

# HP Server Automation

Software Version: 9.11

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## SA-UCMDB Integration Guide

Document Release Date: January 2012  
Software Release Date: January 2012



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# 1 SA-UCMDB Integration

This describes how to integrate HP Server Automation (SA) with the HP Universal Configuration Management Database (UCMDB) using the **SA-UCMDB Connector**. The SA-UCMDB Connector provides a single source for configuration data for asset compliance reporting.

HP SA stores a large amount of information about your servers and software in the SA database. The **SA-UCMDB Connector** copies some of this data to the HP UCMDB. Whenever the data in SA changes, the SA-UCMDB Connector automatically sends the updated data to the UCMDB.

The HP Universal CMDB is a configuration management database (CMDB) for enterprise IT organizations to document, store, and manage business service definitions and associated infrastructure relationships. The UCMDB provides a shared single version of truth to support business service management, IT service management, change management, and asset management initiatives. These initiatives help align IT efforts with business requirements and run IT operations more efficiently and effectively.

HP Server Automation provides life cycle management for enterprise servers and applications from discovery to provisioning, patching to configuration management and script execution to compliance assurance. HP Server Automation automates operations and processes across disparate IT teams and systems.

## Installing and Configuring the SA-UCMDB Connector

The SA-UCMDB Connector is installed when you install SA. No separate installation is required.

To configure and run the SA-UCMDB Connector, perform the following steps.

- 1 Get the latest UCMDB Content Pack from the HP Live Network (HPLN). This contains configurations for UCMDB to support the SA-UCMDB Connector. The SA-UCMDB Connector requires HP UCMDB 9.04 or later with Content Pack 10 or later.
  - For information on the HPLN, see the *Live Network connector Users Guide (LNc Users Guide)*, available from the HP Live Network at <http://www.hp.com/go/livenetwork>.
  - To log in to the HPLN, you need an HP BSA Essentials account. You can request a BSA Essentials account from the HP Live Network (HPLN) at: <http://www.hp.com/go/livenetwork>.
  - You also must have the Live Network connector (LNc), installed and configured on your SA core server. The LNc is the client for the HP Live Network. The LNc is installed with Server Automation. See the *Live Network connector Users Guide (LNc Users Guide)* available from the HP Live Network for instructions.

- 2 Locate and run the `enable` command. This command is described in [The enable Command](#) on page 10. The following is a sample of this command:

```
enable --host myserver01.hp.com --port 8888 --user ucldb-admin
--password leM93A3dme
```

- 3 Enter the following command to start the SA-UCMDB Connector:

```
/etc/init.d/opsware-sas start telldaemon
```

This starts the SA-UCMDB Connector. For more information, see [Starting the SA-UCMDB Connector](#) on page 8.

- 4 Optionally check the status of the SA-UCMDB Connector with the following command:

```
/etc/init.d/opsware-sas status telldaemon
```

For more information, see [Displaying the Status of the SA-UCMDB Connector](#) on page 9

## Starting the SA-UCMDB Connector

When you start the SA-UCMDB Connector, it will transfer data from the SA database to UCMDB. Before starting the SA-UCMDB Connector, configure and enable it with the `enable` command as described in [The enable Command](#) on page 10.

To start the SA-UCMDB Connector, enter the following command on an SA core server:

```
/etc/init.d/opsware-sas start telldaemon
```

This starts the SA-UCMDB Connector.

If the SA-UCMDB Connector is disabled, the output will look like the following:

```
opsware-sas: One or more of the specified components does not exist
in the following file:
```

```
/opt/opsware/oi_util/startup/components.config
```

## Stopping the SA-UCMDB Connector

When you stop the SA-UCMDB Connector, it will stop transferring data from the SA database to UCMDB. To stop the SA-UCMDB Connector, enter the following command on an SA core server:

```
/etc/init.d/opsware-sas stop telldaemon
```

This stops the SA-UCMDB Connector.

If the SA-UCMDB Connector is disabled, the output will look like the following:

```
opsware-sas: One or more of the specified components does not exist
in the following file:
```

```
/opt/opsware/oi_util/startup/components.config
```

If you no longer need the SA-UCMDB Connector, you can disable it with the `disable` command. See [The disable Command](#) on page 11.



## Displaying the Status of the SA-UCMDB Connector

To display the status of the SA-UCMDB Connector, enter the following command on an SA core server:

```
/etc/init.d/opsware-sas status telldaemon
```

If the SA-UCMDB Connector is enabled but not running, the output will look like the following:

```
Verify "telldaemon" running: FAILURE (pidfile does not exist)
Failed to perform "status" operation on Opsware SAS components.
```

If the SA-UCMDB Connector is disabled, the output will look like the following:

```
opsware-sas: One or more of the specified components does not exist
in the following file:
/opt/opsware/oi_util/startup/components.config
```

## Reconfiguring the SA-UCMDB Connector

To change the configuration of the SA-UCMDB Connector after it is running, for example, to change the IP address or port number of the UCMDB server, perform the following steps.

- 1 Enter the following command to stop the SA-UCMDB Connector:

```
/etc/init.d/opsware-sas stop telldaemon
```

For more information, see [Stopping the SA-UCMDB Connector](#) on page 8.

- 2 Enter the following command to disable the SA-UCMDB Connector:

```
disable
```

For more information, see [The disable Command](#) on page 11.

- 3 Run the `enable` command to change the configurations of the SA-UCMDB Connector. The following is a sample of this command:

```
enable --host myserver01.hp.com --port 8888 --user ucmdb-admin
--password leM93A3dme
```

For more information, see [The enable Command](#) on page 10.

- 4 Enter the following command to start the SA-UCMDB Connector:

```
/etc/init.d/opsware-sas start telldaemon
```

For more information, see [Starting the SA-UCMDB Connector](#) on page 8.

- 5 Optionally check the status of the SA-UCMDB Connector with the following command:

```
/etc/init.d/opsware-sas status telldaemon
```

For more information, see [Displaying the Status of the SA-UCMDB Connector](#) on page 9

## The enable Command

Before you can start the SA-UCMDB Connector, you must enable it with the `enable` command. When you enable it, you provide the UCMDB server name or IP address, port number, login, and password.

Use the `enable` command to configure and enable the SA-UCMDB Connector. This section describes the `enable` command. You must enable the SA-UCMDB Connector before you can start it.

After enabling the SA-UCMDB Connector, start it as described in [Starting the SA-UCMDB Connector](#) on page 8.

The `enable` command does the following:

- Modifies the SA-UCMDB Connector configuration file `/etc/opt/opsware/tell/tell.conf`, and enters the UCMDB server's host name or IP address, port number, and login into this file.
- Saves the user's password.
- Modifies the file `/opt/opsware/oi_util/startup/components.config` and uncomments the lines for the `telldaemon`, which is the process for the SA-UCMDB Connector.

If you modify any of the UCMDB configuration parameters while the SA-UCMDB Connector is running, you must stop and restart the SA-UCMDB Connector for your changes to take effect.

## Location of the enable Command

The `enable` command is located on your SA core server in the directory `/opt/opsware/tell/bin`.

## Syntax of the enable Command

```
enable [--host <IP address>] [--port <port number>] [--user <user name>]
[--password <password>]
```

- `--host <IP address>` – This option gives the IP address or host name of your HP UCMDB server. The default value is `localhost`.
- `--port <port number>` – This option gives the port number of your HP UCMDB server. The default value is `8080`.
- `--user <user name>` – This option gives the user name of an administrative user for your HP UCMDB server. The default value is `admin`.
- `--password <password>` – This option gives the password for the user provided in the `--user` option. The default value is `admin`.

## Example of the enable Command

The following shows an example `enable` command.

```
enable --host 192.168.8.93 --port 9999 --user john-ucmdb --password
mypass1234
```

## The disable Command

Use the `disable` command to disable the SA-UCMDB Connector. If the SA-UCMDB Connector is running, the `disable` command will stop it before disabling it. If the SA-UCMDB Connector is disabled, you will not be able to start it.

The `disable` command modifies the file `/opt/opsware/oi_util/startup/components.config` and comments out the lines for the `telldaemon`, which is the process for the SA-UCMDB Connector.

### Location of the disable Command

The `disable` command is located on your SA core server in the directory `/opt/opsware/tell/bin`.

### Syntax of the disable Command

```
disable
```

## Frequency of Data Transfer to UCMDB

When the SA-UCMDB Connector first starts running, it queries the SA database, creates the CIs in the UCMDB and transfers the data from SA to the UCMDB. After that, whenever the data in the SA database changes, the SA-UCMDB Connector automatically detects the changes and transfers the modified data to the UCMDB. The connector logs information in the log file `/var/log/opsware/tell/LOAD_STATS.0.log`.

For the complete list of data transferred from SA to the UCMDB, see [SA Data Transferred to UCMDB](#) on page 11.

## SA Data Transferred to UCMDB

The following data from the SA database is transferred to the UCMDB Configuration Items (CI) and Attributes:

**Table 1 UCMDB CIs and Attributes Populated by SA**

| UCMDB CI | UCMDB Attribute         |
|----------|-------------------------|
| Computer | Name                    |
| Computer | Description             |
| Computer | BiosAssetTag            |
| Computer | DefaultGatewayIpAddress |
| Computer | NodeModel               |
| Computer | SerialNumber            |

**Table 1 UCMDB CIs and Attributes Populated by SA**

| <b>UCMDB CI</b>   | <b>UCMDB Attribute</b> |
|-------------------|------------------------|
| Computer          | BiosUuid               |
| Computer          | NetBiosName            |
| Computer          | MemorySize             |
| Computer          | OsDescription          |
| Computer          | OsFamily               |
| Computer          | TenantOwner            |
| IpAddress         | Name                   |
| InstalledSoftware | Name                   |
| InstalledSoftware | Vendor                 |
| InstalledSoftware | BuildNumber            |
| InstalledSoftware | DmlProductName         |
| Hypervisor        | Name                   |
| Hypervisor        | Description            |
| Hypervisor        | ProductName            |
| Policy            | Name                   |
| Policy            | Description            |
| Policy            | PolicyCategory         |
| Policy            | PolicyDefinedBy        |
| PolicyResult      | Name                   |
| PolicyResult      | PolicyResultDateTime   |
| PolicyResult      | ComplianceStatus       |
| PolicyResult      | RulesCompliant         |
| PolicyResult      | RulesNonCompliant      |
| PolicyResult      | ComplianceLevel        |
| SASystem          | Name                   |
| SASystem          | Description            |
| SASystem          | Version                |

## CI Relationships Maintained

The following table lists the CI relationships maintained by the SA-UCMDB Connector.

**Table 2 CI Relationships Maintained**

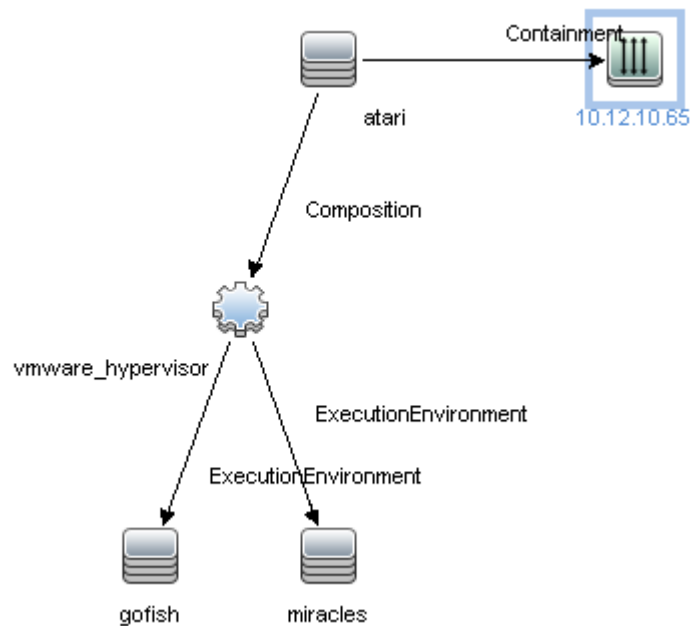
| <b>From UCMDB CI</b> | <b>Via</b>           | <b>To UCMDB CI</b> |
|----------------------|----------------------|--------------------|
| Computer             | containment          | IpAddress          |
| Computer             | composition          | InstalledSoftware  |
| Computer             | composition          | Hypervisor         |
| Computer             | aggregation          | PolicyResult       |
| Hypervisor           | ExecutionEnvironment | Computer           |
| Policy               | composition          | PolicyResult       |
| SASystem             | aggregation          | Computer           |
| SASystem             | aggregation          | Policy             |

## Example UCMDB Showing an SA Managed Server

Figure 1 is from an HP UCMDB screen and it shows:

- One SA managed server named “atari”.
- The managed server’s IP address 10.12.10.65.
- The managed server “atari” is running a VMware hypervisor.
- Two virtual machines are running on the hypervisor named “gofish” and “miracles”.

**Figure 1 SA Managed Servers Displayed in the UCMDB**



## Troubleshooting - Viewing Log Files

The SA-UCMDB Connector generates the following text log files. You can view these log files in a text editor to get more information.

- `/var/log/opsware/tell/tell.0.log` is the main log file for information, warnings and errors encountered by the SA-UCMDB Connector.
- `/var/log/opsware/tell/LOAD_STATS.0.log` contains the status and statistics of the initial data load, and approximate times to complete the initial data load.
- `/var/log/opsware/tell/ucmdb_failure.0.log` contains UCMDB errors, primarily reconciliation errors if the SA data is incomplete, for example, if the required UCMDB keys are missing. This could happen if a server did not have a serial number or an IP address, for example. This log file contains the UCMDB exception, the reason why it failed and a trace of the CIs that caused the exception.

## Troubleshooting - SA-UCMDB Connector Daemon

The SA-UCMDB Connector runs the daemon `/etc/opt/opsware/startup/telldaemon` on your SA core server. Make sure this process is running on your SA core server. If it is not running, start it as described in [Starting the SA-UCMDB Connector](#) on page 8. If it is running, check the status as described in [Displaying the Status of the SA-UCMDB Connector](#) on page 9.