Dell OpenManage Connection Version 2.1 for IBM Tivoli Netcool/OMNIbus
User's Guide

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

Overview

Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus provides event monitoring and console launch capabilities for:

- Dell PowerEdge and PowerVault systems from 9th generation (9G) to 12th generation (12G). All the existing generation systems support an agent-based, in-band mode using Dell OpenManage Server Administrator (OMSA). The 12G systems also support an agent-free, out-of-band mode, using Integrated Dell Remote Access Controller 7 (iDRAC7).
- Integrated Dell Remote Access Controller7 (iDRAC7), Integrated Dell Remote Access Controller 6 (iDRAC6), and Dell Remote Access Controller 5 (DRAC5) for Dell PowerEdge and PowerVault systems from 9G to 12G.
- Dell Chassis: Dell PowerEdge M1000e (Dell Chassis Management Controller), Dell PowerEdge VRTX (VRTX Chassis Management Controller), and Dell PowerEdge 1955 (Dell Remote Access Controller/Modular Chassis).
- Dell Storage Devices — Dell PowerVault Modular Disk Storage Arrays and Dell EqualLogic Storage Arrays.
- Dell one to one Console Launches —

    – Dell OpenManage Server Administrator (OMSA) Console

    – Dell OpenManage Server Administrator (OMSA) Web Server Console

    – Dell Remote Access Controller (DRAC) Console

    – Integrated Dell Remote Access Controller (iDRAC) Console

    – Dell Chassis Management Controller (CMC) Console

    – Dell VRTX Chassis Management Controller (VRTX CMC) Console

    – Dell EqualLogic Group Manager Console
- Dell OpenManage Essentials (OME) Console
- Dell 12G Server Trap Configuration Information Console

NOTE: This guide is intended for system administrators who are familiar with IBM Tivoli Netcool/OMNIbus 7.3.1 or IBM Tivoli Netcool/OMNIbus 7.4.

NOTE: Dell Out-of-Band (OOB) 12G servers and Integrated Dell Remote Access Controller 7 (iDRAC7) are used interchangeably in the document.

NOTE: This document contains information on the prerequisites and supported software necessary for installing *Dell OpenManage Connection Version 2.1 For IBM Tivoli Netcool/OMNIbus.* Before installing this version of *Dell OpenManage Connection Version 2.1 For IBM Tivoli Netcool/OMNIbus*, download the latest document from **dell.com/support/manuals**. For more information on accessing documents, see Accessing Documents From The Dell Support Site - Software.

What is New in This Release

- Monitor alerts from Dell PowerVault MD Storage Arrays and Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC).

- Simplified installation of Dell OpenManage connection for IBM Tivoli Netcool/OMNIbus.
- Automatic alert correlation for iDRAC7 alerts.
- Support for enhanced event message format for the Dell OpenManage Server Administrator (OMSA) and Dell OpenManage Storage Management (OMSS) (OpenManage release 7.1 to 7.3) alert groups from Dell PowerEdge and Dell PowerVault servers.
- Support for Dell PowerVault Modular Disk Storage Manager (MDSM) console launch.
- Support for Dell Connections License Manager (DCLM) console launch.
- Support for Dell knowledge base console launch for 12G server trap configuration information.
- Support for Dell polled events only if Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 is also integrated.
- Support for IBM Tivoli Netcool/OMNIbus Version 7.4

Key Features

The following table lists the key features of Dell OpenManage Connection.

Table 1. Features and Functionalities

Feature	Functionality
Event monitoring	Monitors the events from Dell servers, OOB 12G servers, DRAC5, iDRAC6, DRAC/MC, CMC, VRTX CMC, Dell EqualLogic Storage Arrays, and Dell PowerVault MD Storage Arrays on the Netcool/OMNIbus console. For more information, see Event Monitoring Using SNMP Traps.
Event auto correlation	Correlates events for servers, Dell EqualLogic Storage Arrays, and iDRAC7 systems automatically. For more information, see Event Auto Correlation.
Launching Dell OpenManage Server Administrator (OMSA) console	Launches the OMSA console for the Dell server events you are monitoring. For more information, see Dell OpenManage Server Administrator Console.
Launching Dell OMSA web server console	Launches the OMSA web server console for the Dell server events you are monitoring. For more information, see Dell OpenManage Server Administrator Web Server Console.
Launching DRAC console	Launches the DRAC console for the DRAC5, iDRAC6, and DRAC/MC events you are monitoring. For more information, see Dell Remote Access Controller Console.
Launching Dell iDRAC console	Launches the iDRAC console for the iDRAC7 events you are monitoring. For more information, see Integrated Dell Remote Access Controller Console.
Launching Dell CMC console	Launches the CMC console for the CMC events you are monitoring. For more information, see Dell Chassis Management Controller Console.
Launching Dell PowerEdge VRTX CMC console	Launches the VRTX CMC console for the VRTX CMC events you are monitoring. For more information, see Dell

Feature	Functionality
	PowerEdge VRTX Chassis Management Controller Console.
Launching Dell EqualLogic Group Manager console	Launches the EqualLogic Group Manager console for the Dell EqualLogic Storage Array events you are monitoring. For more information, see Dell EqualLogic Group Manager Console.
Launching Dell Modular Disk Storage Manager Console	Launches the Modular Disk Storage Manager Console for Dell PowerVault MD Storage Array events. For more information, see Dell Modular Disk Storage Manager Console.
Launching Dell Connections License Manager Console	Launches the DCLM console for DCLM polled events. For more information, see Dell Connection License Manager Console.
Launching Dell OpenManage Essentials console	Launches the OpenManage Essentials console for all supported Dell device events. For more information, see Dell OpenManage Essentials Console.
Launching Dell 12G Server Trap Configuration Information	For more information, see Dell 12G Server Trap Configuration Information Console.

Support Matrix For Netcool/OMNIbus

The following table lists the operating systems that support Netcool/OMNIbus components:

Table 2. Supporting Operating Systems for Netcool/OMNIbus Components

Virtualization Environment	Windows Server	SUSE Linux Enterprise Server	Red Hat Enterprise Linux Server	Windows Client	SUSE Linux Enterprise Desktop
ESXi 5.0	Windows Server 2008 (32–bit) SP2 Standard and Enterprise	SLES 11.0-2 (64–bit)	Red Hat Enterprise Linux Server 6.0-4 (64–bit) Server and Client	Windows Vista SP2 64–bit Ultimate	SUSE Linux Enterprise Desktop 11.0-1 (64–bit)
ESXi 4.0	Windows Server 2008 R2 (64–bit) SP1 (Enterprise, Data Center, Standard)	SLES 11.0-2 (32–bit)	Red Hat Enterprise Linux Server 6.0-4 (32–bit) Server and Client	Windows Vista SP2 32–bit Ultimate	
ESXi 3.5	Windows Server 2008 Standard and Enterprise (64–bit)	SLES 10.0-4 (64–bit)	Red Hat Enterprise Linux Server 5.0-9 (64–bit) AP	Windows Vista SP1 64–bit Ultimate	
	Windows Server 2008 R2 (64–bit) Standard, Enterprise, and Data Center	SLES 10.0-4 (32–bit)	Red Hat Enterprise Linux Server 5.0-9 (32–bit) AP	Windows Vista SP2 32–bit Ultimate	

Virtualization Environment	Windows Server	SUSE Linux Enterprise Server	Red Hat Enterprise Linux Server	Windows Client	SUSE Linux Enterprise Desktop
	Windows Server 2008 32–bit (Standard, Enterprise)			Windows 7 SP1 Enterprise (64–bit)	
				Windows 7 SP1 Enterprise (32–bit)	
				Windows Vista SP2 Enterprise (64–bit)	
				Windows Vista SP2 Enterprise (32–bit)	
				Windows Vista SP1 Enterprise (64–bit)	
				Windows Vista SP1 Enterprise (32–bit)	

NOTE: Dell OpenManage Connection Version 2.1 For IBM Tivoli Netcool/OMNIbus is supported on all Guest operating systems (Windows, Red Hat Enterprise Linux, and SUSE Linux Enterprise Server) for VMware ESXi listed in the preceding table.

Dell Devices Support Matrix

The following table lists the supported Dell devices, OMSA versions, firmware versions for CMC and VRTX CMC systems, Dell EqualLogic Storage Arrays, and Dell PowerVault Storage Arrays along with the operating systems on the monitored devices.

Table 3. Dell Devices Support Matrix

Supported Dell Devices	Supported OMSA Versions	Supported Firmware Versions	Supported Operating Systems
Dell PowerEdge and Dell PowerVault 9th Generation (9G) to 12th Generation (12G) systems (Windows)	6.5 – 7.3	NA	- Windows Unified Data Storage Server 2003 (64-bit) - Windows Server 2003 (Compute Cluster Edition) - Windows Server 2003 R2 (32-bit and 64-bit) - Windows Small Business Server 2003 R2 SP2

Supported Dell Devices	Supported OMSA Versions	Supported Firmware Versions	Supported Operating Systems
			• Windows Essential Business Server 2008 SP1
			• Windows Server 2008 SP1 (32-bit and 64-bit)
			• Windows Server 2008 SP2 (32-bit and 64-bit)
			• Windows Server 2008 R2 (64-bit)
			• Windows Server 2008 R2 SP1 (64-bit)
			• Windows Server 2008 R1 and R2 (HPC Edition)
			• Windows Storage Server 2008 SP2
			• Windows Small Business Server 2008 SP2
			• Windows Small Business Server 2008 R2
			• Windows Small Business Server 2011
			• Windows Server 2012
Dell PowerEdge 9th Generation (9G) to 12th Generation (12G) systems (Linux)	6.5 – 7.3	NA	• SUSE Linux Enterprise Server 10 SP4 (64-bit)
			• SUSE Linux Enterprise Server 11 SP2 (64-bit)
			• Red Hat Enterprise Linux 5.0 (64-bit and 32-bit)
			• Red Hat Enterprise Linux 5.3 (64-bit and 32-bit)
			• Red Hat Enterprise Linux 5.5 (64-bit and 32-bit)
			• Red Hat Enterprise Linux 5.8 (64-bit and 32-bit)
			• Red Hat Enterprise Linux 5.9 (64-bit and 32-bit)
			• Red Hat Enterprise Linux 6.0 (64-bit)
			• Red Hat Enterprise Linux 6.2 (64-bit)

Supported Dell Devices	Supported OMSA Versions	Supported Firmware Versions	Supported Operating Systems
			• Red Hat Enterprise Linux 6.3 (64-bit) • Red Hat Enterprise Linux 6.4 (64-bit)
Dell PowerEdge 9th Generation (9G) to 12th Generation (12G) systems (ESXi)	6.5 – 7.3	NA	• ESXi 4.0 U1 (HDD and Flash) • ESXi 4.0 U2 (HDD and Flash) • ESXi 4.0 U3 (HDD and Flash) • ESXi 4.1 U1 (HDD and Flash) • ESXi 5.0 • ESXi 5.1
DRAC5	NA	• Firmware versions 1.5–1.65	• NA
iDRAC6 Monolithic	NA	• Firmware versions 1.90–1.95	• NA
iDRAC6 Modular	NA	• Firmware versions 3.40–3.50	• NA
Dell OOB Servers (iDRAC7)	NA	• Firmware versions 1.31.30–1.40.40	• NA
DRAC/MC	NA	• Firmware versions 1.5–1.6	• NA
Dell CMC	NA	• Firmware versions 4.3.1–4.45	• NA
Dell VRTX CMC	NA	• Firmware version 1.0	• NA
Dell EqualLogic Storage Arrays	NA	• Firmware versions 5.2–6.0	• NA
Dell PowerVault MD Storage Arrays	NA	• Firmware version 07.80.62.60 • Firmware version 07.84.44.60 • Firmware version 07.84.47.60	• NA

NOTE: Dell EqualLogic Storage Arrays refers to Dell EqualLogic PS Series.

Using the Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus

Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus allows event monitoring, automatic event correlation, and launching device consoles on the Netcool/OMNIbus console. These features are supported on different components of Netcool/OMNIbus such as Probe, ObjectServer, Web GUI, and Desktop appropriately.

Event Monitoring Using SNMP Traps

The Dell OpenManage Connection monitors Dell PowerEdge and PowerVault servers in-band (from 9G-12G) and out-of-band (12G only), Dell Remote Access Controller (DRAC), Dell PowerEdge M1000e (Dell Chassis Management Controller), Dell PowerEdge VRTX (VRTX Chassis Management Controller), Dell EqualLogic Storage Arrays, and Dell PowerVault MD Storage Arrays that receive SNMP traps from Dell devices. You can use both Desktop and Web GUI client to monitor the systems.

To distinguish among the various devices on the Netcool/OMNIbus console, a class value is assigned to the Dell devices as listed in the following table.

Table 4. Dell Device Class ID

Dell Device	Class ID
Dell PowerEdge and Dell PowerVault 9th Generation (9G) to 12th Generation (12G) systems	2080
OOB 12G servers (iDRAC7)	2088
DRAC	2087
CMC	2086
VRTX CMC	2084
EqualLogic Storage Arrays	2085
Dell PowerVault MD Storage Arrays	2809
Dell Connections License Manager	2081

The event monitoring process is as follows:

1. The SNMP probe receives the SNMP traps from the servers, OOB 12G servers (iDRAC7), DRAC, CMC, VRTX CMC, EqualLogic Storage Arrays, or Dell PowerVault MD Storage Arrays.

2. The SNMP probe converts the trap into an event using the respective rules, which then filters the traps from the Dell devices and populates the event fields with the appropriate value.

3. The SNMP probe forwards the events to the ObjectServer.

4. The Desktop and Web GUI consoles display the events by communicating with the ObjectServer.

Dell OMSA Alert Groups

The OpenManage Server Administrator (OMSA) alerts are the events generated by OMSA and displayed on the Netcool/
OMNIbus console. The following table lists the alert groups of OMSA alerts.

Table 5. Dell OMSA Alert Groups

Alert Group	Description
ACPowerCord	Provides status information for power cords of an AC power switch on systems that support AC switching.
AmperageProbe	Provides status information for current sensors in a particular chassis.
Battery	Provides status information for batteries in a particular chassis.
ChassisIntrusion	Provides notification when a chassis is intruded.
CoolingDevice	Provides status information for fans in a particular chassis.
Device	Provides status and error information when some devices, such as memory cards are added or removed.
FanEnclosure	Monitors if foreign objects are present in an enclosure and the duration a fan enclosure is missing from a chassis.
HardwareLog	Provides status and warning information about the non-circular logs that may fill up, resulting in lost status messages.
MemoryDevice	Provides status and warning information for memory modules present in a particular system.
Miscellaneous-AutomaticSystemRecovery	Provides information when an automatic system recovery action is performed when the operating system stops responding.
Miscellaneous-SystemPeakPowerNewPeak	Provides information when the system peak power sensor detects a new peak value.
Miscellaneous-SystemSoftwareEvent	Provides information when OMSA detects a critical system software generated event in the IPMI System Event Log (SEL), which could have been resolved.
Miscellaneous-SystemUp	Provides information when OMSA completes initialization.
Miscellaneous-ThermalShutdown	Provides information when a system shuts down as the temperature exceeds the maximum threshold.
Miscellaneous-UserHostSystemReset	Provides information when user requests a host system control action to reboot, power off, or power cycle the system.
PowerSupply	Provides status and warning information for power supplies present in a particular chassis.
ProcessorDeviceStatus	Provides status and warning information for processors in a particular chassis.
Redundancy	Provides the redundancy unit information.
SDCardDevice	Provides status and error information for Secure Digital (SD) card devices present in a chassis.

Alert Group	Description
TemperatureProbe	Provides help to protect critical components when temperatures exceed in a chassis.
VoltageProbe	Provides status and warning information for voltage sensors in a particular chassis.

Dell OMSS Alert Groups

The OpenManage Storage Management (OMSS) alerts are the events generated by OMSS and displayed on the Netcool/OMNIbus console. The following table lists the OMSS alert groups.

Table 6. Dell OMSS Alert Groups

Alert Group	Description
Battery	Provides status information of the batteries in the controller. Battery alerts provide information about battery reconditioning, charging, temperature, replacement, learn cycle, learn mode, operation, and so on.
Channel	Provides the addition and removal status, configuration errors, and status for pluggable devices, such as memory cards.
Controller	Provides status of the storage controller tasks. Controller alerts provide information about rebuild rate, alarm status, configuration status, background initialization rate, patrol read rate, check consistency rate, redundant path, foreign configuration, disk status, bad blocks, ECC errors, DKM certificate upload, self-signed certificate creation and upload, and so on.
EMM	Provides status of the Enclosure Management Module (EMM) of the controllers.
Enclosure	Provides status of the components in the enclosures. Enclosure alerts provide the status information of enclosure, alarm, asset tag, service tag, and so on.
Fan	Provides information on how well a fan is functioning. Fan alerts provide status information of fans in a particular enclosure.
FluidCache	Provides the validity information for the fluid cache license. Fluid Cache alerts provide information about the storage device installation with license, license removal, expired/invalid license, memory availability, CFM connection, journal mirrors, cluster ID matching, journal read/write, missing cache device and so on.
FluidCacheDisk	Provides information about the LUN status of the fluid cache disk.
PhysicalDisk	Provides information about the operations on the physical disks such as rebuild, hot spare, blink, clear operation, replace member operation, state change, drive write cache, drive log export, drive prepared for removal, and full initialization.
PowerSupply	Provides status information of the power supplies in an enclosure.
Redundancy	Provides status of the redundancy device.
SystemLevel	Provides status of the controllers in the system.
TemperatureProbe	Provides temperature status of the probes in the enclosure. The temperature probe alerts help protect critical components by alerting when temperatures become too high inside an enclosure.

Alert Group	Description
VirtualDisk	Provides status information of the virtual disk tasks. Virtual disk alerts provide information about initialization, formatting, configuration, rebuild, background initialization, redundancy, and so on.
VirtualDiskPartition	Provides information about the caching status of the virtual disk. Virtual disk partition alerts provide information about inaccessible storage device, transient failure, enabled cache , disabled cache, cache removal and so on.

Dell EqualLogic Alert Groups

The EqualLogic alerts are the events generated by Dell EqualLogic Storage Arrays and displayed on the Netcool/OMNIbus console. The following table lists the alert groups of EqualLogic alerts.

Table 7. Dell EqualLogic Alert Groups

Alert Group	Description
BatteryLessThan72Hours	Provides information that the battery has insufficient charge to survive a 72–hour power outage.
BothFanTraysRemoved	Provides information that both fan trays of the member have been removed from the chassis.
ChannelBothFailed	Provides information that both the channel cards have failed.
ChannelBothMissing	Provides information that both the channel cards are missing.
EIPFailureCondition	Provides information that EIP is failed in the channel card.
EmmLinkFailure	Provides information that link to the EMM has failed.
EnclosureOpenPerm	Provides information that enclosure is open for a long time.
FanSpeedThreshold	Provides information that fan speed has exceeded the minimum or maximum threshold.
FanTrayRemoved	Provides information that one of the fan trays has been removed from the chassis.
HighBatteryTemperature	Provides information that battery temperature is high.
HwComponentFailedCrit	Provides information that a critical hardware component of the member has failed.
IncompatControlModule	Provides information that an incompatible control module is inserted into the chassis.
LowAmbientTemp	Provides information that one or more sensors are within the critical temperature range.
MultipleRAIDSets	Provides information that multiple valid RAID sets are found.

Alert Group	Description
NVRAMBatteryFailed	Provides information that NVRAM battery has failed and the battery is not usable.
OpsPanelFailure	Provides information that operations panel is missing or damaged.
PowerSupply	Provides information that power supply module has detected a failure.
PowerSupplyFan	Provides information that power supply module fan has failed.
RAIDLostCache	Provides information that RAID driver is unable to recover the battery-backed cache.
RAIDOrphanCache	Provides information that RAID driver found data in the battery-backed cache and does not have a matching disk array.
RAIDSetDoubleFaulted	Provides information that a double fault is detected in the RAID set.
RAIDSetLostBlkTableFull	Provides information that RAID lost block table is full.
TempSensorThreshold	Provides information that temperature sensor has exceeded the threshold.
DiskStatus	Provides information that status of the EqualLogic disk has changed.
SCSITgtDevice	Provides information that status of the EqualLogic SCSI target device has changed.
SCSILuStatus	Provides information that status of the EqualLogic Logical Unit Number (LUN) has changed.
ISCSITgtLogin	Provides information that the EqualLogic iSCSI target device's login attempt failed.
ISCSIIntrLogin	Provides information that the initiator's login attempt failed.
ISCSIInstSession	Provides information that the active session for a target system or an initiator failed.

Dell OOB 12G Server Alert Groups

The Out-of-Band (OOB) 12G server alerts are the events generated by Integrated Dell Remote Access Controller 7 (iDRAC7) and displayed on the Netcool/OMNIbus console. The following table lists the alert groups of OOB 12G server alerts.

Table 8. OOB 12G Server Alert Groups

Alert Group	Description
AmperageProbe	Provides the amperage details of the system board, disk-drive bay, and the system level.
AutomaticSystemRecovery	Provides the OS watchdog timer details of the system.

Alert Group	Description
Battery	Provides the details of the system-board battery.
BIOSPOST	Provides information about the memory performance during system BIOS Power-On Self Test (POST).
Debug	Provides the debug authorization details of the system.
Fan	Provides the fan details of the system.
FiberChannel	Provides information about the status of the fiber channel port.
HardwareConfiguration	Provides the hardware configuration information for a device, storage adapter, backplane, USB cable, mezzanine card, storage cable, and system-board cable.
IDSDModuleMedia	Provides information about the status and performance of the internal dual SD module.
IDSDModuleAbsent	Indicates that the internal dual SD module is absent.
IDSDModuleRedundancy	Provides information about the internal SD module redundancy.
Licensing	Provides the licensing details of the system.
MemoryDevice	Provides the memory details of the system.
Network	Provides the information when network link is down.
OperatingSystem	Provides the details of system halt.
PCIDevice	Provides the PCI device details of the system.
PhysicalDisk	Provides the physical disk details of the system.
PowerSupply	Provides the power supply information of the system.
PowerSupplyAbsent	Indicates the absence of power supply for the system.
PowerUsage	Provides the details of power usage by the system.
ProcessorDevice	Provides the processor details of the system.
ProcessorDeviceAbsent	Provides the information that the processor is absent.
Redundancy	Provides information about fan and power supply redundancy.
Security	Provides information about the chassis, operating system, and Intel Trusted Execution Technology (TXT) performance.
StorageBattery	Provides the details of the storage battery on controllers.
StorageController	Provides details of the storage controller.
StorageEnclosure	Provides information about the performance of the storage enclosure.
StorageFan	Provides the fan details of the storage device.
StorageManagementStatus	Indicates that the storage device status is not determined.
StoragePowerSupply	Provides the power supply information of the storage device.
StorageTemperatureProbe	Provides temperature information of an enclosure.
SystemEventLog	Provides information about the event logs of the system.
SystemInfo	Provides the details of the host system.

Alert Group	Description
StoragePhysicalDisk	Provides the physical disk details of the storage device.
StorageVirtualDisk	Provides the details of the storage virtual disk.
TemperatureProbe	Provides temperature information of a system board, memory module, fan failure, and inlet of a system.
TemperatureStatistics	Provides temperature statistics information of the system inlet.
vFlash	Provides details of removable flash media and storage device.
vFlashAbsent	Provides information if removable flash media is absent.
VoltageProbe	Provides the voltage details of the processor module and system board.

Dell Chassis Management Controller Alert Groups

The Dell CMC systems generate CMC alerts and these alerts are displayed on the Netcool/OMNIbus console. The DellChassis alert group provides the following information:

- Status of various components such as fan, battery, power supply, temperature probe, hardware log, redundancy, and so on.
- Presence or absence of server, keyboard/video/ mouse (KVM) switch, input output module (IOM), and SD card.
- Mismatch of fabric, firmware version, and so on.

Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC) Alert Groups

The Dell PowerEdge VRTX CMC devicess generate the VRTX CMC alerts and these alerts are displayed on the Netcool/ OMNIbus console. The DellVRTXChassis alert group provides the following information:

- Status of various components such as fan, battery, power supply, temperature probe, hardware log, redundancy, controller, disks, enclosure management module (EMM), enclosure, processor, and so on.

Table 9. Dell PowerEdge VRTX CMC Alert Groups

Alert Group	Description
AmperageProbe	Provides status information for current sensors.
Battery	Provides status information for batteries.
Cable	Indicates if cable is detected.
CMC	Provides the information about the CMC slot.
CMCAudit	Provides information about the status of data synchronization, extended storage feature activation, and cell battery.
Fan	Provides the fan details of the system.
HardwareConfiguration	Provides the hardware configuration information for a device and its storage adapter.
IOVConfiguration	Provides information about the PCIe card module configuration.
IOVirtualization	Provides information about the PCIe card module.
License	Provides the licensing details of the system.

Alert Group	Description
LinkStatus	Provides information about the Network link status.
PowerSupply	Provides the information of the system power supply.
PowerSupplyAbsent	Indicates the absence of power supply for the system.
PowerUsageAudit	Provides the details of power usage by the system.
Redundancy	Provides information about fan and power supply redundancy.
Security	Provides information about the chassis, operating system, and the Intel Trusted Execution Technology (TXT) performance.
SoftwareConfiguration	Provides information about software incompatibility.
StorageBattery	Provides the details of the storage battery on controllers.
StorageController	Provides details of the storage controller.
StorageEnclosure	Provides information about the performance of the storage enclosure.
StorageFan	Provides the fan details of the storage device.
StorageManagement	Provides information about communication loss with controller, shared storage availability, and RAID Status.
StoragePhysicalDisk	Provides the physical disk details of the storage device.
StoragePowerSupply	Provides the power supply information of the storage device.
StorageTemperatureProbe	Provides temperature information of an enclosure.
StorageVirtualDisk	Provides the details of the storage virtual disk.
SystemEventLog	Provides information about the event logs of the system.
TemperatureProbe	Provides temperature information of a system board, memory module, fan failure, and inlet of a system.
TestTrap	Test Trap.
VoltageProbe	Provides the voltage details of the processor module and the system board.

Dell PowerVault MD Array Alert Groups

Table 10. Dell PowerVault MD Array Alert Groups

Alert Group	Description
AsyncReplication	Provides repository status information for the async replication group member. Async replication alerts provide information about repository status, security incompatibility, and so on.
Battery	Provides battery status in the MD Array. Battery alerts provide information about battery configuration, backup capacity, temperature, and expiration.
Cache	Provides status information for the cache backup device.
Canister	Provides status information for the interconnect-battery.
Channel	Provides status of the Enclosure Management Module (EMM) of the controllers.

Alert Group	Description
Configuration	Provides status information for the gold key setting configuration.
Controller	Provides diagnostic status information for the RAID controller module.
DataAssurance	Provides information for the data assurance support.
DiscreteLines	Provides status information for Discrete Lines diagnostics.
DiskGroup	Provides status information for disk groups. DiskGroup alerts provide information about the removal or incompletion of the disk groups.
DiskPool	Provides status information for the disk pool. DiskPool alerts provide information about the incompletion, failure or removal of the disk pool.
Drawer	Provides status information for the drawer. The alerts provide information if the drawer is open, removed, failed, not supported, or degraded.
EMM	Provides status of the Enclosure Management Module (EMM) of the controllers.
Enclosure	Provides status of the components in the enclosures. Enclosure alerts provide the status information of enclosure, alarm, asset tag, service tag, and so on.
Fan	Provides information on how well a fan is functioning. Fan alerts provide status information of fans in a particular enclosure.
Feature	Provides status information for the premium feature. The alerts provide information if the premium feature is out of compliance or has exceeded the limit.
FibreTrunk	Provides information for the fibre channel trunk. The alerts provide information about the improper cabling configuration for fibre-channel trunking.
HostOS	Provides information for the validity of the host operating system index.
IndividualDrive	Provides status information of the path for the individual drive.
InterfaceCard	Provides status information for the host interface card. The alerts provide information if the host interface input/output card or the host interface card failed.
InterposerFW	Provides information if the Interposer FW version is supported.
LinkSpeed	Provides status information for the Link Speed (data rate) switch position.
OpticalLink	Provides information about the optical link speed. The alerts provide information if the optical link speed has failed.
PhysicalDisk	Provides information about the physical disk read status.
PowerSupply	Provides status information for power supply. The alerts provide information if the power supply is missing or removed, failed or needs attention.
Processor	Provides information about the processor memory for cache.
RedundantCanister	Provides information about the redundant canister. The alerts provide information if the power supply or cooling fan module is missing.
RemoteReplication	Provides status information for the remote replication communication between the storage array and the fabric with which it is connected.
ReservedBlock	Provides status information for the discovery of the reserved blocks on SATA drives.

Alert Group	Description
SAS	Provides status information for the SAS host. SAS alerts provide information for the miswire, degradation, overflow detection, or invalid topology of the SAS host port, degradation or miswire of the SAS-wide port, and so on.
SBB	Provides validation information for the StorageWorks Building Block (SBB). The alerts provide information for SBB validation for enclosure expansion, SIM/ESM canister, power supply, midplane communication.
Security	Provides information about the repository security compatibility.
SFP	Provides information about the status of the GBIC/SFP.
SMARTCommandTransfer	Provides information for the SMART Command Transfer support.
Snapshot	Provides information for the snapshot group. Snapshot alerts provide status information of the snapshot repository capacity, snapshot virtual disk repository, creation of the snapshot image, and rollback of the snapshot.
StorageArray	Provides information of the storage array security key.
SystemConfiguration	Provides validity information of the storage array system configuration.
Temperature	Provides threshold status information of the temperature sensor.
UnreadableSector	Provides information about the unreadable sector database.
VirtualDisk	Provides information about the virtual disk tasks. Virtual disk alerts provide information about the virtual disk capacity, status, reconfiguration, write back caching force status, data/parity status, and path.

Understanding Event Severity

The events forwarded to the ObjectServer are displayed on the Netcool/OMNIbus console with one of the following severities:

- Normal—Event with successful operation of a component, such as a power supply turning on, or a sensor reading returning to normal.
- Warning—Event that is not necessarily significant, but may indicate a possible future problem, such as crossing a warning threshold.
- Critical—Event that indicates actual or imminent loss of data or loss of function, such as crossing a failure threshold, or a hardware failure.
- Indeterminate—Event with unknown severity. Also, a resolution event that clears the problem event is initially displayed as indeterminate and then changed to normal, when the alert type of the event is **Resolution**.

Event Auto Correlation

The Dell OpenManage Connection supports auto correlation of events on Dell servers, Dell EqualLogic Storage Arrays and iDRAC7 systems. When the ObjectServer receives OMSA, OMSS, iDRAC7, or EqualLogic events, appropriate triggers are automatically invoked to correlate the events.

The Dell OpenManage Connection automatically correlates the following events:

- Problem event with its corresponding clear event — OMSA, OMSS, iDRAC7, and EqualLogic events support this event correlation.

  The `IBM generic_clear` trigger correlates the OMSA, OMSS, iDRAC7, and Dell EqualLogic problem events with its corresponding clear event when the problem is rectified.

- Problem event with another problem event — OMSA, iDRAC7, and EqualLogic events support this event correlation.

  The `dell_omsa_clear` trigger correlates the OMSA problem event by another problem event.

  The `dell_equallogic_clear` trigger correlates the EqualLogic problem events.

  The `dell_dclm_clear` trigger correlates the DCLM problem polled events.

  The `dell_mdarray_clear` trigger correlates the MD Array problem polled events.

  The `dell_idrac_clear` trigger correlates the iDRAC problem events.

- Duplicated problem event with another problem event — OMSA, Dell EqualLogic Storage Arrays, Dell PowerVault MD Storage Arrays, ESXi, and DCLM events support this event correlation.

  The `dell_omsa_deduplicate_clear` trigger correlates the OMSA problem events.

  The `dell_equallogic_deduplicate_clear` trigger correlates the EqualLogic problem events.

  The `dell_dclm_deduplicate_clear` trigger correlates the DCLM problem polled events.

  The `dell_mdarray_deduplicate_clear` trigger correlates the MD Array problem polled events.

  The `dell_idrac_deduplicate_clear` trigger correlates the iDRAC problem events.

> **NOTE:** The normal to normal event correlation is not supported as Netcool/OMNIbus periodically clears the normal events. For more information on OMSA and OMSS event correlation, see *Dell OpenManage Server Administrator Messages Reference Guide* at **dell.com/support/manuals**. For more information on EqualLogic event correlation, see [EqualLogic Alert Correlation](#).

> **NOTE:** Event auto correlation support is not available between legacy and enhanced event message format traps for in-band Dell Servers.

Dell OpenManage Server Administrator Console

The Dell OpenManage Connection enables you to launch the OMSA console to get more information about the Dell system you are monitoring. You can launch the OMSA console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

> **NOTE:** Practical Extraction and Report Language (Perl) is required for the execution of Common Gateway Interface (CGI) scripts in Web GUI. If Perl is installed in a nonstandard location, then the CGI scripts do not function properly. Always ensure that the paths to the resources in the CGI scripts are correct. The standard installation location of Perl on systems running the Windows and Linux operating system is **C:\Perl\bin\perl.exe** and **/usr/bin/perl** respectively. For more information, see the *IBM Tivoli Netcool/OMNIbus Administration Guide.*

> **NOTE:** Even though the **Launch Dell Server Administrator Console** tool gets associated with traps and events of the Dell servers installed with VMware ESXi operating systems, the console launch will not work.

Related Links:

- [Launching Dell OpenManage Server Administrator Console From Desktop Event List](#)
- [Launching Dell OpenManage Server Administrator Console From Web GUI](#)

Launching Dell OpenManage Server Administrator Console From Desktop Event List

1. Access the desktop event list. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell server event on the **Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Server Administrator Console.**

On systems running the Windows operating system, the OMSA console is launched in the default browser. On systems running the Linux operating system, the OMSA console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell OpenManage Server Administrator Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).
2. Right-click the Dell server event on the **Active Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Server Administrator Console.**

   The OMSA console is launched in the default browser.

Dell OpenManage Server Administrator (OMSA) Web Server Console

The Dell OpenManage connection enables you to launch the OMSA web server console to get more information about the Dell system you are monitoring. You can launch the Dell OMSA web server console from the **Desktop Event List** or from the **Active Event List** of the Web GUI of a system running the Windows, Linux, or ESXi operating system.

> **NOTE:** You can launch the Dell OMSA web server console on systems running the Windows or Linux operating system only if you enable **Remote Enablement** during OMSA installation on Dell systems.

Related Links:

- [Launching Dell OpenManage Web Server Console From Desktop Event List](#)
- [Launching Dell OpenManage Server Administrator Web Server Console From Web GUI](#)

Launching OMSA Web Server Console From Desktop Event List

1. Access the desktop event list. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell server event on the **Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Server Administrator Web Server Console.**

   On systems running the Windows operating system, the OMSA web server console is launched in the default browser. On systems running the Linux operating system, the OMSA web server console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching OpenManage Server Administrator Web Server Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).
2. Right-click the Dell server event on the **Active Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Server Administrator Web Server Console.**

   The OMSA web server console is launched in the default browser.

EqualLogic Group Manager Console

The Dell OpenManage connection enables you to launch the EqualLogic Group Manager console to get more information about the EqualLogic Storage Arrays you are monitoring. You can launch the EqualLogic Group Manager console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

Related Links:

- [Launching EqualLogic Group Manager Console From Desktop Event List](#)

Launching EqualLogic Group Manager Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell EqualLogic event on the **Event List**.
3. From the options, click **Dell Tools → Launch Dell EqualLogic Group Manager Console.**

   On systems running the Windows operating system, the EqualLogic Group Manager console is launched in the default browser. On systems running the Linux operating system, the **EqualLogic Group Manager** console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching EqualLogic Group Manager Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).
2. Right-click the Dell EqualLogic event on the **Active Event List**.
3. From the options, click **Dell Tools → Launch Dell EqualLogic Group Manager Console.**

   The **EqualLogic Group Manager** console is launched in the default browser.

Integrated Dell Remote Access Controller Console

The Dell OpenManage connection enables you to launch the iDRAC console to get more information about the iDRAC systems you are monitoring. You can launch the iDRAC console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

> **NOTE:** Perl is required for the execution of Common Gateway Interface (CGI) scripts in Web GUI. If Perl is installed in a nonstandard location, then the CGI scripts do not function properly. Always ensure that the paths to the resources in the CGI scripts are correct. The standard installation location of Perl on systems running the Windows and Linux operating system is **C:\Perl\bin\perl.exe** and **/usr/bin/perl** respectively. For more information, see *IBM Tivoli Netcool/OMNIbus Administration Guide.*

Related Links:

- [Launching iDRAC Console From Desktop Event List](#)
- [Launching iDRAC Console From Web GUI](#)

Launching iDRAC Console From Desktop Event List

1. Access the desktop event list. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell iDRAC event on the **Event List**.
3. From the options, click **Dell Tools → Launch iDRAC Console**.

   On systems running the Windows operating system, the iDRAC console is launched in the default browser. On systems running the Linux operating system, the iDRAC console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching iDRAC Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).
2. Right-click the Dell iDRAC event on the **Active Event List**.
3. From the options, click **Dell Tools → Launch iDRAC Console**.

   The iDRAC console is launched in the default browser.

Dell Chassis Management Controller (CMC) Console

The Dell OpenManage connection enables you to launch the Dell CMC console to get more information about the Dell CMC systems you are monitoring. You can launch the Dell CMC console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

> NOTE: Perl is required for the execution of Common Gateway Interface (CGI) scripts in Web GUI. If Perl is installed in a nonstandard location, then the CGI scripts do not function properly. Always ensure that the paths to the resources in the CGI scripts are correct. The standard installation location of Perl on systems running the Windows and Linux operating system is **C:\Perl\bin\perl.exe** and **/usr/bin/perl** respectively. For more information, see *IBM Tivoli Netcool/OMNIbus Administration Guide* at **tivoli.com**.

Related Links:

- [Launching Dell Chassis Management Controller Console From Desktop Event List](#)
- [Launching Dell Chassis Management Controller Console From Web GUI](#)

Launching Dell Chassis Management Controller Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell Chassis Management Controller event on the **Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Chassis Management Controller Console.**
   On systems running the Windows operating system, the **Chassis Management Controller** console is launched in the default browser. On systems running the Linux operating system, the **Chassis Management Controller** console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell Chassis Management Controller Console From Web GUI

1. Access the **Active Event List**.
   For more information, see [Accessing The Active Event List](#).
2. Right-click the Dell Chassis Management Controller event on the **Active Event List**.
3. From the options, click **Dell Tools** → **Launch Dell Chassis Management Controller Console.**
   The **Chassis Management Controller** console is launched in the default browser.

Dell PowerEdge VRTX Chassis Management Controller Console

The Dell OpenManage connection enables you to launch the Dell PowerEdge VRTX CMC console to get more information about the Dell PowerEdge VRTX CMC devices you are monitoring. You can launch the Dell PowerEdge VRTX CMC console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

Related Links:

- [Launching Dell PowerEdge VRTX Chassis Management Controller Console From Desktop Event List](#)
- [Launching Dell PowerEdge VRTX Chassis Management Controller Console From Web GUI](#)

Launching Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC) Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the Dell PowerEdge VRTX Chassis Management Controller event on the **Event List**.

3. From the options, click **Dell Tools** → **Launch Dell VRTX Chassis Management Controller Console.**

   On systems running the Windows operating system, the **VRTX Chassis Management Controller** console is launched in the default browser. On systems running the Linux operating system, the **VRTX Chassis Management Controller** console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC) Console From Web GUI

1. Access the **Active Event List**.

   For more information, see Accessing The Active Event List.

2. Right-click the Dell PowerEdge VRTX Chassis Management Controller event on the **Active Event List**.

3. From the options, click **Dell Tools** → **Launch Dell VRTX Chassis Management Controller Console.**

   The **VRTX Chassis Management Controller** console is launched in the default browser.

Dell Remote Access Controller Console

The Dell OpenManage Connection enables you to launch the Dell Remote Access Controller (DRAC) console to get more information about the iDRAC6, DRAC5, and DRAC/MC systems you are monitoring. You can launch the DRAC console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

> **NOTE:** Practical Extraction and Report Language (Perl) is required for the execution of Common Gateway Interface (CGI) scripts in Web GUI. If Perl is installed in a nonstandard location, then the CGI scripts do not function properly. Always ensure that the paths to the resources in the CGI scripts are correct. The standard installation location of Perl on systems running the Windows and Linux operating system is **C:\Perl\bin\perl.exe** and **/usr/bin/perl** respectively. For more information, see the *IBM Tivoli Netcool/OMNIbus Administration Guide.*

Related Links:

- Launching Dell Remote Access Controller Console From Desktop Event List
- Launching Dell Remote Access Controller Console From Web GUI

Launching Dell Remote Access Controller Console From Desktop Event List

1. Access the desktop event list. For more information, see Accessing The Desktop Event List.

2. Right-click the Dell Remote Access Controller event on the **Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Remote Access Controller Console.**

   On systems running the Windows operating system, the **Dell Remote Access Controller** console is launched in the default browser. On systems running the Linux operating system, the **Dell Remote Access Controller** console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell Remote Access Controller Console From Web GUI

1. Access the **Active Event List**.

   For more information, see Accessing The Active Event List.

2. Right-click the Dell Remote Access Controller event on the **Active Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Remote Access Controller Console.**

   The **Dell Remote Access Controller** console is launched in the default browser.

Dell OpenManage Essentials (OME) Console

The Dell OpenManage connection enables you to launch the Dell OpenManage Essentials console to get more information about the systems you are monitoring. You can launch the OpenManage Essentials console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

> NOTE: The Dell OpenManage Essentials launch is supported only on browsers with Microsoft Silverlight.

> NOTE: The Dell OpenManage Essentials is not supported on systems running Linux.

Related Links:

- Launching Dell OpenManage Essentials Console From Desktop Event List
- Launching Dell OpenManage Essentials Console From Web GUI

Launching OpenManage Essentials Console From Desktop Event List

To launch the OpenManage Essentials console from desktop event list:

1. Access the desktop event list. For more information, see Accessing the Desktop Event List.
2. Right-click a Dell device event on the **Event List**.
3. From the options, click **Dell Tools → Launch OpenManage Essentials Console** .

   On systems running the Windows operating system, the OpenManage Essentials console is launched in the default browser. On systems running the Linux operating system, the OpenManage Essentials console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching OpenManage Essentials Console From Web GUI

To launch OpenManage Essentials console from web GUI:

1. Access the **Active Event List**. For more information, see Accessing the Active Event List.
2. Right-click a Dell device event on the **Active Event List**.
3. From the options, click **Dell Tools → Launch OpenManage Essentials Console** .

   The OpenManage Essentials console is launched in the default browser.

Dell PowerVault Modular Disk Storage Manager Console

The Dell OpenManage connection enables you to launch the Dell PowerVault Modular Disk Storage Manager (MDSM) console to get more information about the systems you are monitoring. You can launch the MDSM console from the **Desktop Event List** or from the **Active Event List** of the Web GUI.

Related Links:

- Launching Dell PowerVault Modular Disk Storage Manager Console From Desktop Event List
- Launching Dell PowerVault Modular Disk Storage Manager Console From Web GUI

Launching Dell PowerVault Modular Disk Storage Manager Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see Accessing the Desktop Event List.
2. Right-click a Dell PowerVault Modular Disk Storage Array event on the **Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Modular Disk Storage Manager Console** .

The Dell PowerVault Modular Disk Storage Manager Console is launched in a new window.

Launching Dell PowerVault Modular Disk Storage Manager (MDSM) Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing the Active Event List](#).

2. Right-click a Dell PowerVault Modular Disk Storage Array event on the **Active Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Modular Disk Storage Manager Console** .

The MDSM console is launched in a new window.

Dell Connections License Manager Console

The Dell OpenManage connection enables you to launch the Dell Connections License Manager (DCLM) console to get more information about the available licences. You can launch the DCLM console from the **Desktop Event List** or from the **Active Event List** of the web GUI.

Related Links:

- [Launching Dell Connections License Manager Console From Desktop Event List](#)
- [Launching Dell Connections License Manager Console From Web GUI](#)

Launching Dell Connections License Manager Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see [Accessing The Desktop Event List](#).

2. Right-click a DCLM event on the **Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Connections License Manager Console.**

On systems running the Windows operating system, the DCLM console is launched in the default browser. On systems running the Linux operating system, the DCLM console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell Connections License Manager Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).

2. Right-click a DCLM event on the **Active Event List**.

3. From the options, click **Dell Tools** → **Launch Dell Connections License Manager Console.**

The DCLM console is launched in the default browser.

Dell 12G Server Trap Configuration Information Console

The Dell OpenManage connection enables you to launch the 12G Server Trap Configuration Information Console to get more information about the Configuring SNMP trap information on Dell 12G Servers (in-band & OOB) you are monitoring. You can launch the Dell 12G Server Trap Configuration Information Console from the **Desktop Event List** or from the **Active Event List** of the Web GUI of a system running the Windows, Linux, or ESXi operating system.

Related Links:

- [Launching Dell 12G Server Trap Configuration Information Console From Desktop Event List](#)
- [Launching Dell 12G Server Trap Configuration Information Console From Web GUI](#)

Launching Dell 12G Server Trap Configuration Information Console From Desktop Event List

1. Access the **Desktop Event List**. For more information, see [Accessing The Desktop Event List](#).
2. Right-click the iDRAC7 event on the **Event List**.
3. From the options, click **Dell Tools** → **Launch Dell 12G Server Trap Configuration Information Console.**

   On systems running the Windows operating system, the 12G Server Trap Configuration Information console is launched in the default browser. On systems running the Linux operating system, the 12G Server Trap Configuration Information console is launched in the browser application set in the **$OMNIBROWSER** environment variable.

Launching Dell 12G Server Trap Configuration Information Console From Web GUI

1. Access the **Active Event List**. For more information, see [Accessing The Active Event List](#).
2. Right-click the iDRAC7 event on the **Active Event List**.
3. From the options, click **Dell Tools** → **Launch Dell 12G Server Trap Configuration Information Console.**

   The 12G Server Trap Configuration Information console is launched in the default browser.

Accessing the Desktop Event List

1. Click **Start** → **Program** → **NETCOOL Suite** → **Event List**.

   NOTE: On systems running Linux operating system, run `nco_event`, in the terminal.
2. Log in to the **Netcool/OMNIbus Event List**.
3. On the **Event list** window, double-click **Show Sub-Event List** on the **All Events** tab.
   The **Event list** is displayed in a new window.

Accessing the Active Event List

1. Log in to the web GUI.
2. On the left panel, click **Availability** → **Events** → **Active Event List (AEL).**
   The list of active events is displayed on the right panel.

Troubleshooting

This section lists the problems that you may encounter while using the Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus.

Dell Server Events not Received at the Netcool/OMNIbus Console

1. Verify that the following entries are included in the SNMP probe rules file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/
      dell.master.include.rules"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/
      dell.master.include.lookup"
      ```

2. Verify that the following entries are included in the **dell.master.include.lookup** file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/dell-MIB-Dell-
      10892.include.snmptrap.lookup"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/dell-StorageManagement-
      MIB.include.snmptrap.lookup"
      ```

3. Verify that the following entries are included in the **dell.master.include.rules** file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/dell-MIB-Dell-
      10892.include.snmptrap.rules"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/dell-StorageManagement-
      MIB.include.snmptrap.rules"
      ```

Dell EqualLogic Events not Received at the Netcool/OMNIbus Console

1. Verify that the following entries are included in the SNMP probe rules file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/
      dell.master.include.rules"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/
      dell.master.include.lookup"
      ```

2. Verify that the following entries are included in the **dell.master.include.lookup** file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-EQLMEMBERMIB.
      include.snmptrap.lookup"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-EQLDISKMIB.
      include.snmptrap.lookup"
      ```
    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-SCSI-
      MIB.include.snmptrap.lookup"
      ```

3. Verify that the following entries are included in the **dell.master.include.rules** file:

    - ```
      include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-
      EQLMEMBERMIB.include.snmptrap.rules"
      ```

- include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-EQLDISKMIB.include.snmptrap.rules"
- include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-SCSI-MIB.include.snmptrap.rules"
- include "$NC_RULES_HOME/include-snmptrap/dell/equalLogic-ISCSI-MIB.include.snmptrap.rules"

Dell OOB 12G Server Events not Received at the Netcool/OMNIbus Console

1. Verify that the following entries are included in the SNMP probe rules file:

   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.rules"
   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.lookup"

2. Verify that the following entry is included in the **dell.master.include.lookup** file:

   include "$NC_RULES_HOME/include-snmptrap/dell/dell-IDRAC-MIB.include.snmptrap.lookup"

3. Verify that the following entry is included in the **dell.master.include.rules** file:

   include "$NC_RULES_HOME/include-snmptrap/dell/dell-IDRAC-MIB.include.snmptrap.rules"

Dell CMC, VRTX CMC and DRAC Events not Received at the Netcool/OMNIbus Console

1. Verify that the following entries are included in the SNMP probe rules file:

   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.rules"
   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.lookup"

2. Verify that the following entry is included in the **dell.master.include.lookup** file:

   include "$NC_RULES_HOME/include-snmptrap/dell/dell-RAC-MIB.include.snmptrap.lookup"

3. Verify that the following entry is included in the **dell.master.include.rules** file:

   include "$NC_RULES_HOME/include-snmptrap/dell/dell-RAC-MIB.include.snmptrap.rules"

Dell PowerVault Modular Disk Storage Array Events not Received at the Netcool/OMNIbus Console

1. Verify that the following entries are included in the SNMP probe rules file:

   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.rules"
   - include "$NC_RULES_HOME/include-snmptrap/dell/dell.master.include.lookup"

2. Verify that the following entry is included in the **dell.master.include.lookup** file:

   include "$NC_RULES_HOME/include-snmptrap/dell/dell-MDStorageArray-MIB.include.snmptrap.lookup"

3. Verify that the following entry is included in the **dell.master.include.rules** file:

```
#include "$NC_RULES_HOME/include-snmptrap/dell/dell-MDStorageArray-
MIB.include.snmptrap.rules"
```

Dell OpenManage Server Administrator Events not Correlated

Verify that the following triggers are enabled in Netcool/OMNIbus ObjectServer:

- dell_omsa_clear
- dell_omsa_deduplicate_clear

Dell EqualLogic Events Not Correlated

Verify that the following triggers are enabled on Netcool/OMNIbus ObjectServer:

- dell_equallogic_clear
- dell_equallogic_deduplicate_clear

iDRAC7 Events not Correlated

Verify that the following triggers are enabled in Netcool/OMNIbus ObjectServer:

- dell_idrac_clear
- dell_idrac_deduplicate_clear

Error While Importing the Web GUI Integrations

Restart the Web GUI server after importing the Dell OpenManage Connection to the ObjectServer.

Issues in Launching the OMSA, iDRAC, DRAC, CMC, VRTX CMC, DCLM, OME, and OpenManage Web Server Administrator Consoles Using Web GUI

- Verify that Perl is properly installed on the Web GUI server.
- For the prerequisites for enabling the CGI scripts functionality, see the OMNIbus CGI script documents.
- Ensure that the **$OMNIBROWSER** environment variable is set for the browser application.

Issues in Launching the Dell PowerVault Modular Disk Storage Array Console Using Web GUI

- Verify that Perl is properly installed on the Web GUI server.
- Make sure that Dell PowerVault Modular Disk Storage Array is installed.
- Make sure that the path of the Dell PowerVault Modular Disk Storage Array Installer is specified in the Dell PowerVault Modular Disk Storage Array console launch tool.

Problem in Restarting the MTTrapd Probe in Windows

Ensure that the commented text (if it exists) is not at the end in the following files:

- **dell.master.include.lookup**
- **dell.master.include.rules**

4

Related Documents and Resources

This chapter gives you the details of other documents and resources to help you work with the Dell OpenManage Connection for IBM Tivoli Netcool/OMNIbus.

Other Documents You May Need

In addition to this guide, you can access the following guides available at **dell.com/support/manuals**. Under **Do you have your Service Tag or Express Service Code?** click **Choose from a list of all Dell products** → **Continue** → **Software, Monitors, Electronics & Peripherals** → **Software.** Under **Choose your Dell Software**, click the appropriate product category to access the documents.

- *Dell Event Message Reference Guide*
- *Dell OpenManage Installation and Security User's Guide*
- *Dell OpenManage Server Administrator User's Guide*
- *Dell OpenManage Server Administrator Compatibility Guide*
- *Dell OpenManage Server Administrator Messages Reference Guide*
- *Dell OpenManage Server Administrator Command Line Interface User's Guide*
- *Dell Chassis Management Controller Firmware User's Guide*
- *Dell VRTX Chassis Management Controller Firmware User's Guide*
- *Integrated Dell Remote Access Controller User's Guide*
- *Dell OpenManage Essentials User's Guide*
- *Dell OpenManage With VMware ESX/ESXi Systems Management Guide*. To access this guide at **dell.com/support/manuals**, click **Software** → **Virtualization Solutions** → **VMware Software** → **Dell Systems Management for VMware.**

To access the Dell EqualLogic documentation at **dell.com/support/,** click **Servers, Storage and Networking** → **EqualLogic.**

For information on terms used in this document, see the Glossary at **dell.com/support/manuals.**

Whitepapers, blogs, wiki-articles, product communities, and forums are available at **en.community.dell.com/techcenter/ systems-management/w/wiki/4115.dell-openmanage-connections-and-integrations.aspx.**

Contacting Dell

> **NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **dell.com/support**

2. Select your support category.

3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.

Accessing Documents From Dell Support Site

To access the documents from Dell Support site:

1. Go to **dell.com/support/manuals**.
2. In the **Tell us about your Dell system** section, under **No**, select **Choose from a list of all Dell products** and click **Continue**.
3. In the **Select your product type** section, click **Software and Security**.
4. In the **Choose your Dell Software** section, click the required link from the following:
   - **Client System Management**
   - **Enterprise System Management**
   - **Remote Enterprise System Management**
   - **Serviceability Tools**
5. To view the document, click the required product version.

NOTE: You can also directly access the documents using the following links:

- For Enterprise System Management documents — **dell.com/openmanagemanuals**
- For Remote Enterprise System Management documents — **dell.com/esmmanuals**
- For Serviceability Tools documents — **dell.com/serviceabilitytools**
- For Client System Management documents — **dell.com/OMConnectionsClient**
- For OpenManage Connections Enterprise systems management documents — **dell.com/OMConnectionsEnterpriseSystemsManagement**
- For OpenManage Connections Client systems management documents — **dell.com/OMConnectionsClient**

Appendix

EqualLogic Alert Correlation

The following EqualLogic alerts support alert correlation:

- DiskStatus
- TempSensorThreshold
- FanSpeedThreshold
- PowerSupplyFan
- PowerSupply
- SCSITgtDevice
- SCSILuStatus

The alerts are correlated using the Dell automation triggers on IBM Tivoli Netcool/OMNIbus. The alerts are displayed on the Netcool/OMNIbus console with the latest status. For example, `DiskStatus` alert is displayed with the latest status and all the previous `DiskStatus` alerts are cleared on the Netcool/OMNIbus console.

Configuring SNMP Trap Destination for 12G Servers

You must configure the SNMP Trap destination in the Dell server for forwarding the SNMP traps to a particular management station IP (that is, the MTrapd Probe Server IP address). As you can monitor Dell 12G servers through in-band (using Server Administrator in the server host) or out-of-band (using iDRAC7), administrator must configure the trap destination in server host or iDRAC7 respectively. The server monitoring status remains same irrespective of the monitoring mode. The administrator must ensure that the trap destination is not configured in both modes, else redundant SNMP traps are sent to the OMNIbus console. Therefore, it is recommended that the administrator configures the SNMP trap destination for only one mode – either in-band or out-of-band.

To monitor 12G servers through in-band mode:

1. Administrators must set the SNMP trap destination as the Management Station IP/host in the in-band server host.
2. Administrators must ensure that the Management Station IP/host does not exist in the SNMP trap destination list of iDRAC7.

To monitor 12G server through OOB mode:

1. Administrators must set the SNMP trap destination as the Management Station IP/host in iDRAC7.

For information on configuring the trap destinations for in-band and OOB servers, see the section, *Configuring Your System To Send Traps To A Management Station*, in the *Dell OpenManage Server Administrator Version 7.3 User's Guide* and the section, *Configuring IP Alert Destinations Using RACADM*, in the *Integrated Dell Remote Access Controller 7 (iDRAC7) Version 1.31.30 User's Guide*, respectively.