Device Onboarding with OpenManage Enterprise

Tech Note by:

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SUMMARY

OpenManage Enterprise is both a monitoring and a management tool. This tech note describes how to enable server management using administrator privileges, or to simply monitor them using reduced, non-administrator privileges.

The new OpenManage Enterprise systems management console can be used to monitor or manage servers. The term "monitor" implies reduced device permissions when compared to "manage". An IT Administrator who desires to monitor the servers can provide lower-privileged credentials, thus allowing for the devices to be contacted, discovered and monitored by OpenManage Enterprise. Users wanting to interact more comprehensively with the servers go beyond monitoring and implement the ability to manage them. By providing administrator credentials during Server Discovery phase, management tasks such as power control or firmware update can be run on the servers.

Typically, administrator credentials to the target devices are provided during device discovery. Unlike previous consoles, with the new OpenManage Enterprise console users can automatically "onboard" monitored servers to manage them. The "Create Discovery Job" screen below shows how a user can specify that "Servers" be discovered via their iDRAC IPs. Once the job is run, administrator credentials (for management) or lower-privileged credentials (for monitoring) can be provided.

Figure 1: OpenManage Enterprise "Create Discovery Job" screen showing how Device Type "Servers" can be discovered using their IP/Hostname/Range.

In OpenManage Enterprise, the Onboarding job runs automatically after every Discovery job and tries to onboard any compute device that has been discovered via its iDRAC interface, using the WSMAN protocol. Once devices are discovered, whether they are monitored or managed by OpenManage Enterprise can be seen from the All Devices view, by looking at the Onboarding state. This is shown in the "All Devices" screenshot below, by looking in the far right-hand column ("Onboarding State"). Note in that example that the servers are all "managed" by the console, which means that management tasks can be executed on those servers.
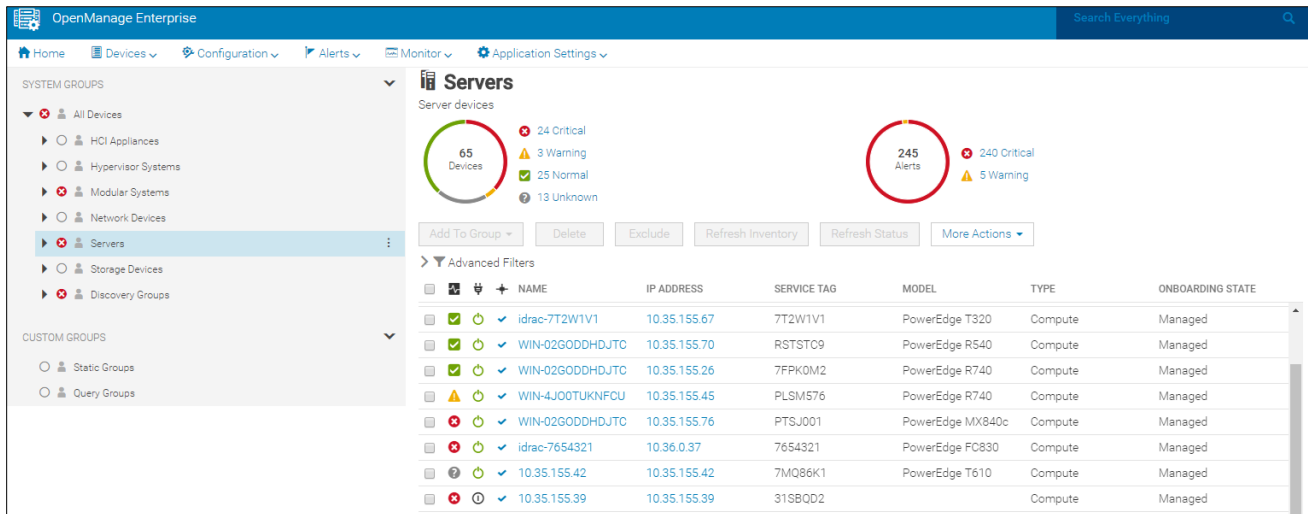

Figure 2: OpenManage Enterprise console showing the Onboarding State (far right column) of servers. Note that all the servers are set to "Managed" state, meaning that management tasks can be executed on them.

The Onboarding State is only applicable to server devices that have been discovered via their iDRAC interfaces. The iDRAC interface is contacted via the WSMAN protocol. Other device types, such as switches, are contacted via SNMP, and therefore are only monitored via OpenManage Enterprise.

A full listing of the Onboarding States is in Table 1 below:

Onboarding State	Meaning
Managed	Administrator credentials to the device have been validated and all management tasks such as power control can be performed on the device.
Monitored	For servers discovered via their iDRAC interface via WSMAN, only monitoring of these devices can be performed, as non-administrator credentials were used for discovery.
	For other device types, such as chassis, switch and servers discovered via their host OS, or IPMI.
Error	Applicable to servers that have been discovered via their iDRAC interface using the WSMAN protocol. There was an error in onboarding the server. Management operations cannot be performed on the server.
Managed with Alerts	Applicable to servers that have been discovered via their iDRAC interface using the WSMAN protocol. In addition to being able to perform management operations on the server, OpenManage Enterprise is a recipient of all alerts from this server.
Default	This is the state allocated to all devices before onboarding runs. This changes to one of the other states as the onboarding job runs.

Table 1: A full listing of the OpenManage Enterprise "Onboarding States"

Problem Resolution

A server that has been discovered via its iDRAC interface can be transitioned from "Monitored" or "Error" state to "Managed". This can be done from the All-Devices view, such as the one shown in Figure 3 below: The user would select the device(s) that are in "Monitored" or "Error" state (highlighted in light blue below) then clicking on the "More Actions" button to open the drop down window. Here, the user would select "Onboarding" from the list of options. The user can then supply administrator credentials to the device. Once the credentials are validated successfully, the device transitions to "Managed" and all   management tasks can be executed on that servers.
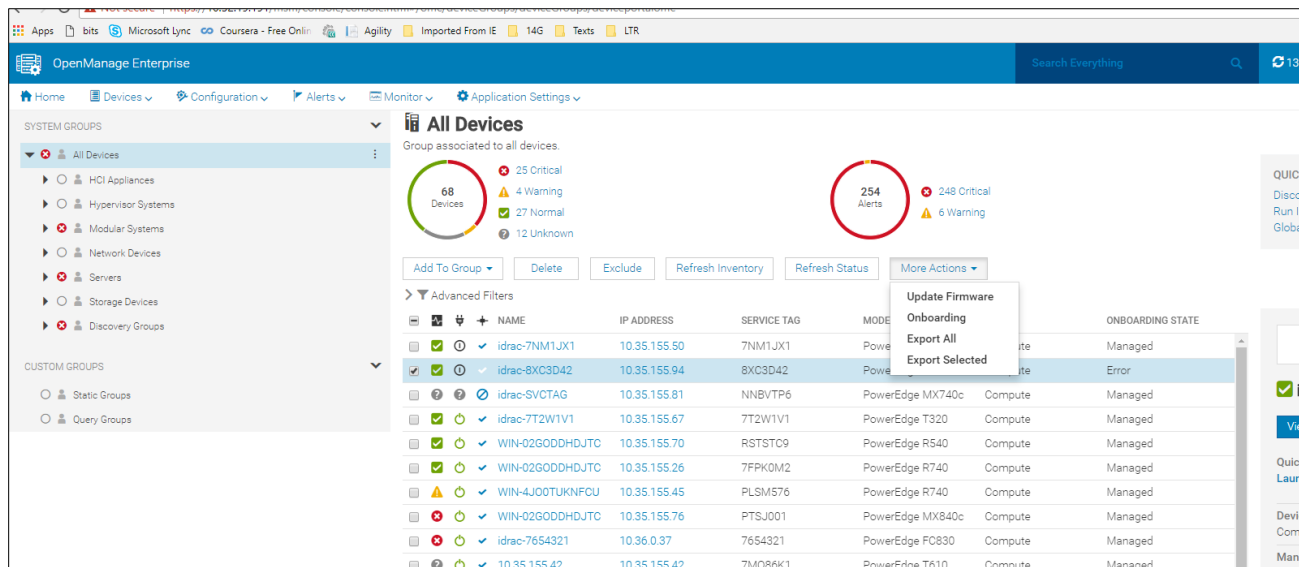

Figure 3: A server in a Monitored or Error state can be transitioned to Managed state for problem resolution, using the More Actions button and the drop down options.

Conclusion

The new OpenManage Enterprise systems management console is capable of both Monitoring and Management of servers and other supported devices. Many users will configure the tool for full management capabilities right from the start. Other users will configure it for simple monitoring, since that is the primary mission they desire of it. These latter users can easily change to full management at a later time, by using the straightforward "Onboarding" function.