

# Oracle Critical Patch Update Advisory - January 2022

## Description

A Critical Patch Update is a collection of patches for multiple security vulnerabilities. These patches address vulnerabilities in Oracle code and in third-party components included in Oracle products. These patches are usually cumulative, but each advisory describes only the security patches added since the previous Critical Patch Update Advisory. Thus, prior Critical Patch Update advisories should be reviewed for information regarding earlier published security patches. Refer to [“Critical Patch Updates, Security Alerts and Bulletins”](#) for information about Oracle Security advisories.

**Oracle continues to periodically receive reports of attempts to maliciously exploit vulnerabilities for which Oracle has already released security patches. In some instances, it has been reported that attackers have been successful because targeted customers had failed to apply available Oracle patches. Oracle therefore strongly recommends that customers remain on actively-supported versions and apply Critical Patch Update security patches without delay.**

This Critical Patch Update contains 497 new security patches across the product families listed below. Please note that an MOS note summarizing the content of this Critical Patch Update and other Oracle Software Security Assurance activities is located at [January 2022 Critical Patch Update: Executive Summary and Analysis](#).

**Please note that on December 10, 2021, Oracle released a Security Alert for Apache Log4j vulnerabilities [CVE-2021-44228](#) and [CVE-2021-45046](#). Customers should review the Alert if they have not already done so.**

## Affected Products and Patch Information

Security vulnerabilities addressed by this Critical Patch Update affect the products listed below. The product area is shown in the Patch Availability Document column.

**Please click on the links in the Patch Availability Document column below to access the documentation for patch availability information and installation instructions.**

| Affected Products and Versions                                                                          | Patch Availability Document               |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Agile Product Lifecycle Management Integration Pack for Oracle E-Business Suite, version 3.6            | Oracle Supply Chain Products              |
| Application Performance Management, versions 13.4.1.0, 13.5.1.0                                         | Enterprise Manager                        |
| Big Data Spatial and Graph, versions prior to 23.1                                                      | Database                                  |
| Enterprise Manager Base Platform, versions 13.4.0.0, 13.5.0.0                                           | Enterprise Manager                        |
| Enterprise Manager Ops Center, version 12.4.0.0                                                         | Enterprise Manager                        |
| Fujitsu M10-1, M10-4, M10-4S, M12-1, M12-2, M12-2S Servers, versions prior to XCP2410, prior to XCP3110 | Systems                                   |
| Instantis EnterpriseTrack, versions 17.1, 17.2, 17.3                                                    | Oracle Construction and Engineering Suite |
| JD Edwards EnterpriseOne Tools, versions prior to 9.2.6.1                                               | JD Edwards                                |
| MySQL Cluster, versions 7.4.34 and prior, 7.5.24 and prior, 7.6.20 and prior, 8.0.27 and prior          | MySQL                                     |
| MySQL Connectors, versions 8.0.27 and prior                                                             | MySQL                                     |
| MySQL Server, versions 5.7.36 and prior, 8.0.27 and prior                                               | MySQL                                     |
| MySQL Workbench, versions 8.0.27 and prior                                                              | MySQL                                     |
| Oracle Access Manager, versions 11.1.2.3.0, 12.2.1.3.0, 12.2.1.4.0                                      | Fusion Middleware                         |
| Oracle Agile Engineering Data Management, version 6.2.1.0                                               | Oracle Supply Chain Products              |
| Oracle Agile PLM, versions 9.3.3, 9.3.6                                                                 | Oracle Supply Chain Products              |
| Oracle Agile PLM MCAD Connector, versions 3.4, 3.6                                                      | Oracle Supply Chain Products              |
| Oracle Airlines Data Model, versions 12.1.1.0.0, 12.2.0.1.0                                             | Oracle Airlines Data Model                |
| Oracle Application Express, versions prior to 21.1.4                                                    | Database                                  |
| Oracle Application Testing Suite, version 13.3.0.1                                                      | Enterprise Manager                        |
| Oracle Argus Analytics, versions 8.2.1, 8.2.2, 8.2.3                                                    | Health Sciences                           |
| Oracle Argus Insight, versions 8.2.1, 8.2.2, 8.2.3                                                      | Health Sciences                           |
| Oracle Argus Mart, versions 8.2.1, 8.2.2, 8.2.3                                                         | Health Sciences                           |
| Oracle Argus Safety, versions 8.2.1, 8.2.2, 8.2.3                                                       | Health Sciences                           |
| Oracle Banking APIs, versions 18.1-18.3, 19.1, 19.2, 20.1, 21.1                                         | Contact Support                           |
| Oracle Banking Deposits and Lines of Credit Servicing, version 2.12.0                                   | Contact Support                           |
| Oracle Banking Digital Experience, versions 17.2, 18.1-18.3, 19.1, 19.2, 20.1, 21.1                     | Contact Support                           |

| Affected Products and Versions                                                                          | Patch Availability Document                                                       |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Oracle Banking Enterprise Default Management, versions 2.3.0-2.4.1, 2.6.2, 2.7.0, 2.7.1, 2.10.0, 2.12.0 | Oracle Banking Platform                                                           |
| Oracle Banking Loans Servicing, version 2.12.0                                                          | Contact Support                                                                   |
| Oracle Banking Party Management, version 2.7.0                                                          | Oracle Banking Platform                                                           |
| Oracle Banking Platform, versions 2.3.0-2.4.1, 2.6.2, 2.7.0, 2.7.1                                      | Oracle Banking Platform                                                           |
| Oracle BI Publisher, versions 5.5.0.0.0, 11.1.19.0, 12.2.1.3.0, 12.2.1.4.0                              | Fusion Middleware                                                                 |
| Oracle Business Activity Monitoring, version 12.2.1.4.0                                                 | Fusion Middleware                                                                 |
| Oracle Business Intelligence Enterprise Edition, versions 5.5.0.0.0, 5.9.0.0.0, 12.2.1.3.0, 12.2.1.4.0  | Fusion Middleware                                                                 |
| Oracle Business Process Management Suite, versions 12.2.1.3.0, 12.2.1.4.0                               | Fusion Middleware                                                                 |
| Oracle Clinical, versions 5.2.1, 5.2.2                                                                  | Health Sciences                                                                   |
| Oracle Commerce Guided Search, version 11.3.2                                                           | Oracle Commerce                                                                   |
| Oracle Commerce Platform, versions 11.3.0, 11.3.1, 11.3.2                                               | Oracle Commerce                                                                   |
| Oracle Communications Billing and Revenue Management, versions 12.0.0.3, 12.0.0.4                       | Oracle Communications Billing and Revenue Management                              |
| Oracle Communications BRM - Elastic Charging Engine, versions 11.3, 12.0                                | Oracle Communications BRM - Elastic Charging Engine                               |
| Oracle Communications Calendar Server, version 8.0.0.5.0                                                | Oracle Communications Calendar Server                                             |
| Oracle Communications Cloud Native Core Automated Test Suite, version 1.8.0                             | Oracle Communications Cloud Native Core Automated Test Suite                      |
| Oracle Communications Cloud Native Core Binding Support Function, versions 1.9.0, 1.10.0                | Oracle Communications Cloud Native Core Binding Support Function                  |
| Oracle Communications Cloud Native Core Console, version 1.7.0                                          | Communications Cloud Native Core Console                                          |
| Oracle Communications Cloud Native Core Network Function Cloud Native Environment, version 1.9.0        | Oracle Communications Cloud Native Core Network Function Cloud Native Environment |
| Oracle Communications Cloud Native Core Network Repository Function, version 1.14.0                     | Oracle Communications Cloud Native Core Network Repository Function               |
| Oracle Communications Cloud Native Core Policy, version 1.14.0                                          | Communications Cloud Native Core Policy                                           |
| Oracle Communications Cloud Native Core Security Edge Protection Proxy, versions 1.5.0, 1.6.0, 1.15.0   | Communications Cloud Native Core Security Edge Protection Proxy                   |
| Oracle Communications Cloud Native Core Service Communication Proxy, version 1.14.0                     | Communications Cloud Native Core Service Communication Proxy                      |

| Affected Products and Versions                                                                               | Patch Availability Document                              |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Oracle Communications Cloud Native Core Unified Data Repository, version 1.14.0                              | Communications Cloud Native Core Unified Data Repository |
| Oracle Communications Contacts Server, version 8.0.0.3.0                                                     | Oracle Communications Contacts Ser                       |
| Oracle Communications Convergence, version 3.0.2.2.0                                                         | Oracle Communications Convergence                        |
| Oracle Communications Convergent Charging Controller, versions 6.0.1.0.0, 12.0.1.0.0-12.0.4.0.0              | Oracle Communications Convergent Charging Controller     |
| Oracle Communications Data Model, versions 11.3.2.1.0, 11.3.2.2.0, 11.3.2.3.0, 12.1.0.1.0, 12.1.2.0.0        | Oracle Communications Data Model                         |
| Oracle Communications Design Studio, versions 7.3.4, 7.3.5, 7.4.0, 7.4.1, 7.4.2                              | Oracle Communications Design Studi                       |
| Oracle Communications Diameter Signaling Router, versions 8.0.0.0-8.5.1.0                                    | Oracle Communications Diameter Signaling Router          |
| Oracle Communications EAGLE Application Processor, versions 16.1-16.4                                        | Oracle Communications EAGLE Application Processor        |
| Oracle Communications Instant Messaging Server, version 10.0.1.5.0                                           | Oracle Communications Instant Messaging Server           |
| Oracle Communications Interactive Session Recorder, versions 6.3, 6.4                                        | Oracle Communications Interactive Session Recorder       |
| Oracle Communications Messaging Server, version 8.1                                                          | Oracle Communications Messaging Server                   |
| Oracle Communications Network Charging and Control, versions 6.0.1.0.0, 12.0.1.0.0-12.0.4.0.0                | Oracle Communications Network Charging and Control       |
| Oracle Communications Network Integrity, versions 7.3.5, 7.3.6                                               | Oracle Communications Network Integrity                  |
| Oracle Communications Offline Mediation Controller, version 12.0.0.3                                         | Oracle Communications Offline Mediation Controller       |
| Oracle Communications Operations Monitor, versions 3.4, 4.2, 4.3, 4.4, 5.0                                   | Oracle Communications Operations Monitor                 |
| Oracle Communications Pricing Design Center, versions 12.0.0.3.0, 12.0.0.4.0                                 | Oracle Communications Pricing Desig Center               |
| Oracle Communications Service Broker, version 6.2                                                            | Oracle Communications Service Brok                       |
| Oracle Communications Services Gatekeeper, version 7.0                                                       | Oracle Communications Services Gatekeeper                |
| Oracle Communications Session Border Controller, versions 8.2, 8.3, 8.4, 9.0                                 | Oracle Communications Session Borc Controller            |
| Oracle Communications Unified Inventory Management, versions 7.3.0, 7.3.4, 7.3.5, 7.4.0, 7.4.1, 7.4.2, 7.5.0 | Oracle Communications Unified Inventory Management       |

| Affected Products and Versions                                                                                         | Patch Availability Document                                                    |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Oracle Communications WebRTC Session Controller, versions 7.2.0, 7.2.1                                                 | Oracle Communications WebRTC Session Controller                                |
| Oracle Data Integrator, versions 12.2.1.3.0, 12.2.1.4.0                                                                | Fusion Middleware                                                              |
| Oracle Database Server, versions 12.1.0.2, 12.2.0.1, 19c, 21c                                                          | Database                                                                       |
| Oracle Demantra Demand Management, versions 12.2.6-12.2.11                                                             | Oracle Supply Chain Products                                                   |
| Oracle E-Business Suite, versions 12.2.3-12.2.11                                                                       | Oracle E-Business Suite                                                        |
| Oracle Enterprise Communications Broker, version 3.3                                                                   | Oracle Enterprise Communications Broker                                        |
| Oracle Enterprise Data Quality, versions 12.2.1.3.0, 12.2.1.4.0                                                        | Fusion Middleware                                                              |
| Oracle Enterprise Session Border Controller, versions 8.4, 9.0                                                         | Oracle Enterprise Session Border Controller                                    |
| Oracle Essbase, versions prior to 11.1.2.4.47, prior to 21.3                                                           | Database                                                                       |
| Oracle Essbase Administration Services, versions prior to 11.1.2.4.47                                                  | Database                                                                       |
| Oracle Financial Services Analytical Applications Infrastructure, versions 8.0.7-8.1.1                                 | Oracle Financial Services Analytical Applications Infrastructure               |
| Oracle Financial Services Behavior Detection Platform, versions 8.0.7, 8.0.8, 8.1.1                                    | Oracle Financial Services Behavior Detection Platform                          |
| Oracle Financial Services Enterprise Case Management, versions 8.0.7, 8.0.8, 8.1.1                                     | Oracle Financial Services Enterprise Case Management                           |
| Oracle Financial Services Foreign Account Tax Compliance Act Management, versions 8.0.7, 8.0.8, 8.1.1                  | Contact Support                                                                |
| Oracle Financial Services Model Management and Governance, versions 8.0.8-8.1.1                                        | Oracle Financial Services Model Management and Governance                      |
| Oracle Financial Services Trade-Based Anti Money Laundering Enterprise Edition, versions 8.0.7, 8.0.8                  | Oracle Financial Services Trade-Based Anti Money Laundering Enterprise Edition |
| Oracle FLEXCUBE Investor Servicing, versions 12.0.4, 12.1.0, 12.3.0, 12.4.0, 14.4.0, 14.5.0                            | Contact Support                                                                |
| Oracle FLEXCUBE Private Banking, versions 12.0.0, 12.1.0                                                               | Contact Support                                                                |
| Oracle Fusion Middleware, versions 12.2.1.3.0, 12.2.1.4.0                                                              | Fusion Middleware                                                              |
| Oracle Fusion Middleware MapViewer, version 12.2.1.4.0                                                                 | Fusion Middleware                                                              |
| Oracle GoldenGate, versions prior to 12.3.0.1, prior to 19.1.0.0.220118, prior to 21.4.0.0.0, prior to 21.5.0.0.220118 | Database                                                                       |
| Oracle GraalVM Enterprise Edition, versions 20.3.4, 21.3.0                                                             | Java SE                                                                        |
| Oracle Graph Server and Client, versions prior to 21.4                                                                 | Database                                                                       |

| Affected Products and Versions                                                              | Patch Availability Document                                    |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Oracle Health Sciences Clinical Development Analytics, version 4.0.1                        | Health Sciences                                                |
| Oracle Health Sciences InForm CRF Submit, version 6.2.1                                     | Health Sciences                                                |
| Oracle Health Sciences Information Manager, versions 3.0.2, 3.0.3                           | HealthCare Applications                                        |
| Oracle Healthcare Data Repository, versions 7.0.2, 8.1.0, 8.1.1                             | HealthCare Applications                                        |
| Oracle Healthcare Foundation, versions 7.3.0.0-7.3.0.2, 8.0.0-8.0.2, 8.1.0-8.1.1            | HealthCare Applications                                        |
| Oracle Healthcare Translational Research, version 4.1.0                                     | HealthCare Applications                                        |
| Oracle Hospitality Cruise Shipboard Property Management System, version 20.1.0              | Oracle Hospitality Cruise Shipboard Property Management System |
| Oracle Hospitality OPERA 5, version 5.6                                                     | Oracle Hospitality OPERA 5 Property Services                   |
| Oracle Hospitality Reporting and Analytics, version 9.1.0                                   | Oracle Hospitality Reporting and Analytics                     |
| Oracle Hospitality Suite8, versions 8.10.2, 8.11.0, 8.12.0, 8.13.0, 8.14.0                  | Oracle Hospitality Suite8                                      |
| Oracle HTTP Server, versions 12.2.1.3.0, 12.2.1.4.0                                         | Fusion Middleware                                              |
| Oracle Hyperion Infrastructure Technology, version 11.2.7.0                                 | Fusion Middleware                                              |
| Oracle iLearning, versions 6.2, 6.3                                                         | iLearning                                                      |
| Oracle Insurance Data Gateway, versions 11.0.2, 11.1.0, 11.2.7, 11.3.0, 11.3.1              | Oracle Insurance Applications                                  |
| Oracle Insurance Insbridge Rating and Underwriting, versions 5.2.0, 5.4.0-5.6.0             | Oracle Insurance Applications                                  |
| Oracle Insurance Policy Administration, versions 11.0.2, 11.1.0, 11.2.7, 11.3.0, 11.3.1     | Oracle Insurance Applications                                  |
| Oracle Insurance Policy Administration J2EE, versions 10.2.0, 10.2.4, 11.0.2, 11.1.0-11.3.0 | Oracle Insurance Applications                                  |
| Oracle Insurance Rules Palette, versions 10.2.0, 10.2.4, 11.0.2, 11.1.0-11.3.0, 11.3.1      | Oracle Insurance Applications                                  |
| Oracle Java SE, versions 7u321, 8u311, 11.0.13, 17.0.1                                      | Java SE                                                        |
| Oracle Managed File Transfer, versions 12.2.1.3.0, 12.2.1.4.0                               | Fusion Middleware                                              |
| Oracle NoSQL Database, versions prior to 21.1.12                                            | NoSQL Database                                                 |
| Oracle Policy Automation, versions 12.2.0-12.2.24                                           | Oracle Policy Automation                                       |
| Oracle Product Lifecycle Analytics, version 3.6.1                                           | Oracle Supply Chain Products                                   |
| Oracle Rapid Planning, versions 12.2.6-12.2.11                                              | Oracle Supply Chain Products                                   |



| Affected Products and Versions                                                                                  | Patch Availability Document |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------|
| Oracle Real User Experience Insight, versions 13.4.1.0, 13.5.1.0                                                | Enterprise Manager          |
| Oracle REST Data Services, versions prior to 21.2.4                                                             | Database                    |
| Oracle Retail Allocation, versions 14.1.3.2, 15.0.3.1, 16.0.3, 19.0.1                                           | Retail Applications         |
| Oracle Retail Analytics, versions 16.0.0-16.0.2                                                                 | Retail Applications         |
| Oracle Retail Assortment Planning, version 16.0.3                                                               | Retail Applications         |
| Oracle Retail Back Office, version 14.1                                                                         | Retail Applications         |
| Oracle Retail Central Office, version 14.1                                                                      | Retail Applications         |
| Oracle Retail Customer Insights, versions 16.0.0-16.0.2                                                         | Retail Applications         |
| Oracle Retail Customer Management and Segmentation Foundation, versions 16.0-19.0                               | Retail Applications         |
| Oracle Retail EFTLink, versions 16.0.3, 17.0.2, 18.0.1, 19.0.1, 20.0.1                                          | Retail Applications         |
| Oracle Retail Extract Transform and Load, version 13.2.8                                                        | Retail Applications         |
| Oracle Retail Financial Integration, versions 14.1.3.2, 15.0.3.1, 16.0.3, 19.0.1                                | Retail Applications         |
| Oracle Retail Fiscal Management, version 14.2                                                                   | Retail Applications         |
| Oracle Retail Integration Bus, versions 14.1.3.0, 14.1.3.2, 15.0.3.1, 16.0.1-16.0.3, 19.0.0, 19.0.1             | Retail Applications         |
| Oracle Retail Invoice Matching, versions 15.0.3, 16.0.3                                                         | Retail Applications         |
| Oracle Retail Merchandising System, version 19.0.1                                                              | Retail Applications         |
| Oracle Retail Order Broker, versions 16.0, 18.0, 19.1                                                           | Retail Applications         |
| Oracle Retail Order Management System, version 19.5                                                             | Retail Applications         |
| Oracle Retail Point-of-Service, version 14.1                                                                    | Retail Applications         |
| Oracle Retail Predictive Application Server, versions 14.1.3, 14.1.3.46, 15.0.3, 15.0.3.115, 16.0.3, 16.0.3.240 | Retail Applications         |
| Oracle Retail Price Management, versions 13.2, 14.0.4, 14.1, 14.1.3, 15, 15.0.3, 16, 16.0.3                     | Retail Applications         |
| Oracle Retail Returns Management, version 14.1                                                                  | Retail Applications         |
| Oracle Retail Service Backbone, versions 14.1.3.0, 14.1.3.2, 15.0.3.1, 16.0.1-16.0.3, 19.0.0, 19.0.1            | Retail Applications         |
| Oracle Retail Size Profile Optimization, version 16.0.3                                                         | Retail Applications         |
| Oracle Retail Xstore Point of Service, versions 17.0.4, 18.0.3, 19.0.2, 20.0.1                                  | Retail Applications         |
| Oracle SD-WAN Aware, version 8.2                                                                                | Oracle SD-WAN Aware         |

| Affected Products and Versions                                                                                                                                 | Patch Availability Document               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Oracle SD-WAN Edge, versions 9.0, 9.1                                                                                                                          | Oracle SD-WAN Edge                        |
| Oracle Secure Backup, versions prior to 18.1.0.1.0                                                                                                             | Oracle Secure Backup                      |
| Oracle Solaris, versions 10, 11                                                                                                                                | Systems                                   |
| Oracle Spatial Studio, versions prior to 21.2.1                                                                                                                | Database                                  |
| Oracle Thesaurus Management System, versions 5.2.3, 5.3.0, 5.3.1                                                                                               | Health Sciences                           |
| Oracle TimesTen In-Memory Database, versions prior to 11.2.2.8.27, prior to 21.1.1.1.0                                                                         | Database                                  |
| Oracle Utilities Framework, versions 4.2.0.2.0, 4.2.0.3.0, 4.3.0.1.0-4.3.0.6.0, 4.4.0.0.0, 4.4.0.2.0, 4.4.0.3.0                                                | Oracle Utilities Applications             |
| Oracle Utilities Testing Accelerator, versions 6.0.0.1.1, 6.0.0.2.2, 6.0.0.3.1                                                                                 | Oracle Utilities Applications             |
| Oracle VM VirtualBox, versions prior to 6.1.32                                                                                                                 | Virtualization                            |
| Oracle WebCenter Portal, versions 12.2.1.3.0, 12.2.1.4.0                                                                                                       | Fusion Middleware                         |
| Oracle WebLogic Server, versions 12.1.3.0.0, 12.2.1.3.0, 12.2.1.4.0, 14.1.1.0.0                                                                                | Fusion Middleware                         |
| Oracle ZFS Storage Appliance Kit, version 8.8                                                                                                                  | Systems                                   |
| Oracle ZFS Storage Application Integration Engineering Software, version 1.3.3                                                                                 | Systems                                   |
| OSS Support Tools, versions prior to 2.12.42                                                                                                                   | Oracle Support Tools                      |
| PeopleSoft Enterprise CS SA Integration Pack, versions 9.0, 9.2                                                                                                | PeopleSoft                                |
| PeopleSoft Enterprise PeopleTools, versions 8.57, 8.58, 8.59                                                                                                   | PeopleSoft                                |
| Primavera Analytics, versions 18.8.3.3, 19.12.11.1, 20.12.12.0                                                                                                 | Oracle Construction and Engineering Suite |
| Primavera Data Warehouse, versions 18.8.3.3, 19.12.11.1, 20.12.12.0                                                                                            | Oracle Construction and Engineering Suite |
| Primavera Gateway, versions 17.12.0-17.12.11, 18.8.0-18.8.13, 19.12.0-19.12.12, 20.12.0-20.12.7, 21.12.0                                                       | Oracle Construction and Engineering Suite |
| Primavera P6 Enterprise Project Portfolio Management, versions 17.12.0.0-17.12.20.0, 18.8.0.0-18.8.24.0, 19.12.0.0-19.12.18.0, 20.12.0.0-20.12.12.0, 21.12.0.0 | Oracle Construction and Engineering Suite |
| Primavera P6 Professional Project Management, versions 17.12.0.0-17.12.20.0, 18.8.0.0-18.8.24.0, 19.12.0.0-19.12.17.0, 20.12.0.0-20.12.9.0                     | Oracle Construction and Engineering Suite |
| Primavera Portfolio Management, versions 18.0.0.0-18.0.3.0, 19.0.0.0-19.0.1.2, 20.0.0.0, 20.0.0.1                                                              | Oracle Construction and Engineering Suite |



| Affected Products and Versions                                    | Patch Availability Document               |
|-------------------------------------------------------------------|-------------------------------------------|
| Primavera Unifier, versions 17.7-17.12, 18.8, 19.12, 20.12, 21.12 | Oracle Construction and Engineering Suite |
| Siebel Applications, versions 21.12 and prior                     | Siebel                                    |

## Note:

- Vulnerabilities affecting either Oracle Database or Oracle Fusion Middleware may affect Oracle Fusion Applications, so Oracle customers should refer to Oracle Fusion Applications Critical Patch Update Knowledge Document, [My Oracle Support Note 1967316.1](#) for information on patches to be applied to Fusion Application environments.
- Vulnerabilities affecting Oracle Solaris may affect Oracle ZFSSA so Oracle customers should refer to the Oracle and Sun Systems Product Suite Critical Patch Update Knowledge Document, [My Oracle Support Note 2160904.1](#) for information on minimum revisions of security patches required to resolve ZFSSA issues published in Critical Patch Updates and Solaris Third Party bulletins.
- Solaris Third Party Bulletins are used to announce security patches for third party software distributed with Oracle Solaris. Solaris 10 customers should refer to the latest patch-sets which contain critical security patches detailed in Systems Patch Availability Document. Please see Reference Index of CVE IDs and Solaris Patches ([My Oracle Support Note 1448883.1](#)) for more information.
- Users running Java SE with a browser can download the latest release from <https://java.com>. Users on the Windows and Mac OS X platforms can also use [automatic updates](#) to get the latest release.

## Risk Matrix Content

Risk matrices list only security vulnerabilities that are newly addressed by the patches associated with this advisory. Risk matrices for previous security patches can be found in [previous Critical Patch Update advisories and Alerts](#). An English text version of the risk matrices provided in this document is [here](#).

Several vulnerabilities addressed in this Critical Patch Update affect multiple products. Each vulnerability is identified by a **CVE#** which is its unique identifier. A vulnerability that affects multiple products will appear with the same CVE# in all risk matrices. A CVE# shown in *italics* indicates that this vulnerability impacts a different product, but also has impact on the product where the italicized CVE# is listed.

Security vulnerabilities are scored using CVSS version 3.1 (see [Oracle CVSS Scoring](#) for an explanation of how Oracle applies CVSS version 3.1).

Oracle conducts an analysis of each security vulnerability addressed by a Critical Patch Update. Oracle does not disclose detailed information about this security analysis to customers, but the resulting Risk Matrix and associated documentation provide information about the type of vulnerability, the conditions required to exploit it, and the potential impact of a successful exploit. Oracle provides this information, in part, so that customers may conduct their own risk analysis based on the particulars of their product usage. For more information, see [Oracle vulnerability disclosure policies](#).

Oracle lists updates that address vulnerabilities in third-party components that are not exploitable in the context of their inclusion in their respective Oracle product beneath the product's risk matrix.

The protocol in the risk matrix implies that all of its secure variants (if applicable) are affected as well. For example, if HTTP is listed as an affected protocol, it implies that HTTPS (if applicable) is also affected. The secure variant of a protocol is listed in the risk matrix only if it is the *only* variant affected, e.g. HTTPS will typically be listed for vulnerabilities in SSL and TLS.

## Workarounds

**Due to the threat posed by a successful attack, Oracle strongly recommends that customers apply Critical Patch Update security patches as soon as possible.** Until you apply the Critical Patch Update patches, it may be possible to reduce the risk of successful attack by blocking network protocols required by an attack. For attacks that require certain privileges or access to certain packages, removing the privileges or the ability to access the packages from users that do not need the privileges may help reduce the risk of successful attack. Both approaches may break application functionality, so Oracle strongly recommends that customers test changes on non-production systems. Neither approach should be considered a long-term solution as neither corrects the underlying problem.

## Skipped Critical Patch Updates

Oracle strongly recommends that customers apply security patches as soon as possible. For customers that have skipped one or more Critical Patch Updates and are concerned about products that do not have security patches announced in this Critical Patch Update, please review [previous Critical Patch Update advisories](#) to determine appropriate actions.

## Critical Patch Update Supported Products and Versions

Patches released through the Critical Patch Update program are provided only for product versions that are covered under the Premier Support or Extended Support phases of the [Lifetime Support Policy](#). Oracle recommends that customers plan product upgrades to ensure

that patches released through the Critical Patch Update program are available for the versions they are currently running.

Product releases that are not under Premier Support or Extended Support are not tested for the presence of vulnerabilities addressed by this Critical Patch Update. However, it is likely that earlier versions of affected releases are also affected by these vulnerabilities. As a result, Oracle recommends that customers upgrade to supported versions.

Database, Fusion Middleware, and Oracle Enterprise Manager products are patched in accordance with the Software Error Correction Support Policy explained in [My Oracle Support Note 209768.1](#). Please review the [Technical Support Policies](#) for further guidelines regarding support policies and phases of support.

## Credit Statement

The following people or organizations reported security vulnerabilities addressed by this Critical Patch Update to Oracle:

- Abdelrhman Yousri: CVE-2022-21246, CVE-2022-21402, CVE-2022-21403
- Alexander Kornbrust of Red Database Security: CVE-2022-21247
- Andrej Simko of Accenture: CVE-2022-21251
- Anonymous researcher working with Trend Micro's Zero Day Initiative: CVE-2022-21279, CVE-2022-21280, CVE-2022-21284, CVE-2022-21285, CVE-2022-21286, CVE-2022-21287, CVE-2022-21288, CVE-2022-21289, CVE-2022-21290, CVE-2022-21307, CVE-2022-21308, CVE-2022-21309, CVE-2022-21346
- Aobo Wang of Chaitin Security Research Lab: CVE-2022-21295
- Dan Rabe: CVE-2022-21296
- Dinh Ho Anh Khoa of Viettel Cyber Security: CVE-2022-21306
- Fabian Meumertzheim of Code Intelligence: CVE-2022-21360, CVE-2022-21366
- Frederic Quenneville of videotron.com: CVE-2022-21338
- Hamed Ashraf: CVE-2022-21395, CVE-2022-21396, CVE-2022-21397, CVE-2022-21398, CVE-2022-21399, CVE-2022-21400, CVE-2022-21401
- Hans Christian Woithe: CVE-2021-43395
- Harold Siyu Zang of Trustwave: CVE-2022-21381, CVE-2022-21382, CVE-2022-21383
- Jangggg of VNPT: CVE-2021-35587
- Jeremy Nunn of Trustwave: CVE-2022-21383
- Jie Liang of WingTecher Lab of Tsinghua University: CVE-2022-21303, CVE-2022-21304
- Jingzhou Fu of WingTecher Lab of Tsinghua University: CVE-2022-21303, CVE-2022-21304

- Jonah T: CVE-2022-21371
- Jonni Passki of Apple Information Security: CVE-2022-21282
- Kun Yang of Chaitin Security Research Lab: CVE-2022-21295
- Liboheng of Tophant Starlight laboratory: CVE-2022-21261
- Longofo of Knownsec 404 Team: CVE-2022-21252, CVE-2022-21260
- Lucas Leong (wmliang) of Trend Micro Zero Day Initiative: CVE-2022-21310, CVE-2022-21311, CVE-2022-21312, CVE-2022-21313, CVE-2022-21314, CVE-2022-21315, CVE-2022-21316, CVE-2022-21317, CVE-2022-21318, CVE-2022-21319, CVE-2022-21320, CVE-2022-21321, CVE-2022-21322, CVE-2022-21323, CVE-2022-21324, CVE-2022-21325, CVE-2022-21326, CVE-2022-21327, CVE-2022-21328, CVE-2022-21329, CVE-2022-21330, CVE-2022-21331, CVE-2022-21332, CVE-2022-21333, CVE-2022-21334, CVE-2022-21335, CVE-2022-21336, CVE-2022-21337, CVE-2022-21355, CVE-2022-21356, CVE-2022-21357, CVE-2022-21380
- Markus Loewe: CVE-2022-21293, CVE-2022-21294
- Matei "Mal" Badanoi: CVE-2022-21392
- osword from SGLAB of Legendsec at Qi'anxin Group: CVE-2022-21347
- Patrick Star of BMH Security Team: CVE-2022-21353
- peterjson - Security Engineering - VNG Corporation: CVE-2021-35587
- r00t4dm: CVE-2022-21252, CVE-2022-21257, CVE-2022-21258, CVE-2022-21259, CVE-2022-21260, CVE-2022-21261, CVE-2022-21262
- RE:HACK: CVE-2022-21373
- Reno Robert working with Trend Micro Zero Day Initiative: CVE-2022-21355, CVE-2022-21356, CVE-2022-21357, CVE-2022-21380
- Ryota Shiga (Ga\_ryo\_) of Flatt Security working with Trend Micro Zero Day Initiative: CVE-2022-21394
- Sander Meijering of HackDefense: CVE-2022-21371
- Thijmen Kooy of HackDefense: CVE-2022-21371
- thiscodecc of MoyunSec V-Lab: CVE-2022-21292, CVE-2022-21350, CVE-2022-21361
- Victor Rodriguez: CVE-2022-21364
- Yaoguang Chen of Ant Security Light-Year Lab: CVE-2022-21303, CVE-2022-21304
- Zhiqiang Zang of University of Texas at Austin: CVE-2022-21305
- Zhiyong Wu of WingTecher Lab of Tsinghua University: CVE-2022-21303, CVE-2022-21304

## Security-In-Depth Contributors

Oracle acknowledges people who have contributed to our Security-In-Depth program (see [FAQ](#)). People are acknowledged for Security-In-Depth contributions if they provide information,

observations or suggestions pertaining to security vulnerability issues that result in significant modification of Oracle code or documentation in future releases, but are not of such a critical nature that they are distributed in Critical Patch Updates.

In this Critical Patch Update, Oracle recognizes the following for contributions to Oracle's Security-In-Depth program:

- Huixin Ma of Tencent.com [2 reports]
- Liying Wang
- Longofo of Knownsec 404 Team
- r00t4dm
- Robin Textor

## On-Line Presence Security Contributors

Oracle acknowledges people who have contributed to our On-Line Presence Security program (see [FAQ](#)). People are acknowledged for contributions relating to Oracle's on-line presence if they provide information, observations or suggestions pertaining to security-related issues that result in significant modification to Oracle's on-line external-facing systems.

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- Aniket Nimkar
- Ashik Kunjumon
- B.Dhiyaneshwaran aka (Geek Freak) [2 reports]
- Dhanesh Sivasamy
- Dor Tumarkin, Principal Application Security Researcher at Checkmarx
- Gaurang Maheta [2 reports]
- Jangggg of VNPT
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- Lidor Ben Shitrit from Orca Security
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- Mohit Ahir
- N3td1v3r
- Nightwatch Cybersecurity Research
- peterjson - Security Engineering - VNG Corporation
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- Sakhare Vinayak
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- Truffle Security Co
- Yeswanth Reddy

## Critical Patch Update Schedule

Critical Patch Updates are released on the Tuesday closest to the 17th day of January, April, July and October. The next four dates are:

- 19 April 2022
- 19 July 2022
- 18 October 2022
- 17 January 2023

## References

- [Oracle Critical Patch Updates, Security Alerts and Bulletins](#)
- [Critical Patch Update - January 2022 Documentation Map](#)



- [Oracle Critical Patch Updates and Security Alerts - Frequently Asked Questions](#)
- [Risk Matrix Definitions](#)
- [Use of Common Vulnerability Scoring System \(CVSS\) by Oracle](#)
- [English text version of the risk matrices](#)
- [CVRF XML version of the risk matrices](#)
- [Map of CVE to Advisory/Alert](#)
- [Oracle Lifetime support Policy](#)
- [JEP 290 Reference Blocklist Filter](#)

## Modification History

| Date             | Note                                                                                                                                  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 2024-December-23 | Rev 7. Corrected the CVE credits for WebLogic bugs                                                                                    |
| 2022-March-14    | Rev 6. Updated the version details and additional CVEs (CVE-2022-23302, CVE-2022-23305 and CVE-2022-23307) for Oracle WebLogic Server |
| 2022-Januray-31  | Rev 5. Version details updated for Oracle HTTP Server and Oracle Business Activity Monitoring                                         |
| 2022-Januray-27  | Rev 4. Retail matrix version changes and added credit for CVE-2022-21353                                                              |
| 2022-Januray-24  | Rev 3. CVSS update for CVE-2022-21392 and aded credit for CVE-2022-21346                                                              |
| 2022-January-18  | Rev 2. Updated Siebel Applications versions and added couple of credit names                                                          |
| 2022-January-18  | Rev 1. Initial Release                                                                                                                |

## Oracle Database Products Risk Matrices

This Critical Patch Update contains 28 new security patches for Oracle Database Products divided as follows:

- 4 new security patches for Oracle Database Products
- 1 new security patch for Oracle Airlines Data Model
- 2 new security patches for Oracle Big Data Graph
- 1 new security patch for Oracle Communications Data Model
- 4 new security patches for Oracle Essbase

- 3 new security patches for Oracle GoldenGate
- 2 new security patches for Oracle Graph Server and Client
- 1 new security patch for Oracle NoSQL Database
- 2 new security patches for Oracle REST Data Services
- 2 new security patches for Oracle Secure Backup
- 1 new security patch for Oracle Spatial Studio
- 5 new security patches for Oracle TimesTen In-Memory Database

## Oracle Database Server Risk Matrix

This Critical Patch Update contains 4 new security patches plus additional third party patches noted below for Oracle Database Products. None of these vulnerabilities may be remotely exploitable without authentication, i.e., none may be exploited over a network without requiring user credentials. None of these patches are applicable to client-only installations, i.e., installations that do not have the Oracle Database Server installed. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Component                             | Package and/or Privilege Required    | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------|--------------------------------------|------------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                       |                                      |            |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
| <b>CVE-2021-37695</b> | Oracle Application Express (CKEditor) | Valid User Account                   | HTTP       | No                            | 5.4                   | Network       | Low            | Low         | F |
| <b>CVE-2022-21393</b> | Java VM                               | Create Procedure                     | Oracle Net | No                            | 4.3                   | Network       | Low            | Low         |   |
| <b>CVE-2021-32723</b> | Oracle Application Express (Prism)    | Valid User Account                   | HTTP       | No                            | 3.5                   | Network       | Low            | Low         | F |
| <b>CVE-2022-21247</b> | Core RDBMS                            | Create Session, Execute Catalog Role | Oracle Net | No                            | 2.7                   | Network       | Low            | High        |   |

### Additional CVEs addressed are:

- The patch for CVE-2021-37695 also addresses CVE-2021-32808 and CVE-2021-32809.

## Additional patches are included in this Critical Patch Update for the following non-exploitable CVEs in this Oracle product family:

- Oracle Database Configuration Assistant (Apache Commons Compress): CVE-2021-36090, CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- Oracle Spatial and Graph (Apache Log4j): CVE-2021-45105.
- Trace file analyzer (Apache Log4j): CVE-2021-45105.
- Workload Manager (Guava): CVE-2020-8908.
- Workload Manager (Jetty): CVE-2021-28165, CVE-2021-28169 and CVE-2021-34428.

## Oracle Airlines Data Model Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Airlines Data Model. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                    | Component           | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (score) |               |                |             |         |
|----------------------|----------------------------|---------------------|------------|-------------------------------|-------------------------------|---------------|----------------|-------------|---------|
|                      |                            |                     |            |                               | Base Score                    | Attack Vector | Attack Complex | Privs Req'd | Us Inte |
| <b>CVE-2021-2351</b> | Oracle Airlines Data Model | Installation (JDBC) | Oracle Net | Yes                           | 8.3                           | Network       | High           | None        | Requ    |

## Oracle Big Data Graph Risk Matrix

This Critical Patch Update contains 2 new security patches for Oracle Big Data Graph. Both of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                    | Component                      | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |    |
|-----------------------|----------------------------|--------------------------------|------------|-------------------------------|-----------------------|---------------|----------------|-------------|----|
|                       |                            |                                |            |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | In |
| <b>CVE-2021-2351</b>  | Big Data Spatial and Graph | Big Data Graph (JDBC)          | Oracle Net | Yes                           | 8.3                   | Network       | High           | None        | Re |
| <b>CVE-2021-30639</b> | Big Data Spatial and Graph | Big Data Graph (Apache Tomcat) | HTTP       | Yes                           | 7.5                   | Network       | Low            | None        | 1  |

## Oracle Communications Data Model Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Communications Data Model. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                          | Component        | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |         |
|----------------------|----------------------------------|------------------|------------|-------------------------------|------------------|---------------|----------------|---------|
|                      |                                  |                  |            |                               | Base Score       | Attack Vector | Attack Complex | Pri Req |
| <b>CVE-2021-2351</b> | Oracle Communications Data Model | Utilities (JDBC) | Oracle Net | Yes                           | 8.3              | Network       | High           | No      |

## Oracle Essbase Risk Matrix

This Critical Patch Update contains 4 new security patches plus additional third party patches noted below for Oracle Essbase. 3 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                | Component                         | Protocol | Remote Exploit without Auth.? | CVSS VER   |               |                   |
|-----------------------|----------------------------------------|-----------------------------------|----------|-------------------------------|------------|---------------|-------------------|
|                       |                                        |                                   |          |                               | Base Score | Attack Vector | Attack Complexity |
| <b>CVE-2021-35683</b> | Oracle Essbase Administration Services | EAS Console                       | HTTP     | No                            | 9.9        | Network       | Low               |
| <b>CVE-2021-3711</b>  | Oracle Essbase                         | Infrastructure (OpenSSL)          | HTTPS    | Yes                           | 9.8        | Network       | Low               |
| <b>CVE-2021-22901</b> | Oracle Essbase                         | Build (cURL)                      | HTTPS    | Yes                           | 7.5        | Network       | High              |
| <b>CVE-2021-20718</b> | Oracle Essbase                         | Infrastructure (mod_auth_openidc) | Multiple | Yes                           | 7.5        | Network       | Low               |

#### Additional CVEs addressed are:

- The patch for CVE-2021-22901 also addresses CVE-2021-22897 and CVE-2021-22898.
- The patch for CVE-2021-3711 also addresses CVE-2021-3712.

#### Additional patches are included in this Critical Patch Update for the following non-exploitable CVEs in this Oracle product family:

- Oracle Essbase
  - Infrastructure (Apache Commons Compress): CVE-2021-36090, CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.

## Oracle GoldenGate Risk Matrix

This Critical Patch Update contains 3 new security patches for Oracle GoldenGate. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product           | Component                           | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|-------------------|-------------------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                   |                                     |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-23017</b> | Oracle GoldenGate | GG Market Place for Support (nginx) | UDP        | Yes                           | 9.4                  | Network       | Low            | None        |
| <b>CVE-2021-2351</b>  | Oracle GoldenGate | Database (OCCI)                     | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2018-1311</b>  | Oracle GoldenGate | Build Request (Apache Xerces-C++)   | HTTP       | Yes                           | 8.1                  | Network       | High           | None        |

## Oracle Graph Server and Client Risk Matrix

This Critical Patch Update contains 2 new security patches plus additional third party patches noted below for Oracle Graph Server and Client. Both of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                        | Component                         | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|-----------------------|--------------------------------|-----------------------------------|------------|-------------------------------|--------------------|---------------|----------------|-------------|
|                       |                                |                                   |            |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b>  | Oracle Graph Server and Client | Packaging/install issues (JDBC)   | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2021-33037</b> | Oracle Graph Server and Client | Packaging/Install (Apache Tomcat) | HTTP       | Yes                           | 5.3                | Network       | Low            | None        |

Additional patches are included in this Critical Patch Update for the following non-exploitable CVEs in this Oracle product family:



- Oracle Graph Server and Client
  - Packaging/Install (Apache Commons IO): CVE-2021-29425.

## Oracle NoSQL Database Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle NoSQL Database. This vulnerability is not remotely exploitable without authentication, i.e., may not be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product               | Component              | Protocol    | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (CWE) |               |                |             |        |
|-----------------------|-----------------------|------------------------|-------------|-------------------------------|-----------------------------|---------------|----------------|-------------|--------|
|                       |                       |                        |             |                               | Base Score                  | Attack Vector | Attack Complex | Privs Req'd | Impact |
| <b>CVE-2021-21409</b> | Oracle NoSQL Database | Administration (Netty) | Local Logon | No                            | 5.5                         | Local         | Low            | Low         | Low    |

## Oracle REST Data Services Risk Matrix

This Critical Patch Update contains 2 new security patches for Oracle REST Data Services. 1 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                   | Component               | Protocol    | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (CWE) |               |                |             |            |
|-----------------------|---------------------------|-------------------------|-------------|-------------------------------|-----------------------------|---------------|----------------|-------------|------------|
|                       |                           |                         |             |                               | Base Score                  | Attack Vector | Attack Complex | Privs Req'd | Impact     |
| <b>CVE-2021-28165</b> | Oracle REST Data Services | General (Eclipse Jetty) | Multiple    | Yes                           | 7.5                         | Network       | Low            | None        | Medium     |
| <b>CVE-2021-32014</b> | Oracle REST Data Services | General (SheetJS)       | Local Logon | No                            | 3.3                         | Local         | Low            | None        | Restricted |

Additional CVEs addressed are:

- The patch for CVE-2021-28165 also addresses CVE-2021-28169 and CVE-2021-34428.
- The patch for CVE-2021-32014 also addresses CVE-2021-32012 and CVE-2021-32013.

## Oracle Secure Backup Risk Matrix

This Critical Patch Update contains 2 new security patches for Oracle Secure Backup. Both of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product              | Component                                 | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (Score) |               |                |             |       |
|-----------------------|----------------------|-------------------------------------------|----------|-------------------------------|-------------------------------|---------------|----------------|-------------|-------|
|                       |                      |                                           |          |                               | Base Score                    | Attack Vector | Attack Complex | Privs Req'd | U Int |
| <b>CVE-2021-26691</b> | Oracle Secure Backup | Oracle Secure Backup (Apache HTTP Server) | HTTP     | Yes                           | 9.8                           | Network       | Low            | None        | N     |
| <b>CVE-2021-3712</b>  | Oracle Secure Backup | Oracle Secure Backup (OpenSSL)            | HTTPS    | Yes                           | 7.4                           | Network       | High           | None        | N     |

### Additional CVEs addressed are:

- The patch for CVE-2021-26691 also addresses CVE-2021-33193 and CVE-2021-42013.

## Oracle Spatial Studio Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Spatial Studio. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product               | Component      | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (sc |               |                |             |         |
|----------------------|-----------------------|----------------|------------|-------------------------------|---------------------------|---------------|----------------|-------------|---------|
|                      |                       |                |            |                               | Base Score                | Attack Vector | Attack Complex | Privs Req'd | Us Inte |
| <b>CVE-2021-2351</b> | Oracle Spatial Studio | Install (JDBC) | Oracle Net | Yes                           | 8.3                       | Network       | High           | None        | Requ    |

## Oracle TimesTen In-Memory Database Risk Matrix

This Critical Patch Update contains 5 new security patches for Oracle TimesTen In-Memory Database. 3 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                            | Component                                  | Protocol    | Remote Exploit without Auth.? | CVSS VERSION 3.1 RI |               |                |             |
|-----------------------|------------------------------------|--------------------------------------------|-------------|-------------------------------|---------------------|---------------|----------------|-------------|
|                       |                                    |                                            |             |                               | Base Score          | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b>  | Oracle TimesTen In-Memory Database | EM TimesTen plug-in (JDBC,OCCL)            | OracleNet   | Yes                           | 8.3                 | Network       | High           | None        |
| <b>CVE-2021-29923</b> | Oracle TimesTen In-Memory Database | EM TimesTen plug-in (Go)                   | TCP/IP      | Yes                           | 7.5                 | Network       | Low            | None        |
| <b>CVE-2021-29923</b> | Oracle TimesTen In-Memory Database | Install (Go)                               | TCP/IP      | Yes                           | 7.5                 | Network       | Low            | None        |
| <b>CVE-2020-7712</b>  | Oracle TimesTen In-Memory Database | TimesTen Infrastructure (Apache ZooKeeper) | HTTP        | No                            | 7.2                 | Network       | Low            | High        |
| <b>CVE-2020-11979</b> | Oracle TimesTen In-                | Install (Apache Ant)                       | Local Logon | No                            | 6.5                 | Network       | Low            | Low         |

| CVE# | Product         | Component | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|------|-----------------|-----------|----------|-------------------------------|----------------------|---------------|----------------|-------------|
|      |                 |           |          |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
|      | Memory Database |           |          |                               |                      |               |                |             |

### Additional CVEs addressed are:

- The patch for CVE-2020-11979 also addresses CVE-2020-1945, CVE-2021-36373 and CVE-2021-36374.
- The patch for CVE-2021-29923 also addresses CVE-2021-34558 and CVE-2021-36221.

## Oracle Commerce Risk Matrix

This Critical Patch Update contains 6 new security patches for Oracle Commerce. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                       | Component                                            | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|-------------------------------|------------------------------------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                               |                                                      |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b>  | Oracle Commerce Platform      | Dynamo Application Framework (JDBC)                  | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-36090</b> | Oracle Commerce Guided Search | Content Acquisition System (Apache Commons Compress) | HTTP       | Yes                           | 7.5                  | Network       | Low            | None        |
| <b>CVE-2021-37137</b> | Oracle Commerce Guided Search | Content Acquisition System (Netty)                   | HTTP       | Yes                           | 7.5                  | Network       | Low            | None        |

| CVE#                  | Product                       | Component                                      | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|-------------------------------|------------------------------------------------|----------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                               |                                                |          |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2020-13935</b> | Oracle Commerce Guided Search | Endeca Application Controller (Apache Tomcat)  | HTTP     | Yes                           | 7.5                  | Network       | Low            | None        |
| <b>CVE-2022-21387</b> | Oracle Commerce Platform      | Dynamo Application Framework                   | HTTP     | Yes                           | 5.3                  | Network       | Low            | None        |
| <b>CVE-2021-29425</b> | Oracle Commerce Guided Search | Content Acquisition System (Apache Commons IO) | HTTP     | Yes                           | 4.8                  | Network       | High           | None        |

#### Additional CVEs addressed are:

- The patch for CVE-2021-36090 also addresses CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- The patch for CVE-2021-37137 also addresses CVE-2021-37136.

## Oracle Communications Applications Risk Matrix

This Critical Patch Update contains 33 new security patches for Oracle Communications Applications. 22 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                              | Component          | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |
|-----------------------|------------------------------------------------------|--------------------|----------|-------------------------------|----------------------|---------------|----------------|
|                       |                                                      |                    |          |                               | Base Score           | Attack Vector | Attack Complex |
| <b>CVE-2022-21275</b> | Oracle Communications Billing and Revenue Management | Connection Manager | HTTP     | Yes                           | 10.0                 | Network       | Low            |

| CVE#                  | Product                                              | Component             | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------|-----------------------|------------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                      |                       |            |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2022-21389</b> | Oracle Communications Billing and Revenue Management | Connection Manager    | HTTP       | Yes                           | 10.0             | Network       | Low               |
| <b>CVE-2022-21390</b> | Oracle Communications Billing and Revenue Management | Webservices Manager   | HTTP       | Yes                           | 10.0             | Network       | Low               |
| <b>CVE-2022-21276</b> | Oracle Communications Billing and Revenue Management | Connection Manager    | HTTP       | No                            | 9.9              | Network       | Low               |
| <b>CVE-2022-21391</b> | Oracle Communications Billing and Revenue Management | Connection Manager    | HTTP       | No                            | 9.9              | Network       | Low               |
| <b>CVE-2021-39139</b> | Oracle Communications BRM - Elastic Charging Engine  | Updater (XStream)     | TCP        | No                            | 8.8              | Network       | Low               |
| <b>CVE-2021-29505</b> | Oracle Communications Unified Inventory Management   | Rulesets (XStream)    | HTTP       | No                            | 8.8              | Network       | Low               |
| <b>CVE-2021-2351</b>  | Oracle Communications Calendar Server                | Administration (JDBC) | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Oracle Communications Contacts Server                | Database (JDBC)       | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Oracle Communications Convergent Charging Controller | ACS (JDBC)            | Oracle Net | Yes                           | 8.3              | Network       | High              |

| CVE#                  | Product                                              | Component                              | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------|----------------------------------------|------------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                      |                                        |            |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-2351</b>  | Oracle Communications Design Studio                  | OSM, NI Plugins (JDBC)                 | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Oracle Communications Network Charging and Control   | ACS (JDBC)                             | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Oracle Communications Network Integrity              | Installer (JDBC)                       | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2020-28052</b> | Oracle Communications Convergence                    | Messaging (Bouncy Castle Java Library) | S/MIME     | Yes                           | 8.1              | Network       | High              |
| <b>CVE-2020-24750</b> | Oracle Communications Instant Messaging Server       | PresenceApi (jackson-databind)         | HTTP       | Yes                           | 8.1              | Network       | High              |
| <b>CVE-2020-24750</b> | Oracle Communications Offline Mediation Controller   | Installer (jackson-databind)           | HTTP       | Yes                           | 8.1              | Network       | High              |
| <b>CVE-2020-24750</b> | Oracle Communications Pricing Design Center          | Installation (jackson-databind)        | HTTP       | Yes                           | 8.1              | Network       | High              |
| <b>CVE-2021-22118</b> | Oracle Communications Unified Inventory Management   | TMF API (Spring Framework)             | None       | No                            | 7.8              | Local         | Low               |
| <b>CVE-2022-21266</b> | Oracle Communications Billing and Revenue Management | Pipeline Manager                       | HTTP       | Yes                           | 7.5              | Network       | Low               |



| CVE#                  | Product                                             | Component                                     | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|-----------------------------------------------------|-----------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                     |                                               |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-25122</b> | Oracle Communications Instant Messaging Server      | DBPlugin (Apache Tomcat)                      | XMPP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-37714</b> | Oracle Communications Messaging Server              | ISC (jsoup)                                   | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-36090</b> | Oracle Communications Unified Inventory Management  | Inventory Organizer (Apache Commons Compress) | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2019-10086</b> | Oracle Communications Convergence                   | Message Store (Apache Commons BeanUtils)      | HTTP     | Yes                           | 7.3              | Network       | Low               |
| <b>CVE-2019-10086</b> | Oracle Communications Design Studio                 | Inventory (Apache Commons BeanUtils)          | HTTP     | Yes                           | 7.3              | Network       | Low               |
| <b>CVE-2020-5421</b>  | Oracle Communications Design Studio                 | Inventory (Spring Framework)                  | HTTP     | No                            | 6.5              | Network       | High              |
| <b>CVE-2021-36374</b> | Oracle Communications Unified Inventory Management  | Build Tool (Apache Ant)                       | None     | No                            | 5.5              | Local         | Low               |
| <b>CVE-2021-29425</b> | Oracle Communications BRM - Elastic Charging Engine | Charging Controller (Apache Commons IO)       | TCP      | Yes                           | 4.8              | Network       | High              |
| <b>CVE-2021-29425</b> | Oracle Communications Convergence                   | Convergence Server (Apache Commons IO)        | HTTP     | Yes                           | 4.8              | Network       | High              |
| <b>CVE-2021-29425</b> | Oracle Communications                               | Installation (Apache                          | HTTP     | Yes                           | 4.8              | Network       | High              |

| CVE#                  | Product                                              | Component          | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------|--------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                      |                    |          |                               | Base Score       | Attack Vector | Attack Complexity |
|                       | Offline Mediation Controller                         | Commons IO)        |          |                               |                  |               |                   |
| <b>CVE-2022-21338</b> | Oracle Communications Convergence                    | General Framework  | HTTP     | No                            | 4.6              | Network       | Low               |
| <b>CVE-2022-21267</b> | Oracle Communications Billing and Revenue Management | Pipeline Manager   | None     | No                            | 3.3              | Local         | Low               |
| <b>CVE-2022-21268</b> | Oracle Communications Billing and Revenue Management | Pipeline Manager   | None     | No                            | 3.3              | Local         | Low               |
| <b>CVE-2022-21388</b> | Oracle Communications Pricing Design Center          | On Premise Install | None     | No                            | 3.3              | Local         | Low               |

### Additional CVEs addressed are:

- The patch for CVE-2020-24750 also addresses CVE-2020-24616, CVE-2020-25649 and CVE-2020-36189.
- The patch for CVE-2021-25122 also addresses CVE-2020-13934, CVE-2020-13935, CVE-2020-17527, CVE-2021-25329 and CVE-2021-33037.
- The patch for CVE-2021-29505 also addresses CVE-2021-39154.
- The patch for CVE-2021-39139 also addresses CVE-2021-29505, CVE-2021-39140, CVE-2021-39141, CVE-2021-39144, CVE-2021-39145, CVE-2021-39146, CVE-2021-39147, CVE-2021-39148, CVE-2021-39149, CVE-2021-39150, CVE-2021-39151, CVE-2021-39152, CVE-2021-39153 and CVE-2021-39154.

## Oracle Communications Risk Matrix

This Critical Patch Update contains 84 new security patches plus additional third party patches noted below for Oracle Communications. 50 of these vulnerabilities may be remotely

exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                                             | Component                          | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|---------------------------------------------------------------------|------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                     |                                    |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-23440</b> | Oracle Communications Cloud Native Core Policy                      | Policy (set-value)                 | HTTP     | Yes                           | 9.8              | Network       | Low               |
| <b>CVE-2021-21783</b> | Oracle Communications EAGLE Application Processor                   | Platform (gSOAP)                   | HTTP     | Yes                           | 9.8              | Network       | Low               |
| <b>CVE-2021-32827</b> | Oracle Communications Cloud Native Core Policy                      | Policy (MockServer)                | HTTP     | Yes                           | 9.6              | Network       | Low               |
| <b>CVE-2021-27568</b> | Oracle Communications Cloud Native Core Policy                      | Policy (netplex json-smart)        | HTTP     | Yes                           | 9.1              | Network       | Low               |
| <b>CVE-2021-39139</b> | Oracle Communications Cloud Native Core Binding Support Function    | Binding Support Function (XStream) | HTTP     | No                            | 8.8              | Network       | Low               |
| <b>CVE-2019-13734</b> | Oracle Communications Cloud Native Core Network Repository Function | NRF (SQLite)                       | HTTP     | Yes                           | 8.8              | Network       | Low               |
| <b>CVE-2020-13936</b> | Oracle Communications Cloud Native Core Policy                      | Policy (Apache Velocity Engine)    | HTTP     | No                            | 8.8              | Network       | Low               |
| <b>CVE-2020-15824</b> | Oracle Communications Cloud Native Core Policy                      | Policy (Kotlin)                    | HTTP     | No                            | 8.8              | Network       | Low               |

| CVE#                  | Product                                                                | Component                                   | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------------------------|---------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                        |                                             |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2020-10878</b> | Oracle Communications EAGLE Application Processor                      | Platform (Perl)                             | HTTP     | Yes                           | 8.6              | Network       | Low               |
| <b>CVE-2021-39153</b> | Oracle Communications Cloud Native Core Policy                         | Signaling (XStream)                         | HTTP     | No                            | 8.5              | Network       | High              |
| <b>CVE-2020-36189</b> | Oracle Communications Cloud Native Core Policy                         | Policy (jackson-databind)                   | HTTP     | Yes                           | 8.1              | Network       | High              |
| <b>CVE-2021-22118</b> | Oracle Communications Cloud Native Core Binding Support Function       | Binding Support Function (Spring Framework) | None     | No                            | 7.8              | Local         | Low               |
| <b>CVE-2021-22118</b> | Oracle Communications Cloud Native Core Policy                         | Policy (Spring Framework)                   | None     | No                            | 7.8              | Local         | Low               |
| <b>CVE-2021-22118</b> | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (Spring Framework)                     | None     | No                            | 7.8              | Local         | Low               |
| <b>CVE-2021-22118</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Spring Framework)                      | None     | No                            | 7.8              | Local         | Low               |
| <b>CVE-2021-22118</b> | Oracle Communications Cloud Native Core Unified Data Repository        | UDR (Spring Framework)                      | None     | No                            | 7.8              | Local         | Low               |

| CVE#                  | Product                                                                           | Component                                | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|-----------------------------------------------------------------------------------|------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                                   |                                          |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-33909</b> | Oracle Communications Session Border Controller                                   | Core (Kernel)                            | None     | No                            | 7.8              | Local         | Low               |
| <b>CVE-2022-21382</b> | Oracle Enterprise Session Border Controller                                       | WebUI                                    | HTTP     | No                            | 7.7              | Network       | Low               |
| <b>CVE-2020-17527</b> | Oracle Communications Cloud Native Core Binding Support Function                  | Binding Support Function (Apache Tomcat) | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-37137</b> | Oracle Communications Cloud Native Core Binding Support Function                  | Binding Support Function (Netty)         | TCP      | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-33560</b> | Oracle Communications Cloud Native Core Network Function Cloud Native Environment | Configuration (libgcrypt)                | TCP      | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2020-13949</b> | Oracle Communications Cloud Native Core Policy                                    | Policy (Apache Thrift)                   | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2020-17527</b> | Oracle Communications Cloud Native Core Policy                                    | Policy (Apache Tomcat)                   | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-28165</b> | Oracle Communications Cloud Native Core Policy                                    | Policy (Eclipse Jetty)                   | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-22119</b> | Oracle Communications                                                             | Policy (Spring Security)                 | HTTP     | Yes                           | 7.5              | Network       | Low               |

| CVE#                  | Product                                                                | Component                         | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------------------------|-----------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                        |                                   |          |                               | Base Score       | Attack Vector | Attack Complexity |
|                       | Cloud Native Core Policy                                               |                                   |          |                               |                  |               |                   |
| <b>CVE-2020-28469</b> | Oracle Communications Cloud Native Core Policy                         | Policy (glob-parent)              | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-25122</b> | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (Apache Tomcat)              | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-36090</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Apache Commons Compress)     | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-36090</b> | Oracle Communications Cloud Native Core Unified Data Repository        | UDR (Apache Commons Compress)     | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-37137</b> | Oracle Communications Diameter Signaling Router                        | API Gateway (Netty)               | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-42340</b> | Oracle Communications Diameter Signaling Router                        | Platform (Apache Tomcat)          | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-42340</b> | Oracle SD-WAN Edge                                                     | Management (Apache Tomcat)        | HTTP     | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-23337</b> | Oracle Communications Cloud Native Core Binding Support Function       | Binding Support Function (Lodash) | HTTP     | No                            | 7.2              | Network       | Low               |

| CVE#                  | Product                                            | Component                                                    | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|----------------------------------------------------|--------------------------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                    |                                                              |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2022-21395</b> | Oracle Communications Operations Monitor           | Mediation Engine                                             | HTTP     | No                            | 7.2              | Network       | Low               |
| <b>CVE-2021-23337</b> | Oracle Communications Services Gatekeeper          | Policy service (Lodash)                                      | HTTP     | No                            | 7.2              | Network       | Low               |
| <b>CVE-2021-21703</b> | Oracle Communications Diameter Signaling Router    | Platform (PHP)                                               | None     | No                            | 7.0              | Local         | High              |
| <b>CVE-2021-44832</b> | Oracle Communications Diameter Signaling Router    | Virtual Network Function Manager, API Gateway (Apache Log4j) | HTTP     | No                            | 6.6              | Network       | High              |
| <b>CVE-2021-44832</b> | Oracle Communications Interactive Session Recorder | RSS (Apache Log4j)                                           | HTTP     | No                            | 6.6              | Network       | High              |
| <b>CVE-2022-21399</b> | Oracle Communications Operations Monitor           | Mediation Engine                                             | HTTP     | No                            | 6.6              | Network       | Low               |
| <b>CVE-2022-21401</b> | Oracle Communications Operations Monitor           | Mediation Engine                                             | HTTP     | No                            | 6.6              | Network       | Low               |
| <b>CVE-2022-21403</b> | Oracle Communications Operations Monitor           | Mediation Engine                                             | HTTP     | No                            | 6.6              | Network       | Low               |
| <b>CVE-2022-21381</b> | Oracle Enterprise Session Border Controller        | WebUI                                                        | HTTP     | No                            | 6.4              | Network       | Low               |



| CVE#                  | Product                                                                | Component                          | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------------------------|------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                        |                                    |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2020-11022</b> | Oracle Communications EAGLE Application Processor                      | Platform (jQuery)                  | HTTP     | Yes                           | 6.1              | Network       | Low               |
| <b>CVE-2020-11022</b> | Oracle Communications Services Gatekeeper                              | API Portal (jQuery)                | HTTP     | Yes                           | 6.1              | Network       | Low               |
| <b>CVE-2021-21409</b> | Oracle Communications Cloud Native Core Console                        | Console (Netty)                    | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2020-14340</b> | Oracle Communications Cloud Native Core Network Repository Function    | Network Repository Function (XNIO) | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2020-14340</b> | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (XNIO)                        | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2021-33880</b> | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (aAugustin websockets)        | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2021-3326</b>  | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (glibc)                       | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2020-14340</b> | Oracle Communications Cloud Native Core Service                        | SCP (XNIO)                         | HTTP     | Yes                           | 5.9              | Network       | High              |

| CVE#                  | Product                                                             | Component                                     | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------------------------------------------------------------|-----------------------------------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |                                                                     |                                               |          |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       | Communication Proxy                                                 |                                               |          |                               |                  |                  |                   |
| <b>CVE-2021-33880</b> | Oracle Communications Cloud Native Core Service Communication Proxy | SCP (aaugustin websockets)                    | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2020-14340</b> | Oracle Communications Cloud Native Core Unified Data Repository     | UDR (XNIO)                                    | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2021-33880</b> | Oracle Communications Cloud Native Core Unified Data Repository     | UDR (aaugustin websockets)                    | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2021-45105</b> | Oracle Communications Service Broker                                | Integration (Apache Log4j)                    | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2021-45105</b> | Oracle Communications Services Gatekeeper                           | API Portal (Apache Log4j)                     | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2021-45105</b> | Oracle Communications WebRTC Session Controller                     | Signaling Engine, Media Engine (Apache Log4j) | HTTP     | Yes                           | 5.9              | Network          | High              |
| <b>CVE-2021-3426</b>  | Oracle Communications Cloud Native Core Binding Support Function    | Binding Support Function (Python)             | Multiple | No                            | 5.7              | Adjacent Network | Low               |
| <b>CVE-2021-23017</b> | Oracle Communications Session Border Controller                     | Routing (nginx)                               | HTTP     | Yes                           | 5.6              | Network          | High              |

| CVE#                  | Product                                                             | Component                                | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|---------------------------------------------------------------------|------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                     |                                          |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-23017</b> | Oracle Enterprise Communications Broker                             | Routing (nginx)                          | HTTP     | Yes                           | 5.6              | Network       | High              |
| <b>CVE-2021-23017</b> | Oracle Enterprise Session Border Controller                         | Routing (nginx)                          | HTTP     | Yes                           | 5.6              | Network       | High              |
| <b>CVE-2020-27618</b> | Oracle Communications Cloud Native Core Service Communication Proxy | SCP (glibc)                              | None     | No                            | 5.5              | Local         | Low               |
| <b>CVE-2022-21246</b> | Oracle Communications Operations Monitor                            | Mediation Engine                         | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2022-21396</b> | Oracle Communications Operations Monitor                            | Mediation Engine                         | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2022-21397</b> | Oracle Communications Operations Monitor                            | Mediation Engine                         | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2022-21398</b> | Oracle Communications Operations Monitor                            | Mediation Engine                         | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2022-21400</b> | Oracle Communications Operations Monitor                            | Mediation Engine                         | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2021-34429</b> | Oracle Communications Cloud Native Core Binding Support Function    | Binding Support Function (Eclipse Jetty) | TCP      | Yes                           | 5.3              | Network       | Low               |

| CVE#                  | Product                                                                | Component                   | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------------------------|-----------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                        |                             |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-34429</b> | Oracle Communications Cloud Native Core Security Edge Protection Proxy | SEPP (Eclipse Jetty)        | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2020-13956</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Apache HttpClient)     | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2021-33037</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Apache Tomcat)         | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2021-34429</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Eclipse Jetty)         | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2020-29582</b> | Oracle Communications Cloud Native Core Service Communication Proxy    | SCP (Kotlin)                | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2021-34429</b> | Oracle Communications Cloud Native Core Unified Data Repository        | UDR (Eclipse Jetty)         | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2021-34429</b> | Oracle Communications Diameter Signaling Router                        | API Gateway (Eclipse Jetty) | HTTP     | Yes                           | 5.3              | Network       | Low               |
| <b>CVE-2021-21705</b> | Oracle SD-WAN Aware                                                    | Management (PHP)            | HTTP     | Yes                           | 5.3              | Network       | Low               |

| CVE#                  | Product                                                             | Component               | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|---------------------------------------------------------------------|-------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                                     |                         |          |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2020-8554</b>  | Oracle Communications Cloud Native Core Service Communication Proxy | SCP (Kubernetes API)    | HTTP     | No                            | 5.0              | Network       | High              |
| <b>CVE-2020-8554</b>  | Oracle Communications Cloud Native Core Unified Data Repository     | UDR (Kubernetes API)    | HTTP     | No                            | 5.0              | Network       | High              |
| <b>CVE-2021-29921</b> | Oracle Communications Cloud Native Core Automated Test Suite        | ATS Framework (Python)  | HTTP     | No                            | 4.9              | Network       | Low               |
| <b>CVE-2021-29425</b> | Oracle Communications Cloud Native Core Network Repository Function | NRF (Apache Commons IO) | HTTP     | Yes                           | 4.8              | Network       | High              |
| <b>CVE-2021-29425</b> | Oracle Communications Cloud Native Core Unified Data Repository     | UDR (Apache Commons IO) | HTTP     | Yes                           | 4.8              | Network       | High              |
| <b>CVE-2022-21402</b> | Oracle Communications Operations Monitor                            | Mediation Engine        | HTTP     | No                            | 4.8              | Network       | Low               |
| <b>CVE-2022-21383</b> | Oracle Enterprise Session Border Controller                         | Log                     | HTTP     | No                            | 4.3              | Network       | Low               |
| <b>CVE-2021-3448</b>  | Oracle Communications Cloud Native Core Network Function Cloud      | Configuration (dnsmasq) | TCP      | Yes                           | 4.0              | Network       | High              |

| CVE#                 | Product                                                         | Component   | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|----------------------|-----------------------------------------------------------------|-------------|----------|-------------------------------|------------------|---------------|-------------------|
|                      |                                                                 |             |          |                               | Base Score       | Attack Vector | Attack Complexity |
|                      | Native Environment                                              |             |          |                               |                  |               |                   |
| <b>CVE-2020-8908</b> | Oracle Communications Cloud Native Core Unified Data Repository | UDR (Guava) | None     | No                            | 3.3              | Local         | Low               |

### Notes:

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

### Additional CVEs addressed are:

- The patch for CVE-2020-10878 also addresses CVE-2020-10543 and CVE-2020-12723.
- The patch for CVE-2020-11022 also addresses CVE-2019-11358 and CVE-2020-11023.
- The patch for CVE-2020-17527 also addresses CVE-2020-13934, CVE-2020-13935, CVE-2020-9484, CVE-2021-25122, CVE-2021-25329, CVE-2021-30369, CVE-2021-30640 and CVE-2021-33037.
- The patch for CVE-2020-36189 also addresses CVE-2020-35490, CVE-2020-35491, CVE-2020-35728, CVE-2020-36179, CVE-2020-36180, CVE-2020-36181, CVE-2020-36182, CVE-2020-36183, CVE-2020-36184, CVE-2020-36185, CVE-2020-36186, CVE-2020-36187 and CVE-2020-36188.
- The patch for CVE-2021-23337 also addresses CVE-2020-28500.
- The patch for CVE-2021-25122 also addresses CVE-2021-25329.
- The patch for CVE-2021-36090 also addresses CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- The patch for CVE-2021-37137 also addresses CVE-2021-37136.
- The patch for CVE-2021-39139 also addresses CVE-2021-39140, CVE-2021-39141, CVE-2021-39144, CVE-2021-39145, CVE-2021-39146, CVE-2021-39147, CVE-2021-39148, CVE-2021-39149, CVE-2021-39150, CVE-2021-39151, CVE-2021-39152, CVE-2021-39153 and CVE-2021-39154.
- The patch for CVE-2021-39153 also addresses CVE-2021-39139, CVE-2021-39141, CVE-2021-39144, CVE-2021-39145, CVE-2021-39146, CVE-2021-39147, CVE-2021-39148, CVE-2021-39149, CVE-2021-39150, CVE-2021-39151, CVE-2021-39152 and CVE-2021-39154.

- The patch for CVE-2021-42340 also addresses CVE-2021-33037.
- The patch for CVE-2021-44832 also addresses CVE-2021-45105.

**Additional patches are included in this Critical Patch Update for the following non-exploitable CVEs in this Oracle product family:**

- Oracle Communications Cloud Native Core Network Repository Function
  - NRF (Apache Commons Compress): CVE-2021-36090, CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.

## Oracle Construction and Engineering Risk Matrix

This Critical Patch Update contains 22 new security patches for Oracle Construction and Engineering. 15 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                   | Component                                              | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|---------------------------|--------------------------------------------------------|------------|-------------------------------|------------------|---------------|-------------------|
|                       |                           |                                                        |            |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-44790</b> | Instantis EnterpriseTrack | Core (Apache HTTP Server)                              | HTTP       | Yes                           | 9.8              | Network       | Low               |
| <b>CVE-2021-42575</b> | Primavera Unifier         | Platform, Data Persistence (OWASP Java HTML Sanitizer) | HTTP       | Yes                           | 9.8              | Network       | Low               |
| <b>CVE-2021-2351</b>  | Primavera Analytics       | ETL (JDBC)                                             | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Primavera Data Warehouse  | ETL (JDBC)                                             | Oracle Net | Yes                           | 8.3              | Network       | High              |

| CVE#                  | Product                                              | Component                                    | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|------------------------------------------------------|----------------------------------------------|------------|-------------------------------|------------------|---------------|-------------------|
|                       |                                                      |                                              |            |                               | Base Score       | Attack Vector | Attack Complexity |
| <b>CVE-2021-2351</b>  | Primavera P6 Enterprise Project Portfolio Management | Web Access (JDBC)                            | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Primavera P6 Professional Project Management         | API component of P6 Pro (JDBC)               | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-2351</b>  | Primavera Unifier                                    | Platform,Data Access,Data Persistence (JDBC) | Oracle Net | Yes                           | 8.3              | Network       | High              |
| <b>CVE-2021-37714</b> | Primavera Unifier                                    | Platform,Data Parsing (jsoup)                | HTTP       | Yes                           | 7.5              | Network       | Low               |
| <b>CVE-2021-44832</b> | Primavera Gateway                                    | Admin (Apache Log4j)                         | HTTP       | No                            | 6.6              | Network       | High              |
| <b>CVE-2021-44832</b> | Primavera P6 Enterprise Project Portfolio Management | Web Access (Apache Log4j)                    | HTTP       | No                            | 6.6              | Network       | High              |
| <b>CVE-2021-44832</b> | Primavera Unifier                                    | Logging (Apache Log4j)                       | HTTP       | No                            | 6.6              | Network       | High              |
| <b>CVE-2022-21269</b> | Primavera Portfolio Management                       | Web Access                                   | HTTP       | Yes                           | 6.1              | Network       | Low               |



| CVE#                  | Product                        | Component                                       | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|--------------------------------|-------------------------------------------------|----------|-------------------------------|------------------|---------------|-------------------|
|                       |                                |                                                 |          |                               | Base Score       | Attack Vector | Attack Complexity |
|                       |                                |                                                 |          |                               |                  |               |                   |
| <b>CVE-2021-45105</b> | Instantis EnterpriseTrack      | Logging (Apache Log4j)                          | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2021-38153</b> | Primavera Unifier              | Event Streams and Communications (Apache Kafka) | HTTP     | Yes                           | 5.9              | Network       | High              |
| <b>CVE-2022-21377</b> | Primavera Portfolio Management | Web API                                         | HTTP     | Yes                           | 5.4              | Network       | Low               |
| <b>CVE-2022-21242</b> | Primavera Portfolio Management | Web Access                                      | HTTP     | No                            | 5.4              | Network       | Low               |
| <b>CVE-2022-21376</b> | Primavera Portfolio Management | Web Access                                      | HTTP     | Yes                           | 5.4              | Network       | Low               |
| <b>CVE-2022-21281</b> | Primavera Portfolio Management | Web Access                                      | HTTP     | No                            | 4.8              | Network       | Low               |
| <b>CVE-2021-29425</b> | Primavera Unifier              | Platform (Apache Commons IO)                    | HTTP     | Yes                           | 4.8              | Network       | High              |
| <b>CVE-2022-21243</b> | Primavera Portfolio Management | Web Access                                      | HTTP     | No                            | 4.3              | Network       | Low               |

| CVE#                  | Product                        | Component            | Protocol | Remote Exploit without Auth.? | CVSS VERSION |               |                 |
|-----------------------|--------------------------------|----------------------|----------|-------------------------------|--------------|---------------|-----------------|
|                       |                                |                      |          |                               | Base Score   | Attack Vector | Attack Complex. |
| <b>CVE-2022-21244</b> | Primavera Portfolio Management | Web Access           | HTTP     | Yes                           | 4.3          | Network       | Low             |
| <b>CVE-2020-8908</b>  | Primavera Unifier              | Data Service (Guava) | None     | No                            | 3.3          | Local         | Low             |

### Notes:

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

### Additional CVEs addressed are:

- The patch for CVE-2021-44790 also addresses CVE-2021-33193, CVE-2021-34798, CVE-2021-36160, CVE-2021-39275, CVE-2021-40438, CVE-2021-41524, CVE-2021-41773, CVE-2021-42013 and CVE-2021-44224.
- The patch for CVE-2021-44832 also addresses CVE-2021-45105.

## Oracle E-Business Suite Risk Matrix

This Critical Patch Update contains 9 new security patches for Oracle E-Business Suite. 5 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

Oracle E-Business Suite products include Oracle Database and Oracle Fusion Middleware components that are affected by the vulnerabilities listed in the Oracle Database and Oracle Fusion Middleware sections. The exposure of Oracle E-Business Suite products is dependent on the Oracle Database and Oracle Fusion Middleware versions being used. Oracle Database and Oracle Fusion Middleware security updates are not listed in the Oracle E-Business Suite risk matrix. However, since vulnerabilities affecting Oracle Database and Oracle Fusion Middleware versions may affect Oracle E-Business Suite products, Oracle recommends that

customers apply the January 2022 Critical Patch Update to the Oracle Database and Oracle Fusion Middleware components of Oracle E-Business Suite. For information on what patches need to be applied to your environments, refer to Oracle E-Business Suite Release 12 Critical Patch Update Knowledge Document (January 2022), [My Oracle Support Note 2484000.1](#).

| CVE#                  | Product                   | Component                           | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |            |
|-----------------------|---------------------------|-------------------------------------|----------|-------------------------------|------------------|---------------|----------------|------------|
|                       |                           |                                     |          |                               | Base Score       | Attack Vector | Attack Complex | Priv. Req' |
| <b>CVE-2022-21255</b> | Oracle Configurator       | UI Servlet                          | HTTP     | No                            | 8.1              | Network       | Low            | Low        |
| <b>CVE-2022-21273</b> | Oracle Project Costing    | Expenses, Currency Override         | HTTP     | No                            | 8.1              | Network       | Low            | Low        |
| <b>CVE-2022-21274</b> | Oracle Sourcing           | Intelligence, RFx Creation          | HTTP     | No                            | 8.1              | Network       | Low            | Low        |
| <b>CVE-2022-21250</b> | Oracle Trade Management   | GL Accounts                         | HTTP     | No                            | 8.1              | Network       | Low            | Low        |
| <b>CVE-2022-21251</b> | Oracle Installed Base     | Instance Main                       | HTTP     | Yes                           | 7.5              | Network       | Low            | Noni       |
| <b>CVE-2019-10086</b> | Oracle Time and Labor     | Timecard (Apache Commons Beanutils) | HTTP     | Yes                           | 7.3              | Network       | Low            | Noni       |
| <b>CVE-2020-6950</b>  | Oracle Time and Labor     | Timecard (Eclipse Mojarra)          | HTTP     | Yes                           | 6.5              | Network       | Low            | Noni       |
| <b>CVE-2022-21354</b> | Oracle iStore             | User Interface                      | HTTP     | Yes                           | 6.1              | Network       | Low            | Noni       |
| <b>CVE-2022-21373</b> | Oracle Partner Management | Reseller Locator                    | HTTP     | Yes                           | 6.1              | Network       | Low            | Noni       |

#### Additional CVEs addressed are:

- The patch for CVE-2020-6950 also addresses CVE-2019-17091.

## Oracle Enterprise Manager Risk Matrix

This Critical Patch Update contains 7 new security patches for Oracle Enterprise Manager. 6 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. None of these patches are applicable to client-only installations, i.e., installations that do not have Oracle Enterprise Manager installed. The English text form of this Risk Matrix can be found [here](#).

Oracle Enterprise Manager products include Oracle Database and Oracle Fusion Middleware components that are affected by the vulnerabilities listed in the Oracle Database and Oracle Fusion Middleware sections. The exposure of Oracle Enterprise Manager products is dependent on the Oracle Database and Oracle Fusion Middleware versions being used. Oracle Database and Oracle Fusion Middleware security updates are not listed in the Oracle Enterprise Manager risk matrix. However, since vulnerabilities affecting Oracle Database and Oracle Fusion Middleware versions may affect Oracle Enterprise Manager products, Oracle recommends that customers apply the January 2022 Critical Patch Update to the Oracle Database and Oracle Fusion Middleware components of Enterprise Manager. For information on what patches need to be applied to your environments, refer to Critical Patch Update January 2022 Patch Availability Document for Oracle Products, [My Oracle Support Note 2817011.1](#).

| CVE#                  | Product                            | Component                             | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |          |
|-----------------------|------------------------------------|---------------------------------------|------------|-------------------------------|------------------|---------------|----------------|----------|
|                       |                                    |                                       |            |                               | Base Score       | Attack Vector | Attack Complex | Priv Req |
| <b>CVE-2021-3177</b>  | Enterprise Manager Ops Center      | Networking (Python)                   | HTTP       | Yes                           | 9.8              | Network       | Low            | Non      |
| <b>CVE-2022-21392</b> | Enterprise Manager Base Platform   | Policy Framework                      | None       | No                            | 8.8              | Local         | Low            | Low      |
| <b>CVE-2021-2351</b>  | Application Performance Management | End User Experience Management (JDBC) | Oracle Net | Yes                           | 8.3              | Network       | High           | Non      |
| <b>CVE-2021-2351</b>  | Enterprise Manager Base Platform   | Enterprise Manager Install (JDBC)     | Oracle Net | Yes                           | 8.3              | Network       | High           | Non      |
| <b>CVE-2021-2351</b>  | Enterprise Manager Ops Center      | Networking (JDBC)                     | Oracle Net | Yes                           | 8.3              | Network       | High           | Non      |

| CVE#                 | Product                             | Component                              | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |          |
|----------------------|-------------------------------------|----------------------------------------|------------|-------------------------------|------------------|---------------|----------------|----------|
|                      |                                     |                                        |            |                               | Base Score       | Attack Vector | Attack Complex | Priv Req |
| <b>CVE-2021-2351</b> | Oracle Application Testing Suite    | Load Testing for Web Apps (JDBC, OCCI) | Oracle Net | Yes                           | 8.3              | Network       | High           | Non      |
| <b>CVE-2021-2351</b> | Oracle Real User Experience Insight | End User Experience Management (OCCI)  | Oracle Net | Yes                           | 8.3              | Network       | High           | Non      |

### Additional CVEs addressed are:

- The patch for CVE-2021-3177 also addresses CVE-2021-23336.

## Oracle Financial Services Applications Risk Matrix

This Critical Patch Update contains 48 new security patches for Oracle Financial Services Applications. 37 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                               | Component                       | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|-------------------------------------------------------|---------------------------------|----------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                       |                                 |          |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
| <b>CVE-2019-17495</b> | Oracle Banking APIs                                   | Framework (Swagger UI)          | HTTP     | Yes                           | 9.8            | Network       | Low            | No    |
| <b>CVE-2019-17495</b> | Oracle Banking Digital Experience                     | Framework (Swagger UI)          | HTTP     | Yes                           | 9.8            | Network       | Low            | No    |
| <b>CVE-2020-13936</b> | Oracle Banking Deposits and Lines of Credit Servicing | Web UI (Apache Velocity Engine) | HTTP     | No                            | 8.8            | Network       | Low            | L     |

| CVE#                  | Product                                                          | Component                            | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|------------------------------------------------------------------|--------------------------------------|------------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                                  |                                      |            |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
| <b>CVE-2020-13936</b> | Oracle Banking Enterprise Default Management                     | Collections (Apache Velocity Engine) | HTTP       | No                            | 8.8            | Network       | Low            | L     |
| <b>CVE-2020-13936</b> | Oracle Banking Loans Servicing                                   | Web UI (Apache Velocity Engine)      | HTTP       | No                            | 8.8            | Network       | Low            | L     |
| <b>CVE-2020-13936</b> | Oracle Banking Party Management                                  | Web UI (Apache Velocity Engine)      | HTTP       | No                            | 8.8            | Network       | Low            | L     |
| <b>CVE-2020-13936</b> | Oracle Banking Platform                                          | Security (Apache Velocity Engine)    | HTTP       | No                            | 8.8            | Network       | Low            | L     |
| <b>CVE-2021-2351</b>  | Oracle Banking APIs                                              | Framework (JDBC)                     | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Banking Digital Experience                                | Framework (JDBC)                     | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Analytical Applications Infrastructure | Rate Management (JDBC)               | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Behavior Detection Platform            | Third Party (JDBC)                   | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Enterprise                             | Installers (JDBC)                    | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |

| CVE#                  | Product                                                                        | Component                        | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|--------------------------------------------------------------------------------|----------------------------------|------------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                                                |                                  |            |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
|                       | Case Management                                                                |                                  |            |                               |                |               |                |       |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Foreign Account Tax Compliance Act Management        | Installation (JDBC)              | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Model Management and Governance                      | Installer & Configuration (JDBC) | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle Financial Services Trade-Based Anti Money Laundering Enterprise Edition | User Interface (JDBC)            | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle FLEXCUBE Investor Servicing                                             | Infrastructure Code (JDBC)       | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2021-2351</b>  | Oracle FLEXCUBE Private Banking                                                | Miscellaneous (JDBC)             | Oracle Net | Yes                           | 8.3            | Network       | High           | No    |
| <b>CVE-2020-11987</b> | Oracle Banking APIs                                                            | Framework (Apache Batik)         | HTTP       | Yes                           | 8.2            | Network       | Low            | No    |

| CVE#                  | Product                                             | Component                             | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|-----------------------------------------------------|---------------------------------------|----------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                     |                                       |          |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
| <b>CVE-2020-11987</b> | Oracle Banking Digital Experience                   | Framework (Apache Batik)              | HTTP     | Yes                           | 8.2            | Network       | Low            | No    |
| <b>CVE-2021-22118</b> | Oracle Financial Services Analytical Infrastructure | Others (Spring Framework)             | None     | No                            | 7.8            | Local         | Low            | Low   |
| <b>CVE-2021-36090</b> | Oracle Banking APIs                                 | Framework (Apache Commons Compress)   | HTTP     | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2020-25649</b> | Oracle Banking APIs                                 | Framework (jackson-databind)          | HTTP     | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-37137</b> | Oracle Banking APIs                                 | Framework (Netty)                     | Multiple | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-36090</b> | Oracle Banking Digital Experience                   | Framework (Apache Commons Compress)   | HTTP     | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-37137</b> | Oracle Banking Digital Experience                   | Framework (Netty)                     | Multiple | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-36090</b> | Oracle Banking Enterprise Default Management        | Collections (Apache Commons Compress) | HTTP     | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-36090</b> | Oracle Banking Party Management                     | Web UI (Apache Commons Compress)      | HTTP     | Yes                           | 7.5            | Network       | Low            | No    |
| <b>CVE-2021-35043</b> | Oracle Banking Enterprise                           | Collections (AntiSamy)                | HTTP     | Yes                           | 6.1            | Network       | Low            | No    |



| CVE#                  | Product                                                          | Component                                | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|------------------------------------------------------------------|------------------------------------------|----------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                                  |                                          |          |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
|                       | Default Management                                               |                                          |          |                               |                |               |                |       |
| <b>CVE-2020-9281</b>  | Oracle Banking Enterprise Default Management                     | Collections (CKEditor)                   | HTTP     | Yes                           | 6.1            | Network       | Low            | No    |
| <b>CVE-2021-35043</b> | Oracle Banking Party Management                                  | Web UI (AntiSamy)                        | HTTP     | Yes                           | 6.1            | Network       | Low            | No    |
| <b>CVE-2021-35043</b> | Oracle Banking Platform                                          | SECURITY (AntiSamy)                      | HTTP     | Yes                           | 6.1            | Network       | Low            | No    |
| <b>CVE-2021-45105</b> | Oracle Financial Services Analytical Applications Infrastructure | Others (Apache Log4j)                    | HTTP     | Yes                           | 5.9            | Network       | High           | No    |
| <b>CVE-2021-45105</b> | Oracle Financial Services Model Management and Governance        | Installer & Configuration (Apache Log4j) | HTTP     | Yes                           | 5.9            | Network       | High           | No    |
| <b>CVE-2021-41165</b> | Oracle Banking APIs                                              | Framework (CKEditor)                     | HTTP     | No                            | 5.4            | Network       | Low            | L     |
| <b>CVE-2021-41165</b> | Oracle Banking Digital Experience                                | Framework (CKEditor)                     | HTTP     | No                            | 5.4            | Network       | Low            | L     |
| <b>CVE-2021-37695</b> | Oracle Banking Party Management                                  | Web UI (CKEditor)                        | HTTP     | No                            | 5.4            | Network       | Low            | L     |
| <b>CVE-2021-37695</b> | Oracle Financial Services                                        | Others (CKEditor)                        | HTTP     | No                            | 5.4            | Network       | Low            | L     |

| CVE#                  | Product                                                          | Component                       | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|------------------------------------------------------------------|---------------------------------|----------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                                  |                                 |          |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
|                       | Analytical Applications Infrastructure                           |                                 |          |                               |                |               |                |       |
| <b>CVE-2021-28164</b> | Oracle Banking APIs                                              | Framework (Apache Ignite)       | HTTP     | Yes                           | 5.3            | Network       | Low            | No    |
| <b>CVE-2021-28164</b> | Oracle Banking Digital Experience                                | Framework (Apache Ignite)       | HTTP     | Yes                           | 5.3            | Network       | Low            | No    |
| <b>CVE-2021-35687</b> | Oracle Financial Services Analytical Applications Infrastructure | Unified Metadata Manager        | HTTP     | Yes                           | 5.3            | Network       | Low            | No    |
| <b>CVE-2021-29425</b> | Oracle Banking APIs                                              | Framework (Apache Commons IO)   | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-29425</b> | Oracle Banking Digital Experience                                | Framework (Apache Commons IO)   | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-29425</b> | Oracle Banking Enterprise Default Management                     | Collections (Apache Commons IO) | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-29425</b> | Oracle Banking Party Management                                  | Web UI (Apache Commons IO)      | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-29425</b> | Oracle Banking Platform                                          | Security (Apache Commons IO)    | HTTP     | Yes                           | 4.8            | Network       | High           | No    |

| CVE#                  | Product                                                          | Component                                     | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3 |               |                |       |
|-----------------------|------------------------------------------------------------------|-----------------------------------------------|----------|-------------------------------|----------------|---------------|----------------|-------|
|                       |                                                                  |                                               |          |                               | Base Score     | Attack Vector | Attack Complex | Pr Re |
| <b>CVE-2021-29425</b> | Oracle Financial Services Analytical Applications Infrastructure | Others (Apache Commons IO)                    | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-29425</b> | Oracle Financial Services Model Management and Governance        | Installer & Configuration (Apache Commons IO) | HTTP     | Yes                           | 4.8            | Network       | High           | No    |
| <b>CVE-2021-35686</b> | Oracle Financial Services Analytical Applications Infrastructure | Unified Metadata Manager                      | HTTP     | No                            | 4.3            | Network       | Low            | L     |

**Notes:**

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

**Additional CVEs addressed are:**

- The patch for CVE-2021-28164 also addresses CVE-2021-28163.
- The patch for CVE-2021-36090 also addresses CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- The patch for CVE-2021-37137 also addresses CVE-2021-37136.
- The patch for CVE-2021-37695 also addresses CVE-2021-32808 and CVE-2021-32809.
- The patch for CVE-2021-41165 also addresses CVE-2021-41164.

## Oracle Food and Beverage Applications Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Food and Beverage Applications. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                    | Component                            | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|--------------------------------------------|--------------------------------------|----------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                                            |                                      |          |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2019-10086</b> | Oracle Hospitality Reporting and Analytics | Reporting (Apache Commons BeanUtils) | HTTP     | Yes                           | 7.3                  | Network       | Low            | None        |

## Oracle Fusion Middleware Risk Matrix

This Critical Patch Update contains 39 new security patches for Oracle Fusion Middleware. 35 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

Oracle Fusion Middleware products include Oracle Database components that are affected by the vulnerabilities listed in the Oracle Database section. The exposure of Oracle Fusion Middleware products is dependent on the Oracle Database version being used. Oracle Database security updates are not listed in the Oracle Fusion Middleware risk matrix. However, since vulnerabilities affecting Oracle Database versions may affect Oracle Fusion Middleware products, Oracle recommends that customers apply the Critical Patch Update January 2022 to the Oracle Database components of Oracle Fusion Middleware products. For information on what patches need to be applied to your environments, refer to Critical Patch Update January 2022 Patch Availability Document for Oracle Products, [My Oracle Support Note 2817011.1](#).

| CVE#                  | Product               | Component            | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 I |               |                |           |
|-----------------------|-----------------------|----------------------|----------|-------------------------------|--------------------|---------------|----------------|-----------|
|                       |                       |                      |          |                               | Base Score         | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2021-35587</b> | Oracle Access Manager | OpenSSO Agent        | HTTP     | Yes                           | 9.8                | Network       | Low            | Non       |
| <b>CVE-2020-17530</b> | Oracle Business       | Installation (Apache | HTTP     | Yes                           | 9.8                | Network       | Low            | Non       |

| CVE#                  | Product                                         | Component                                               | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |           |
|-----------------------|-------------------------------------------------|---------------------------------------------------------|------------|-------------------------------|------------------|---------------|----------------|-----------|
|                       |                                                 |                                                         |            |                               | Base Score       | Attack Vector | Attack Complex | Priv Req' |
|                       | Intelligence Enterprise Edition                 | Struts2)                                                |            |                               |                  |               |                |           |
| <b>CVE-2022-21306</b> | Oracle WebLogic Server                          | Core                                                    | T3         | Yes                           | 9.8              | Network       | Low            | Non       |
| <b>CVE-2021-40438</b> | Oracle HTTP Server                              | OSSL Module (Apache HTTP Server)                        | HTTP       | Yes                           | 9.0              | Network       | High           | Non       |
| <b>CVE-2021-39154</b> | Oracle Business Activity Monitoring             | Centralized Thirdparty Jars (XStream)                   | HTTP       | No                            | 8.5              | Network       | High           | Low       |
| <b>CVE-2021-2351</b>  | Oracle Data Integrator                          | Runtime Java agent for ODI (JDBC)                       | Oracle Net | Yes                           | 8.3              | Network       | High           | Non       |
| <b>CVE-2021-2351</b>  | Oracle Enterprise Data Quality                  | General (JDBC)                                          | Oracle Net | Yes                           | 8.3              | Network       | High           | Non       |
| <b>CVE-2021-2351</b>  | Oracle Fusion Middleware                        | Centralized Third-party Jars (JDBC, OCCI, ODP for .NET) | Oracle Net | Yes                           | 8.3              | Network       | High           | Non       |
| <b>CVE-2022-21346</b> | Oracle BI Publisher                             | BI Publisher Security                                   | HTTP       | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2019-17566</b> | Oracle Business Intelligence Enterprise Edition | Analytics Web Answers (Apache Batik)                    | HTTP       | Yes                           | 7.5              | Network       | Low            | Non       |

| CVE#                  | Product                                  | Component                                  | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |           |
|-----------------------|------------------------------------------|--------------------------------------------|----------|-------------------------------|------------------|---------------|----------------|-----------|
|                       |                                          |                                            |          |                               | Base Score       | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2021-36090</b> | Oracle Business Process Management Suite | Installer (Apache Commons Compress)        | HTTP     | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2021-4104</b>  | Oracle WebLogic Server                   | Centralized Thirdparty Jars (Apache Log4j) | HTTP     | No                            | 7.5              | Network       | High           | Low       |
| <b>CVE-2022-21292</b> | Oracle WebLogic Server                   | Samples                                    | HTTP     | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2020-5258</b>  | Oracle WebLogic Server                   | Samples (dojo)                             | HTTP     | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2022-21371</b> | Oracle WebLogic Server                   | Web Container                              | HTTP     | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2021-27568</b> | Oracle WebLogic Server                   | Web Services (json-smart)                  | HTTP     | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2021-44832</b> | Oracle WebLogic Server                   | Centralized Thirdparty Jars (Apache Log4j) | HTTP     | No                            | 6.6              | Network       | High           | High      |
| <b>CVE-2022-21252</b> | Oracle WebLogic Server                   | Samples                                    | HTTP     | Yes                           | 6.5              | Network       | Low            | Non       |
| <b>CVE-2022-21347</b> | Oracle WebLogic Server                   | Core                                       | T3       | Yes                           | 6.5              | Network       | Low            | Non       |
| <b>CVE-2022-21350</b> | Oracle WebLogic Server                   | Core                                       | T3       | Yes                           | 6.5              | Network       | Low            | Non       |

| CVE#                  | Product                | Component                      | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |           |
|-----------------------|------------------------|--------------------------------|----------|-------------------------------|------------------|---------------|----------------|-----------|
|                       |                        |                                |          |                               | Base Score       | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2022-21353</b> | Oracle WebLogic Server | Core                           | T3       | Yes                           | 6.5              | Network       | Low            | Non       |
| <b>CVE-2020-2934</b>  | Oracle WebLogic Server | Datasource (MySQL Connector)   | SQL      | Yes                           | 6.3              | Network       | Low            | Non       |
| <b>CVE-2022-21361</b> | Oracle WebLogic Server | Sample apps                    | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2020-11023</b> | Oracle WebLogic Server | Sample apps (jQuery)           | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21257</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21258</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21259</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21260</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21261</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21262</b> | Oracle WebLogic Server | Samples                        | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2022-21386</b> | Oracle WebLogic Server | Web Container                  | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2019-10219</b> | Oracle WebLogic Server | Web Services (JBoss Enterprise | HTTP     | Yes                           | 6.1              | Network       | Low            | Non       |

| CVE#                  | Product                                         | Component                             | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |           |
|-----------------------|-------------------------------------------------|---------------------------------------|----------|-------------------------------|------------------|---------------|----------------|-----------|
|                       |                                                 |                                       |          |                               | Base Score       | Attack Vector | Attack Complex | Priv Req' |
|                       |                                                 | Application Platform)                 |          |                               |                  |               |                |           |
| <b>CVE-2021-45105</b> | Oracle Business Intelligence Enterprise Edition | Analytics Server (Apache Log4j)       | HTTP     | Yes                           | 5.9              | Network       | High           | Non       |
| <b>CVE-2021-45105</b> | Oracle Managed File Transfer                    | MFT Runtime Server (Apache Log4j)     | HTTP     | Yes                           | 5.9              | Network       | High           | Non       |
| <b>CVE-2021-45105</b> | Oracle WebCenter Portal                         | Security Framework (Apache Log4j)     | HTTP     | Yes                           | 5.9              | Network       | High           | Non       |
| <b>CVE-2018-1324</b>  | Oracle WebLogic Server                          | WLST (Apache Commons Compress)        | None     | No                            | 5.5              | Local         | Low            | Non       |
| <b>CVE-2020-13956</b> | Oracle WebLogic Server                          | Samples (Apache HttpClient)           | HTTP     | Yes                           | 5.3              | Network       | Low            | Non       |
| <b>CVE-2021-29425</b> | Oracle Fusion Middleware MapViewer              | Install (Apache Commons IO)           | HTTP     | Yes                           | 4.8              | Network       | High           | Non       |
| <b>CVE-2021-29425</b> | Oracle WebLogic Server                          | Third Party Tools (Apache Commons IO) | HTTP     | Yes                           | 4.8              | Network       | High           | Non       |

**Notes:**

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

**Additional CVEs addressed are:**



- The patch for CVE-2018-1324 also addresses CVE-2018-11771.
- The patch for CVE-2020-11023 also addresses CVE-2019-11358 and CVE-2020-11022.
- The patch for CVE-2021-36090 also addresses CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- The patch for CVE-2021-39154 also addresses CVE-2021-29505, CVE-2021-39139, CVE-2021-39140, CVE-2021-39141, CVE-2021-39144, CVE-2021-39145, CVE-2021-39146, CVE-2021-39147, CVE-2021-39148, CVE-2021-39149, CVE-2021-39150, CVE-2021-39151, CVE-2021-39152 and CVE-2021-39153.
- The patch for CVE-2021-4104 also addresses CVE-2022-23302, CVE-2022-23305 and CVE-2022-23307
- The patch for CVE-2021-44832 also addresses CVE-2021-45105.

## Oracle Health Sciences Applications Risk Matrix

This Critical Patch Update contains 8 new security patches for Oracle Health Sciences Applications. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                | Component              | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|----------------------|------------------------|------------------------|------------|-------------------------------|--------------------|---------------|----------------|-------------|
|                      |                        |                        |            |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b> | Oracle Argus Analytics | Schema Creation (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Argus Insight   | Schema Creation (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Argus Mart      | Schema Creation (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Argus Safety    | Schema Creation (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Clinical        | Schema Creation (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |

| CVE#                 | Product                                               | Component                                           | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|----------------------|-------------------------------------------------------|-----------------------------------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                      |                                                       |                                                     |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b> | Oracle Health Sciences Clinical Development Analytics | Installation (JDBC)                                 | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Health Sciences InForm CRF Submit              | Installation and Configuration (JDBC, ODP for .NET) | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Thesaurus Management System                    | Report Generation (JDBC)                            | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |

## Oracle HealthCare Applications Risk Matrix

This Critical Patch Update contains 4 new security patches for Oracle HealthCare Applications. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                                    | Component                   | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|----------------------|--------------------------------------------|-----------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                      |                                            |                             |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b> | Oracle Health Sciences Information Manager | Health Policy Engine (JDBC) | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Healthcare Data Repository          | Installation (JDBC)         | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-2351</b> | Oracle Healthcare Foundation               | Installation (JDBC)         | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |

| CVE#                 | Product                                  | Component           | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|----------------------|------------------------------------------|---------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                      |                                          |                     |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
|                      |                                          |                     |            |                               |                      |               |                |             |
| <b>CVE-2021-2351</b> | Oracle Healthcare Translational Research | Installation (JDBC) | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |

## Oracle Hospitality Applications Risk Matrix

This Critical Patch Update contains 3 new security patches for Oracle Hospitality Applications. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                                        | Component                         | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 I |               |                |           |
|-----------------------|----------------------------------------------------------------|-----------------------------------|------------|-------------------------------|--------------------|---------------|----------------|-----------|
|                       |                                                                |                                   |            |                               | Base Score         | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2021-2351</b>  | Oracle Hospitality OPERA 5                                     | Integrations (JDBC, ODP for .NET) | Oracle Net | Yes                           | 8.3                | Network       | High           | Non       |
| <b>CVE-2021-2351</b>  | Oracle Hospitality Suite8                                      | Rest API (ODP for .NET)           | Oracle Net | Yes                           | 8.3                | Network       | High           | Non       |
| <b>CVE-2021-42340</b> | Oracle Hospitality Cruise Shipboard Property Management System | Next-Gen SPMS (Apache Tomcat)     | HTTP       | Yes                           | 7.5                | Network       | Low            | Non       |

### Additional CVEs addressed are:

- The patch for CVE-2021-42340 also addresses CVE-2021-30640 and CVE-2021-33037.

## Oracle Hyperion Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Hyperion. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                                   | Component                                                 | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (Score) |               |                |             |
|----------------------|-------------------------------------------|-----------------------------------------------------------|------------|-------------------------------|-------------------------------|---------------|----------------|-------------|
|                      |                                           |                                                           |            |                               | Base Score                    | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b> | Oracle Hyperion Infrastructure Technology | Installation and Configuration (JDBC, OCCI, ODP for .NET) | Oracle Net | Yes                           | 8.3                           | Network       | High           | None        |

## Oracle iLearning Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle iLearning. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product          | Component           | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK (Score) |               |                |             |          |
|----------------------|------------------|---------------------|------------|-------------------------------|-------------------------------|---------------|----------------|-------------|----------|
|                      |                  |                     |            |                               | Base Score                    | Attack Vector | Attack Complex | Privs Req'd | User Int |
| <b>CVE-2021-2351</b> | Oracle iLearning | Installation (JDBC) | Oracle Net | Yes                           | 8.3                           | Network       | High           | None        | Required |

## Oracle Insurance Applications Risk Matrix

This Critical Patch Update contains 7 new security patches for Oracle Insurance Applications. 6 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                            | Component                                         | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |                     |
|-----------------------|----------------------------------------------------|---------------------------------------------------|------------|-------------------------------|------------------|---------------|-------------------|---------------------|
|                       |                                                    |                                                   |            |                               | Base Score       | Attack Vector | Attack Complexity | Privileges Required |
| <b>CVE-2020-10683</b> | Oracle Insurance Policy Administration J2EE        | Architecture (dom4j)                              | HTTP       | Yes                           | 9.8              | Network       | Low               | N                   |
| <b>CVE-2020-10683</b> | Oracle Insurance Rules Palette                     | Architecture (dom4j)                              | HTTP       | Yes                           | 9.8              | Network       | Low               | N                   |
| <b>CVE-2021-2351</b>  | Oracle Insurance Data Gateway                      | Security (JDBC)                                   | HTTP       | Yes                           | 8.3              | Network       | High              | N                   |
| <b>CVE-2021-2351</b>  | Oracle Insurance Insbridge Rating and Underwriting | Framework Administrator IBFA (JDBC, ODP for .NET) | Oracle Net | Yes                           | 8.3              | Network       | High              | N                   |
| <b>CVE-2021-2351</b>  | Oracle Insurance Policy Administration             | Architecture (JDBC)                               | Oracle Net | Yes                           | 8.3              | Network       | High              | N                   |
| <b>CVE-2021-2351</b>  | Oracle Insurance Rules Palette                     | Architecture (JDBC)                               | Oracle Net | Yes                           | 8.3              | Network       | High              | N                   |
| <b>CVE-2021-22118</b> | Oracle Insurance Rules Palette                     | Architecture (Spring Framework)                   | None       | No                            | 7.8              | Local         | Low               | L                   |

## Oracle Java SE Risk Matrix

This Critical Patch Update contains 18 new security patches for Oracle Java SE. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                           | Component      | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------------------|----------------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                                   |                |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
| <b>CVE-2021-22959</b> | Oracle GraalVM Enterprise Edition                 | Node (Node.js) | HTTP     | Yes                           | 6.5                   | Network       | Low            | None        |   |
| <b>CVE-2022-21349</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | 2D             | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21291</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Hotspot        | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21305</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Hotspot        | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21277</b> | Oracle Java SE, Oracle                            | ImageIO        | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |

| CVE#                  | Product                                           | Component | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------------------|-----------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                                   |           |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
|                       | GraalVM Enterprise Edition                        |           |          |                               |                       |               |                |             |   |
| <b>CVE-2022-21360</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | ImageIO   | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21365</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | ImageIO   | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21366</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | ImageIO   | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21282</b> | Oracle Java SE,                                   | JAXP      | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |

| CVE#                  | Product                                           | Component | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------------------|-----------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                                   |           |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
|                       | Oracle GraalVM Enterprise Edition                 |           |          |                               |                       |               |                |             |   |
| <b>CVE-2022-21296</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | JAXP      | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21299</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | JAXP      | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21271</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Libraries | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |



| CVE#                  | Product                                           | Component | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------------------|-----------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                                   |           |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
|                       |                                                   |           |          |                               |                       |               |                |             |   |
| <b>CVE-2022-21283</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Libraries | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21293</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Libraries | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21294</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Libraries | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21340</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Libraries | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |

| CVE#                  | Product                                           | Component     | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |   |
|-----------------------|---------------------------------------------------|---------------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|---|
|                       |                                                   |               |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | I |
|                       |                                                   |               |          |                               |                       |               |                |             |   |
| <b>CVE-2022-21341</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Serialization | Multiple | Yes                           | 5.3                   | Network       | Low            | None        |   |
| <b>CVE-2022-21248</b> | Oracle Java SE, Oracle GraalVM Enterprise Edition | Serialization | Multiple | Yes                           | 3.7                   | Network       | High           | None        |   |

**Notes:**

1. This vulnerability applies to Java deployments, typically in clients running sandboxed Java Web Start applications or sandboxed Java applets, that load and run untrusted code (e.g., code that comes from the internet) and rely on the Java sandbox for security. This vulnerability can also be exploited by using APIs in the specified Component, e.g., through a web service which supplies data to the APIs.

**Additional CVEs addressed are:**

- The patch for CVE-2021-22959 also addresses CVE-2021-22960.

## Oracle JD Edwards Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle JD Edwards. This vulnerability is not remotely exploitable without authentication, i.e., may not be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                        | Component                             | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |          |
|-----------------------|--------------------------------|---------------------------------------|----------|-------------------------------|------------------|---------------|----------------|----------|
|                       |                                |                                       |          |                               | Base Score       | Attack Vector | Attack Complex | Priv Req |
| <b>CVE-2021-23337</b> | JD Edwards EnterpriseOne Tools | E1 Dev Platform Tech - Cloud (Lodash) | HTTP     | No                            | 7.2              | Network       | Low            | High     |

### Additional CVEs addressed are:

- The patch for CVE-2021-23337 also addresses CVE-2020-28500.

## Oracle MySQL Risk Matrix

This Critical Patch Update contains 78 new security patches for Oracle MySQL. 3 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product          | Component                | Protocol       | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |
|-----------------------|------------------|--------------------------|----------------|-------------------------------|------------------|---------------|----------------|
|                       |                  |                          |                |                               | Base Score       | Attack Vector | Attack Complex |
| <b>CVE-2021-22946</b> | MySQL Server     | Server: Compiling (cURL) | Multiple       | Yes                           | 7.5              | Network       | Low            |
| <b>CVE-2021-3712</b>  | MySQL Connectors | Connector/C++ (OpenSSL)  | MySQL Protocol | Yes                           | 7.4              | Network       | High           |
| <b>CVE-2021-3712</b>  | MySQL Connectors | Connector/ODBC (OpenSSL) | MySQL Protocol | Yes                           | 7.4              | Network       | High           |

| CVE#                  | Product          | Component                    | Protocol        | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|------------------|------------------------------|-----------------|-------------------------------|------------------|------------------|-------------------|
|                       |                  |                              |                 |                               | Base Score       | Attack Vector    | Attack Complexity |
| <b>CVE-2022-21278</b> | MySQL Server     | Server: Optimizer            | MySQL Protocol  | No                            | 7.1              | Network          | Low               |
| <b>CVE-2022-21351</b> | MySQL Server     | Server: Optimizer            | MySQL Protocol  | No                            | 7.1              | Network          | Low               |
| <b>CVE-2022-21363</b> | MySQL Connectors | Connector/J                  | MySQL Protocol  | No                            | 6.6              | Network          | High              |
| <b>CVE-2022-21358</b> | MySQL Server     | Server: Security: Encryption | MySQL Protocol  | No                            | 6.5              | Network          | Low               |
| <b>CVE-2021-3634</b>  | MySQL Workbench  | Workbench: libssh            | MySQL Workbench | No                            | 6.5              | Network          | Low               |
| <b>CVE-2022-21279</b> | MySQL Cluster    | Cluster: General             | Multiple        | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21280</b> | MySQL Cluster    | Cluster: General             | Multiple        | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21284</b> | MySQL Cluster    | Cluster: General             | Multiple        | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21285</b> | MySQL Cluster    | Cluster: General             | Multiple        | No                            | 6.3              | Adjacent Network | High              |

| CVE#                  | Product       | Component        | Protocol | Remote Exploit without Auth.? | CVSS VERSION 4.0 |                  |                   |
|-----------------------|---------------|------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                  |          |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       |               |                  |          |                               |                  |                  |                   |
| <b>CVE-2022-21286</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21287</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21288</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21289</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21290</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21307</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |

| CVE#                  | Product       | Component        | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                  |          |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       |               |                  |          |                               |                  |                  |                   |
| <b>CVE-2022-21308</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21309</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21310</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21314</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21315</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21316</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Local            | High              |

| CVE#                  | Product       | Component        | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                  |          |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       |               |                  |          |                               |                  |                  |                   |
| <b>CVE-2022-21318</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Local            | High              |
| <b>CVE-2022-21320</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21322</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21326</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21327</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21328</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |

| CVE#                  | Product       | Component        | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                  |          |                               | Base Score       | Attack Vector    | Attack Complexity |
| <b>CVE-2022-21329</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21330</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21332</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21334</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21335</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21336</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21337</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 6.3              | Adjacent Network | High              |



| CVE#                  | Product       | Component         | Protocol       | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|-------------------|----------------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                   |                |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       |               |                   |                |                               |                  |                  |                   |
| <b>CVE-2022-21356</b> | MySQL Cluster | Cluster: General  | Multiple       | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21380</b> | MySQL Cluster | Cluster: General  | Multiple       | No                            | 6.3              | Adjacent Network | High              |
| <b>CVE-2022-21352</b> | MySQL Server  | InnoDB            | MySQL Protocol | No                            | 5.9              | Network          | High              |
| <b>CVE-2022-21367</b> | MySQL Server  | Server: Compiling | MySQL Protocol | No                            | 5.5              | Network          | Low               |
| <b>CVE-2022-21301</b> | MySQL Server  | Server: DML       | MySQL Protocol | No                            | 5.5              | Network          | Low               |
| <b>CVE-2022-21378</b> | MySQL Server  | Server: Optimizer | MySQL Protocol | No                            | 5.5              | Network          | Low               |
| <b>CVE-2022-21302</b> | MySQL Server  | InnoDB            | MySQL Protocol | No                            | 5.3              | Network          | High              |
| <b>CVE-2022-21254</b> | MySQL Server  | Server: Optimizer | MySQL Protocol | No                            | 5.3              | Network          | High              |
| <b>CVE-2022-21348</b> | MySQL Server  | InnoDB            | MySQL Protocol | No                            | 4.9              | Network          | Low               |
| <b>CVE-2022-21270</b> | MySQL Server  | Server: Federated | MySQL Protocol | No                            | 4.9              | Network          | Low               |

| CVE#                  | Product      | Component                        | Protocol       | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |
|-----------------------|--------------|----------------------------------|----------------|-------------------------------|------------------|---------------|-------------------|
|                       |              |                                  |                |                               | Base Score       | Attack Vector | Attack Complexity |
|                       |              |                                  |                |                               |                  |               |                   |
| <b>CVE-2022-21256</b> | MySQL Server | Server: Group Replication Plugin | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21379</b> | MySQL Server | Server: Group Replication Plugin | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21362</b> | MySQL Server | Server: Information Schema       | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21374</b> | MySQL Server | Server: Information Schema       | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21253</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21264</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21297</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21339</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21342</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21370</b> | MySQL Server | Server: Optimizer                | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21304</b> | MySQL Server | Server: Parser                   | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21344</b> | MySQL Server | Server: Replication              | MySQL Protocol | No                            | 4.9              | Network       | Low               |
| <b>CVE-2022-21303</b> | MySQL Server | Server: Stored Procedure         | MySQL Protocol | No                            | 4.9              | Network       | Low               |

| CVE#                  | Product       | Component                    | Protocol       | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------------------|----------------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                              |                |                               | Base Score       | Attack Vector    | Attack Complexity |
| <b>CVE-2022-21368</b> | MySQL Server  | Server: Components Services  | MySQL Protocol | No                            | 4.7              | Network          | Low               |
| <b>CVE-2022-21245</b> | MySQL Server  | Server: Security: Privileges | MySQL Protocol | No                            | 4.3              | Network          | Low               |
| <b>CVE-2022-21265</b> | MySQL Server  | Server: Optimizer            | MySQL Protocol | No                            | 3.8              | Network          | Low               |
| <b>CVE-2022-21311</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21312</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21313</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21317</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21319</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |

| CVE#                  | Product       | Component        | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------|----------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                  |          |                               | Base Score       | Attack Vector    | Attack Complexity |
|                       |               |                  |          |                               |                  |                  |                   |
| <b>CVE-2022-21321</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21323</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21324</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21325</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21331</b> | MySQL Cluster | Cluster: General | Multiple | No                            | 2.9              | Adjacent Network | High              |

| CVE#                  | Product       | Component                    | Protocol       | Remote Exploit without Auth.? | CVSS VERSION 3.1 |                  |                   |
|-----------------------|---------------|------------------------------|----------------|-------------------------------|------------------|------------------|-------------------|
|                       |               |                              |                |                               | Base Score       | Attack Vector    | Attack Complexity |
| <b>CVE-2022-21333</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21355</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21357</b> | MySQL Cluster | Cluster: General             | Multiple       | No                            | 2.9              | Adjacent Network | High              |
| <b>CVE-2022-21249</b> | MySQL Server  | Server: DDL                  | MySQL Protocol | No                            | 2.7              | Network          | Low               |
| <b>CVE-2022-21372</b> | MySQL Server  | Server: Security: Encryption | MySQL Protocol | No                            | 2.7              | Network          | Low               |

#### Additional CVEs addressed are:

- The patch for CVE-2021-22946 also addresses CVE-2021-22947.
- The patch for CVE-2021-3712 also addresses CVE-2021-3711.

## Oracle PeopleSoft Risk Matrix

This Critical Patch Update contains 13 new security patches for Oracle PeopleSoft. 10 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a

network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                      | Component                     | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|-----------------------|----------------------------------------------|-------------------------------|------------|-------------------------------|--------------------|---------------|----------------|-------------|
|                       |                                              |                               |            |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-22931</b> | PeopleSoft Enterprise PeopleTools            | Elastic Search (Node.js)      | HTTP       | Yes                           | 9.8                | Network       | Low            | None        |
| <b>CVE-2021-2351</b>  | PeopleSoft Enterprise PeopleTools            | Change Impact Analyzer (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2022-21300</b> | PeopleSoft Enterprise CS SA Integration Pack | Snapshot Integration          | HTTP       | Yes                           | 7.5                | Network       | Low            | None        |
| <b>CVE-2021-37137</b> | PeopleSoft Enterprise PeopleTools            | Elastic Search (Netty)        | HTTP       | Yes                           | 7.5                | Network       | Low            | None        |
| <b>CVE-2021-22946</b> | PeopleSoft Enterprise PeopleTools            | File Processing (cURL)        | HTTP       | Yes                           | 7.5                | Network       | Low            | None        |
| <b>CVE-2021-3712</b>  | PeopleSoft Enterprise PeopleTools            | Security (OpenSSL)            | Multiple   | Yes                           | 7.4                | Network       | High           | None        |
| <b>CVE-2021-23337</b> | PeopleSoft Enterprise PeopleTools            | Elastic Search (Lodash)       | HTTP       | No                            | 7.2                | Network       | Low            | High        |
| <b>CVE-2022-21345</b> | PeopleSoft Enterprise PeopleTools            | Security                      | HTTP       | No                            | 6.5                | Network       | Low            | Low         |
| <b>CVE-2022-21359</b> | PeopleSoft Enterprise PeopleTools            | Optimization Framework        | HTTP       | Yes                           | 6.1                | Network       | Low            | None        |
| <b>CVE-2022-21272</b> | PeopleSoft Enterprise PeopleTools            | Portal                        | HTTP       | Yes                           | 6.1                | Network       | Low            | None        |
| <b>CVE-2022-21369</b> | PeopleSoft Enterprise PeopleTools            | Rich Text Editor              | HTTP       | Yes                           | 6.1                | Network       | Low            | None        |

| CVE#                  | Product                           | Component                   | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|-----------------------|-----------------------------------|-----------------------------|----------|-------------------------------|--------------------|---------------|----------------|-------------|
|                       |                                   |                             |          |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-37695</b> | PeopleSoft Enterprise PeopleTools | Rich Text Editor (CKEditor) | HTTP     | No                            | 5.4                | Network       | Low            | Low         |
| <b>CVE-2022-21364</b> | PeopleSoft Enterprise PeopleTools | Weblogic                    | HTTP     | Yes                           | 5.3                | Network       | Low            | None        |

### Additional CVEs addressed are:

- The patch for CVE-2021-22931 also addresses CVE-2021-22939 and CVE-2021-22940.
- The patch for CVE-2021-22946 also addresses CVE-2021-22924, CVE-2021-22925, CVE-2021-22926 and CVE-2021-22947.
- The patch for CVE-2021-23337 also addresses CVE-2020-28500 and CVE-2020-8203.
- The patch for CVE-2021-3712 also addresses CVE-2021-3711.
- The patch for CVE-2021-37137 also addresses CVE-2021-37136.
- The patch for CVE-2021-37695 also addresses CVE-2021-32808 and CVE-2021-32809.

## Oracle Policy Automation Risk Matrix

This Critical Patch Update contains 1 new security patch for Oracle Policy Automation. This vulnerability is remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                  | Component                    | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|----------------------|--------------------------|------------------------------|------------|-------------------------------|--------------------|---------------|----------------|-------------|
|                      |                          |                              |            |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b> | Oracle Policy Automation | Determinations Engine (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |

## Oracle Retail Applications Risk Matrix

This Critical Patch Update contains 43 new security patches for Oracle Retail Applications. 34 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                                  | Component                                        | Protocol   | Remote Exploit without Auth.? | CVSS VERSION |               |                   | Impact |
|-----------------------|------------------------------------------|--------------------------------------------------|------------|-------------------------------|--------------|---------------|-------------------|--------|
|                       |                                          |                                                  |            |                               | Base Score   | Attack Vector | Attack Complexity |        |
| <b>CVE-2020-13936</b> | Oracle Retail Integration Bus            | RIB Kernal (Apache Velocity Engine)              | HTTP       | No                            | 8.8          | Network       | Low               |        |
| <b>CVE-2020-13936</b> | Oracle Retail Order Broker               | Order Broker Foundation (Apache Velocity Engine) | HTTP       | No                            | 8.8          | Network       | Low               |        |
| <b>CVE-2020-13936</b> | Oracle Retail Service Backbone           | RSB kernel (Apache Velocity Engine)              | HTTP       | No                            | 8.8          | Network       | Low               |        |
| <b>CVE-2021-2351</b>  | Oracle Retail Analytics                  | Other (JDBC)                                     | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Assortment Planning        | Application Core (JDBC)                          | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Back Office                | Security (JDBC)                                  | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Central Office             | Security (JDBC)                                  | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Customer Insights          | Other (JDBC)                                     | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Extract Transform and Load | Mathematical Operators (JDBC)                    | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Financial Integration      | PeopleSoft Integration Bugs (JDBC)               | Oracle Net | Yes                           | 8.3          | Network       | High              | I      |



| CVE#                  | Product                                     | Component                    | Protocol   | Remote Exploit without Auth.? | CVSS VERSION |               |                | Impact |
|-----------------------|---------------------------------------------|------------------------------|------------|-------------------------------|--------------|---------------|----------------|--------|
|                       |                                             |                              |            |                               | Base Score   | Attack Vector | Attack Complex |        |
| <b>CVE-2021-2351</b>  | Oracle Retail Integration Bus               | RIB Kernal (JDBC)            | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Merchandising System          | Foundation (JDBC)            | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Order Broker                  | System Administration (JDBC) | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Order Management System       | Upgrade Install (JDBC)       | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Point-of-Service              | Security (JDBC)              | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Predictive Application Server | RPAS Server (OCCI)           | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Price Management              | Security (JDBC)              | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Returns Management            | Security (JDBC)              | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Service Backbone              | RSB Installation (JDBC)      | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-2351</b>  | Oracle Retail Xstore Point of Service       | Xenvironment (JDBC)          | Oracle Net | Yes                           | 8.3          | Network       | High           | I      |
| <b>CVE-2021-22118</b> | Oracle Retail Customer Management and       | Deal (Spring Framework)      | None       | No                            | 7.8          | Local         | Low            | I      |

| CVE#                  | Product                                                       | Component                       | Protocol | Remote Exploit without Auth.? | CVSS VERSION |               |                   | Impact |
|-----------------------|---------------------------------------------------------------|---------------------------------|----------|-------------------------------|--------------|---------------|-------------------|--------|
|                       |                                                               |                                 |          |                               | Base Score   | Attack Vector | Attack Complexity |        |
|                       | Segmentation Foundation                                       |                                 |          |                               |              |               |                   |        |
| <b>CVE-2021-4104</b>  | Oracle Retail Allocation                                      | General (Apache Log4j)          | HTTP     | No                            | 7.5          | Network       | High              |        |
| <b>CVE-2021-23337</b> | Oracle Retail Customer Management and Segmentation Foundation | Security (Lodash)               | HTTP     | No                            | 7.2          | Network       | Low               |        |
| <b>CVE-2021-44832</b> | Oracle Retail Assortment Planning                             | Application Core (Apache Log4j) | HTTP     | No                            | 6.6          | Network       | High              |        |
| <b>CVE-2021-44832</b> | Oracle Retail Fiscal Management                               | NF Issuing (Apache Log4j)       | HTTP     | No                            | 6.6          | Network       | High              |        |
| <b>CVE-2021-45105</b> | Oracle Retail Back Office                                     | Security (Apache Log4j)         | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Central Office                                  | Security (Apache Log4j)         | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail EFTLink                                         | Installation (Apache Log4j)     | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Integration Bus                                 | RIB Kernal (Apache Log4j)       | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Invoice Matching                                | Security (Apache Log4j)         | HTTP     | Yes                           | 5.9          | Network       | High              | I      |

| CVE#                  | Product                                                       | Component                            | Protocol | Remote Exploit without Auth.? | CVSS VERSION |               |                   | Impact |
|-----------------------|---------------------------------------------------------------|--------------------------------------|----------|-------------------------------|--------------|---------------|-------------------|--------|
|                       |                                                               |                                      |          |                               | Base Score   | Attack Vector | Attack Complexity |        |
| <b>CVE-2021-45105</b> | Oracle Retail Order Broker                                    | System Administration (Apache Log4j) | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Order Management System                         | Upgrade Install (Apache Log4j)       | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Point-of-Service                                | Administration (Apache Log4j)        | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Predictive Application Server                   | RPAS Server (Apache Log4j)           | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Price Management                                | Security (Apache Log4j)              | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Returns Management                              | Security (Apache Log4j)              | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-45105</b> | Oracle Retail Service Backbone                                | RSB Installation (Apache Log4j)      | HTTP     | Yes                           | 5.9          | Network       | High              | I      |
| <b>CVE-2021-31812</b> | Oracle Retail Customer Management and Segmentation Foundation | Security (Apache PDFbox)             | None     | No                            | 5.5          | Local         | Low               | I      |
| <b>CVE-2021-29425</b> | Oracle Retail Assortment Planning                             | Application Core (Apache Commons IO) | HTTP     | Yes                           | 4.8          | Network       | High              | I      |
| <b>CVE-2021-29425</b> | Oracle Retail Integration                                     | RIB Kernal (Apache                   | HTTP     | Yes                           | 4.8          | Network       | High              | I      |

| CVE#                  | Product                                 | Component                                 | Protocol | Remote Exploit without Auth.? | CVSS VERSION |               |                   | Impact |
|-----------------------|-----------------------------------------|-------------------------------------------|----------|-------------------------------|--------------|---------------|-------------------|--------|
|                       |                                         |                                           |          |                               | Base Score   | Attack Vector | Attack Complexity |        |
|                       | Bus                                     | Commons IO)                               |          |                               |              |               |                   |        |
| <b>CVE-2021-29425</b> | Oracle Retail Order Broker              | System Administration (Apache Commons IO) | HTTP     | Yes                           | 4.8          | Network       | High              | I      |
| <b>CVE-2021-29425</b> | Oracle Retail Service Backbone          | RSB Installation (Apache Commons IO)      | HTTP     | Yes                           | 4.8          | Network       | High              | I      |
| <b>CVE-2021-29425</b> | Oracle Retail Size Profile Optimization | Application Core (Apache Commons IO)      | HTTP     | Yes                           | 4.8          | Network       | High              | I      |

**Notes:**

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

**Additional CVEs addressed are:**

- The patch for CVE-2021-23337 also addresses CVE-2020-28500.
- The patch for CVE-2021-31812 also addresses CVE-2021-31811.

## Oracle Siebel CRM Risk Matrix

This Critical Patch Update contains 2 new security patches for Oracle Siebel CRM. 1 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product             | Component                       | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|---------------------|---------------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                     |                                 |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b>  | Siebel UI Framework | EAI (JDBC)                      | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-44832</b> | Siebel UI Framework | Enterprise Cache (Apache Log4j) | HTTP       | No                            | 6.6                  | Network       | High           | High        |

### Notes:

1. This patch also addresses vulnerabilities CVE-2021-44228 and CVE-2021-45046. Customers need not apply the patches/mitigations of Security Alert CVE-2021-44228 and CVE-2021-45046 for this product.

### Additional CVEs addressed are:

- The patch for CVE-2021-44832 also addresses CVE-2021-45105.

## Oracle Supply Chain Risk Matrix

This Critical Patch Update contains 10 new security patches for Oracle Supply Chain. 8 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                                  | Component             | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 I |               |                |           |
|----------------------|------------------------------------------|-----------------------|------------|-------------------------------|--------------------|---------------|----------------|-----------|
|                      |                                          |                       |            |                               | Base Score         | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2021-2351</b> | Oracle Agile Engineering Data Management | Installation (JDBC)   | Oracle Net | Yes                           | 8.3                | Network       | High           | Non       |
| <b>CVE-2021-2351</b> | Oracle Agile PLM                         | Security (JDBC)       | Oracle Net | Yes                           | 8.3                | Network       | High           | Non       |
| <b>CVE-2021-2351</b> | Oracle Demantra Demand Management        | Security (JDBC, OCCl) | Oracle Net | Yes                           | 8.3                | Network       | High           | Non       |

| CVE#                  | Product                                                                         | Component                              | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                |           |
|-----------------------|---------------------------------------------------------------------------------|----------------------------------------|------------|-------------------------------|------------------|---------------|----------------|-----------|
|                       |                                                                                 |                                        |            |                               | Base Score       | Attack Vector | Attack Complex | Priv Req' |
| <b>CVE-2021-2351</b>  | Oracle Product Lifecycle Analytics                                              | Installation (JDBC)                    | Oracle Net | Yes                           | 8.3              | Network       | High           | Non       |
| <b>CVE-2021-2351</b>  | Oracle Rapid Planning                                                           | Middle Tier (JDBC, OCCl)               | Oracle Net | Yes                           | 8.3              | Network       | High           | Non       |
| <b>CVE-2020-25649</b> | Agile Product Lifecycle Management Integration Pack for Oracle E-Business Suite | Installation Issues (jackson-databind) | HTTP       | Yes                           | 7.5              | Network       | Low            | Non       |
| <b>CVE-2021-35043</b> | Oracle Agile PLM                                                                | Security (AntiSamy)                    | HTTP       | Yes                           | 6.1              | Network       | Low            | Non       |
| <b>CVE-2021-36374</b> | Oracle Agile PLM                                                                | Security (Apache Ant)                  | None       | No                            | 5.5              | Local         | Low            | Non       |
| <b>CVE-2020-17521</b> | Oracle Agile PLM MCAD Connector                                                 | CAX Client (Apache Groovy)             | None       | No                            | 5.5              | Local         | Low            | Low       |
| <b>CVE-2021-33037</b> | Oracle Agile PLM                                                                | Security (Apache Tomcat)               | HTTP       | Yes                           | 5.3              | Network       | Low            | Non       |

#### Additional CVEs addressed are:

- The patch for CVE-2021-36374 also addresses CVE-2021-36373.

## Oracle Support Tools Risk Matrix

This Critical Patch Update contains 4 new security patches for Oracle Support Tools. All of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product           | Component                                | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK ( |               |                |             |    |
|-----------------------|-------------------|------------------------------------------|------------|-------------------------------|-------------------------|---------------|----------------|-------------|----|
|                       |                   |                                          |            |                               | Base Score              | Attack Vector | Attack Complex | Privs Req'd | In |
| <b>CVE-2021-27568</b> | OSS Support Tools | Diagnostic Assistant (json-smart)        | HTTP       | Yes                           | 9.1                     | Network       | Low            | None        | M  |
| <b>CVE-2021-2351</b>  | OSS Support Tools | Diagnostic Assistant (JDBC)              | Oracle Net | Yes                           | 8.3                     | Network       | High           | None        | Re |
| <b>CVE-2016-7103</b>  | OSS Support Tools | Diagnostic Assistant (jQuery UI)         | HTTP       | Yes                           | 6.1                     | Network       | Low            | None        | Re |
| <b>CVE-2021-29425</b> | OSS Support Tools | Diagnostic Assistant (Apache Commons IO) | HTTP       | Yes                           | 4.8                     | Network       | High           | None        | M  |

## Oracle Systems Risk Matrix

This Critical Patch Update contains 11 new security patches for Oracle Systems. 7 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                 | Product                                                         | Component                      | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 R |               |                |             |
|----------------------|-----------------------------------------------------------------|--------------------------------|------------|-------------------------------|--------------------|---------------|----------------|-------------|
|                      |                                                                 |                                |            |                               | Base Score         | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-3517</b> | Oracle ZFS Storage Appliance Kit                                | Operating System Image         | Multiple   | Yes                           | 8.6                | Network       | Low            | None        |
| <b>CVE-2021-2351</b> | Oracle ZFS Storage Application Integration Engineering Software | Snap Management Utility (JDBC) | Oracle Net | Yes                           | 8.3                | Network       | High           | None        |
| <b>CVE-2020-8285</b> | Fujitsu M10-1, M10-                                             | XCP Firmware                   | HTTP       | Yes                           | 7.5                | Network       | Low            | None        |

| CVE#                  | Product                                                    | Component                     | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 |               |                   |                     |
|-----------------------|------------------------------------------------------------|-------------------------------|----------|-------------------------------|------------------|---------------|-------------------|---------------------|
|                       |                                                            |                               |          |                               | Base Score       | Attack Vector | Attack Complexity | Privileges Required |
|                       | 4, M10-4S, M12-1, M12-2, M12-2S Servers                    | (cURL)                        |          |                               |                  |               |                   |                     |
| <b>CVE-2021-3326</b>  | Fujitsu M10-1, M10-4, M10-4S, M12-1, M12-2, M12-2S Servers | XCP Firmware (glibc)          | Multiple | Yes                           | 7.5              | Network       | Low               | None                |
| <b>CVE-2021-23840</b> | Fujitsu M10-1, M10-4, M10-4S, M12-1, M12-2, M12-2S Servers | XCP Firmware (OpenSSL)        | TLS      | Yes                           | 7.5              | Network       | Low               | None                |
| <b>CVE-2020-13817</b> | Fujitsu M10-1, M10-4, M10-4S, M12-1, M12-2, M12-2S Servers | XCP Firmware (NTP)            | NTP      | Yes                           | 7.4              | Network       | High              | None                |
| <b>CVE-2021-43395</b> | Oracle Solaris                                             | Filesystem                    | None     | No                            | 6.5              | Local         | Low               | Low                 |
| <b>CVE-2022-21375</b> | Oracle Solaris                                             | Kernel                        | None     | No                            | 5.5              | Local         | Low               | Low                 |
| <b>CVE-2022-21271</b> | Oracle Solaris                                             | Libraries                     | Multiple | Yes                           | 5.3              | Network       | Low               | None                |
| <b>CVE-2022-21263</b> | Oracle Solaris                                             | Fault Management Architecture | None     | No                            | 4.8              | Local         | Low               | Low                 |
| <b>CVE-2022-21298</b> | Oracle Solaris                                             | Install                       | None     | No                            | 3.9              | Local         | Low               | Low                 |

#### Additional CVEs addressed are:

- The patch for CVE-2020-8285 also addresses CVE-2020-8177 and CVE-2020-8284.
- The patch for CVE-2021-3517 also addresses CVE-2021-3516, CVE-2021-3541 and CVE-2021-36690.



## Oracle Utilities Applications Risk Matrix

This Critical Patch Update contains 13 new security patches for Oracle Utilities Applications. 7 of these vulnerabilities may be remotely exploitable without authentication, i.e., may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#                  | Product                              | Component                      | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|--------------------------------------|--------------------------------|----------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                                      |                                |          |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2020-14756</b> | Oracle Utilities Framework           | General (Oracle Coherence)     | HTTP     | Yes                           | 9.8                  | Network       | Low            | None        |
| <b>CVE-2021-27568</b> | Oracle Utilities Framework           | Common (json-smart)            | HTTP     | Yes                           | 9.1                  | Network       | Low            | None        |
| <b>CVE-2021-39139</b> | Oracle Utilities Framework           | General (XStream)              | HTTP     | No                            | 8.8                  | Network       | Low            | Low         |
| <b>CVE-2020-13936</b> | Oracle Utilities Testing Accelerator | Tools (Apache Velocity Engine) | HTTP     | No                            | 8.8                  | Network       | Low            | Low         |
| <b>CVE-2021-39139</b> | Oracle Utilities Testing Accelerator | Tools (XStream)                | HTTP     | No                            | 8.8                  | Network       | Low            | Low         |
| <b>CVE-2021-2351</b>  | Oracle Utilities Framework           | General (JDBC)                 | HTTP     | Yes                           | 8.3                  | Network       | High           | None        |

| CVE#                  | Product                              | Component                       | Protocol   | Remote Exploit without Auth.? | CVSS VERSION 3.1 RIS |               |                |             |
|-----------------------|--------------------------------------|---------------------------------|------------|-------------------------------|----------------------|---------------|----------------|-------------|
|                       |                                      |                                 |            |                               | Base Score           | Attack Vector | Attack Complex | Privs Req'd |
| <b>CVE-2021-2351</b>  | Oracle Utilities Testing Accelerator | Tools (JDBC)                    | Oracle Net | Yes                           | 8.3                  | Network       | High           | None        |
| <b>CVE-2021-22118</b> | Oracle Utilities Testing Accelerator | Tools (Spring Framework)        | None       | No                            | 7.8                  | Local         | Low            | Low         |
| <b>CVE-2021-36090</b> | Oracle Utilities Testing Accelerator | Tools (Apache Commons Compress) | HTTP       | Yes                           | 7.5                  | Network       | Low            | None        |
| <b>CVE-2021-4104</b>  | Oracle Utilities Testing Accelerator | Tools (Apache Log4j)            | HTTP       | No                            | 7.5                  | Network       | High           | Low         |
| <b>CVE-2021-36374</b> | Oracle Utilities Testing Accelerator | Tools (Apache Ant)              | None       | No                            | 5.5                  | Local         | Low            | None        |
| <b>CVE-2021-33037</b> | Oracle Utilities Testing Accelerator | Tools (Apache Tomcat)           | HTTP       | Yes                           | 5.3                  | Network       | Low            | None        |
| <b>CVE-2021-29425</b> | Oracle Utilities Testing Accelerator | Tools (Apache Commons IO)       | HTTP       | Yes                           | 4.8                  | Network       | High           | None        |

#### Additional CVEs addressed are:

- The patch for CVE-2020-14756 also addresses CVE-2020-14642, CVE-2021-2277, CVE-2021-2344, CVE-2021-2371 and CVE-2021-2428.
- The patch for CVE-2021-27568 also addresses CVE-2021-31684.
- The patch for CVE-2021-36090 also addresses CVE-2021-35515, CVE-2021-35516 and CVE-2021-35517.
- The patch for CVE-2021-36374 also addresses CVE-2021-36373.
- The patch for CVE-2021-39139 also addresses CVE-2021-39140, CVE-2021-39141, CVE-2021-39143, CVE-2021-39145, CVE-2021-39146, CVE-2021-39147, CVE-2021-39148, CVE-2021-

39149, CVE-2021-39150, CVE-2021-39151, CVE-2021-39152, CVE-2021-39153 and CVE-2021-39154.

## Oracle Virtualization Risk Matrix

This Critical Patch Update contains 2 new security patches for Oracle Virtualization. Neither of these vulnerabilities may be remotely exploitable without authentication, i.e., neither may be exploited over a network without requiring user credentials. The English text form of this Risk Matrix can be found [here](#).

| CVE#           | Product              | Component | Protocol | Remote Exploit without Auth.? | CVSS VERSION 3.1 RISK |               |                |             |        |
|----------------|----------------------|-----------|----------|-------------------------------|-----------------------|---------------|----------------|-------------|--------|
|                |                      |           |          |                               | Base Score            | Attack Vector | Attack Complex | Privs Req'd | Impact |
| CVE-2022-21394 | Oracle VM VirtualBox | Core      | None     | No                            | 6.5                   | Local         | Low            | Low         | Medium |
| CVE-2022-21295 | Oracle VM VirtualBox | Core      | None     | No                            | 3.8                   | Local         | Low            | Low         | Medium |

Notes:

- 1. This vulnerability applies to Windows systems only.

