_issues}
```

Optional arguments

Action	Description
`-h, --help`	Show this help message and exit.
`--force`	Ignore warnings; force a reboot that might result in data becoming unavailable.
`--verbose`	Initiate verbose logging for debugging.
`--debug`	Increase the logging level to debug and print logs to the console.

Action	Description
`--quiet`	Suppress any additional prompts or messages.

Actions

Action	Description
`restore_on_vcenter`	Restore the vCenter configuration if access to the previous vCenter is lost.
`migrate_to_vcenter`	Migrate PowerStore from one vCenter to another.
`fix_restore_issues`	Remove empty proxy switches from ESXs if needed. Run this command if prompted by the `restore_on_vcenter` or `migrate_to_vcenter` commands.

Migrate to vCenter (svc_migrate_to_vcenter migrate_to_vcenter)

This service script migrates PowerStore from one vCenter to another.

Format

```
svc_migrate_to_vcenter migrate_to_vcenter [-h] [--generate_config]
                                          config
```

Optional arguments

Action	Description
`-h, --help`	Show this help message and exit.
`--generate_config`	Only generate template config and finish.

Positional arguments

Action	Description
`config`	JSON config file that should have the following structure: `{'cluster_name': '<Optional. Allows to redefine name for ESX cluster in a new vCenter>', 'old_vcenter': 'password': '<Password for current vCenter>'}, 'esxs': [{'host': '<ESXi IP/host>', 'password': '<ESXi root password>'}, {'host': '<ESXi IP/host>', 'password': '<ESXi root password>'}], 'power_store': {'password': '<PowerStore password>', 'user': '<PowerStore user>'}, 'provider_name': '<Optional. Allows to redefine Storage provider name in a new vCenter>', 'vcenter': {'host': '<vCenter IP/host>', 'password': '<vCenter password>', 'user': '<vCenter username>'}, 'data_center_name': '<Optional. Allows to redefine Data Center name in a new vCenter>'}`

Restore the vCenter configuration (svc_migrate_to_vcenter restore_on_vcenter)

This service script restores the vCenter configuration if access to the previous vCenter has been lost.

Format

```
usage: svc_migrate_to_vcenter restore_on_vcenter [-h] [--generate_config]
                                                 config
```

Optional arguments

Action	Description
`-h, --help`	Show the help message and exit.
`--generate_config`	Only generate the template configuration and finish.

Positional arguments

Action	Description
`config`	The JSON config file that should have the following structure: `{'data_center_name': '<Optional. Allows to redefine Data Center name in a new vCenter>', 'provider_name': '<Optional. Allows to redefine Storage provider name in a new vCenter>', 'cluster_name': '<Optional. Allows to redefine name foe ESX cluster in a new vCenter>', 'esxs': [{'host': '<ESXi IP/host>', 'password': '<ESXi root password>'}, {'host': '<ESXi IP/host>', 'password': '<ESXi root password>'}], 'vcenter': {'host': '<vCenter IP/host>', 'password': '<vCenter password>', 'user': '<vCenter username>'}, 'power_store': {'password': '<PowerStore password>', 'user': '<PowerStore user>'}}`

Remove empty proxy switches (svc_migrate_to_vcenter fix restore issues)

This service script removes empty proxy switches from ESXs if needed. Run this command if prompted by the `restore_on_vcenter` or `migrate_to_vcenter` commands.

Format

```
svc_migrate_to_vcenter fix_restore_issues [-h] [--generate_config]
                                          config
```

Optional arguments

Action	Description
`-h, --help`	Show the help message and exit.
`--generate_config`	Only generate the template configuration and finish.

Positional arguments

Action	Description
`config`	The JSON config file that should have the following structure: `{'cluster_name':'<Cluster name>','vcenter': {'host':'<vCenter IP/host>','password':'<vCenter password>','user':'<vCenter username>'},'data_center_name':'<Datacenter name>'}`

Run service scripts using SSH tunneling (svc_nas)

This service script enables you to run NAS service scripts from the service container to provide unified serviceability in addition to faster diagnosis and remediation.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_nas [-h] [-d]{download,list,run}
```

Optional arguments

Action	Description
`-h, --help`	Show this help message and exit.
`-d, --debug`	Increase logging level to debug and print logs to console.

Actions

Action	Description
`download`	Download files generated by the NAS scripts. `svc_nas download` <username> <destination ip-address> <destination path>. A list of available files is presented with the option to select multiple files at once to download.
`list`	List the supported NAS scripts.

Action	Description
`run`	Run the specified NAS service script in the format: `svc_nas run <script> <script-options>`.

Specific SDNAS scripts

The following additional commands enable you to run SDNAS scripts through the service container:

Script	Description
`nas_svc_acldb_dump`	Downloads the ACL database of an online file system.
`nas_svc_dac`	Enables you to manage Dynamic Access Control (DAC).
`nas_svc_dc`	Generates an archive file with SDNAS materials.
`nas_svc_nas`	Enables you to manage NAS servers.
`nas_svc_paxstats`	Displays advanced statistics for NDMP and PAX backup sessions.
`nas_svc_tcpdump`	Enables you to run a Linux tcpdump operation.

Download the ACL database of a file system (svc_nas nas_svc_acldb_dump)

This script downloads the ACL database of an online file system to enable you to troubleshoot security issues.

Usage

Function	Diagnostic
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	Yes
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_acldb_dump [-h] {<NAS server name> options} [-d] [-fs <file system
name>] [-o <target directory>]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --dump`	Dump the ACL database.

Qualifier	Description
`-fs`	Specify the file system by name.
`-o, --outpath`	Specify the target directory. If the directory does not exist, it is created.

Manage Dynamic Access Control (svc_nas nas_svc_dac)

This script enables you to manage Microsoft Dynamic Access Control (DAC), which allows you to establish access rules.

Usage

Function	System Operations
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_dac [-h] [-e {ALL}] [-d {ALL}] [-s {ALL}] [--cap-staging-enable
<system name>] [cap-staging-disable <system name>] [-v <level>] [-i system name {--
dn <distinguished policy name>}] [-p <compname> --dn <policy_dn>] [-v] [--delete] [--
add-recovery-rule <system name> --rule-name rule name {--resource-condition <resource
condition>} {--effective-security <effective_security>}] [--delete-recovery-rule <system
name> --rule-name <rule name> {--resource-condition <resource condition>} {--effective-
security <effective_security>}]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-e, --enable`	Enable DAC on the system VDM. You must specify `ALL`.
`-d, --disable`	Disable DAC on the system VDM. You must specify `ALL`.
`-s, --state`	Show the current state of DAC on the system VDM. You must specify `ALL`.
`--cap-staging-enable`	Enable evaluation of proposed permissions for the system VDM.
`--cap-staging-disable`	Disable evaluation of proposed permissions for the system VDM. This setting is the default.
`-v, --verbosity`	Set the level for log messages associated with the system VDM. Specifying a dbg2 or dbg3 level reduces system performance.
`-i, --info`	Show details of all policies in the policy manager.

Qualifier	Description
	You can specify a policy by adding: • The distinguished name • The policy ID
`-p, --preload`	Load the policy with the specified distinguished name into the policy manager associated with the Active Directory system name.
`-r, --refresh`	Refresh all policies in the policy manager associated with the Active Directory system name. Policies that no longer exist in the Active Directory are deleted.
`-d, --delete`	Delete the policy with the specified policy ID from the policy manager associated with the Active Directory system name.
`--add-recovery-rule`	Add a recovery rule with the specified distinguished name to the policy manager associated with the Active Directory system name. You can specify the following with this command: • The rule name is the name of the new rule. • `--resource_condition` is an expression that is used to determine the resources the new recovery rule applies to. Omitting this option (or specifying the empty string) means that the new rule is applicable to all resources. • `--effective security` is an SDDL ACL that specifies the effective security for the new recovery rule.
`--delete-recovery-rule`	Delete a recovery rule with the specified distinguished name to the policy manager associated with the Active Directory system name.

Generate an SDNAS archive file (svc_nas nas_svc_dc)

This service script generates an archive file with SDNAS materials. You can download this archive through REST using the `supportMaterial` REST objects.

The script collects system information and SDNAS materials for triaging and resolving problems. The data collected includes system configurations, logs, run-time data, and other information. Running this script without any options retrieves the full data.

Usage

Function	System Operations
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_dc [-h][-collect] [-noEtc]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-collect`	Collect SDNAS materials (default).
`-noEtc`	Do not collect the `.etc` directory of the NAS servers.

Manage NAS servers (svc_nas nas_svc_nas)

This script allows you to manage NAS servers at an advanced level, including managing NAS server parameters, database maintenance, and network troubleshooting.

Usage

Function	System Operations
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_nas {<NAS_server_name> | ALL} [-cava] [-dbms] [-dns] [-ds] [-file] [-
kerberos] [-ldap] [-list] [-lockd] [-nis] [-param] [-restart] [-vhdx]
```

Optional arguments

Qualifier	Description
`-cava`	Manages the anti-virus service settings of the specified NAS server.
`-dbms`	Perform the operation on databases.
`-dns`	Display the DNS settings of the NAS server and perform a DNS lookup.
`-ds`	Display the Windows Directory Service.
`-file`	Upload or download a file to the `.etc` directory of the NAS server.
`-kerberos`	Display the current Kerberos settings of the NAS server.

Qualifier	Description
`-ldap`	Display the LDAP settings of the NAS server and perform LDAP operations.
`-list`	Display the list of NAS servers.
`-lockd`	Manage file locks on the NAS servers.
`-nis`	Display the NIS settings of the NAS server and perform an NIS lookup.
`-param`	Manage the parameters of the NAS server.
`-restart`	Restart the specified NAS server.
`-vhdx`	Display VHDX metadata (Hyper-V virtual disk files).

Show statistics for NDMP and PAX backup sessions (svc_nas_nas_svc_paxstats)

This script displays the advanced statistics for NDMP and PAX backup sessions that are in progress on the NAS servers.

Usage

Function	Diagnostic
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_paxstats { SVDM_A | SVDM_B | ALL } -stats {-reset | -verbose}
```

Optional arguments

Qualifier	Description
`-stats`	Display the NDMP and PAX backups statistics counters that are in progress. • `-verbose`: Display the NDMP and PAX backups advanced statistics counters that are in progress. • `-reset`: Reset the NDMP and PAX backups statistics counters.

Positional arguments

Qualifier	Description
`SVDM_A`	NAS server A.
`SVDM_B`	NAS server B.

Qualifier	Description
ALL	Both NAS servers.

Run a Linux tcpdump (svc_nas nas_svc_tcpdump)

This service script allows you to run a Linux tcpdump operation on a system interface for diagnostic purposes.

The output from this command is saved in rotating files of fixed size. When an output file grows either to the size defined by `-C` or to a different maximum size, the output is redirected to another file. This other file has the same base name but a different suffix. The suffix is a digit from 0 to the value defined by either the `-W` option or an internally defined maximum rotation value. Rotating files are created in numerical order.

Usage

Function	Diagnostic
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_nas nas_svc_tcpdump [-h] [-i <interface>] [-w <file name>] [-W <rotations>] [-C
<size>] [-s <number of bytes>]
[-t {1,2,3,4}] [-v {1,2,3}] [-D] [-F <filter file>] [-e] [-n] [-q] [-T <timeout>] [-p
<path>] [-y <data link type>] [-L] [-K <tcpdump session ID>]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-i, --interface`	Specify the interface to be used to capture information. The default interface for the host namespace is `mgmt0`; for SDNAS, the default is `eth_mgmt`.
`-w, --filename`	Specify the base file name for the output files. The default name is `dump.out`.
`-W, --rotations`	Specify the number of files for output. The default is 5. The maximum number is 20.
`-C, --size`	Specify the size of each output file in MB. The default is 50. The maximum size is 200.
`-s, --snaplen`	Capture this specified number of bytes of data from each packet rather than the default 65535. 0 means the default value.

Qualifier	Description
-t, --timestamp	Add the corresponding number (1, 2, 3, or 4) to the timestamp command to specify how you want the timestamp to appear in the output: 1. Do not print a timestamp on each dump line. 2. Print an unformatted timestamp on each dump line. 3. Print a delta (in microseconds) between current and previous line on each dump line. 4. Print a timestamp in the default format preceded by the date on each dump line.
-v, --verbosity	Specify the verbosity of the output, with 3 being most verbose.
-D, --dump_intfs	Print the list of the network interfaces available on the system and on which the tcpdump operation can capture packets.
-F, --input _expr	Use the file as input for the filter expression. The file should be in the tcpdump directory.
-e, --llheader	Print the link-level header on each dump line.
-n, --no_addr	Do not convert addresses such as host addresses, port numbers, and so on, to names.
-q, --quiet	Print abridged protocol information to make the output lines shorter.
-T, --timeout	Define the timeout before stopping the trace. The timeout format is xy, where x is a number and y is the unit of measurement for time (second, minute, hour, day). Some examples are 30s, 10m, 5h, 2d. If you want the trace to keep running, set the timeout to no. The default is no.
-p, --path	Specify the path for the output file storage; the default is /opt/sdnas/log/svc_output. The path that is specified must be an existing directory under /opt/sdnas/log/svc_output.
-y, --dlink	Set the data link type to datalinktype to use while capturing packets.
-L, --list	List active tcpdump sessions.
-K, --kill	Kill all tcpdump sessions or a specific session by designating its ID.

Back up NAS server configuration (svc_nas_cbr)

This service script enables you to back up all NAS server configurations on the cluster and also view previously backed up configurations. When you run this script, the backup archive is created in a .tar format. To restore a NAS server from a backup archive, contact your service provider.

Usage

Function	Diagnostic and Recovery
Mode	Service
Usage	Service

Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_nas_cbr [-h] [-b]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-b, --backup`	Back up the NAS server configurations.

Example

Use the following command to back up your NAS server configuration:

```
svc_nas_cbr --backup

http://fd9f:1e6a:2ab0::201:4438:71f7:d:3085/api/instances/supportMaterial/5ccac68b-
a14a-66e7-863e-9ada1b00938e
CBR file: SDNAS_cbr_data_20190502_102926UTC.tar created on node 2
```

CIFS Support (svc_nas_cifssupport)

This service script enables you to view information for troubleshooting CIFS-related issues. It displays information about network connectivity to domain controllers, access rights, credentials, access logs, and other related items for a specific NAS server or all NAS servers.

NOTE: Ensure that you run this script on the primary node of the appliance.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance

Prerequisites	None

Format

```
svc_nas_cifssupport [-h] [--server SERVERNAME] [--args NAS_CMD_ARGS]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--args`	NAS service command arguments. **NOTE:** Arguments must be preceded by hyphens. For example: `svc_nas_cifssupport --args="<>"`

Positional arguments

Qualifier	Description
`--server`	Specify the name of the NAS server you want to run the specific action on.

Options

Use the `--args` argument to specify additional options.

[-h | -help | --help | <no option>]

Display help and exit. Use this option with `svc_nas_cifssupport` to view the top-level options for the command. To view the options and parameters for a top-level option, use the `-help` option after the top-level option. For example, the output of `svc_nas_cifssupport --server nas 1 -args="-setspn -help"` provides detailed usage information about the `-setspn` option.

-accessright

Compute the effective access rights for a user on a file system resource.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-accessright
    {-user  <user_name> [-domain <domain_name>] | -sid <SID>}
    {{-path <path_name> [-stop_on_symlink]} | -share <share_name>}"
```

-user <user_name> [-domain <domain_name>] | -sid <SID>

Specify the user name and domain or the SID of the user.

{-path <path_name> [-stop_on_symlink]} | -share <share_name>

Specify the file system resource.

-acl

Dump or display the Access Control List (ACL) for the specified file system resource.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-acl
    {{-path <pathname>
    [-stop_on_symlink]}
    |-share <sharename>}
    [-verbose]
    [-aclext]
    |-fs <filesystem_name>
     {-printstats
```

```
      | -resetall
         {[-path <path>]
         | [-owner]
         | [-group]
         | [-dacl]
         | [-sacl]}}"
```

-path <pathname>

Display the ACL of the pathname.

-stop_on_symlink

Display the ACL of the symbolic link, instead of the target of the link.

-verbose

Display more information about the ACL.

-aclext

Dump additional details about conditional ACEs and resource attributes that are present.

-fs <filesystem_name>

Name of the file system.

-printstats

Get the ACL statistics on the file system.

-resetall

Reset all ACL on the file system (set everyone with full control).

-path <path>

Copy ACL of the given path to all the other files of the file system. If you specify one of the following options (`-owner`, `-group`, `-dacl`, and `-sacl`), copy only the relevant items. You can use these options together or combine them as you need.

-owner

Reset owners.

-group

Reset groups.

-dacl

Reset DACL.

-sacl

Reset SACL.

-audit

Audit the current CIFS (clients) connections on the SMB server.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-audit
    -user <user_name>
    | -client <client_name>
    | -full"
```

-user <user_name>

Audit connections for the specified user.

-client <client_name>

Audit connections for the specified client or IP address.

-full

Display more details about the file opens per connection.

-builtinclient

Audit the current domain controller connections on the SMB server built-in client.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-builtinclient"
```

-checkup

Perform internal configuration tests to discover the root cause of potential configuration or environmental errors.

Usage:

```
svc_nas_cifssupport --server<server name> | ALL -args="-checkup [-full]
[-info]"
```

-full

Perform additional tests, which could take a significant amount of time.

-info

Display information about the test that is executed by the command.

-cred

Display or build a Windows user credential. Use this command to troubleshoot user access control issues.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-cred
        {-user <user_name> -domain <domain_name> | -sid <SID> | -uname
<unix_name>}
        [-build]
        [-credext]"
```

-user <user_name> -domain <domain_name>

The name and domain of the user.

-sid <SID>

The SID of the user in decimal form.

-uname <unix_name>

The UNIX name or numerical ID (using the convention @uid=xxxx,gid=yyyy@, with xxxx and yyyy the decimal numerical value of the uid and the primary gid, respecitively) of the user.

NOTE: Setting the default UID to 0, or to a user which will be resolved at UID 0, will grant that user full root access. Ensure that this value is not set to 0 for users who should not have full access.

-build

Build the credential for a user that has not yet connected the SMB server.

NOTE: This option requires a domain administrator ID/ password.

-credext

Include additional details of the claims that are present in the Kerberos ticket. This is only for Dynamic Access Control (DAC).

-gpo

List (`-info`) or force update (`-update`) the Windows global policy objects (GPOs) that are applied to the SMB server.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-gpo [-info] [-
update]"
```

-homedir

Enable or disable the SMB home directories. Once the feature is enabled, a homedir file containing the name of the SMB users and their related home dirctory must be uploaded to the NAS server using the `uemcli /net/nas/server` CLI command. Once this is done, SMB users can connect to the SMB HOME share.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-homedir [-
enable] | [-disable]"
```

[-enable]

Enables the home directories feature.

[-disable]

Disables the home directories feature.

-Join

Join the specified server to a Windows Active Directory (AD) domain, move it to another organizational unit (OU), or collect information about it from the Domain Controller (DC).

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-Join
    -compname <comp_name> -domain <full_domain_name> -admin <admin_name>
    [-ou <organizational_unit>]
    [-option {reuse | resetserverpasswd | addservice=nfs}]"
```

-admin <admin_name>

Specify an account that has administrator privileges on the specified domain. The password must be provided when prompted.

-ou <organizational_unit>

Specify the OU in which to place or move the specified computer.

-option {reuse | resetserverpasswd | -addservice=nfs}

reuse

Allow the specified computer to join the server by taking ownership of an existing computer account in the Windows AD domain that matches the computer name that is specified in the command.

resetserverpasswd

Reset the server password on the DC.

-addservice=nfs

Add an NFS SPN for the specified server in Active Directory for secure NFS.

-logontrace

Log user or machine logon attempts for the specified IP address or for all clients when no IP address is specified.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-logontrace {-
enable <ip_address> | -disable | -list}"
```

-lsarpc

Query the specified Windows user identify for an account specified by user name or SID (security identifier) and return the corresponding Unix UID.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-lsarpc
    -nb <comp_name>
    {-user <user_name>
    | -sid <SID> [hex=<0/1>]
    | -priv}"
```

-nb <comp_name>

Specify the netbios name of the server.

-user <user_name> | -sid <SID>

Specify the username or the SID.

hex=<0/1>

Specify if the SID is given in decimal (`0`) or hexadecimal (`1`) format.

-priv

List all available privileges on the domain. This can be used to resolve foreign language issues.

-nltest

Simulate an NTLM user authentication on the server by specifying a domain user name and password pair. Use this command to troubleshoot connection issues or test DC connections. This command only applies to servers that are joined to a Windows domain.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-nltest
    -nb <comp_name>
    {-user <user_name> -dom <domain> -usrpwd <user_password>
    [-wkst <client_name>]}"
```

-wkst <client_name>

Optionally set a workstation name in the NTLM request.

-pdcdump

Display information about every SMB server DC in use at the NAS server level. This command only applies to servers that are joined to a Windows domain.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-pdcdump"
```

-pingdc

Check the network connectivity of the CIFS server that is specified by the NetBIOS name or computer name with a domain controller. Once connectivity is established, the command verifies that a CIFS server can access and use the domain controller services. This command only applies to servers that are joined to a Windows domain.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-pingdc
-compname <comp_name> [-dc <netbios_DC_name>] [-verbose]"
```

-samr

Query the groups a user belongs to using either the user name or SID.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-samr -nb
<comp_name> {-sid <SID> | -user <user_name>}"
```

-secmap

Access the Secure Mapping database that acts as a cache mechanism to relate Windows SIDs to UNIX UIDs.

NOTE: Modifying a SID to UID mapping can impact security. Use with caution.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-secmap
    -list
        [ -user <user_name> -domain <domain_name>
        | -domain <domain_name>
        | -sid <SID>
        | -uid <user_id>
        | -gid <group_id> ]
    | -create {-name <name> -domain <domain_name> | -sid <SID> }
    | -update {-name <name> -domain <domain_name> | -sid <SID> }
    | -delete {-name <name> -domain <domain_name> | -sid <SID> }
    | -export [-file <filename>]
    | -import -file <filename>
    | -report"
```

-list [-user <user_name> -domain <domain_name> | -domain <domain_name> | -sid <SID> | -uid <user_id> | -gid <group_id>]

Access the Secure Mapping database that acts as a cache mechanism to relate Windows SIDs to UNIX UIDs.

-create {-name <name> -domain <domain_name> | -sid <SID> }

Add a new mapping entry in the Secure Mapping database.

-update {-name <name> -domain <domain_name> | -sid <SID> }

Update a mapping entry from the Secure Mapping database.

-delete {-name <name> -domain <domain_name> | -sid <SID> }

Delete a mapping entry from the Secure Mapping database.

-export [-file <filename>]

Export Secure Mapping database to the specified file.

-import -file <filename>

Import Secure Mapping database from the specified file.

-report

Display Secure Mapping database health and content.

-setspn

Manage Windows security principals (SPNs) of the specified computer that is joined to AD.

NOTE: SPNs are required for domain configurations in which the DNS domain is different than authentication domain (Kerberos realm). For example, if the DNS server zone includes a DNS CNAME record that maps `compname.<domain1 FQDN>` to `compname.<server's domain FQDN>`, then the SPN host `compname.<domain1 FQDN>` must be added for the compname.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-setspn
    -list compname=<comp_name>
    | -add <SPN>
compname=<comp_name>,domain=<full_domain_name>,admin=<admin_name>
    | -delete <SPN>"
```

-list compname=<comp_name>

Display all SPNs for the specified FQDN server, both for the SMB server and for the KDC Windows AD entry.

-add <SPN> compname=<comp_name>,domain=<full_domain_name>,admin=<admin_name>

Add the specified SPN to both the NAS server and AD.

-delete <SPN>

Delete the specified SPN for both the NAS server and AD.

-smbhash

Troubleshoot issues with the Microsoft Windows Branch caching mechanism. BranchCache V1 and BranchCache V2 are supported.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-smbhash
    -hashgen <path> [-recursive] [-minsize <size>]
    | -hashdel <path> [-recursive]
    | -abort <id>
    | -info
    | -fsusage <fs_name>
    | -exclusionfilter <filter>
    | -audit {enable | disable} [-task] [-service] [-access]
    | -cleanup <fs_name> [-all | -unusedfor <days> | -unusedsince
<date>]"
```

-hashgen <path> [-recursive] [-minsize <size>]

Generate all SMB hash files for the specified path. If `-recursive` is used, the SMB hash is recursively generated for the subdirectories.

-hashdel <path> [-recursive]

Delete all SMB hash files for the specified path.

-abort <id>

Cancel the specified pending or ongoing request (hash file generation or deletion). The ID for the request is in the output of `-info`.

-info

Show detailed information for the hash generation service.

-fsusage <fs_name>

Display the SMB hash file disk usage for the specified file system.

-exclusionfilter <filter>

Do not generate an SMB hash file for files that match the exclusion filter.

-audit {enable | disable} [-task] [-service] [-access]

Enable the generation of audits in the smbhash event log.

-cleanup <fs_name> [-all | -unusedfor <days> | -unusedsince <date>

Clean up the SMB hash files for the specified file system.

-Unjoin

Unjoin the specified machine from its AD domain. If dynamic DNS is employed, the entry is removed from AD and DNS. The password for the specified account with domain administrator privileges must be provided when prompted.

Usage:

```
svc_nas_cifssupport --server <server name> | ALL -args="-Unjoin
    -compname <comp_name> -domain <full_domain_name> -admin
<admin_name>"
```

Example

Use the following command to view the ACL for the `smbshare` share on the `nas1` NAS server:

```
svc_nas_cifssupport --server nas1 --args="-acl -share smbshare"

nas1 :done

ACL DUMP REPORT

Share         : \\\\nas1\\smbshare
UID           : 0
GID           : 1
Rights        : rwxr-xr-x
```

Enable HA monitoring (svc_nas_enable_ha_monitoring)

This service script enables NAS HA services on the node that runs these services, and automatically brings up the NAS node.

Usage

Function	Diagnostic
Mode	Normal
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No

May cause data loss?	No
Scope	NAS node
Prerequisites	None

Format

```
svc_nas_enable_ha_monitoring [-h] -e
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Required arguments

Qualifier	Description
`-e`	This option triggers a NAS HA monitoring start operation from the node where it is executed. This option is preferable in case the NAS HA monitoring service must be re-enabled.

Advanced NAS settings (svc_nas_tools and svc_nas_global_tools)

These service scripts enable you to view and customize the parameters of various NAS server components. The default values of the NAS server parameters satisfy most use cases, but this script enables you to adjust the parameters based on your business need.

Although both `svc_nas_tools` and `svc_nas_global_tools` scripts use the same arguments and options, their application is different:

- Use the `svc_nas_tools` script to review and customize parameters for a specific NAS server.
- Use the `svc_nas_global_tools` script to review and customize parameters for all NAS servers in the cluster.

Run without `args` to see the NAS internal usage.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_nas_tools [-h] [--server SERVERNAME] [--args NAS_CMD_ARGS]
```

```
svc_nas_global_tools [-h] [--args NAS_CMD_ARGS]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--args NAS_CMD_ARGS`	Service command arguments. **NOTE:** A double hyphen must precede the arguments. For example: `svc_nas_tools --args="<value>"` The arguments `-dbms`, `-kerberos`, `-restart` and `-vhdx` do not apply to `svc_nas_global_tools`.

Options

Use the `--args` argument to specify the following additional options:

[-h | -help | --help | <no option>]

Display help and exit. Use this option with `svc_nas_tools` to view the top-level options for a command. To view the options and parameters for a top-level option, use the `-help` option after the top-level option. For example, the output of `svc_nas_tools --server nas 1 -args="-stats -help"` provides detailed information about the `-setspn` option.

-cava

Display the status of antivirus service of the NAS server, including the connection state to Celerra AntiVirus Agent (CAVA) servers, the number of files checked and their progress.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-cava
      [ -stats
      | -set accesstime={ now | none | [[[[yy]mm]dd]hh]mm[.ss] }]
      | -fsscan [ <fs_mountpath> { -list | -create | -delete } ]]"
```

-stats

Display statistics counters of the antivirus service.

-set accesstime={ now | none | [[[[yy]mm]dd]hh]mm[.ss] }]

Enable scan-on-first-read and change the access time setting, where:

- Specify `now` to Enable the scan-on-first-read feature and set the reference time to now.
- Specify `none` to disable the scan-on-first-read feature.
- Specify *[[[[yy]mm]dd]hh]mm[.ss]* to enable the scan-on-first-read feature and set the reference time according the specified value.

-fsscan [<fs_mountpath> { -list | -create | -delete }

Start, stop, or view the status of a full file system scan, where:

- *<fs_mountpath>* option enables you to specify the location of the file system to be scanned.
- The `-list` option displays the scan status for the specified file system.
- The `-create` option initializes a full scan on the file system `<fs_name>` and the offline options allow the file system scan on all offline files. By default, offline file systems are not included.
- The `-delete` option stops the scan.

NOTE: If no file system is specified, this option displays the file system scan status for all file systems.

-dbms

Manage NAS server databases.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-dbms
    -list [<db_name>]
    | -compact [<db_name>]
    | -stats [-reset]
    | -backup -target <path_name>
    | -restore -source <path_name> [-silent]}"
```

-list [<dbName>]

Display NAS server databases.

-compact [<dbName>]

Compact NAS server databases.

-stats [-reset]

Display statistics about NAS server databases.

-backup -target <pathname>

Perform an online backup of the NAS server database environment.

-restore -source <pathname> [-silent]

Restore the NAS server database environment from backup files.

-dns

Display current DNS settings of the NAS server.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-dns
    [-dump
    | -lookup{
        -host <host_name>
        | -addr <ipv4_or_ipv6_address>}]"
```

-dump

Display the current DNS cache content.

-lookup {-host <host_name> | -addr <ipv4_or_ipv6_address>}

Provides lookup information about the specified resource.

-ds

Display the Windows Directory Service information.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-ds
    [-dump]"
```

-dump

Display the Windows Directory Service cache.

-kerberos

Display the current Kerberos settings of the NAS server.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-kerberos
    | -listrealms
    | -listspn
    | -keytab [-v]
    | -conf
    | -log [-all]"
```

NOTE: This option does not apply to the `svc_nas_global_tools` script.

-listrealms

List the Kerberos realms that are configured on the NAS server.

-listspn

List the Kerberos service principles defined in Active Directory (AD) and keytab (joined CIFS server).

-keytab

Dump the Kerberos key table of the NAS server.

-conf

Dump the Kerberos configuration file for this NAS server.

-log [-all]

Extract Kerberos logs from the NAS server recent log.

NOTE: The `-all` option scans the full server log.

-ldap

Display current LDAP settings of the NAS server.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-ldap
   | -refresh
   | -lookup {
        -user <username>
        | -group <groupname>
        | -uid <uid>
        | -gid <gid>
        | -hostbyname <hostname>
        | -netgroup <groupname>}"
```

-refresh

If LDAP is configured with no static IP, refresh the IPs of the LDAP servers of the domain from DNS.

-lookup {-user <username> | -group <groupname> | -uid <uid> | -gid <gid> | -hostbyname <hostname> | -netgroup <groupname>}

Provides lookup information about the specified resource for troubleshooting purposes.

-lockd

Manage file locks on the NAS servers.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-lockd
    | -list
    | -info -fldp <address>
    | -remove -fldp <address> -credp <address>
    | -stat [-reset]"
```

-list

Display the locked files on the NAS server with their count of locks; The files are ordered per file-system. Each file is identified by its inode number, and also by a `fldp=<address>` token for use with the `-info` option.

-info -fldp <address>

Show detailed information about the specific file; For each file lock, this command also displays the `credp=<address>` token. You can use this token with the `-remove` option.

-remove -fldp <address> -credp <address>

On the file identified by the `fldp` value, use this command to remove any range lock that matches the given lock credential.

-stat [-reset]

Show (and optionally reset) the statistics about file locks. The statistics counters are global to the SDNAS feature, and may be related to other NAS servers in the same node.

-nis

Display current NIS settings of the NAS server.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-nis
    [-lookup{
        -user {-name <user_name> | -uid <unix_user_id>}
        | -group {-name <group_name> | -gid <group_unix_id>}
        | -host {-name <host_name> | -addr <host_ip_address>}
        | -netgroup {-name <group_name> | -member <host_name>}]"
```

-lookup {-user {-name <user_name> | -uid <unix_user_id>} | -group {-name <group_name> | -gid <group_unix_id>} | -host {-name <host_name> | -addr <host_ip_address>} | -netgroup {-name <group_name> | -member <host_name>}}

Provides lookup information about the specified resource for troubleshooting purposes.

-param

Display or modify NAS server parameter facilities.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-param
    { -info
    | -facility {<facility> | -all} -list
    | -facility {<facility> | -all} -info {<param_name> [-verbose] |
-all}
    | -facility <facility> -modify <param_name> -value <new_value>}"
```

-info

Display all NAS parameter facilities.

-facility {<facility> | -all } -list

Display all NAS parameter values of the specified facility for the specified NAS server.

-facility {<facility> | -all } -info { <paramname> [-verbose]} | -all

Display the details of the specified NAS parameter of the specified facility for the specified NAS server.

-facility <facility> -modify <paramname> -value <newvalue>

Modify the value of the specified NAS parameter of the specified facility for the specified NAS server.

-restart

Restart the specified NAS server. The output from the `-info` or `-modify` command informs the user if this is required for the specified parameter.

NOTE: This option does not apply to the `svc_nas_global_tools` script.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-restart
    [-silent]"
```

-silent

Do not request user confirmation before restarting the NAS server.

-vhdx -file

Display the VHDX metadata (Hyper-V virtual disk files).

NOTE: This option does not apply to the `svc_nas_global_tools` script.

Usage:

```
svc_nas_tools <NAS_server_name> --args="-vhdx -file <vhdx file>
        [-verbose]"
```

-verbose

Display the VHDX metadata, including SCSI PRs.

Example

Use the following command to view the ACL for the `smbshare` share on the `nas1` NAS server:

```
svc_nas_tools --server NasServer4461 --args="-param -facility ldap -list"


NasServer4461:
param_name               facility   default    current  configured

SecurityLayer            ldap             2          2
cacheMaxGroups           ldap         10000      10000
cacheMaxHosts            ldap         10000      10000
```

Upgrade or roll back a NAS node (svc_nas_ndu)

This service script allows you to upgrade or roll back the NAS versions on the node.

Usage

Function	Diagnostic and recovery
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Node
Prerequisites	1. In the PowerStore UI, go to **Settings** and click the **Upgrades** page in the **Cluster** section. 2. Click **UPLOAD PACKAGE** to upload the PowerStore image. 3. Select the uploaded PowerStore image, and click **HEALTH CHECK**.

Format

```
svc_nas_ndu [-h] [--op {pu, bu, precommit, commit, pr, cr, v1v2, v2v1}] [--v1 V1] [--v2
V2] [--node NODE] [--getv1v2]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--op {pu,bu,precommit,commit,pr,cr,v1v2,v2v1}`	Specify the NAS NDU operation to trigger. • `pu` – Prepares the node for an upgrade. • `bu` – Brings up the node in current version in rollback scenario or target version in rollforward scenario. • `precommit` – Performs health check before software commit operation.

Qualifier	Description
	• `commit` – Performs software commit operation. • `pr` – Prepare the node for a rollback to the older version. • `cr` – Complete the rollback operation and bring up the node in the older version. • `v1v2` – Change the NAS configuration from the current version to the target version in rollforward scenario. • `v2v1` – Change the NAS configuration from the target version to the current version. This argument applies to a rollback scenario.
`--v1`	Specify the current NAS version.
`--v2`	Specify the target NAS version.
`--node`	Specify the node on which you want the NDU operation to occur. The valid values are `a` or `b`.
`--getv1v2`	Get information about the current and target versions.

Example

Run the following commands to upgrade the appliance from software version 1.0.1.9.3.120 (v1) to version 1.0.1.9.3.125 (v2):

1. Prepare node B for the upgrade:

```
svc_nas_ndu --op=pu --v1=1.0.1.9.3.120 --v2=1.0.1.9.3.125 --node=b
```

2. Change the NAS configuration from 1.0.1.9.3.120 to 1.0.1.9.3.125:

```
svc_nas_ndu --op=v1v2 --node=b
```

3. Bring up the node B with the target version:

```
svc_nas_ndu --op=bu --node=b
```

4. Prepare the node A for the upgrade:

```
svc_nas_ndu --op=pu --v1=1.0.1.9.3.120 --v2=1.0.1.9.3.125 --node=a
```

5. Change the NAS configuration from 1.0.1.9.3.120 to 1.0.1.9.3.125:

```
svc_nas_ndu --op=v1v2 --node=a
```

6. Bring up the node A with the target version:

```
svc_nas_ndu --op=bu --node=a
```

7. Perform a health check before you commit the upgrade:

```
svc_nas_ndu --op=precommit
```

8. Commit the upgraded version on both nodes:

```
svc_nas_ndu --op=commit
```

Repair NAS NDU (svc_nas_ndu_repair)

This service script allows you to repair NAS upgrades by rolling back to the earlier version or rolling the NAS node forward to the target version.

NOTE: Once the NAS upgrade is successfully repaired using the service script, try the upgrade process again.

Usage

Function	Diagnostic and recovery
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Node
Prerequisites	

Format

```
svc_nas_ndu_repair [-h] --run
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--run`	Run the NAS NDU repair operation.

Reboot, shut down, and turn on a node (svc_node)

This service script enables you to cleanly reboot or turn on a node. This script also enables you to stop the controller VM on the node so the node can be placed in Maintenance mode in VMware vSphere.

This command can only be used for operations that are performed on a single node.

Usage

Function	Diagnostic and Recovery
Mode	Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_node [-h][-d] {status,power_on,power_off,reboot,shutdown}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Increase the logging level to debug and print logs to the console.

Actions

Action	Description
`status`	Provides the network connectivity status and power status of the peer node.
`power_on`	Power on the peer node.
`power_off`	Turn off power to a node. This action is equivalent to an abrupt or hard power off.
`reboot`	Reboot the node. **NOTE:** This action causes the node to restart immediately.
`shutdown`	Shut down a node by cleanly powering it off. All services are stopped in the appropriate order.

Turn a node off (svc_node power_off)

This service script is used to turn off power to a node. This script is the equivalent of a hard power off action.

Format

```
svc_node power_off [-h] [-d] [-f] {local,peer}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.
`-f, --force`	Skip any prepower off node checks and user confirmation prompts.

Positional arguments

Qualifier	Description
`local`	Specify this argument to indicate that you want to turn off the local, or primary, node of an appliance.
`peer`	Specify this argument to indicate that you want to turn off the peer, or secondary, node of an appliance.

Considerations

Appliance state	Personality	Notes
Configured or unconfigured	SAN or HCI	Turns off power to the node or nodes.

Turn on the peer node (svc_node power_on)

This service script turns on a peer node that is running in SAN mode.

Format

```
svc_node power_on [-h] [-d]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.

Reboot a node (svc_node reboot)

This service script is used to reboot a node.

Format

```
svc_node reboot [-h] [-f] [-d] [-a] {local,peer}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.
`-f, --force`	Ignore warnings; force a reboot that might result in data becoming unavailable.
`-a, --async`	Run in asynchronous mode.

Positional arguments

Qualifier	Description
`local`	Specify this argument to indicate that you want to turn off the local, or primary, node of an appliance.
`peer`	Specify this argument to indicate that you want to turn off the peer, or secondary, node of an appliance.

Considerations

Appliance state	Personality	Notes
Configured or unconfigured	SAN or HCI	If the node is not in service mode, you see a warning that the node is running workloads. You can use the `--force` option to override the warning and start a reboot.

Shut down a node (svc_node shutdown)

This service script cleanly shuts down a node running in SAN mode. All services are stopped in the appropriate order.

Format

```
svc_node shutdown [-h] [-f] [-d] [-a] {local,peer}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.
`-f, --force`	Ignore warnings; force shutdown which may result in data becoming unavailable.
`-a, --async`	Run in asynchronous mode.

Positional arguments

Qualifier	Description
`local`	Specify this argument to indicate that you want to turn off the local, or primary, node of an appliance.
`peer`	Specify this argument to indicate that you want to turn off the peer, or secondary, node of an appliance.

Considerations

Appliance state	Personality	Notes
Configured	SAN	If the node is not in service mode, you see a warning that the node is running workloads. You can use the `--force` option to override the warning and power off the node.
Unconfigured	HCI	This operation is only supported when the script is run from the control path maintenance mode service. The script stops the PowerStore VM to allow the node to enter VMware maintenance mode.

Peer node status (svc_node status)

This service script displays the network connectivity status and power status of the peer node.

Format

```
svc_node status [-h] [-d] [-o]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.
`-o, --output`	Show network connectivity and power status in JSON format.

Check and fix the NTP status (svc_ntp_ctl)

This service script enables you to check the status of NTP on each node. You can also force a sync to the NTP service locally or for both nodes on the array.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_ntp_ctl [-h] [--set] [--local] [--server SERVER] [--color] [--nocolor]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--set`	Sync the time to the first valid server.
`--local`	Run locally only and skip the peer.
`--server`	Manually specify the server or servers to use.
`--color`	Force color output even on nonterminals.
`--nocolor`	Do not use color on the terminal.

Disable password reset (svc_password_mgmt)

This service script enables you to prevent the service and administrator passwords from being reset. If you disable the password reset capability, lost passwords cannot be recovered.

Usage

Function	Configuration
Mode	Service and Normal
Usage	Technical Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	None

Format

```
svc_password_mgmt [-h] {recovery}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`recovery`	Enable or disable the emergency password recovery.

Enable and prevent passwords from being recovered (svc_password_mgmt_recovery)

This script disables the ability to restore default admin and service user passwords. Once the ability to reset the passwords is disabled, there is no nondestructive way access the cluster if the passwords are lost.

Format

```
svc_password_mgmt recovery [-h] [-s] [-e] [-D]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-e, --enable`	Enable the password emergency recovery option.
`-D, --disable`	Disable the password emergency recovery option.

Qualifier	Description
`-s, --status`	Display the current emergency recovery configuration.

Example

Use the following command to disable the emergency password recovery option:

```
svc_password_mgmt recovery --disable
INFO: Disabling password emergency recovery option...done
```

Troubleshoot and repair (svc_remote_support)

This service script enables you to troubleshoot and repair the appliance using the SupportAssist feature.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	The firewall must be configured correctly.

Format

```
svc_remote_support [-h] {modify,list,connectivity,modify_contact,reinitialize,restart}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`modify`	Modify the remote support configuration. Configuring SupportAssist does not include connection verification. Use the `--CONNECTIVITY_COMMAND` argument to verify connections. The SupportAssist configuration using this script is not persistent and therefore is not saved in the management database. When a node or appliance fails, configuration and connectivity information might be lost. In such cases, you must revert the configuration to the cluster configuration using the `--revert_changes_to_db` option or the `--REINITIALIZATION_COMMAND` argument.

Action	Description
`list`	List the components of the remote support configuration. If SupportAssist is enabled, this script also reports the eVE docker container status.
`modify_contact`	Modify the remote support user contact information and credentials.
`restart`	SupportAssist only. Restart the eVE docker on the current appliance if enabled.
`connectivity`	List the appliance remote support connectivity status.
`reinitialize`	SupportAssist only. Reinitialize the eVE docker on the current appliance if enabled. This action stops the container, restarts it, and reprovisions the container. **NOTE:** When this command is used, the SupportAssist configuration and connectivity might be lost or temporarily lost. The SupportAssist configuration is reverted to the cluster configuration. .

List the remote configuration (svc_remote_support list)

This service script lists the remote support configurations.

Format

```
svc_remote_support list [-h]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Modify the remote support configuration (svc_remote_support_modify)

This service script modify the remote support configuration. Configuring SupportAssist does not verify the remote support connection. Use the `--CONNECTIVITY_COMMAND` argument for the `svc_remote_support` command to verify connections. The SupportAssist configuration that is established using this script is not persistent and therefore is not saved in the management database. Upon node or appliance failure, configuration and connectivity information may be lost. In such cases, you must restore the configuration back to the cluster configuration using `--revert_changes_to_db` option or the `--REINITIALIZATION_COMMAND` argument.

Format

```
svc_remote_support modify [-h] [--gateway_address GATEWAY_ADDRESS]
                                [--revert_changes_to_db]
                                [--proxy_password PROXY_PASSWORD]
                                [--proxy_port PROXY_PORT] [--disable]
                                [--proxy_address PROXY_ADDRESS]
                                [--i_accept_license_agreement]
                                [--proxy_user PROXY_USER]
                                [--type
{SUPPORT_ASSIST__Direct_Tier3,SUPPORT_ASSIST__Gateway_Tier3}]
                                [--force_disable]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--gateway_address`	Address of gateway endpoint.
`--revert_changes_to_db`	Revert the SupportAssist configuration back to the cluster configuration.
`--proxy_password`	Use the proxy password.
`--proxy_port`	Specify the proxy port.
`--disable`	Disable support assist.
`--proxy_address`	Use the proxy address.
`--i_accept_license_agreement`	Accept the license agreement.
`--proxy_user`	Specify the proxy user.
`--type`	Modify the type of SupportAssist. There are two types: • `SUPPORT_ASSIST__Direct_Tier3` • `SUPPORT_ASSIST__Gateway_Tier3`
`--force_disable`	Disables SupportAssist even if there is no active end-to-end connection.

Use case

If you decommission a gateway before disabling SupportAssist on a cluster, the appliance cannot communicate with the decommissioned gateway. The appliance also cannot migrate to a new gateway. Using the `--force_disable` argument on each appliance allows you to disable SupportAssist.

Modify contact information (svc_remote_support modify_contact)

This service script modifies the remote support configuration.

Format

```
svc_remote_support modify_contact [-h] [--phone PHONE]
                                       [--first_name FIRST_NAME]
                                       [--last_name LAST_NAME]
                                       [--email EMAIL]
                                      contact_id
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--first_name`	Specify the first name of the contact.
`--last_name`	Specify the last name of the contact.
`--email`	Specify the contact email.
`--phone`	Specify the contact mobile phone.

Positional arguments

Qualifier	Description
`contact_id`	Contact ID - 0 or 1.

Reinitialize the remote support configuration (svc_remote_support reinitialize)

This service script is used to reinitialize the eVE docker on the current appliance if enabled. This script stops the container, restarts it, and reprovisions it.

NOTE: When this command is used, the SupportAssist configuration and connectivity information might be lost or temporarily be lost. The SupportAssist configuration is reverted to the cluster configuration.

Format

```
svc_remote_support reinitialize [-h]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Restart SupportAssist (svc_remote_support restart)

This service script is used in embedded SRS only. Restart the eVE docker on the current appliance if enabled.

Format

```
svc_remote_support restart [-h]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Use case

If SupportAssist cannot be configured or connect to Dell EMC Support, `svc_remote_support restart --factory_reset` enables you to reinitialize SupportAssist.

Check the connectivity status (svc_remote_support connectivity)

This service script lists the remote support connectivity status of the appliance.

Format

```
svc_remote_support connectivity [-h]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Manage the remote syslog (svc_remote_syslog)

This service script is a remote syslog service debugging helper tool.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	The firewall must be configured correctly.

Format

```
svc_remote_syslog [-h] [-t TEST] [-m MESSAGE] [-r] [-lc] [-ls]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-t ,--test`	Verify remote syslog server network connectivity. Usage example: `svc_remote_syslog --test '129bf965-cb3e-4294-8edc-cdcbf0f7e72a' or svc_remote_syslog --test '129bf965-cb3e-4294-8edc- cdcbf0f7e72a' --message 'My test message'.`
`-m , --message`	The test message to send to the remote server. Usage example: `svc_remote_syslog --test '129bf965-cb3e-4294 -8edc-cdcbf0f7e72a' --message 'My test message'.`
`-r, --reinit`	Reinitialize the remote syslog service. Usage example: `svc_remote_syslog --reinit.`

Qualifier	Description
`-lc, --list_remote_server_config`	List remote server configuration instances. Usage example: `svc_remote_syslog --list_remote_server_config`.
`-ls, --list_remote_logging_sync`	List remote server sync instances. Usage example: `svc_remote_syslog --list_remote_logging_sync`.

Remove appliance (svc_remove_appliance)

This service script enables you to remove an appliance from the cluster without migrating existing data or workloads. When you run the script, it displays the associated storage resources and workloads for the appliance you specified.

NOTE: Run this script only on the master node.

Migrate the relevant storage resources and workloads to another appliance before removing it from the cluster. If there are data protection operations in progress, the script is unable to remove the appliance. However, the script enables you to stop any replication operations.

CAUTION:

- **Removing the appliance using this script is not an ideal use case. Ensure that you really want to remove the appliance.**
- **This script not only removes the appliance, but also resets it back to original factory settings and shuts it down.**
- **Although the IP addresses assigned to the appliance remain with the cluster and are marked as unused, all data is removed.**
- **The script does not block user commands or actions. Ensure that users are notified not to create any storage resources or virtual machines when you begin migrating data off the appliance. If new storage resources and virtual machines are created during this operation, the workloads may get placed on the appliance you are trying to remove.**

Ensure that all relevant storage resources and workloads are migrated to another appliance before you proceed.

You cannot remove a master appliance. See the Knowledgebase article - HOW17166 for more information.

Usage

Function	Diagnostic and Recovery
Mode	Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	Yes
May cause data loss?	Yes
Scope	Appliance
Prerequisites	• Ensure that all workloads (virtual machines or storage resources) are migrated to another appliance in the cluster. • Before you remove the appliance, you might want to ensure that you place the ESXi host in maintenance mode and remove it from the ESXi cluster. See the Knowledgebase article - HOW17164 for more information.

Format

```
svc_remove_appliance [-h] [-d] [--limit LIMIT]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --debug`	Initiate verbose logging for debug.
`--limit`	Limit the number of workload items to display.

Repair software (svc_repair)

This service script enables you to repair the software while keeping persistent configuration information such as hostname, host registration, and user data. This per-node operation overwrites the system partition with a software image that is stored on a back-end system device.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	The firewall must be configured correctly.

Format

```
svc_repair [-h] [--backup]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--backup`	Back up the ESXi network configuration.

Replace the DPE (svc_replace_dpe)

This service script is used to perform a DPE replacement. The node must be in service mode to run the script.

WARNING: Only trained service personnel should use this script.

Ensure that the following conditions are met before running this script:

- Only one node should be installed in the DPE.
- The system type must have been set using the Post Utilities.
- After setting the system type, the node should be rebooted.

  The node reboots into service mode.

When the Node enters service mode, this script should then be executed. The Node must be in service mode to execute the script.

Perform the following steps after the script is run:

1. Remove both power cables from the DPE.
2. Once the node is powered off, insert the other Node into the DPE.
3. Plug in both power cables and boot both nodes.

   The system should boot normally.

Usage

Function	Diagnostic
Mode	Normal or Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Cluster
Prerequisites	The firewall must be configured correctly.

Format

```
svc_replace_dpe [-h] [-d] {auto,manual}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d,--debug`	Increase logging level to debug and print logs to console.

Actions

Qualifier	Description
`auto`	Updates the required DPE resumes when performing a DPE replacement
`manual`	Performs a DPE replacement using user supplied DPE Resume values. It should only be run when the auto replacement failed to obtain the resume values from the system. The user will be prompted for the following chassis resume values: Product Serial Number EMC_Vendor SN/Service Tag EMC_WWN Seed Product Part Number WARNING: This utility is for trained service personnel only.

Service mode operation (svc_rescue_state)

This service script enables you to check whether the node is in service Mode.

Usage

Function	Diagnostic
Mode	Normal and Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_rescue_state [-h] {clear,set,list}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`clear`	Clear the current boot mode. After running this command, you must reboot the node to return it to normal mode.
`set`	Set the boot mode for service mode. After running this command, you must reboot the node for it to enter service mode.
`list`	List the available boot modes for this node.

Enable, disable, or display security protocols (svc_security_protocol)

This service script can be used to enable, disable, or display any existing security protocols on the system. Running this script restarts the CP on the master appliance. If you want to restart the CP container on other appliances, run the **svc_container_mgmt** script.

Usage

Function	Configuration
Mode	Normal or Service
Usage	General use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_security_protocol [-h] {enable,disable,status}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`enable`	Enable a security protocol.
`disable`	Disable a security protocol.
`status`	Query the status of one or more security protocols.

Grant service user access (svc_service_config)

This service script enables you to grant service users the ability to log in to the primary node of an appliance. You can also delete service user access and list which users have login access to the primary node.

Usage

Function	System operations
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	Yes
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_service_config [-h] {enable,list,disable}
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.

Actions

Action	Description
`enable`	Enable SSH access for the service user on an appliance.
`list`	List the SSH configuration.
`disable`	Disable SSH access for the service user on an appliance.

Gain root privileges (svc_service_shell)

This service script enables you to gain root privileges and run commands that require root privileges.

Before using the `svc_service_shell` script, you must enable it using the `svc_inject` script:

1. Generate a key to enable root escalation: **`svc_inject generate-key --root`**
2. Contact your service provider to get response key.
3. Copy the response key and use it with the svc_inject script to enable root escalation: **`svc_inject run`** ***`<response_key>`***

If the command successfully completes, you are granted root level access and can run the `service_shell` script as shown in the following example:

```
svc_inject run
194E3-2CDB8-1B367-D3D51-C9100-28BDA-5BDC0-906F9-00

Current Challenge:
19478-FC2C3-06C82-5FD3D-3A5F7-E73A9
```

```
INFO: Response successfully validated!
INFO: Enabling tool ...
INFO: Successfully enabled svc_service_shell
INFO: Run "svc_service_shell" to be granted root level access for servicing this system
```

See Inject troubleshooting software tool (svc_inject) on page 35 for more information about the `svc_inject` script.

Usage

Function	Recovery
Mode	Normal or Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	None

Format

```
svc_service_shell [-h] [--cmd SHELL_CMD_ARGS]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--cmd SHELL_CMD_ARGS`	Use this Linux command to gain elevated privileges in a Linux system and perform such functions as diagnosing and triaging a system.

Software recovery (svc_software_recovery)

This service script enables you to create a bootable software recovery image on a USB drive. After the image is created, you can use the USB drive to reimage the peer node or a node in another appliance.

Usage

Function	Diagnostic and Recovery
Mode	Service
Usage	Service
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No

May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_software_recovery [-h] --usbcreate [--newcfg] [--savecfgforce]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`--usbcreate`	Create a bootable USB recovery drive that you can use to recover the peer node.
`--newcfg`	Create a bootable USB installer drive. You can use this action to completely reinitialize a node to the factory state.
`--savecfgforce`	Create a generic bootable USB recovery device. Other manual steps may be required for a full recovery.

Connect to the peer node service container (svc_ssh_peer)

This service script enables you to securely connect through SSH from the local node as the service user to the service container of the peer node as the service user.

Usage

Function	System Operations
Mode	Normal and Service
Usage	General Use
Requires service user password?	No
Requires root privileges?	No
May cause data unavailability?	No
May cause data loss?	No
Scope	Node
Prerequisites	The peer appliance must be available through the network interconnect, and the peer service container must be active.

Format

```
svc_ssh_peer
```

View capacity metrics (svc_volume_space_metrics)

This service script shows detailed information about the available space on volume families. You can use the arguments to specify how you want the information to be displayed.

This script is primarily used when the appliance is out of space (OOS). If the appliance is not in the OOS state, you can force the operation.

Usage

Function	System operations
Mode	Normal or Service
Usage	Service
Requires service user password?	Yes
Requires root privileges?	Yes
May cause data unavailability?	No
May cause data loss?	No
Scope	Appliance
Prerequisites	None

Format

```
svc_volume_space_metrics [-h] [-d] [-v] [-i ID] [-n Name]
                                [-s {name,cap}] [-g GT] [-c] [-j]
```

Optional arguments

Qualifier	Description
`-h, --help`	Show the help message and exit.
`-d, --detail`	Show detailed output.
`-v, --vertical`	Show space metrics in a vertical format.
`-i, --id`	Display space metrics for a single volume family by ID.
`-n, --name`	Display space metrics for a single volume family by name of Volume/FS/vVol.
`-s {name, cap} , --sort {name,cap}`	Display volume families in order by name or capacity.
`-g, --gt`	Only display the volume families that consume space that is greater than the specified value.
`-c, --csv`	Place the output in a CSV file.
`-j, --json`	Place the output in a JSON file.

A

System Journal Fields

Information in the system journal are stored in fields. When you run the svc_journalctl, you can choose to display information from these fields or filter the output based on the information in these fields. This appendix describes the fields available for use in the journal:

Topics:

Field descriptions

The core logging framework relies on the systemd journal services provided by the underlying CoreOS operating system. In addition to the default fields available with systemd journal in CoreOS, there are custom fields available for use with the cluster. The following table lists the descriptions of all the fields available for use.

NOTE: For more information on the default fields, refer to https://www.freedesktop.org/software/systemd/man/systemd.journal-fields.html#.

Table 1. Journal field descriptions

Type	Name	Description
Default	__CURSOR	Unique identifier that describes the position of the entry in the journal.
Default	__MONOTONIC_TIMESTAMP	The monotonic clock timestamp indicating the time elapsed between a certain event and the time when the entry in the journal occurred.
Default	__REALTIME_TIMESTAMP	The wall clock timestamp indicating the point in time when the entry was logged in the journal.
Default	_AUDIT_LOGINUID, _AUDIT_SESSION	The session and login UID of the process from where the journal entry originates from.
Default	_BOOT_ID	The kernel boot ID of the boot in which the message was generated.
Default	_CAP_EFFECTIVE	The effective capabilities of the process from where the journal entry originates from.
Default	_CMDLINE	The command line of the process the journal entry originates from
Default	_COMM	The name of the process the journal entry originates from.
Default	_EXE	The executable path of the process the journal entry originates from.
Default	_GID	The group ID of the process the journal entry originates from.
Default	_HOSTNAME	The name of the originating host.
Default	_KERNEL_DEVICE	The name of the kernel device.
Default	_KERNEL_SUBSYSTEM	The name of the kernel subsystem.
Default	_LINE_BREAK	Indicates that the log message in the standard output/error stream was not terminated with a normal newline character.

Table 1. Journal field descriptions (continued)

Type	Name	Description
Default	_MACHINE_ID	Machine ID of the host from where the journal entry originates from.
Default	_PID	The process ID of the process the journal entry originates from.
Default	_SELINUX_CONTEXT	The SELinux security context (label) of the process from where the journal entry originates from.
Default	_SOURCE_REALTIME_TIMESTAMP	Earliest trusted timestamp of the message.
Default	_STREAM_ID	Unique identifier of the stream connection when it was first created.
Default	_SYSTEMD_CGROUP, _SYSTEMD_INVOCATION_ID, _SYSTEMD_OWNER_UID, _SYSTEMD_SESSION, _SYSTEMD_SLICE, _SYSTEMD_UNIT, _SYSTEMD_USER_UNIT	Systemd information of the process the journal entry originates from.
Default	_TRANSPORT	Information on how the journal service received the message entry.
Default	_UDEV_DEVLINK	The low-level Unix error number causing this entry.
Default	_UDEV_DEVNODE	The device node path of this device in /dev.
Default	_UDEV_SYSNAME	The kernel device name as it shows up in the device tree below /sys.
Default	_UID	The user ID of the process the journal entry originates from.
Custom	AUDIT_TIMESTAMP, AUDIT_USERNAME, AUDIT_IS_SUCCESSFUL, AUDIT_CLIENT_ADDRESS, AUDIT_SERVER_ADDRESS, AUDIT_APPLIANCE_ID, AUDIT_JOB_ID, AUDIT_RESOURCE_TYPE, AUDIT_RESOURCE_ACTION, AUDIT_RESOURCE_ID, AUDIT_RESOURCE_NAME, AUDIT_MESSAGE_CODE, AUDIT_MESSAGE_L10N, AUDIT_REQUEST_BODY	Additional fields used in the audit logs.
Default	CODE_FILE	Source file name that contains the code generating the message.
Default	CODE_FUNC	Function name in the code generating the message.
Default	CODE_LINE	Location of the code in the source file generating the message.
Custom	COMPONENT	The logging component. Values include: • `CP`—Components that enable management of the cluster. • `DP`—Backend data engine components. • `Platform`—Backend platform or base storage container (BSC) components. • `Service`—Serviceability or service container components. • `Fireman`—Backend services responsible for handling communications between internal components. • `PostGres`—PostGres services.

Table 1. Journal field descriptions (continued)

Type	Name	Description
Custom	CONTEXT_ID	Unique identifier to track requests.
Default	COREDUMP_UNIT, COREDUMP_USER_UNIT	Used to annotate messages containing coredumps from system and session units.
Default	ERRNO	Low-level Unix-based error number associated with the entry in the journal.
Custom	MARKER	Unique string used to quickly identify certain events or conditions. Values include: `REST`, `RemoteSupport`, `ZMQ`, `NDU` (non-disruptive upgrades), `CC` (cluster creation), `LUN`, `ConfigurationCapture`, `Event`, `RB` (resource balancer), `Import`, `PhysicalInventory`, `IDF` (platform ID files), `DATAMOBILITY`, NETWORK, `DataCollection`, and `Host`.
Default	MESSAGE	The message string for the entry in the systemd journal.
Default	MESSAGE_ID	Unique identifier of the message.
Default	OBJECT_AUDIT_LOGINUID, OBJECT_AUDIT_SESSION, OBJECT_CMDLINE, OBJECT_COMM, OBJECT_EXE, OBJECT_GID, OBJECT_PID, OBJECT_SYSTEMD_CGROUP, OBJECT_SYSTEMD_OWNER_UID, OBJECT_SYSTEMD_SESSION, OBJECT_SYSTEMD_UNIT, OBJECT_SYSTEMD_USER_UNIT, OBJECT_UID	Additional fields added automatically by the systemd journal.
Custom	OBJECT_CURRENT_STATE_NAME	Current state name associated with the object.
Custom	OBJECT_HANDLE	Unique identifier used to represent a resource managed within the cluster.
Custom	OBJECT_ID	Unique identifier of the object for which you want to retrieve information from the system journal.
Custom	OBJECT_OPERATION	Type of operation associated with the object.
Custom	OBJECT_SUB_TYPE	The sub-type of the object for which you want to retrieve information from the system journal.
Custom	OBJECT_TYPE	Type of the object for which you want to retrieve information from the system journal.
Default	PRIORITY	Journal message level. Valid levels are: • CRITICAL—Events that demand immediate attention. • ERROR—Events that indicate problems, but do not require immediate attention. • WARN—Events that provide a warning about potential problems or indicates that a component is not in an ideal state. • INFO—Informational messages that provide details on the running status and changes to the system. • DEBUG—Verbose status, such as progress or success messages.
Custom	ROOT_COMMAND_ID	Context ID of the primary request.
Custom	STATUS_CODE	Status code that represents a response to a particular request.
Custom	SUB_COMPONENT	The sub-component associated with the message.

Table 1. Journal field descriptions (continued)

Type	Name	Description
Default	SYSLOG_FACILITY	Syslog compatibility field that contains the name of the facility.
Default	SYSLOG_IDENTIFIER	Syslog compatibility field that contains the unique identifier.
Default	SYSLOG_PID	Syslog compatibility field that contains the process identifier.
Custom	THREAD_NAME	Name of the thread logging the message.