

# Oracle® Communications Diameter Signaling Router Release Notes



Release 8.6.0.2.0

F70686-03

February 2023

The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

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F70686-03

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# What's New in this Guide

This section introduces the documentation updates made in Oracle Communications Diameter Signaling Router (DSR) Release Notes.

## Release 8.6.0.2.0 - F70686-03, February 2023

The following sections are updated:

- Added new part number as part of PMAC version update in the [Media Pack](#) section.
- Updated PMAC version from 6.6.1.1.0-66.11.0 with 6.6.1.2.0-66.13.0 in the [Load Lineup](#) section.

## Release 8.6.0.2.0 - F70686-02, December 2022

Updated the unit quantity to **2** of 872479-B21 supplier number for both AC and DC RMS servers in the [HP Hardware](#) section.

## Release 8.6.0.2.0 - F70686-01, October 2022

The following sections are updated in DSR Release 8.6.0.2.0 Release Notes:

- [Feature Descriptions](#): Added two new vSTP features supported in this release.
- [Media Pack](#): Updated the Media Pack for this release.
- [Load Lineup](#): Updated the Load Lineup for this release.
- [Supported Upgrade Paths](#): Updated the supported upgrade paths for this release.
- [Resolved Bug List](#): Added new resolved bugs for DSR and vSTP for this release.
- [Known Bug List](#):
  - Added a new customer known bug to the known bug list.
  - Removed two bugs from the known bug list for vSTP, which are resolved.

# 1

## Introduction

This *Oracle Communications Diameter Signaling Router Release Notes* includes the following:

- Feature descriptions
- Information on supported hardware baseline
- Media and documentation pack
- Supported upgrade paths for this release
- Resolved and known bugs for this release

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

### 1.1 DSR Overview

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.

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Before installing third-party software on the same server with Oracle products, for example, DSR, PCRF, UDR, PIC, EAGLE, and so on, you must be aware of the following information:

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- Oracle Support may require that the customer uninstall the non-Oracle software and reinstall Oracle products, for example, DSR, PCRF, UDR, PIC, EAGLE, and so on, to recover the system to address any field issue.

# 2

## Virtual Platforms Supported

Virtual DSR is tested and supported only on the following platforms:

- VMware ESXi 6.0 U2
- KVM QEMU 1.5.3, libvirt 1.2.8, and API QEMU 1.2.8
- Openstack Train

For more information, see *DSR Cloud Benchmarking Guide*.



### Note:

Our benchmarking and performance numbers are based only on the above mentioned platforms. If the customer environment is deployed on any other platform, all issues including compatibility and infrastructure concerns would be the responsibility of the customer. Oracle would only be responsible for application related issues.



# 3

## Feature Descriptions

This chapter provides a summary of features released in DSR release 8.6.0.2.0.

### 3.1 Release 8.6.0.2.0

This sections summarizes all the new and enhanced features in DSR, vSTP, VNF, and SCEF.

#### 3.1.1 DSR

No new features or feature enhancements have been introduced in this release.

#### 3.1.2 vSTP

The following Virtual Signaling Transfer Point (vSTP) features are implemented in Release 8.6.0.2.0:

- **vENUM/DNS Phase-2**

This feature enhances the Virtual E.164 Number Mapping (vENUM) functionality to add support for non-ENUM Domain Name Services (DNS) queries such as A, AAAA, SRV queries, and so on. Also, this adds a local DNS server database at vENUM, where Zones and DNS records can be provisioned through DSR GUI. While ENUM-specific DNS queries are handled using database at the User Data Repository (UDR). All other types of DNS queries are addressed based on the local database configured at vENUM.

For more information, see *Oracle Communications Diameter Signaling Router vENUM User Guide*.

- **vSTP SFAPP Enhancement**

This enhancement adds a separate Serving GPRS Support Node (SGSN) Global Title (GT) field in UDR Common Security DB similar to Visitor Location Register (VLR) GT and enhances Stateful Application (SFAPP) logic for SGSN validation. As Message Signaling Unit (MSU) can come from VLR or SGSN, these must be treated and validated separately.

For more information, see *Oracle Communications Diameter Signaling Router SS7 Security Guide*.

#### 3.1.3 VNF

No new features or feature enhancements have been introduced in this release.

#### 3.1.4 SCEF

No new features or feature enhancements have been introduced in this release.

# 4

## Media and Documentation

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.

### 4.1 Media Pack

All components available for download from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com/>) are in the following Media Pack contents tables.



#### Note:

This list is accurate at the time of release but is subject to change. See the [Oracle Software Delivery Cloud](#) website for the latest information.

#### 4.1.1 DSR Release 8.6.0.2.0

**Table 4-1 Media Pack Contents for DSR 8.6.0.2.0**

Part Number	Description
V1031797-01	Oracle Communications Diameter Signaling Router 8.6.0.2.0-96.18.0
V1031798-01	Oracle Communications Diameter Signaling Router 8.6.0.2.0-96.18.0 OVA
V1031799-01	Oracle Communications Diameter Signaling Router, Full Address Resolution 8.6.0.2.0-96.18.0
V1031828-01	Oracle Communications Diameter Signaling Router, Full Address Resolution 8.6.0.2.0-96.18.0 OVA
V1031811-01	Oracle Communications Diameter Signaling Router Diameter Security Application 8.6.0.2.0-96.18.0
V1031814-01	Oracle Communications Diameter Signaling Router Rx ShUDR Application 8.6.0.2.0-96.18.0
V1031812-01	Oracle Communications Diameter Signaling Router Steering Of Roaming Application 8.6.0.2.0-96.18.0
V1031813-01	Oracle Communications Diameter Signaling Router Zero Balance Application 8.6.0.2.0-96.18.0
V1031815-01	Oracle Communications Diameter Signaling Router Virtual Network Functions Manager 5.4.1.0.0-54.6.0 QCOW2
V1031857-01	Oracle Communications Diameter Signaling Router Virtual Network Functions Manager Artifacts 5.4.1.0.0-54.6.0
V1031827-01	Oracle Communications Diameter Signaling Router 8.6.0.2.0-96.18.0 MIBs
V1031858-01	Tekelec Platform Distribution 7.8.4.0.0-89.24.0

**Table 4-1 (Cont.) Media Pack Contents for DSR 8.6.0.2.0**

Part Number	Description
V1033990-01	Tekelec Platform Management and Configuration 6.6.1.2.0-66.13.0

## 4.2 Load Lineup

This section provides information about supported services and ATS for this release.

### 4.2.1 DSR Release 8.6.0.2.0

DSR Release 8.6.0.2.0 contains the following components:

- Application Lineup
  - DSR: 8.6.0.2.0-96.18.0
  - SDS: 8.6.0.2.0-96.18.0
  - VNFM: VNFM\_5.4.1.0.0-54.6.0
  - ATS: 8.6.0.0.0-1.0.8
- Platform Lineup
  - TPD: 7.8.4.0.0-89.24.0
  - TVOE: 3.8.3.0.0-89.21.0
  - PMAC: 6.6.1.2.0-66.13.0 and 6.6.1.0.0-66.9.0

#### Note:

- \* PMAC 6.6.1.2.0 includes Tekelec Platform Distribution (TPD) 7.8.3.0.0 and it only supports this version of TPD.
- \* PMAC 6.6.1.0.0 or PMAC 6.6.1.2.0 can be used with DSR 8.6.0.2.0.

- gSOAP: 2.8.123
- Comcol: 7.5.0.52.0-14123
- Appw: 9.6.0-96.9.0
- Exgs: 9.6.0-96.9.0

## 4.3 Documentation Pack

All documents are available for download from the [Oracle Help Center \(OHC\)](#) site.

**Table 4-2 Documentation Pack Contents**

<b>Release Notes and Licensing Information User Manuals Document Set</b>
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**Table 4-2 (Cont.) Documentation Pack Contents**

Release Notes
Licensing Information User Manual
<b>DSR Planning, Installation, Upgrade, and Disaster Recovery Document Set</b>
DSR Feature Guide
DSR 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 User Guide
DSR Software Upgrade Guide
Rack Mount Server Installation Guide
Rack Mount Server Disaster Recovery Guide
Rack Mount Server Network Interconnect
DSR/SDS NOAM Failover User Guide
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 NIR MEALS Data
DSR Security Guide
DSA with UDR User Guide
DSR Security App Using Mediation Example Procedure
Zero Balance Application User Guide
Diameter Signaling Router Rx ShUDR Application User Guide
DSR VM Placement and CPU Socket Pinning Tool
DSR Compliance Matrix
<b>Cloud Installation and Upgrade Document Set</b>
DSR Cloud Installation Guide
DSR Cloud Software Upgrade Guide
DSR Cloud Disaster Recovery Guide
DSR Automated Test Suite (ATS) Installation and User Guide
DSR API Gateway Installation Guide
DSR API Gateway Disaster Recovery Guide
VNF Whitepaper
DSR VNFM Installation and User Guide
VNFM HEAT Templates
DSR Cloud Benchmarking Guide
SDS Cloud Installation Guide
SDS Cloud Disaster Recovery Guide
<b>Diameter Signaling Router Core Document Set</b>

**Table 4-2 (Cont.) Documentation Pack Contents**

DSR Getting Started
Roadmap to Hardware Documentation Reference
Operation, Administration, and Maintenance (OAM) User Guide
Diameter User Guide
MMI API Specification
Communication Agent User Guide
Policy Charging Application User Guide
Mediation User Guide
Range Based Address Resolution (RBAR) User Guide
Full Address Based Resolution (FABR) User Guide
Subscriber Binding Repository (SBR) User Guide
IP Front End (IPFE) User Guide
Diameter Common User Guide
Equipment Identity Register User Guide
Diameter Custom Application (DCA) User Guide
Diameter Custom Application (DCA) Programmer Guide
Roaming Steering Application User Guide
RADIUS User Guide
vSTP User Manual
vSTP SS7 Security User Guide
vSTP eLYNX Card Installation Guide
vSTP ADAX Card Installation Guide
ENUM User Guide
ENUM Heat Template
Mobile Number Portability (MNP) User Guide
TIF User Guide
SCEF User Guide
SCEF - YAML Files
DSR SCEF Partner's User Guide
Alarms and KPIs Reference
Measurements Reference
Glossary
Related Publications Reference
<b>Subscriber Data Server Document Set</b>
SDS Getting Started
SDS User Guide
SDS Provisioning Interface Guide
SDS Installation and Configuration Guide
SDS Software Upgrade Guide
SDS Disaster Recovery Guide
<b>UDR Installation, Upgrade, and Disaster Recovery Document Set</b>
UDR Cloud Installation and Configuration Guide
UDR Cloud Software Upgrade Procedure

**Table 4-2 (Cont.) Documentation Pack Contents**

UDR Cloud Disaster Recovery Guide
Provisioning Gateway Installation Guide
UDR Heat Templates
Provisioning Gateway Heat Templates
UDR SOAP Provisioning Interface Specification
UDR REST Provisioning Interface Specification
UDR Bulk Import/Export File Specification
UDR Provisioning Database Application and Interface Specification
<b>Integrated Diameter Intelligence Hub (IDIH) Document Set</b>
IDIH Release Notes
IDIH User Guide
IDIH Alarm Forwarding Administrator's Guide
IDIH Audit Viewer Administrator's Guide
IDIH Operations, Administration and Maintenance Administrator's Guide
IDIH ProTrace User Guide
IDIH Log Viewer Administrator's Guide

# 5

## Supported Hardware Baseline

The hardware identified in [Table 5-1](#) comprises the hardware and server versions that have been verified with this release.

### 5.1 Supported Hardware Baseline

**Table 5-1 Supported Hardware Baseline**

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 sections contains the information about Oracle and HP hardware Bill of Material (BOM).

### 5.2 Oracle Hardware

Oracle X7-2 for DSR (AC Power)				
Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>X7-2 AC Copper for Production</b>				
7117671		<b>ORACLE X7-2 AC Copper for Production</b>		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

<b>Oracle X7-2 for DSR (AC Power)</b>				
<b>Oracle Part Number</b>	<b>Supplier</b>	<b>Supplier Part Number</b>	<b>Description</b>	<b>Unit Qty</b>
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
<b>X7-2 AC Copper for Lab (Non-High Available)</b>				



Oracle X7-2 for DSR (AC Power)				
Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7117671		<b>ORACLE X7-2 AC Copper for Production</b>		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

<b>Oracle X7-2 for DSR (AC Power)</b>				
<b>Oracle Part Number</b>	<b>Supplier</b>	<b>Supplier Part Number</b>	<b>Description</b>	<b>Unit Qty</b>
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
<b>X7-2 AC Fiber for Production</b>				
<b>7117671</b>		<b>ORACLE X7-2 AC Copper for Production</b>		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

<b>Oracle X7-2 for DSR (AC Power)</b>				
<b>Oracle Part Number</b>	<b>Supplier</b>	<b>Supplier Part Number</b>	<b>Description</b>	<b>Unit Qty</b>
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
<b>X7-2 AC Fiber for Lab (Non-High Available)</b>				
<b>7117671</b>		<b>ORACLE X7-2 AC Copper for Production1</b>		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

## 5.3 HP Hardware

**Table 5-2 Gen 9 v2 Blades**

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
		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

Table 5-3 Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 RMS v2 Prod Server (DC)</b>				
		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

Table 5-3 (Cont.) Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	J6X43A	HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required)	2
<b>Gen 9 v2 RMS non High Available (for Lab) Server (DC)</b>				
		HPE DL380 Gen9 v2 DC	OCDSR Configuration 2 Non HA for Lab	1
	Hewlett-Packard	719064-B21	HPE ProLiant DL380 Gen9 8SFF	1

Table 5-3 (Cont.) Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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



Table 5-3 (Cont.) Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	J6X43A	HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required)	2
<b>Gen 9 v2 RMS IDIH Server (DC)</b>				
		HPE DL380 Gen9 v2 DC	OCDSR Configuration 5	1
	Hewlett-Packard	719064-B21	HPE ProLiant DL380 Gen9 8SFF	1

Table 5-3 (Cont.) Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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

Table 5-3 (Cont.) Gen 9 v2 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	J6X43A	HPE 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required)	2

Table 5-4 Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 RMS v2 Prod Server (AC)</b>				
		HPE DL380 Gen9 v2 AC	OCDSR Configuration 1	0
	Hewlett-Packard	719064-B21	HPE ProLiant DL380 Gen9 8SFF	1

Table 5-4 (Cont.) Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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

Table 5-4 (Cont.) Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
<b>Gen 9 v2 RMS non High Available (for Lab) Server (AC)</b>				
		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

Table 5-4 (Cont.) Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	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

Table 5-4 (Cont.) Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 v2 RMS IDIH Server (AC)</b>				
		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

Table 5-4 (Cont.) Gen 9 v2 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	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

Table 5-5 Gen 9 Blade v1

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
		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



Table 5-5 (Cont.) Gen 9 Blade v1

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	758959-B22	HP LEGACY FIO MODE SETTING	1

Table 5-6 Gen 9 v1 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 RMS v1 Prod Server (DC)</b>				
		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

Table 5-6 (Cont.) Gen 9 v1 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	719070-B21	HP DL380 G9 Chassis NEBS Conversion Kit	1

Table 5-6 (Cont.) Gen 9 v1 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
<b>Gen 9 v1 RMS non High Available (for Lab) Server (DC)</b>				
		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	2
	Hewlett-Packard	720480-B21	HP 800 W Flex Slot-48VDC Hot Plug Power Supply Kit	2

Table 5-6 (Cont.) Gen 9 v1 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	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
<b>Gen 9 v1 RMS IDIH Server (DC)</b>				
		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

Table 5-6 (Cont.) Gen 9 v1 RMS Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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

Table 5-6 (Cont.) Gen 9 v1 RMS Server (DC 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
	Hewlett-Packard	J6X43A	HP 12AWG PWR-48V DC 3.0m Crd (DC Power Cable two required)	2

Table 5-7 Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 RMS v1 Prod Server (AC)</b>				
		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

Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	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

Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen 9 v1 RMS non High Available (for Lab) Server (AC)</b>				
		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	2
	Hewlett-Packard	720479-B21	HP 800 W Flex Slot Platinum Hot Plug Power Supply Kit (AC Power Supply)	2



Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	719070-B21	HP DL380 G9 Chassis NEBS Conversion Kit	1
	Hewlett-Packard	719079-B21	HP DL380 Gen9 High Performance Fan Kit	1
<b>Gen 9 v1 RMS IDIH Server (AC)</b>				
		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

Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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

Table 5-7 (Cont.) 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
	Hewlett-Packard	872479-B21	HPE 1.2 TB 12G SAS 10K rpm SFF (2.5-inch) SC Ent 3yr Warranty Hard Drive	6
<b>Gen 9 v1 RMS IDIH Server (DC)</b>				
		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

Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
	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
	Hewlett-Packard	758959-B22	HP LEGACY FIO MODE SETTING	1

Table 5-7 (Cont.) Gen 9 v1 RMS Server (AC 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	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

Table 5-8 Gen 8 Blades

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Gen8 Blade DA-MP</b>				
7108039			HP D9N37A_BLA460C GEN8_BLADE SERVER_009_RO HS	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

Table 5-8 (Cont.) Gen 8 Blades

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
<b>Gen8 Blade SOAM</b>				
7108027			HP D9N30A_BLADE 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
<b>Gen8 Blade DIH</b>				

Table 5-8 (Cont.) Gen 8 Blades

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
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

Table 5-8 (Cont.) Gen 8 Blades

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7108130	Hewlett-Packard	652583-B21	HP 652583-B21_600GB 6G SAS_HDD_10K_SFF_ROHS	12

Table 5-9 Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Management Server</b>				
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
7109444	Hewlett-Packard	636673-B21	HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT	2



Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RM S_EXTENTION KIT_ETH CABLES_ROHS 5/6	1
<b>NOAM server</b>				
7108070			HP D9N07A_DL380 GEN8_DC_SER VER_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
7108070	Hewlett-Packard	631679-B21	HP 631679- B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROH S	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

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
<b>SDS Server</b>				

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7108070			HP D9N07A_DL380 GEN8_DC_SER VER_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
7108070	Hewlett-Packard	631679-B21	HP 631679- B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROH S	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_IN TEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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 GEN8 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
<b>Query Server</b>				
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

Table 5-9 (Cont.) 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

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
<b>Gen 8 IDIH Server</b>				
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
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

Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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



Table 5-9 (Cont.) Gen 8 Server (DC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7108081	Hewlett-Packard	662897-B21	HP 662897-B21_HP MINI SAS STRAIGHT TO STRAIGHT 37IN CABLE ASSEMBLIES_R OHS	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
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

Table 5-10 Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
<b>Management Server</b>				
7109443			DL380 GEN8_AC_C-CLASS_MANAGEMENT SERVER_021_ROHS	1

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
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

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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_EXTENSION KIT_ETH CABLES_ROHS 5/6	1
<b>NOAM Server</b>				
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

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RMS_EXTENSION KIT_ETH CABLES_ROHS 5/6	1
<b>SDS Server</b>				
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

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
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
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RMS_EXTENSION KIT_ETH CABLES_ROHS 5/6	1
<b>Query Server</b>				

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7108054			HP D9N03A_DL380 GEN8_AC_SERV ER_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_S FF_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_INT EGRATED 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

Table 5-10 (Cont.) 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
<b>Gen 8 IDIH Server</b>				
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

Table 5-10 (Cont.) Gen 8 Server (AC Power)

Oracle Part Number	Supplier	Supplier Part Number	Description	Unit Qty
7108067	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INT EGRATED 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_R OHS	1
7108067	Hewlett-Packard	662883-B21	HP 662883-B21_HP 380/385 GEN8_8-SFF CAGE/BKPLN KIT_ROHS	1
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_RO HS	2
7108067	Hewlett-Packard	653206-B21	HP 653206-B21_DL380P/385P GEN8 3 SLOT PCI-E RISER KIT_ROHS	1



Table 5-10 (Cont.) 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

# 6

## Firmware Components

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 Notes. Please refer to the latest Firmware Release Notes for any updates to this list.

### 6.1 Oracle Firmware Upgrade Pack

*Oracle Firmware Upgrade Pack Release Notes 3.1.8, HP Solutions Firmware Upgrade Pack Release Notes 2.2.12 and 2.2.13* provide information about 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 wherever possible.

These Release Notes are available on Oracle Help Center (OHC) at [https://docs.oracle.com/cd/E93250\\_01/index.htm](https://docs.oracle.com/cd/E93250_01/index.htm).

# 7

## Supported Upgrade Paths

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

The possible upgrade paths to DSR Release 8.6.0.2.0 are listed in the following table:

Component	From	To
DSR	8.4.0.X.Y, 8.5.0.X, 8.5.1.X, 8.6.0.0.0, 8.6.0.1.0	8.6.0.2.0
SDS	8.4.0.X.Y, 8.5.0.X, 8.5.1.X, 8.6.0.0.0, 8.6.0.1.0	8.6.0.2.0
IDIH	8.2.1, 8.2.2, 8.2.3	8.2.3.1
vSTP	8.4.0.3.X, 8.5.0.X, 8.5.1.X, 8.6.0.0.0, 8.6.0.1.0	8.6.0.2.0

where X denotes PI end cycle and Y denotes patches within the PIC cycle

### Note:

- Any upgrade other than listed above is not recommended or supported. Version 8.6.0.0.0 is supported as a new or fresh installation.
- VEDSR is not supported from DSR Release 8.3 onwards.
- Diameter Security Application (DSA) with Universal-SBR (USBR) application is not supported from DSR Release 8.4.0.5.0. Customers using this application must not upgrade DSR software to DSR 8.4.0.5.0 release and must migrate to DSA with UDR based application.
- Zero Balance Application with USBR and Steering of Roaming (SOR) with USBR are not supported from DSR Release 8.4.0.5.0 and later. Customers using these applications must not upgrade the DSR software to DSR 8.4.0.5.0 or later release and must migrate to ZBA with UDR and SOR with UDR based applications.

# 8

## Deprecated Features

The following features are deprecated from 8.4.0.5 and later:

- DSA with USBR
- ZBA with USBR
- SOR with USBR

The following software elements are not compatible with DSR 8.4 and later:

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

Virtualized Engineered DSR (VEDSR) deployment, also known as TVOE based Fully Virtualized Rack Mount Server (FV RMS) Signaling node, is not supported from DSR 8.3 and later. The 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 or Binding or Universal)
- SDS NOAM
- SDS SOAM
- SDS QS
- SDS DP



### Note:

DSR and SDS BareMetal Installations with TVOE based NOAM or SOAM will continue to be supported.

Virtualized Engineered DSR (VEDSR) networks and associated elements need to be migrated to virtual DSR implementation based on KVM with or without OpenStack or VMware prior to DSR 8.3 or 8.4.x upgrade or install.

# 9

## Resolved and Known Bugs

This chapter lists the resolved and known bugs for DSR.

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.

### 9.1 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 through 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 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.

#### Severity Definitions

Service requests for supported Oracle programs may be submitted by you online through Oracle's web-based customer support systems or by telephone. The service request severity level is selected by you and Oracle and should be based on the severity definitions specified as follows:

1. Severity 1 - Your production use of the supported programs is stopped or so severely impacted that you cannot reasonably continue work. You experience a complete loss of service. The operation is mission critical to the business and the situation is an emergency. A Severity 1 service request has one or more of the following characteristics:
  - Data corrupted.
  - A critical documented function is not available.
  - System hangs indefinitely, causing unacceptable or indefinite delays for resources or response.
  - System crashes, and crashes repeatedly after restart attempts.

Reasonable efforts will be made to respond to Severity 1 service requests within one hour. For response efforts associated with Oracle Communications Network Software Premier Support and Oracle

Except as otherwise specified, Oracle provides 24 hour support for Severity 1 service requests for supported programs (OSS will work 24x7 until the issue is resolved) when you remain actively engaged with OSS working toward resolution of your Severity 1 service request. You must provide OSS with a contact during this 24x7 period, either on

site or by phone, to assist with data gathering, testing, and applying fixes. You are requested to propose this severity classification with great care, so that valid Severity 1 situations obtain the necessary resource allocation from Oracle.

Network Software Support & Sustaining Support, please see the Oracle Communications Network Premier & Sustaining Support and Oracle Communications Network Software Support & Sustaining Support sections above.

2. Severity 2 - You experience a severe loss of service. Important features are unavailable with no acceptable workaround; however, operations can continue in a restricted fashion.
3. Severity 3 - You experience a minor loss of service. The impact is an inconvenience, which may require a workaround to restore functionality.
4. Severity 4 - You request information, an enhancement, or documentation clarification regarding your software but there is no impact on the operation of the software. You experience no loss of service. The result does not impede the operation of a system.

## 9.2 Resolved Bug List

This sections lists all resolved bugs for DSR, vSTP, VNF, and SCEF in this release.

### 9.2.1 DSR

The following table lists the resolved bugs in DSR 8.6.0.2.0 release.

**Table 9-1 DSR 8.6.0.2.0 Resolved bugs**

Bug Number	Severity	Found in Release	Title
34656585	3	8.6.0.1.0-96.15.0	Failure of Source Host Validation Hss vulnerability screening for CLR/CLA message
34569653	3	8.6.0.1.0_96.15.0	Records are NOT showing in 'Target Sets' GUI after adding the entries on 8.6.0.1.0_96.15.0
34638143	3	8.5.0.2	Vplmnid exception and timer distance CM issues
34477602	4	8.5	fetchLogDsa.sh script cannot process log files on DA-MP servers

The following table lists the resolved bugs in DSR 8.6.0.1.0 release.

**Table 9-2 DSR 8.6.0.1.0 Resolved bugs**

Bug Number	Severity	Found in Release	Title
34217470	3	8.6.0.0.0	RAR message is not sent from PDRA to PCEF.
33633847	3	8.6.0.0.0	Not getting Success/failure message for Backup Restoration

The following table lists the resolved bugs in DSR 8.6.0.0.0 release.

**Table 9-3 DSR 8.6.0.0.0 Resolved bugs**

Bug Number	Severity	Found in Release	Title
28279189	2	8.2	Information leakage via development config file
33794065	3	8.5	Error in GET API for /admin/softwareversions on 8.5.x
33614865	3	8.5	TKLCconfig script enhancement
33682957	3	8.5	DSA compilation issue fix for DSD 1309
33633847	3	8.5	Not getting Success/failure message for Backup Restoration
28545072	3	8.3	Duplicate OID name in DSR MIB(eagleXgDsrDbHealthImpactNotify)
33772088	3	8.6	Max HA role for DR-NOAMs should be in "Active" state
34072643	3	8.6	Anonymous Access to Rsync Modules on VNFM servers
34072694	3	8.6	VNFM for support multiple VNFD ID for Secondary VNFM
33218214	3	8.5.0.1	DSA Business logic fix to handle the error code
33826949	4	8.5	NTP Sync from NOAM GUI making Server move to 'Spare' state
33165790	4	8.4	Excessive Request Rerouting Alarm 22077 reported but no corresponding meas pegged as per alarm description

## 9.2.2 SCEF

There are no resolved bugs in SCEF for this release.

## 9.2.3 vSTP

The following table lists the resolved bugs in vSTP 8.6.0.2.0 release.

Bug number	Severity	Found in Release	Title
34551028	3	8.5	vSTP:SFAPP::SGSN field not present in UDR
34342490	3	8.6	Issue with MTP screening Bulk Import order
34342460	3	8.6	Issue with MTP screening Import when rules are inter dependent
34417692	3	8.6	vSTP incorrect linkset & Route set status observed in peer vSTP while TDM links blocked at local vSTP
34454587	3	8.5	TX reset done for same transport (packet) by multiple threads
34454566	3	8.5	Watchdog abterms over Enabled Client Connections

Bug number	Severity	Found in Release	Title
34588103	3	8.6	G-Flex working for ATI (MSISDN) but failing for UL (IMSI)
34680240	3	8.6	Scheduled task is failing due to VSTP_MNP_Performance measurement report

The following table lists the resolved bugs in vSTP 8.6.0.1.0 release.

Bug number	Severity	Found in Release	Title
34246572	3	8.6.0.0.0	BIE is not working correctly if the origin Point Code and domain is provided in the CSV.
34230517	3	8.6.0.0.0	Invalid Latitude for Mobile Country Code 640 in SfappCountryLongLat MO
34128227	3	8.6.0.0.0	SAI message - MBR decoding failure
34108502	3	8.6.0.0.0	TCAP Error Discard Feature Related Issue in VSTP
34102710	4	8.6.0.0.0	Description of "GTT set name (Not Present Set Name)" lacks information
34090622	4	8.6.0.0.0	Measurements discrepancy

The following table lists the resolved bugs in vSTP 8.6.0.0.0 release.

Bug number	Severity	Found in Release	Title
33668141	2	8.5	VSTP generates XUDTS message with SIF size more than 272 bytes
33593817	3	8.5	VSTPOAM Process restarting on both SOAM
33400405	3	8.5	Abterm on vSTP MP on resetting some connections
33619716	3	8.5	Upgrade loader is missing for Network Appearance MO
33659017	3	8.5	vSTP: All the links in the vSTP get reset when a COO message is received
33625425	3	8.5	The MRNSET loadsharing fails for few pointcode even when dpc is AVAILABLE
33759940	3	8.5	Traffic TX not happening leading to congestion and blocking of links for transmission
33698946	3	8.5	vSTP not responding to RST when the sender OPC is in restricted RSP state
33701239	3	8.5	SFAPP enhancement: Make 3G and 4G velocity check optional



Bug number	Severity	Found in Release	Title
33752572	3	8.5	Fine Tune vSTP congestion control
33939015	3	8.5	Import is failing for GTA MO if the XLAT=NONE and RI=NONE
33943778	3	8.5	Alarms on vSTP platform : Abterm
33930233	3	8.5	INPQ not working when any other subsystem is deleted from SCCP Applications
33817521	3	8.5	Connection Status not updated even though connection and link both are up
33799149	3	8.5	VSTP sends incorrect service indicator value in response SLTA
33663158	3	8.5	Traffic prohibited /Destination Unavailable sent on DPC same as affected PC
33794465	3	8.5	TDM links (ADAX) fail to establish if group other than "aa"
33798423	3	8.5	In case of loopset failure with discard option ,Translation is already success and UDTs is not properly built
33763954	3	8.5	Operational Reason of Linkset Status is not getting updated after Operational Status and Reason of Link becomes Inservice and Normal
33654273	3	8.5	GTA cannot be created when GTTsettype: CdSSN with cdssn=0
34046486	4	8.5	RSP/Destination Route Restricted Event Issue
33829309	4	8.6	Fields in GTA showing empty when opcode=None
33777001	4	8.5	ADAX issue: Vstp log filled with tdm message (Mtp2AdapterTask::mtp2Pol () No event Received on fdld )
33817201	4	8.5	Not able to update OpCode=NONE
33817140	4	8.5	vSTP GUI shows blank under OPCODE column instead of none
33768389	4	8.5	VSTP Connection Configuration Sets ,while performing edit SCTP Data Chunk Delivery Ordered value changes from "No" to "Yes"
33717035	4	8.5	VSTP Connection Configuration Sets ,SCTP Data Chunk Delivery Ordered default value should be "Yes"
33704403	4	8.5	GUI permissions do not match user CLI permissions wrt view, create, edit, delete in VSTP

## 9.2.4 VNFM

The following table lists the resolved bugs in VNFM 5.4 1.0.0 release.

**Table 9-4 VNFM Release 5.4.1.0.0 Resolved Bugs**

Bug Number	Severity	Found in Release	Title
34327917	2	5.4	Back out of VNFs (Geo VNFM, Pr NOAM) is not working via Orchestrator

The following table lists the resolved bugs in VNFM 5.4 0.0.0 release.

**Table 9-5 VNFM Release 5.4.0.0.0 Resolved Bugs**

Bug Number	Severity	Found in Release	Title
34046486	4	5.4	RSP/Destination Route Restricted Event Issue
33829309	4	5.4	Fields in GTA showing empty when opcode=None

## 9.3 Known Bug List

The section lists the known bugs for DSR, vSTP, VNFM, and SCEF along with the associated customer impact statements.

### 9.3.1 DSR

The following table lists the DSR known bugs along with the customer impact statements.

**Table 9-6 DSR Known Bugs**

Bug Number	Severity	Found in Release	Title	Customer Impact
32911957	3	8.5	IPv6: [Multi-Homing]: Traffic is not auto-shifted to primary XSI IP and connection went down if secondary IP is bring down via 'ifdown' command	This issue is specific to the scenario when the eth interface on the VM shuts down using "ifdown" command. Other scenarios of multihoming switching are working fine. <b>Workaround:</b> None

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
28134563	3	8.3	Auto Site Upgrade failure is not cleaned up automatically, resulting in reupgrade attempt	If during Automated Site Upgrade, the upgrade on a server fails due to an issue like NTP failure or greater than 70% /var usage, the customer may observe a message. Site already has an automated site upgrade in progress, stating upon trying to restart the upgrade. <b>Workaround:</b> Cancel the Site Upgrade task from <b>Main Menu: Status &amp; Manage</b> , and then <b>Tasks</b> , and then <b>Active Task</b> screen. Then, restart the upgrade.
28353971	3	8.3	OCSG does not validate special characters in ScsAsId delimiter	If customers enter special characters in SCSASID_APN_Suffix_Delimiter in the OCSG console, the URL is rendered incorrectly. <b>Workaround:</b> APIGW user document will describe the constraint on the delimiter configuration parameter.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
26939388	3	8.2	SDS Upgrade: NOAM Servers shall not switchover while auditing is in progress	None, if the documented workaround is followed. <b>Workaround:</b> NOAM upgrades are manual upgrades, and the documented procedure instructs the operator to look for the audit clearance alarm.
26969222	3	8.2	EVENT_NUMBER: 31000 GN_INTERM/WRN Upload failed [FileUploader.cxx:123] post 8.2	Minimal impact is the problem that occurs. The alarm may cycle a few times and then clear after the system retries file transfer. This has only been observed in one test system and did not have a long-term impact on the system.
27087175	3	8.2	Device Deployment Failed alarms on IPFEs while upgrading from 7.1.1 to 8.2	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 is raised. (Bug title reflects an instance where this has happened once in the test cycle.) <b>Workaround:</b> Perform a trivial edit to the device; this will retry the edit operation with tpdprov.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
26243446	3	8.1	Information showing as green even though HostName is incorrect	No functional impact. Error text is displayed with a green background.
26290407	3	8.1	8.1 Maj Upg NOAM "10134 Server upgrade operation failed", but upgrade succeeded	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 the upgrade.
24796935	3	8	[AW:oampAgent] "DB Late Write Nonactive" alarm by NO during Act->Stby transition	No operational impact. Alarm may be triggered when switchover of NOAM occurs. <b>Workaround:</b> None
25505595	3	8	DSR 8.0:ST: InstallOS op on guests using PMAC failed with reason as internal err	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). <b>Workaround:</b> Delete extra files that have been incorrectly copied to /home/ admusr. This will clear the alarm and allow normal operation.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
25575141	3	8	[PDRA:Recon] Disabling PDRA during USBR Recon fails with Error code 21648	Users will not be able to disable PDRA function while running a reconfiguration plan for a USBR database. Users can disable function after all reconfiguration plans have been completed.
25637633	3	8	Unknown column 'ROLE' in 'where clause'	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" through the Main Menu: Administration > Software Management > Upgrade screen. <b>Workaround:</b> Users can navigate to the desired System OAM tab to get the data.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
25651803	3	8	[PCA:CACD] Alarm for Degraded ComAgent Conns when USBRs removed from Session RD	No functional impact. Alarm is raised for servers that do not belong to the active Session SBR Database. <b>Workaround:</b> 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.
25656089	3	8	DSR8.0:ST: ISO deployment got stuck for the site when servers got restarted	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 a manual workaround is performed. <b>Workaround:</b> Contact My Oracle Support for assistance.
25719122	3	8	[PDRA:ApplRest art] psbr abterm can occur during controlled shutdown/restart	No service/traffic impact. An abterm may be generated during the process restart through GUI (Status&Manage > Server).

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
25730821	3	8	[ISBR:HaRes] SBRs may fail to de-register COMCOL Resources when removed from RDs	No impact to traffic since this issue was observed 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 the required cleanup of decommissioned Servers and Server Groups. <b>Workaround:</b> 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.
23421644	4	8	[AW]Log In button not centered in the box at the Login Screen in Firefox browser	No operational impact. Cosmetic issue only.
24377541	4	8	[Network Insert Screen]: VLAN ID field should not be mandatory	In the Main Menu > Networking > Networks [Insert] screen, users will need to populate the VLAN ID field with a value of 1-4094 regardless of whether used or not.



Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
24621473	4	8	The SBR HA and HA health check scripts accessing tables instead of SOAP APIs.	No impact.
25028429	4	8	DSR Backout: invalid response from User (yes vs. y) shouldn't abort CLI Session	If users do not type y or N in response to, "Continue backout? [y/N]:", there is no reason given for the abort of the backout command. <b>Workaround:</b> The backout command can be re-entered.
25379612	4	8	IDIH : 80.17.2: OAM GUI showing extra Mediation input Sources	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". <b>Workaround:</b> Disregard hosts that no longer apply to the current configuration.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
25462998	4	8	Pause update not functioning on Comm Agent Screens	Minimal customer impact. The GUI status screens under "Communication Agent > Maintenance" will continue to update when a pause update check box is selected.
25542610	4	8	When NMS server added user may return to a screen with addition not reported	Update may not be reflected on GUI until it is manually refreshed. <b>Workaround:</b> None. Users need to navigate back to the desired screen rather than be automatically returned to it.
25584247	4	8	Misleading DCA Custom Event Template Throttling Description	Misleading 'Alarm Throttling Interval' description. Minimum value is incorrect. [Default = 60; Range = 0-300] should read [Default = 60; Range = 5-300].
25616683	4	8	Capacity Summary screen constraints inconsistent with Online Help doc	Online help has an inaccuracy concerning max local nodes =32 instead of 48.
29531355	4	8.4	STP8.4_GPORT_FT: MTSMSIMSI not taking ASDDN / ASDRNDN values	Resonse messages in case of GPORT cannot be encoded MTSMSIMSI as ASDDN and ASDRNDN.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
26710183	4	8.2	RE when edited to remove the destination, should not be saved	If an RE is edited and all destination are set to None, then any FABR queries to this particular RE will fail (ATTACH failures will be observed). <b>Workaround:</b> None. As a note: for any FABR query to pass, a valid destination must be assigned to an RE.
25573507	4	8.1	[DSR SSST 8.1] IPFE validation missing in IPFE > Configuration > Options screen	If a 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.
25737480	4	8.1	[DSR SSST 8.1]When we insert device, XSI IPv4 address replaces with IPv6 address.	Operators will not be able to add two devices at the same time
26188293	4	8.1	[DASH:P&C] DSR Dashboard PCA Avg Ing MPS instead reported as RxPdraMsgRate	The 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.

Table 9-6 (Cont.) DSR Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
26270776	4	8.1	Process Util spikes seen for pingAllLivePeer and iptablesAdm	This has no impact on the advertised performance figures. While testing the smallest VM resource profile, such as 4 vCPUs/8G RAM), we observed an anomaly wherein pingAllLivePeer, and iptablesAdm tasks result in CPU spikes. The bench-marked/advertised MPS, that is, 6K RBAR MPS per DA-MP) has already considered these spikes and runs fine with this anomaly.

### 9.3.2 SCEF Known Bugs

The following table lists the SCEF known bugs along with the customer impact statements.

Table 9-7 SCEF Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
28435966	3	8.3	Invalid notification sent if DRR is with missing Absent-Subscriber-Diagnostic-T4	<p>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.</p> <p>Notification report:</p> <pre> /daf-network/ apigw/v1 {   "msisdn": "98873983003",   "result": "Unknown" } DeviceTriggeringDeliveryResult: 255" } </pre> <p><b>Workaround:</b> None</p>

### 9.3.3 vSTP

The following table lists the vSTP known bugs along with the customer impact statements.

Table 9-8 vSTP Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
34693998	3	8.6.0.1.0	Exporting the measurements while selecting Scope other than Network Element fails	<p><b>Workaround:</b> Export measurements with scope configured as 'Network Element' and any Server Group from the drop down menu.</p>

Table 9-8 (Cont.) vSTP Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
33884723	3	8.5.0.0.0	vSTP: MRNSET update issue when MRNSET is modified during high traffic load	vSTP: MRNSET update issue when MRNSET is modified during high traffic load. <b>Workaround:</b> Perform the MRNSET configuration changes during maintenance window or when the traffic rate is not high.
29518322	3	8.4	MIX of ANSI + ITUI traffic (72K for 8 MP's per site) is not able to run on my performance setup, whereas same amount of traffic for just ITUI domain is running fine.	MIX traffic routing results in MSU failure, when running traffic is close to configured Link TPS. <b>Workaround:</b> None
29518100	3	8.4	Few ITUI domain links got stuck in congestion level though I have reduced traffic to zero	When a linkset is pushed for more traffic routing, which triggers egress congestion, and if remains under this traffic stress, where links bounce due to congestion. Some Links get stuck in congestion levels though traffic gets reduced to zero. Here, Congestion level stuck links will never route egress traffic until they get reset.

Table 9-8 (Cont.) vSTP Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
29408014	3	8.4	On making the relativeCost value of Secondary entry same as relativeCost value of Primary entry, load sharing is not happening with respect to the weight.	Load sharing will not occur correctly on changing to the same cost. This could cause an early onset of congestion due to not using all available paths to load share. <b>Workaround:</b> Reconfigure the MAP load sharing group by deleting the existing mapset group. Or, avoid put operation for changing RC.
31757106	3	8.5	vSTP_SIG: XCA and CBA message are not sent for ITUN24 domain	SNM (Signalling Network Management) messages for ITUN24 domain will not work. ITUN24 domain traffic is running fine. For other domains, SNM messages are working fine. <b>Workaround:</b> None
31757057	3	8.5	[vSTP_SIG]: for ITUN24 domain, RST message is not sent when TFP message is received	SNM (Signalling Network Management) messages for ITUN24 domain will not work. ITUN24 domain traffic is running fine. For other domains, SNM messages are working fine. <b>Workaround:</b> None

Table 9-8 (Cont.) vSTP Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
31588873	3	8.5	MP_Perf: Observed discards due to congestion with MTP screening traffic	The MTP Screening with wild characters is heavy operation & consuming excessive CPU causing M3RL layer to congest. System shall limit TPS to 15K per MP when MTP3 Screening is turned ON.  <b>Workaround:</b> Limit MTP3 Screening traffic to 15K TPS per vSTP MP for Gateway STP. No Impact for Non-Gateway deployments.
32672994	3	8.5	vSTP_SIG : During traffic at 100% TPS, links are getting down and not coming up	M2PA links may go down some time when the traffic runs at the maximum MP capacity and does not recover automatically.  <b>Workaround:</b> Disable and then enable the affected link from GUI/MMI to bring the link up.



Table 9-8 (Cont.) vSTP Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
32573278	3	8.5	8.5.0.1_ST:Comagent connection gets deleted in case of UDR based traffic	Comagent connections between vSTP and UDR go down for some time during high traffic scenarios. Transactions at vSTP MP may timeout and fail during such time when the connection is down with UDR.  <b>Workaround:</b> None. The comagent connections recover automatically.
31983406	3	8.5	R8.5.0.1:VstpM3U AEventQueue alarms on intervstp M3UA links	Queue alarms and congestion is observed while running 10K TPS traffic on one of the M3UA links.  <b>Workaround:</b> None. Run lower than 10K TPS per M3UA link.

### 9.3.4 VNFM Known Bugs

There are no known bugs for this release.