IDRAC HARD RESET USING IDRAC SERVICE MODULE PACKAGE

ABSTRACT
This whitepaper provides information about how to execute iDRAC Hard Reset utility provided by iDRAC Service Module (ISM) package without running iSM service.

May, 2017
# TABLE OF CONTENTS

EXECUTIVE SUMMARY .................................................................................................................. 3  
INTRODUCTION ............................................................................................................................. 3  
SYMPTOMS OF FROZEN IDRAC .................................................................................................. 3  
HOW TO USE IDRAC HARD RESET UTILITY ............................................................................. 3  
RUNNING IDRAC HARD RESET UTILITY WITHOUT INSTALLING THE ISM PACKAGE .......... 3  
  Where to get iSM package for Linux ......................................................................................... 4  
  Supported Linux Operating Systems by iSM 2.5 ......................................................................... 4  
  Prerequisites .............................................................................................................................. 4  
  Steps to extract iSM package and to run iDRAC hard reset utility ........................................... 4  
RUNNING IDRAC HARD RESET UTILITY BY INSTALLING THE ISM PACKAGE BUT WITHOUT RUNNING THE ISM SERVICE ................................................................. 5  
HOW LONG TO WAIT BEFORE IDRAC COMES BACK FROM HUNG STATE ....................... 6  
CONCLUSION ................................................................................................................................... 6
EXECUTIVE SUMMARY

The iDRAC Hard Reset is a method where the administrator is able to hard reset the iDRAC CPU without rebooting the host. This typically shall be used when all the iDRAC interfaces are frozen and user has no option of reaching iDRAC.

iDRAC Service Module, which is a lightweight systems management application that runs in the operating system, provides several services including iDRAC Hard Reset. iDRAC Service Module offers the flexibility to use this service without installing the iSM or without running the iSM service.

INTRODUCTION

iDRAC Service Module (iSM) is a lightweight software application that can be installed on PowerEdge servers (12g or later) and it complements iDRAC interfaces – Graphical User Interface (GUI), RACADM CLI and Web Service Management (WSMAN) with additional monitoring data. iSM v2.3 or later allows the administrator to reset the iDRAC remotely when iDRAC is unresponsive along with some other services (iSM Wiki).

This whitepaper describes the symptoms of a frozen iDRAC and how to recover from it using iSM’s iDRAC Hard Reset utility in two ways:

1. Without installing the iSM package  (Supported on Linux only)
2. Installing the iSM package but without running the iSM service  (Supported on both Windows and Linux)

Symptoms of frozen iDRAC

Below are the visible symptoms of frozen iDRAC:

- When try to run local racadm command, it throws the following error:
  “ERROR: Unable to perform requested operation”
- No ssh/telnet access to the iDRAC. (The attempted connection times out.)
- No iDRAC browser access
- Pinging of iDRAC IP fails

Before the introduction of this feature, the user had to perform the iDRAC CPU hard reset operation by physically visiting the server and pressing the f button on the server for 15 seconds or performing A/C power cycle. Now this can be avoided by using the iDRAC Service Module, version 2.3.0 or later, which has the feature to reset iDRAC remotely.

How to use iDRAC Hard Reset Utility

The next two sections demonstrate how iDRAC Hard Reset can be done without having iSM service running within the OS.

First, the feature is demonstrated without installing the iSM package by simply extracting the iSM package and executing the iDRAC Hard Reset binary from the OS.

Second, the feature is demonstrated by installing the iSM service within the OS, but not running the service, then performing the operation using the iDRAC Hard Reset utility.

Running iDRAC Hard Reset utility without installing the iSM package

This method is supported only on Linux operating systems. In this method the iSM package is extracted and the iDRAC Hard Reset utility is executed from the command line. Since the iSM package is not installed, the iSM service will not be running on the operating system in this method.
Where to get iSM package for Linux

Latest iSM 2.5 package (for Linux) can be downloaded from here:


File Name: OM-iSM-Dell-Web-LX-250-566_A00.tar.gz

One can go to the “Other versions” link on the above page and check if newer version of iSM is available and download it.

Supported Linux Operating Systems by iSM 2.5

- Red Hat Enterprise Linux 6.8
- Red Hat Enterprise Linux 7.3
- SUSE Linux Enterprise Server 11 SP4
- SUSE Linux Enterprise Server 12 SP1
- SUSE Linux Enterprise Server 12 SP2
- CentOS 6.5*
- CentOS 6.7*
- CentOS 7*
- CentOS 7.1*
- CentOS 7.3*

Prerequisites

- iSM supported Linux operating system should be installed on the server
- Only administrator/root user is allowed to perform this operation
- Linux package “rpm2cpio” should be installed. This package is installed by default on most of the Linux flavors.
- The iDRAC hard reset feature might be disabled in iDRAC, although it is enabled by default. It must be enabled to perform this operation. Below is the RACADM command to enable iDRAC hard reset:

  racadm set idrac.servicemodule.iDRACHardReset Enabled

Steps to extract iSM package and to run iDRAC hard reset utility

Below are the steps with example Linux commands to extract the iSM package and to perform iDRAC hard reset:

1. Create a temporary working folder inside root folder
   
   $ cd /
   $ mkdir ism_temp

2. Copy the iSM package to this folder and untar it
   
   $ tar -xf /ism_temp/OM-iSM-Dell-Web-LX-240-358_A00.tar.gz -C /ism_temp/

3. Extract the rpm by running below command based upon the running operating system:
   
   Note: Below rpm2cpio command shall be executed in “/” folder.
For Red Hat Enterprise Linux 6.8, CentOS 6.5*, CentOS 6.7*
$ rpm2cpio /ism_temp/RHEL6/x86_64/dcism-2.4.0-358.el6.x86_64.rpm | cpio -div

For Red Hat Enterprise Linux 7.3, CentOS 7*, CentOS 7.1*, CentOS 7.3*
$ rpm2cpio /ism_temp/RHEL7/x86_64/dcism-2.4.0-358.el6.x86_64.rpm | cpio -div

For SUSE Linux Enterprise Server 11
$ rpm2cpio /ism_temp/SLES11/x86_64/dcism-2.4.0-358.el6.x86_64.rpm | cpio -div

For SUSE Linux Enterprise Server 12
$ rpm2cpio /ism_temp/SLES12/x86_64/dcism-2.4.0-358.el6.x86_64.rpm | cpio -div

4. Run the following command to trigger iDRAC Hard Reset and confirm by pressing Y
$ LD_LIBRARY_PATH=/opt/dell/srvadmin/iSM/lib64 /opt/dell/srvadmin/iSM/bin/Invoke-iDRACHardReset
This will reset the iDRAC. Do you want to proceed with this operation? [(Y/N), Default=N]: Y

5. Once confirmed, below message can be seen and iDRAC Hard Reset will be performed.

SUCCESS: The iDRAC Hard Reset operation is performed by system OS user "root" from the operating system (OS) on date "Fri Mar 31 11:50:26 2017 IST".  
Warning: After performing an iDRAC Hard Reset operation on certain Linux operating systems, the IPMI driver (ipmi_si) may become unresponsive because of an existing issue in the IPMI driver. If the IPMI driver becomes unresponsive, reload the IPMI driver (ipmi_si). The details are available in the iDRAC Service Module Release Notes.

Release notes can be found here under "Documentation" section:

6. Delete below to remove any footprints of iSM. This step is optional.
$ cd /
$ rm -rf ism_temp
$ rm -f /etc/udev/rules.d/95-iSM-usbnic.rules
$ rm -f /etc/init.d/dcismeng
$ rm -rf /opt/dell/srvadmin/iSM

Running iDRAC Hard Reset utility by Installing the iSM package but without running the iSM service

This method is supported on both Windows and Linux operating systems on which iSM package is installed. This method is useful if one is interested in using the iDRAC hard reset feature, without having iSM service running all the time.

To stop iSM service from running, below racadm command can be used:

racadm set idrac.servicemodule.ServiceModuleEnable disabled

Whitepaper available here explains how to execute iDRAC hard reset utility from different Windows/linux interfaces once the iSM package is installed.

iSM Installation guide can be found here under "Documentation" section:


iSM service can be enabled at any point of time and other features of iSM can be used if needed. Below racadm command would enable the iSM service:

racadm set idrac.servicemodule.ServiceModuleEnable enabled
How long to wait before iDRAC comes back from hung state

After running iDRAC Hard Reset utility, it takes between 90 seconds to 150 seconds (depending upon the server configuration) before iDRAC comes back up. Once iDRAC is out from non-responsive state, the user should be able to access iDRAC via its different interfaces.

CONCLUSION

This whitepaper explains how iSM’s iDRAC Hard Reset utility can be used to bring the iDRAC back from unresponsive state without having iSM service running on the OS.