Oracle® Communications

Diameter Signaling Router

Release Notice

Release 8.4

F12321 Revision 02

May 2019

ORACLE®

Oracle Communications, DSR Release Notice, Release 8.4

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Chapter 1: Introduction

Topics:

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

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

DSR Release 8.4 Introduction

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

5G Cloud Native Release 1.0 Introduction

Oracle Communications Cloud Native network functions debut with this release. Each of the new network functions are described in Chapter 2 under their respective Cloud Native headings. These functions allow you to access the database for storing application, subscription, authentication, service authorization, policy data, session binding, and application state information.

Revision History

Date	Revision	Description
04/05/2019	01	Initial release for DSR Release 8.4 and Cloud Native Release 1.0 GA
04/26/2019	02	Added CNE 1.0.1 release information

Chapter 2:
Feature Descriptions

Topics:

DSR Features for Release 8.4
Cloud Native Applications, Release 1.0
(Bug 29028610)

This chapter provides a summary of each feature released in DSR release 8.4 and Cloud Native features release 1.0.

DSR Features for Release 8.4

Alarm Changes

Changes to the alarm function resulted in changes to the following:

- New GUI screen for the Peer Node Alarm Group and associated column addition to the Peer Node Status screen

- New GUI screen for Connection Alarm Group and associated column addition to the Connection Status screen

- New Alarm Aggregation, Peer node Alarm Group, and Connection Alarm Group features.

- New Alarm Group Feature Enable option under System Options, General tab.

Automated Test Suite

The automated test suite for DSR and Cloud Native applications is used to test virtual DSR to reduce the time it takes to perform the DSR installation.

DSA Changes

Time Distance Check Enhancements (Bugs 28108321 and 27737377)

Added capability in the DCA Framework to create and send a Diameter message to another node.

Time Distance Check to Support Transit Time Between Continents (Bugs 27737337 and 28899149)

Added capability under the Time Distance Check feature in DSA to configure the minimum transit time for a Time Distance Check security countermeasure for all MCC/VPLMN IDs.

MMI (Bug 27093415)

MMIs have been enabled for the following:

- SBR Configuration
  - SBR Databases
  - SBR Database Resizing Plans
  - SCB Data Migration Plans
  - Database Options

- Dynamic Peer Discovery Configuration
  - Realms
  - DNS Sets
  - Discovery Attributes
- Diameter Common MPs
  - DA-MP
  - SS7-MP
- Topology Hiding Configuration
  - Trusted Network Lists
  - Path Topology Hiding Configuration Sets
  - S6a/S6d HSS Topology Hiding Configuration Sets
  - MME/SGSN Topology Hiding Configuration Sets
  - S9 PCRF Topology Hiding Configuration Sets
  - S9 AF/pCSCF Topology Hiding Configuration Sets
  - Protected Networks
- User Configuration AppWorks
  - Software Management Versions
  - Access Control for Users, Groups, Sessions, and Authorized IPs
  - Remote Server LFAP Authentication and Data Export
  - Alarm History and Trap Logs
  - Administration General Options
- vSTP Configuration
  - Local Signaling Point
  - Remote Signaling Point
  - Link Sets
  - Route
  - GTT Action Sets
  - GTT Selectors
  - GTAs
  - GTT Sets
  - MAP Set
  - MRN Set
  - M3RL Options

- SCCP Options

- GT Mod

- SCCP Applications

- VstpMTPScreenSet

- VstpMTPScrRule

- MNP Service Selector Table

- MNP Options

- Digit Screening Table Home RN

SDS Large Profile Support

Enables a large profile support on SDS to support 1 billion routing entities.

SCEF Changes

Additional Monitoring Events (Bug 28812275)

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

API-Based Charging MTC Procedures (Bug 28124801)

SCEF supports API-based charging for NIDD Events, Monitoring Events, Device Triggering Events, and Enhanced Coverage Restriction Events that operate across the T8 reference point.

Charging has been implemented based on an offline event-based charging mechanism.

MQTT Gateways at SCEF (Bug 28111851)

- The MQTT Broker acts a cross proxy to convert the MQTT message to HTTP messages (and vice versa) to enable IP device communication between IoT devices and SCS/AS.

- The MQTT Broker enables IoT device communication for MO messages.

- The MQTT Broker enables SCEF to be used for the TCP and TLS transport bindings.

- The MQTT Broker provides a unified T8 interface for IP device communication enabling monitoring event call flows.

QoS Control

QoS Control capability has been added to SCEF. SCEF supports setting up an AS session with the required QoS and priority handling. When SCEF receives the request from the SCS/AS to

provide QoS for an AS session, the SCEF acts as an AF and transfers the request to provide QoS for an AS session to the PCRF via the Rx interface.

T8 Compliance with V15 (Bug 28113780)

Makes SCEF compliant with 3GPP 1.0 specifications for T8 specifications.

vSTP Changes (Bug 29028610)

ANSI ITU Conversion (Bug 25973034)

The ANSI/ITU SCCP Conversion feature has been added to vSTP. This feature provides the vSTP with the ability to format and decode/encode inter-network SCCP traffic and is supported for UDT, UDTS, XUDT, and XUDTS messages.

SCCP CGPA conversion is optional for ITU-X<->ITU-Y domain crossings. X and Y are referred as different variants of ITU domains which are ITU-I, ITU-N, ITU-I Spare, and ITU-N Spare.

Flow Control (Bug 28609300)

A flow control mechanism was added to control the data flow between network nodes. This provides smooth handling of data at the recipient's end; allows the sender to not send data in bursts; and prevents data retransmission at the sender's end.

GTT Modification Feature (Bug 25972692)

This feature allows users to modify the Calling Party Address information in an SCCP message as part of the Global Title Translation in vSTP.

ITUI-Spare, ITUN-Spare (Bugs 28219409 and 28126332)

Enables operators to expand the ITU domain nodes by providing support for the spare network indicator bit.

MNP with Hex Digit Support (Bugs 27355487 and 28829325)

The MNP feature on vSTP extradites the process to check if a dialed number is part of the present network or a number that has been ported to another network.

MTP Screen Feature (Bug 25973064)

This feature allows route message to and from other networks to be screened depending on how the vSTP screening tables are defined.

Multiple PC (Bug 28126356)

This feature enables vSTP to host Secondary Point Codes in addition to true point codes used by vSTP in the ANSI, ITU-N, and ITU-I domains.

IDP Query and Response

This feature enables an IN number portability query response for IN IDP messages.

Loop Detection (Bug 29112769)

This eature detects SCCP circular message routing and discards messages stuck in a loop.

MAP-Based Routing (Bug 29059924)

This feature helps the user implement an SS7 security firewall using map component parameters verification.

Cloud Native DRA

This feature allows DSR to be deployed automatically by scaling and containerizing the deployment.

Cloud Native Applications, Release 1.0 (Bug 29028610)

The cloud native environment is brand new to Oracle. Its debut includes each of the following network functions:

OC-CNE Version 1.0

OC-CNE 1.0 is an on-premises cloud native environment comprised of a collection of services sponsored by the CNCF[1] that delivers a common mechanism for the operation and maintenance of applications. This includes the following categories:

- Runtime services (container management and networking)

- Orchestration and management services

- Storage services

- Security services

- Observability services (logging, tracing, and metrics)

- DevOps services (continuous integration and continuous deployment automation) - not in release 1.0

Here is a list of OC-CNE 1.0 services:

- Support CNE on top of bare metal infrastructure

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[1] CNCF is an open source software foundation dedicated to making cloud native computing universal and sustainable.

- Support CGBU 5G NF deployments, scaling, and un-deployment use cases

- Provide common services for all 5G NFs (metrics, logging and tracing)

- Installation of DB tier for configuration storage

- Basic security for OL, Kubernetes, IP layer, and DB storage

Network segregation for OAM and Signaling traffic

User Data Repository

Oracle 5G User Data Repository (UDR), implemented as cloud native function, offers a unified database for storing application, subscription, authentication, service authorization, policy data, session binding, and application state information. The 5G UDR is a key component of the 5G service-based architecture and provides an HTTP/2 RESTful interface for other network functions (NFs) and provisioning clients to access the data. Other advantages of Oracle's 5G UDR include:

- A common Oracle Communications cloud native framework.

- Compliant with 3GPP release 15 specifications.

- Tiered architecture providing separation between the connectivity, business logic and data layers.

- MySQL NDB cluster as the backend database in the data tier.

- Registers with NRF in the 5G network, so the other NFs in the network can discover UDR through Network Repository Function.

Note: UDR supports only PCF data in this initial release.

UDSF (Unstructured Data Storage Function) is the functionality that supports storage and retrieval of unstructured data by any 5G NF. 3GPP does not define UDSF specifications. This functionality is part of Oracle's 5G UDR solution.

For more information, refer to *User Data Repository User's Guide* under DSR Cloud Native documents on OHC.

Network Repository Function

The Network Repository Function (NRF) is a key component of the 5G service-based architecture. The NRF maintains an updated repository of all the 5G elements available in the operator's network along with the services provided by each of the elements in the 5G core that are expected to be instantiated, scaled, and terminated without, or have minimal, manual intervention. In addition to serving as a repository of the services, the NRF also supports discovery mechanisms that allow 5G elements to discover each other and get an updated status of the desired elements.

The NRF supports the following functions:

- Maintains the profiles of the available NF instances and their supported services in the 5G core network.

- Allows consumer NF instances to discover other provider's NF instances in the 5G core network.
- Allows NF instances to track the status of other NF instances.

For more information, refer to *Network Repository Function User's Guide* under DSR Cloud Native documents on OHC.

Inter-Working Function (Bug 28374407)

The Oracle 5G Inter-Working Function (IWF) is deployed as an independent network function in the 5G core network or as part of the Oracle 5G core NF including the NRF, Security Edge Protection Proxy (SEPP), and Service Communication Proxy (SCP) as an independent micro service

The key capabilities of the IWF) include:

Protocol Translation:

- Allows the 5GC NF to interwork with the EPC network elements
- Supports Diameter to HTTP/2 protocol conversion capabilities

Message Mediation:

- Allows API transformation to resolve inter-NF inter-operational issues
- Allows users to create policy rules to execute mediation transformation

For more information, refer to *Inter-Working Function User's Guide* under DSR Cloud Native documents on OHC.

Binding Support Function

The Binding Support Function allows Policy Control Function (PCF) to register, update, and remove the binding information from it; and allows NF consumers to discover the selected Policy Control Function.

The Binding Support Function stores the binding information for a certain Protocol Data Unit (PDU) sessions and discovers the selected PCF according to the binding information. It also acts as Diameter proxy agent or Diameter redirect agent to Rx requests targeting an IP address of the User Equipment (UE) to the selected PCF.

For any application function using Rx, such as P-CSCF, the Binding Support Function determines the selected PCF address according to the information carried by the incoming Rx requests.

For more information, refer to *Binding Support Function User's Guide* under DSR Cloud Native documents on OHC.

Service Communication Proxy

The core network in 5G follows a Service Based Architecture where network elements advertise and provide services that can be consumed using REST APIs by other elements in the core. This allows for the adoption of web-scale technologies and software that are used by different organizations in telecom networks. Web-scale technologies rely primarily on open source software and bring in a significant amount of automation, prominently in the deployment and operational aspects. To resolve issues such as Congestion Control, Traffic Prioritization, Overload Control, Optimized Routing, several software solutions, referred to as service mesh, are being developed as part of web-scale technologies. However, these solutions are based on information elements present in messages below the telecom layer and hence not telecom aware.

The Oracle Communications Service Communication Proxy brings telecom awareness to the service mesh and helps resolve the above-mentioned issues in the 5G core network.

For more information, refer to *Service Communication Proxy User's Guide* under DSR Cloud Native documents on OHC.

Network Exposure Function

The Network Exposure Function (NEF) is a functional element that supports the following functionalities:

- Securely exposes network capabilities and events provided by 3GPP NFs to application function (AF).

- Provides a means for the AF to securely provide information to 3GPP network and may authenticate, authorize, and assist in throttling the AF.

- Translates the information between the AF and internal 3GPP NFs.

- Exposes information collected from other 3GPP NFs to the AF.

- Supports a Packet Flow Description (PFD) Function, which allows the AF to provision PFDs and may store and retrieve PFDs in the UDR. The NEF further provisions PFDs to the Session Management Function.

A specific NEF instance may support one or more of the functionalities described and, consequently, an individual NEF may support a subset of the APIs specified for capability exposure.

For more information, refer to *Network Exposure Function User's Guide* under DSR Cloud Native documents on OHC.

Security Edge Proxy Protection

Security Edge Protection Proxy (SEPP) is a proxy network functional element used for secured communication between inter-PLMN network messages.

For more information, refer *Security Edge Protection Proxy User's Guide* under DSR Cloud Native documents on OHC.

Network Slice Selection Function

The Network Slice Selection Function (NSSF) is a functional element that supports these functionalities:

- The Access and Mobility Management Function (AMF) performs initial registration and protocol data unit (PDU) session establishment.

- Using the Network Slicing Instance (NSI), NSSF determines the authorized Network Slice Selection Assistance Information (NSSAI) and AMF to serve the UE AMF, which can retrieve the NRF, NSI ID, and target AMFs as part of UE initial registration and PDU establishment procedure.

- Interaction with NRF to retrieve specific NF services to use for registration requests.

For more information, refer to *Network Slice Selection Function User's Guide* under DSR Cloud Native documents on OHC.

Chapter 3:
Media and Documentation

Topics:

Media Pack
Load Line Up for DSR Release 8.4
Load Line Up for Cloud Native Release
    1.0
Documentation Pack

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

Media Pack

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

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

Table 1: Media Pack Contents for DSR Release 8.4

Part Number	Description
V981899-01	Oracle Communications Diameter Signaling Router 8.4.0.0.0_84.15.0 MIBS The Media Pack covers the following MIB information: • DSRmib-8.4.0.0.0_84.15.0.zip includes EAGLEXGDSR-MIB.mib and EAGLEXGDSR-TC.mib. • PMACmib-6.6.1.0.0_66.9.0.zip includes pmacAppAlarms.mib. • SDSmib-8.4.0.0.0_84.15.0.zip includes SDS-MIB.mib and SDS-TC.mib. • TPDmib-7.6.1.0.0_88.55.0.zip includes batm_switch.mib, batm_sys_mon.mib, cpqhost.mib, cpqida.mib, priv_vend_def.mib, tklc_toplevel.mib, tklc_tpdAlarms.mib, tklc_tpdCardCfg.mib, tklc_tpdCommonObjects.mib, tklc_tpdDiskAlias.mib, and tklc_tpdDiskStats.mib. • TVOEmib-3.6.1.0.0_88.55.0.zip includes tklc_TVOEalarms.mib. • IDIHmib-8.2.1.0.0_82.23.0.zip includes NSP-FORWARDING_IDIH_8.2.1.0.0_82.23.0-MIB.mib
V981873-01	Oracle Communications Diameter Signaling Router 8.4.0.0.0_84.15.0
V981874-01	Oracle Communications Diameter Signaling Router 8.4.0.0.0_84.15.0 OVA
V981897-01	Oracle Communications Diameter Signaling Router Application Programming Interface Gateway 8.4.0.0.0-84.16.0
V981898-01	Oracle Communications Diameter Signaling Router Application Programming Interface Gateway 8.4.0.0.0-84.16.0 OVA
V981935-01	Oracle Communications Diameter Signaling Router Automated Test Suite (ATS) 8.4.0.0.0_84.2.0
V981877-01	Oracle Communications Diameter Signaling Router Diameter Security Application 8.4.0.0.0-84.15.0
V981876-01	Oracle Communications Diameter Signaling Router Steering Of Roaming Application 8.4.0.0.0_84.15.0
V981936-01	Oracle Communications Diameter Signaling Router Virtual Network Function Manager 3.0.0.0-30.11.0

Part Number	Description
V981875-01	Oracle Communications Diameter Signaling Router Zero Balance Application 8.4.0.0.0_84.15.0
V981878-01	Oracle Communications Diameter Signaling Router, Full Address Resolution 8.4.0.0.0_84.14.0
V981879-01	Oracle Communications Diameter Signaling Router, Full Address Resolution 8.4.0.0.0_84.14.0 OVA
V981896-01	Oracle Communications User Data Repository 12.5.1.0.0-17.8.0
V981895-01	Oracle Communications User Data Repository 12.5.1.0.0-17.8.0 OVA
V979981-01	Oracle Communications Integrated Diameter Intelligence Hub Applications 8.2.1.0.0-82.23.0
V979985-01	Oracle Communications Integrated Diameter Intelligence Hub Applications 8.2.1.0.0-82.23.0 OVA
V979983-01	Oracle Communications Integrated Diameter Intelligence Hub Database 8.2.1.0.0-82.23.0
V979987-01	Oracle Communications Integrated Diameter Intelligence Hub Database 8.2.1.0.0-82.23.0 OVA
V979984-01	Oracle Communications Integrated Diameter Intelligence Hub Database TVOEGuest 8.2.1.0.0-82.23.0
V979982-01	Oracle Communications Integrated Diameter Intelligence Hub Mediation 8.2.1.0.0-82.23.0
V979986-01	Oracle Communications Integrated Diameter Intelligence Hub Mediation 8.2.1.0.0-82.23.0 OVA
V981809-01	Oracle Communications Tekelec Platform Distribution 7.6.1.0.0_88.55.0
V981810-01	Oracle Communications Tekelec Platform Management and Configuration 6.6.1.0.0_66.9.0
V981808-01	Oracle Communications Tekelec Virtual Operating Environment 3.6.1.0.0_88.55.0

Table 2: Media Pack Contents for Cloud Native Release 1.0

Part Number	Description
V981963-01	Oracle Communications 5G Binding Support Function (BSF) 1.0.0.0.0
V981934-01	Oracle Communications 5G Inter-Working Function (IWF) 1.0.0.0.0
V981933-01	Oracle Communications 5G Network Exposure Function (NEF) 1.0.0.0.0
V981881-01	Oracle Communications 5G Network Repository Function (NRF) 1.0.0.0.0
V981880-01	Oracle Communications 5G Network Slice Selection Function (NSSF) 1.0.0.0.0
V981941-01	Oracle Communications 5G Security Edge Protection Proxy (SEPP) 1.0.0.0.0
V981890-01	Oracle Communications 5G Service Communication Proxy (SCP) 1.0.0.0.0

Part Number	Description
V981900-01	Oracle Communications 5G Unified Data Repository (UDR) 1.0.0.0.0
V981937-01	Oracle Communications 5G Cloud Native Diameter Routing Agent 1.0.0.0.0
~~V981931-01~~	~~Oracle Communications 5G Cloud Native Environment 1.0.0.0.0~~
V982382-01	Oracle Communications 5G Cloud Native Environment 1.0.1.0.0

Load Line Up for DSR Release 8.4

DSR Release 8.4 contains the following components:

- Application Line Up
  - DSR 8.4.0.0.0-84.15.0
  - SDS 8.4.0.0.0-84.15.0
  - API 8.4.0.0.0-84.16.0
  - VNFM 3.0.0.0-30.11.0
  - UDR 12.5.1.0.0-17.8.0
- Platform Line Up
  - TPD: 7.6.1.0.0-88.55.0 (DSR/SDS/IDIH/PMAC Baseline; Oracle Linux 6.9)
  - TVOE: 3.6.1.0.0-88.55.0 (Based on qemu-kvm-0.12.1.2-2.491.el6)
  - PMAC: 6.6.1.0.0-66.9.0
  - COMCOL 7.5.0.14.0-14027
  - AppWorks Build 8.4.0-84.10.0
  - EXGSTACK Build 8.4.0-84.11.0
  - Oracle FW 3.1.7 (minimum)
  - HP FUP 2.2.12 (minimum)
- Other Items Lineup
  - WebLogic: 12c, version 12.2.1.0.0
  - Oracle Database: 12c Enterprise Edition, version 12.1.0.2.0 – 64bit Production
  - iDIH 8.2.1.0.0-82.23.0 (separate download from OSDC is required)

Load Line Up for Cloud Native Release 1.0

Cloud Native Release 1.0.0.0.0 contains the following components:

- Binding Support Function
- Inter-Working Function
- Network Exposure Function
- Network Repository Function
- Network Slice Selection Function
- Security Edge Proxy Protection
- Service Communication Proxy
- User Data Repository
- Native Diameter Routing Agent
- Cloud Native Environment

Documentation Pack

All documents available for download from the Oracle Help Center (OHC) site (http://docs.oracle.com/en/industries/communications/) are listed in Table 3: Documentation Pack Contents.

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

Table 3: Documentation Pack Contents

Release Notes and Licensing Information User Manuals Document Set
DSR 8.4 Release Notice
DSR 8.4 Licensing Information User Manual
DSR Planning, Installation, Upgrade, and Disaster Recovery Document Set
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 Guide
DSR Software Upgrade Guide
DSR Rack Mount Server Installation Guide

DSR Rack Mount Server Disaster Recovery Guide
DSR Rack Mount Server Network Interconnect
DSR/SDS NOAM Failover Guide
DCA Feature Activation Procedure
DTLS Feature Activation Procedure
FABR Feature Activation Procedure
Mediation Feature Activation Procedure
PCA Feature Activation Procedure
RBAR Feature Activation Procedure
SCEF Feature Activation Procedure
DSR Network Impact Report
DSR Security Guide
Diameter Security Application User's Guide
DSR Security App Using Mediation Example Procedure
Zero Balance Application User's Guide
VNF HEAT Templates
DSR/SDS VM Placement and CPU Socket Pinning Tool
DSR Compliance Matrix
Cloud Installation and Upgrade Document Set
DSR Cloud Installation Guide
DSR Cloud Software Upgrade User's Guide
DSR Cloud Disaster Recovery Guide
DSR API Gateway Installation Guide
DSR API Gateway Disaster Recovery Guide
Virtual Network Function Whitepaper
DSR VNFM Installation and User Guide
DSR VNFM HEAT Templates
DSR Cloud Benchmarking Guide
Cloud Native DRA Installation Guide
Automated Test Suite (ATS) Installation and User Guide
Diameter Signaling Router Core Document Set
DSR Getting Started
Hardware Documentation Roadmap Reference

Operation, Administration, and Maintenance (OAM) User's Guide
Diameter User's Guide
MMI API Specification
Communication Agent User's Guide
Policy and Charging Application (PCA) User's Guide
Mediation User's Guide
Range Based Address Resolution (RBAR) User's Guide
Full Address Based Resolution (FABR) User's Guide
Session Binding Repository (SBR) User's Guide
IP Front End (IPFE) User's Guide
Service Capability Exposure Function (SCEF) User's Guide
SCEF YAML Files
vEIR User's Guide
MNP User's Guide
Diameter Common User's Guide
Diameter Custom Application (DCA) User's Guide
Diameter Custom Application (DCA) Programmer's/Developer's Guide
Diameter Custom Application (DCA) Steering of Roaming User's Guide
vSTP User Guide
Alarms and KPIs Reference
Measurements Reference
Glossary
Related Publications Reference
Subscriber Data Server Document Set
Getting Started
User's Guide
Provisioning Interface
Installation and Configuration Guide
Software Upgrade Procedure
Disaster Recovery Guide
Cloud Installation Guide
Cloud Disaster Recovery Guide

UDR Installation, Upgrade, and Disaster Recovery Document Set
Software Upgrade Guide
HEAT Templates
Cloud Installation and Configuration Guide
Cloud Disaster Recovery Guide
Bulk Import/Export File Specification
SOAP Provisioning Interface Specification
REST Provisioning Interface Specification
Cloud Native Installation Document Set
CNE Installation Guide
Service Communication Proxy Installation Guide
Network Repository Function Installation Guide
Network Slice Selection Function Installation Guide
Inter-Working Function Installation Guide
Security Edge Proxy Protection Installation and User's Guide
Cloud Native Core Document Set
Unified Data Repository (UDR) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Network Repository Function (NRF) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Inter-Working Function (IWF) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Binding Support Function (BSF) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Service Communication Proxy (SCP) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Network Exposure Function (NEF) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Security Edge Proxy Protection (SEPP) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Network Slice Selection Function (NSSF) User's Guide and ZIP file containing Grafana dashboard JSON file and Alert configuration file
Integrated Diameter Intelligence Hub (IDIH) Document Set for 8.2.1 *
IDIH User's Guide
IDIH Alarm Forwarding Administrator's Guide
IDIH Audit Viewer Administrator's Guide

IDIH Operations, Administration and Maintenance Administrator's Guide
IDIH ProTrace User's Guide
IDIH Log Viewer Administrator's Guide

*Previous versions of iDIH do not work with DSR Release 8.4. A separate release of iDIH version 8.2.1 can be downloaded from the Oracle Software Delivery Cloud (https://edelivery.oracle.com/).

Chapter 4:
Supported Hardware Baseline

Topics:

    Supported Hardware Baseline
    Oracle Hardware
    HP Hardware

The Hardware identified in Table 4: Supported Hardware Baseline comprises the hardware and server versions that have been verified with this release.

Supported Hardware Baseline

Table 4: 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 section lists the Oracle and HP hardware Bill of Material (BOM) information.

Oracle Hardware

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

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

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

Oracle X7-2 for DSR (AC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7113235	Oracle	7113235	1 Intel® Xeon® Platinum 8160 24-core 2.1 GHz processor (for factory installation)	2
7115198	Oracle	7115198	One 16 GB DDR4-2666 registered DIMM (for factory installation)	16
7111107	Oracle	7111107	One 1.2 TB 10000 rpm 2.5-inch SAS-3 HDD with marlin bracket (for factory installation)	2
7117125	Oracle	7117125	Oracle Storage 12 Gb SAS PCIe RAID HBA, internal: 16 port and 2 GB memory (for factory installation)	1
7111182	Oracle	7111182	Oracle Quad Port 10GBase-T Adapter (for factory installation)	1
333W-10-13-C14RA	Oracle	333W-10-13-C14RA	Power cord: Sun Rack jumper, 1 meter, C14RA plug, C13 connector, 13 A (for factory installation)	2
7115197	Oracle	7115197	Short heat sink (for factory installation)	2
6331A-N	Oracle	6331A-N	2.5-inch HDD filler panel (for factory installation)	6
7102748	Oracle	7102748	PCIe filler panel (for factory installation)	2
7116456	Oracle	7116456	Processor clip (for factory installation)	2
7117386	Oracle	7117386	SAS cables for 1U (for factory installation)	1
2124A	Oracle	2124A	QSFP Optical SR (for factory installation)	4

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

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

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

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

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

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

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

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

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

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

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

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

Oracle X5-2 for DSR (AC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7110359	Oracle	7110359	ATO,DVD,GEN5,BLANK FILLER PANEL,1U/2U	1
7110350	Oracle	7110350	XATO,HEATSINK,CPU,1U	2
7110339	Oracle	7110339	XATO,DISK_CAGE,2.5" X 8HDD	1

HP Hardware

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gen 8 Blades				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
Gen8 Blade DA-MP				
7108039			**HP D9N37A_BL460C GEN8_BLADE SERVER_009_ROHS**	**1**
7108039	Hewlett-Packard	735151-B21	HP ProLiant BL460c Gen8 E5-v2 10Gb FlexibleLOM Server	1
7108039	Hewlett-Packard	690164-B21	HP Smart Array P220i Controller FIO Kit	1
7108039	Hewlett-Packard	718056-L21	HP BL460c Gen8 E5-2680v2 FIO Kit	1
7108039	Hewlett-Packard	718056-B21	HP BL460c Gen8 E5-2680v2 Kit	1
7108039	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	4
7108039	Hewlett-Packard	652583-B21	HP 652583-B21_600GB 6G SAS_HDD_10K_SFF_ROHS	2
7108039	Hewlett-Packard	631884-B21	HP 631884-B21_HP FLEX-10_10GB_2 PORT_ 530M ADAPTER_ROHS	2
7108039	Hewlett-Packard	684211-B21	HP 684211-B21_HP FLEX-10_10GB_2 PORT_530FLB FIO ADAPTER_ROHS	1
Gen8 Blade SOAM				
7108027			**HP D9N30A_BL460C GEN8_BLADE SERVER_001_ROHS**	**1**

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

Gen 8 Blades				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7108130			HP_STORAGE BLADE QW918A_600GB HARD DRIVES_ROHS	1
7108130	Hewlett-Packard	QW918A	HP QW918A_STORAGE BLADE FOR ASSY_ROHS	1
7108130	Hewlett-Packard	652583-B21	HP 652583-B21_600GB 6G SAS_HDD_10K_SFF_ROHS	12

Gen 8 Server (DC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
Management Server				
7109444			**HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS**	**1**
7109444	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7109444	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7109444	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
7109444	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	8
7109444	Hewlett-Packard	631679-B21	HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS	1
7109444	Hewlett-Packard	652589-B21	HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS	2
7109444	Hewlett-Packard	636673-B21	HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT	2
7109444	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1
7109444	Hewlett-Packard	684208-B21	HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS	1

Gen 8 Server (DC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7109444	Hewlett-Packard	647594-B21	HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS	1
7109444	Hewlett-Packard	663478-B21	HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS	1
7109444	Hewlett-Packard	707865-B21	HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS	1
7109447	TELECT	009-8005-3404H	TEL 009-8005-3404H_FUSE PANEL_150A_4/4_DC_1U_ROHS 5/6	1
7108162	Anixter	814-0034-06	ASSEMBLY MATERIALS_GEN8 DC RMS_POWER UNTERMINATED_MTG HARDWARE_ROHS 5/6	1
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6	1
NOAM server				
7108070			**HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS**	**1**
7108070	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7108070	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7108070	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
7108070	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	8
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

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
SDS Server				
7108070			**HP D9N07A_DL380 GEN8_DC_SERVER_001_ROHS**	**1**
7108070	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7108070	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7108070	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
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

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

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

Gen 8 Server (DC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7108081	Hewlett-Packard	631679-B21	HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS	1
7108081	Hewlett-Packard	652589-B21	HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS	6
7108081	Hewlett-Packard	636673-B21	HP 636673-B21_HP 750W_COMMON SLOT_-48VDC_HOT PLUG POWER SUPPLY KIT	2
7108081	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1
7108081	Hewlett-Packard	684208-B21	HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS	1
7108081	Hewlett-Packard	593722-B21	HP 593722-B21_NC365T_4 PORT ETHERNET SERVER ADAPTER_ROHS	2
7108081	Hewlett-Packard	631670-B21	HP 631670-B21_HP SMART ARRAY_ P420/1GIB FBWC CONTROLLER_ROHS	1
7108081	Hewlett-Packard	662883-B21	HP 662883-B21_HP 380/385 GEN8_8-SFF CAGE/BKPLN KIT_ROHS	1
7108081	Hewlett-Packard	663478-B21	HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS	1
7108081	Hewlett-Packard	662897-B21	HP 662897-B21_HP MINI SAS STRAIGHT TO STRAIGHT 37IN CABLE ASSEMBLIES_ROHS	2
7108081	Hewlett-Packard	707865-B21	HP 707865-B21_DL380 GEN8_NEBS CONVERSION CAGE KIT_PCI SLOTS 1-3_ROHS	2
7108081	Hewlett-Packard	653206-B21	HP 653206-B21_DL380P/385P GEN8 3 SLOT PCI-E RISER KIT_ROHS	1
7108146	Hewlett-Packard	A5S98A	HP A5S98A_ POWER CABLE_DC GEN 8 SERVER_2.5M LONG_TERMINATED SERVER END_UNTERMINATED PDP END_ROHS	1

Gen 8 Server (DC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6	1

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

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_EXTENTION KIT_ETH CABLES_ROHS 5/6	1
NOAM Server				
7108054			**HP D9N03A_DL380 GEN8_AC_SERVER_001_ROHS**	**1**
7108054	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7108054	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7108054	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
7108054	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	8
7108054	Hewlett-Packard	631679-B21	HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS	1
7108054	Hewlett-Packard	652589-B21	HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS	2
7108054	Hewlett-Packard	656363-B21	HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS	2
7108054	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1
7108054	Hewlett-Packard	684208-B21	HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS	1
7108054	Hewlett-Packard	647594-B21	HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS	1
7108054	Hewlett-Packard	663478-B21	HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS	1

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

Gen 8 Server (AC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
Query Server				
7108054			**HP D9N03A_DL380 GEN8_AC_SERVER_001_ROHS**	**1**
7108054	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7108054	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7108054	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
7108054	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	8
7108054	Hewlett-Packard	631679-B21	HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS	1
7108054	Hewlett-Packard	652589-B21	HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS	2
7108054	Hewlett-Packard	656363-B21	HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS	2
7108054	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1
7108054	Hewlett-Packard	684208-B21	HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS	1
7108054	Hewlett-Packard	647594-B21	HP 647594-B21_331T_4P_1G_PCIE ADAPTER_ROHS	1
7108054	Hewlett-Packard	663478-B21	HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS	1
7110434	Anixter	814-0034-07	ASSEMBLY MATERIALS_RMS_EXTENTION KIT_ETH CABLES_ROHS 5/6	1
Gen 8 IDIH Server				
7108067			**HP D9U37A_DL380 GEN8_AC_SERVER_005_ROHS**	**1**

Gen 8 Server (AC Power)				
Oracle Part Number	**Supplier**	**Supplier Part Number**	**Description**	**Unit Qty**
7108067	Hewlett-Packard	653200-B21	HP 653200-B21_HP DL380P GEN8 8_SFF_CTO CHASSIS_ROHS	1
7108067	Hewlett-Packard	715215-L21	HP DL380p Gen8 E5-2680v2 FIO Kit	1
7108067	Hewlett-Packard	715215-B21	HP DL380p Gen8 E5-2680v2 Kit	1
7108067	Hewlett-Packard	708641-B21	HP 16GB 2Rx4 PC3-14900R-13 Kit	8
7108067	Hewlett-Packard	631679-B21	HP 631679-B21_HP 1GB P SERIES_SMART ARRAY_FLASH BACKED WRITE CACHE UPGRADE_ROHS	1
7108067	Hewlett-Packard	652589-B21	HP 652589-B21_900GB 6G SAS_HDD_10K_SFF_ROHS	6
7108067	Hewlett-Packard	656363-B21	HP 656363-B21_HP 750W_COMMON SLOT_PLATINUM PLUS_HOT PLUG POWER SUPPLY KIT_ROHS	2
7108067	Hewlett-Packard	512485-B21	HP 512485-B21_PROLIANT ESSENTIALS_INTEGRATED LIGHTS-OUT ADVANCED PACK_1 SVR LICENSE_NO MEDIA	1
7108067	Hewlett-Packard	684208-B21	HP 684208-B21_HP FLEXLOM_1GB_4-PORT_331FLR ETHERNET ADAPTER_ROHS	1
7108067	Hewlett-Packard	593722-B21	HP 593722-B21_NC365T_4 PORT ETHERNET SERVER ADAPTER_ROHS	2
7108067	Hewlett-Packard	631670-B21	HP 631670-B21_HP SMART ARRAY_P420/1GIB FBWC CONTROLLER_ROHS	1
7108067	Hewlett-Packard	662883-B21	HP 662883-B21_HP 380/385 GEN8_8-SFF CAGE/BKPLN KIT_ROHS	1
7108067	Hewlett-Packard	663478-B21	HP 663478-B21_HP 2U_SFF_BALL BEARING GEN8 RAIL KIT_ROHS	1
7108067	Hewlett-Packard	662897-B21	HP 662897-B21_HP MINI SAS STRAIGHT TO STRAIGHT 37IN CABLE ASSEMBLIES_ROHS	2
7108067	Hewlett-Packard	653206-B21	HP 653206-B21_DL380P/385P GEN8 3 SLOT PCI-E RISER KIT_ROHS	1

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

Chapter 5:
Firmware Components

Topics:

    Oracle Firmware Upgrade Pack

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

Oracle Firmware Upgrade Pack

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

The Release Notes are available on Oracle Help Center (OHC) at
https://docs.oracle.com/cd/E93250_01/index.htm.

Chapter 6:
Supported Upgrade Paths

Topics:

Supported Upgrade Paths

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

Supported Upgrade Paths

The possible upgrade paths to DSR Release 8.4 are listed Table 5.

Table 5: DSR Release 8.4 Upgrade Paths

Component	From	To
DSR	8.0.x, 8.1, 8.1.x, 8.2.x, 8.3.x	8.4
SDS	8.0.x, 8.1, 8.1.x, 8.2.x, 8.3.x	8.4
iDIH	8.0.x, 8.1, 8.1.x, 8.2.x	8.2.1

Note: Any upgrade other than listed above is not recommended or supported. Version 8.4 is also supported as a new or fresh installation.

Chapter 7:
Resolved and Known Bugs

Topics:

Severity Definitions
Resolved Bug List
Customer Known Bug List

This chapter lists the resolved and known bugs for DSR release 8.4 and Cloud Native release 1.0

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

Severity Definitions

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

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

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

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

   - Product inoperability (total or partial outage),

   - A reduction in the capacity capability, that is, traffic/data handling capability, such that expected loads cannot be handled,

   - Any loss of emergency capability (for example, emergency 911 calls), or

   - Safety hazard or risk of security breach.

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

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

   - Reduction in product's capacity (but still able to handle the expected load),

   - Any loss of administrative or maintenance visibility of the product and/or diagnostic capability,

   - Repeated degradation of an essential component or function, or

   - Degradation of the product's ability to provide any required notification of malfunction.

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

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

Resolved Bug List

Table 6: DSR Release 8.4 Resolved Bugs lists bugs resolved in this release.

Table 6: DSR Release 8.4 Resolved Bugs

Bug Number	Severity	Found in Release	Title
29240102	2	8.3	RP filtering flag changes from 2 to 1 on upgrade because of IPFE Responder connection and MP failure.
28601321	2	8.3	RSP status of 2 non-adj PCs got stuck in cong level 3, when 0 traffic running.
28456272	2	8.3	Inter VSTP M2PA link stuck in proving state though no traffic.
29258626	3	8.2	Traffic is being received equally at all nodes irrespective of the weight value.
29183537	3	8.3	Deletion of a secondary record/entry (RSP+SSN) for a MAPSET ID referenced in GTA is not allowed, which is incorrect. Also, text for error code #50194 is not correct.
29177262	3	8.3	SCCP layer message bytes are copied in the response message.
29161341	3	8.1	LS GET operation o/p displays routing context when it was not configured through post operation.
28867815	3	8	Custom Periodic Task filling the cron log too fast.
28864940	3	8.2	Logging issue in DSA.
28799499	3	8.3	MMI: fabr/supportedapplications Put operation not working.
28785857	3	8.2	Measurement: Scheduled Task Failing with subpart number out-of-range.
28765247	3	8.1	DSR 8.1 MMI API rejects attempt to add IPFE TargetSet with Weight of 0.
28623737	3	8	Internal error for Error Codes Configuration under Policy and Charging.
28600309	3	8.3	SCTP connection fail events do not provide the details of local IP and port.
28568656	3	8.3	OCSG JDK version needs to be upgraded to 1.8.0_181.
28529608	3	8.3	Memory issue on Comcol DB.
28467673	3	8.3	DSR APIGW backup takes place at noon instead of midnight.
28465848	3	8.3	OCSG COMCOL DB issue with default value on OCSG.
28458387	3	8.3	SCEF SSST - Issues observed during high notification timeouts.
28440637	3	8.3	Online Help: Needs to be updated for VSTP KPIs.

Bug Number	Severity	Found in Release	Title
28414256	3	8.3	All links of linkset are UP but still carrying around 50% load of configured TPS.
28365573	3	8.1	PcrfFqdn table has blank values for pcrfFqdn and pcrfRealm field for one record.
29412875	4	8.1	Update OAM guide for SNMP configuration.
28682742	4	8.3	vSTP sends SLTM without checking the existence of route.
28517211	4	8.2	GTT Action MMI Get is displaying Invalid value error for mrnSetId.
28000784	4	7	Issue with Mixing unihomed and multihomed SCTP conn having intersecting IPs.
27969036	4	8.3	vEIR: Alarm/Event is not generated if IMSI is greater than 15 or less than 5 digits.
26721143	4	8.2	vSTP capacity status per STP-MP.

Table 7: Cloud Native Release 1.0.1 Resolved Bugs lists bugs resolved in this release.

Table 7: Cloud Native Release 1.0.1 Resolved Bugs

Bug Number	Severity	Found in Release	Title
29631361	2	1.0.0	NF CNE Installation Issues with HP Gen10 hardware Note: This only impacts installation on HP Gen10 hardware.

Customer Known Bug List

Table 8: DSR Release 8.4 Customer Known Bugs lists the known bugs and associated Customer Impact Statements. This information is provided for information purposes only.

Table 8: DSR Release 8.4 Customer Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
29430710	2	8.4	Inconsistency in the route status of non-adjacent point code across MPs of a site. Also, it is fixed when the TFP received from adjacent node in response to messages is routed	A few MPs consider down non-adjacent PC status as down and some consider them as up; however, it is corrected when the peer node sends a TFP message in response to the data messages. **Workaround**: First MSU received from adjacent node corrects the RSP status as the response TFP is sent to the adjacent node.

Bug Number	Severity	Found in Release	Title	Customer Impact
29430889	2	8.4	Seeing MSU loss for ANSI domain MTP routed SCCP messages, when a MIX of SCCP and TFP traffic is MTP routed, which is much below the configured TPS	A few messages are discarded in multiple scenarios: Stable MIX traffic run of (network management and data (SI=3 & SI=5)). Stable traffic runs are impacted due to MSU loss when some other links of linkset are oversubscribed. Traffic switching from one route to another. In some cases due to put operation on linkset. **Workaround**: None.
29441688	2	8.4	An actually down PC, which is non-adjacent PC for system under test, its status on SUT is subjective to which side vSTP node is restarted	Adjacent node keeps routing messages for the PC, which is actually down. Messages, instead of being discarded on the peer node, are discarded on the node where the PC is down. **Workaround**: First MSU received from adjacent node is the correct RSP status since the response TFP is sent to the adjacent node.
29492273	2	8.4	Changeover and changeback causing MSU loss and mis-sequencing. Later run identified loss in changeback	If a few links of a linkset are bounced, then it results in MSU loss and mis-sequencing, though links, which did not go down had bandwidth to route running traffic. **Workaround**: Change T2, T3, T4, T5, and T6 timer values of MTP3 options to 100 msec. Change T7 timer value to 2000 msec in MTP3 options.
29492348	2	8.4	MSU loss is observed when same RSP has two routes and traffic switches between the routes due to change in RC of routes	Mis-sequencing and MSU losses are observed when traffic switches from one route to another due to a change in RC of routes. **Workaround**: Issue is observed when route cost is changed during 40% traffic rate. If traffic rate is lower, then issue may not be seen. User needs to update RC value at night or in maintenance window to route traffic without loss.

Bug Number	Severity	Found in Release	Title	Customer Impact
23132640	3	7.3	DSR7.3: Issues configuring/ reconfiguring PCRF records	If two sites are configured using the same SOAM network element, it is not possible to configure the same PCRF entry at both sites. **Workaround**: Use a different SOAM network element at each site. During installation it is possible to configure two SOAM network elements having different names, but having all of the same network configurations.
24392971	3	8	SQL error observed when removing connections in parallel	If encountered, the user needs to retry the delete action. When multiple concurrent clients are updating the database at the exact same moment, it is possible that the second client will receive an update error. This does not cause any data integrity issues. **Workaround**: Retry the client receiving the update failure.
24529517	3	8	Time to create network routes increases with the number of configured routes	Customer must take into account the time it takes to create a large number of network routes.
24564563	3	8	Network devices added using GUI or MMI become Discovered on delete	No operational impact. The issue is transient and clears on its own. **Workaround**: None required.
24565936	3	8	Time to GET network devices increases with the number of configured items	When a full GET request is invoked by an MMI client for network devices, there is a long delay in the response. **Workaround**: Try filtering the request.
24796935	3	8	[AW:oampAgent] DB Late Write Nonactive alarm by the NO during Act > Stby transition	No operational impact. Alarm may be triggered when a switchover of NOAM occurs. **Workaround**: None required.

Bug Number	Severity	Found in Release	Title	Customer Impact
25505595	3	8	DSR 8.0: ST: InstallOS operation on guests using PMAC failed with internal error reason	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). **Workaround**: Delete extra files that have been incorrectly copied to /home/admusr. This clears the alarm and allows normal operation.
25525005	3	8	Data export transfer now and test transfer does not provide feedback to the user	The user does not see immediate notification regarding the test transfer action. **Workaround**: The user needs to select and view the **Status & Manage > Tasks > Active Tasks** screen to see the test task and its status.
25529974	3	8	DSR MMI Iissues in AppWorks MON URIs	No customer impact. Measurement budget is not currently enforced.
25575141	3	8	[PDRA:Recon] Disabling PDRA during USBR Recon fails with Error code #21648	User is not able to disable the PDRA function while running the reconfiguration plan for a USBR database. User can disable the function after all reconfiguration plans have completed.
25600027	3	8	[CfgDbReinit] lmysqld,apwSoapServer unexpectedly terminates during initialization	Minimal customer impact since issue occurs during reboot. The impact is that the server could take longer to come into service.
25637633	3	8	Unknown column 'ROLE' in 'where clause'	Minimal customer impact since filter is not typically used for System OAM during upgrades. User receives error "Unknown column 'ROLE' in 'where clause'", when filtering on Server Role "System OAM" on the **Administration > Software Management > Upgrade** screen. **Workaround**: User can navigate to the desired System OAM tab to get the data.

Bug Number	Severity	Found in Release	Title	Customer Impact
25651803	3	8	[PCA:CACD] Alarm for Degraded ComAgent Connections when USBRs are removed from session RD	No functional impact. Alarm is raised for servers that do not belong to the active session SBR database. **Workaround**: To clear the alarm, restart the SBR servers on which the alarm is raised. ***CAUTION*** If any DCA application is actively sending data to these SBR servers, this workaround is NOT recommended as it may cause traffic loss.
25656089	3	8	DSR 8.0: ST: ISO deployment got stuck for the site when servers were restarted	During preparation for upgrade activity, if the user reboots a server while an ISO transfer is taking place, the transfer is be stopped and does not restart until a manual workaround is performed. **Workaround**: Contact My Oracle Support for assistance.
25669402	3	8	DSR 8.0: ST: VIPs not activated when servers are in the same network but different sites	If all SOAM servers (different sites) are in the same network, user is not able to access the SOAM using VIP when a spare SOAM server becomes active. **Workaround**: Contact My Oracle Support for assistance.
25719122	3	8	[PDRA:ApplRestart] psbr abterm can occur during controlled shutdown/restart	No service/traffic impact. An abterm may be generated during the process restart from the **Status & Manage > Server** screen.
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 seen on a decommissioned server group that is not a part of the resizing plan. Also there should be no operational impact as MOP. Source documentation has been updated to required cleanup of decommissioned servers and server groups. **Workaround**: If there are any servers and server groups that are no longer being used after the completion of a resizing plan, then the user should delete them.

Bug Number	Severity	Found in Release	Title	Customer Impact
25739523	3	8	DSR8.0: ST: ImpStore-OracleDB connection error after IDIH upgrade from 7.3 to 8.0	Alarm may be raised on the IDIH GUI that does not clear automatically even after connection is successfully established. **Workaround**: User can manually clear the alarm by highlighting alarm on **IDIH > System Alarms** and selecting Terminate selected Alarm(s).
26030628	3	8.1	Cannot connect DSR to IDIH over xmi	Minimal customer impact since IDIH should connect via IMI.
26116286	3	8.1	USBR update and concurrentupdate stackevent resets the creationTime to 0	If any DCA application uses update API or concurrentUpdate API, the creation time of a USBR record is reset to 0. So the DCA application business logic cannot rely on the USBR record creation time. However there is currently no requirement of DCA applications developed so far to use the creation time of the record.
26186891	3	8.1	8.1 VSTP-ST: Observe routing fail events for UDTS message without mentioning its UDTS	Minimal customer impact. Fix would help in debugging message discarded at MTP3 due to routing failure. With fields currently reported in event #70064, user is not able to differentiate whether it is UDT/XUDT or an error message like UDTS/XUDTS. Additional fields aid in troubleshooting which messages are being discarded by MTP3 due to a routing failure.
26228558	3	8.1	Alarm name should be read only on the Alarm Settings tab	No customer impact. Accessibility bug. **Workaround**: None.
26243446	3	8.1	Information shows as green even though HostName is incorrect	No functional impact. Error text is displayed with green background.
26290407	3	8.1	8.1 Maj Upg NOAM "10134 Server upgrade operation failed", but upgrade succeeded	There is a false alarm and the upgrade still progresses. The upgrade progress can be verified from the Upgrade screen. Also, upgrade logs can be verified to see the progress of the upgrade.
26939388	3	8.2	SDS Upgrade: NOAM servers do not switch over while auditing is in progress	No customer impact if documented workaround is followed. **Workaround**: NOAM upgrades are manually upgrade and the documented procedure instructs the operator to look for the audit clearance alarm.

Bug Number	Severity	Found in Release	Title	Customer Impact
26969222	3	8.2	Event #31000 GN_INTERN/WRN Upload failed [FileUploader.cxx:123] post 8.2	Minimal impact if the problem occurs. The alarm may cycle a few times and then clear after the system retries the file transfer. This has only been observed in one test system and did not have a long term impact to 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 a device edit is pending, the edit is blocked and an alarm is raised. Bug title reflects an instance where this has happened once in the test cycle. **Workaround**: Perform a trivial edit to the device to retry the edit operation with tpdprovd.
27281145	3	8.2	MSU loss when preferred/non-preferred routes are changed 2 combined load sharing routes	During Forced Rerouting/Controlled Rerouting, if link TPS is not configured to handle traffic spike, MSU loss may happen. **Workaround**: Link TPS should be configured so that it can handle traffic spikes during Forced/Controlled Rerouting.
27301480	3	8.2	Configuration of TCAP GTT entries	Customer impact is minimal. For TCAP GTA entry, if pkgtype is "Any" and there is already an entry for ITU TCAP translation (acn+opcode+pkgtype+gttsetname), then user cannot configure record for ANSI TCAP translation with same values for family,opcode,pkgtype,gttsetname.
27355369	3	8.2	[8.2ST]: ERA process restart observed on NO while upgrading SDS 7.3 to 8.2	During SDS upgrade, after switchover from primary cluster to upgraded cluster, user provisioned data. Abterms were observed for a process that monitors provisioning tables; however, the process is independent of provisioning. **Workaround**: None. Issue occurred once in partial upgraded system. There is no traffic impact on SDS. Affected process recovers from abterm automatically.

Bug Number	Severity	Found in Release	Title	Customer Impact
27413746	3	8.2	SNMP Trapping screen issues for SNMPv3 engine ID field	User cannot view generated SNMPv3 Engine ID on SNMP Trapping screen. **Workaround**: 1. Navigate to **Configuration > Networking > Networks**. 2. Check the default network name for NOAM/SOAM according to the requirement (for example, to configure SNMP trapping for the NOAM/SOAM server group, "XMI" is default network name). 3. Execute command: ip link | grep -A1 <network name> | grep ether | awk '{print $2}' on NOAM for NOAM SG and on SOAM for SOAM SG where <network name> is text from step #2. Expected output of the command is formatted like: 02:2a:84:bc:81:0c 4. Remove all of the colons (:) from the output of step #3 and concatenate it after "800001430c" for the engine ID. For example: 800001430c022a84bc810c
28134563	3	8.3	Auto Site Upgrade failure not cleaned up automatically, upgrade attempt blocked	If the Automated Site upgrade on a server fails due to an issue like an NTP failure or greater than 70% /var usage, the customer may see a message "site already has an automated site upgrade in progress" when trying to restart the upgrade. **Workaround**: Cancel the site upgrade task from the **Status & Manage > Tasks > Active Tasks** screen and restart the upgrade.
28353971	3	8.3	OCSG does not validate special characters in ScsAsId delimiter	If customer enters special characters in SCSASID_APN_Suffix_Delimiter in the OCSG console, the URL is rendered incorrectly. **Workaround**: APIGW user document describe the constraint on delimiter configuration parameter.

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	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 is not correct.
				
				Notification report:
				/daf-network/apigw/v1
				{
				   "msisdn": "98873983003",
				   "result": "Unknown DeviceTriggeringDeliveryResult: 255"
				}
				Workaround: None

28545072	3	8.3	Duplicate OID name in DSR MIB eagleXgDsrDbHealthImpactNotify	There is a duplicate name DbHealthImpact for different OIDs, which causes an issue when trying to load the MIB file onto the SNMP server. **Workaround**: In the MIB file, edit the OID name for the 31151 event from DbHealthImpact to DbHealthImpactPersist
28799057	3	8.4	SSA is sent as a response when sub system is offline/not available	Adjacent node keeps routing messages for subsystem, which is actually down. Messages, instead of getting discarded on peer node, are discarded at node where subsystem is down. **Workaround**: Issue is reported when local application is manually disabled. Enable the application to resolve the issue.
29289217	3	8.4	In case of egress traffic congestion for ITUI domain traffic, measurement VstpPriority2MsuDiscarded gets pegged which is incorrect	This peg is indicating the SCCP message is discarded during the congestion. As per ITU specification there is no priority assigned to ITU messages. User may not be able to co-relate the priority with the measurement being pegged. **Workaround**: None.
29314453	3	8.4	ApwSoapServer restarted in DSR SOA during upgrade release 8.3 to 8.4.84.10	During system reboot when all the processes are coming up, apwSoapServer restarts if lmysql is not up before apwSoapserver. apwSaopServer comes up successfully after it is restarted. **Workaround**: None.

Bug Number	Severity	Found in Release	Title	Customer Impact
29367175	3	8.4	Affected destination rule group lookup failure for MTP screening, why Event #70392 does not display affected point code value of the message which is discarded with reason: MTP screening received AFTDSTN that is not allowed	Affected PC of MTP screening discarded message is not displayed in the event where MTP screening fails due to affected PC table rule. **Workaround**: None.
29388224	3	8.4	Routing of relay message failed with event ID 70273 even if the SSN exists in Mapset table on VSTP	If SSN number is updated in message by configured DB for relay on UDR, then relayed messages are not get routed by VSTP. User has to take care to not update the SSN. **Workaround**: User should not change SSN of relayed MSU using UDR configured database.
29408014	3	8.4	On making the relativeCost value of secondary entry the same as relativeCost value of primary entry, load sharing is not happening with respect to the weight	Load sharing does not occur correctly on changing to same cost. This could cause early onset of congestion due to it not using all available paths to load share. **Workaround**: Reconfigure the MAP load sharing group by deleting the existing mapset group. Or, avoid put operation for changing RC.
29518100	3	8.4	Few ITUI domain links are stuck in congestion level though I have reduced traffic to zero	When a linkset is pushed for more traffic routing, this triggers egress congestion, and it remains under this traffic stress, where links bounce due to congestion. Some links get stuck in congestion levels though traffic is reduced to zero. Here, congestion level stuck links are never routed to egress traffic until they get reset. **Workaround**: Disable/enable links that are stuck in congestion level.
29518322	3	8.4	MIX of ANSI + ITUI traffic (72K for 8 MPs 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 a failure of MSUs when running traffic is close to configured link TPS. **Workaround**: None.

Bug Number	Severity	Found in Release	Title	Customer Impact
29545626	3	8.4	DSR 8.4: Remote Servers: Data Export	MMI based remote server export configuration does not happen on the schedule time, that is, the remote server export does not occur if configured through the MMI when it is configured for a specific time/date. **Workaround**: Use GUI for configuring MMI based remote server export.
29556684	3	8.4	VSTP 8.4: Broadcast and response method for network management messages are not implemented for alias point	If an alias PC comes into available state from down state, TFA with an affected PC as alias PC is not broadcasted. It is also not corrected by an RST messages received from the peer since we do not send TFA against RST messages. **Workaround**: None.
19846672	4	7	OCDRA: Average measurements are showing half value rather than actual value	Some of the average measurements for the entire network work may not show the correct values. **Workaround**: Use the average measurements value per server.
23421644	4	8	[AW]Login button not centered in the box on the Login Screen using a Firefox browser	No operational impact. Cosmetic issue.
23858799	4	8	Local pause update inconsistent	No operational impact. On several GUI screens there are two "Pause Updates" checkboxes, one with a scope global to the GUI and the other with a scope local to that menu item.
24377541	4	8	[Network Insert Screen]: VLAN ID field should not be mandatory	On the **Networking > Networks [Insert]** screen, the user needs to populate the VLAN ID field with a value of 1-4094 regardless of whether it is used or not.
24479659	4	8	IPFE target set issue with BIE and gcli	Exported IPFE files cannot be used for import operations.
24621473	4	8	The SBR HA and HA health check scripts accessing tables instead of SOAP APIs	No impact to customer.
24935222	4	8	LRGSYS: KPI screen taking a long time to display	Customer Impact: Potential GUI delay. On large topologies, it can take up to 90 seconds to draw the KPI screen. **Workaround**: None.

Bug Number	Severity	Found in Release	Title	Customer Impact
25028429	4	8	DSR back out: invalid response from User (yes vs. y) should not abort CLI session	If user does not type Y or N in response to, "Continue backout? [Y/N]:", there is no reason given for the abort of the back out command. **Workaround**: The back out command can be re-entered.
25231844	4	8	Selecting Edit button with keyboard takes you to a blank screen	On the Diameter **Common > MPs > Profiles** screen, user cannot select Edit using the keyboard. **Workaround**: Use the mouse to edit MP profiles.
25254213	4	8	Copyright visible on screen	No operational impact. On the **Diameter Common > Dashboard > Configuration > Metric Threshold Configuration Sets** screen, the copyright information is present above the table description.
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 the server hosts from other SOAM are displayed on IDIH OAM application screen at **Applications > DSR > Mediation Input Sources**. **Workaround**: Disregard hosts that no longer apply to the current configuration.
25462998	4	8	Pause update not functioning on ComAgent screens	Minimal customer Impact: The GUI status screens under "Communication Agent -> Maintenance" will continue to update when pause update checkbox 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. **Workaround**: None. User needs to navigate back to the desired screen rather than be automatically returned to it.
25573507	4	8.1	[DSR SSST 8.1] IPFE validation missing in IPFE ->Configuration->Options screen	If wrong IP address is used then TSA will not work. This will only happen when operator is configuring the IP address incorrectly. In field, operator shall use the correct IP address and verify the configuration before starting the traffic.

Bug Number	Severity	Found in Release	Title	Customer Impact
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].
25590495	4	8	DSR MMI KPI Groups not getting validated correctly	More information may be provided than expected. The MMI supplies information for all KPI Groups in the database regardless of whether the feature has been activated or not.
25590532	4	8	DSR MMI Screen name seen as UNKNOWN in the Security Logs	No operational impact. Although "screen name" field of the security log displays "UNKNOWN" all applicable information is available as text in the security log.
25590566	4	8	DSR MMI Bulk Configurator returns wrong error for invalid filename	An error is returned for invalid filename but the error text, "Filename cannot exceed 255 characters," is incorrect.
25590581	4	8	DSR MMI Restrict the Resource Name to not use URI reserved keywords	Customer cannot use reserved keywords in MMI URI request.
25590613	4	8	DSR MMI Empty visibility for some of the measurement groups	More information may be provided than expected. The MMI supplies information for all Measurement Groups in the database. The visibility will be blank if the feature is not activated.
25590648	4	8	MMI request shall not raise exception in any error condition	No functional impact. An exception is reported and logged in an error log but the error not reported in the JSON response.
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.
25643859	4	8	GUI: SBR Status screen repeating display of server groups with >25 SGs.	Minimal GUI impact. On the SBR -> Maintenance-> SBR Status screen, when the number of Server Groups(SGs) in a place association displayed (rows) is greater than 25, rows 26 on are a repeat of the first SGs displayed at the top of the screen. **Workaround**: View the SGs in a Place Association using different scoping to limit the number of SGs to less than 25.

Bug Number	Severity	Found in Release	Title	Customer Impact
25660736	4	8	Back out: SOAM returns errors with verifyUpgrade and verifyBackout	The only impact is ERRORs may be returned when running verifyUpgrade and verifyBackout. The back out completes successfully. **Workaround**: None required. The back out completes successfully.
25697793	4	8	POST bulk/configurator fail w/ 400 response : issue connecting to hosts	If this error occurs, the user needs to retry the command.
25737480	4	8.1	[DSR SSST 8.1]When we insert device, XSI IPv4 address replaces with IPv6 address.	Operator is not able to add two devices at the same time.
25975473	4	8.1	M2PA link status gets displayed as UP though its down	No traffic loss or service loss. VstpLinkStatus may report M2PA link status as available after vSTP process manually stopped.
26187472	4	8.1	Required field asterisk is not the correct location "Trusted Network Realms"	No impact. The GUI Required Attribute Indicator (*) for NO GUI. Under **Diameter > Configuration > Topology Hiding > Trusted Network Lists > [Insert]**, Trusted Network Realms is located after the textbox field rather than after the label.
26188293	4	8.1	[DASH:P&C] DSR Dashboard PCA average Ing MPS instead reported as RxPdraMsgRate	Dashboard screen does not include OCDRA MPS. It's showing only PDRA MPS. "SBR Sessions" under "Servers" tab SBR Sessions field is not including OCDRA Sessions count.
26270776	4	8.1	Process utility spikes seen for pingAllLivePeer and iptablesAdm	This has no impact on the advertised performance figures. While testing smallest VM resource profile (i.e., 4 vCPUs/8G RAM), we observed an anomaly wherein pingAllLivePeer and iptablesAdm tasks results in CPU spikes. The bench-marked / advertised MPS (i.e. 6K RBAR MPS per DA-MP) has already considered these spikes and runs fine with this anomaly.

Bug Number	Severity	Found in Release	Title	Customer Impact
26313885	4	8.1	DSR 8.1:ST: Status & Manage > Files is not accessible from NO and throws error	In NOAM and SOAM when there will be large number of files present inside File Management Area (/var/TKLC/db/filemgmt) and user clicks on "Status & Manage -> Files" option on GUI for that server, then apwSoapServer will become slow as it will utilize the max CPU to sort the files in memory. This will impact the apwSoapserver functionality as well as that overall server performance. This is limited to OAM servers and will not impact Signaling Servers. This is a legacy issue. This issue happened because remote server copy was not deleting the files after copying them to remote server. A separate Bug will be raised to address this issue.
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 seen). **Workaround**: None. Though as a note: for any FABR query to pass, a valid destination must be assigned to an RE.
27182197	4	8.2	[8.2FT]:Domain ID field in filter gets disabled after filtering it once	In Main Menu: SDS -> Configuration -> Subscribers screen, after filtering on Domain ID, if the page is reloaded the Domain ID text box is greyed out and disabled.
27272082	4	8.2	VSTP abterm has been observed at the time of two MPs was HARD Rebooted	No traffic loss or functionality impact. The abterm indicates it fails in initialization after hard reboot. It does not impact service and process recovered successfully.
29451723	4	8.4	Observed "success" and "Error" confirmations together when applied filter in KPIs screen	KPI filter option screen is working properly. This is a cosmetic issue because of which the success and error messages box are visible after pressing Go button. **Workaround**: None.

Table 9: Cloud Native Customer Known Bugs lists the known bugs and associated Customer Impact Statements. This information is provided for information purposes only.

Table 9: Cloud Native Customer Known Bugs

Bug Number	Severity	Found in Release	Title	Customer Impact
29623007	4	1.0.0	NRF creating duplicate subscription	Duplicate notification is received by the client in case it has sent a duplicate subscription request. **Workaround**: None
29623203	3	1.0.0	GET ALL (NF Instances) response is not having _links object	GET All response can't be used as it is. **Workaround**: Client needs to fetch the URL directly from the response body (vs fetching it from _link attribute) or alternately use Discovery service to fetching NF profiles.
29623333	4	1.0.0	GET ALL (NF Instances) request is not handling optional parameters	nf-type and limit optional parameter can't be used for GET ALL request. **Workaround**: None.
29631361	3	1.0.0	NF CNE installation issues with HP Gen10 hardware	Results in incorrect cluster configuration. However, the issues can be resolved and/or corrected manually.
29622977	3	1.0.0	Virtual services are not getting updated or deleted when non-equivalent NF services registered with overlapping IP endpoints	Rules will not flow down to worker for routing if 2 NF/NF-Services registered or updated with same set of IP endpoints. **Workaround**: Make sure no NFs or their services are configured with same set of IP endpoints.
29622956	3	1.0.0	NullPointerException occurs in notification module when de-register comes immediately after register	In case NF deregister comes immediately after NF register this problem will come and De register will not happen. **Workaround**: Resend de-register notification from NRF or make sure de-register does not immediately follow register.
29622946	4	1.0.0	Failure to process consecutive NF_REGISTERED event with same NF but different NF profile	None. Consecutive profile for same NF Instance ID with different NF type is not processed. **Workaround**: None. Ideally NF Instance ID from different NF types should be different.

Chapter 8:
Oracle References and Services

Topics:

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

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

My Oracle Support (MOS)

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

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

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

   - For technical issues such as creating a new Service Request (SR), select 1.

   - For non-technical issues such as registration or assistance with MOS, select 2.

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

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

Emergency Response

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

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

- A total system failure that results in loss of all transaction processing capability

- Significant reduction in system capacity or traffic handling capability

- Loss of the system's ability to perform automatic system reconfiguration

- Inability to restart a processor or the system

- Corruption of system databases that requires service affecting corrective actions

- Loss of access for maintenance or recovery operations

- Loss of the system ability to provide any required critical or major trouble notification

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

Customer Training

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

- In the US, please dial 800-529-0165.

- In Canada, please dial 866-825-9790.

- In Germany, please dial 0180 2000 526 (toll free) or +49 8914301200 (International).

- In Spain, please dial +34 91 6267 792.

- In the United Kingdom, please dial 0845 777 7 711 (toll free) or +44 11 89 726 500 (International).

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

Locate Product Documentation on the Oracle Help Center Site

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

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

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

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

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

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

Locate Product Release Software on the Oracle Software Delivery Cloud Site

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

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