How to Integrate Dell iDRAC

Into a Microsoft System Center 2012 Configuration Manager Environment

Dell

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Overview

The Integrated Dell Remote Access Controller (iDRAC, formerly known as DRAC) is designed to make server administrators more productive and improve the overall ability of managing Dell servers. One key feature of the iDRAC is the virtual console, which allows the admin to remotely connect to the server via HTTP and operate it just like being physically in front of the server. The Admin can reboot the server, enter the BIOS, mount a CD/DVD .iso, launch the Dell Lifecycle Controller utility, and more. Review the [official documentation](#) for the iDRAC to learn about all features.

This document describes the steps required to leverage Microsoft System Center 2012 Configuration Manager (ConfigMgr) to capture the DRAC IP address information from hardware inventory, as well as how to extend the ConfigMgr admin console to be able to launch the iDRAC for a specific server, based on computer name. If your Dell PowerEdge servers include the Dell Lifecycle Controller, carefully review the [Dell Lifecycle Controller Integration for System Center Configuration Manager](#) to determine if that integration pack fits your needs.

Prerequisites

In order to properly capture DRAC information, the following configuration is required:

- **Dell PowerEdge Server** - The target server must be a Dell PowerEdge Server licensed to use the virtual console, running a supported version of Microsoft Windows Server.
- **Dell OpenManage Server Administrator (OMSA)** must be installed on each server - the OMSA client must be installed on the server, as it is used to populate the OMSA information into WMI.
- **System Center 2012 Configuration Manager (ConfigMgr)**, although similar methods to capture the iDRAC IP address can be used by other enterprise systems management tools.

Configuring Hardware Inventory to Capture the iDRAC IP Address

ConfigMgr uses [hardware inventory](#) to capture information from the Windows registry as well as from Windows Management Instrumentation (WMI). OMSA populates the iDRAC IP information into WMI. This example modifies the hardware inventory configuration for the Default Client Settings. Review additional steps for extending hardware inventory on [Microsoft TechNet](#).

To enable hardware inventory to capture Dell iDRAC IP information:

1. From the Primary or Central site, launch the ConfigMgr console, and navigate to Administration->Client Settings.
2. Select Default Client Settings and choose Properties from the ribbon.
3. In the Default Settings dialog, select Hardware Inventory, and then choose the Set Classes button.
4. Choose Add from the Hardware Inventory Classes dialog.
5. From the Add Hardware Inventory Class dialog, choose the Connect button, and enter the computer name of a server that has Dell OMSA installed, and enter root\cimv2\dell for the namespace. Enable the Recursive checkbox and click OK.
6. Type RemoteAccess into the search bar as shown in Figure 1, enable the checkbox for the Dell_RemoteAccessServicePort, and then click OK. Click OK again to save changes to the Hardware Inventory Classes configuration and finally click OK again on the Default Settings Dialog to save all changes from the previous child dialogs.
You have successfully enabled hardware inventory on the Dell_RemoteAccessServicePort class to capture the iDRAC IP. Servers with OMSA installed will begin sending information for this new hardware information back via hardware inventory on the defined inventory interval (by default, 7 days). You can expedite this process from the ConfigMgr control panel applet by refreshing Machine Policy action, followed by initiating a hardware inventory. This process will run for approximately five minutes.

Once hardware inventory runs successfully, you can search the InventoryAgent.log on client systems to confirm the client queried and submitted inventory for the desired class and namespace.

*Note - to manually test, run the following PowerShell command: get-wmiobject -namespace root\cimv2\dell -query "select AccessInfoIPV4 from Dell_RemoteAccessServicePort"
You can use ConfigMgr Resource Explorer to view the information, as shown in Figure 2.

**Figure 2: Resource Explorer show the iDRAC IP and URL (from Dell_RemoteAccessServicePort class)**

Continue to the next section to extend the ConfigMgr admin console to allow you to right-click a device resource to launch the iDRAC console.

**Extending the ConfigMgr Console to launch iDRAC**

Now that you have the data in ConfigMgr, follow these steps to launch the iDRAC for a device in the ConfigMgr admin console.

1. Close any existing instances of the ConfigMgr Console.
2. Create a file named `C:\PowerShell\CM12RCClickTools\DellLaunchiDRAC.PS1`, and then paste and save the following PowerShell code in Figure 3.
3. Create a file named "C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\XmlStorage\Extensions\Actions\3fd01cd1-9e01-461e-92cd-94866b8d1f39\Dell.xml" (you may need to create the Actions and GUID folder) and then paste and save the xml in Figure 4. (Depending on your admin console installation, the path may need to be modified).
4. Copy that same Dell.xml to `C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\XmlStorage\Extensions\Actions\ed9dee86-eadd-4ac8-82a1-7234a4646e62\` (you may need to create the Actions and GUID folder).
5. Launch the ConfigMgr console.
6. Navigate to a device, right-click and choose the option to launch the iDRAC under the new custom menu, as shown in Figure 5.
Figure 3: PowerShell Code for DellLaunchiDRAC.ps1

```powershell
$ComputerName = $args[0]
$SiteServer = $args[1]
$SiteNamespace = $args[2]
"Querying [1] DRAC URI" -f $SiteServer, $ComputerName
$DRACInfo = Get-WmiObject -ComputerName $SiteServer -Namespace $SiteNamespace -query "select * from \SMS_G\System\DELL\RemoteAccessServicePort\AccessInfoIPv4 from \SMS_R\System inner join \SMS_G\System\DELL\RemoteAccessServicePort on \SMS_G\System\DELL\RemoteAccessServicePort.ResourceId = \SMS_R\System.ResourceId where \SMS_R\System.Name = '$ComputerName' if ($DRACInfo.Address -ne Null) -and ($DRACInfo.AccessInfoIPv4.ToString().length -ge 5) {"
   "Address is [0]" -f $DRACInfo.AccessInfoIPv4
   Start-Sleep 5
}
else {
   Write-Host "DRAC IP not found. Ensure the following:" -ForegroundColor Red
   Write-Host "Healthy Client" -ForegroundColor Red
   Write-Host "Running on PowerEdge Server" -ForegroundColor Red
   Write-Host "OMSA is installed on server" -ForegroundColor Red
   Write-Host "ConfigMgr Inventorying Remote Access Service Port" -ForegroundColor Red
   Start-Sleep 60
}
```
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Figure 4: XML File for Dell.XML

```xml
<ActionDescription Class="Group" DisplayName="Dell" MnemonicDisplayName="Dell" Description="Dell Actions">
    <ShowOn>
        <string>DefaultHomeTab</string>
        <string>ContextMenu</string>
    </ShowOn>
    <ActionGroups>
        <ActionDescription Class="Executable" DisplayName="Launch iDRAC" MnemonicDisplayName="Launch iDRAC" Description="Launch iDRAC in Web Browser" RibbonDisplayType="TextAndSmallImage">
            <ShowOn>
                <string>ContextMenu</string>
                <string>DefaultHomeTab</string>
            </ShowOn>
            <Executable>
                <FilePath>PowerShell.exe</FilePath>
                <Parameters>-ExecutionPolicy RemoteSigned -File C:\PowerShell\CM12RClickTools\DellLaunchiDRAC.ps1 "$SUB:Name$" "$SUB:Server$" "$SUB:Namespace$"</Parameters>
            </Executable>
        </ActionDescription>
    </ActionGroups>
</ActionDescription>
```

Figure 5: The Right-Click Extension as shown from the ConfigMgr Admin Console

<table>
<thead>
<tr>
<th>Edit Primary Users</th>
<th>F5</th>
<th>Refresh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete</td>
<td></td>
<td>Delete</td>
</tr>
</tbody>
</table>

Properties

- Dell
- Client Actions
- Client Tools
- Console Tools

Launch iDRAC

Conclusion

This document demonstrates how to capture the iDRAC IP address into ConfigMgr hardware inventory, as well as provides detailed information for how to launch the iDRAC by simply selecting a device, right-clicking the resource and selecting the context menu option to launch iDRAC. Implement this process in your environment to allow server techs to quickly connect to the Dell PowerEdge iDRAC. Keep up-to-date on Dell and integration with System Center Configuration Manager at DellTechCenter (http://www.delltechcenter.com/configmgr).
Appendix A - Additional Dell Extensions for the ConfigMgr Admin Console

The primary purpose of this document is to demonstrate how to capture iDRAC information and automatically launch to the iDRAC Web console with a simple right-click of the device. The following Dell extensions add additional value to the right-click extensions of the ConfigMgr Admin console:

- **Show System and Warranty Information** - Launches a Dell Web page based on the computer service tag and displays system details as well as factory warranty information.
- **Dell and System Center** - Launches the Dell and System Center home page.
- **Dell TechCenter** - Launches the home page for Dell and ConfigMgr on Dell TechCenter.

Perform the following steps to add the additional Dell Extensions:

1. Close any existing instances of the ConfigMgr Console.
2. Create a file named `C:\PowerShell\CM12RClickTools\DellLaunchSystemInfo.PS1`, and then paste and save the following PowerShell code in Figure 6.
3. Create a file named `"C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\XmlStorage\Extensions\Actions\3fd01cd1-9e01-461e-92cd-94866b8d1f39\Dell.xml"`, (you may need to create the Actions and GUID folder or replace the file created previously) and then paste and save the xml in Figure 7.
4. Copy that same Dell.xml to `C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\XmlStorage\Extensions\Actions\ed9dee86-eadd-4ac8-82a1-7234a4646e62\` (you may need to create the Actions and GUID folder).
5. Launch the ConfigMgr console.
6. Navigate to a device, right-click and view the additional actions from the Dell menu.
$ComputerName = $args[0]
$SiteServer = $args[1]
$SiteNamespace = $args[2]

"Querying {0} for {1} Service Tag" -f $SiteServer, $ComputerName
$SysInfo = get-wmiobject -ComputerName $SiteServer -Namespace $SiteNamespace -query "select
SMS_G_System_PC_BIOS.SerialNumber from SMS_R_System inner join SMS_G_System_COMPUTER_SYSTEM on
SMS_G_System_COMPUTER_SYSTEM.ResourceID = SMS_R_System.ResourceID inner join
SMS_G_System_SYSTEM_ENCLOSURE on SMS_G_System_SYSTEM_ENCLOSURE.ResourceID = SMS_R_System.ResourceID
inner join SMS_G_System_PC_BIOS on SMS_G_System_PC_BIOS.ResourceId = SMS_R_System.ResourceId
inner join SMS_G_System_SYSTEM on SMS_G_System_SYSTEM_Name = '$ComputerName' and SMS_G_System_SYSTEM_ENCLOSURE.Manufacturer
like 'Dell%'
"Service Tag is {0}" -f $SysInfo.SerialNumber.ToString()
start $strURL
Start-Sleep 5
}
else {
write-host "Dell Service Tag not found. Ensure the following:" -foregroundcolor red
write-host "Healthy Client" -foregroundcolor red
write-host "Running on PowerEdge Server" -foregroundcolor red
write-host "OMSA is installed on server" -foregroundcolor red
write-host "ConfigMgr inventorying Remote Access Service Port" -foregroundcolor red start-sleep 60
}
Figure 7: Updated Dell.xml File

```xml
<ActionDescription Class="Group" DisplayName="Dell" MnemonicDisplayName="Dell" Description="Dell Actions">
  <ShowOn>
    <string>DefaultHomeTab</string> <string>ContextMenu</string>
  </ShowOn>
  <ActionGroups>
    <ActionDescription Class="Executable" DisplayName="Launch iDRAC" MnemonicDisplayName="Launch iDRAC" Description = "Launch iDRAC in Web Browser" RibbonDisplayType="TextAndSmallImage">
      <ShowOn>
        <string>ContextMenu</string> <string>DefaultHomeTab</string>
      </ShowOn>
      <Executable>
        <FilePath>PowerShell.exe</FilePath>
        <Parameters>-ExecutionPolicy RemoteSigned -File C:\PowerShell\CM12RClickTools\DellLaunchiDRAC.ps1 "##SUB:Name##" "##SUB:__Server##" "##SUB:__Namespace##"</Parameters>
      </Executable>
    </ActionDescription>
    <ActionDescription Class="Executable" DisplayName="Show System and Warranty Information" MnemonicDisplayName="Show System and Warranty Information" Description = "Show System and Warranty Information in Web Browser" RibbonDisplayType="TextAndSmallImage">
      <ShowOn>
        <string>ContextMenu</string> <string>DefaultHomeTab</string>
      </ShowOn>
      <Executable>
        <FilePath>PowerShell.exe</FilePath>
        <Parameters>-ExecutionPolicy RemoteSigned -File C:\PowerShell\CM12RClickTools\DellLaunchSystemInfo.ps1 "##SUB:Name##" "##SUB:__Server##" "##SUB:__Namespace##"</Parameters>
      </Executable>
    </ActionDescription>
    <ActionDescription Class="Executable" DisplayName="Dell and System Center" MnemonicDisplayName="Dell and System Center" Description = "Launch Dell-System Center Integration Home Page" RibbonDisplayType="TextAndSmallImage">
      <ShowOn>
        <string>ContextMenu</string> <string>DefaultHomeTab</string>
      </ShowOn>
      <Executable>
        <FilePath>http://www.dell.com/systemcenter</FilePath>
        <Parameters></Parameters>
      </Executable>
    </ActionDescription>
    <ActionDescription Class="Executable" DisplayName="Dell TechCenter" MnemonicDisplayName="Dell TechCenter" Description = "Launch Dell TechCenter to ConfigMgr Home Page" RibbonDisplayType="TextAndSmallImage">
      <ShowOn>
        <string>ContextMenu</string> <string>DefaultHomeTab</string>
      </ShowOn>
      <Executable>
        <FilePath>http://www.dell.com/ConfigMgr</FilePath>
        <Parameters></Parameters>
      </Executable>
    </ActionDescription>
  </ActionGroups>
</ActionDescription>
```