New Feature Overview: December 2013 Releases of iDRAC7 and Lifecycle Controller 2

iDRAC7 version 1.51.51
Lifecycle Controller 2 version 1.30

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Executive summary

The December 2013 Dell PowerEdge OpenManage™ release contains new features and functionality delivered via the latest Integrated Dell Remote Access Controller 7 (iDRAC7) with Lifecycle Controller firmware updates. These features are designed to increase the automation capabilities available for deployment, monitoring, maintenance and updates. This paper provides an overview of the new features delivered in this release, as well as links to additional resources and documentation.

Introduction

The Integrated Dell Remote Access Controller 7 (iDRAC7) with Lifecycle Controller is designed to enhance the productivity of server administrators and improve the overall availability of Dell servers by providing a comprehensive out-of-band management service. It provides alerts, remote console access and common hardware management functions. All of these features reduce the need for an administrator to physically visit the server.

The Lifecycle Controller console provides local one-to-one deployment for operating system installation, updates, configuration, and for performing diagnostics on single local servers. This eliminates the need for multiple option ROMs for hardware configuration. Lifecycle Controller Remote Services are standards-based web services APIs that enable applications and scripts to utilize the features of iDRAC7 with Lifecycle Controller; for example, bare-metal provisioning, one-to-many operating system deployments, and firmware updates.

iDRAC7 with Lifecycle Controller reflects Dell’s core systems management tenets:

Simplicity, Efficiency and Availability

This paper provides a quick overview of each new feature in the latest iDRAC7 and Lifecycle Controller firmware releases. Each feature can be categorized within a targeted area of a server’s management lifecycle: deploy, update, monitor and maintain.

For some of these features, additional information can be found in the Dell TechCenter’s technical papers, blogs, videos and iDRAC User’s Guide.

Download information

iDRAC7 1.51.51 and LC 2 1.30 firmware can be downloaded from Dell’s support site. A link to the download pages can be found on the Dell TechCenter iDRAC7 page and the Lifecycle Controller page.

Figure 1 shows screenshots of what you’ll see when visiting those the download pages.
Deployment features

Auto Config

This feature allows IT administrators to configure all server hardware automatically as part of the out-of-band network configuration process. This includes BIOS, NIC, iDRAC and RAID configuration. Administrators must configure a DHCP server to provision the iDRAC7 network interface and the “AutoConfig” feature must be enabled in the iDRAC7 settings. When enabled, the iDRAC7 will apply a configuration file provided by the DHCP server. See additional documents on Dell TechCenter.

Configuration XML –Clone, --Replace and --Preview functions

The Configuration XML file can be used to configure all hardware settings on a server. Now the settings can be captured using --clone or --replace options, either of which formats the configuration file prior to applying it to other servers or the same server, respectively. The --preview option will perform a “what if” analysis without actually applying the configuration. This is helpful in determining if
any errors will occur during the actual configuration command. See additional documents on Dell TechCenter.

**RAID configuration via command line interface (CLI)**

Server storage can now be configured through the Dell CLI tool known as RACADM. This offers the ability to perform scripted 1:M storage operations related to RAID controllers and physical disks, both inside the PowerEdge system and external enclosures. In addition to RACADM, you have the option to use WS-MAN commands.

The iDRAC will create jobs and execute them automatically for each storage configuration operation. You have the option to reboot the host OS automatically to complete the job, or wait and do it at a later, more convenient time.

This feature supports real-time RAID monitoring and inventory of hardware RAID connected to the server. For more information, see the RACADM documentation.

**Unattended installation of Windows operating systems using Lifecycle Controller**

Unattended installs of Windows® operating systems can now be initiated through the Lifecycle Controller console. For more information, see the Lifecycle Controller documentation.

**VLAN support in Lifecycle Controller console**

The network interface used in the Lifecycle Controller console can now be configured with a VLAN. Previously, this feature was only available in the iDRAC GUI or via CLI. For more information, see the Lifecycle Controller documentation.

**IO identity settings – boot optimization**

For data center configurations where initiator settings do not need to be changed for compute node workload management, the ability to set virtual address and storage target attributes after the device is reset, and before it is initialized will eliminate a second BIOS restart required by UEFI staged configuration. The “configure and boot” will occur in a single system start or reset boot sequence optimized for boot time performance. For more information, see the iDRAC User’s Guide.
Update features

Automatic updates and queued alerts

Firmware updates can now be scheduled on a recurring basis. The iDRAC7 can be configured to either pull down an update package and wait for a user-initiated reboot or reboot immediately. For new updates that have been queued up, iDRAC7 will also send email alerts. In the Lifecycle Controller GUI, you can also view the catalog version being used for updates. See additional documents on Dell TechCenter.

Firmware rollback from iDRAC7 GUI

Starting from this release, a user will be able to perform rollbacks of firmware of all devices through the iDRAC GUI for rollback supported by Lifecycle Controller. In addition, a user can rollback several firmware items in a single action (versus one at a time). For more information, see the iDRAC User’s Guide.

Support for 64-bit Dell Update Packages in the Lifecycle Controller console

Previous versions of the Lifecycle Controller Console only supported 32-bit Dell Update Packages (DUPs). They now use 64-bit packages unless only 32-bit packages are provided. For more information, see the Lifecycle Controller documentation.

Repository updates within iDRAC7

The iDRAC7 now supports the use of remote repositories for firmware updates. The remote repository could either be ftp.dell.com or a local repository created using Dell Repository Manager. For more information, see the Repository Manager documentation.

Monitor features

iDRAC7 tech support report

The iDRAC7 can now build a report of hardware status for use with Dell Technical Support. This report contains much of the same information provided by the Dell System E-Support Tool (DSET), and in some support cases the Tech Support Report can be used instead of a DSET report. This removes the requirement for downloading, installing and rebooting a server to use DSET. See additional documents on Dell TechCenter.

Remote automated diagnostics

This feature will allow you to remotely run hardware diagnostics through the console application or remote scripts and collect the results. Interfaces such as WS-MAN and RACADM provide a mechanism to run the diagnostics and export the results of the last completed diagnostics to a remote network share (CIFS or NFS) in text format. See additional documents on Dell TechCenter.
Embedded virtual media

The Virtual Console plug-in available through the iDRAC7 web interface now supports a drop-down menu for selecting virtual media. It also allows you to select files and images to be used as the virtual media. For more information, see the [iDRAC7 User’s Guide](#).

WS-Eventing

WS-Eventing is a WS-MAN standard that allows remote systems to register for and receive events from a server. Previously, the iDRAC7 with Lifecycle Controller supported job scheduling events. Hardware inventory changes and some hardware monitoring events are now provided as WS-Events. For more information see the [Lifecycle Controller remote services documentation](#).

IPMI over LAN entry in the Lifecycle Controller Log

The use of IPMI over LAN is now logged as an entry in the Lifecycle Log. The feature adds to the audit capability of the iDRAC7. Now, iDRAC7 logs events when users access the web GUI, WS-MAN, CLI, etc., as well as when a customer logs in via IPMI. For more information, see the [Lifecycle Controller remote services documentation](#) or the [iDRAC7 User’s Guide](#).

Improved iDRAC GUI homepage

For better usability and accessibility, links to the frequently used Virtual Console and Logs pages are moved to the left hand navigation tree, making them easier to find. These links were earlier under Server -> Console and Server -> Logs tabs respectively.

![Figure 2. Improved navigation on iDRAC GUI homepage](image-url)
Full export of the Lifecycle Controller log

Previous versions of iDRAC only exported 64,000 entries; the export function now exports all active and archived entries in the LC Log. The GUI now has the option to export an entire LC Log, including active and archived entries. This is a new additional operation to the current export LC Log operation. Choose severity, log type, date range and any keyword and quickly export log files to search for entries. For more information, see the Lifecycle Controller remote services documentation or iDRAC7 User’s Guide.

Clear System Event log entry in the Lifecycle Controller log

Now, IT administrators are able to see a list of IP addresses in the Lifecycle log, along with the user name for whoever clears the SEL (or any other log). The LC log will have a new entry when the System Event Log (SEL) is cleared – SEL00014 “System Event Log (SEL) cleared by [username] from [ip address]”. For more information, see the Lifecycle Controller remote services documentation.

Agent-free SSD monitoring with Remaining Rate-Write Endurance indication

Dell recognizes that SSDs have a limited number of writes, so Write Endurance has been added to iDRAC monitoring capabilities. With this release, customers can monitor the basic health of SSDs attached to a PERC controller. In addition, iDRAC also adheres to the new industry standard “Remaining Rate-Write Endurance” on enterprise-class SAS/SATA SSD’s. Remaining Rate-Write Endurance is the percentage of writes left on the SSD. If the limit is met, the drive is still readable.

iDRAC Service Module (iSM)

For environments that may require some basic operating system management but cannot use OpenManage Server Administrator, the iDRAC Service Module (iSM) can be installed on supported Operating Systems. This lightweight service will provide the following functions:

- Providing the OS hostname, OS name and OS version to the iDRAC7
- Replicating the Lifecycle Controller Log in the OS log
- iDRAC7 watchdog functionality

For more information, see the iDRAC7 User’s Guide.

Configurable SNMP and SMTP ports

Customers can now change the port settings for SNMP and SMTP. Previously, these ports were hard-coded and could not be changed. Now, customers can give IT administrators more choice on port location for better security for SNMP and SMTP traffic. Also, this provides flexibility to resolve any port conflicts. For more information, see the iDRAC7 User’s Guide.
In-band iDRAC7 access from the server operating system

The iDRAC7 can now be configured to provide an internal network interface to the server operating system. This allows users to access the iDRAC7 GUI or the WS-MAN interface from the OS without physically cabling a NIC. For more information see the iDRAC7 User’s Guide.

Maintain features

Auto backups

The iDRAC7 with Lifecycle Controller can store all server hardware settings and firmware images in a server profile. This backup can be stored on local vFlash or exported to remote file shares. This feature can now be scheduled on a recurring basis. When used in conjunction with Auto Update it can be a powerful way to store a baseline of the hardware configuration and firmware images for easy recovery or reprovisioning. For more information, see the iDRAC7 User’s Guide.

Automatic system restore and service tag replacement

In the event of a motherboard replacement, the service tag and/or system profile can now be restored to the previous version (if a Server Profile is available) or a manual setting. This will be automatically detected in the event of a blank service tag. In the case where vFlash is installed with the server’s previous image, this image will be used for system restore. For more information, see the Lifecycle Controller documentation.

Virtual Network Computing support

Customers can use a Virtual Network Computing (VNC) viewer to view and manage the operating system or hypervisor on a remote server from a mobile device. To launch the VNC viewer, you must configure the VNC server settings in iDRAC, such as max sessions, password and encryption. This also support for VNC integration to third-party KVM solutions and keyboard scripting. This feature allows access to the OS/hypervisor via the iDRAC with mobile devices with standard VNC-based console applications and Dell/Wyse PocketCloud. Apps for Apple® and Android® devices are also available. For more information, see the iDRAC7 User’s Guide.

Wildcard and intermediate certificate support for iDRAC

Support for intermediate certificates or certificate chains ensure that the uploaded iDRAC web server certificate is properly signed by an intermediate CA (which is signed by root CA). This release also allows the iDRAC web server certificate to support use of wildcards --asterisk as part of the left-most component of the CN name. See additional documents on Dell TechCenter.

iDRAC license management via Lifecycle Controller 2

Support for managing all aspects of software license files using the Lifecycle Controller 2 interface as well as having the ability to load license files from local storage devices has been added in this release.
Conclusion

The December 2013 release of new firmware for the iDRAC7 and Lifecycle Controller 2 provides several new features that build on proven OpenManage technology to further enable systems management automation across the entire server lifecycle. This document has provided a brief introduction to some of those new features and included links to various papers, support documents and websites that are available to customers implementing these features.