

Server-Initiated Discovery with OpenManage Enterprise 3.4

This technical white paper provides information about automatic discovery of servers in OpenManage Enterprise (OME).

Abstract

What if servers in your data center could announce their presence and automatically be managed by OME? With the Server-Initiated Discovery feature in OME 3.4, servers can automatically notify OME of their presence and get discovered by OME. Read on to know more.

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Revisions

Date	Description
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Acknowledgements

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Executive summary

Traditionally, managing servers with OpenManage Enterprise requires the administrator to first configure discovery jobs with IP ranges and credentials. With the introduction of factory random passwords that are unique per device, this discovery configuration is an onerous task. With OpenManage Enterprise 3.4, servers running iDRAC firmware version 4.00.00.00 can automatically initiate contact with the management console and get discovered. This eliminates the need for manual discovery job configuration. Read on to see how simple it is to enable this feature with OpenManage Enterprise 3.4 and iDRAC 4.00.00.00.

1 Server-Initiated Discovery in OME 3.4

This technical whitepaper describes how OME 3.4 can automatically discover servers in a data center, based on signals sent by servers to announce their presence. Servers can now automatically locate the console by querying the DNS and initiate their own discovery.

The following topics are discussed in this paper:

- [System requirements](#)
- [How does Server-Initiated Discovery work?](#)
- [Navigating the Server-Initiated Discovery workflow](#)
- [Security with Server-Initiated Discovery](#)
- [Troubleshooting Server-Initiated Discovery issues](#)

1.1 System requirements

- PowerEdge servers running iDRAC firmware version 4.00.00.00 or later
- OpenManage Enterprise version 3.4 or later

1.2 How does Server-Initiated Discovery work?

DNS configuration is a key element to enabling Server-Initiated Discovery.

First, the administrator registers OME with DNS. Next, the administrator can either use OME to update DNS via an option in the TUI, or update DNS manually for SRV / PTR and TXT records (in the case of secure DNS updates). The context sensitive help on OME has information on the values to configure for SRV / PTR / TXT records, and also has steps to effect these via nsupdate commands.

Thereafter, any server running 4.00.00.00 or later firmware is registered with the same domain, it knows about the OME to signal through the records in DNS. By default, the servers notify OME about their presence once a day.

If the “discovery approval policy” is automatic in OME, then OME initiates discovery of the servers by pooling together notifications received in the last 10 minutes. The credentials to be used for discovery are picked up from a CSV file that the administrator imports into OME.

In the next sections, the user workflow is detailed.

1.3 Navigating the Server-Initiated Discovery workflow

User workflow is detailed in this section.

1. The administrator registers the OME instance with the DNS by using the TUI as shown in Figure 2

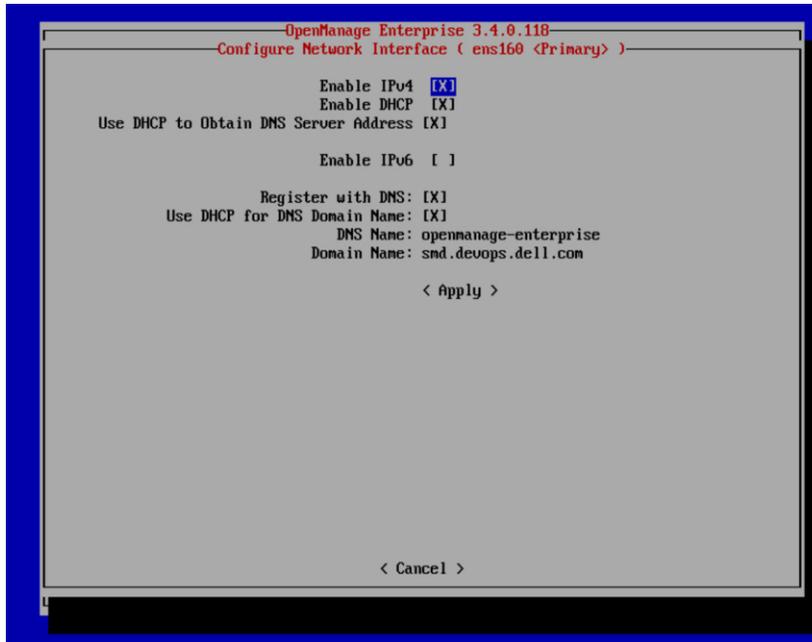


Figure 2 Configure DNS in OME by using TUI

2. The administrator can then configure the DNS directly from OME, by selecting the **Configure Server Initiated Discovery** option in the TUI as shown in Figure 3 and Figure 4.

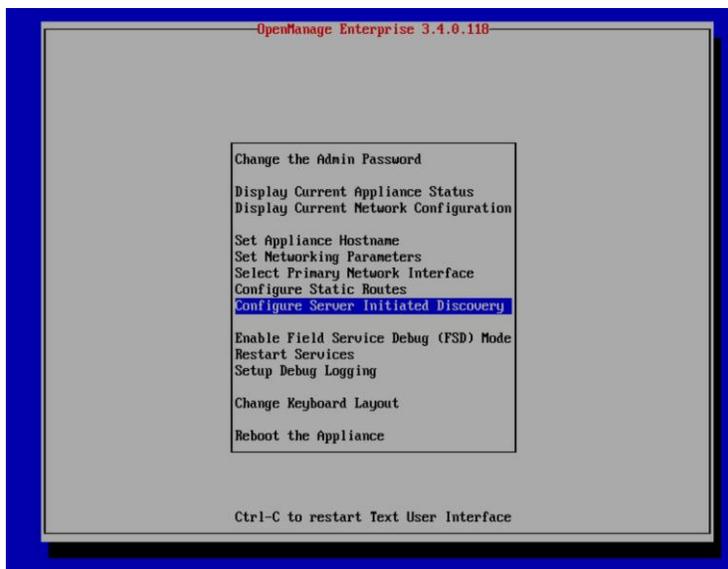


Figure 3 Navigate to the Configure Server Initiated Discovery option in TUI

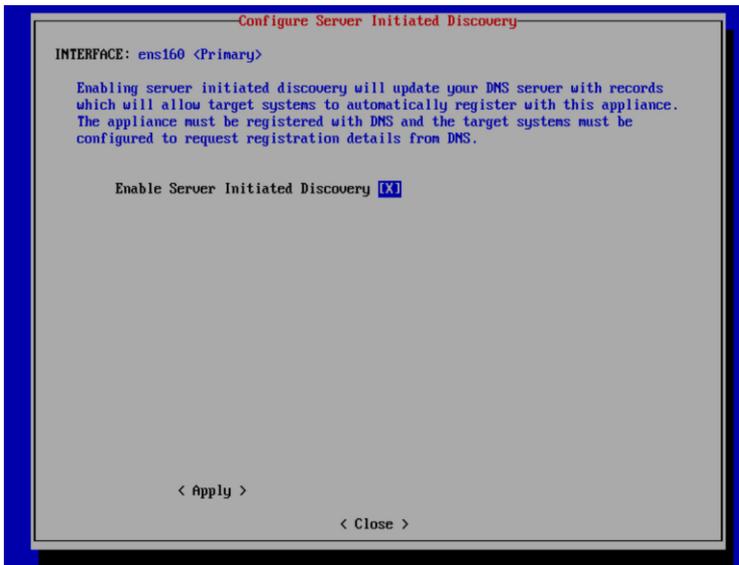


Figure 4 Enable Server Initiated Discovery in TUI

3. After successful updates to the DNS server, the following confirmation message is displayed. In-case security policies prevent updates to the DNS server, the entries can be manually configured in DNS.

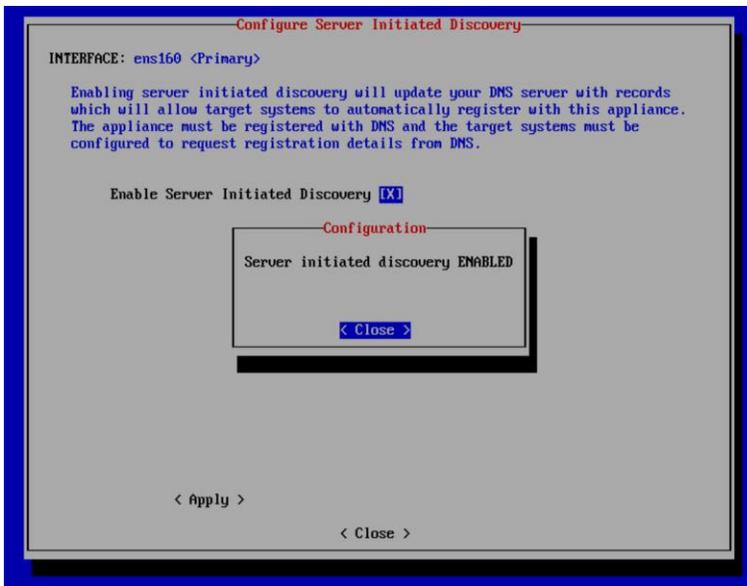


Figure 5 Confirmation message indicating server-initiated discovery is enabled in the TUI

4. If unsuccessful, then the error message is displayed with details.

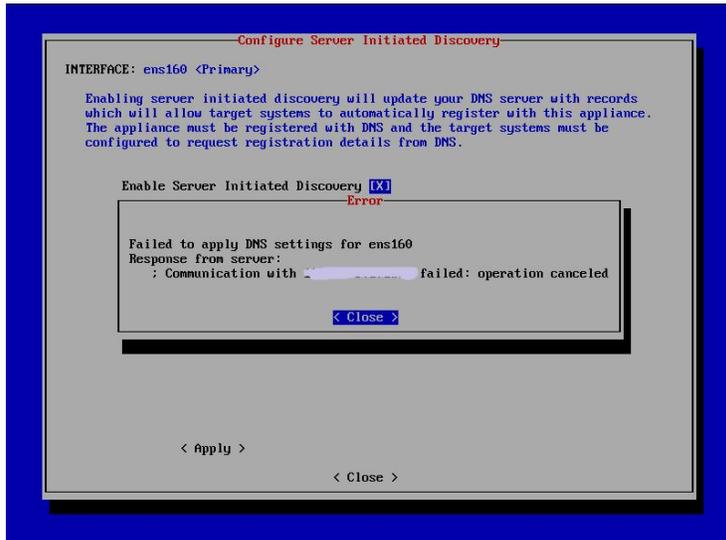


Figure 6 Error in enabling server-initiated discovery in the TUI

5. To navigate to the Server-Initiated Discovery page in OME, click **Monitor** → **Server-Initiated Discovery** as shown in Figure 7 and Figure 8.

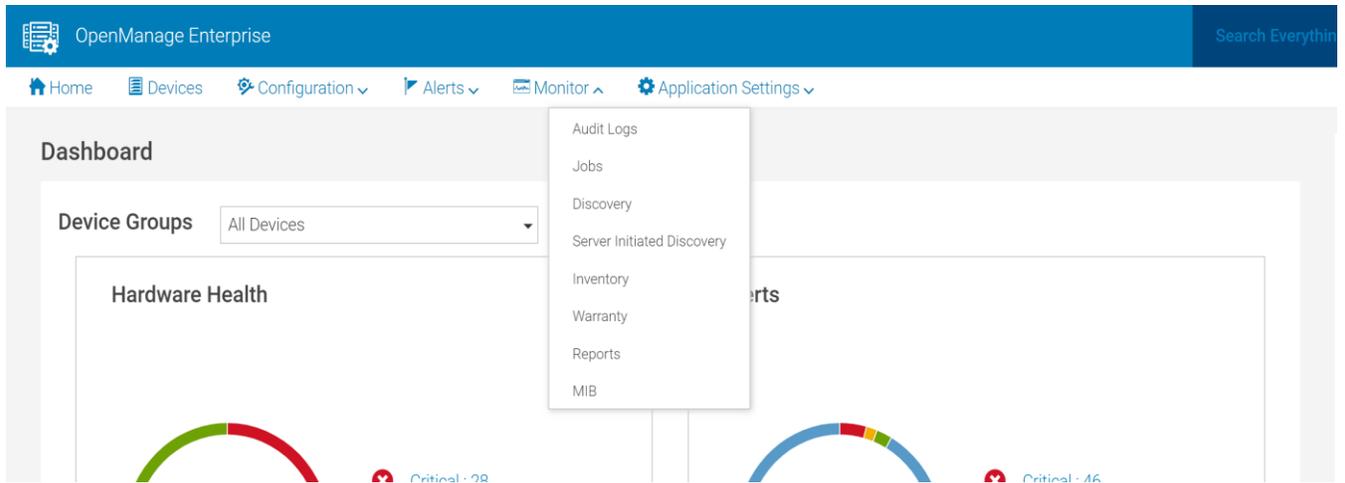


Figure 7 View the Server-Initiated Discovery option in OME

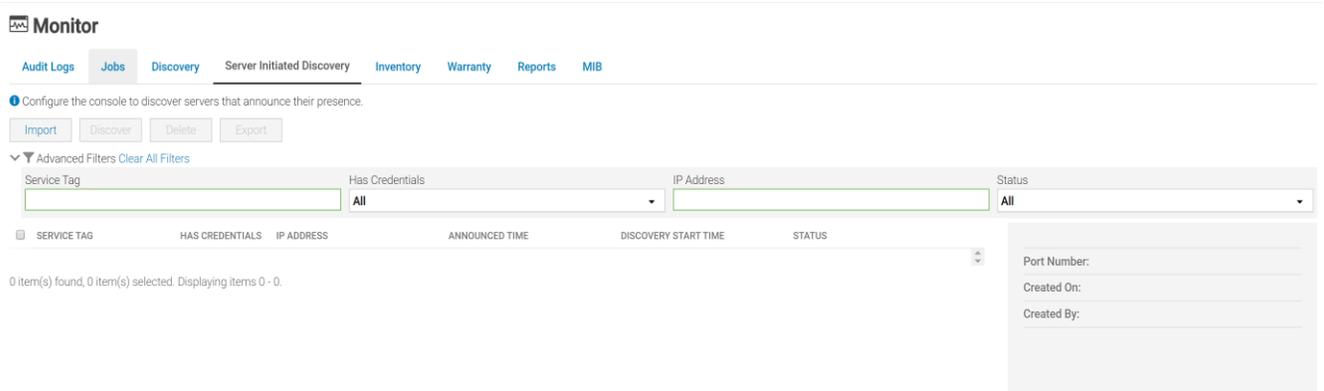


Figure 8 View the Server-Initiated Discovery page in OME

- The **Import** option on the Server-Initiated Discovery page can be used to upload a CSV file consisting of ServiceTag and credentials. To view a sample CSV file of the server credentials, click **Download sample CSV file**.

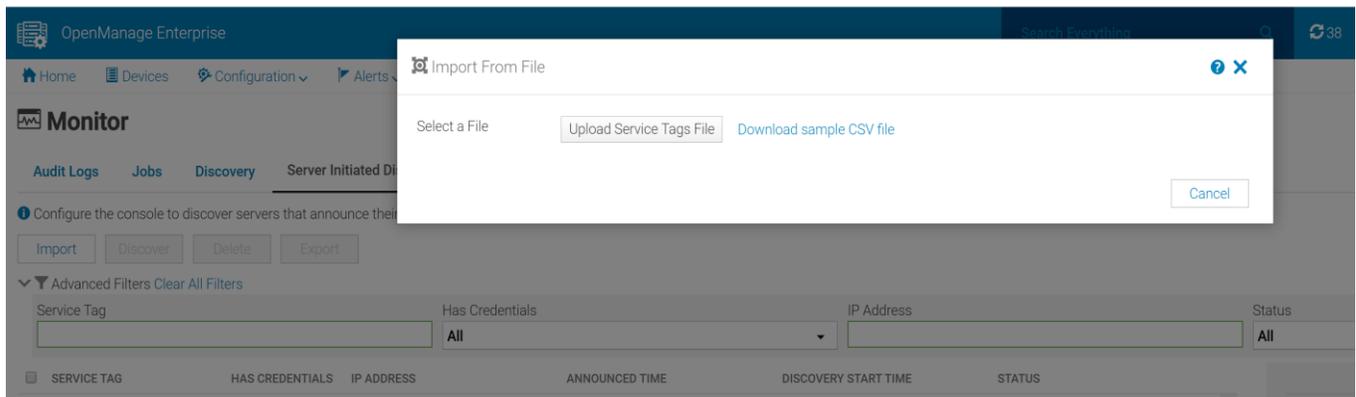


Figure 9 Import server credentials into OME

- After successful import of the CSV file, the server credentials are displayed on the Server-Initiated Discovery page. The status of entries—Credentials Added—indicate that the credentials to discover the servers are available, but the servers have not yet initiated contact with OME, and so discovery has not yet started.

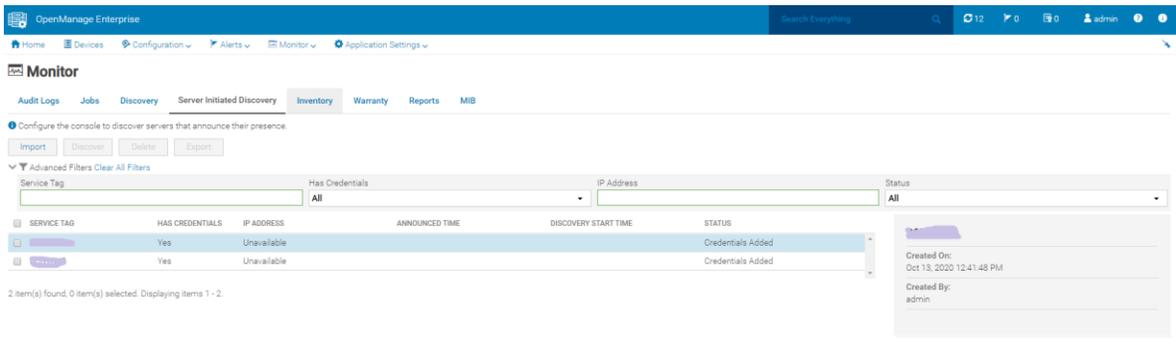


Figure 10 Credentials of servers are available in OME

- Once the servers notify OME of their presence, the announced time information is updated. If the approval process is set to Automatic, a job is initiated to discover all those servers that have initiated contact with OME within 10 minutes of the first signal.

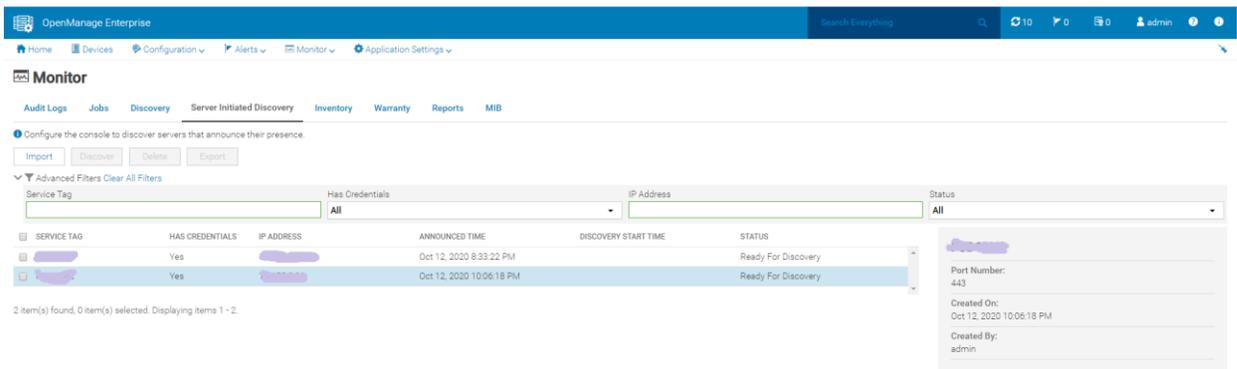


Figure 11 List of servers that have initiated contact with OME

- The status changes to Job Submitted for Discovery after automatic discovery job starts.

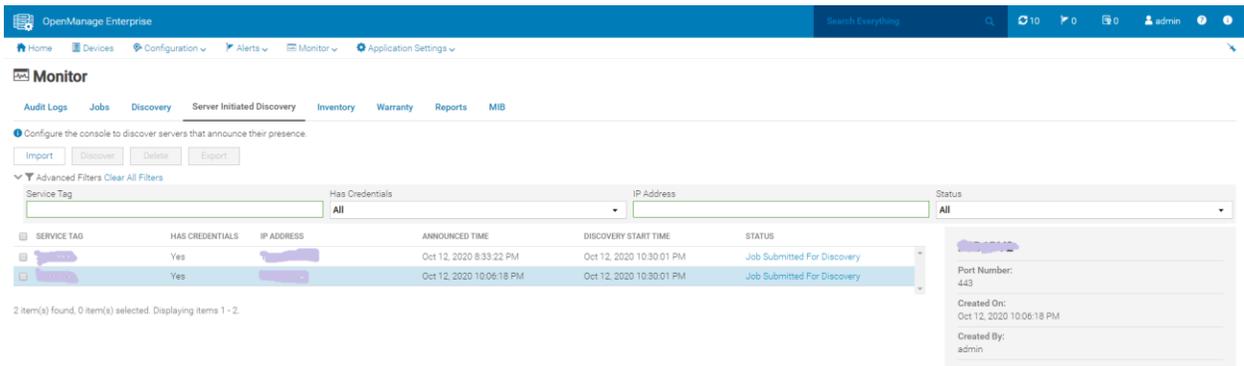


Figure 12 Discovery of servers is initiated

- The Discovery-Approval policy can be configured from the Console Preferences page.

Application Settings

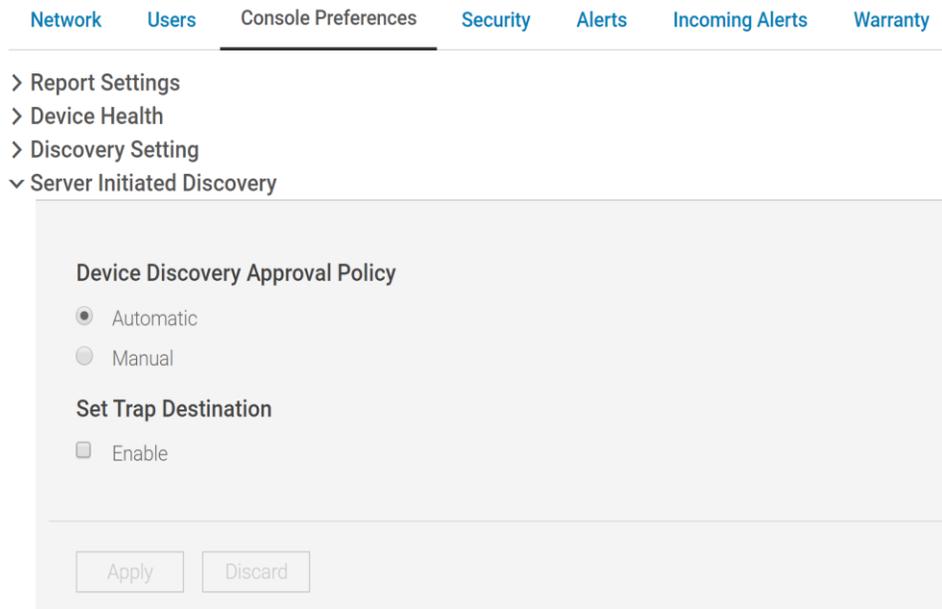


Figure 13 Configure the Discovery-Approval policy

11. Once discovered, the servers automatically appear on the OME All-Devices page and can be managed like any other server.

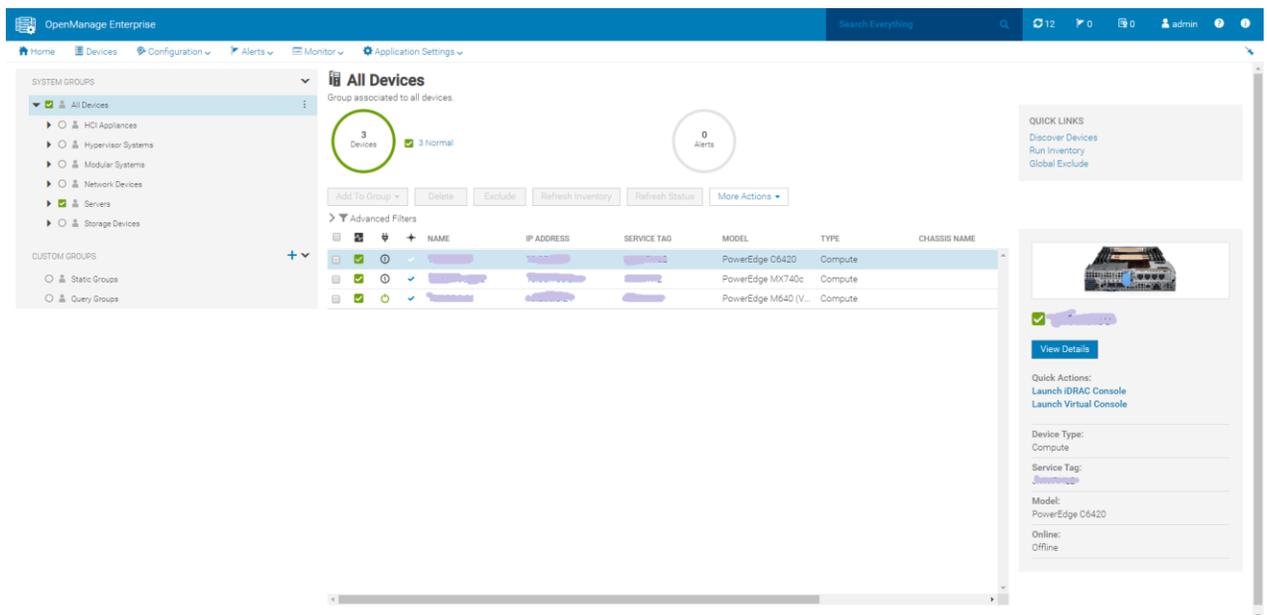


Figure 14 Servers that signaled OME and got discovered are displayed on the All Devices page

1.4 Security with Server-Initiated Discovery

When a server initiates contact with OME to announce its presence, OME ensures that it is a valid Dell server by checking the factory identity certificate. The iDRAC provides the SSL certificate also when initiating contact

with OME. As an added security measure, when the server is discovered, the thumbprint of the SSL certificate is also verified with that provided by iDRAC.

1.5 Troubleshooting Server-Initiated Discovery

Issues	Troubleshooting steps
The status of the servers does not change to Announced or Discovered.	Check DNS configuration. Also check if the domain name on servers matches that of OME. If both the above match, check if the announcement came in to OME via the application.log.
Servers stay “Announced” and do not get discovered.	Verify if the credentials have been uploaded on the Server-Initiated Discovery page. Try uploading a new CSV file with the credentials.

A.1 Related resources

[OpenManage Enterprise Version 3.4 and OpenManage Enterprise - Modular Edition Version 1.20.00 RESTful API Guide](#)