Oracle® Communications Order and Service Management

Compatibility Matrix

Release 7.4.1

F35760-16

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OSM Software Compatibility

This document lists the software compatible with Oracle Communications Order and Service Management (OSM).

See the following sections for details:

- OSM Cloud Native Deployment Software Compatibility
- OSM Traditional Deployment Software Compatibility

OSM Cloud Native Deployment Software Compatibility

This section lists the software compatible with the Oracle Communications Order and Service Management (OSM) cloud native deployment package.

See the following sections:

- Application Technology Stack
- Recommended Kubernetes Technology Stack
- Supported Kubernetes Technology Stack

Application Technology Stack

This section lists software versions compatible with the OSM cloud native deployment.

Table 1-1   Supported Software for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Oracle Linux	9.*x* (*x* >= 3) 8.*x* (*x* >= 3) 7.*x* (*x* >= 9)	Recommended versions as per the manifest file. See "OSM Cloud Native Manifest File". Oracle Linux is required for the OSM container images, not for the Kubernetes worker nodes.

Table 1-1   (Cont.) Supported Software for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Java	8 update 401 (Recommended) Earlier versions, starting with 8 update 281, are also certified.	Recommended versions as per the manifest file. See "OSM Cloud Native Manifest File". If you use G1 GC, then do not use Java 8 update 371 and update 381.
Oracle Fusion Middleware Infrastructure	12.2.1.4	NA
Oracle Fusion Middleware Patches	January 2024 CPU and overlay patches (Recommended) Earlier CPUs, starting with January 2021 CPU and overlay patches are also certified.	Install the patches listed in the "Critical Patch Updates and Overlay Patches" section. Also see "OSM Cloud Native Manifest File".
Oracle Database (installed as Container Database)	19c	Enterprise Edition or Oracle OCI Database Service: Enterprise Edition High Performance / Oracle Grid Infrastructure.
Oracle Multitenant Container Database Patches	19.21.0.0.0 (Recommended) Earlier patches for Oracle Database 19*c* are also supported.	Oracle recommends the latest available CPU. In addition, apply the overlay patches listed in "Database Overlay Patches" and any other required patches when available.
Oracle Instant Client	19.22.0.0.0 (Recommended) Earlier versions, up to 19.8.0.0.0 are also supported. Versions between 19.8.0.0.0 and 19.17.0.0.0 are not supported.	Recommended versions as per the manifest file. See "OSM Cloud Native Manifest File".
Oracle Communications Design Studio	7.4.1 or later	NA
Web browsers	Google Chrome 88 or later Mozilla Firefox ESR 78.7 or later Microsoft Edge Chromium 87 or later	These apply to Order Management web client and Task web client.
Ant	1.9.2 or later	Optional. Ant is required for direct ant-based integration with the various tools in the OSM SDK including the XMLIE tool for cloud native cartridge management. To ensure the tools function correctly, all copies of Ant in use on the SDK host must have the same version number. Ant is not required if the tools in OSM SDK are invoked via scripts provided in the SDK.

Recommended Kubernetes Technology Stack

The following table lists the recommended versions of the software in the Kubernetes technology stack supported with OSM cloud native deployments.

> **Note:**
>
> Oracle recommends that if you use any of the components listed in this table, then use only the versions of other components listed in this table.

Table 1-2   Recommended Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Kubernetes	1.28.x (x >= 2) 1.27.x (x >= 2) 1.26.x (x >= 2) 1.25.x (x >= 4)	See "Container Platforms for OSM Cloud Native" for further details.
CRI-O	1.28.x (x >= 2) 1.27.x (x >= 1) 1.26.x (x >= 2) 1.25.x (x >= 1)	CRI-O is required only in Kubernetes runtime environments.
Kubernetes Cluster Networking Interface (CNI)	OSM cloud native is certified for the same CNI plugins and versions specified by the WebLogic Kubernetes Operator version listed in this table.	See "WebLogic Kubernetes Operator Documentation" for further details.
Ingress Controller	Ingress Controller version that conforms to your Kubernetes version standard API.	Use any Ingress Controller that conforms to your Kubernetes version Ingress API and provides annotations needed for OSM as documented in the KM Doc ID 2980164.1. This is applicable for 7.4.1.0.13 and later.
Traefik	2.10.x (x >= 6) Chart version: 26.x (x >= 0.0)	This is a sample ingress controller and required only if you use Traefik as your ingress controller. For details, see: https://artifacthub.io/packages/helm/traefik/traefik
Docker	19.03.x (x >= 11)	Docker is recommended for building images. It is not used as a container engine.
Podman	4.1.x (x >= 1)	Podman is an alternative to Docker for building images. Oracle recommends using Docker. The OSM cloud native image builder is configured to use Docker, by default. If Docker is not found, the image builder uses Podman.
Helm	3.9.0 or later	NA

Table 1-2   (Cont.) Recommended Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Oracle WebLogic Kubernetes Operator	4.1.x (x >= 2) 4.0.x (x >= 5)	For WKO versions 4.0.8 and later, see the KM article (*OSM CN- Weblogic Kubernetes Operator (WKO) 4.x installation for OSM 7.4.1 CN* (Doc ID 2985407.1)) on My Oracle Support. Also, see the documentation about WKO at: https://oracle.github.io/weblogic-kubernetes-operator/
WebLogic Monitoring Exporter	2.0.5 or later	See WME documentation on GitHub: https://github.com/oracle/weblogic-monitoring-exporter. This is required only if you want to view metrics for the WebLogic server in Prometheus. **Note**: WME is supported for OSM 7.4.1.0.2 and higher.
Prometheus	2.x (x >= 41.0)	Optional
Grafana	9.x (x >= 4.3)	Optional

Earlier and Supported Versions of Kubernetes Technology Stack

The following tables list the versions of software in the Kubernetes technology stack that OSM supports, provided that each technology is still supported by the respective provider. Each version of a component listed in a table is compatible with the versions of the other components listed within that table only.

For software not listed in these tables, use the appropriate version in Table 1-2.

> **Note:**
>
> Oracle highly recommends uptaking the stack versions listed in Table 1-2.

Table 1-3   Earlier and Supported Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Kubernetes	1.24.x (x >= 1) 1.23.x (x >= 4) 1.22.x (x >= 5)	See "Container Platforms for OSM Cloud Native" for further details.
CRI-O	1.24.x (x >= 1) 1.23.x (x >= 3) 1.22.x (x >= 3)	CRI-O is required only in Kubernetes runtime environments.

Table 1-3   (Cont.) Earlier and Supported Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Kubernetes Cluster Networking Interface (CNI)	OSM cloud native is certified for the same CNI plugins and versions specified by the WebLogic Kubernetes Operator version listed in this table.	See "WebLogic Kubernetes Operator Documentation" for further details.
Docker	19.03.x (x >= 11)	Docker is recommended for building images. It is not used as a container engine.
Podman	4.1.x (x >= 1)	Podman is an alternative to Docker for building images. Oracle recommends using Docker. The OSM cloud native image builder is configured to use Docker, by default. If Docker is not found, the image builder uses Podman.
Helm	3.x (x >= 4.1)	NA
Oracle WebLogic Kubernetes Operator	3.4.x (x >= 1) 4.0.x (x >= 5)	WKO 4.x is only supported against Kubernetes 1.23.x and later. WKO 4.x is not supported against Kubernetes 1.22.x. See WKO documentation. For 3.4.x, go to: https://oracle.github.io/weblogic-kubernetes-operator/3.4/ For 4.0.x, go to: https://oracle.github.io/weblogic-kubernetes-operator/
WebLogic Monitoring Exporter	2.0.5 or later	See WME documentation on GitHub: https://github.com/oracle/weblogic-monitoring-exporter. This is required only if you want to view metrics for the WebLogic server in Prometheus. **Note**: WME is supported for OSM 7.4.1.0.2 and higher.
Prometheus	2.x (x >= 26.0)	Optional
Grafana	7.x (x >= 5.5)	Optional
Traefik	2.9.x (x >= 1)	This is a sample ingress controller and required only if you use Traefik as your ingress controller. For details, see: https://artifacthub.io/packages/helm/traefik/traefik

Table 1-4   Earlier and Supported Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.4.1.0.x (x >= 1)

Software	Version	Notes
Kubernetes	1.18.*x* 1.17.*x* 1.16.*x* 1.15.*x* (*x* >= 7) 1.14.*x* (*x* >= 8)	See "Container Platforms for OSM Cloud Native" for further details.
Docker	19.03.*x* (*x* >= 1) 18.09.*x* (*x* >= 1)	NA
Cluster Networking Interface (CNI)	Flannel 0.9.1-amd64 or later	NA
Helm	3.*x* (*x* >= 1.3)	NA
Oracle WebLogic Kubernetes Operator	3.1.*x*	See the documentation about WKO at: https://oracle.github.io/weblogic-kubernetes-operator/
WebLogic Monitoring Exporter	1.3.0	See WME documentation on GitHub: https://github.com/oracle/weblogic-monitoring-exporter. **Note**: WME is supported for OSM 7.4.1.0.2 and higher.
Prometheus	2.*x* (*x* >= 26.0)	Optional
Grafana	7.*x* (*x* >= 5.5)	Optional
Traefik	2.3.*x* (*x* >= 3)	For details, see: https://artifacthub.io/packages/helm/traefik/traefik

OSM Cloud Native Manifest File

The OSM cloud native manifest file tracks updates and patches to the following software:

- Java
- Oracle Fusion Middleware, including patches
- Oracle Instant Client
- Oracle Linux

Oracle updates the manifest files to track Critical Patch Updates for all these components. You are encouraged to uptake the manifests as they are released.

To download the manifest file, see the "OSM Cloud Native Manifest Files (Doc ID 2721663.1)" knowledge article on My Oracle Support.

For information on how to use the manifest file to build your OSM cloud native images, see "Creating OSM Cloud Native Images" in *OSM Cloud Native Deployment Guide*.

Container Platforms for OSM Cloud Native

OSM cloud native is designed to be agnostic of the underlying cloud infrastructure. It relies on standard APIs, objects and configuration functions from the software products listed in this document. As such, OSM cloud native is certified on any container platform based on a CNCF-certified Kubernetes, provided the version requirements listed in this document are satisfied.

OSM cloud native has been tested on a standard "upstream" (kubernetes.io) deployment of Kubernetes on Linux VM and bare metal (private lab and IaaS). OSM cloud native has also been tested on Oracle OCI OKE platform with Oracle Multitenant Database via co-located Oracle Database Service (Bare Metal, VM, and ExaData). OSM cloud native includes specific support for OCI and OKE.

Other Kubernetes distributions and container platforms may impose their own operational, security and configuration requirements. These would have to be addressed as part of the uptake of OSM cloud native, with support from the third party provider.

An important requirement is the presence of an Oracle Multitenant Container Database in close network proximity to the platform, in an environment and configuration that is officially supported by Oracle.

OSM Traditional Deployment Software Compatibility

This section describes the software required to support the OSM components for traditional deployment.

> **Note:**
>
> For all operating systems, check the Oracle Database documentation for any additional operating system patches required to support the database.

Table 1-5   Supported Software for OSM Traditional Deployment

Component	Product	Notes
Server Operating System	Oracle Linux 7.x (x >= 3 for non-cloud and x >= 6 for Oracle Cloud Infrastructure compute instance) Oracle Linux 8.x (x >= 2)	Oracle products certified on Oracle Linux are also supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products. Oracle recommends the latest available update, because later updates may provide modest performance gains.
Server Operating System	Solaris 11.x (x >= 3)	Supported on Sparc platforms only.
Server Operating System	Windows 10	For development, demonstration, and test environments. Not for production use.
Server Operating System	IBM AIX 7.x (x >= 1)	NA
Server Operating System	HP-UX 11.31	NA

Table 1-5   (Cont.) Supported Software for OSM Traditional Deployment

Component	Product	Notes
Web browsers	Microsoft Edge Chromium 87 or later Google Chrome 88 or later Mozilla Firefox ESR 78.7 or later	These apply to Order Management web client and Task web client.
Database Server	Oracle Database 19*c* 12*c* R2 (12.2.0.1) 12*c* R1 (12.1.0.2)	Enterprise Edition or Oracle OCI Database Service: Enterprise Edition High Performance / Oracle Grid Infrastructure. The database should not be installed on a Microsoft Windows system for a production environment. Microsoft Windows can be used for development, demonstration, and test environments.
Oracle Database Patches	19.21.0.0.0 12*c* R2 (12.2.0.1) 12*c* R1 (12.1.0.2)	Although earlier CPUs are supported, Oracle recommends the latest available CPU to avoid security issues. In addition, apply the overlay patches listed in "Database Overlay Patches" and any other required patches when available.
Java	For Linux, Solaris, and Windows, 8 update 401 (Recommended). Earlier versions, starting with 8 update 281, are also certified. For AIX, 8.0 SR6 FP20 or later. For HP-UX, 8.0.21 or later.	If you use G1 GC, then do not use Java version 8 update 371 and update 381.
Java	For launching the installer on Linux, Solaris, and Windows, Java 7 update 361 (Recommended). JRE 7.0 SR10 FP674 or later for launching the installer on AIX. JRE 7.0.32 or later for launching the installer on HP-UX.	Java 7 is certified for launching the installer only.
Application Server	Oracle Fusion Middleware Infrastructure 12.2.1.4	Fusion Middleware Infrastructure is included in the OSM software media pack. It includes Oracle WebLogic Server, Oracle Coherence, and Oracle Application Development Framework (ADF).

Table 1-5   (Cont.) Supported Software for OSM Traditional Deployment

Component	Product	Notes
Application Server	Fusion Middleware Patches January 2024 CPU and Overlay patches (Recommended). Earlier CPUs, starting with January 2021 CPU and Overlay patches are also certified.	Install the patches listed in the "Critical Patch Updates and Overlay Patches" section. **Note**: Patch 29448643 is included in Fusion Middleware 12.2.1.4 and need not be applied again. If you see non-WLS deserialization issues where a value of 100 is not sufficient, then increase the value using the system property as per the following workaround: Set the "-Dweblogic.oif.serialFilter=maxdepth=1000" flag in JAVA_OPTIONS for the managed servers.
Cloud IaaS Support	OCI Compute shapes and DB System shapes	For more details, see the "Installing OSM on Oracle Cloud Infrastructure (OCI) (Doc ID 2609018.1)" knowledge article on My Oracle Support.
Cloud IaaS Support	Amazon Web Services Elastic Computing (EC2)	NA
Cloud IaaS Support	Amazon Web Services Relational Database Service (RDS)	Currently, RDS lacks the ability to control one-off patches and is not recommended for OSM production deployments.
Cloud IaaS Support	Amazon Web Services Relational Database Service (RDS) Custom	Oracle strongly recommends configuring an Active Data Guard standby database in the same Region but different AZ for high-availability.
Build Tool	Ant 1.10.x (x >= 0)	Ant is required for using various tools in the OSM SDK including OSM cartridge management tools. To ensure the tools function correctly, all copies of Ant in use must have the same version number.
Database Tool	Oracle Instant Client 19.x.0.0.0 ($x >= 17$) (Recommended) Version 19.x.0.0.0 ($x <= 8$) is also supported.	Optional. Used for copying default partition statistics to the partitions for improving performance. Oracle recommends using the latest available version.
Cartridge Development	Design Studio 7.4.1 or later	NA
Monitoring Tools	Prometheus 2.x (x >= 26.0)	NA
Monitoring Tools	Grafana 7.x (x >=5.5)	NA
Other Tools	WebLogic Monitoring Exporter 1.3.0	See WME documentation on GitHub: https://github.com/oracle/weblogic-monitoring-exporter. **Note**: WME is supported for OSM 7.4.1.0.2 and higher.

Database Overlay Patches

This section lists database overlay patches. Apply these patches on top of the recommended latest available CPU.

Table 1-6 lists database 19.0.0.0 overlay patches.

Table 1-6   Database 19.0.0.0 Overlay Patches

Patch	Description	Details
27675947 This patch is included in 19*c*, but disabled by default.	ORA-23549: TABLE "SCHEMA"."TABLE" INVOLVED IN REFERENCE PARTITIONING.	Enables online table redefinition, which is required by OSM during upgrades. User needs to connect with sysdba privileges and run the following on every database instance to enable the fix: `alter system set "_fix_control"='27675947:ON' scope=BOTH;`

Table 1-7 lists database 12.2.0.1 overlay patches.

Table 1-7   Database 12.2.0.1 Overlay Patches

Patch	Description	Details
27675947	ORA-23549: TABLE "SCHEMA"."TABLE" INVOLVED IN REFERENCE PARTITIONING.	Enables online table redefinition, which is required by OSM during upgrades. User needs to connect with sysdba privileges and run the following on every database instance to enable the fix: `alter system set "_fix_control"='27675947:ON' scope=BOTH;`
25994960	CARDINALITY MISESTIMATE FROM HYBRID HISTOGRAM.	Create a HEIGHT BALANCED Histogram instead of HYBRID Histogram. To improve Cardinality Estimate On Query Plan (Doc ID 2295352.1).

Table 1-8 lists database 12.1.0.2 overlay patches.

Table 1-8   Database 12.1.0.2 Overlay Patches

Patch	Description	Details
14380605	HIGH LIBRARY CACHE LOCK,CURSOR: PIN S WAIT ON X AND LIBRARY CACHE: MUTEX X.	Library cache lock and pin usage is reduced when compiling most MERGE statements.

Table 1-8   (Cont.) Database 12.1.0.2 Overlay Patches

Patch	Description	Details
25335790	EXADATA:ORA-600 [KKSGAGETNOALLOC_INT0] ON ACTIVE DATABASE.	Despite bug title, this patch also applies to non-Exadata database systems. Required up to DATABASE PATCH SET UPDATE 12.1.0.2.180116.
22097775	EMPTY TABLE WITH COMPRESSED FK CAUSES ORA-02292 DURING DELETE ON PARENT TABLE.	If using index compression, this patch fixes foreign key issues as per ORA-02292. During Delete from Table Referenced by Child Table with Advanced Compression Foreign Key Index (Doc ID 2081229.1).
21752827	BUG 21752827 - STRP: ORA 600 [KKPAMREFGET: BAD OBJD].	Required when shrinking volatile tables using the procedure in Shrinking Volatile OSM Table Sizes to Increase OSM Performance (Doc ID 2268291.1).
25994960	CARDINALITY MISESTIMATE FROM HYBRID HISTOGRAM	Create a HEIGHT BALANCED Histogram instead of HYBRID Histogram. To improve Cardinality Estimate On Query Plan (Doc ID 2295352.1)

Oracle Application Integration Architecture for Communications Alignment

For Order-to-Activate cartridge compatibility information see *Order-to-Activate Cartridge Product Compatibility Matrix* (in the **OSM Cartridges for Oracle Application Integration Architecture** section of the OSM documentation) on the Oracle Help Center website:

http://docs.oracle.com/en/industries/communications/order-service-management/index.html

This document contains information about compatibility between OSM software, OSM Order-to-Activate cartridges, and Oracle Application Integration Architecture (AIA) for Communications. The OSM Order-to-Activate cartridges are used with the Oracle Communications Order to Cash Integration Pack for Oracle Communications Order and Service Management.

For more information about the Order to Cash business process see *Oracle Communications Order to Cash Integration Pack Implementation Guide for Siebel CRM, Oracle Order and Service Management, and Oracle Billing and Revenue Management* in the Oracle Application Integration Architecture documentation.

Design Studio Installation and Version Compatibility

For Oracle Communications Design Studio plug-in installation information, see *Design Studio Installation Guide*.

> **✎ Note:**
>
> If you need to build or re-build cartridges for OSM release 7.4.1, use the OSM release 7.4.1 SDK and the target OSM version as 7.4.0. In general, use the target OSM version that is closest to the OSM version.

Critical Patch Updates and Overlay Patches

OSM is supported on all Oracle Critical Patch Updates. You should install the latest Critical Patch Updates and overlay patches as soon as possible. To download Critical Patch Updates, find out about security alerts, and enable email notifications about Critical Patch Updates, see the Oracle Technology Network website:

https://www.oracle.com/security-alerts/

Table 1-9   January 2024 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	36155700
PSU Coherence (12.2.1.4.20)	36068046
ADF Bundle Patch	36074941
Additional Fix for ADF Bundle Patch	34809489
ADR for WebLogic Server	35965629
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.14)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	36086980
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	33791062
Oracle Web Services Manager (OWSM) Bundle Patch	35868571
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	35671137
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	36034300
Oracle Data Integrator Bundle Patch	35861909
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-10   October 2023 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	35893811
PSU Coherence (12.2.1.4.19)	35778804
ADF Bundle Patch	35735469
Additional Fix for ADF Bundle Patch	34809489
ADR for WebLogic Server	35476067
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.14)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	35882299
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	33791062
Oracle Web Services Manager (OWSM) Bundle Patch	35868571
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	35671137
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	35751917
Oracle Data Integrator Bundle Patch	35861909
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-11   July 2023 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	35557681
PSU Coherence (12.2.1.4.18)	35505207
ADF Bundle Patch	35503128
ADR for WebLogic Server	33639718
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.13)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	35547646
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	33791062

Table 1-11   (Cont.) July 2023 CPU and Overlay Patches

Component	Patch Number
Oracle Web Services Manager (OWSM) Bundle Patch	35159582
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	35380810
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	34549208
Oracle Data Integrator Bundle Patch	35597733
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-12   April 2023 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	35226999
PSU Coherence (12.2.1.4.17)	35122398
ADF Bundle Patch	35148842
ADR for WebLogic Server	33639718
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.12)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	35162846
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	32720458
Oracle Web Services Manager (OWSM) Bundle Patch	35159582
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	35035861
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	34549208
Oracle Data Integrator Bundle Patch	35151900

Table 1-12　(Cont.) April 2023 CPU and Overlay Patches

Component	Patch Number
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-13　January 2023 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	34883826
PSU Coherence (12.2.1.4.14)	34845927
ADF Bundle Patch	34944256
ADR for WebLogic Server	33639718
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.11)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	34879707
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	32720458
Oracle Web Services Manager (OWSM) Bundle Patch	34839859
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	34801809
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	34549208
Oracle Data Integrator Bundle Patch	34898600
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-14   October 2022 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	34653267
PSU Coherence (12.2.1.4.15)	34545596
ADF Bundle Patch	34535558
ADR for WebLogic Server	33639718
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.10)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	34604561
Fusion Middleware Control SPU	34542329
Fusion Middleware JDBC	32720458
Oracle Web Services Manager (OWSM) Bundle Patch	34566592
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	34546887
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	34549208
Overlay patches	31679103 (WLS restart due to deadlock in threads) 28334768 (DMS Metric table) 27184424 (Stuck thread) 30319071 (User group association) 31169032 (Export JMS Messages) 31569708 (JMS Orphan Destination routing) 32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-15   July 2022 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	34236279
PSU Coherence (12.2.1.4.14)	34248976
ADF Bundle Patch	34247006
ADR for WebLogic Server	33639718
OPSS for WebLogic Server	32784652
WebLogic Opatch (13.9.4.2.10)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	34287807
Fusion Middleware Control SPU	30613424
Fusion Middleware JDBC	32720458

Table 1-15   (Cont.) July 2022 CPU and Overlay Patches

Component	Patch Number
Oracle Web Services Manager (OWSM) Bundle Patch	34341032
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	34212770
Fusion Middleware Compatibility Patch for JDK8	34065178
WebCenter Core Bundle Patch	34237409
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)
	32220849 (Support for JPS configuration params IN WDT MODEL for External LDAP)

Table 1-16   April 2022 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	34012040
PSU Coherence (12.2.1.4.13)	33902201
ADF Bundle Patch	33958532
ADR for WebLogic Server	31544353
OPSS for WebLogic Server	33950717
WebLogic Opatch (13.9.4.2.8)	28186730
Fusion Middleware Platform SPU	33093748
Fusion Middleware Thirdparty Bundle Patch	34044738
Fusion Middleware Control SPU	30613424
Fusion Middleware JDBC	32720458
Oracle Web Services Manager (OWSM) Bundle Patch	33618954
Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0	34077658

Table 1-16   (Cont.) April 2022 CPU and Overlay Patches

Component	Patch Number
Overlay patches	33546536 (Oracle Web Services Manager SPU)
	33903365 (Login fails after applying 1.80.331 JDK)
	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)

Table 1-17   January 2022 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	33727616
PSU Coherence (12.2.1.4.12)	33591019
ADF Bundle Patch	33697227
ADR for WebLogic Server	31544353
OPSS for WebLogic Server	32784652
Fusion Middleware Platform SPU	33093748
WebLogic Opatch (13.9.4.2.8)	28186730
Fusion Middleware Common Third Party SPU	33723124
Fusion Middleware Control SPU	30613424
Fusion Middleware JDBC	32720458
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)
	32220849 (SUPPORT FOR JPS CONFIGURATION PARAMS IN WDT MODEL FOR EXTERNAL LDAP)

Table 1-18   October 2021 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	33416868
PSU Coherence (12.2.1.4.11)	33286160
ADF Bundle Patch	33313802
ADR for WebLogic Server	31544353
OPSS for WebLogic Server	32784652
Fusion Middleware Platform SPU	33093748
WebLogic Opatch (13.9.4.2.7)	28186730
Fusion Middleware Common Third Party SPU	32880070
Fusion Middleware Control SPU	30613424
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)
	32220849 (SUPPORT FOR JPS CONFIGURATION PARAMS IN WDT MODEL FOR EXTERNAL LDAP)

Table 1-19   July 2021 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	33059296
PSU Coherence (12.2.1.4.10)	32973297
ADF Bundle Patch	33084721
ADR for WebLogic Server	31544353
OPSS for WebLogic Server	32784652
Fusion Middleware Platform SPU	33093748
WebLogic Opatch (13.9.4.2.6)	28186730
Fusion Middleware Common Third Party SPU	32880070
Fusion Middleware Control SPU	30613424

Table 1-19   (Cont.) July 2021 CPU and Overlay Patches

Component	Patch Number
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	32408938 (RJVM Forwarding support for WebLogic Server)
	32262098 (3 JDBC Stores in Fusion application pod have no owner)
	32220849 (SUPPORT FOR JPS CONFIGURATION PARAMS IN WDT MODEL FOR EXTERNAL LDAP)

Table 1-20   April 2021 CPU and Overlay Patches

Component	Patch Number
PSU for WLS	32698246
PSU Coherence	32816960 (This is the Post April CPU patch for Coherence 12.2.1.4 Cumulative Patch 9 (12.2.1.4.9)).
ADF Bundle Patch	32684757 (This is the Post April CPU patch for ADF Bundle Patch 12.2.1.4.200817).
ADR for WebLogic Server	31544353
OPSS for WebLogic Server	32784652
Fusion Middleware Platform SPU	32772437
WebLogic Opatch	28186730
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	30656708 (SAF to dynamic cluster)

Table 1-21   January 2021 CPU and Overlay Patches

Component	Patch Number
PSU for WebLogic Server	32253037
PSU Coherence	32124456
ADF Bundle Patch	31762739

Table 1-21   (Cont.) January 2021 CPU and Overlay Patches

Component	Patch Number
ADR for WebLogic Server	31544353
WebLogic Opatch	28186730
Overlay patches	28334768 (DMS Metric table)
	27184424 (Stuck thread)
	30319071 (User group association)
	30874677 (PSU Credential Encrypted)
	31169032 (Export JMS Messages)
	31569708 (JMS Orphan Destination routing)
	30656708 (SAF to dynamic cluster)

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