# Oracle® Communications

## Diameter Signaling Router

Release Notice

Release 8.3

**E93179 Revision 03**

July 2020

**ORACLE**®

Oracle Communications, DSR Release Notice, Release 8.3

# Table of Contents

# List of Tables

# Chapter 1: Introduction

**Topics:**

DSR 8.3 Introduction
Revision History

This Release Notice includes feature descriptions, supported hardware baseline, and media and documentation pack contents, and identifies the supported upgrade paths. This document includes listings for both the resolved and known bugs for this release. Directions for accessing key Oracles sites and services are also identified in the Oracle References and Services chapter.

Release Notices are included in the documentation pack made available with every software release.

# DSR 8.3 Introduction

Oracle Communications Diameter Signaling Router (DSR) helps communications service providers monetize their network more efficiently to remain competitive in the market. It creates a centralized and secure signaling architecture that enables core networks to grow incrementally, and to support increasing service and traffic demands. The distinctive advantages provided by the Oracle Communications Diameter Signaling Router are network scalability, resiliency, interoperability, and security, as well as network visibility. The cloud deployable Oracle Communications Diameter Signaling Router enables service providers to manage Diameter signaling while optimizing network resources, therefore maximizing the return on network and technology investments.

# Revision History

| Date | Revision | Description |
|------|----------|-------------|
| 09/04/2018 | 01 | Initial release for DSR 8.3 GA |
| 12/18/2018 | 02 | VNFM 2.0 details updated in the load line-up. Updated known bug list |
| 07/01/2020 | 03 | Updated the document for Bug 28224086 |

# Chapter 2:
# Feature Descriptions

**Topics:**

5G Service Proxy (Bug 27123299)
AVP Removal Feature (Bug 24970121)
Capacity Increase Feature (Bugs
    27579837, 27723029, 22152700,
    and 27140375)
HA Safeguards (Bug 27031274)
MMI (Bug 27093415)
MTC-IWF and SCEF Solution (Bug
    24441275)
Deprecated/Obsolete Software (Bugs
    27727122, 27754334, 27762165,
    28170981, and 28224086)
VNFM (Bug 27141589, 27244109,
    27250454, 27140847, 27140873,
    27889955, 28104363, 28235364,
    28104599, and 28600225)
RSR Handling for Diameter Security
    Application (Bug 27455790)
Signaling Firewalls (Bug 27716436 and
    26925068)
vEIR (Bug 27355466)
vSTP (Bugs 26678690, 27393516, and
    27729578)

This chapter provides a summary of each
feature released in DSR 8.3

## 5G Service Proxy (Bug 27123299)

DSR supports the 5G Service Proxy Function (SPF) and combined SPF and Network Repository Function (NRF).  The SPF is not a network function defined by the 3GPP 5G standards, but it is a function that reduces operational expenses for inter-network function communications in 5G core network slices.  The NRF is defined by 3GPP 5G standards.

## AVP Removal Feature (Bug 24970121)

DRMP and NGN-PS AVPs have been removed from interconnect traffic when deployed as DEA to avoid DoS attacks.  DRMP and NGN-PS AVPs can be used to throttle messages during congestion.

## Capacity Increase Feature (Bugs 27579837, 27723029, 22152700, and 27140375)

- ARR has been increased to 50K and ART has been increased to 1500K.
- PRT rules within the NE have been increased to 50000.
- Diameter Connection per System support 32000.
- 32 DAMPs or 32 STP MP support

## HA Safeguards (Bug 27031274)

Update procedures have been put in place to be able to:

- force an upgrade even if errors or failed checks have been detected;
- make sure members in a cluster have normal status; and
- run checks early to be able to stop an upgrade if a server group is not ready.

    HA can check the health of a mate server for replication link status and display a warning if the mate server is not healthy.

# MMI (Bug 27093415)

MMIs have been enabled for the following:

- FABR

    - Applications
    - Exceptions
    - Destinations
    - Address Resolutions
    - System Options

- ComAgent

    - Remote Servers
    - Common Application Options
    - Connection Status
    - Routed Services Status
    - HA Services Status

- Diameter

    - Common Application Options
    - Shared Traffic Throttle Groups
    - Capacity Summary
    - Connection Capacity
    - Route List
    - Route Group
    - Peer Nodes
    - DAMPs (Peer, Connectivity, and Server Host Name Status Tables)
    - Signaling Firewall

- Application Maintenance
- SDS

    - Connections
    - Destinations
    - Destination Map
    - NAI Host
    - DRMP
    - Domain Identifiers
    - Options
    - Blacklist
    - Subscribers
    - Routing Entities

# MTC-IWF and SCEF Solution (Bug 24441275)

Service Capability Exposure Function (SCEF) is a network element that securely exposes the servers and capabilities provided by 3GPP network interfaces.  Some functions included with SCEF include:

- Non-IP data delivery (NIDD) for low power devices

    Functions for NIDD are used to handle mobile originated (MO) and mobile terminated (MT) communication with UE, where the data used for the communication is considered unstructured from the Evolved Packet System (EPS) standpoint (which we refer to also as non-IP).  The support of non-IP data is part of the Consumer Internet of Things (CIoT) EPS optimizations.

- Monitoring a device's state

    The Monitoring Events feature monitors specific events in the 3GPP system and makes the monitoring events information available using SCEF.  It allows the identification of the 3GPP network element suitable for configuring the event, the event detection, and the event reporting to the authorized users, for example, for use by applications or logging. If an event is detected, the network can be configured to perform special actions like limit the UE access.

- Device triggering performs application-specific action including communication with the Service Capability Server (SCS)

    Device Triggering allows SCS to send information to the UE through the 3GPP network to trigger the UE to perform application-specific actions that include initiating communication with SCS for the indirect model or an AS in the network for the hybrid model. Device Triggering is required when an IP address for the UE is not available or reachable by SCS/AS.

- Enhanced Coverage Restriction Control

    The support for Enhanced Coverage Restriction Control using SCEF enables 3rd party service providers to query status of enhanced coverage restriction or enable/disable enhanced coverage restriction per individual UE.

DSR SCEF interacts with and implements controls on internet of Things (IoT) devices.  The end-to-end communication uses services provided by a 3rd Generation Partnership Project (3GPP) system, and optional services provided by a Services Capability Server (SCS).

The SCS connects to the 3GPP network to communicate with user equipment (UE) used for MTC and the MTC Interworking Function (MTC-IWF) and/or SCEF in the Home Public Land Mobility Network (HPLMN).  The SCS offers capabilities for use by one or multiple MTC applications and the UE can host one or multiple MTC applications.  The corresponding MTC applications in the external network are hosted on one or multiple ASs.

The SCEF is the key entity within the 3GPP architecture for service capability exposure that provides a means to securely expose the services and capabilities provided by 3GPP network interfaces.  In certain deployments, the MTC-IWF may be co-located with SCEF in which case MTC-IWF functionality is exposed to the SCS/AS through the T8 interface (that is, the REST

API).  In deployments where MTC-IWF is not collocated with SCEF, interactions between MTC-IWF and SCEF are left up to the implementation.

SCEF allows services and capabilities to be securely used on 3GPP network interfaces by:

- providing a way to discover the exposed services and capabilities;
- providing access to network capabilities through homogenous network application programming interfaces (for example, network APIs) defined over the T8 interface; and
- abstracting the services from the underlying 3GPP network interfaces and protocols.

# Deprecated/Obsolete Software (Bugs 27727122, 27754334, 27762165, 28170981, and 28224086)

The following software elements are not compatible with DSR 8.3:

- DAMP Active-Standby Configuration
- GLA
- MAP Diameter Interworking
- RADIUS

Virtualized Engineered DSR (VEDSR) deployment, which is also known as TVOE based Fully Virtualized Rack Mount Server (FV RMS) Signaling node, is not supported from DSR 8.3 onwards.

Following are the non-supported network elements of Virtualized Engineered DSR (VEDSR):

- DSR NOAM,

- DSR SOAM,

- DSR Message Processors (MP),

- SS7 MP,

- DSR IPFE,

- DSR SBR (Session/Binding/Universal),

- SDS NOAM,

- SDS SOAM,

- SDS QS,

- SDS DP

**Note**: DSR and SDS Baremetal Installations with TVOE based NOAM/SOAM will continue to be supported.

VEDSR networks and associated elements must be migrated to virtual DSR implementation based on KVM with/without OpenStack or VMware prior to DSR 8.3 upgrade or install.

## VNFM (Bug 27141589, 27244109, 27250454, 27140847, 27140873, 27889955, 28104363, 28235364, 28104599, and 28600225)

The DSR Virtual Network Functions Manager (DSR VNFM) is an automatic deployment process application that helps with quick deployment of virtual DSRs.

## RSR Handling for Diameter Security Application (Bug 27455790)

The Diameter Security Application now supports the Reset Request (RSR) feature.

## Signaling Firewalls (Bug 27716436 and 26925068)

Enhancements for SCEF. A change to the firewall protocol was needed to support SCEF. The DSR Signaling Firewall now allows some exceptional non-diameter servers on the signaling network by opening specific ports for a specific IP address.

SCTP MH Connections Support. When DSR Signaling Firewall is administratively Enabled, if a Diameter SCTP Multi-homed IPv4/IPv6 connection having mode as "Initiator Only" or "Initiator & Responder" is administratively Enabled, the connection quadruple shall be added in the dsrIPv4conns/dsrIPv6conns IP sets on the DA-MP that is local initiator of the connection.

## vEIR (Bug 27355466)

The Equipment Identity Register (EIR) product has been added to DSR. EIR is a network used in GSM networks to store International Mobile Equipment Identity (IMEI) numbers, which correspond to physical handsets (rather than a subscriber. This helps network operators detect stolen handsets.

## vSTP (Bugs 26678690, 27393516, and 27729578)

Congestion controls have been added to vSTP including PDU pool tuning; usage tracking of RSP and linkset buffers and related MEALs; and enhancements to existing system metrics.

vSTP has added Event/Alarms and Logging Enhancements.

Automated and on-demand report for licensing utilization have been added to vSTP MPS.

# Chapter 3:
# DSR Release 8.3 Media and Documentation

**Topics:**

Media Pack
Load Line Up
Documentation Pack

Oracle Communications software is available for electronic download on the Oracle Software Delivery Cloud (OSDC).  Documentation is delivered electronically on the Oracle Help Center (OHC).  Both the software Media Pack and Documentation Pack are listed in this chapter.

# Media Pack

All components available for download from the Oracle Software Delivery Cloud (https://edelivery.oracle.com/) are in Table 1: Media Pack Contents.

*Note*: This list is accurate at the time of release but is subject to change. See the Oracle software delivery website for the latest information.

**Table 1: Media Pack Contents for 8.3**

| Part Number | Description |
|---|---|
| V979988-01 | Oracle Communications Diameter Signaling Router 8.3.0.0.0_83.15.0 MIBS<br><br>The Media Pack covers the following MIB information:<br><br>• DSRmib-8.3.0.0.0_83.15.0.zip includes EAGLEXGDSR-MIB.mib and EAGLEXGDSR-TC.mib.<br>• PMACmib-6.6.0.0.0_66.8.0.zip includes pmacAppAlarms.mib.<br>• SDSmib-8.3.0.0.0_83.15.0.zip includes SDS-MIB.mib and SDS-TC.mib.<br>• TPDmib-7.6.0.0.0_90.10.0.zip includes batm_switch.mib, batm_sys_mon.mib, cpqhost.mib, cpqida.mib, priv_vend_def.mib, tklc_toplevel.mib, tklc_tpdAlarms.mib, tklc_tpdCardCfg.mib, tklc_tpdCommonObjects.mib, tklc_tpdDiskAlias.mib, and tklc_tpdDiskStats.mib.<br>• TVOEmib-3.6.0.0.0_88.54.0.zip includes tklc_TVOEalarms.mib.<br>• IDIHmib-8.2.1.0.0_82.23.0.zip includes NSP-FORWARDING_IDIH_8.2.1.0.0_82.23.0-MIB.mib |
| V979475-01 | Oracle Communications Diameter Signaling Router, Full Address Resolution 8.3.0.0.0_83.15.0 |
| V979476-01 | Oracle Communications Diameter Signaling Router, Full Address Resolution 8.3.0.0.0_83.15.0 OVA |
| V979477-01 | Oracle Communications User Data Repository 12.5.0.0.0-17.3.0 |
| V979478-01 | Oracle Communications User Data Repository 12.5.0.0.0-17.3.0 OVA |
| V979480-01 | Oracle Communications Diameter Signaling Router 8.3.0.0.0_83.15.0 |
| V979481-01 | Oracle Communications Diameter Signaling Router 8.3.0.0.0_83.15.0 OVA |
| V979483-01 | Oracle Communications Diameter Signaling Router Zero Balance Application 8.3.0.0.0_83.15.0 |
| V979484-01 | Oracle Communications Diameter Signaling Router Steering Of Roaming Application 8.3.0.0.0_83.15.0 |
| V979485-01 | Oracle Communications Diameter Signaling Router Diameter Security Application 8.3.0.0.0-83.15.0 |
| V979486-01 | Oracle Communications Diameter Signaling Router Virtual Network Function Manager 1.0.0.0-10.0.61 |

| Part Number | Description |
|---|---|
| V979487-01 | Oracle Communications Diameter Signaling Router Application Programming Interface Gateway 8.3.0.0.0-83.15.0 |
| V979973-01 | Oracle Communications Diameter Signaling Router Application Programming Interface Gateway 8.3.0.0.0-83.15.0 OVA |
| V979772-01 | Diameter Signaling Router 5G Network Functions 1.0.0.0.0-10.2.3 |
| V979773-01 | Oracle Communications Diameter Signaling Router 5G Network Functions 1.0.0.0.0-10.2.3 QCOW2 |
| V979771-01 | Oracle Communications Tekelec Platform Distribution 8.0.0.0.0-90.10.0 |
| V979469-01 | Oracle Communications Tekelec Platform Distribution 7.6.0.0.0_88.54.0 |
| V979471-01 | Oracle Communications Tekelec Virtual Operating Environment 3.6.0.0.0_88.54.0 |
| V979470-01 | Oracle Communications Tekelec Platform Management and Configuration 6.6.0.0.0_66.8.0 |

# Load Line Up

DSR 8.3 contains the following components:

- Application Lineup

    - DSR 8.3.0.0.0-83.15.0
    - SDS 8.3.0.0.0-83.15.0
    - API 8.3.0.0.0-83.15.0
    - VNFM 2.0.0.0-20.7.0
    - SPF/NRF 1.0.0.0.0-10.3.1
    - UDR 12.5.0.0.0-17.3.0

- Platform Line-up

    - TPD: 7.6.0.0.0-88.54.0 (DSR/SDS/IDIH/PMAC Baseline; Oracle Linux 6.9)
    - TVOE: 3.6.0.0.0-88.54.0 (Based on qemu-kvm-0.12.1.2-2.491.el6)
    - PMAC: 6.6.0.0.0-66.8.0
    - COMCOL 7.5.0.13.0-14027
    - AppWorks Build 83.15.0.0
    - EXGSTACK Build 8.3.0.0.0-83.14.0
    - Oracle FW 3.1.7 (minimum)
    - HP FUP 2.2.12 (minimum)

- Other Items Lineup

    - WebLogic:  12c, version 12.2.1.0.0
    - Oracle Database:  12c Enterprise Edition, version 12.1.0.2.0 – 64bit Production
    - iDIH 8.2.1 (separate download from OSDC is required)

# Documentation Pack

All documents available for download from the Oracle Help Center (OHC) site (http://docs.oracle.com/en/industries/communications/) are listed in Table 2:  Documentation Pack Contents.

*Note*:    This list is accurate at the time of release, but it is subject to change.  See the Oracle Help Center for the latest information.

**Table 2:  Documentation Pack Contents**

| **Release Notices and Licensing Information User Manuals** |
| --- |
| DSR 8.3 Release Notice |
| DSR 8.3 Licensing Information User Manual |
| **DSR Planning, Installation, Upgrade, and Disaster Recovery** |
| Feature Guide |
| Planning Guide |
| DSR C-Class Hardware and Software Installation Procedure 1/2 |
| DSR C-Class Software Installation and Configuration Procedure 2/2 |
| DSR C-Class Disaster Recovery Guide |
| DSR Software Upgrade Guide |
| DSR Rack Mount Server Installation Guide |
| DSR Rack Mount Server Disaster Recovery Guide |
| DSR Rack Mount Server Network Interconnect |
| DSR/SDS NOAM Failover Guide |
| DSR VM Placement and CPU Socket Pinning Tool |
| DCA Feature Activation Procedure |
| DTLS Feature Activation Procedure |
| FABR Feature Activation Procedure |
| Mediation Feature Activation Procedure |
| PCA Feature Activation Procedure |
| RBAR Feature Activation Procedure |
| SCEF Feature Activation Procedure |
| DSR Network Impact Report |
| DSR Security Guide |
| Diameter Security Application User's Guide |
| DSR Security App Using Mediation Example Procedure |

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|---|
| Zero Balance Application User's Guide |
| HEAT Templates |
| DSR VM Placement and CPU Socket Pinning Tool |
| DSR Compliance Matrix |
| **Cloud Installation and Upgrade** |
| DSR Cloud Installation Guide |
| DSR Cloud Software Upgrade User's Guide |
| DSR Cloud Disaster Recovery Guide |
| DSR API Gateway Installation Guide |
| DSR API Gateway Disaster Recovery Guide |
| Virtual Network Function Whitepaper |
| DSR VNFM Installation and User Guide |
| DSR VNFM HEAT Templates |
| DSR Cloud Benchmarking Guide |
| SDS Cloud Installation Guide |
| SDS Cloud Disaster Recovery Guide |
| **Diameter Signaling Router Core Document Set** |
| DSR Getting Started |
| Hardware Documentation Roadmap Reference |
| Operation, Administration, and Maintenance (OAM) User's Guide |
| Diameter User's Guide |
| MMI API Specification |
| Communication Agent User's Guide |
| Policy and Charging Application (PCA) User's Guide |
| Mediation User's Guide |
| Range Based Address Resolution (RBAR) User's Guide |
| Full Address Based Resolution (FABR) User's Guide |
| Session Binding Repository (SBR) User's Guide |
| IP Front End (IPFE) User's Guide |
| Service Capability Exposure Function (SCEF) User's Guide |
| SCEF YAML Files |
| vEIR User's Guide |
| Diameter Common User's Guide |

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|---|
| Diameter Custom Application (DCA) User's Guide |
| Diameter Custom Application (DCA) Programmer's/Developer's Guide |
| Diameter Custom Application (DCA) Security Application User's Guide |
| Diameter Custom Application (DCA) Steering of Roaming User's Guide |
| vSTP User Guide |
| Alarms and KPIs Reference |
| Measurements Reference |
| Glossary |
| Related Publications Reference |
| **Subscriber Data Server Document Set** |
| SDS Getting Started |
| SDS User's Guide |
| SDS Provisioning Interface |
| SDS Installation and Configuration Guide |
| SDS Software Upgrade Procedure |
| SDS Disaster Recovery Guide |
| **UDR Document Set** |
| UDR Installation and Configuration Guide |
| UDR Software Upgrade Guide |
| UDR Disaster Recovery Guide |
| UDR HEAT Templates |
| **Integrated Diameter Intelligence Hub (IDIH) Document Set for 8.2.1 \*** |
| IDIH User's Guide |
| IDIH Alarm Forwarding Administrator's Guide |
| IDIH Audit Viewer Administrator's Guide |
| IDIH Operations, Administration and Maintenance Administrator's Guide |
| IDIH ProTrace User's Guide |
| IDIH Log Viewer Administrator's Guide |

\*Previous versions of iDIH do not work with DSR Release 8.3. A separate release of iDIH version 8.2.1 can be downloaded from the Oracle Software Delivery Cloud (https://edelivery.oracle.com/).

# Chapter 4:
# Supported Hardware Baseline

**Topics:**

    Supported Hardware Baseline
    Oracle Hardware
    HP Hardware

The Hardware identified in Table 3:  Supported Hardware Baseline comprises the hardware and server versions that have been verified with this release.

# Supported Hardware Baseline

<p align="center">Table 3:  Supported Hardware Baseline</p>

| Hardware | Description |
|---|---|
| HP Gen8 | Intel Sandy Bridge CPU-based dual-socket blades and rack mount servers manufactured by HP |
| HP Gen9 | Intel Haswell CPU-based dual-socket blades and rack mount servers manufactured by HP |
| HP Gen9 v2 | Intel Haswell CPU-based dual-socket blades and rack mount servers manufactured by HP |
| Netra X5-2 | Intel Haswell CPU-based dual-socket rack mount servers manufactured by Oracle |
| Oracle X5-2 | Intel Haswell CPU-based dual-socket rack mount servers manufactured by Oracle |
| Oracle X6-2 | Intel Haswell CPU-based dual-socket rack mount servers manufactured by Oracle |
| Oracle X7-2 | Intel Haswell CPU-based dual-socket rack mount servers manufactured by Oracle |

The following section lists the Oracle and HP hardware Bill of Material (BOM) information.

# Oracle Hardware

| Oracle X7-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **X7-2 AC Copper for Production** | | | | |
| **7117671** | | **ORACLE X7-2 AC Copper for Production** | | 1 |
| 7115194 | Oracle | 7115194 | Oracle Server X7-2: 1 RU base chassis with motherboard, eight 2.5-inch drive slots disk cage, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | 1 Intel® Xeon® Platinum 8160 24-core 2.1 GHz processor (for factory installation) | 2 |
| 7115198 | Oracle | 7115198 | One 16 GB DDR4-2666 registered DIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 7117125 | Oracle | 7117125 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 16 port and 2 GB memory (for factory installation) | 1 |

| Oracle X7-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7111182 | Oracle | 7111182 | Oracle Quad Port 10GBase-T Adapter (for factory installation) | 1 |
| 333W-10-13-C14RA | Oracle | 333W-10-13-C14RA | Power cord: Sun Rack jumper, 1 meter, C14RA plug, C13 connector, 13 A (for factory installation) | 2 |
| 7115197 | Oracle | 7115197 | Short heat sink (for factory installation) | 2 |
| 6331A-N | Oracle | 6331A-N | 2.5-inch HDD filler panel (for factory installation) | 6 |
| 7102748 | Oracle | 7102748 | PCIe filler panel (for factory installation) | 2 |
| 7116456 | Oracle | 7116456 | Processor clip (for factory installation) | 2 |
| 7117386 | Oracle | 7117386 | SAS cables for 1U (for factory installation) | 1 |
| **X7-2 AC Copper for Lab (Non-High Available)** | | | | |
| **7117671** | | | **ORACLE X7-2 AC Copper for Production** | 1 |
| 7115194 | Oracle | 7115194 | Oracle Server X7-2: 1 RU base chassis with motherboard, eight 2.5-inch drive slots disk cage, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | 1 Intel® Xeon® Platinum 8160 24-core 2.1 GHz processor (for factory installation) | 2 |
| 7115198 | Oracle | 7115198 | One 16 GB DDR4-2666 registered DIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 7117125 | Oracle | 7117125 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 16 port and 2 GB memory (for factory installation) | 1 |
| 7111182 | Oracle | 7111182 | Oracle Quad Port 10GBase-T Adapter (for factory installation) | 1 |
| 333W-10-13-C14RA | Oracle | 333W-10-13-C14RA | Power cord: Sun Rack jumper, 1 meter, C14RA plug, C13 connector, 13 A (for factory installation) | 2 |
| 7115197 | Oracle | 7115197 | Short heat sink (for factory installation) | 2 |
| 6331A-N | Oracle | 6331A-N | 2.5-inch HDD filler panel (for factory installation) | 6 |
| 7102748 | Oracle | 7102748 | PCIe filler panel (for factory installation) | 2 |
| 7116456 | Oracle | 7116456 | Processor clip (for factory installation) | 2 |
| 7117386 | Oracle | 7117386 | SAS cables for 1U (for factory installation) | 1 |

| Oracle X7-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **X7-2 AC Fiber for Production** | | | | |
| **7117671** | | **ORACLE X7-2 AC Copper for Production** | | 1 |
| 7115194 | Oracle | 7115194 | Oracle Server X7-2: 1 RU base chassis with motherboard, eight 2.5-inch drive slots disk cage, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | 1 Intel® Xeon® Platinum 8160 24-core 2.1 GHz processor (for factory installation) | 2 |
| 7115198 | Oracle | 7115198 | One 16 GB DDR4-2666 registered DIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 7117125 | Oracle | 7117125 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 16 port and 2 GB memory (for factory installation) | 1 |
| 7111182 | Oracle | 7111182 | Oracle Quad Port 10GBase-T Adapter (for factory installation) | 1 |
| 333W-10-13-C14RA | Oracle | 333W-10-13-C14RA | Power cord: Sun Rack jumper, 1 meter, C14RA plug, C13 connector, 13 A (for factory installation) | 2 |
| 7115197 | Oracle | 7115197 | Short heat sink (for factory installation) | 2 |
| 6331A-N | Oracle | 6331A-N | 2.5-inch HDD filler panel (for factory installation) | 6 |
| 7102748 | Oracle | 7102748 | PCIe filler panel (for factory installation) | 2 |
| 7116456 | Oracle | 7116456 | Processor clip (for factory installation) | 2 |
| 7117386 | Oracle | 7117386 | SAS cables for 1U (for factory installation) | 1 |
| 2124A | Oracle | 2124A | QSFP Optical SR (for factory installation) | 4 |
| **X7-2 AC Fiber for Lab (Non-High Available)** | | | | |
| **7117671** | | **ORACLE X7-2 AC Copper for Production** | | 1 |
| 7115194 | Oracle | 7115194 | Oracle Server X7-2: 1 RU base chassis with motherboard, eight 2.5-inch drive slots disk cage, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | 1 Intel® Xeon® Platinum 8160 24-core 2.1 GHz processor (for factory installation) | 2 |

| Oracle X7-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7115198 | Oracle | 7115198 | One 16 GB DDR4-2666 registered DIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 7117125 | Oracle | 7117125 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 16 port and 2 GB memory (for factory installation) | 1 |
| 7111182 | Oracle | 7111182 | Oracle Quad Port 10GBase-T Adapter (for factory installation) | 1 |
| 333W-10-13-C14RA | Oracle | 333W-10-13-C14RA | Power cord: Sun Rack jumper, 1 meter, C14RA plug, C13 connector, 13 A (for factory installation) | 2 |
| 7115197 | Oracle | 7115197 | Short heat sink (for factory installation) | 2 |
| 6331A-N | Oracle | 6331A-N | 2.5-inch HDD filler panel (for factory installation) | 6 |
| 7102748 | Oracle | 7102748 | PCIe filler panel (for factory installation) | 2 |
| 7116456 | Oracle | 7116456 | Processor clip (for factory installation) | 2 |
| 7117386 | Oracle | 7117386 | SAS cables for 1U (for factory installation) | 1 |
| 2124A | Oracle | 2124A | QSFP Optical SR (for factory installation) | 4 |

| Oracle X6-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **X6-2 AC Copper for Production** | | | | |
| **7115324** | | **ORACLE X6-2 AC Copper for Production** | | **1** |
| 7113252 | Oracle | 7113252 | Oracle Server X6-2: 1 RU base chassis with motherboard, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and  disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | One Intel® Xeon® E5-2699 v4 22 core 2.2 GHz processor (for factory installation) | 2 |
| 7110350 | Oracle | 7110350 | Heat sink for 1U (for factory installation) | 2 |
| 7100563 | Oracle | 7100563 | Sun Dual Port 10GBase-T Adapter (for factory installation) | 2 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |

| Oracle X6-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7113240 | Oracle | 7113240 | One 16 GB DDR4-2400 RDIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| **X6-2 AC Copper for Lab (Non-High Available)** | | | | |
| **7115324** | | | **ORACLE X6-2 AC Copper for Lab (Non High Available)** | **1** |
| 7113252 | Oracle | 7113252 | Oracle Server X6-2: 1 RU base chassis with motherboard, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | One Intel® Xeon® E5-2699 v4 22 core 2.2 GHz processor (for factory installation) | 2 |
| 7110350 | Oracle | 7110350 | Heat sink for 1U (for factory installation) | 2 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7113240 | Oracle | 7113240 | One 16 GB DDR4-2400 RDIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| **X6-2 AC Fiber for Production** | | | | |
| **7115324** | | | **ORACLE X6-2 AC Fiber for Production** | **1** |
| 7113252 | Oracle | 7113252 | Oracle Server X6-2: 1 RU base chassis with motherboard, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | One Intel® Xeon® E5-2699 v4 22 core 2.2 GHz processor (for factory installation) | 2 |
| 7100563 | Oracle | 7100563 | Sun Dual Port 10GBase-T Adapter (for factory installation) | 2 |
| 7110350 | Oracle | 7110350 | Heat sink for 1U (for factory installation) | 2 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7113240 | Oracle | 7113240 | One 16 GB DDR4-2400 RDIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |

| Oracle X6-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 1109A-Z | Oracle | 1109A-Z | ASSY,2X10GbE SFP+,X8PCIe 2.0,LP,Lead Free (Niantic) | 2 |
| 2129A-N | Oracle | 2129A-N | SR Transceiver | 4 |
| **X6-2 AC Fiber for Lab (non High Available)** | | | | |
| **7115324** | | | **ORACLE X6-2 AC Fiber for Lab (Non-High Available)** | **1** |
| 7113252 | Oracle | 7113252 | Oracle Server X6-2: 1 RU base chassis with motherboard, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110339 | Oracle | 7110339 | Eight 2.5-inch drive slots, DVD-RW and disk cage for 1U | 1 |
| 7113235 | Oracle | 7113235 | One Intel® Xeon® E5-2699 v4 22 core 2.2 GHz processor (for factory installation) | 2 |
| 7110350 | Oracle | 7110350 | Heat sink for 1U (for factory installation) | 2 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7113240 | Oracle | 7113240 | One 16 GB DDR4-2400 RDIMM (for factory installation) | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 1109A-Z | Oracle | 1109A-Z | ASSY,2X10GbE SFP+,X8PCIe 2.0,LP,Lead Free (Niantic) | 2 |
| 2129A-N | Oracle | 2129A-N | SR Transceiver | 4 |

| Netra X5-2 AC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Netra X5-2 AC Copper for Production** | | | | |
| **7112846** | | | **NETRA X5-2 AC Copper for Production** | **1** |
| 7111082 | Oracle | 7111082 | Netra Server X5-2: 2 RU AC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |

| Netra X5-2 AC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7100563 | Oracle | 7100563 | Sun Dual Port 10GBase-T Adapter (for factory installation) | 2 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 AC Copper for Lab (non HA)** | | | | |
| **7112846** | | **NETRA X5-2 AC Copper for Lab (Non-High Available)** | | **1** |
| 7111082 | Oracle | 7111082 | Netra Server X5-2: 2 RU AC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 AC Fiber for Production** | | | | |
| **7112846** | | **NETRA X5-2 AC Fiber for Production** | | **1** |
| 7111082 | Oracle | 7111082 | Netra Server X5-2: 2 RU AC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 1109A-Z | Oracle | 1109A-Z | Sun Dual 10GbE SFP+ PCIe Low Profile Adapter | 2 |

| Netra X5-2 AC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 2129A | Oracle | 2129A | Dual rate transceiver: SFP+ SR. Support 1 Gb/sec and 10 Gb/sec dual rate (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, inter... | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 AC Fiber for Lab (non HA)** | | | | |
| **7112846** | | **NETRA X5-2 AC Fiber for Lab (Non-High Available)** | | **1** |
| 7111082 | Oracle | 7111082 | Netra Server X5-2: 2 RU AC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 1109A-Z | Oracle | 1109A-Z | Sun Dual 10GbE SFP+ PCIe Low Profile Adapter | 2 |
| 2129A | Oracle | 2129A | Dual rate transceiver: SFP+ SR. Support 1 Gb/sec and 10 Gb/sec dual rate (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, inter... | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |


| Netra X5-2 DC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Netra X5-2 DC Copper for Production** | | | | |
| **7112846** | | **NETRA X5-2 DC Copper for Production** | | **1** |
| 7111083 | Oracle | 7111083 | Netra Server X5-2: 2 RU DC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |

| Netra X5-2 DC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7100563 | Oracle | 7100563 | Sun Dual Port 10GBase-T Adapter (for factory installation) | 2 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 DC Copper for Lab (non HA)** | | | | |
| **7112846** | | **NETRA X5-2 DC Copper for Lab (non High Available)** | | **1** |
| 7111083 | Oracle | 7111083 | Netra Server X5-2: 2 RU DC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 DC Fiber for Production** | | | | |
| **7112846** | | **NETRA X5-2 DC Fiber for Production** | | **1** |
| 7111083 | Oracle | 7111083 | Netra Server X5-2: 2 RU DC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |

| Netra X5-2 DC Power for DSR | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 1109A-Z | Oracle | 1109A-Z | Sun Dual 10GbE SFP+ PCIe Low Profile Adapter | 2 |
| 2129A | Oracle | 2129A | Dual rate transceiver: SFP+ SR. Support 1 Gb/sec and 10 Gb/sec dual rate (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |
| **Netra X5-2 DC Fiber for Lab (non HA)** | | | | |
| **7112846** | | | **NETRA X5-2 DC Fiber for Lab (Non-High Available)** | **1** |
| 7111083 | Oracle | 7111083 | Netra Server X5-2: 2 RU DC base chassis with motherboard and 8 HDDs | 1 |
| 7110346 | Oracle | 7110346 | Intel® Xeon® E5-2699 v3 18-core 2.3 GHz processor (for factory installation) | 2 |
| 7111036 | Oracle | 7111036 | One 16 GB DDR4-2133 DIMM (for factory installation | 16 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 1109A-Z | Oracle | 1109A-Z | Sun Dual 10GbE SFP+ PCIe Low Profile Adapter | 2 |
| 2129A | Oracle | 2129A | Dual rate transceiver: SFP+ SR. Support 1 Gb/sec and 10 Gb/sec dual rate (for factory installation) | 4 |
| 7110116 | Oracle | 7110116 | Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 8 port and 1 GB memory (for factory installation) | 1 |
| 7111052 | Oracle | 7111052 | OSA 8 GB USB stick (for factory installation) | 1 |
| 7111049 | Oracle | 7111049 | 19-inch 4-post slide mount kit and cable management arm | 1 |

| Oracle X5-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **X5-2 AC Copper for Production** | | | | |
| **7112829** | | | **ORACLE X5-2 AC Copper for Production** | **1** |

| Oracle X5-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7112843 | Oracle | 7112843 | Oracle Server X5-2 for Communications: 1 RU base chassis with motherboard, 12 Gb SAS HBA, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110346 | Oracle | 7110346 | ATO,E5-2699 V3,2.3G,145W,18 CORE,C-1 (SR1XD),CPU | 2 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 7110353 | Oracle | 7110353 | XATO,DIMM,16GB,DDR4,2133 | 16 |
| 7100563 | Oracle | 7100563 | Sun Dual Port 10GBase-T Adapter (for factory installation) | 2 |
| 7110360 | Oracle | 7110360 | XATO,OSA 8 GB MLC USB FLASH DRIVE | 1 |
| 7102748 | Oracle | 7102748 | ATO PCIe FILLER,VENTED,LOW PROFILE | 3 |
| 6331A-N | Oracle | 6331A-N | ASSY,HDD,MARLIN-FILLER PANEL | 6 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7110350 | Oracle | 7110350 | XATO,HEATSINK,CPU,1U | 2 |
| 7110339 | Oracle | 7110339 | XATO,DISK_CAGE,2.5" X 8HDD | 1 |
| **X5-2 AC Copper for Lab (Non-HA)** | | | | |
| **7112829** | | | **ORACLE X5-2 AC Copper for Lab (Non-High Available)** | **1** |
| 7112843 | Oracle | 7112843 | Oracle Server X5-2 for Communications: 1 RU base chassis with motherboard, 12 Gb SAS HBA, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110346 | Oracle | 7110346 | ATO,E5-2699 V3,2.3G,145W,18 CORE,C-1 (SR1XD),CPU | 2 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 7110353 | Oracle | 7110353 | XATO,DIMM,16GB,DDR4,2133 | 16 |
| 7110360 | Oracle | 7110360 | XATO,OSA 8 GB MLC USB FLASH DRIVE | 1 |
| 7102748 | Oracle | 7102748 | ATO PCIe FILLER,VENTED,LOW PROFILE | 3 |
| 6331A-N | Oracle | 6331A-N | ASSY,HDD,MARLIN-FILLER PANEL | 6 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7110350 | Oracle | 7110350 | XATO,HEATSINK,CPU,1U | 2 |
| 7110339 | Oracle | 7110339 | XATO,DISK_CAGE,2.5" X 8HDD | 1 |
| **X5-2 AC Fiber for Production** | | | | |
| **7112829** | | | **ORACLE X5-2 AC Fiber for Production** | **1** |

| Oracle X5-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7112843 | Oracle | 7112843 | Oracle Server X5-2 for Communications: 1 RU base chassis with motherboard, 12 Gb SAS HBA, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110346 | Oracle | 7110346 | ATO,E5-2699 V3,2.3G,145W,18 CORE,C-1 (SR1XD),CPU | 2 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 2 |
| 1109A-Z | Oracle | 1109A-Z | ASSY,2X10GbE SFP+,X8PCIe 2.0,LP,Lead Free (Niantic) | 2 |
| 2129A | Oracle | 2129A | Sun 10Gbps Dual Rate SFP+ SR | 4 |
| 7110353 | Oracle | 7110353 | XATO,DIMM,16GB,DDR4,2133 | 16 |
| 7110360 | Oracle | 7110360 | XATO,OSA 8 GB MLC USB FLASH DRIVE | 1 |
| 7102748 | Oracle | 7102748 | ATO PCIe FILLER,VENTED,LOW PROFILE | 1 |
| 6331A-N | Oracle | 6331A-N | ASSY,HDD,MARLIN-FILLER PANEL | 6 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |
| 7110350 | Oracle | 7110350 | XATO,HEATSINK,CPU,1U | 2 |
| 7110339 | Oracle | 7110339 | XATO,DISK_CAGE,2.5" X 8HDD | 1 |
| **X5-2 AC Fiber for Lab (non HA)** | | | | |
| **7112829** | | | **ORACLE X5-2 AC Fiber for Lab (Non-High Available)** | **1** |
| 7112843 | Oracle | 7112843 | Oracle Server X5-2 for Communications: 1 RU base chassis with motherboard, 12 Gb SAS HBA, 2 PSUs, slide rail kit, and cable management arm | 1 |
| 7110346 | Oracle | 7110346 | ATO,E5-2699 V3,2.3G,145W,18 CORE,C-1 (SR1XD),CPU | 2 |
| 7111107 | Oracle | 7111107 | One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation) | 4 |
| 1109A-Z | Oracle | 1109A-Z | ASSY,2X10GbE SFP+,X8PCIe 2.0,LP,Lead Free (Niantic) | 2 |
| 2129A | Oracle | 2129A | Sun 10Gbps Dual Rate SFP+ SR | 4 |
| 7110353 | Oracle | 7110353 | XATO,DIMM,16GB,DDR4,2133 | 16 |
| 7110360 | Oracle | 7110360 | XATO,OSA 8 GB MLC USB FLASH DRIVE | 1 |
| 7102748 | Oracle | 7102748 | ATO PCIe FILLER,VENTED, LOW PROFILE | 1 |
| 6331A-N | Oracle | 6331A-N | ASSY,HDD,MARLIN-FILLER PANEL | 6 |
| 7110359 | Oracle | 7110359 | ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U | 1 |

| Oracle X5-2 for DSR (AC Power) | | | | |
|---|---|---|---|---|
| Oracle Part Number | Supplier | Supplier Part Number | Description | Unit Qty |
| 7110350 | Oracle | 7110350 | XATO,HEATSINK,CPU,1U | 2 |
| 7110339 | Oracle | 7110339 | XATO,DISK_CAGE,2.5" X 8HDD | 1 |

# HP Hardware

| Gen 9 v2 Blades | | | | |
|---|---|---|---|---|
| Oracle Part Number | Supplier | Supplier Part Number | Description | Unit Qty |
| Gen 9 Blade v2 | | | | |
| | | HPE BL460 Gen9 Config 1 | HPE BL460 Gen9 Configuration 1 | 1 |
| | Hewlett-Packard | 813198-B21 | HPE ProLiant BL460c Gen9 E5-v4 10Gb/20Gb FlexibleLOM Configure-to-order Blade Server | 1 |
| | Hewlett-Packard | 819853-L21 | HPE BL460c Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) FIO Proc Kit | 1 |
| | Hewlett-Packard | 819853-B21 | HPE BL460c Gen9 Intel® Xeon® E5-2695v4 (2.1GHz/18-core/45MB/120W) Proc Kit | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with the V4 processor only) | 8 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 684214-B21 | HPE Ethernet 10Gb 2-port 560FLB Adapter (Flex LOM) | 1 |
| | Hewlett-Packard | 665246-B21 | HPE Ethernet 10Gb 2-port 560M Adapter | 2 |
| | Hewlett-Packard | 761871-B21 | HPE Smart Array P244br/1GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |

| Gen 9 v2 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen 9 RMS v2 Prod Server (DC)** | | | | |
| | | **HPE DL380 Gen9 v2 DC** | **OCDSR Configuration 1** | **1** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 720480-B21 | HPE 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |

| Gen 9 v2 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | J6X43A | HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |
| **Gen 9 v2 RMS non High Available (for Lab) Server (DC)** | | | | |
| | | **HPE DL380 Gen9 v2 DC** | **OCDSR Configuration 2 Non HA for Lab** | **1** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 4 |
| | Hewlett-Packard | 720480-B21 | HPE 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |

| Gen 9 v2 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | J6X43A | HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |
| **Gen 9 v2 RMS IDIH Server (DC)** | | | | |
| | | **HPE DL380 Gen9 v2 DC** | **OCDSR Configuration 5** | **1** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 6 |
| | Hewlett-Packard | 720480-B21 | HPE 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |

| Gen 9 v2 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | J6X43A | HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |

| Gen 9 v2 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen 9 RMS v2 Prod Server (AC)** | | | | |
| | | **HPE DL380 Gen9 v2 AC** | **OCDSR Configuration 1** | **0** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 720479-B21 | HPE 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |

| Gen 9 v2 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |
| **Gen 9 v2 RMS non High Available (for Lab) Server (AC)** | | | | |
| | | **HPE DL380 Gen9 v2 AC** | **OCDSR Configuration 2 Non HA for Lab** | **1** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 4 |
| | Hewlett-Packard | 720479-B21 | HPE 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |

| Gen 9 v2 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |
| **Gen 9 v2 RMS IDIH Server (AC)** | | | | |
| | | **HPE DL380 Gen9 v2 AC** | **OCDSR Configuration 5** | **1** |
| | Hewlett-Packard | 719064-B21 | HPE ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 817951-L21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 817951-B21 | HPE DL380 Gen9 Intel® Xeon® E5-2680v4 (2.4GHz/14-core/35MB/120W) Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 805349-B21 | HPE 16GB (1x16GB) Single Rank x4 DDR4-2400 CAS-17-17-17 Registered Memory Kit (Use with V4 processor only) | 16 |
| | Hewlett-Packard | 749974-B21 | HPE Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HPE Ethernet 10Gb Dual Port 560SFP+ Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 6 |
| | Hewlett-Packard | 720479-B21 | HPE 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HPE iLO Advanced including 1yr 24x7 Technical Support | 1 |

| Gen 9 v2 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 720863-B21 | HPE 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HPE DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HPE LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HPE DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HPE DL380 Gen9 High Performance Fan Kit | 1 |

| Gen 9 v1 Blades | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen 9 Blade v1** | | | | |
| | | **HP BL460 Gen9 Config 1** | **HP BL460 Gen9 Configuration 1** | **1** |
| | Hewlett-Packard | 727021-B21 | HP ProLiant BL460c Gen9 E5-v3 10Gb/20Gb FlexibleLOM Configure-to-order Blade Server | 1 |
| | Hewlett-Packard | 727003-L21 | HP BL460c Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 727003-B21 | HP BL460c Gen9 Intel® Xeon® E5-2695v3 (2.3GHz/14-core/35MB/120W) Processor Kit | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 PC4-2133P-R (DDR4-2133) Registered | 8 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 655639-B21 | HP Ethernet 10Gb 2-port 560FLB Adapter (Flex LOM) | 1 |
| | Hewlett-Packard | 665246-B21 | HP Ethernet 10Gb 2-port 560M Adapter | 2 |
| | Hewlett-Packard | 761871-B21 | HP Smart Array P244br/1GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |

| Gen 9 v1 Blades | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |

| Gen 9 v1 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen 9 RMS v1 Prod Server (DC)** | | | | |
| | | **HP DL380 Gen9 DC** | **OCDSR Configuration 1** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF Configure-to-order Server | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 720480-B21 | HP 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |

| Gen 9 v1 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | J6X43A | HP 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |
| **Gen 9 v1 RMS non High Available (for Lab) Server (DC)** | | | | |
| | | **HP DL380 Gen9 DC** | **OCDSR Configuration 2 Non HA for Lab** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF Configure-to-order Server | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 4 |
| | Hewlett-Packard | 720480-B21 | HP 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |

| Gen 9 v1 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | J6X43A | HP 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |
| **Gen 9 v1 RMS IDIH Server (DC)** | | | | |
| | | **HP DL380 Gen9 DC** | **OCDSR Configuration 5** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit (Pick memory dims modules in groups of 4, 8,12,16 with a minimum requirement of 8x16GB=128GB and a maximum requirement of 16x16GB=256GB) | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 720480-B21 | HP 800 W Flex Slot-48VDC Hot Plug Power Supply Kit | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |

| Gen 9 v1 RMS Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 6 |
| | Hewlett-Packard | J6X43A | HP 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required) | 2 |

| Gen 9 v1 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen 9 RMS v1 Prod Server (AC)** | | | | |
| | | **HP DL380 Gen9 AC** | **OCDSR Configuration 1** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF Configure-to-order Server | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 2 |
| | Hewlett-Packard | 720479-B21 | HP 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |

| Gen 9 v1 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| **Gen 9 v1 RMS non High Available (for Lab) Server (AC)** | | | | |
| | | **HP DL380 Gen9 AC** | **OCDSR Configuration 2 Non HA for Lab** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF Configure-to-order Server | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 4 |
| | Hewlett-Packard | 720479-B21 | HP 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |

| **Gen 9 v1 RMS Server (AC Power)** |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| **Gen 9 v1 RMS IDIH Server (AC)** |
| | | **HP DL380 Gen9 AC** | **OCDSR Configuration 5** | **1** |
| | Hewlett-Packard | 719064-B21 | HP ProLiant DL380 Gen9 8SFF | 1 |
| | Hewlett-Packard | 762766-L21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 762766-B21 | HP DL380 Gen9 Intel® Xeon® E5-2680v3 (2.5GHz/12-core/30MB/120W) FIO Processor Kit (Processor Kit Ships with a High Performance Heatsink) | 1 |
| | Hewlett-Packard | 726719-B21 | HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Reg Memory Kit (Pick memory dims modules in groups of 4, 8,12,16 with a minimum requirement of 8x16GB=128GB and a maximum requirement of 16x16GB=256GB) | 16 |
| | Hewlett-Packard | 749974-B21 | HP Smart Array P440ar/2GB FBWC 12Gb 2-ports Int FIO SAS Controller (Includes the HP Smart Storage Battery) | 1 |
| | Hewlett-Packard | 665249-B21 | HP Ethernet 10-Gb 2-port 560SFP+Adapter | 2 |
| | Hewlett-Packard | 720479-B21 | HP 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply) | 2 |
| | Hewlett-Packard | 512485-B21 | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 1 |
| | Hewlett-Packard | 720863-B21 | HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA (Required for Zone 4 installations) | 1 |

| Gen 9 v1 RMS Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| | Hewlett-Packard | 768900-B21 | HP DL380 Gen9 Systems Insight Display Kit | 1 |
| | Hewlett-Packard | 758959-B22 | HP LEGACY FIO MODE SETTING | 1 |
| | Hewlett-Packard | 719070-B21 | HP DL380 G9 Chassis NEBS Conversion Kit | 1 |
| | Hewlett-Packard | 719079-B21 | HP DL380 Gen9 High Performance Fan Kit | 1 |
| | Hewlett-Packard | 872479-B21 | HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive | 6 |

| Gen 8 Blades | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen8 Blade DA-MP** | | | | |
| **7108039** | | | **HP D9N37A_BL460C GEN8_BLADE SERVER_009_ROHS** | **1** |
| 7108039 | Hewlett-Packard | 735151-B21 | -HP ProLiant BL460c Gen8 E5-v2 10Gb FlexibleLOM Server | 1 |
| 7108039 | Hewlett-Packard | 690164-B21 | -HP Smart Array P220i Controller FIO Kit | 1 |
| 7108039 | Hewlett-Packard | 718056-L21 | -HP BL460c Gen8 E5-2680v2 FIO Kit | 1 |
| 7108039 | Hewlett-Packard | 718056-B21 | -HP BL460c Gen8 E5-2680v2 Kit | 1 |
| 7108039 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 4 |
| 7108039 | Hewlett-Packard | 652583-B21 | -HP 652583-B21_600GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108039 | Hewlett-Packard | 631884-B21 | -HP 631884-B21_HP FLEX-10_10GB_2 PORT_ 530M ADAPTER_ROHS | 2 |
| 7108039 | Hewlett-Packard | 684211-B21 | -HP 684211-B21_HP FLEX-10_10GB_2 PORT_530FLB FIO ADAPTER_ROHS | 1 |

| Gen 8 Blades | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Gen8 Blade SOAM** | | | | |
| **7108027** | | | **HP D9N30A_BL460C GEN8_BLADE SERVER_001_ROHS** | **1** |
| 7108027 | Hewlett-Packard | 735151-B21 | -HP ProLiant BL460c Gen8 E5-v2 10Gb FlexibleLOM Server | 1 |
| 7108027 | Hewlett-Packard | 690164-B21 | -HP Smart Array P220i Controller FIO Kit | 1 |
| 7108027 | Hewlett-Packard | 718056-L21 | -HP BL460c Gen8 E5-2680v2 FIO Kit | 1 |
| 7108027 | Hewlett-Packard | 718056-B21 | -HP BL460c Gen8 E5-2680v2 Kit | 1 |
| 7108027 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108027 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108027 | Hewlett-Packard | 631884-B21 | -HP 631884-B21_HP FLEX-10_10GB_2 PORT_ 530M ADAPTER_ROHS | 2 |
| 7108027 | Hewlett-Packard | 684211-B21 | -HP 684211-B21_HP FLEX-10_10GB_2 PORT_530FLB FIO ADAPTER_ROHS | 1 |
| **Gen8 Blade DIH** | | | | |
| **7108104** | **Hewlett-Packard** | **406740-B21** | **HP-406740-B21_1GBE_PASS THRU MODULE_001_ROHS** | **1** |
| 7108027 | | | HP D9N30A_BL460C GEN8_BLADE SERVER_001_ROHS | 1 |
| 7108027 | Hewlett-Packard | 735151-B21 | -HP ProLiant BL460c Gen8 E5-v2 10Gb FlexibleLOM Server | 1 |
| 7108027 | Hewlett-Packard | 690164-B21 | -HP Smart Array P220i Controller FIO Kit | 1 |
| 7108027 | Hewlett-Packard | 718056-L21 | -HP BL460c Gen8 E5-2680v2 FIO Kit | 1 |
| 7108027 | Hewlett-Packard | 718056-B21 | -HP BL460c Gen8 E5-2680v2 Kit | 1 |
| 7108027 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |

| Gen 8 Blades | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108027 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108027 | Hewlett-Packard | 631884-B21 | -HP 631884-B21_HP FLEX-10_10GB_2 PORT_ 530M ADAPTER_ROHS | 2 |
| 7108027 | Hewlett-Packard | 684211-B21 | -HP 684211-B21_HP FLEX-10_10GB_2 PORT_530FLB FIO ADAPTER_ROHS | 1 |
| 7108130 | | | HP_STORAGE BLADE QW918A_600GB HARD DRIVES_ROHS | 1 |
| 7108130 | Hewlett-Packard | QW918A | -HP QW918A_STORAGE BLADE FOR ASSY_ROHS | 1 |
| 7108130 | Hewlett-Packard | 652583-B21 | -HP 652583-B21_600GB 6G SAS_HDD_10K_SFF_ROHS | 12 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Management Server** | | | | |
| **7109444** | | | **HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS** | **1** |
| 7109444 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7109444 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7109444 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7109444 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7109444 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7109444 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7109444 | Hewlett-Packard | 636673-B21 | -HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT | 2 |
| 7109444 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7109444 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7109444 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7109444 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7109444 | Hewlett-Packard | 707865-B21 | -HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS | 1 |
| 7109447 | TELECT | 009-8005-3404H | TEL 009-8005-3404H_FUSE PANEL_150A_4/4_DC_1U_ROHS 5/6 | 1 |
| 7108162 | Anixter | 814-0034-06 | ASSEMBLY MATERIALS_GEN8 DC RMS_POWER UNTERMINATED_MTG HARDWARE_ROHS 5/6 | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **NOAM server** | | | | |
| **7108070** | | | **HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS** | **1** |
| 7108070 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108070 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108070 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108070 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108070 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108070 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108070 | Hewlett-Packard | 636673-B21 | -HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT | 2 |
| 7108070 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108070 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7108070 | Hewlett-Packard | 707865-B21 | -HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS | 1 |
| 7108146 | Hewlett-Packard | A5S98A | HP A5S98A_ POWER CABLE_DC GEN 8 SERVER_2.5M LONG_TERMINATED SERVER END_UNTERMINATED PDP END_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **SDS Server** | | | | |
| **7108070** | | | **HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS** | **1** |
| 7108070 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108070 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108070 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108070 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108070 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108070 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108070 | Hewlett-Packard | 636673-B21 | -HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT | 2 |
| 7108070 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108070 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7108070 | Hewlett-Packard | 707865-B21 | -HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS | 1 |
| 7108146 | Hewlett-Packard | A5S98A | HP A5S98A_ POWER CABLE_DC GEN 8 SERVER_2.5M LONG_TERMINATED SERVER END_UNTERMINATED PDP END_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **Query Server** | | | | |
| **7108070** | | | **HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS** | **1** |
| 7108070 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108070 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108070 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108070 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108070 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108070 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108070 | Hewlett-Packard | 636673-B21 | -HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT | 2 |
| 7108070 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108070 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7108070 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7108070 | Hewlett-Packard | 707865-B21 | -HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS | 1 |
| 7108146 | Hewlett-Packard | A5S98A | HP A5S98A_ POWER CABLE_DC GEN 8 SERVER_2.5M LONG_TERMINATED SERVER END_UNTERMINATED PDP END_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **Gen 8 IDIH Server** | | | | |
| **7108081** | | | **HP D9U38A_DL380 GEN8_DC_SERVER_005_ROHS** | **1** |
| 7108081 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108081 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108081 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108081 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108081 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108081 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 6 |
| 7108081 | Hewlett-Packard | 636673-B21 | -HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT | 2 |
| 7108081 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108081 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108081 | Hewlett-Packard | 593722-B21 | -HP 593722-B21_NC365T_4 PORT ETHERNET SERVER ADAPTER_ROHS | 2 |
| 7108081 | Hewlett-Packard | 631670-B21 | -HP 631670-B21_HP SMART ARRAY_ P420/1GIB FBWC CONTROLLER_ROHS | 1 |
| 7108081 | Hewlett-Packard | 662883-B21 | -HP 662883-B21_HP 380/385 GEN8_8-SFF CAGE/BKPLN KIT_ROHS | 1 |
| 7108081 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7108081 | Hewlett-Packard | 662897-B21 | -HP 662897-B21_HP MINI SAS STRAIGHT TO STRAIGHT 37IN CABLE ASSEMBLIES_ROHS | 2 |
| 7108081 | Hewlett-Packard | 707865-B21 | -HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS | 2 |
| 7108081 | Hewlett-Packard | 653206-B21 | -HP 653206-B21_DL380P/385P GEN8 3 SLOT PCI-E RISER KIT_ROHS | 1 |

| Gen 8 Server (DC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108146 | Hewlett-Packard | A5S98A | HP A5S98A_ POWER CABLE_DC GEN 8 SERVER_2.5M LONG_TERMINATED SERVER END_UNTERMINATED PDP END_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |


| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| **Management Server** | | | | |
| **7109443** | | | **DL380 GEN8_AC_C-CLASS_MANAGEMENT SERVER_021_ROHS** | **1** |
| 7109443 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7109443 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7109443 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7109443 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7109443 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7109443 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7109443 | Hewlett-Packard | 656363-B21 | -HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS | 2 |
| 7109443 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |

| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7109443 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7109443 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7109443 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **NOAM Server** | | | | |
| **7108054** | | | **HP D9N03A_DL380 GEN8_AC_SERVER_001_ROHS** | **1** |
| 7108054 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108054 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108054 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108054 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108054 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108054 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108054 | Hewlett-Packard | 656363-B21 | -HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS | 2 |
| 7108054 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108054 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |

| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108054 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7108054 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **SDS Server** | | | | |
| **7108054** | | | **HP D9N03A_DL380 GEN8_AC_SERVER_001_ROHS** | **1** |
| 7108054 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108054 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108054 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108054 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108054 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108054 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108054 | Hewlett-Packard | 656363-B21 | -HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS | 2 |
| 7108054 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108054 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108054 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |

| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108054 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **Query Server** | | | | |
| **7108054** | | | **HP D9N03A_DL380 GEN8_AC_SERVER_001_ROHS** | **1** |
| 7108054 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108054 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108054 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108054 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108054 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108054 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 2 |
| 7108054 | Hewlett-Packard | 656363-B21 | -HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS | 2 |
| 7108054 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108054 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108054 | Hewlett-Packard | 647594-B21 | -HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS | 1 |
| 7108054 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |

| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |
| **Gen 8 IDIH Server** | | | | |
| **7108067** | | | **HP D9U37A_DL380 GEN8_AC_SERVER_005_ROHS** | **1** |
| 7108067 | Hewlett-Packard | 653200-B21 | -HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS | 1 |
| 7108067 | Hewlett-Packard | 715215-L21 | -HP DL380p Gen8 E5-2680v2 FIO Kit | 1 |
| 7108067 | Hewlett-Packard | 715215-B21 | -HP DL380p Gen8 E5-2680v2 Kit | 1 |
| 7108067 | Hewlett-Packard | 708641-B21 | -HP 16GB 2Rx4 PC3-14900R-13 Kit | 8 |
| 7108067 | Hewlett-Packard | 631679-B21 | -HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS | 1 |
| 7108067 | Hewlett-Packard | 652589-B21 | -HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS | 6 |
| 7108067 | Hewlett-Packard | 656363-B21 | -HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS | 2 |
| 7108067 | Hewlett-Packard | 512485-B21 | -HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA | 1 |
| 7108067 | Hewlett-Packard | 684208-B21 | -HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS | 1 |
| 7108067 | Hewlett-Packard | 593722-B21 | -HP 593722-B21_NC365T_4 PORT ETHERNET SERVER ADAPTER_ROHS | 2 |
| 7108067 | Hewlett-Packard | 631670-B21 | -HP 631670-B21_HP SMART ARRAY_ P420/1GIB FBWC CONTROLLER_ROHS | 1 |
| 7108067 | Hewlett-Packard | 662883-B21 | -HP 662883-B21_HP 380/385 GEN8_8-SFF CAGE/BKPLN KIT_ROHS | 1 |

| Gen 8 Server (AC Power) | | | | |
|---|---|---|---|---|
| **Oracle Part Number** | **Supplier** | **Supplier Part Number** | **Description** | **Unit Qty** |
| 7108067 | Hewlett-Packard | 663478-B21 | -HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS | 1 |
| 7108067 | Hewlett-Packard | 662897-B21 | -HP 662897-B21_HP MINI SAS STRAIGHT TO STRAIGHT 37IN CABLE ASSEMBLIES_ROHS | 2 |
| 7108067 | Hewlett-Packard | 653206-B21 | -HP 653206-B21_DL380P/385P GEN8 3 SLOT PCI-E RISER KIT_ROHS | 1 |
| 7110434 | Anixter | 814-0034-07 | ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6 | 1 |

# Chapter 5:
# Firmware Components

**Topics:**

    Oracle Firmware Upgrade Pack

The firmware components are software that is installed on the hardware. These components are listed in this chapter and are also listed in the Firmware Release Notice. Please refer to the latest Firmware Release Notice for any updates to this list.

# Oracle Firmware Upgrade Pack

The *Oracle Firmware Upgrade Pack Release Notes 3.1.8* lists the firmware versions approved for this Oracle Firmware Upgrade Pack release to assist customers with upgrading their Oracle hardware.  Also, additional instructions and guidance on the firmware upgrades have been provided where possible.

The Release Notes are available on Oracle Help Center (OHC) at
http://docs.oracle.com/cd/E91277_01/index.htm.

# Chapter 6:
# DSR Release 8.3 Supported Upgrade Paths

**Topics:**

Supported Upgrade Paths

This release has been tested for upgrade from specific prior releases. This chapter contains the exact paths for upgrade. Please verify your current installed release is listed on a valid upgrade path.

# Supported Upgrade Paths

The possible upgrade paths to DSR Release 8.3 are listed Table 4.

**Table 4:  DSR Release 8.3 Upgrade Paths**

| Component | From | To |
|----------|------|-----|
| DSR | 7.3.x, 8.0.x, 8.1, 8.1.x, 8.2.x | 8.3 |
| SDS | 7.3.x, 8.0.x, 8.1, 8.1.x, 8.2.x | 8.3 |
| iDIH | 7.3.x, 8.0.x, 8.1, 8.1.x, 8.2.x | 8.2.1 |

*Note*:

- Any upgrade other than listed above is not recommended or supported.  Version 8.3 is also supported as a new or fresh installation.

# Chapter 7:
# DSR Release 8.3 Resolved and
# Known Bugs

**Topics:**

Severity Definitions
Resolved Bug List
Customer Known Bug List

This chapter lists the resolved and known bugs for DSR release 8.3.

These lists are distributed to customers with a new software release at the time of General Availability (GA) and are updated for each maintenance release.

# Severity Definitions

The problem report sections in this document refer to bug severity levels.  Definitions of these levels can be found in the publication, *TL 9000 Quality Management System Measurement Handbook*.

**Problem Report**:  A report from a customer or on behalf of the customer concerning a product or process defect requesting an investigation of the issue and a resolution to remove the cause.  The report may be issued via any medium.

Problem reports are systemic deficiencies with hardware, software, documentation, delivery, billing, invoicing, servicing, or any other process involved with the acquisition, operation, or performance of a product.  An incident reported simply to request help to bring back the service or functionality to normal without the intent to investigate and provide a resolution to the cause of the incident is not a problem report.

1. **Critical**:  Conditions that severely affect the primary functionality of the product and because of the business impact to the customer requires non-stop immediate corrective action regardless of time of day, or day of the week as viewed by a customer on discussion with the organization such as:

   - Product inoperability (total or partial outage),
   - A reduction in the capacity capability, that is, traffic/data handling capability, such that expected loads cannot be handled,
   - Any loss of emergency capability (for example, emergency 911 calls), or
   - Safety hazard or risk of security breach.

2. **Major**:  Product is usable, but a condition exists that seriously degrades the product operation, maintenance, or administration, etc., and requires attention during pre-defined standard hours to resolve the situation.

   The urgency is less than in critical situations because of a less immediate or impending effect on product performance, customers, and the customer's operation and revenue such as:

   - Reduction in product's capacity (but still able to handle the expected load),
   - Any loss of administrative or maintenance visibility of the product and/or diagnostic capability,
   - Repeated degradation of an essential component or function, or
   - Degradation of the product's ability to provide any required notification of malfunction.

3. **Minor**:  Other problems of a lesser severity than "critical" or "major" such as conditions that have little or no impairment on the function of the system.

The numbered severity levels in the tables below correspond to these definitions of 1–Critical, 2–Major, or 3–Minor.

# Resolved Bug List

Table 5: DSR Release 8.3 Resolved Bugs lists bugs resolved in this release.

**Table 5: DSR Release 8.3 Resolved Bugs**

| Bug Number | Severity | Found in Release | Title |
|---|---|---|---|
| 27273103 | 2 | 8.2 | Unequal distribution of outgoing traffic over 2 routes for a RSP having equal RC |
| 27329207 | 2 | 8.2 | GTTSet names r always saved in Upper case irrespective of the case given by user |
| 27613590 | 2 | 8.3 | Rebooting DC causes other MP hosted links 2 go down temporarily |
| 27869254 | 2 | 8.3 | [DSR:Patch] DSR patch builds cannot be installed |
| 28038140 | 2 | 8.3 | Corrupted SLTM ack from VSTP side to peer.  And, changing NP/NAI for translated MSU |
| 28259165 | 2 | 8.3 | SDS 8.3 ST All SOAMs DR causes DP role change to spare |
| 28363197 | 2 | 8.3 | DRL crashes while attempting Implicit Alternate Routing |
| 28423457 | 2 | 8.2 | E88985-01 DSR/SDS NOAM Failover Guide to be updated for PdbRelay Timestamp |
| 25691834 | 3 | 8.1 | Update DSR configuration guide to recommend bigger SOAM VM profile when # conns > 5K |
| 26084380 | 3 | 8.1 | [ONL]Online Help pages with untitled topic title |
| 26084387 | 3 | 8.1 | [ONL]Online Help pages with untitled topic title |
| 26199079 | 3 | 8.1 | Remove user provisioning of default MAPSET/MRNSET i.e. SET ID 0. |
| 26199124 | 3 | 8.1 | 8.1 VSTP-ST:GET operation for GTA, we should either show MAPSET or MRNSET |
| 26199345 | 3 | 8.3 | 8.1 VSTP-ST:Invalid error message (MRNSET ID no longer exist), when it's not expected. |
| 26289514 | 3 | 8.1 | ASU - IPFE is not included in ASU server list |
| 26560940 | 3 | 8.1 | DRMP information missing from SDS online help |
| 26592093 | 3 | 8.1 | NOAMs not failing over during 81.22.0 MR back out to DSR 72.25.0 |
| 26860741 | 3 | 8.2 | vSTP is not handling scon message correctly. |
| 26998761 | 3 | 8.1 | SR 3-15945117121:Upgrade Complete displayed before replication active |
| 27199772 | 3 | 8.2 | [UG:ASU] Upgrade fails: "<server> is REBOOTING but waiting for VALIDATED" |

| Bug Number | Severity | Found in Release | Title |
|---|---|---|---|
| 27270970 | 3 | 8.2 | [8.2ST]ASU didn't bring back the server to ready state when the task was cancel |
| 27272904 | 3 | 8.2 | [8.2ST]ASU rearrange cycles option don't work as expected |
| 27290504 | 3 | 8.3 | Unable to upload backup file to OAM server for DR testing |
| 27298380 | 3 | 8 | Need an independent wallet entry for the PMAC PW. |
| 27354646 | 3 | 8.2 | ComAgent: Check missing in Connection Groups back-end for Servers |
| 27366195 | 3 | 8.1 | Fast Deployment fdconfig template files miss IPv6 fields and notes |
| 27375950 | 3 | 8.3 | [DSRFW] Signaling Firewall should support SCTP multi-homing |
| 27460374 | 3 | 8.3 | M2PA link stuck in retrieval state & could not recover though no traffic running |
| 27460935 | 3 | 8.2 | Obvd traffic continuously getting sent out on a M2PA link, though no incmg traff |
| 27461081 | 3 | 8.3 | MEAL to cater MSU loss happened on VSTP during emergency changeover Rx frm eagle |
| 27468889 | 3 | 8.2 | [vstp]:MMI allows to configure M3ua linkset with numSlkAllowedThr = 0 |
| 27481648 | 3 | 8.2 | 8.2:Upg:DB Replication over SOAP failed alarm on SO in 7.3 when NO upgraded to 8.2 |
| 27519705 | 3 | 8.3 | MTP routing of upto 273 bytes happens on VSTP & also routing for BICC msgs > 272 |
| 27543630 | 3 | 8.3 | VSTP is not propagating the TFR |
| 27550271 | 3 | 8.3 | DCA | Security App - Fields missing in logging |
| 27653840 | 3 | 8.2 | DSR 8.2 RMS Install Guide needs details for Control VLAN using Native VLAN |
| 27681905 | 3 | 8 | Not observing Bold Yellow color highlighting for Duplicate KPI export tasks |
| 27698793 | 3 | 8 | feature activation script fails to update MeasRptGroup with DSR App meas |
| 27730649 | 3 | 8.2 | DSR Cloud bench-marking guide incorrectly mentions SDS SO/DP VM profile data |
| 27785069 | 3 | 7 | IPFE MeasRptGroup update to support RxIpfeBytesSctp measurement |
| 27809470 | 3 | 8.1 | Add Note in User Guide on variation in report generation time |
| 27878585 | 3 | 8.1 | OAM: Egress Throttle List name are not being displayed beyond 25 |
| 27944675 | 3 | 8.1 | NOAM Restore not working |

| Bug Number | Severity | Found in Release | Title |
|---|---|---|---|
| 27986011 | 3 | 7 | Stack Event Bulk Delete Response Handling |
| 27990602 | 3 | 8.1 | SR 3-15945117121:Upgrade Complete displayed before replication active |
| 27990892 | 3 | 8.1 | SR 3-15945117121:Upgrade Complete displayed before replication active |
| 28038271 | 3 | 8.3 | MMI MO 4 cfg GTA rules don't allow to provision 0 opcode value for opcode transitions |
| 28080445 | 3 | 8.3 | VSTP send abort for multi-homed client m2pa conn, when primary path is down. |
| 28092210 | 3 | 8.3 | Porting CSL sysmetrics to vSTP code for Calculating Link Tps |
| 21629948 | 4 | 7.1 | SSST: Status & Manage > Processes screen does not show psbr process status |
| 25496715 | 4 | 8 | Minor issues in DSR netconfig templates |
| 26116451 | 4 | 8.1 | VSTP MMI: Remove dead code related to error ERR_MAP_SET_RSP_NOT_EDITABLE |
| 27095765 | 4 | 8.1 | View History screen filter related issues |
| 27135828 | 4 | 8.2 | Connection name not displayed in IcRate alarm |
| 27184351 | 4 | 8.2 | Incorrect threshold default value in MAPSET and MRNSET |
| 27210638 | 4 | 8.2 | Inconsistent CPU usage source for processes under: Status & Manage -> Processes |
| 27252171 | 4 | 8.3 | RPM description incorrect for TKLCdpi and TKLCmapiwf |
| 27278884 | 4 | 8.2 | PRT/ART rules have no view access, after insert prt table, internal error shows |
| 27305398 | 4 | 8.2 | SDS Disaster Recovery User's Guide updates to replace a single Cisco Switch |
| 27467245 | 4 | 8.2 | DSR verifyUpgrade error: Nothing to do! (/usr/share/tomcat6/webapps/ohw.war) |
| 27619768 | 4 | 8.1 | Scope Filtering is not working on "Alarms & Events->view history" |
| 27668281 | 4 | 8.2 | DSR :: Oracle Consulting ::8.2 files exported to file management result in 0 byt |
| 27976474 | 4 | 7.2 | Main Menu: Administration -> Access Control -> Users [Report] issue |
| 28110001 | 4 | 8.3 | [3PS] put zend framework 2 on a diet |
| 28132633 | 4 | 8.3 | put/get/delete of globaltitleaddresses should use entry know values |
| 28358491 | 4 | 8.3 | Measurement Exports fail due Out of Memory with 50K ARR / PRR |

# Customer Known Bug List

Please find below the known bugs and associated Customer Impact Statements in Table 6:  DSR Release 8.3 Customer Known Bugs.  This information is provided for information purposes only.

**Table 6:  DSR Release 8.3 Customer Known Bugs**

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 28824534 | 3 | 8.3 | RP filtering flag changes from 2 to 1 on upgrade cause IPFE Responder connection failure | Customer Impact:  Linux Kernel rp_filter flag setting (reverse path filtering) has been updated to 1, which means follow a Strict Reverse Path check for each incoming packet.<br><br>If the route configurations are not correct, the strict reserve patch check could lead to connection failure, as Kernel will drop the incoming packets.<br><br>Workaround: Solution for this issue is to correct the route configurations or the rp_filter flag can be updated to value 2 (Loose mode). |
| 27087175 | 3 | 8.2 | Device Deployment Failed alarms on IPFEs while upgrading from 7.1.1 to 8.2 | Customer Impact:  In the unlikely event that the TPD provd server is down, and we happen to have a device edit pending, the edit will be blocked and an alarm raised. (Bug title reflects an instance where this has happened once in the test cycle.)<br><br>Workaround:  Perform a trivial edit to the device; this will retry the edit operation with tpdprovd. |
| 26939388 | 3 | 8.2 | SDS Upgrade: NOAM Servers shall not switchover while Auditing is in progress | Customer Impact:  None, if documented workaround is followed.<br><br>Workaround:  NOAM upgrades are manual upgrade, and the documented procedure instructs the operator to look for the Audit clearance Alarm. |
| 26969222 | 3 | 8.2 | EVENT_NUMBER: 31000 GN_INTERN/WRN Upload failed [FileUploader.cxx:123] post 8.2 | Customer Impact:  Minimal impact is the problem occurs.  The alarm may cycle a few times and then clear after system retries file transfer.  This has only been observed in one test system and did not have long term impact to the system. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 27281145 | 3 | 8.2 | MSU loss when preferred/non-preferred rtes r chged 2 cmbined load sharing routes | Customer impact: During Forced Rerouting/Controlled Rerouting, if link TPS is not configured to handle traffic spike, MSU loss may happen.<br><br>Workaround: Link TPS should be configured so that it can handle traffic spikes during Forced/Controlled Rerouting. |
| 27301480 | 3 | 8.2 | Configuration of TCAP GTT entries | Customer Impact: Minimal. For TCAP GTA entry, if pkgtype is "Any" and there is already an entry for ITU TCAP translation (acn+opcode+pkgtype+gttsetname), then user cannot configure record for ANSI TCAP translation with same values for family,opcode,pkgtype,gttsetname. |
| 27355369 | 3 | 8.2 | [8.2ST] : ERA process restart observed on NO while upgrading SDS 7.3 to 8.2 | Customer Impact: During SDS upgrade, after switchover from primary cluster to upgraded cluster, user provisioned data. Abterms were observed for a process which monitors provisioning tables; however, the process is independent of provisioning.<br><br>Workaround: None. Issue occurred once in partial upgraded system. There is no traffic impact on SDS. Affected process recovers from abterm automatically. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 27413746 | 3 | 8.2 | SNMP Trapping screen issues for SNMPv3 Engine ID field | Customer Impact: User cannot view generated SNMPv3 Engine ID on SNMP Trapping screen. <br> Workaround: <br> 1. Navigate to Configuration > Networking > Networks. <br> 2. Check the default network name for NOAM/SOAM according to the requirement (for example, to configure SNMP trapping for the NOAM/SOAM server group, "XMI" is default network name). <br> 3. Execute command: <br> ip link \| grep -A1 <network name> \| grep ether \| awk  '{print $2}' <br> on NOAM for NOAM SG and on SOAM for SOAM SG where <network name> is text from step #2.  Expected output of the command is formatted like: <br> 02:2a:84:bc:81:0c <br> 4. Remove all of the colons (:) from the output of step #3 and concatenate it after "800001430c" for the engine ID. For example: <br> 800001430c022a84bc810c |
| 27851353 | 3 | 8.1 | Mediation - Send Answer with Experimental Result Code throw GUI error (40020) | Mediation template does not allow user to perform "Send Answer" action with other than pre-defined result code. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 26329245 | 3 | 8.1 | 8.1:ST:export/bakp dir not getting cleaned after transfer to External remote Svr | Customer Impact:  The issue described in the bug will appear in the following scenarios:<br>1. User configured a Remote Server in Active Server<br>2. Switchover happened and user deletes the configured Remote Server before Periodic Task could have spawned.<br><br>Above scenario will lead to the stale directories under /var/TKLC/db/filemgmt/.outgoing and will affect the cleanup procedure.<br><br>Clean up of the Export folder under /var/TKLC/db/filemgmt area will be affected, this will lead to accumulation of these files over the time. |
| 26290407 | 3 | 8.1 | 8.1 Maj Upg NOAM "10134 Server upgrade operation failed", but upgrade succeeded | Customer Impact:  There will be a false alarm, but the upgrade will still be in progress.  Upgrade progress can be verified from the Upgrade Screen.  Moreover, Upgrade logs can be verified to see the progress of upgrade. |
| 26243446 | 3 | 8.1 | Information showing as green even though Hostname is incorrect | Customer Impact:  No functional impact.  Error text is displayed with green background. |
| 26228558 | 3 | 8.1 | Alarm Name should be Read only under Alarm Settings Tab | Customer Impact: None.  Accessibility bug.<br>Workaround:  None. |
| 26186891 | 3 | 8.1 | 8.1 VSTP-ST:Obs Routing fail events for UDTS message without mentioning its UDTS | Minimal impact.  Fix would help in debugging message discarded at MTP3 due to routing failure.  With fields currently reported in event 70064, user will not be able to differentiate whether it is UDT/XUDT or error message like UDTS/XUDTS.  Additional fields will aid in troubleshooting which messages are being discarded by MTP3 due to routing failure. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 26116286 | 3 | 8.1 | USBR update and concurrentupdate stackevent resets the creationTime to 0 | If any DCA application uses 'update' API or 'concurrentUpdate' API, the creation time of a USBR record will be reset to 0. So the DCA application business logic cannot rely on the USBR record creation time. However there currently is no requirement of DCA applications developed so far to use the creation time of the record. |
| 26030628 | 3 | 8.1 | Cannot connect DSR to IDIH over xmi | Minimal customer impact as IDIH should connect via IMI. |
| 25739523 | 3 | 8 | DSR8.0:ST:ImpStore-OracleDB connection error after IDIH upgrade from 7.3 to 8.0 | Customer Impact: Alarm may be raised on the IDIH GUI that will not clear automatically even after connection is successfully established. Workaround: User can manually clear the alarm by highlighting alarm on the IDIH GUI > System Alarms, then selecting "Terminate selected Alarm(s)". |
| 25730821 | 3 | 8 | [ISBR:HaRes] SBRs may fail to de-register COMCOL Resources when removed from RDs | Customer Impact: No impact to traffic since this issue was seen on a decommissioned server group that is not a part of resizing plan. Also, there should be no operational impact as MOP source documentation has been updated to required cleanup of decommissioned Servers and Server Groups. Workaround: If there are any Servers and Server Groups which are no longer being used after the completion of a Resizing plan then the user should delete them. |
| 25719122 | 3 | 8 | [PDRA:ApplRestart] psbr abterm can occur during controlled shutdown/restart | Customer Impact: No service/traffic impact. An abterm may be generated during the process restart via GUI (Status & Manage -> Server). |
| 25669402 | 3 | 8 | DSR 8.0:ST:VIPs not activated when servers are in same network but diff sites | Customer Impact: If all SOAM servers (different sites) are in the same network, user will not be able to access SOAM using VIP when spare SOAM server becomes active. Workaround is available. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25656089 | 3 | 8 | DSR8.0:ST: ISO deployment got stuck for the site when servers got restarted | Customer Impact:  During preparation for upgrade activity, if the user reboots a server while an ISO transfer is taking place, the transfer will be stopped and will not restart until manual workaround is performed. Workaround:  Contact My Oracle Support for assistance. |
| 25651803 | 3 | 8 | [PCA:CACD] Alarm for Degraded ComAgent Conns when USBRs removed from Session RD | Customer Impact:  No functional impact. Alarm is raised for servers that do not belong to the active Session SBR Database. Workaround:  To clear the alarm, restart the SBR servers on which the alarm is raised. ***CAUTION*** If any DCA application is actively sending data to these SBR servers, this workaround is NOT recommended as it may cause traffic loss. |
| 25637633 | 3 | 8 | Unknown column 'ROLE' in 'where clause' | Customer Impact:  Minimal impact as filter is not typically used for System OAM during upgrades.  User will receive error "Unknown column 'ROLE' in 'where clause'", when filtering on Server Role "System OAM" via the Main Menu: Administration -> Software Management -> Upgrade screen. Workaround:  User can navigate to the desired System OAM tab to get the data. |
| 25600027 | 3 | 8 | [CfgDbReinit] lmysqld,apwSoapServer unexpectedly terminate during initialization | Customer Impact:  Minimal impact as issue occurs during reboot.  The impact is that the server could take longer to come into service. |
| 25575141 | 3 | 8 | [PDRA:Recon] Disabling PDRA during USBR Recon fails with Error code 21648 | Customer Impact:  User will not be able to disable PDRA function while running reconfiguration plan for a USBR database. User can disable function after all reconfiguration plans have completed. |
| 25529974 | 3 | 8 | DSR MMI Issues in AppWorks MON URIs | Customer Impact:  None.  Measurement budget is not currently enforced. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25525005 | 3 | 8 | Data Export Transfer Now and Test Transfer does not provide feedback to the user | Customer Impact: The user does not see immediate notification regarding the test transfer action.<br><br>Workaround: The user needs to select and view the "Status & Manage -> Tasks -> Active Tasks" screen to see the test task and its status. |
| 25505595 | 3 | 8 | DSR 8.0:ST: InstallOS op on guests using PMAC failed with reason as internal err | Customer Impact: No impact to traffic. Filesystem full could prevent normal operations such upgrades or addition of new servers. The filesystem full condition was a result of an ISO being copied into an incorrect location (home/admusr).<br><br>Workaround: Delete extra files that have been incorrectly copied to /home/admusr. This clears the alarm and allows normal operation. |
| 24796935 | 3 | 8 | [AW:oampAgent] "DB Late Write Non-active" alarm by NO during Act->Stby transition | Customer Impact: No operational impact. Alarm may be triggered when switchover of NOAM occurs.<br><br>Workaround: None required. |
| 24565936 | 3 | 8 | Time to GET Network Devices increases with the number of configured items | Customer Impact: When a full GET request is invoked by an MMI client for Network Devices, there will be a long delay in the response.<br><br>Workaround: The client could filter the request. |
| 24564563 | 3 | 8 | Network Devices added via GUI or MMI become "Discovered" on delete | Customer Impact: No operational impact. The issue is transient and clears on its own.<br><br>Workaround: None required. |
| 24529517 | 3 | 8 | Time to create Network Routes increases with the number of configure routes | Customer Impact: Customer must take into account the time it will take to create a large number of Network Routes. |
| 24392971 | 3 | 8 | SQL error observed when removing connections in parallel | Customer Impact: If encountered, the customer will need to retry the delete action. When multiple concurrent clients are updating the database at the exact same moment it is possible that the second client will receive an update error. This will NOT cause any data integrity issues.<br><br>Workaround: The client receiving the update failure must retry. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25180486 | 3 | 7.4 | XML import testing not taking place in SDS | Customer Impact: No impact to traffic. Data will be imported, but the Import Status screen will not reflect this information properly.<br>Workaround:<br>1. Use CSV import instead of XML import, or<br>2. Use the Maintenance->Command Log to check for the status of imported records. |
| 24751466 | 3 | 7.3 | NGN-PS configuration mismatch between DA-MP and SBR MP | Customer Impact: Customer could configure system where NGN-PS is enabled on PCA DA-MP but disabled on Session SBR MP causing some alternate key binding searches to fail. To encounter this issue all of the following conditions must exist.<br>1. PCA DA-MP and session SBR MP are under different SOs,<br>2. NGN-PS is enabled on PCA MP but disabled on Session SBR MP,<br>3. Binding SBR MP is congested with CL 2 or higher,<br>4. The CCR-I contains at least one of MSISDN, IPv4 or IPv6, in addition to IMSI, i.e., the session SBR needs to send createAlternateKey stack event to binding SBR,<br>5. The CCR-I has NGN-PS priority, and<br>6. The subsequent CCR-Is or AARs need to search alternate keys in the binding SBR DB.<br><br>Workaround: Modify the NGN-PS configuration (enabled or disabled) such that all PCA DA-MPs and SBR MPs under the same NO have the same configuration. |
| 24341145 | 3 | 7.3 | [DSR_7_3_SYSTST] Need to handle defective blade which has gone isolated | Customer Impact: No immediate impact to traffic. Replication of configuration to downstream servers could be impacted. Workaround: Reboot the isolated server to restart the cmha process. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 24334664 | 3 | 7.3 | DSR ASG feature should be TSA aware to avoid potential outage | Customer Impact:  Potential upgrade impact.  If TSAs are distributed across a subset of available MPs, customer should not use the Automated Server Group upgrade to upgrade the DA-MP server group as the Automated Server Group upgrade feature does not consider TSA assignments when selecting DA-MPs for upgrade.  Workaround:  DA-MPs should be upgraded manually to avoid the risk of outage. |
| 23132640 | 3 | 7.3 | [DSR7.3] Issues configuring/ reconfiguring PCRF records | Customer Impact:  If 2 sites are configured using the same SOAM Network Element it is not possible to configure the same PCRF entry at both sites.  Workaround:  Use a different SOAM Network Element at each site.  During installation it is possible to configure two SOAM Network Elements having different names, but with the same network configuration. |
| 24957750 | 3 | 7.2 | PCA SSST 8.0 :SysMetric for ComAgentIngressStack EventRate is not getting pegged | Customer Impact:  No impact to traffic.  Inaccurate measurement count for ComAgentIngressStackEventRate . |
| 23283553 | 3 | 7.2 | SO Local node port | Customer Impact:  Minimal GUI issue.  Customer can configure local node TCP/SCTP ports beyond maximum stated on GUI.  There is an error in the field description on the GUI.  The port range maximum is 65535. |
| 23236381 | 3 | 7.2 | DOIC/ETG Maint. screens: red cells missing 'SMS degraded' on ComAgent conn chg | Customer Impact:  Customer must review raised alarm to determine why cell is red. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 23139593 | 3 | 7.2 | [PDRA] Losing binding records during site failure/recovery | Customer Impact: Potential signaling impact. If the session SBRs at Site 2 recover from the reboot while the HA networks are down, a split brain will occur. If this happens and ComAgent is able to route from binding SBRs to the session SBRs at Site 2, there will be record loss caused by the binding audit. Workaround: None |
| 23093382 | 3 | 7.2 | [VEDSR] Upgrade from 7.1.x to 7.2 does not update the IPFE alarm thresholds | Customer Impact: No impact to functionality or throttling. This only affects the alarming. |
| 23056184 | 3 | 7.2 | DOIC: Error Code 19766 not generated with removal of last SOAM from SG. | Customer Impact. This is unlikely to occur in the field. User will not receive an error when the last SOAM server is removed from the SOAM server group when there are local TTGs marked as shared by a remote site. |
| 22829662 | 3 | 7.2 | [DSR 7.2 UPG] Number of matches from DSR GUI is much larger than from IDIH GUI | Customer Impact: No signaling impact. More IDIH traces may be captured than expected. |
| 22709649 | 3 | 7.2 | PCA SSST: HA Resource Switchover time is longer than expected. | Customer Impact: Diameter signaling that requires a Policy SBR query/transaction will fail during switchover until Active server is available and normal. |
| 25340784 | 3 | 7.1 | iDIH Number of Matches does not increment | Customer Impact: Although traces are captured as expected, user may not see IDIH Number of Matches increment. |
| 25186432 | 3 | 7.1 | IDIH:7.1: mediation health check failed while doing IDIH Install in VEDSR setup | Customer Impact: IDIH may require manual intervention to clean up comcol db after installation. |
| 23064842 | 3 | 7.1 | [VEDSR] G9RMS: 2 Simultaneous Bulk Audits result in call failure | Customer Impact: If 2 SBRs are bulk-audit/loading simultaneously on the same server, there may be momentary traffic alarms due to network saturation. Workaround: Perform SBR database loads on a server one at a time. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 22121220 | 3 | 7.1 | DB compare should ensure hostname of restore server exists in Server table | Customer Impact: Customer must use the same hostname previously assigned during the DSR Disaster Recovery procedure to configure the first NOAM server otherwise the database restore will fail. |
| 21965489 | 3 | 7.1 | [Cloud]Hardware Id is HW_UNKNOWN on KVM / OpenStack | Customer Impact: Unexpected ComAgent behavior. ComAgent parameters are set to high for Cloud installations when the Hardware Id is not recognized "HW_UNKNOWN". The ComAgent Parameters are set to HP Gen6 hardware which will potentially cause the Cloud installation to be overwhelmed with ComAgent traffic. |
| 21917304 | 3 | 7.1 | [Appworks]: Failure to resolve IPv6 addresses in DNS post- IPv6 migration | Customer Impact: No operational impact. Workaround has been incorporated in the IPv6 Migration Guide. |
| 21692073 | 3 | 7.1 | pdbRelayMsgLogTimeStamp should be separated from the ProvOptions table | Customer Impact: No operational impact. Upgrade Backout wipes out the pdbRelayMsgLogTimeStamp causing pdbRelay to fail. This has been compensated by work-around in current Backout procedures until a SW fix is available. |
| 21509820 | 3 | 7.1 | SSST: Exception Measurement SbrRemoveSessDbErr pegged during sunny day call flow | Customer Impact: No impact to traffic. Exception Measurement SbrRemoveSessDbErr can (depending on the call mix) be pegged while running a sunny day call flow. In this case it is misleading to peg an error measurement when in fact the signaling behavior is working correctly. The impact is that the error pegs are misleading. |
| 21493608 | 3 | 7.1 | Problem specifying OCS Realm or Node for SS=Specific Message for adjacent node | Customer Impact: Traffic will fail using session state on OCS node. Workaround: Have the OCS node or OCS realm located in the DSR as the CTF node. Or change the session state to "All message" |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 21452436 | 3 | 7.1 | [7.1SysTest] Traffic loss when recovering a site from outage | Customer Impact:  Potential traffic impact; if preferred spare has taken the active role due to active/standby being down, if and active/standby servers becomes available the preferred spare may give up activity before the other server is ready.<br><br>Workaround:  To minimize impact, if possible, before recovering the site that was down, ensure it will not become active by forcing the servers to "OOS" at "Main Menu > Status & Manage > HA [Edit]". Then changed the servers to "Active" during a maintenance window. |
| 21385635 | 3 | 7.1 | 7.1 SysTest: During DR procedure, disk shortage alarms are present on SOs | Customer Impact:  Disk Alarms 32312 and 31121 will be present on the GUI for the /var/TKLC/rundb partition on SOAM server.<br><br>Workaround is available.  Contact My Oracle Support (MOS) for assistance, if needed. |
| 21273728 | 3 | 7.1 | DRNO login takes a long time when former primary NO is unavailable | Customer Impact: GUI issue.<br><br>This issue only occurs only in a disaster recovery scenario, when the primary NOAM site has failed and is not reachable on the network. In this scenario the login does work, the issue is that it is very slow.<br><br>Workaround:  Wait for the login attempt to complete. |
| 20757520 | 3 | 7.1 | [DSR IPv6]: No support for IPv6 deletion or IPv6 to IPv4 failover | Customer Impact:  As of DSR 7.1, IPv6 to IPv4 automatic fail over is not supported. Example: The system may not automatically fail over (recovery seamlessly) if disruption of the IPv6 network is encountered.<br><br>As for IPv6 deletion, this process is now supported, and is covered in the IPv6 migration guide (E57517-01) |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 20745780 | 3 | 7.1 | Potential (PDRA) configuration change problems in an upgrade window in DSR 5.1+ | Customer Impact:  Potential upgrade/GUI issue. For the below parameters that are GUI configurable, during an upgrade window (OAM has been upgraded, but not all MPs have been upgraded) if these values are modified on the GUI, the new value will not be replicated down to MPs that are still running the old release (due to upgrade barrier). Affected GUI screens and parameters: ***NOAM Main Menu: Policy and Charging -> Configuration -> General Options (All fields) Network-Wide Options (All allowed fields) Online Charging DRA -> OCS Session State -> [Edit] ("OCS Session State Enabled" field) Online Charging DRA -> Realms (All configurable fields) Online Charging DRA -> Network-Wide Options (All fields) Alarm Settings (All configurable entries) Congestion Options (All configurable entries on this screen) ***SOAM Main Menu: Policy and Charging -> Configuration -> Policy DRA -> PCRFs (All fields) Policy DRA -> Binding Key Priority Policy DRA -> PCRF Pool To PRT Mapping Policy DRA -> Site Options (Topology Hiding Virtual Name) |
| 20513017 | 3 | 7.1 | [IPv6] DSR ComAgent Remote Server Insert Fails First Time on Browser | Customer Impact:  GUI issue.  This issue occurs on the first insert attempt after opening a new browser, or on the first attempt of a given day.  The insert does not apply. Workaround:  User must try again.  All subsequent attempts will work successfully for the remainder of the day. |
| 25304996 | 3 | 7 | Contradicting EMR calculation times in Diameter UG | Customer Impact:  Online help may not be clear with contradicting values of 15ms, 90ms and 100 ms at different places. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25112686 | 3 | 7 | Mediation rule upgrades from DSR 5.0 takes a long time with many Mediation rules | Customer Impact: Potential upgrade impact. Upgrade of systems with many provisioned mediation rules may take longer to complete. |
| 22321459 | 3 | 7 | Eth config files not restored after swapping Mezz cards | Customer Impact: Default values are restored instead of previously configured values. Manual steps will need to be run to restore network configuration. |
| 20670614 | 3 | 7 | Fresh Install - Feature activation, feature not always visible in LHM sites 2/3 | Customer Impact: No impact to customer. Workaround has been documented in the installation guide. |
| 20495654 | 3 | 7 | [LRGSYS] certain screens in Large Topology DSR take long time to display | Customer Impact: Screen rendering is delayed on very large topologies. |
| 20198495 | 3 | 7 | [STP7.0] IPFE Conn starving Fixed Conn due to (upgrade related) MP outage | Customer Impact: If IPFE initiators and responders are co-located and many peer nodes are attempting to establish connections while DA-MPs are reloading resources can get allocated in an unbalanced way that keeps some initiator connections from establishing. Workaround: Restart some of the IPFE responder connections. This will free resources for initiators to establish, and the responders will get moved to a DA-MP with capacity. |
| 20244290 | 3 | 6 | In virtualized environment PSBR processing latency is observed during traffic | Customer Impact: None if proper number VCPUs are configured. |
| 19402375 | 3 | 6 | migration script with IPv6 aborts because of compressed IPv6 IPs in db | Minimal Customer Impact: Unable to migrate IPv6 MPs User will not be able to do migration from Active/Standby to Active/Active configuration if MPs have IPv6 IP Addresses. Workaround: Before migration Change the format of IPv6 Addresses in Network table, those should be in expanded form like "fd0d:deba:d97c:0ee5:0000:0000:0000:0000". |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 27182197 | 4 | 8.2 | [8.2FT]:Domain ID field in filter gets disabled after filtering it once | Customer Impact:  On the SDS -> Configuration -> Subscribers screen, after filtering on Domain ID, if the page is reloaded the Domain ID textbox is greyed out and disabled. |
| 26710183 | 4 | 8.2 | RE when edited to remove the destination, should not be saved | Customer Impact:  If an RE is edited and all destinations are set to None then any FABR queries to this particular RE will fail (ATTACH failures will be seen). <br><br> Workaround:  None.  Though as a note: for any FABR query to pass, a valid destination must be assigned to an RE. |
| 26721143 | 4 | 8.2 | VSTP capacity status per STP-MP | Customer Impact: DSR 8.2 does not have capacity constraint per VSTP MP.  In absence of these validations, user might end up in configuring the system beyond limits. |
| 27272082 | 4 | 8.2 | VSTP Abterm has been observed at the time of two MPs was HARD Rebooted | Customer Impact:  No traffic loss or functionality impact.  The abterm indicates that it fails in initialization after hard reboot.  It does not impact service and process recovered successfully. |
| 26313885 | 4 | 8.1 | DSR 8.1:ST: Status & Manage ->Files is not accessible from NO & throw error | Customer Impact:  In NOAM and SOAM when there will be large number of files present inside File Management Area (/var/TKLC/db/filemgmt) and user clicks on "Status & Manage -> Files" option on GUI for that server, then apwSoapServer will become slow as it will utilize the max CPU to sort the files in memory.  This impacts the apwSoapserver functionality as well as that overall server performance. This is limited to OAM servers and will not impact Signaling Servers.  This is a legacy issue. <br><br> This issue happened because Remote Server Copy was not deleting the files after copying them to remote Server. A separate Bug will be raised to address this issue. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 26270776 | 4 | 8.1 | Process Util spikes seen for pingAllLivePeer and iptablesAdm | Customer Impact:  This has no impact on the advertised performance figures.  While testing smallest VM resource profile (for example, 4 vCPUs/8G RAM), we observed an anomaly wherein pingAllLivePeer and iptablesAdm tasks results in CPU spikes.  The bench-marked / advertised MPS (for example, 6K RBAR MPS per DA-MP) has already considered these spikes and runs fine with this anomaly. |
| 26188293 | 4 | 8.1 | [DASH:P&C] DSR Dashboard PCA Avg Ing MPS instead reported as RxPdraMsgRate | Dashboard screen does not include OCDRA MPS.  It is showing only PDRA MPS.  "SBR Sessions" under "Servers" tab SBR Sessions field is not including OCDRA Sessions count. |
| 26187472 | 4 | 8.1 | Required field asterisk is not the correct location "Trusted Network Realms" | No impact.  The GUI Required Attribute Indicator (*) for NO GUI, on the Diameter -> Configuration -> Topology Hiding -> Trusted Network Lists -> [Insert] -> Trusted Network Realms screen is located after the textbox field rather than after the label. |
| 26133355 | 4 | 8.1 | VSTP-2410: Rename startaddress and endaddress to GTA and EGTA in GTA MO | No system impact.  This bug is raised to provide clarity by renaming the attributes "startaddress" to GTA and "endaddress" to EGTA of URI /vstp/globaltitleaddresses. |
| 26133325 | 4 | 8.1 | VSTP-2417 Rename translationIndicator in the /vstp/globaltitleaddresses to xlat | No functional impact.  This bug is raised to provide a more meaningful name to attribute "translationIndicator" in /vstp/globaltitleaddresses. |
| 26133289 | 4 | 8.1 | VSTP-2418: Error text updates for /vstp/globaltitleaddresses | No functional impact.  Request to enhance existing error strings. |
| 26127371 | 4 | 8.1 | Vstp Error ERR_OPR_FAILED_NO_ENTRY not uniformly used for all MOs | No system impact as this bug is to improve the usage of error ERR_OPR_FAILED_NO_ENTRY in VSTP MMI |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 26099657 | 4 | 8.1 | /vstp/connections/status URI has an undocumented alias /vstp/connectionstatus | An authenticated/authorized user will not get error on using /vstp/connectionstatus URI which is not documented in the API specification. |
| 25975473 | 4 | 8.1 | M2PA link status gets displayed as UP though its down | No traffic loss or service loss. VstpLinkStatus may report M2PA link status as available after vSTP process manually stopped. |
| 25737480 | 4 | 8.1 | [DSR SSST 8.1] When we insert device, XSI IPv4 address replaces with IPV6 address. | Operator will not be able to add two devices at the same time |
| 25573507 | 4 | 8.1 | [DSR SSST 8.1] IPFE validation missing in IPFE ->Configuration->Options screen | If wrong IP address is used, then TSA will not work. This will only happen when operator is configuring the IP address incorrectly. In field, operator shall use the correct IP address and verify the configuration before starting the traffic. |
| 25800233 | 4 | 8 | DSR8.0:ST:Error displayed wrongly in GUI when running task is cancelled | Customer Impact: Task is cancelled however may not be immediately apparent. Workaround: Long running task can be cancelled, and ASU restarted. |
| 25697793 | 4 | 8 | POST bulk/configurator fail w/ 400 response: issue connecting to hosts | Customer Impact: If this error occurs, user will need to retry the command. |
| 25660736 | 4 | 8 | Backout: SOAM returns errors with verifyUpgrade and verifyBackout. | Customer Impact: The only impact is errors may be returned when running verifyUpgrade and verifyBackout. The back out completes successfully. Workaround. None required. The back out completes successfully. |
| 25643859 | 4 | 8 | GUI: SBR Status screen repeating display of server groups with >25 SGs. | Customer Impact: Minimal GUI impact. On the SBR -> Maintenance-> SBR Status screen, when the number of Server Groups(SGs) in a place association displayed (rows) is greater than 25, rows 26 on are a repeat of the first SGs displayed at the top of the screen. Workaround: View the SGs in a Place Association using different scoping to limit the number of SGs to less than 25. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25616683 | 4 | 8 | Capacity Summary screen constraints inconsistent with Online Help doc | Customer Impact:  Online help has an inaccuracy concerning max local nodes =32 instead of 48. |
| 25590648 | 4 | 8 | MMI request shall not raise exception in any error condition | Customer Impact:  No functional impact. An exception is reported and logged in an error log but the error not reported in the JSON response. |
| 25590613 | 4 | 8 | DSR MMI Empty visibility for some of the measurement groups | Customer Impact:  More information may be provided than expected.  The MMI supplies information for all Measurement Groups in the database.  The visibility will be blank if the feature is not activated. |
| 25590581 | 4 | 8 | DSR MMI Restrict the Resource Name to not use URI reserved keywords | Customer Impact:  Customer cannot use reserved keywords in MMI URI request. |
| 25590566 | 4 | 8 | DSR MMI Bulk Configurator returns wrong error for invalid filename | Customer Impact:  An error will be returned for invalid filename but the error text, "Filename cannot exceed 255 characters", is incorrect. |
| 25590532 | 4 | 8 | DSR MMI Screen name seen as UNKNOWN in the Security Logs | Customer Impact:  No operational impact. Although "screen name" field of the security log displays "UNKNOWN" all applicable information is available as text in the security log. |
| 25590495 | 4 | 8 | DSR MMI KPI Groups not getting validated correctly | Customer Impact:  More information may be provided than expected.  The MMI supplies information for all KPI Groups in the database regardless of whether the feature has been activated or not. |
| 25584247 | 4 | 8 | Misleading DCA Custom Event Template Throttling Description | Customer Impact:  Misleading Alarm Throttling Interval description.  Minimum value is incorrect. [Default = 60; Range = 0-300] should read [Default = 60; Range = 5-300]. |
| 25542610 | 4 | 8 | When NMS server added user may return to a screen with addition not reported | Customer Impact:  Update may not be reflected on GUI until it is manually refreshed.<br>Workaround:  None.  User will need to navigate back to the desired screen rather than be automatically returned to it. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 25462998 | 4 | 8 | Pause update not functioning on ComAgent screens | Minimal Customer Impact: The GUI status Communication Agent -> Maintenance screen will continue to update when pause update checkbox is selected. |
| 25379612 | 4 | 8 | IDIH: 80.17.2: OAM GUI showing extra mediation input sources | Customer Impact: No operational impact. Extra mediation source entries may be displayed. If the IDIH has ever been modified to retrieve data from another DSR SOAM, table entries for server hosts from the other SOAM will be displayed in IDIH OAM application screen Applications->DSR->"Mediation Input Sources". <br> Workaround: Disregard hosts that no longer apply to the current configuration. |
| 25254213 | 4 | 8 | Copyright visible on screen | Customer Impact: No operational impact. On the Diameter Common -> Dashboard -> Configuration -> Metric Threshold Configuration Sets screen the copyright information is present above the table description. |
| 25231844 | 4 | 8 | Selecting Edit button with keyboard takes you to a blank screen | Customer Impact: On the Diameter Common --> MPs --> Profiles screen, user cannot select Edit using the keyboard. <br> Workaround: Use the mouse to edit MP profiles. |
| 25028429 | 4 | 8 | DSR Backout: invalid response from User (yes vs. y) shouldn't abort CLI Session | Customer Impact: If user does not type y or N in response to, "Continue backout? [y/N]:", there is no reason given for the abort of the backout command. <br> Workaround: The backout command can be re-entered. |
| 24935222 | 4 | 8 | LRGSYS: KPI screen taking a long time to display | Customer Impact: Potential GUI delay. On large topologies, it can take up to 90 seconds to draw the KPI screen. <br> Workaround: None. |
| 24621473 | 4 | 8 | The SBR HA and HA health check scripts accessing tables instead of SOAP APIs. | Customer Impact: No impact to customer. |
| 24479659 | 4 | 8 | IPFE Target Set issue with BIE and gcli | Customer Impact: Exported IPFE files cannot be used for import operations. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 24377541 | 4 | 8 | [Network Insert Screen]: VLAN ID field should not be mandatory | Customer Impact:  On the Networking -> Networks [Insert] screen, user will need to populate the VLAN ID field with a value of 1-4094 regardless of whether the field is used or not. |
| 23858799 | 4 | 8 | Local Pause Update Inconsistent | Customer Impact:  No operational impact. On several GUI screens there are two "Pause Updates" checkboxes, one with a scope global to the GUI and the other with a scope local to that menu item. |
| 23421644 | 4 | 8 | [AW]Log In button not centered in the box at the Login Screen in Firefox browser | Customer Impact:  No operational impact. Cosmetic issue only. |
| 25042701 | 4 | 7.4 | Abterm is generated on manual application restart | Customer Impact:  No impact to traffic. User would see alarm 32508 (Server core file detected).  If user restarts the DSR process for an MP server it may generate a core file causing the alarm. Workaround:  Any core file should be investigated before removing from the system to clear the alarm. |
| 25264670 | 4 | 7.3 | Configuration report compilation can fail due to insufficient space in /var/tmp | Customer Impact:  The configuration report export may not complete, resulting in no/empty file and APDE task hung/aborted. Alarms are raised and will abate automatically or in some cases require manual intervention to recover the file space. |
| 24370650 | 4 | 7.3 | [7.3 UPG] Cloud-init service caused 2 minutes delay in VMware VM reboot | Customer Impact:  Rebooting a VM in VMware can have an additional 2 minute delay. Workaround is available. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 23505543 | 4 | 7.3 | [DSR 7.3 ST] KPI Trans Success Rate does not match Dashboard Success Trans % | Customer Impact: Customer may see the following on the DSR GUI:<br>1. Dashboard is not aligned with KPI screens<br>2. < 100% can be 'yellow' trigger, which makes the Dashboard screen present erroneous alarms.<br><br>Workaround:<br>1. Use the KPI screen for actual success numbers.<br>2. Set Dashboard alarm trigger to <99% so that yellow does not appear. |
| 23477541 | 4 | 7.2 | SS7 MP Server gets deleted even when transport is configured | Customer Impact: User will not be able to delete stale transport. |
| 23323324 | 4 | 7.2 | DOIC-pegstat DivertedOut for TTPs are incorrect for Connection RGs | Customer Impact: No impact to traffic. Inaccurate measurement count for DivertedOut measurements for Connection Route Groups that route to multiple peers. |
| 23222826 | 4 | 7.2 | System.CPU_UtilPct sysmetric is lower than expected on VM | Customer Impact: VE DSR customers should use dsr.Cpu instead of System.CPU_UtilPct as metric. |
| 23075799 | 4 | 7.1 | [VEDSR] G9 RMS: abterm Seen on DAMP over Graceful Host Shutdown | Customer Impact: No impact, as DA-MP was being shut down when abterm occurred. |
| 22217695 | 4 | 7.1 | [Cloud] Max MPS traffic alarm [i.e., 22106] does not consider MAP original traffic | Customer Impact: The Maximum MPS traffic alarm will not be raised for MAP originated traffic even if the traffic is greater than the alarm thresholds. The Maximum MPS traffic alarm does not consider diameter traffic running on DA-MPs due to MAP originated calls. Only Diameter originated traffic is considered. |
| 21796989 | 4 | 7.1 | Issue with PCA ComAgent queue full error handling | Customer Impact: Possible failures of session creation requests while resizing plan is in progress only when the ComAgent queue is full and topology hiding/Session state is enabled. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 21591252 | 4 | 7.1 | CSRF validation failure on configuration and maintenance screens | Customer Impact: If a CSRF validation failure is received when attempting to an operation thru the GUI (rare occurrence), the user will have to make a 2nd attempt for the same action with same data set to have the update successfully applied. |
| 21554520 | 4 | 7.1 | PCA SSST: Stuck SysMetricThreshold Alarms after SBR switchover | Customer Impact: Customer could intermittently experience stuck alarms after an SBR failover. Alarms are stuck until manual intervention is applied to clear them.<br>Workaround is available. Contact My Oracle Support (MOS) for assistance, if needed. |
| 21493343 | 4 | 7.1 | Local Initiate Port Values Not Shown After 6.0 to 7.1 Upgrade | Customer Impact: Potential upgrade workaround.<br>If any DSR initiator connections are configured with a local initiate port values, user will need to disable and re-enable connections after the upgrade is complete to re-establish connections.<br>Workaround: To establish the connection on the Local Initiate Port, disable and then enable the connection. |
| 20778632 | 4 | 7.1 | [7.1]ESBC:Group administration Edit function of Network-Options screen broken | Minimal Customer Impact: If user makes changed on Administration -> Access Control -> Groups [Edit] screen, clicking **OK** may not record changes.<br>Workaround: Click **Apply**, and then **OK**. |
| 20805853 | 4 | 7 | Update Help Text on Remote Servers-Data Export-Keys Report Page | No Operational Impact: Instructions are correct. This addresses grammatical and formatting issues. |
| 20697000 | 4 | 7 | Incorrect Navigation being displayed | Customer Impact: No functional impact. |
| 20696866 | 4 | 7 | Duplicate Parent Topic links in Online Help | Customer Impact: No functional impact. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 20440390 | 4 | 7 | LRGSYS: AppWorks SOAP Server DB ReInit Thread Stuck Sometimes | Customer Impact:  Unlikely to impact customer.  This issue was encountered in a test environment where user was trying to setup hundreds of servers at the same time.  The impact is DB re-initialization do not start for any newly added servers.  Workaround is available. |
| 20293217 | 4 | 7 | [Cloud]Shared mem is monitored by allocated mem which is not the actual used RAM | Customer Impact:  Shared memory exhausted alarm (31116 - Excessive Shared Memory) may be raised even if system has unused RAM. |
| 20078150 | 4 | 7 | [Upg 7.0] Certain Upgrade/Backouts unable to finish within 4 hour maintenance window | Customer Impact:  Customer may require extended and/or multiple maintenance windows to schedule upgrade activities. |
| 19903633 | 4 | 7 | dsr process not exiting cleanly when under load | Customer Impact:  No impact to normal DSR operation.  This was encountered during reboot of a TVOE host with DAMP guests.  DSR process will not gracefully shutdown when traffic is running.  Workaround:  Disable connections before reboot. |
| 19846672 | 4 | 7 | OCDRA- Average Measurements are showing half value than actual value | Customer Impact:  Some of the average measurements for the entire network work may not show the correct values.  Workaround:  Use the average measurements value per server. |
| 19117425 | 4 | 6 | [239975][M2D-60.10.0-RMS]: ComAgent Connection Down on SS7-MPs with ACT/STBY DA- | Minimal Customer Impact:  Unwanted ComAgent Major Alarms "ComAgent Connection Down" alarms for the standby DA-MP are safe to ignore. |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 28467673 | 3 | 8.3 | DSR APIGW backup takes place at noon instead of midnight | Customer Impact: The API GW backup cron job occurs at 12 noon instead of midnight.<br><br>Workaround: If the user wants the cron to execute the job at 12:00 midnight, before executing the install script:<br><br>• Edit the /u02/app/oracle/scripts/backupDSRAPI GWConfigData.cron file on the Admin server<br>• Change the first 2 entries of the line from 00 12 to 00 00. |
| 28465848 | 3 | 8.3 | OCSG COMCOL DB issue with Default value on OCSG | Customer Impact: A portion of the APIGW configuration will not be recorded into the database.<br><br>Workaround: Run the following commands on the DB server:<br><br>sudo Imysql.client<br>and Run below triggers<br>DELIMITER //<br>CREATE TRIGGER slee_str_trig_i BEFORE INSERT ON slee_snmp_trap_receivers FOR EACH ROW BEGIN SET NEW.status = IFNULL(NEW.status,1); END//<br>CREATE TRIGGER slee_str_trig_u BEFORE UPDATE ON slee_snmp_trap_receivers FOR EACH ROW BEGIN SET NEW.status = IFNULL(NEW.status,1); END//<br>CREATE TRIGGER slee_ii_trig_i BEFORE INSERT ON slee_instance_ids FOR EACH ROW BEGIN SET NEW.session_counter = IFNULL(NEW.session_counter,0); SET NEW.cyclic_session = IFNULL(NEW.cyclic_session,0); SET NEW.next_id = IFNULL(NEW.next_id,0); SET NEW.next_cyclic_id = IFNULL(NEW.next_cyclic_id,0); SET NEW.id_written = IFNULL(NEW.id_written,0); |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| | | | | SET NEW.cyclic_id_written = IFNULL(NEW.cyclic_id_written,0); END// |
| | | | | CREATE TRIGGER slee_ii_trig_u BEFORE UPDATE ON slee_instance_ids FOR EACH ROW BEGIN SET NEW.session_counter = IFNULL(NEW.session_counter,0); SET NEW.cyclic_session = IFNULL(NEW.cyclic_session,0); SET NEW.next_id = IFNULL(NEW.next_id,0); SET NEW.next_cyclic_id = IFNULL(NEW.next_cyclic_id,0); SET NEW.id_written = IFNULL(NEW.id_written,0); SET NEW.cyclic_id_written = IFNULL(NEW.cyclic_id_written,0); END// |
| | | | | DELIMITER; |
| 28456272 | 3 | 8.3 | Inter VSTP M2PA link stuck in proving state though no traffic. | Customer Impact:  In rare instances an M2PA Link may get stuck in the Proving state and no traffic will be carried on the stuck link.  This occurs due to a race condition when the proving timer is a very small value and is running at same time connection is terminated. |
| | | | | Workaround:  Customer needs to Disable and then Enable the stuck link to recover from condition. |
| 28435966 | 3 | 8.3 | Invalid notification sent if DRR is with missing Absent-Subscriber-Diagnostic-T4 | Customer Impact:  If an SMSC sends a DRR with invalid SM-Delivery-Outcome-T4 AVP value as '0' but missing 'Absent-Subscriber-Diagnostic-T4' AVP, the SCEF Notification report will not be correct. |
| | | | | Notification report: /daf-network/apigw/v1 {   "msisdn": "98873983003",   "result": "Unknown DeviceTriggeringDeliveryResult: 255" } |
| | | | | Work around:  None |

| Bug Number | Severity | Found in Release | Title | Customer Impact |
|---|---|---|---|---|
| 28414256 | 3 | 8.3 | All links of linkset r UP but, still carrying around ~50% load of configured TPS | Customer Impact: In a lab scenario utilizing the Eagle product generated traffic into a 16 link vSTP linkset with configured LinkTPS=1250. This Linkset was capable of taking 1250*16=20k in each direction. Taking one link down caused congestion as expected, however the congestion continued after the link is brought back in service. The Eagle continues to send Remote Busy to vSTP and links run at a lower rate. Workaround: Engineer LinkTPS at a higher value than the maximum anticipated in changeover scenarios. |
| 28353971 | 3 | 8.3 | OCSG does not validate special characters in SCSASID delimiter | Customer Impact: If customer enters special characters in SCSASID_APN_Suffix_Delimiter in the OCSG console, the URL will be rendered incorrectly. Work around: APIGW user document will describe the constraint on delimiter configuration parameter. |
| 28134563 | 3 | 8.3 | Auto Site Upgrade failure not cleaned up automatically, re-upgrade attempt blocked | Customer Impact: If during Automated Site Upgrade, upgrade on a server fails due to an issue like NTP failure or greater than 70% /var usage, the customer may see a message "site already has an automated site upgrade in progress" stating upon trying to restart the upgrade. Workaround: Cancel the Site upgrade task from "Main Menu: Status & Manage -> Tasks -> Active Tasks" screen. Then restart the upgrade. |
| 28545072 | 3 | 8.3 | Duplicate OID name in DSR MIB (eagleXgDsrDbHealthImpactNotify) | Customer Impact: There is a duplicate name DbHealthImpact for different OIDs which will cause an issue when trying to load the MIB file into the SNMP server. Workaround: In the MIB file, edit the OID name for the 31151 event from DbHealthImpact to DbHealthImpactPersist |
| 27969036 | 4 | 8.3 | vEIR: Alarm/Event is not generated if IMSI greater than 15 or less than 5 digits | Customer Impact: Without an event generated, customer will not realize that a message was not processed as normal due to out-of-range digit length IMSI. |

# Chapter 8:
# Oracle References and Services

**Topics:**

My Oracle Support (MOS)
Emergency Response
Customer Training
Locate Product Documentation on the
    Oracle Help Center Site
Locate Product Release Software on the
    Oracle Software Delivery Cloud
    Site

This chapter describes how to obtain help, where to find related documentation, and provides other general information.

# My Oracle Support (MOS)

MOS (https://support.oracle.com) is your initial point of contact for all product support and training needs.  A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for new service request.
2. Select 3 for hardware, networking, and Solaris operating system support.
3. Select one of the following options:

   - For technical issues such as creating a new Service Request (SR), select 1.
   - For non-technical issues such as registration or assistance with MOS, select 2.

You are connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, and 365 days a year.

# Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US) or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html.  The emergency response provides immediate coverage, automatic escalation, and other features to ensure the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action.  Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

# Customer Training

Oracle University offers expert training on Oracle Communications solutions for service providers and enterprises.  Make sure your staff has the skills to configure, customize, administer, and operate your communications solutions so your business can realize all of the benefits these rich solutions offer.  Visit the Oracle University web site to view and register for Oracle Communications training: http://www.oracle.com/education.oracle.com/communication.  To reach Oracle University:

- In the US, please dial 800-529-0165.
- In Canada, please dial 866-825-9790.
- In Germany, please dial 0180 2000 526 (toll free) or +49 8914301200 (International).
- In Spain, please dial +34 91 6267 792.
- In the United Kingdom, please dial 0845 777 7 711 (toll free) or +44 11 89 726 500 (International).

For the appropriate country or region contact phone number for the rest of the world, please visit Oracle University's web site at http://www.oracle.com/education/contacts.

# Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, http://docs.oracle.com.  You do not have to register to access these documents.  Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

1. Access the Oracle Help Center site at http://docs.oracle.com.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications** documentation link.

   The Communications Documentation page displays.  Most products covered by these documentation sets appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."

4. Click on your product and then the release number.

   A list of the entire documentation set for the selected product and release appears.

5. To download a file to your location, right-click the PDF link, click **Save Target As** (or similar command based on your browser), and save to a local folder.

# Locate Product Release Software on the Oracle Software Delivery Cloud Site

Oracle Communications software is available for electronic download at the Oracle Software Delivery Cloud (OSDC) site, https://edelivery.oracle.com.  Only authorized customers with a valid password may download software from the site.

For directions on downloading the software and other information about using this site, click FAQ on the top right corner.