Oracle® Communications Billing and Revenue Management
Compatibility Matrix

Release 12.0

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Oracle Communications Billing and Revenue Management Compatibility Matrix, Release 12.0

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Contents

Preface

This guide describes the compatibility considerations and software and hardware requirements you should review when installing or upgrading the following Oracle Communications Billing and Revenue Management (BRM) Suite components:

- BRM server and clients
- Oracle Communications Billing Care
- Oracle Communications Business Operations Center
- Oracle Communications Pricing Design Center (PDC)
- Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE)
- Oracle Communications Offline Mediation Controller
- Oracle Communications Billing and Revenue Management Pipeline Configuration Center (PCC)
- Oracle Communications Billing and Revenue Management (BRM) cloud native deployment

Audience

This document is intended for system administrators responsible for product installations, upgrade planning, and patch set installations.

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1
BRM Suite Compatibility

Learn about the compatibility between the different Oracle Communications Billing and Revenue Management (BRM) 12.0 Suite components. Review this information before installing or upgrading BRM.

Topics in this document:

- [Billing and Revenue Management (BRM) 12.0 Compatibility Matrix](#)
- [Elastic Charging Engine (ECE) 12.0 Compatibility Matrix](#)
- [Pricing Design Center (PDC) 12.0 Compatibility Matrix](#)

> ⓘ **Note**
>
> The BRM compatibility information is also applicable for Billing Care, Business Operations Center, and Pipeline Configuration Center.

Billing and Revenue Management (BRM) 12.0 Compatibility Matrix

Table 1-1 shows the compatibility between BRM 12.0 and Elastic Charging Engine (ECE).

Table 1-1   Compatibility Matrix for BRM 12.0 and ECE

BRM Version	ECE 11.3 Patch Set 4	ECE 11.3 Patch Set 5	ECE 11.3 Patch Set 6	ECE 11.3 Patch Set 7	ECE 11.3 Patch Set 8	ECE 11.3 Patch Set 9	ECE 12.0/12.0 Patch Set 1	ECE 12.0 Patch Set 2 and Later Patch Sets
BRM 12.0	Yes	Yes	Yes	Yes	Yes	No	No	No
BRM 12.0 Patch Set 1	No	No	No	No	No	Yes	Yes	No
BRM 12.0 Patch Set 2 and Later Patch Sets	No	No	No	No	No	No	No	Yes [1]

> ⓘ **Note**
>
> BRM and ECE must use the same 12.0 Patch Set version. For example, BRM 12.0 Patch Set 2 is compatible with only ECE 12.0 Patch Set 2, BRM 12.0 Patch Set 3 is compatible with only ECE 12.0 Patch Set 3, and so on.

Table 1-2 shows the compatibility between BRM 12.0 and Pricing Design Center (PDC).

Table 1-2   Compatibility Matrix for BRM 12.0 and PDC

BRM Version	PDC 11.1 Patch Sets	PDC 11.2 Patch Set 1	PDC 12.0	PDC 12.0 Patch Set 1 and Later Patch Sets
BRM 12.0	No	No	**Yes**	No
BRM 12.0 Patch Set 1 and Later Patch Sets	No	No	No	**Yes** [1]

> ⓘ **Note**
>
> BRM and PDC must use the same 12.0 Patch Set version. For example, BRM 12.0 Patch Set 1 is compatible with only PDC 12.0 Patch Set 1, BRM 12.0 Patch Set 2 is compatible with only PDC 12.0 Patch Set 2, and so on.

Elastic Charging Engine (ECE) 12.0 Compatibility Matrix

Table 1-3 shows the compatibility between ECE 12.0 and PDC.

Table 1-3   Compatibility Matrix for ECE 12.0 and PDC

Product Version	BRM 7.5 Patch Set 22	PDC 11.1 Patch Sets	PDC 11.2 Patch Set 1	PDC 12.0	PDC 12.0 Patch Set 1	PDC 12.0 Patch Set 2 and Later Patch Sets
ECE 12.0/12.0 Patch Set 1	**Yes**	No	**Yes**	No	**Yes**	No
ECE 12.0 Patch Set 2 and Later Patch Sets	No	No	No	No	No	**Yes** [1]

> ⓘ **Note**
>
> ECE and PDC must use the same 12.0 Patch Set version. For example, ECE 12.0 Patch Set 2 is compatible with only PDC 12.0 Patch Set 2, ECE 12.0 Patch Set 3 is compatible with only PDC 12.0 Patch Set 3, and so on.

Table 1-4 shows the compatibility between ECE 12.0 and Oracle Communications Offline Mediation Controller.

Table 1-4   Compatibility Matrix for ECE 12.0 and Offline Mediation Controller

Product Version	Offline Mediation Controller 12.0	Offline Mediation Controller 6.0 Patch Sets	Offline Mediation Controller 12.0 Patch Set 1	Offline Mediation Controller 12.0 Patch Set 2 and Later Patch Sets
ECE 12.0/12.0 Patch Set 1	No	No	**Yes**	No

Table 1-4   (Cont.) Compatibility Matrix for ECE 12.0 and Offline Mediation Controller

Product Version	Offline Mediation Controller 12.0	Offline Mediation Controller 6.0 Patch Sets	Offline Mediation Controller 12.0 Patch Set 1	Offline Mediation Controller 12.0 Patch Set 2 and Later Patch Sets
ECE 12.0 Patch Set 2 and Later Patch Sets	No	No	No	**Yes** [1]

> ⓘ **Note**
>
> ECE and Offline Mediation Controller must use the same 12.0 Patch Set version. For example, ECE 12.0 Patch Set 2 is compatible with only Offline Mediation Controller 12.0 Patch Set 2, ECE 12.0 Patch Set 3 is compatible with only Offline Mediation Controller 12.0 Patch Set 3, and so on.

Pricing Design Center (PDC) 12.0 Compatibility Matrix

Table 1-5 shows the compatibility between PDC 12.0 and BRM.

Table 1-5   Compatibility Matrix for PDC 12.0 and BRM

PDC Version	BRM 7.5 Patch Set 22	BRM 12.0	BRM 12.0 Patch Set 1 and Later Patch Sets
PDC 12.0	No	**Yes**	No
PDC 12.0 Patch Set 1 and Later Patch Sets	No	No	**Yes** [1]

> ⓘ **Note**
>
> PDC and BRM must use the same 12.0 Patch Set version. For example, PDC 12.0 Patch Set 1 is compatible with only BRM 12.0 Patch Set 1, PDC 12.0 Patch Set 2 is compatible with only BRM 12.0 Patch Set 2, and so on.

Table 1-6 shows the compatibility between PDC 12.0 and ECE.

Table 1-6   Compatibility Matrix for PDC 12.0 and ECE

PDC Version	ECE 11.3 Patch Set 4	ECE 11.3 Patch Set 5	ECE 11.3 Patch Set 6	ECE 11.3 Patch Set 7	ECE 11.3 Patch Set 8	ECE 11.3 Patch Set 9	ECE 12.0/12.0 Patch Set 1	ECE 12.0 Patch Set 2 and Later Patch Sets
PDC 12.0	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No
PDC 12.0 Patch Set 1	No	No	No	No	**Yes**	**Yes**	**Yes**	No

Table 1-6   (Cont.) Compatibility Matrix for PDC 12.0 and ECE

PDC Version	ECE 11.3 Patch Set 4	ECE 11.3 Patch Set 5	ECE 11.3 Patch Set 6	ECE 11.3 Patch Set 7	ECE 11.3 Patch Set 8	ECE 11.3 Patch Set 9	ECE 12.0/12.0 Patch Set 1	ECE 12.0 Patch Set 2 and Later Patch Sets
PDC 12.0 Patch Set 2 and Later Patch Sets	No	No	No	No	No	No	No	**Yes** [1]

> ⓘ **Note**
>
> PDC and ECE must use the same 12.0 Patch Set version. For example, PDC 12.0 Patch Set 2 is compatible with only ECE 12.0 Patch Set 2, PDC 12.0 Patch Set 3 is compatible with only ECE 12.0 Patch Set 3, and so on.

2

Supported Upgrades

Learn about the commonly supported upgrade paths for Oracle Communications Billing and Revenue Management (BRM) 12.0 Suite components.

Topics in this document:

- [Supported BRM Upgrades](#)
- [Supported Business Operations Center Upgrades](#)
- [Supported ECE Upgrades](#)
- [Supported PDC Upgrades](#)

Supported BRM Upgrades

Table 2-1 lists the supported BRM upgrade paths. This includes Billing Care and Pipeline Configuration Center.

Table 2-1   BRM Upgrade Path

Product Version	BRM 12.0	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3 and Later Patch Sets
BRM 7.5	Yes	Yes	Yes	Yes
BRM 7.5 Patch Set 1 through BRM 7.5 Patch Set 12	Yes	Yes	Yes	Yes
BRM 7.5 Maintenance Patch Set 1 through BRM 7.5 Patch Set 19	Yes	Yes	Yes	Yes
BRM 7.5 Patch Set 20 through BRM 7.5 Patch Set 22	No	No	Yes	Yes
BRM 7.5 Patch Set 23	No	No	No	Yes
BRM 12.0	N/A	Yes	Yes	Yes

Supported Business Operations Center Upgrades

Table 2-2 lists the supported upgrade paths for Business Operations Center (BOC).

Table 2-2   Business Operations Center Upgrade Path

Product Version	BOC 12.0	BOC 12.0 Patch Set 1	BOC 12.0 Patch Set 2	BOC 12.0 Patch Set 3 and Later Patch Sets
BOC 7.5	No	No	No	Yes
BOC 7.5 Patch Set 1 through BOC 7.5 Patch Set 12	No	No	No	Yes
BOC 7.5 Maintenance Patch Set 1 through BOC 7.5 Patch Set 19	No	No	No	Yes
BOC 7.5 Patch Set 20 through BOC 7.5 Patch Set 23	No	No	No	Yes
BOC 12.0	N/A	No	No	Yes

Supported ECE Upgrades

Table 2-3 lists the supported upgrade paths for Elastic Charging Engine (ECE).

Table 2-3   ECE Upgrade Path

Product Version	ECE 12.0	ECE 12.0 Patch Set 1	ECE 12.0 Patch Set 2	ECE 12.0 Patch Set 3	ECE 12.0 Patch Set 4 and Later Patch Sets
ECE 11.3.0.9.x	No	No	No	Yes	No
ECE 12.0	N/A	Yes	Yes	Yes	Yes

Supported PDC Upgrades

Table 2-4 lists the supported upgrade paths for Pricing Design Center (PDC).

Table 2-4   PDC Upgrade Path

Product Version	PDC 12.0	PDC 12.0 Patch Set 1	PDC 12.0 Patch Set 2 and Later Patch Sets
PDC 11.1 Patch Set 12 [1]	Yes	Yes	Yes
PDC 11.2 Patch Set 1 [2]	No	No	Yes
PDC 12.0	N/A	Yes	Yes

> ⓘ **Note**
>
> - To upgrade from a lower PDC 11.1 Patch Set, you must first upgrade to PDC 11.1 Patch Set 12 before upgrading to PDC 12.0 Patch Set 1 or later.
>
> - To upgrade from PDC 11.2, you must first upgrade to PDC 11.2 Patch Set 1 before upgrading to PDC 12.0 Patch Set 2 or later.

3

Non-Cloud Native Operating System Compatibility

Learn about the operating systems supported by the Oracle Communications Billing and Revenue Management (BRM) non-cloud native software.

Topics in this document:

- [Supported Common Software](#)

Supported Common Software

[Table 3-1](#) lists the supported common software for cloud native and traditional deployments.

Table 3-1   Supported Common Software

Software	Version	Notes
Windows	• Windows 8.1 Enterprise • Windows 10 • Windows 11	None.
Linux	• Oracle Linux 7.2 and higher 7.x updates (with critical patch updates) • Oracle Linux 8.4 and higher 8.x updates (with critical patch updates)	With critical patch updates. **Note:** Oracle Applications are developed and tested on Oracle Linux, which is optimized for performance, stability and security.
Compilers	gcc version 4.8.x For Oracle Linux 7 and RHEL 7.	Linux 7 is required along with gcc version 4.8.x when compiling code for BRM 12.0.
Solaris	• Solaris 11.3 • Solaris 11.4 Support added in BRM 12.0 Patch Set 6.	None.
Compilers	• Oracle Developer Studio 12.4 Certified for use on Solaris platforms only. • Oracle Developer Studio 12.5 Support added in BRM 12.0 Patch Set 1. • Oracle Developer Studio 12.6 Support added in BRM 12.0 Patch Set 6.	None.

Table 3-1 (Cont.) Supported Common Software

Software	Version	Notes
Oracle Database 12*c* Release 2 Client	12.2.0.1.0	None.
Oracle Database 19*c* Client	• 19.3.0 and later patch levels. Support added in BRM 12.0 Patch Set 4 and 5. • 19.15.0 and later patch levels. Support added in BRM 12.0 Patch Set 7. • 19.17.0 and later patch levels. Support added in BRM 12.0 Patch Set 8.	None.
Oracle Database Enterprise Edition	• 12*c* (Oracle 12.2.0 and later patch levels) • 18*c* (Oracle 18.1.0 and later patch levels) • 19*c* (Oracle 19.3.0 and later patch levels)	None.
Red Hat Enterprise Linux (RHEL)	• 7.2 and higher 7.*x* updates • 8.4 and higher 8.*x* updates	With critical patch updates.

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Table 3-1   (Cont.) Supported Common Software

Software	Version	Notes
Web Browsers	Mozilla Firefox: • 54.0.1+ – Support added in BRM 12.0 • 58.0+ – Support added in BRM 12.0 Patch Set 1 • 65.0+ – Support added in BRM 12.0 Patch Set 2 • 78.10+ – Support added in BRM 12.0 Patch Set 4 • 83.0+ – Support added in BRM 12.0 Patch Set 5 • 96.0+ – Support added in BRM 12.0 Patch Set 6 • 99.0+ – Support added in BRM 12.0 Patch Set 7 • 106+ – Support added in BRM 12.0 Patch Set 8 Microsoft Internet Explorer: 11+ Microsoft Edge: Default version with operating system Google Chrome: • 72.0+ – Support added in BRM 12.0 • 90.0+ – Support added in BRM 12.0 Patch Set 4 • 92.0+ – Support added in BRM 12.0 Patch Set 5 • 97.0+ – Support added in BRM 12.0 Patch Set 6 • 104+ – Support added in BRM 12.0 Patch Set 8 Apple Safari: • 12.0+ – Support added in BRM 12.0 • 14.1+ – Support added in BRM 12.0 Patch Set 4 • 15.2+ – Support added in BRM 12.0 Patch Set 6 • 15.4+ – Support added in BRM 12.0 Patch Set 7 • 16+ – Support added in BRM 12.0 Patch Set 8	**Note:** Starting in Patch Set 8, Internet Explorer is not supported

4

BRM Software Compatibility

Learn about the software that is compatible with Oracle Communications Billing and Revenue Management (BRM) 12.0 server and client systems and 12.0 patch sets.

Topics in this document:

- [Additional BRM Software Requirements](#)
- [About Critical Patch Updates](#)

For hardware and information requirements, see "System Requirements" in *BRM Installation Guide*.

> ⓘ **Note**
>
> - BRM 12.0 server components do not support any 32-bit server operating systems.
> - Character Sets: BRM 12.0 supports AL32UTF8 as its default character set. It also continues to support the UTF8 character set for backward compatibility. The Unicode character set AL32UTF8 is recommended for all new BRM 12.0 deployments.
> - All BRM clients are supported on Solaris and Linux in addition to Windows.

Additional BRM Software Requirements

Table 5-2 provides the compatibility information for other applications you need in order to create a complete customer management and billing system for your business.

> ⚠ **Caution**
>
> Oracle does not provide support for any prerequisite third-party software installation or configuration. Any installation or configuration issues related to non-Oracle prerequisite software needs to be handled by the customer.

Table 4-1   Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Apache Kafka Client	Not applicable.	Not applicable.	Not applicable.	2.7.0 – Support added in BRM 12.0 Patch Set 4	2.8.1 – Support added in BRM 12.0 Patch Set 5	Not applicable.	3.0.0 – Support added in BRM 12.0 Patch Set 7	3.3.1 – Support added in BRM 12.0 Patch Set 8	None.
Apache Tomcat	8.5.16 – Support added in BRM 12.0 8.5.32 – Support added in BRM 12.0 Patch Set 1	8.5.38 – Support added in BRM 12.0 Patch Set 2	9.0.37 – Support added in BRM 12.0 Patch Set 3	9.0.46 – Support added in BRM 12.0 Patch Set 4	9.0.54 – Support added in BRM 12.0 Patch Set 5	Not applicable.	Not applicable.	9.0.68 – Support added in BRM 12.0 Patch Set 8	Supported only for Web Services Manager.
Oracle Analytics Publisher	Not applicable.	Not applicable.	5.5 – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	Not applicable.	5.9 – Support added in BRM 12.0 Patch Set 5	Not applicable.	Not applicable.	Not applicable.	None

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Oracle Business Intelligence Publisher	12.2.1.2.0 – Support added in BRM 12.0 12.2.1.4.0 – Support added in BRM 12.0 Patch Set 1	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Supported only for BRM reports and invoices. Supported on Solaris and Linux. **Note**: Running reports and generating invoices with BI Publisher 12*c* running on Windows is not supported.
Oracle Identity and Access Management	Not applicable.	Not applicable.	12.2.1.3 – Support added in BRM 12.0 Patch Set 3	12.2.1.4 – Support added in BRM 12.0 Patch Set 4	Not applicable.	Not applicable.	Not applicable.	Not applicable.	None.

Table 4-1 (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Oracle Java Platform, Standard Edition (Java SE)	8 (1.8.0_144) – Support added in BRM 12.0	8 (1.8.0_221) – Support added in BRM 12.0 Patch Set 2	8 (1.8.0_241) – Support added in BRM 12.0 Patch Set 3 8 (1.8.0_261) – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	8 (1.8.0_291) – Support added in BRM 12.0 Patch Set 4	8 (1.8.0_301) – Support added in BRM 12.0 Patch Set 5	8 (1.8.0_321) – Support added in BRM 12.0 Patch Set 6	8 (1.8.0_341) – Support added in BRM 12.0 Patch Set 7	8 (1.8.0_351) – Support added in BRM 12.0 Patch Set 8	Obtain Java SE containing Java Development Kit (JDK) and Java Runtime Environment (JRE).
Oracle Remote Diagnostic Agent (RDA)	8.10 or later	Not applicable.	Not applicable.	Not applicable.	Not applicable.	20.4 or later – Support added in BRM 12.0 Patch Set 6	22.2 or later – Support added in BRM 12.0 Patch Set 7	Not applicable.	Oracle RDA was removed from the BRM package in BRM 12.0 Patch Set 7
Oracle Unified Directory	11.1.2.3.0	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Supported only for LDAP Manager.

Table 4-1 (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Oracle Unified Directory	Not applicable.	Not applicable.	12.2.1.4.0 – Support added in BRM 12.0 Patch Set 3	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Supported only for BRM REST Services Manager.
Oracle WebLogic Operator	Not applicable.	Not applicable.	Not applicable.	Not applicable.	3.3.2 – Support added in BRM 12.0 Patch Set 5	3.3.7 – Support added in BRM 12.0 Patch Set 6	3.4.0 – Support added in BRM 12.0 Patch Set 7	3.4.4 – Support added in BRM 12.0 Patch Set 8	None.
Oracle WebLogic Server	BRM 12.0 up to Patch Set 1 requires WebLogic 12c R2 (12.2.1.2.0)	BRM 12.0 up to Patch Set 2 and 3 requires Weblogic 12c R2 (12.2.1.3.0)	BRM 12.0 up to Patch Set 2 and 3 requires Weblogic 12c R2 (12.2.1.3.0)	BRM 12.0 Patch Set 4 requires WebLogic 12c R2 (12.2.1.4.0)	BRM 12.0 Patch Set 5 requires WebLogic 12c R2 (12.2.1.4.0)	BRM 12.0 Patch Set 6 requires WebLogic 12c R2 (12.2.1.4.0)	BRM 12.0 Patch Set 7 requires WebLogic 12c R2 (12.2.1.4.0)	BRM 12.0 Patch Set 8 requires WebLogic 12c R2 (12.2.1.4.0)	Supported only for Web Services Manager.

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Paymentech 120-Byte Batch Processing Format Specification	3.0.0 Revision 4.2 – Support added in BRM 12.0 3.0.0 Revision 12.4 – Support added in BRM 12.0 Patch Set 1	3.0.0 Revision 13.3 – Support added in BRM 12.0 Patch Set 2	3.0.0 Revision 14.3 – Support added in BRM 12.0 Patch Set 3 3.0.0 Revision 15.3 – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Requires Paymentech Manager. The certification for CUP and RUP (feature specific) was done using Paymentech 120-Byte Batch Processing Format Specification 3.0.0 Revision 14.3. The certification for CTI (feature specific) was done using Paymentech 120-Byte Batch Processing Format Specification 3.0.0 Revision 15.3.

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Paymentech Online Processing Format Specification	Version 7.4 Revision 5 – Support added in BRM 12.0 Version 7.4 Revision 12.4 – Support added in BRM 12.0 Patch Set 1	Version 7.4 Revision 13.3 – Support added in BRM 12.0 Patch Set 2	Version 7.4 Revision 14.4 – Support added in BRM 12.0 Patch Set 3 Version 7.4 Revision 15.3 – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Requires Paymentech Manager. The certification for CUP and RUP (feature specific) was done using Paymentech Online Processing Format Specification Version 7.4 Revision 14.4. The certification for CTI (feature specific) was done using Paymentech Online Processing Format Specification Version 7.4 Revision 15.3.

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Perl (32-bit)	5.24.0 – Support added in BRM 12.0 5.28.1 – Support added in BRM 12.0 Patch Set 1 with Interim Patch 29947745	5.28.1 – Support added in BRM 12.0 Patch Set 2	5.30.1 – Support added in BRM 12.0 Patch Set 3 5.32.0 – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	5.32.1 – Support added in BRM 12.0 Patch Set 4	Not applicable.	Not applicable.	Not applicable.	5.36.0 – Support added in BRM 12.0 Patch Set 8	None
Prometheus JMX Exporter Java Agent	Not applicable.	Not applicable.	Not applicable.	0.15.0 – Support added in BRM 12.0 Patch Set 4	0.16.1 – Support added in BRM 12.0 Patch Set 5	Not applicable.	Not applicable.	0.17.2 – Support added in BRM 12.0 Patch Set 8	None.

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Vertex Communications Tax Q Series	Not applicable.	Not applicable.	Vertex CTQ 3.01.04 – Support added in BRM 12.0 Patch Set 3 with Interim Patch 31848465	Vertex CTQ 3.01.05 – Support added in BRM 12.0 Patch Set 4	Not applicable.	Not applicable.	Not applicable.	Not applicable.	3.01.04 is supported on 32-bit Solaris and Linux. It supports Oracle Database 12*c* (12.2). 3.01.05 is supported on 64-bit Solaris and Linux. It supports both Oracle Database 12*c* (12.2) and Oracle Database 19*c*. **Note**: Starting in Patch Set 4, only 64-bit versions of Vertex CTQ are supported.

Table 4-1   (Cont.) Required Third-Party Software for BRM

Product	BRM 12.0 Patch Set 1	BRM 12.0 Patch Set 2	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Vertex Sales Tax Q Series	Not applicable.	Not applicable.	4.0.6 – Support added in BRM 12.0 Patch Set 3	9.0 – Support added in BRM 12.0 Patch Set 4	Not applicable.	Not applicable.	Not applicable.	Not applicable.	4.0.6 is supported on 32-bit Solaris and Linux. It supports Oracle Database 12*c* (12.2). 9.0 is supported on 64-bit Linux only. It supports both Oracle Database 12*c* (12.2) and Oracle Database 19*c*. **Note**: Starting in Patch Set 4, only 64-bit versions of Vertex STQ are supported.

About Critical Patch Updates

You should install all critical patch updates as soon as possible. To download critical patch updates, find out about security alerts, and enable email notifications about critical patch updates, see Critical Patch Updates, Security Alerts and Bulletins on the Oracle website.

5

ECE Software Compatibility

Learn about the software that is compatible with Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) 12.0 and 12.0 patch sets.

Topics in this document:

- [Additional ECE Software Requirements](#)

For hardware and information requirements, see "ECE System Requirements" in *ECE Installation Guide*.

Additional ECE Software Requirements

Table 5-1 lists the required third-party software for ECE 12.0.

Table 5-1   Required Third-Party Software for ECE 12.0

Software	Version	Notes
Groosh	0.3.6 Not used in ECE 12.0 Patch Set 3 and later	The ECE 12.0/12.0 Patch Set 1 and Patch Set 2 software packages include Groosh.
Groovy	2.4.11 2.4.21 – Support added in ECE 12.0 Patch Set 4	The ECE software package does not include Groovy. Installing Groovy is a prerequisite for running ECE monitoring tools.
Oracle Coherence for Java libraries	12.2.1.3.2 – Support added in ECE 12.0/12.0 Patch Set 1 12.2.1.3.3 – Support added in ECE 12.0 Patch Set 2 12.2.1.3.6 – Support added in ECE 12.0 Patch Set 3 12.2.1.4.8 – Support added in ECE 12.0 Patch Set 4	The ECE software package does not include Oracle Coherence libraries.
Oracle Java Platform, Standard Edition (Java SE) (Only 64-bit JVM is supported.)	8 (1.8.0_144) – Support added in ECE 12.0 8 (1.8.0_221) – Support added in ECE 12.0 Patch Set 2 8 (1.8.0_241) – Support added in ECE 12.0 Patch Set 3 8 (1.8.0_291) – Support added in ECE 12.0 Patch Set 4 8 (1.8.0_321) – Support added in ECE 12.0 Patch Set 6 8 (1.8.0_341) – Support added in ECE 12.0 Patch Set 7 8 (1.8.0_351) – Support added in ECE 12.0 Patch Set 8	Obtain Java SE containing Java Development Kit (JDK) and Java Runtime Environment (JRE). **Important:** To protect from security vulnerabilities, ensure you apply the latest critical patch updates. See **Critical Patch Updates**. ECE is certified on JDK8 and you should regularly apply the latest patch set for JDK8 to ensure that JDK has the latest security fixes.

Table 5-1   (Cont.) Required Third-Party Software for ECE 12.0

Software	Version	Notes
Oracle NoSQL Database, Enterprise Edition	20.3.27	None.
Perl	5.28.1 – Support added in ECE 12.0 Patch Set 2 5.30.1 – Support added in ECE 12.0 Patch Set 3 5.32.1 – Support added in ECE 12.0 Patch Set 4 5.36.0 – Support added in ECE 12.0 Patch Set 8	Installing Perl is a prerequisite for running ECE monitoring tools.

Table 5-2 lists the additional software required for running ECE in an integrated, end-to-end test or production system. Network mediation software is required for ECE to communicate with network-facing applications of the charging system.

For a production system, Oracle recommends that you install the other products in the same system on which you install ECE and ensure that the other products use the same operating system as ECE. However, the other products can use a different operating system for a test system.

Table 5-2   Required Software for an Integrated ECE System

Product	Version	Notes
Oracle WebLogic Server 12c R2 Enterprise Edition	12.2.1.2.0 – Support added in ECE 12.0 12.2.1.3.0 – Support added in ECE 12.0 Patch Set 2 12.2.1.4.0 – Support added in ECE 12.0 Patch Set 4	Installing Oracle WebLogic Server is a prerequisite for PDC. ECE also uses Oracle WebLogic Server in an integrated system.
Oracle Communications Billing and Revenue Management (BRM)	For ECE 12.0/12.0 Patch Set 1: BRM 12.0 with Patch Set 1 (28630668) with interim patch 29250057 For later patch sets, the BRM patch set version is the same as the ECE patch set version	N/A
Oracle Communications Pricing Design Center (PDC)	For ECE 12.0/12.0 Patch Set 1: BRM 12.0 with Patch Set 1 (28630301) with interim patch 29204584 For later patch sets, the PDC patch set version is the same as the ECE patch set version	N/A
Oracle Communications Offline Mediation Controller	The same version as ECE	ECE supports Offline Mediation Controller on Linux x86 or x86-64 or Solaris SPARC (64bit).

Table 5-2   (Cont.) Required Software for an Integrated ECE System

Product	Version	Notes
Apache Kafka Clients	2.4.0 – Support added in BRM 12.0 Patch Set 3 2.7.0 – Support added in BRM 12.0 Patch Set 4 2.8.1 – Support added in BRM 12.0 Patch Set 5 3.0.0 – Support added in BRM 12.0 Patch Set 7 3.3.1 – Support added in BRM 12.0 Patch Set 8	N/A

Table 5-3 lists the software that you can optionally use with ECE 12.0.

Table 5-3   Optional Software for ECE 12.0

Product	Version	Notes
Oracle Application Management Pack for Oracle Communications	12.1.0.1 – Support added in ECE 12.0/12.0 Patch Set 1.	For monitoring ECE nodes.

Table 5-4 lists the JAR files that are required during ECE installation.

Table 5-4   Required JAR Files

File	Description
ojdbc8.jar	Download this file from the following page: https://www.oracle.com/database/technologies/appdev/jdbc-downloads.html
xdb6.jar	Download this file from the following page: https://www.oracle.com/database/technologies/appdev/jdbc-downloads.html
wlthint3client.jar	This file is available in the Oracle WebLogic Server client package. **Note:** If you choose to use two JMS providers, both WebLogic Server and another provider, ensure that you do the following after installation on the driver machine: • Copy the other JMS provider's client JARs to the *ECE_home*/**oceceserver/lib** directory. • Rename the other JMS provider JAR file **wlthint3client.jar**. • (When using the other JMS provider to publish ECE notification events) Update the *ECE_home*/**oceceserver/JMSQueueConfiguration.xml** file to specify the InitialContextFactory and protocol information of the other JMS provider.
com.oracle.weblogic.bean gen.general.api.jar	This file is available in the Oracle WebLogic Server client package.
groovy-all-2.4.11.jar **groovy-all-2.4.12.jar**	Download this file from the following page on Apache Groovy website in the "Maven Repository" section: http://groovy-lang.org/install.html

Table 5-4   (Cont.) Required JAR Files

File	Description
coherence.jar	This file is available in the Oracle Coherence package.
coherence-login.jar	This file is available in the Oracle Coherence package.
coherence-work.jar	This file is available in the Oracle Coherence package.
kvclient-18.3.21.jar	(Optional) You need this file only if you are using Oracle NoSQL Database. This file is available in the Oracle NoSQL Database package.

6

PDC Software Compatibility

Learn about the software that is compatible with Oracle Communications Pricing Design Center (PDC) 12.0 and 12.0 patch sets.

Topics in this document:

• [Additional PDC Software Requirements](#)

For hardware and information requirements, see "Pricing Design Center System Requirements" in *PDC Installation Guide*.

Additional PDC Software Requirements

Table 6-1 lists the software required for running PDC.

Table 6-1   PDC Software Requirements

Software	Version	Notes
Internet Browser	The same versions as BRM. See "Supported Common Software".	None.
Oracle Communications Billing and Revenue Management (BRM)	The same version as PDC.	BRM server: Requires 300 MB disk space. BRM database: Requires 2 to 5 GB per 10,000 customers per year. This requirement varies greatly with the number of accounts and the amount of activity.
Oracle Database 12c Enterprise Edition	12*c* (12.2.0. and later patch levels) – Support added in PDC 12.0 18*c* (18.1.0 and later patch levels) – Support added in PDC 12.0 Patch Set 1 19*c* (19.3.0 or later patch levels) – Support added in PDC 12.0 Patch Set 2 19*c* (19.13.0 or later patch levels) – Support added in PDC 12.0 Patch Set 5 19*c* (19.15.0 or later patch levels) – Support added in PDC 12.0 Patch Set 7 19*c* (19.17.0 or later patch levels) – Support added in PDC 12.0 Patch Set 8	Requires 1.2 GB disk space.

Table 6-1   (Cont.) PDC Software Requirements

Software	Version	Notes
Oracle Identity and Access Management	11.1.2.3.0 – Support added in PDC 12.0 12.2.1.3.0 – Support added in PDC 12.0 Patch Set 2 12.2.1.4.0 – Support added in PDC 12.0 Patch Set 4	For supporting user authorization and authentication.
Oracle Java Platform, Standard Edition (Java SE)	8 (1.8.0_144) – Support added in PDC 12.0 8 (1.8.0_221) – Support added in PDC 12.0 Patch Set 2 8 (1.8.0_241) – Support added in PDC 12.0 Patch Set 3 8 (1.8.0_291) – Support added in PDC 12.0 Patch Set 4 8 (1.8.0_321) – Support added in PDC 12.0 Patch Set 6 8 (1.8.0_341) – Support added in PDC 12.0 Patch Set 7 8 (1.8.0_351) – Support added in PDC 12.0 Patch Set 8	Obtain Java SE containing Java Development Kit (JDK) and Java Runtime Environment (JRE).
Oracle WebLogic Server 12c Standard Edition or Enterprise Edition	12*c* Release 2 (12.2.1.2.0) with the 22066172 patch – Support added in PDC 12.0 12*c* Release 2 (12.2.1.3.0) – Support added in PDC 12.0 Patch Set 2 12*c* Release 2 (12.2.1.4.0) – Required by PDC 12.0 Patch Set 4	Requires 1 GB disk space. PDC 12.0 Patch Set 4 was certified with WebLogic 12*c* Release 2 (12.2.1.4.0)
Security Assertion Markup Language (SAML)	2.0 – Support added in PDC 12.0 Patch Set 2	Optional. For single sign-on configuration.

For BRM Suite compatibility, see "BRM Suite Compatibility".

7
Billing Care Software Compatibility

Learn about the software that is compatible with Oracle Communications Billing Care 12.0 and 12.0 patch sets.

Topics in this document:

- [Additional Software Requirements](#)

For hardware and information requirements, see "Billing Care System Requirements" in *Billing Care Installation Guide*.

Billing Care is supported only on the software listed in this chapter. You must install and connect all required software components for a secure installation.

Additional Software Requirements

Table 7-1 lists the software required for running Billing Care.

Table 7-1   Required Third-Party Software for Billing Care

Software	Version	Notes
Grafana	7.5.6 – Support added in Billing Care 12.0 Patch Set 4 8.2.1 – Support added in Billing Care 12.0 Patch Set 5 8.3.5 – Support added in Billing Care 12.0 Patch Set 6 9.2.4 – Support added in Billing Care 12.0 Patch Set 8	Optional. For monitoring.
Internet Browser	The same versions as BRM. See "[Supported Common Software](#)".	None.
Oracle Communications Billing and Revenue Management (BRM)	The same version as Billing Care	None.
Oracle Identity and Access Management	12.2.1.3.0 (12*c* R2) 12.2.1.4.0 (12*c* R2) – Support added in Billing Care 12.0 Patch Set 4	None.
Oracle WebLogic Server 12c R2 Enterprise Edition	12*c* Release 2 (12.2.1.2.0) – Support added in Billing Care 12.0 12*c* Release 2 (12.2.1.3.0) – Support added in Billing Care 12.0 Patch Set 2 12*c* Release 2 (12.2.1.4.0) – Support added in Billing Care 12.0 Patch Set 4	Install using Fusion Middleware Infrastructure installer.

Table 7-1   (Cont.) Required Third-Party Software for Billing Care

Software	Version	Notes
Oracle Java Development Kit (JDK) 64-bit	1.8.0_144 – Support added in Billing Care 12.0 1.8.0_221 – Support added in Billing Care 12.0 Patch Set 2 1.8.0_241 – Support added in Billing Care 12.0 Patch Set 3 1.8.0_291 – Support added in Billing Care 12.0 Patch Set 4 1.8.0_301 – Support added in Billing Care 12.0 Patch Set 5 1.8.0_321 – Support added in Billing Care 12.0 Patch Set 6 1.8.0_341 – Support added in Billing Care 12.0 Patch Set 7 1.8.0_351 – Support added in Billing Care 12.0 Patch Set 8	None.
Oracle WebLogic Monitoring Exporter	2.0.2 – Support added in Billing Care 12.0 Patch Set 4 2.0.3 – Support added in Billing Care 12.0 Patch Set 5 2.0.4 – Support added in Billing Care 12.0 Patch Set 6 2.0.5 – Support added in Billing Care 12.0 Patch Set 7 2.1.0 – Support added in Billing Care 12.0 Patch Set 8	Optional. For monitoring.
Prometheus	2.27.1 – Support added in Billing Care 12.0 Patch Set 4 2.40.0 – Support added in Billing Care 12.0 Patch Set 8	Optional. For monitoring.
Security Assertion Markup Language (SAML)	2.0 – Support added in Billing Care 12.0 Patch Set 2	Optional. For single sign-on configuration.

For BRM Suite compatibility, see "BRM Suite Compatibility".

The Billing Care installer validates the JDK version and checks for a running OPSS JRF-enabled domain before deploying Billing Care. Detected errors, any missing or unavailable components, or any connectivity-related issues are displayed in the Billing Care installer.

For production installations, you must install the required software listed in Table 7-1 and perform the required pre-installation procedures before running the Billing Care installer. Test installations can be done on a basic WebLogic domain.

8
Business Operations Center Software Compatibility

Learn about the software compatible with Oracle Communications Business Operations Center 12.0 and 12.0 patch sets.

Topics in this document:

- [Additional Business Operations Center Software Requirements](#)

For hardware and information requirements, see "Business Operations Center Requirements" in *Business Operations Center Installation Guide*.

Business Operations Center is supported only on the software listed in this chapter. You must install and connect all required software components for a secure installation.

Additional Business Operations Center Software Requirements

Business Operations Center is deployed on an Oracle WebLogic Server domain configured as an Oracle Platform Security Services (OPSS) client domain. See *Oracle Platform Security Services* or *OPSS in Fusion Middleware Identity Management* documentation for more information.

For Business Operations Center installation, you require the following components:

- Oracle Enterprise Database for storing authentication and authorization policies and user information.
- Oracle WebLogic Server installed using the Fusion Middleware Infrastructure installer.
- OPSS-enabled JRF domain for deploying Business Operations Center.

> ⓘ **Note**
>
> The OPSS installation depends on WebLogic and database installations. No specific installation is required for OPSS.

Optionally, you can install the following Oracle Identity and Access Management (IAM) components for authentication and authorization based on your requirements:

- Oracle Access Manager (OAM) for single sign-on (SSO) configuration.
- Oracle Unified Directory (OUD) for user directory management.
- Oracle Identity Governance for connecting to OUD and managing users.

For more information, see:

- [List of Additional Required Software](#)
- [List of Additional Required Software for Production Installations](#)

List of Additional Required Software

Table 8-1 lists the software required for running Business Operations Center.

Table 8-1   Required Third-Party Software for Business Operations Center

Software	Version	Notes
Grafana	7.5.6 – Support added in Business Operations Center 12.0 Patch Set 4 8.3.5 – Support added in Business Operations Center 12.0 Patch Set 6 9.2.4 – Support added in Business Operations Center 12.0 Patch Set 8	Optional. For monitoring.
Internet Browser	The same versions supported by BRM. See "Supported Common Software".	None.
Oracle Communications Billing and Revenue Management (BRM)	The same version as Business Operations Center.	None.
Oracle Identity and Access Management Repository Creation Utility	12.2.1.3.0 (12*c* R2) 12.2.1.4.0 (12*c* R2) – Support added in Business Operations Center 12.0 Patch Set 4	None.
Oracle Java Development Kit (JDK) 64-bit	8 (1.8.0_144) – Support added in Business Operations Center 12.0 8 (1.8.0_221) – Support added in Business Operations Center 12.0 Patch Set 2 8 (1.8.0_241) – Support added in Business Operations Center 12.0 Patch Set 3 8 (1.8.0_291) – Support added in Business Operations Center 12.0 Patch Set 4 8 (1.8.0_301) – Support added in Business Operations Center 12.0 Patch Set 5 8 (1.8.0_321) – Support added in Business Operations Center 12.0 Patch Set 6 8 (1.8.0_341) – Support added in Business Operations Center 12.0 Patch Set 7 8 (1.8.0_351) – Support added in Business Operations Center 12.0 Patch Set 8	None.

Table 8-1   (Cont.) Required Third-Party Software for Business Operations Center

Software	Version	Notes
Oracle WebLogic Monitoring Exporter	2.0.2 – Support added in Business Operations Center 12.0 Patch Set 4 2.0.3 – Support added in Business Operations Center 12.0 Patch Set 5 2.0.4 – Support added in Business Operations Center 12.0 Patch Set 6 2.0.5 – Support added in Business Operations Center 12.0 Patch Set 7 2.1.0 – Support added in Business Operations Center 12.0 Patch Set 8	Optional. For monitoring.
Oracle WebLogic Server 12c R2 Enterprise Edition	12*c* Release 2 (12.2.1.2.0) – Support added in Business Operations Center 12.0 12*c* Release 2 (12.2.1.3.0) – Support added in Business Operations Center 12.0 Patch Set 2 12*c* Release 2 (12.2.1.4.0) – Support added in Business Operations Center 12.0 Patch Set 4	Install using Fusion Middleware Infrastructure installer.
Prometheus	2.27.1 – Support added in Business Operations Center 12.0 Patch Set 4 2.40.0 – Support added in Business Operations Center 12.0 Patch Set 8	Optional. For monitoring.
Security Assertion Markup Language (SAML)	2.0 – Support added in Business Operations Center 12.0 Patch Set 3	Optional. For single sign-on configuration.

For BRM Suite compatibility, see "BRM Suite Compatibility".

The Business Operations Center installer validates the JDK version and checks for a running OPSS JRF-enabled domain before deploying Business Operations Center. Detected errors, any missing or unavailable components, or any connectivity-related issues are displayed in the Business Operations Center installer.

For production installations, you must install the required software listed in Table 9-1 and perform the required pre-installation procedures before running the Business Operations Center installer. Test installations can be done on a basic WebLogic domain.

List of Additional Required Software for Production Installations

Table 8-2 lists additional third-party software required for production installations of Business Operations Center.

Obtain the required software versions from the listed vendors and ensure that the packages are installed on your Business Operations Center host according to third-party documentation before running the installer.

Table 8-2   Required Third-Party Software for Business Operations Center Production Installations

Software	Version	Notes
Apache Log4j	Support added in Business Operations Center 12.0: • **log4j-api-2.11.1.jar** • **log4j-core-2.11.1.jar** • **log4j-web-2.11.1.jar** Support added in Business Operations Center 12.0 Patch Set 2: • **log4j-api-2.12.0.jar** • **log4j-core-2.12.0.jar** • **log4j-web-2.12.0.jar** Support added in Business Operations Center 12.0 Patch Set 3: • **log4j-api-2.13.0.jar** • **log4j-core-2.13.0.jar** • **log4j-web-2.13.0.jar** • **log4j-slf4j-impl-2.13.0.jar** Support added in Business Operations Center 12.0 Patch Set 3 with Interim Patch 31426340: • **log4j-api-2.13.3.jar** • **log4j-core-2.13.3.jar** • **log4j-web-2.13.3.jar** • **log4j-slf4j-impl-2.13.3.jar** Support added in Business Operations Center 12.0 Patch Set 4: • **log4j-api-2.14.1.jar** • **log4j-core-2.14.1.jar** • **log4j-web-2.14.1.jar** • **log4j-slf4j-impl-2.14.1.jar** Support added in Business Operations Center 12.0 Patch Set 5: • **log4j-api-2.16.0.jar** • **log4j-core-2.16.0.jar** • **log4j-web-2.16.0.jar** • **log4j-slf4j-impl-2.16.0.jar** Support added in Business Operations Center 12.0 Patch Set 6: • **log4j-api-2.17.1.jar** • **log4j-core-2.17.1.jar** • **log4j-web-2.17.1.jar** • **log4j-slf4j-impl-2.17.1.jar**	http://logging.apache.org/log4j/2.x/ For 12.0 Patch Set 3 and later releases, the **log4j-slf4j-impl-2.**_x.x_**.jar** libraries must be located in the _Domain_home_/**lib** directory.

Table 8-2   (Cont.) Required Third-Party Software for Business Operations Center Production Installations

Software	Version	Notes
Jackson	Support added in Business Operations Center 12.0: • **jackson-core-2.9.6.jar** • **jackson-databind-2.9.6.jar** • **jackson-jaxrs-base-2.9.6.jar** • **jackson-jaxrs-json-provider-2.9.6.jar** • **jackson-annotations-2.9.6.jar** Support added in Business Operations Center 12.0 Patch Set 2: • **jackson-core-2.9.9.jar** • **jackson-databind-2.9.9.3.jar** • **jackson-jaxrs-base-2.9.9.jar** • **jackson-jaxrs-json-provider-2.9.9.jar** • **jackson-annotations-2.9.9.jar** Support added in Business Operations Center 12.0 Patch Set 3: • **jackson-core-2.10.2.jar** • **jackson-databind-2.10.2.jar** • **jackson-jaxrs-base-2.10.2.jar** • **jackson-jaxrs-json-provider-2.10.2.jar** • **jackson-annotations-2.10.2.jar** Support added in Business Operations Center 12.0 Patch Set 4: • **jackson-core-2.12.2.jar** • **jackson-databind-2.12.2.jar** • **jackson-jaxrs-base-2.12.2.jar** • **jackson-jaxrs-json-provider-2.12.2.jar** • **jackson-annotations-2.12.2.jar** Support added in Business Operations Center 12.0 Patch Set 6: • **jackson-core-2.13.2.jar** • **jackson-databind-2.13.2.jar** • **jackson-jaxrs-base-2.13.2.jar** • **jackson-jaxrs-json-provider-2.13.2.jar**	https://github.com/FasterXML/jackson

Table 8-2   (Cont.) Required Third-Party Software for Business Operations Center Production Installations

Software	Version	Notes
	• **jackson-annotations-2.13.2.jar** Support added in Business Operations Center 12.0 Patch Set 8: • **jackson-core-2.14.0.jar** • **jackson-databind-2.14.0.jar** • **jackson-jaxrs-base-2.14.0.jar** • **jackson-jaxrs-json-provider-2.14.0.jar** • **jackson-annotations-2.14.0.jar**	
Jersey	2.27 – Support added in Business Operations Center 12.0 2.28 – Support added in Business Operations Center 12.0 Patch Set 3 2.35 – Support added in Business Operations Center 12.0 Patch Set 5	https://eclipse-ee4j.github.io/jersey/
Quartz Scheduler	Support added in Business Operations Center 12.0: • **quartz-2.3.0.jar** • **quartz-jobs-2.3.0.jar** (along with its dependencies) Support added in Business Operations Center 12.0 Patch Set 2: • **quartz-2.3.1.jar** • **quartz-jobs-2.3.1.jar** (along with its dependencies) Support added in Business Operations Center 12.0 Patch Set 3: • **quartz-2.3.2.jar** • **quartz-jobs-2.3.2.jar** (along with its dependencies)	http://www.quartz-scheduler.org/

9

PCC Software Compatibility

Learn about the software that is compatible with Oracle Communications Pipeline Configuration Center (PCC) 12.0 and 12.0 patch sets.

Topics in this document:

• [Additional PCC Software Requirements](#)

For hardware and information requirements, see "PCC System Requirements" in *BRM Installation Guide*.

PCC is deployed on an Oracle WebLogic Server domain. You must install and connect all required software for optimal performance. PCC is supported only on software listed in this chapter.

Additional PCC Software Requirements

Table 9-1 lists the software required for running PCC.

Table 9-1   Required Third-Party Software for PCC

Software	Version	Notes
Internet Browser	The same versions supported by BRM. See "Supported Common Software".	N/A
Oracle Communications Billing and Revenue Management (BRM)	The same version as PCC.	N/A
Oracle Fusion Middleware 12c Application Development Framework	12*c* Release 2 (12.2.1.2.0) – Support added in BRM 12.0 12*c* Release 2 (12.2.1.3.0) – Support added in BRM 12.0 Patch Set 2 12*c* Release 2 (12.2.1.4.0) – Support added in BRM 12.0 Patch Set 4	N/A

Table 9-1   (Cont.) Required Third-Party Software for PCC

Software	Version	Notes
Oracle Java Platform, Standard Edition (Java SE)	JDK 1.8.0_144 or above with minimum heap size of 500 MB – Support added in BRM 12.0	JDK with minimum heap size of 500 MB
	JDK 1.8.0_221 or above with minimum heap size of 500 MB – Support added in BRM 12.0 Patch Set 2	
	JDK 1.8.0_241 or above – Support added in BRM 12.0 Patch Set 3	
	JDK 1.8.0_291 or above – Support added in BRM 12.0 Patch Set 4	
	JDK 1.8.0_301 or above – Support added in BRM 12.0 Patch Set 5	
	JDK 1.8.0_321 or above – Support added in BRM 12.0 Patch Set 6	
	JDK 1.8.0_341 or above – Support added in BRM 12.0 Patch Set 7	
	JDK 1.8.0_351 or above – Support added in BRM 12.0 Patch Set 8	
Oracle WebLogic Server 12c Enterprise Edition	12*c* Release 2 (12.2.1.2.0) – Support added in PCC 12.0	N/A
	12*c* Release 2 (12.2.1.3.0) – Support added in PCC 12.0 Patch Set 2	
	12*c* Release 2 (12.2.1.4.0) – Support added in PCC 12.0 Patch Set 4	

The PCC Installer checks for all required software and displays errors if it detects any missing or unavailable components, or if there are any connectivity-related issues.

For BRM Suite compatibility, see "BRM Suite Compatibility".

10

BRM Cloud Native Deployment Software Compatibility

Learn about the software that is compatible with the Oracle Communications Billing and Revenue Management (BRM) cloud native deployment package. This package uses Docker, Kubernetes, Helm, and Linux for containerization and orchestration.

Topics in this document:

- [Third-Party Platforms](#)
- [Additional BRM Cloud Native System Requirements](#)

> ⚠️ **Caution**
>
> - It is the responsibility of the system administrator to ensure that all installed software dependencies are kept up to date wherever possible. Oracle supports versions of the software where the software vendor declares backward compatibility to the version certified with BRM and where the upgrade is a minor version increment (that is, A.B.C to A.B.D).
>
>   It is particularly important for system administrators to adopt this policy for software dependencies for which upgrades are generally related to security rather than focused on functionality.
>
> - Oracle does not provide support for any prerequisite third-party software installation or configuration. Any installation or configuration issues related to non-Oracle prerequisite software needs to be handled by the customer.

Third-Party Platforms

BRM 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, BRM cloud native is certified on any container platform based on a CNCF-certified Kubernetes, provided the version requirements listed in this document are satisfied.

Additional BRM Cloud Native System Requirements

The Docker images were validated with the software listed in Table 10-1 and Table 10-2.

> ℹ️ **Note**
>
> Oracle does not provide any of the third-party software mentioned in the table below. The product cannot be used until you have separately obtained and installed the required third-party software.

Table 10-1 Mandatory BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Kubernetes	For Patch Set 3: 1.14.8 For Patch Set 3 with Interim Patch 32078710: • 1.16.*x* • 1.17.*x*	For Patch Set 4: • 1.18.*x* • 1.19.*x*	For Patch Set 5: 1.20.*x*	For Patch Set 6: 1.21.*x*	For Patch Set 7: 1.23.*x*, where *x* is 4 or higher	For Patch Set 8: • 1.24.*x*, where *x* is 6 or higher • 1.26.*x*, where *x* is 2 or higher • 1.27.*x* • 1.28.*x* • 1.29.*x* • 1.30.*x* • 1.31.*x* • 1.32.*x* • 1.33.*x*	None.

Table 10-1 (Cont.) Mandatory BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Helm	For Patch Set 3: 3.0.1 For Patch Set 3 with Interim Patch 31857207: 3.2.*x*	For Patch Set 4: • 3.3.*x* • 3.5.*x*	For Patch Set 5: 3.6.*x*	Not applicable.	Not applicable.	For Patch Set 8: • 3.10.*x*, where *x* is 3 or higher using Kubernetes version 1.24.*x* • 3.11.*x*, when using Kubernetes version 1.26.*x* • 3.12.*x*, when using Kubernetes version 1.27.*x* • 3.13.*x*, when using Kubernetes version 1.28.*x* • 3.14.*x*, when using Kubernetes version 1.29.*x* • 3.16.*x* when using Kubernetes version 1.30.*x*	None.

Table 10-1   (Cont.) Mandatory BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
						• 3.16.*x* when using Kubernetes version 1.31.*x* • 3.17.*x* when using Kubernetes 1.32.*x* • 3.18.*x* when using Kubernetes 1.33.*x*	

Table 10-1   (Cont.) Mandatory BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
WebLogic Kubernetes Operator	For Patch Set 3: 2.5.0 For Patch Set 3 Interim Patch 31848465: 3.0.0	For Patch Set 4: 3.2.3	For Patch Set 5: 3.3.2	For Patch Set 6: 3.3.7	For Patch Set 7: 3.4.0	For Patch Set 8: 3.4.4, when using Kubernetes version 1.24.x 4.0.6, when using Kubernetes version 1.26.x 4.1.4, when using Kubernetes version 1.27.x 4.1.8, when using Kubernetes version 1.28.x 4.2.3, when using Kubernetes version 1.29.x 4.2.8, when using Kubernetes version 1.30.x 4.2.13, when using	Steps for downloading and installing WebLogic Kubernetes Operator are available at: https://oracle.github.io/weblogic-kubernetes-operator/

Table 10-1   (Cont.) Mandatory BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
						Kubernetes version 1.31.*x* • 4.2.17 when using Kubernetes 1.32.*x* • 4.3.0 when using Kubernetes 1.33.*x*	

Table 11-2 displays the optional software.

Table 10-2   Optional BRM Cloud Native System Requirements

Software	BRM 12.0 Patch Set 3	BRM 12.0 Patch Set 4	BRM 12.0 Patch Set 5	BRM 12.0 Patch Set 6	BRM 12.0 Patch Set 7	BRM 12.0 Patch Set 8	Notes
Fluentd	For Patch Set 3: 1.8	For Patch Set 4: 1.12.3 or higher	Not applicable.	Not applicable.	For Patch Set 7: 1.14.6 or higher	Not applicable.	N/A
Grafana	Not applicable.	For Patch Set 4: 7.5.6	For Patch Set 5: 8.2.2 or higher	For Patch Set 6: 8.3.5 or higher	Not applicable.	For Patch Set 8: 9.2.4 or higher	None.
Prometheus	Not applicable.	For Patch Set 4: 2.27.1	Not applicable.	Not applicable.	Not applicable.	For Patch Set 8: 2.40.0	None.
Prometheus Alert Manager	Not applicable.	For Patch Set 4: 0.21.0	Not applicable.	Not applicable.	For Patch Set 7: 0.24.0	Not applicable.	None.
Prometheus JMX Exporter Java Agent	Not applicable.	For Patch Set 4: 0.15.0	For Patch Set 5: 0.16.1	Not applicable.	Not applicable.	For Patch Set 8: 0.17.2	None.
Prometheus Operator	Not applicable.	For Patch Set 4: 0.47.1	Not applicable.	For Patch Set 6: 0.54.0	Not applicable.	For Patch Set 8: 0.60.1	None.
WebLogic Monitoring Exporter		For Patch Set 4: 2.0.2	For Patch Set 5: 2.0.3	For Patch Set 6: 2.0.4	For Patch Set 7: 2.0.5	For Patch Set 8: 2.1.4	None.