

## 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](#)

### 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 7.5.0**

| Software     | Version                      | Notes                                                                                                                                                                                                |
|--------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Linux | 9.x (x >= 3)<br>8.x (x >= 6) | Recommended versions as per the manifest file. See " <a href="#">OSM Cloud Native Manifest File</a> ".<br>Oracle Linux is specific to the OSM container images, not for the Kubernetes worker nodes. |

**Table 1-1 (Cont.) Supported Software for OSM Cloud Native Deployment Package 7.5.0**

| Software                                                                          | Version                                                                                                                                                  | Notes                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Java                                                                              | 8 update 411<br>17.0.11<br>Earlier versions, starting with 8 update 391 (for Java 8) and versions starting with 17.0.9 (for Java 17) are also certified. | Java 8 for OSM Fusion Middleware and DB Installer images.<br>Java 17 for OSMGW and RTUX images.<br>Recommended versions as per the manifest file. See " <a href="#">OSM Cloud Native Manifest File</a> ".                                                                                           |
| Oracle Fusion Middleware Infrastructure                                           | 12.2.1.4                                                                                                                                                 | NA                                                                                                                                                                                                                                                                                                  |
| Oracle Fusion Middleware Patches                                                  | April 2024 CPU and overlay patches (Highly Recommended)<br>Earlier CPUs, starting with October 2023 CPU and overlay patches are also certified.          | Install the patches listed in " <a href="#">Critical Patch Updates and Overlay Patches for Fusion Middleware</a> ." Also, see " <a href="#">OSM Cloud Native Manifest File</a> ." Considering the critical fixes delivered with the April 2024 CPU, Oracle highly recommends uptaking this CPU.     |
| Oracle Database (installed as Container Database)                                 | 19c                                                                                                                                                      | Enterprise Edition or Oracle OCI Database Service: Enterprise Edition High Performance / Oracle Grid Infrastructure.<br><b>Note:</b> Enterprise Edition Extreme Performance may be needed for High Availability (RAC) or Disaster Recovery. Refer to OCI documentation for details on each edition. |
| 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.                                                                                                                                                             |
| Oracle Database Release Updates (RU), revisions and patches                       | 19.22.0.0.0 (Highly Recommended)<br>Earlier patches for Oracle Database 19c starting from 19.11.0.0.0 are also supported.                                | Oracle recommends the latest available CPU. In addition, apply the overlay patches listed in " <a href="#">Database Overlay Patches</a> ".                                                                                                                                                          |
| Oracle Instant Client                                                             | 19.23.0.0.0 (Recommended)                                                                                                                                | Recommended versions as per the manifest file. See " <a href="#">OSM Cloud Native Manifest File</a> ".                                                                                                                                                                                              |
| Oracle Communications Service Catalog and Design - Design Studio application only | DS 8.0.0.2.3 and later                                                                                                                                   | This is the evolution of Oracle Communications Design Studio. OSM 7.5 only uses the Design Studio component.                                                                                                                                                                                        |
| Web browsers                                                                      | Google Chrome 119.0 or later<br>Mozilla Firefox ESR 115.4 or later<br>Microsoft Edge Chromium 118.0 or later                                             | These apply to the OSM user interfaces.                                                                                                                                                                                                                                                             |

**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 7.5.0**

| Software                                      | Version                                                                                                                                         | Notes                                                                                                                                                                                                                      |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kubernetes                                    | 1.29.x (x >= 1)<br>1.28.x (x >= 2)<br>1.27.x (x >= 2)<br>1.26.x (x >= 2)                                                                        | See " <a href="#">Container Platforms for OSM Cloud Native</a> " for further details.                                                                                                                                      |
| CRI-O                                         | 1.29.x (x >= 0)<br>1.28.x (x >= 2)<br>1.27.x (x >= 1)<br>1.26.x (x >= 2)                                                                        | 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 " <a href="#">WebLogic Kubernetes Operator Documentation</a> " for further details.                                                                                                                                    |
| Ingress Controller                            | Ingress Controller version that conforms to your Kubernetes version standard API                                                                | Any Ingress Controller that conforms to your Kubernetes version Ingress API and provides annotations needed for OSM as documented in the <i>OSM Cloud Native Deployment Guide</i> .                                        |
| Docker                                        | 19.03.x (x >= 11)                                                                                                                               | Docker is required only when building images.                                                                                                                                                                              |
| 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                                                                                                                                                                                                                         |
| Oracle WebLogic Kubernetes Operator           | 4.2.x (x >= 2)<br>4.1.x (x >= 2)<br>4.0.x (x >= 8)                                                                                              | See the documentation about WKO at: <a href="https://oracle.github.io/weblogic-kubernetes-operator/">https://oracle.github.io/weblogic-kubernetes-operator/</a>                                                            |

**Table 1-2 (Cont.) Recommended Versions of Kubernetes Technology Stack for OSM Cloud Native Deployment Package 7.5.0**

| Software                            | Version                       | Notes                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle WebLogic Monitoring Exporter | As defined in the WKO release | This is optional. WME versions used by WKO can be seen in the WKO release notes at: <a href="https://github.com/oracle/weblogic-kubernetes-operator/releases">https://github.com/oracle/weblogic-kubernetes-operator/releases</a> .<br><b>Note:</b> WME is required only if you want to see metrics for Weblogic Server in Prometheus. |
| Prometheus                          | 2.x (x >= 51.1)               | Optional                                                                                                                                                                                                                                                                                                                               |
| Grafana                             | 10.x (x >=4.2)                | Optional                                                                                                                                                                                                                                                                                                                               |
| FluentD                             | 1.16.x (x >= 1)               | Optional<br>If enabled, the image should be picked from "Kubernetes DaemonSet for FluentD" versions.                                                                                                                                                                                                                                   |

## 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 (kubernetes.io) deployment of Kubernetes. 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 1-3 Supported Software for OSM Traditional Deployment**

| Software                                | Version                                  | Notes                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Linux                            | 9.x ( $x \geq 3$ )<br>8.x ( $x \geq 2$ ) | 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. |
| Solaris                                 | 11.x ( $x \geq 3$ )                      | Supported on SPARC platforms only.                                                                                                                                                                                                                                                                                                             |
| 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 1-3 (Cont.) Supported Software for OSM Traditional Deployment**

| Software                                                    | Version                                                      | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Fusion Middleware Patches                            | April 2024 CPU and Overlay patches (Recommended).            | Install the patches listed in the " <a href="#">Critical Patch Updates and Overlay Patches for Fusion Middleware</a> " section.<br><b>Note:</b> 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:<br>Set the "-Dweblogic.oif.serialFilter=maxdepth=1000" flag in JAVA_OPTIONS for the managed servers. |
| Java                                                        | For Linux and Solaris, 8 update 411 (Recommended).           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Oracle Database (installed as Container Database)           | Oracle Database 19c                                          | Enterprise Edition or Oracle OCI Database Service: Enterprise Edition High Performance / Oracle Grid Infrastructure.<br>Enterprise Edition Extreme Performance may be needed for High Availability (RAC) and Disaster Recovery. Refer to OCI documentation for details on each edition.<br>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 Release Updates (RU), revisions and patches | 19.22.0.0.0                                                  | Although earlier CPUs are supported, Oracle recommends the latest available CPU to avoid security issues. In addition, apply the overlay patches listed in " <a href="#">Database Overlay Patches</a> " and any other required patches when available.                                                                                                                                                                                                                                                            |
| Oracle Instant Client                                       | 19.23.0.0.0 (Recommended)                                    | Optional. Used for copying default partition statistics to the partitions for improving performance. Oracle recommends using the latest available version.                                                                                                                                                                                                                                                                                                                                                        |
| 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.                                                                                                                                                                                                                                                                                                                                                                           |
| Cloud IaaS Support                                          | OCI Compute shapes and DB System shapes                      | For more details, see the " <a href="#">Installing OSM on Oracle Cloud Infrastructure (OCI) (Doc ID 2609018.1)</a> " knowledge article on My Oracle Support.                                                                                                                                                                                                                                                                                                                                                      |

**Table 1-3 (Cont.) Supported Software for OSM Traditional Deployment**

| Software                                                                          | Version                                                                                                      | Notes                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Communications Service Catalog and Design - Design Studio application only | Design Studio 8.0.0.2.3 and later                                                                            | This is the evolution of Oracle Communications Design Studio. OSM 7.5 only uses the Design Studio component.                                                                                         |
| Prometheus                                                                        | 2.x (x >= 51.1)                                                                                              | NA                                                                                                                                                                                                   |
| Grafana                                                                           | 10.x (x >=4.2)                                                                                               | NA                                                                                                                                                                                                   |
| Web browsers                                                                      | Google Chrome 119.0 or later<br>Mozilla Firefox ESR 115.4 or later<br>Microsoft Edge Chromium 118.0 or later | These apply to Order Management web client and Task web client.                                                                                                                                      |
| Ant                                                                               | 1.9.x (x >= 16)                                                                                              | 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. |
| Oracle WebLogic Monitoring Exporter                                               | 2.x (x >= 2.0)                                                                                               | See WME documentation on GitHub: <a href="https://github.com/oracle/weblogic-monitoring-exporter..">https://github.com/oracle/weblogic-monitoring-exporter..</a>                                     |

## Critical Patch Updates and Overlay Patches for Fusion Middleware

OSM is supported on all Oracle Critical Patch Updates. You should install the latest Critical Patch Updates and overlay patches for Fusion Middleware 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 1-4 lists the April 2024 CPU and Overlay patches.

**Table 1-4 April 2024 CPU and Overlay Patches for Fusion Middleware**

| Component                                 | Patch Number |
|-------------------------------------------|--------------|
| PSU for WLS                               | 36440005     |
| PSU Coherence (12.2.1.4.21)               | 36410345     |
| ADF Bundle Patch                          | 36348444     |
| Additional Fix for ADF Bundle Patch       | 34809489     |
| ADR for WebLogic Server                   | 35965629     |
| OPSS for WebLogic Server                  | 36316422     |
| WebLogic Opatch (13.9.4.2.15)             | 28186730     |
| Fusion Middleware Platform SPU            | 33093748     |
| Fusion Middleware Thirdparty Bundle Patch | 36468190     |

**Table 1-4 (Cont.) April 2024 CPU and Overlay Patches for Fusion Middleware**

| Component                                                    | Patch Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fusion Middleware Control SPU                                | 34542329                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Fusion Middleware JDBC                                       | 33791062                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Oracle Web Services Manager (OWSM) Bundle Patch              | 36402397                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Remote Diagnostic Agent (RDA) for WebLogic Server 12.2.1.4.0 | 36187017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Fusion Middleware Compatibility Patch for JDK8               | 34065178                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WebCenter Core Bundle Patch                                  | 36349529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Oracle Data Integrator Bundle Patch                          | 36487966                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Overlay patches                                              | 28334768 (DMS Metric table)<br>27184424 (Stuck thread)<br>30319071 (User group association)<br>31169032 (Export JMS Messages)<br>31569708 (JMS Orphan Destination routing)<br>32262098 (3 JDBC Stores in Fusion application pod have no owner)<br>31676526 (ADB Wallet Dir Connection String Support)<br>30540494 (RCU creation with RAC for ADB)<br>30754186 (Improve efficiency for RCU SQL)<br>35363703 (Fix for logging about non-existing managed servers in dynamic cluster. This is applicable only for OSM cloud native deployments.) |

Table 1-5 lists the January 2024 CPU and Overlay patches.

**Table 1-5 January 2024 CPU and Overlay Patches for Fusion Middleware**

| 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     |



**Table 1-5 (Cont.) January 2024 CPU and Overlay Patches for Fusion Middleware**

| Component                                                    | Patch Number                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)<br>27184424 (Stuck thread)<br>30319071 (User group association)<br>31169032 (Export JMS Messages)<br>31569708 (JMS Orphan Destination routing)<br>32262098 (3 JDBC Stores in Fusion application pod have no owner)<br>31676526 (ADB Wallet Dir Connection String Support)<br>30540494 (RCU creation with RAC for ADB)<br>30754186 (Improve efficiency for RCU SQL) |

[Table 1-6](#) lists the October 2023 CPU and Overlay patches.

**Table 1-6 October 2023 CPU and Overlay Patches for Fusion Middleware**

| 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     |

**Table 1-6 (Cont.) October 2023 CPU and Overlay Patches for Fusion Middleware**

| Component                                      | Patch Number                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fusion Middleware Compatibility Patch for JDK8 | 34065178                                                                                                                                                                                                                                                                                                                                                                                       |
| WebCenter Core Bundle Patch                    | 35751917                                                                                                                                                                                                                                                                                                                                                                                       |
| Oracle Data Integrator Bundle Patch            | 35861909                                                                                                                                                                                                                                                                                                                                                                                       |
| Overlay patches                                | 28334768 (DMS Metric table)<br>27184424 (Stuck thread)<br>30319071 (User group association)<br>31169032 (Export JMS Messages)<br>31569708 (JMS Orphan Destination routing)<br>32262098 (3 JDBC Stores in Fusion application pod have no owner)<br>31676526 (ADB Wallet Dir Connection String Support)<br>30540494 (RCU creation with RAC for ADB)<br>30754186 (Improve efficiency for RCU SQL) |

## Database Overlay Patches

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

### Note:

Currently, there are no critical DB patches.

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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## Oracle Communications Order and Service Management Compatibility Matrix , Release 7.5

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