IPv6 Best Practices While Accessing Remote File Locations Using iDRAC

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1 Introduction
This white paper provides an overview of the IPv6 network remote file locations that are supported by various features in the iDRAC interfaces. Several features that support the IPv6 remote file can be managed through the iDRAC web interface, the RACADM interface, and the WS-MAN interface.

The iDRAC web interface supports the IPv6 network for several features such as, exporting Lifecycle Controller logs, exporting tech support reports, firmware updates using custom repository, and server profile backup and restore/import.

The iDRAC RACADM CLI supports features such as exporting Lifecycle Controller logs, exporting tech support report files, single firmware updates and firmware updates using custom repository catalog, exporting hardware inventory, exporting license, system configuration backup and restore, and auto update scheduler for scheduling automatic updates.

The iDRAC WS-MAN interface supports the features in the IPv6 network such as export logs, export inventory, exporting security certificates, manual and automatic server profile backup and restore, exporting and importing system configurations, exporting and importing iDRAC Enterprise licenses, exporting technical support troubleshooting reports and PSA Diagnostics results, OS deployment features, create and export RAID partitions, manual and automatic firmware updates for a single device as well as using a custom repository catalog.

1.1 Definition of IPv6
IPv6 (Internet Protocol version 6) is the successor to the most common Internet Protocol today (IPv4). This is largely driven by the fact that IPv4’s 32-bit address is quickly being consumed by the ever-expanding sites and products on the internet. IPv6’s 128-bit address space should not have this problem for the foreseeable future.

1.2 Why IPv6
- IPv6 provides substantially larger IP address space than IPv4.
- IPv6 provides better security than IPv4 for applications and networks.
- IPv6 provides better end-to-end connectivity than IPv4.
- IPv6 offers better mobility features than IPv4. When we consider IP mobility features, we are essentially considering features that would be useful for:
  - Mobile devices, which can change their location but would like to retain existing connections.
  - Mobile networks that provide mobility to a group of devices.
  - Ad-hoc networking in which some of the devices stay connected to the network or in the vicinity of the network only for the short duration of a communications session.
- IPv6 has better ability for autoconfiguring devices as compared to IPv4.
- IPv6 contains simplified Header Structures leading to faster routing as compared to IPv4.
- IPv6 gives better Quality of Service (QoS) than IPv4.
- IPv6 provides better Multicast and Anycast abilities compared to IPv4.

1.3 Prerequisites
- IPv6 is supported on all web browsers. Make sure that the host system running the browser has IPv6 installed and enabled.
- IPv6 remote file location must be supported and configured. Refer to the respective interface section for more details on how to configure IPv6 on iDRAC.
- IPv6 must be enabled on iDRAC to access IPv6 file location. Refer to the section 2.1 for details.
- IPv4 must be disabled on the iDRAC, to log into iDRAC using IPv6 address.

**Note:** To explore the IPv6 shared folder, use the literal in the following format: `\2620-14c-804-23a0-a410-8014-8dab-5e4c.ipv6-literal.net\CIFS`.

1.4 Possible remote file locations
All possible supported remote file locations are:

- CIFS
- HTTP
- FTP
- TFTP

**Note:** The examples provided in this document are limited to CIFS share only. For other supported remote file locations, see the help document for each interface.
Managing IPv6 feature using the iDRAC web interface:
The following sections describe how to manage the IPv6 feature on the iDRAC web Interface.

2.1 IPv6 Configuration and Control

1. From the iDRAC GUI, navigate to Overview > iDRAC Settings > Network > IPv6 Settings.
2. Select Enable IPv6 and Autoconfiguration Enable options to obtain the IPv6 address for the iDRAC NIC from the DHCPv6 server. It also deactivates the static values for IP Address 1, Prefix Length, and IP Gateway.
3. Click Apply.
Wait for 30 seconds to 1 minute, and then navigate to the **Server > Details** page to check if the IPv6 address is populated.

![IPv6 Settings Summary Page](image)

**2.2 Export Lifecycle Controller logs using IPv6**

The iDRAC **Server Logs** page on the web interface allows you to export Lifecycle Controller logs. To access the Lifecycle Controller Logs page, click **Server > Logs > Lifecycle Log > Export**.
Figure 3  Example for Exporting LC Log using CIFS network in IPV6.

After the Lifecycle Controller logs exports successfully, the following pop-up message is displayed.

Figure 4  Successful message when Log Export is successful.
2.3 Export Tech Support Report using IPv6

The Tech Support Report helps the technical support engineer to troubleshoot issues. To export the Tech Support Report using the iDRAC web interface, navigate to Overview -> Server -> Troubleshooting -> Tech Support Report. Select Network for File Location and CIFS as Protocol. Provide the file location details. Select the I agree to allow...check box and click Export.

![Example for Exporting TSR data using CIFS network in IPv6.](image)

After the Lifecycle Controller logs exports successfully, the following pop-up message is displayed.

![Successful message when TSR Data Export is successful.](image)
2.4 Custom Repository Firmware Update using IPv6

The iDRAC web interface allows five different file locations for firmware updates such as local file system and four remote file locations such as CIFS, FTP, TFTP and HTTP. The local file system allows only single firmware update. The remote file locations are used for Custom Repository Update using a catalog file. The examples below show how to access the CIFS network using IPv6. You can either perform the custom firmware update manually or schedule a firmware update at a later time from the automatic update section.

2.4.1 Manual Firmware Update using CIFS

To access the firmware update page using a custom repository catalog, on the iDRAC web interface, navigate to Overview > iDRAC Settings > Update and Rollback. Select Network Share for the File Location and CIFS for the Protocol fields.

Figure 7  Example for accessing the Update page using IPv6 settings for CIFS network.
If the name of the catalog is not the default catalog name `Catalog.xml`, then enter the name of the catalog file in the **Catalog Name** field. Click the **Check for Update** button to compare the components listed in the catalog with the installed firmware. The list of all available firmware for update is displayed in the **Update Details** section.

<table>
<thead>
<tr>
<th>Contents</th>
<th>Criticality</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPLD_Firmware_SM3XJ_XN32_1.0.1.EXE</td>
<td>Information Not Available</td>
<td>Available</td>
</tr>
<tr>
<td>ESM_Firmware_9J7K8_XN32_2.01.00.01_A00.EXE</td>
<td>Information Not Available</td>
<td>Available</td>
</tr>
<tr>
<td>Diagnostics_Application_VFSDK_WN32_4239A10_4239.1_CEX</td>
<td>Information Not Available</td>
<td>Available</td>
</tr>
</tbody>
</table>

Figure 8  Example of Update Details when Catalog finds firmware available for update.

### 2.4.2 Automatic update using CIFS

To access the automatic firmware update page, navigate to **Overview>iDRAC Settings > Update and Rollback > Update menu > Automatic Update** tab. Select **Network** for the **File Location** and **CIFS** for the **Protocol** fields. Enter all the relevant fields on this page to schedule an automatic update using a catalog file.
2.5 Server profile backup and restore using IPv6

You can create a backup of the entire server configuration including the firmware version information for the various components such as BIOS, RAID, NIC, iDRAC, Lifecycle Controller, and NDCs. The backup operation also includes the hard disk configuration data, motherboard, and replaced parts. The supported network file location using IPv6 network is CIFS.

2.5.1 Backup
To access the Server Profile page, navigate to **Overview > iDRAC Settings > Server Profile > Backup and Export**. Enter all the relevant fields on this page to take a backup and export server profile to a remote file location and click on Backup Now button.

Figure 11  Example for creating a job for server profile backup image using IPv6 settings for CIFS network.

Figure 12  Successful message when job is created for server profile backup image.

### 2.5.2 Automation Backup

You can enable and schedule periodic backups of the firmware and server configuration based on a certain day, week, or month. To access the Automatic backup page, navigate to **Overview > iDRAC Settings > Server Profile > Backup and Export > Automatic Backup** page. Enable Automatic Backup and enter all the required data for File Settings and Security, Network settings, Backup Window Schedule and Recurrence Pattern and click on Schedule Backup as shown in the figure below.
2.5.3 Import (or Restore)
You can use the backup image file to import (restore) the configuration and firmware for the same server without re-booting the server.
To access the Server Profile page, navigate to Overview > Server > Server Profile > Import.

Figure 15  Example for creating a job for Server Profile Import image using IPv6 settings for CIFS network.

Figure 16  Successful message when job is created for server profile back up image.
Managing IPv6 feature using RACADM interface

The following sections describe how to manage the IPv6 features using the RACADM interface.

3.1 IPv6 configuration and control

You can enable or disable the IPv6 feature using the RACADM interface on iDRAC using the following commands:

- To enable IPv6:
  
  ```
  racadm set idrac.IPV6.Enable 1
  
  Object value modified successfully
  ```

- To disable IPv6:
  
  ```
  racadm set idrac.IPV6.Enable 0
  
  Object value modified successfully
  ```

Login to CLI using IPv6. Below is an example using putty.

Enter the complete IPv6 address with no spaces or square brackets around them.

Figure 17  Login to CLI Interface using Putty.
3.2 **Export Lifecycle Controller logs using IPv6**

You can export Lifecycle Controller logs by executing the following RACADM commands:

- Export the complete Lifecycle Controller logs in gzip format to a remote CIFS share:

  ```
  $ racadm lclog export -f Mylog.xml -u est_user -p dell1123 -l //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS --complete
  ```

  LCLog exported successfully

3.3 **Export Tech Support Report using IPv6**

The Tech Support Report helps the technical support engineer to troubleshoot issues. To export the report using the RACADM interface execute the following commands:

- Tech Support export to CIFS share:

  ```
  $ racadm techsupreport export -l //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS -u est_user -p dell1123
  ```

  Job ID JID_102924116087

  RAC1154: The requested operation is initiated.

  Run the RACADM jobqueue sub-command, using the job id to check the status of the requested operation.

3.4 **Firmware Update using IPv6**

The iDRAC RACADM interface allows four different file locations such as CIFS, FTP, TFTP and HTTP for firmware update using single as well as Custom Repository Update using a catalog file. The examples below explain how to access the CIFS network using IPv6.

You can either perform the custom firmware update manually, or schedule a firmware update at a later time from the automatic update section.

3.4.1 **Manual Single Component Firmware Update using CIFS**

- To execute Firmware Update

  ```
  $ racadm update -f ESM_Firmware_GGY1J_WN64_2.00.00.00_P50.EXE -u est_user -p dell1123 -l //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS
  ```

  .........................Copying completed.

  RAC987: Firmware update job for ESM_Firmware_GGY1J_WN64_2.00.00.00_P50.EXE is initiated. This firmware update job may take several minutes to complete
depending on the component or firmware being updated. To view the progress of the job, use the "racadm jobqueue view" command.

3.4.2 Automatic Single Component Firmware Update using CIFS
You can enable or disable the Auto update feature using the RACADM interface on iDRAC:

- To Enable:
  $ racadm set lifecyclecontroller.lcattributes.autoupdate 1
  Object value modified successfully

- To Disable:
  $ racadm set lifecyclecontroller.lcattributes.autoupdate 0
  Object value modified successfully

- Schedule Autoupdate Job using following RACADM command:
  $ racadm autoupdatescheduler create -u est_user -p dell123 -l
  //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS -f cat.xml -time 14:30 -wom 1
  -dow sun -rp 1 -a 1
  RAC1041: Successfully configured the Automatic Update (autoupdate) feature settings.

3.4.3 Firmware Update using Custom Repository Catalog
- You can perform a firmware update from a CIFS repository and reboot the server to apply the updates:
  $ racadm update -f Catalog.xml -l
  //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS -u est_user -p dell123 -a TRUE
  -t CIFS
  RAC1118 : Update from repository operation has been initiated. Check the progress of the operation using "racadm jobqueue view -i JID_150459626922" command

3.5 Server Profile Backup and Restore using IPv6
You can create a backup of the entire server configuration including the firmware version information for the various components such as BIOS, RAID, NIC, iDRAC, Lifecycle Controller, and NDCs. The backup operation also includes the hard-disk configuration data, motherboard, and replaced parts. The supported network file location using IPv6 network is CIFS.

3.5.1 Backup
- System Config Backup using CIFS and encrypt the data:
$ racadm systemconfig backup -f image_ipv6.img -l //[2620:14c:804:23a0:a410:8014:8dab:5e4c]/CIFS -u est_user -p dell123 -n Encryptp@sswd123

RAC941: Successfully initiated the export operation. This operation may take several minutes to complete.

Monitor the job status using "racadm jobqueue view -i JID_123548068500".

3.5.2 Restore

- System Config Restore using CIFS and encrypt the data:
  $ racadm systemconfig restore -f image_ipv6.img -l //[2620:14c:804:23a0:a410:8014:8dab:5e4c]/CIFS -u est_user -p dell123

RAC942: Successfully initiated the import operation. This operation may take several minutes to complete while device firmware and configuration are applied.

Monitor the job status using "racadm jobqueue view -i JID_123555351612".

3.6 Export hardware inventory using IPv6

To export the hardware inventory using the RACADM interface, execute the following command:

- Hardware Inventory export to CIFS share:

Hardware Inventory Exported successfully.

3.7 Export license using IPv6

You can export licenses from various devices on the server using the RACADM interface.

- Export License to a CIFS share specifying entitlement ID:
  $ racadm license export -u est_user -p dell123 -f License.xml -l //2620:14c:804:23a0:a410:8014:8dab:5e4c/CIFS -e yxEgBpokKesciREDh57Lj953

LIC000 : The License Manager action succeeded

- To fetch the entitlement ID, run the following RACADM command:
  admin1-> racadm license view

```
DRAC.Embedded.1
  Status = OK
  Device = iDRAC.Embedded.1
  Device Description = iDRAC8
  Unique Identifier = CDVB7R1
```
3.8 To view the status of a scheduled job

You can view the status of a scheduled job by executing the following RACADM commands:

- To view the job status:
  
  $ racadm jobqueue view

  ------------------------ JOB ------------------------
  [Job ID=JID_995519293621]
  Job Name=Firmware Update: iDRAC
  Status=Downloading
  Start Time=[Not Applicable]
  Expiration Time=[Not Applicable]
  Message=[RED003: Downloading package.]
  Percent Complete=[0]
  ------------------------

- To monitor the job status using the job ID:

  $ racadm jobqueue view -i JID_123548068500

  ------------------------ JOB ------------------------
  [Job ID=JID_123548068500]
  Job Name=Export: Create server profile backup image
  Status=Completed
  Start Time=[Now]
  Expiration Time=[Not Applicable]
  Message=[BAR007: Export System Profile completed.]
  Percent Complete=[100]
  ------------------------
Managing the IPv6 feature using the WS-MAN interface

The following sections describe how to manage the IPv6 features using the WS-MAN interface.

4.1 Test network connection using IPv6

- Test network connection on CIFS share:

  Response:
  TestNetworkShare_OUTPUT
  ReturnValue = 0

4.2 Export Lifecycle Controller logs using IPv6

You can export the Lifecycle Controller logs by executing the following WS-MAN commands:

- Export the Lifecycle Controller logs to a CIFS share:

  Response:
  ExportLCLog_OUTPUT
  Job
  EndpointReference
  Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  ReferenceParameters
  DCIM_LifecycleJob
  SelectorSet
Export full Lifecycle Controller logs to a CIFS share:

```
```

Response:
```
ExportCompleteLCLog_OUTPUT
Job

EndpointReference
Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
ReferenceParameters
SelectorSet
Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
ReturnValue = 4096
```

4.3 Export Tech Support Report using IPv6

Export Tech Support Report to a CIFS share:

```
```

Response:
```
ExportTechSupportReport_OUTPUT
Job

EndpointReference
```
Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
ReferenceParameters
   DCIM_LifecycleJob
   SelectorSet
       Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
   ReturnValue = 4096

4.4 Firmware update using IPv6

4.4.1 Installing firmware from URI

- **Install firmware from CIFS URI:**

- **Input XML:**
  `<a:ReferenceParameters>`
    `<w:SelectorSet>`
      `<w:Selector Name="InstanceID">DCIM:INSTALLED#iDRAC.Embedded.1-1#IDRACinfo</w:Selector>`
    `</w:SelectorSet>`
  `</a:ReferenceParameters>`
  `</p:Target>`
  `</p:InstallFromURI_INPUT>`

- **XML Share Format:**
FTP Share URI: ftp://[2620:14c:804:23a0:a410:8014:8dac:5e4c]/IDRACFW.EXE
TFTP Share URI: tftp://[2620:14c:804:23a0:a410:8014:8dac:5e4c]/IDRACFW.EXE
CIFS Share URI: cifs://WORKGROUP\Administrator: Dell123@[2620:14c:804:23a0:a410:8014:8dac:5e4c]/IDRACW.EXE; mountpoint=cifs_folder
HTTP Share URI: http://[2620:14c:804:23a0:a410:8014:8dac:5e4c]/IDRACFW.EXE

- Response:
  InstallFromURI_INPUT_OUTPUT
  Job
    EndpointReference
    Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
           ymous
    ReferenceParameters
    ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
                 schema/2/
                 DCIM_LifecycleJob
    SelectorSet
      Selector: InstanceID = JID_149698122878, __cimnamespace
                  = root/dcim
    ReturnValue = 4096

4.4.2 Installing firmware from a custom repository

- Install firmware from a custom repository:
  winrm invoke InstallFromRepository
  "http://schemas.dell.com/wbem/wscim/1/cim-
  schema/2/root/dcim/DCIM_SoftwareInstallationService?CreationClassName=DCIM_
  SoftwareInstallationService+SystemName=IDRAC:ID+Name=SoftwareUpdate+SystemC
  reationClassName=DCIM_ComputerSystem" -file:UpdateInputIDRAC.xml -u:root -
SkipCNCheck -SkipCACheck -auth:basic -encoding:utf-8
@{Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:
8014:8dac:5e4c";ShareName="CIFS";ShareType="2";CatalogFile="Catalog.xml"}

- Response:
  InstallFromRepository_OUTPUT
  Job
    EndpointReference
    Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
           ymous
    ReferenceParameters
    ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
                 schema/2/
                 DCIM_LifecycleJob
4.4.3 Setting a firmware update schedule

- Set a firmware update schedule from a custom repository available on a CIFS share:
  @ {Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";Time="11:50";Repeat="1"}

- Response:
  SetUpdateSchedule_OUTPUT
  Job
    EndpointReference
      Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
      ymous
    ReferenceParameters
      DCIM_LifecycleJob
    SelectorSet
      Selector: InstanceID = JID_149698122878, __cimnamespac
      e = root/dcim
    ReturnValue = 4096

4.5 Server profile backup and restore using IPv6

4.5.1 Backup server profile image

- Backup server profile image to a CIFS share with passphrase:
  @ {Username="est_user"; Workgroup="workgroup"; Password="dell1123"; IPAddress="2
4.5.2 Restore server profile image

- Restore server profile from an image on a CIFS share with a passphrase:

```
```

- Response:

```
Response: RestoreImage_OUTPUT

Job

EndpointReference
   Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
   ReferenceParameters
      DCIM_LifecycleJob
      SelectorSet
         Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
         ReturnValue = 4096
```

- RestoreImage_OUTPUT
Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
ReturnValue = 4096

4.5.3 Setting a backup schedule for server profile

- Set a backup schedule for server profile and place image on a CIFS share:
  ```bash
  ```

- Response:
  ```plaintext
  SetBackupSchedule_OUTPUT
  Job
  EndpointReference
  Address =  
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  ReferenceParameters
  DCIM_LifecycleJob
  SelectorSet
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  ReturnValue = 4096
  ```

4.6 Export or import license using IPv6

4.6.1 Importing license

- Import license from CIFS share:
  ```bash
  ```
Response:
ImportLicenseFromNetworkShare_OUTPUT
Job
  EndpointReference
    Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
      ymous
    ReferenceParameters
      ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
        schema/2/
      DCIM_LifecycleJob
      SelectorSet
        Selector: InstanceID = JID_149698122878, __cimnamespace
          = root/dcim
    ReturnValue = 4096

Exporting chassis license

Export license to CIFS share:
winrm i ExportLicenseToNetworkShare
  "http://schemas.dell.com/wbem/wscim/1/cim-
    schema/2/root/dcim/DCIM_LicenseManagementService?CreationClassName=DCIM_Lic
    enseManagementService+SystemName=DCIM:ComputerSystem+Name=DCIM:LicenseManag
    ementService+SystemCreationClassName=DCIM_ComputerSystem" -u:root -p:calvin
    -SkipCNcheck -SkipCAcheck
@{EntitlementID="DummyID";Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";LicenseName="exportedLic.xml"}

Response:
ExportLicenseToNetworkShare_OUTPUT
Job
  EndpointReference
    Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
      ymous
    ReferenceParameters
      ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
        schema/2/
      DCIM_LifecycleJob
      SelectorSet
4.6.3 Exporting license by device

- Export License by device to CIFS share:

- Response:
  ExportLicenseByDeviceToNetworkShare_OUTPUT
  Job
    EndpointReference
    Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
    ReferenceParameters
    SelectorSet
      Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
    ReturnValue = 4096

4.7 Import or export server configuration profile using IPv6

4.7.1 Exporting system configuration

- Export System Configuration XML to a CIFS share:
a:basic -SkipCNcheck -SkipCAcheck
@{Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";FileName="systemconfig.xml";IncludeInExport="3"})

- **Response:**
  ExportSystemConfiguration_OUTPUT
  
  Job
  
  EndpointReference
  Address =
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
  
  ymous
  ReferenceParameters
  ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
  
  schema/2/
  DCIM_LifecycleJob
  SelectorSet
  Selector: InstanceID = JID_149698122878, __cimnamespace
  = root/dcim
  ReturnValue = 4096

4.7.2 Importing system configuration preview

- **Import System Configuration Preview from XML on a CIFS share:**
  
  winrm i ImportSystemConfigurationPreview
  "http://schemas.dell.com/wbem/wscim/1/cim-
  schema/2/root/dcim/DCIM_LCService?CreationClassName=DCIM_LCService+SystemNa
  me=DCIM:ComputerSystem+Name=DCIM:LCService+SystemCreationClassName=DCIM_Com
  puterSystem" -u:root -p:calvin -
  r:https://[2620:14c:804:2614:fabc:12ff:fe47:1bb4]/wsman -encoding:utf-8 -
  a:basic -SkipCNcheck -SkipCAcheck
  @{Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";FileName="systemconfig.xml";IncludeInExport="3"})

- **Response:**
  ImportSystemConfigurationPreview_OUTPUT
  
  Job
  
  EndpointReference
  Address =
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
  
  ymous
  ReferenceParameters
  ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
  
  schema/2/
  DCIM_LifecycleJob
  SelectorSet
4.7.3 Importing system configuration

- Import system configuration from XML on CIFS share:
  
  ```
  winrm i ImportSystemConfiguration
  @{Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";FileName="systemconfig.xml";IncludeInExport="3"}
  ```

- Response:
  
  ```
  ImportSystemConfiguration_OUTPUT
  Job
  
  EndpointReference
  Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  ReferenceParameters
  SelectorSet
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  ReturnValue = 4096
  ```

4.8 Export security certificate using IPv6

- Export security certificate to CIFS share:
  
  ```
  @{Username="est_user";Workgroup="workgroup";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";Type="2"}
  ```
Response:
ExportCertificate_OUTPUT

Job
   EndpointReference
   Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
  ymous
   ReferenceParameters
      ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
schema/2/
   DCIM_LifecycleJob
      SelectorSet
         Selector: InstanceID = JID_149698122878, __cimnamespace
            = root/dcim
   ReturnValue = 4096

4.9 Export hardware inventory using IPv6

- Export hardware inventory to a CIFS share:
  winrm i ExportHWInventory "http://schemas.dell.com/wbem/wscim/1/cim-
schema/2/root/dcim/DCIM_LCService?CreationClassName=DCIM_LCService+SystemNa-
me=DCIM:ComputerSystem+Name=DCIM:LCService+SystemCreationClassName=DCIM_Com-
puterSystem" -u:root -p:calvin -
r:https://[2620:14c:804:2614:fabc:12ff:fe47:1bb4]/wsman -encoding:utf-8 -
a:basic -SkipCNcheck -SkipCAcheck
@[Username="est_user";Workgroup="workgroup";Password="dell1123";IPAddress="2
620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";XMLSch-
ema="1";FileName="hwinventory.xml"}

Response:
ExportHWInventory_OUTPUT

Job
   EndpointReference
   Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
  ymous
   ReferenceParameters
      ResourceURI = http://schemas.dell.com/wbem/wscim/1/cim-
schema/2/
   DCIM_LifecycleJob
      SelectorSet
         Selector: InstanceID = JID_149698122878, __cimnamespace
            = root/dcim
   ReturnValue = 4096
4.10 OS deployment operations using IPv6

4.10.1 Unpacking OS drivers

- Unpacking OS drivers to a CIFS share:
  

- **Response:**
  
  UnpackAndShare_OUTPUT
  
  Job
  
  EndpointReference
  
  Address =
  
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  
  ReferenceParameters
  
  
  SelectorSet
  
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  
  ReturnValue = 4096

4.10.2 Connecting to network ISO image

- Connect to CIFS ISO image:
  

- **Response:**
  
  ConnectNetworkISOImage_OUTPUT
  
  Job
  
  EndpointReference
4.10.3 Connecting to Remote File Share (RFS) ISO image

- **Connect to CIFS RFS ISO image:**

  ```
  ```

- **Response:**

  ```
  ConnectRFSISOImage_OUTPUT
  Job
  EndpointReference
  Address =
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  ReferenceParameters
  DCIM_LifecycleJob
  SelectorSet
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  ReturnValue = 4096
  ```

4.10.4 Booting To network ISO image

- **Boot to ISO image from CIFS share:**

  ```
Response:
BootToNetworkISO_OUTPUT
  Job
    EndpointReference
    Address =
    http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anon
    ymous
    ReferenceParameters
    DCIM_LifecycleJob
    SelectorSet
    Selector: InstanceID = JID_149698122878, __cimnamespace
c      = root/dcim
    ReturnValue = 4096

4.10.5 Configurable boot to network ISO image

  • Configurable boot to ISO image from CIFS:
    winrm i ConfigurableBootToNetworkISO
    @{Username="est_user";Password="dell123";IPAddress="2620:14c:804:23a0:a410:8014:8dab:5e4c";ShareName="CIFS";ShareType="2";ImageName="IMAGE.ISO";ResetType="1"}

  • Response:
    ConfigurableBootToNetworkISO_OUTPUT
    Job
    EndpointReference
    Address =
    http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymou
    s
    ReferenceParameters
    DCIM_LifecycleJob
    SelectorSet
Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
ReturnValue = 4096

4.10.6 Downloading ISO image To vFlash

- Download ISO image to vFlash from CIFS share:

- Response:
  DownloadISOToVFlash_OUTPUT
  Job
    EndpointReference
      Address = http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
    ReferenceParameters
    SelectorSet
      Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  ReturnValue = 4096

4.11 Persistent storage operations using IPv6

4.11.1 Creating a vFlash partition using image

- Create vFlash partition from an image on CIFS share:
8014:8dab:5e4c”;ShareName="CIFS”;ShareType=”2”;ImageName="IMAGE.ISO”;PartitionIndex=”1”;PartitionType=”3”;OSVolumeLabel="LABEL"}

- **Response:**
  CreatePartitionUsingImage _OUTPUT_
  
  Job
  
  EndpointReference
  
  Address =
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  
  ReferenceParameters
  
  DCIM_LifecycleJob
  
  SelectorSet
  
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  
  ReturnValue = 4096

4.11.2 Exporting vFlash partition

- **Export vFlash partition to a CIFS share:**

  ```
  ```

- **Response:**
  ConnectNetworkISOImage _OUTPUT_
  
  Job
  
  EndpointReference
  
  Address =
  http://schemas.xmlsoap.org/ws/2004/08/addressing/role/anonymous
  
  ReferenceParameters
  
  DCIM_LifecycleJob
  
  SelectorSet
  
  Selector: InstanceID = JID_149698122878, __cimnamespace = root/dcim
  
  ReturnValue = 4096
Export RAID log to a CIFS share:

```
```
5 Conclusion
For more information on Dell enterprise-class servers, see Dell.com/PowerEdge.
For more information about each iDRAC interface for Dell 12th generation PowerEdge servers and later, see the Tech Center File Gallery.

iDRAC 8 User Guide

iDRAC 8 Reference Links

Reference Profiles

Reference MOFs

Web Services Interface Guide for Windows
http://en.community.dell.com/techcenter/extras/m/white_papers/20066174.aspx

WS-MAN command line for Windows (Winrm)

WS-MAN command line open source for Linux (Openwsman)
http://sourceforge.net/projects/openwsman/

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