# HPE OneView integration with ServiceNow

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>2</td>
</tr>
<tr>
<td>Business context</td>
<td>2</td>
</tr>
<tr>
<td>HPE OneView integration with ServiceNow</td>
<td>2</td>
</tr>
<tr>
<td>Configuration Management</td>
<td>3</td>
</tr>
<tr>
<td>Incident Management</td>
<td>3</td>
</tr>
<tr>
<td>Incident Management example</td>
<td>4</td>
</tr>
<tr>
<td>Service Catalog</td>
<td>8</td>
</tr>
<tr>
<td>Sample outbound REST message APIs</td>
<td>8</td>
</tr>
<tr>
<td>Sample code</td>
<td>9</td>
</tr>
<tr>
<td>Summary</td>
<td>10</td>
</tr>
</tbody>
</table>
Executive summary

In today’s enterprise, CIOs face the challenge of providing increasing levels of service and greater operational efficiency with flat or declining operational budgets. With day-to-day operational maintenance consuming a major portion of IT budgets, even a small boost in operational efficiency can significantly reduce costs and free up budget resources for strategic opportunities.

Hewlett Packard Enterprise has developed an integration between HPE OneView infrastructure management software and ServiceNow that provides enterprises an opportunity to gain much-needed operational efficiencies through automating service management processes and reducing incident resolution times. HPE OneView integration with ServiceNow extends the capabilities of both HPE OneView and ServiceNow platforms, providing a seamless interface between HPE OneView operational dashboards and ServiceNow service management portal. This interface replaces the manual processes used to move data between operational dashboards and the incident management portal with automation that provides a bidirectional near real-time link, allowing operations teams to accelerate resolution of data center incidents.

This white paper shows IT operational teams how to use HPE OneView integration with ServiceNow to automate service management workflows and boost operational efficiency in the data center.

Business context

It’s a common story—IT budgets are static or shrinking while at the same time IT organizations are being asked to provide increasingly complex services and higher service levels across an expanding hardware footprint. For many organizations, essential lifecycle operations consume as much as 80% of the data center budget. In this environment, just a small boost in day-to-day operational efficiency can be a game-changing opportunity, freeing up substantial budget resources for strategic initiatives. Streamlining the operational process around incident management can be one of those opportunities.

Your operators use a set of dashboards to monitor activity on every device in your environment. SNMP traps across your network continuously trigger alerts requiring varying degrees of response, which can range from an immediate full root cause analysis and remediation to a cursory review at some point in the future, depending on the impact of the event on your environment and data.

When a detected event requires action, it is logged to a service portal. Usually this manual process requires copying and pasting information from one dashboard to another to create a service request. There can be a substantial time gap—often hours or even days—from the time that the alert originally appears to the time it can be logged and then assigned through the service portal. In today’s competitive environment, that’s not fast enough. Even worse, in the process of consolidating data from multiple dashboards to a service portal, errors can occur and sometimes significant events are missed altogether.

HPE OneView integration with ServiceNow

HPE OneView infrastructure management software and ServiceNow integration provides an alternative to today’s manual processes for logging incidents and events on your HPE infrastructure.

HPE OneView provides intelligent software-defined infrastructure management and monitoring across a broad range of the HPE hardware portfolio, including HPE Synergy, composable infrastructure. ServiceNow is a recognized industry leader in IT Service Management (ITSM) software. ServiceNow services portal brings built-in ITIL® best practices to manage service request workflows across your organization.

HPE OneView integration with ServiceNow allows you combine the power of these two tools to sync up hardware catalog entries across platforms, and then bidirectionally track real physical events that occur on the hardware and manifest those events as service tickets in the ServiceNow workflow. This automates the man-machine interface between platforms, providing near real-time visibility of incidents and events on the ServiceNow platform.

The current version of HPE OneView integration with ServiceNow supports the following use cases:

- **Configuration Management** allows you to sync your HPE OneView supported resources with the ServiceNow Configuration Management Database (CMDB)
- **Incident Management** automatically propagates alerts from HPE OneView to the incidents and event queues in ServiceNow to boost service management efficiencies
- **Service Catalog** allows you to design service offerings in ServiceNow and automatically delivers the physical infrastructure from HPE OneView when the service is ordered
Critical to the functionality of ServiceNow is the ability to keep your CMDB in sync with the resources available at any point in time in your data center.

For resources managed by HPE OneView, you can accomplish this easily with tools you already have in place, without paying for any costly add-ons. Within each HPE OneView instance, there is a reporting feature that allows you to generate a Server Hardware report and download that report in a simple CSV file. You can then simply map your report to the ServiceNow CMDB using the Table Transform Maps process. The one-time mapping configuration can be completed in a few minutes. Once the mapping is complete, you can upload your CSV file into ServiceNow at the push of a button.

Once you've completed the initial load, you'll need to keep the CMDB in sync with changes in your HPE OneView environment. HPE OneView integration with ServiceNow provides a simple Python script that can be scheduled to execute throughout the day to sync up the Configuration Items in the CMDB with the servers that are being managed by HPE OneView. The sync process allows you to keep an up-to-date view of which servers are provisioned and in use and which are available for user requests.

A detailed example of the Incident Management functionality is shown in Figure 2.
**Incident Management example**

To begin, we navigate to the server Configuration Item within the CMDB of ServiceNow. The CMDB was loaded and kept in sync using the Configuration Management processes described previously. This Configuration Item is prepopulated with attributes that uniquely identify the server within HPE OneView.

![ServiceNow Configuration view](image1)

**Figure 2. ServiceNow Configuration view**

We can now navigate to the alerts page within HPE OneView to inspect the health of the servers being monitored. You can see that HPE OneView has received an alert from one of the servers that it manages.

![HPE OneView Activity view](image2)

**Figure 3. HPE OneView Activity view**

When an alert is received in HPE OneView, ServiceNow integration is notified of the alert in near real-time and will propagate the alert to either the incidents or events table, based on your configuration settings. All relevant details from HPE OneView are appended to the activity stream of the relevant incident within ServiceNow.
Once in ServiceNow, the event can be managed and assigned for remediation based on an organization's established workflows.

Additional alerts that occur for the same server are appended as activities to an existing incident that has yet to be resolved.
When an incident or event is resolved, follow your standard process for closing the incident in ServiceNow.
Figure 8. ServiceNow Incident being closed

When the incident is closed, a business rule defined in the integration will invoke a REST API to close the associated alerts in HPE OneView.

Figure 9. HPE OneView Activity view with alert cleared

The incident is now marked as cleared in HPE OneView.
**Service Catalog**

Organizations that use ServiceNow to provide a Service Catalog can reap additional benefits for their HPE OneView managed infrastructure. HPE OneView infrastructure management software-defined intelligence and unified API brings infrastructure as code to bare metal through templates that unify the process for provisioning compute, connectivity, and storage in a single step. When the infrastructure includes HPE Synergy Image Streamer, these templates can also include operating systems and applications, making the entire provisioning experience similar to provisioning VM instances in the public cloud.

Within ServiceNow, your organization can create a self-service catalog that leverages HPE OneView to provision requested services. Users can then submit a request to provision a particular server. A workflow provided in the integration will initiate a request that flows to the respective HPE OneView managed infrastructure to provision the server complete with storage and fabric configurations, and in the case of HPE Synergy Image Streamer, the OS and software stack.

More information about HPE Synergy can be found at [hpe.com/synergy](http://hpe.com/synergy).

**Sample outbound REST message APIs**

HPE OneView integration defines a set of outbound REST message APIs in ServiceNow to provide bidirectional communication. The following screen images show samples of the outbound REST message APIs.

The highlighted area in this screen image shows a variety of REST messages.

![Figure 10. ServiceNow REST Message view](image)

This screen image shows a sample incident payload and headers.
More details can be found in the README document available on GitHub.

**Sample code**

Sample code for the HPE OneView integration with ServiceNow is available on GitHub. The GitHub repository provides a complete set of functions to manage the interface between HPE OneView and ServiceNow. Code can be easily customized for your environment.

Code to support Incident Management can be found at: github.com/HewlettPackard/servicenow-oneview/blob/master/scripts/ovincidents.py

Code to support Configuration Management can be found at: github.com/HewlettPackard/servicenow-oneview/blob/master/scripts/synchw.py

Code to support Service Catalog can be found at: github.com/HewlettPackard/servicenow-oneview/blob/master/arrowrest.js
Summary

The demands of providing higher IT service levels on flat or shrinking IT budgets is forcing IT leaders to continuously look for ways to drive enhanced operational efficiency. HPE OneView integration with ServiceNow provides an opportunity to automate a complex man-machine interface between hardware and service management platforms, dramatically reducing the time it takes to open and respond to data center incidents. The integration simplifies the population of the ServiceNow CMDB, enables bidirectional transfer of data to streamline Incident and Event Management, and automates provisioning from the ServiceNow Service Catalog. Through all of this, the integration allows organizations to extend the value of both the HPE OneView and ServiceNow platforms.

Learn more at
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