

HCL Unica Supported Environments



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Chapter 1. Unica Products

This chapter will cover system requirement details for HCL Unica products.

Overview

This document lists the software environments and minimum system requirements recommended for the following HCL Unica products:

- Unica Platform
- Unica Campaign and Unica Optimize
- Unica Interact
- Unica Plan
- Unica Centralized Offer Management
- Unica Director
- Unica Journey
- Unica Deliver
- Unica Collaborate
- Unica Marketing Central
- Unica Link

Environment Planning

This section provides an overview of both software and hardware prerequisites and general environment considerations required for deploying the HCL Unica products.

Product Dependencies

Several products in the HCL Unica suite require the installation of other products as pre-requisites. For additional information, please see the product-specific installation guide.

Installed Product	Required Companion Installation	
If you want to install this product...	...you must also install the products marked with the ✓ in the same row	
	Unica Platform	Unica Campaign
Unica Campaign (includes Optimize)	✓	
Unica Interact	✓	✓
Unica Plan	✓	
Unica Platform	✓	
Unica Centralized Offer Management	✓	✓
Unica Journey	✓	

Installed Product	Required Companion Installation	
Unica Deliver	√	
Unica Collaborate	√	√
Unica Marketing Central	√	√

 **Note:**

- Even if Unica Platform and Unica Campaign are on 25.1.1, it supports Unica Collaborate 12.1.7.
- Even if Unica Platform, Unica Campaign, and Unica Journey are on 25.1.1, it supports Unica Director 12.1.0.4.

Installation Setup

Terminal clients, SSH, or telnet clients used to connect to a UNIX command-line to run the HCL Unica installers or utilities must be set to UTF-8 character encoding. Using any other character encoding may result in information being missing or displayed incorrectly. See the 25.1.1 installation guides for additional details.

 **Note:** In case of Unica Campaign and Unica Platform, ensure that you have installed the following package before installation of the products: `fontconfig-2.14.0-2.el9_1.x86_64`

Supported Locales

Locale	Unica Platform ^(a)	Unica Campaign (includes Optimize)	Unica Interact	Unica Plan	Unica Centralized Offer Management	Unica Journey	Unica Deliver	Unica Collaborate	Unica Director ^(b)	Unica Marketing Central
English	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
French (France)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
German (Germany)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Japanese	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Korean	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Locale	Unica Platform ^(a)	Unica Campaign (includes Optimize)	Unica Interact	Unica Plan	Unica Centralized Offer Management	Unica Journey	Unica Deliver	Unica Colaborate	Unica Director ^(b)	Unica Marketing Central
Portuguese (Brazil)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Spanish (Spain)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chinese (Simplified)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chinese (Traditional)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Italian	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Russian	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y



Note: Unica Platform supports only limited localization of product configuration(s).

Minimum System Requirements

The minimum system requirements are provided as guidance for hardware sizing for deployment of HCL Unica products in a non-production environment.

Production deployments with higher performance requirements or data volumes require thorough sizing to estimate suitable configuration. The minimum system requirements listed in this document for each HCL Unica product are typically for Windows-based systems; comparable hardware configurations are required for supported UNIX-based and LINUX-based systems.

All HCL Unica Products

Hardware Configuration	Infrastructure Element			
	Browser Client	Web Application Server	Campaign Analytical (listener) Server	System Table Database Server
Processor	2 GHz	2 GHz, 2 CPUs	2 GHz, 2 CPUs	2 GHz, 2 CPUs
RAM	512 MB	2 GB per CPU	2 GB per CPU	2 GB per CPU

	Infrastructure Element			
Disk Space	N/A	1 GB	100 GB	100 GB

Supported Environments

This section provides an overview of the supported software components for deploying the HCL Unica suite of products.

Software Support Matrix

Application Server ^(a) (with embedded Web Server)	Operating System ^(e)	System Table Database ^(c)	Campaign User Table Database ^(c, f)
<ul style="list-style-type: none"> • WebLogic^(b) 12c (12.2.1.3), (12.2.1.4), 14.1.1 • WebSphere^(d) 8.5.5 FP27, 8.5.5 FP28 • Tomcat^(p) v9.0.108, v9.0.112 • JBOSS^(k) 7.1.x,7.2, 7.4 	Windows Server 2016, 2012R2, 2019, 2022	<ul style="list-style-type: none"> • DB2^(h) 11.1, 11.5, 11.5.9 • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)⁽ⁿ⁾, 19.3.0.0.0, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23ai • SQL Server^(e) 2014, 2016 SP1, 2017, 2019, 2022 • MariaDB 10.4.x^(q), 10.5.9, 10.6, 11.8.2 • PostgreSQL 13.1, 14.1^(u) 	<ul style="list-style-type: none"> • DB2^(h) 11.1, 11.5, 11.5.9 DB2 (z/OS)^(l) 10.1,11.0 • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)⁽ⁿ⁾, 19.3.0.0.0, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23ai • SQL Server^(e) 2014, 2016 SP1, 2017, 2019, 2022 • Netezza NPS 7.2.x • Teradata^(o) 15.0, 15.10,16.10, 16.20, 17. 0, 17.20 • MariaDB 10.4.x^(q), 10.5.9, 10.6, 11.8.2 • Amazon Redshift • dashDB^(m) 10.6 • Apache Hive, Impala based Hadoop Big Data^(g) • Actian-vector-5.1.0^(r)

Application Server ^(a) (with embedded Web Server)	Operating System ^(e)	System Table Database ^(c)	Campaign User Table Database ^(c, f)
			<ul style="list-style-type: none"> • PostgreSQL(t)(u) database 14.1-1 version • Singlestore 7.3
<ul style="list-style-type: none"> • WebLogic^(b) 12c, (12.2.1.4), (12.2.1.3), 14.1.1 • WebSphere^(d) 8.5.5 FP27, 8.5.5 FP28 • Tomcat^(o) v9.0.108, v9.0.112 • JBOSS⁽ⁱ⁾ 7.1.x, 7.2, 7.4 	<ul style="list-style-type: none"> • AIX 7.2 TL4, 7.1 TL5, 7.2TL5 • RHEL 8.x, 9.x • SUSE 15.5 	<ul style="list-style-type: none"> • DB2^(h) 11.1, 11.5, 11.5.9 • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)^(m), 19.3.0.0.0, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23ai • MariaDB 10.4.x^(q), 10.5.9, 10.6, 11.8.2 • PostgreSQL 13.1, 14.1^(t) 	<ul style="list-style-type: none"> • DB2^(h) 11.1, 11.5, 11.5.9 DB2 (z/OS)^(k) 10.1, 11, • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)^(m), 19.3.0.0.0, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23ai • Netezza NPS 7.2.x • Teradata⁽ⁿ⁾ 15.0, 15.10, 16.10, 16.20, 17.0, 17.20 • MariaDB 10.4.x, 10.5.9, 10.6, 11.8.2 • Amazon Redshift • dashDB^(l) 10.6 • Apache Hive, Impala based Hadoop Big Data^(g) • Actian-vector-5.1.0^(q) • PostgreSQL(s)(t) database 14.1-1 version • Google Big Query^(r) <p>(Supported only on RHEL OS and AIX OS)</p> <ul style="list-style-type: none"> • HP Vertica 7.1, 9.0.1⁽ⁱ⁾, 12.0.2, 25.4 • Singlestore 7.3 • Trino Build 399

Application Server ^(a) (with embedded Web Server)	Operating System ^(e)	System Table Database ^(c)	Campaign User Table Database ^(c, f)
			<ul style="list-style-type: none"> • Hive 3.1.2 version, Hive 3.1.3000.7.1.9.0-387 • DataBricks

It is recommended to use software versions that appear in bold in the above list. Starting with Unica 12.0, The end-of-service (EOS) date for HCL Unica products is 3 years after the initial release (official EOS dates are announced approximately 1 year prior to EOS). Products in bold have EOS dates that are on or beyond the EOS date of the HCL Unica product version, and thus will be supported throughout the full-service life of this release. If you use a product that does not appear in bold, be advised that its EOS date may be prior to the EOS of this release.

Operating System and Databases supported with HCL Unica Journey

Operating System	System Table Database ^(c)	Kafka Server	Application Server
Windows Server 2016, 2012R2, 2019, 2022	<ul style="list-style-type: none"> • Oracle 19(12.2.0.3)⁽ⁿ⁾, 19.3.0.0.0, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23 ai • SQL Server^(e) 2014, 2016 SP1, 2017, 2019 • MariaDB 10.4.x^(p), 10.5.9, 10.6, 11.8.2 • DB2 11.5, 11.5.9 	Kafka Server 3.4.0, 3.9.0 Confluent Kafka 7.4.1	<ul style="list-style-type: none"> • WebSphere 8.5.5 FP27, 8.5.5 FP28 • Tomcat^(o) v9.0.108, v9.0.112 • JBOSS 7.1.x^(k), 7.2, 7.4
RHEL ⁽ⁱ⁾ 7.x, 8.x, 9x	<ul style="list-style-type: none"> • Oracle 19 (12.2.0.3)⁽ⁿ⁾, 21c (21.3.0.0.0), Oracle RAC 19c (19.0.0.0), Oracle 23 ai • SQL Server^(e) 2014, 2016 SP1, 2017, 2019, 2022 • MariaDB 10.4.x^(p), 10.5.9, 10.6 • DB2 11.5, 11.5.9 	Kafka Server 3.4.0, 3.9.0 Confluent Kafka 7.4.1	<ul style="list-style-type: none"> • WebSphere 8.5.5 FP27, 8.5.5 FP28 • Tomcat^(o) v9.0.108, v9.0.112 • JBOSS^(j) 7.1.x, 7.2, 7.4

Operating System	System Table Database ^(c)	Kafka Server	Application Server
AIX 7.2 TL5	DB2 11.5, 11.5.9	Kafka Server 3.4.0, 3.9.0 Confluent Kafka 7.4.1	<ul style="list-style-type: none"> WebSphere 8.5.5 FP27, 8.5.5 FP28 Tomcat^(o) v9.0.108, v9.0.112 JBOSS^(j) 7.1.x, 7.2, 7.4



Attention: Although Unica Journey supports all versions of RHEL 7.x and up to RHEL 9.3, it will support Unica Campaign only on RHEL 8.x to 9.3.

It is recommended to use the latest version of the supported software versions highlighted in bold. Products appear in bold are actively supported with HCL Unica Journey.

HCL Unica Link Environment Support Details

HCL Unica Campaign and Journey v25.1.1 supports the following HCL Unica Link versions:

HCL Unica Link components	Installable packages and Version
HCL UNICA Link Framework v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Link v1.3.1.1 for Linux	lnk_1.3.1.1_linux.tar.gz
HCL Link v1.3.1.1 for Windows	link_1.3.1.1_win64.exe
HCL Unica JDBC Connector v25.1.1	HCL_Unica_JDBC_connector_v27112025.zip
HCL Link Connector DevKit v1.3.1.1	LNK_Connector_DevKit_v1.3.1.1.zip
HCL UNICA MailChimp Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica MailChimp Connector v25.1.1	HCL_Unica_Mailchimp_connector_v30082024.zip
HCL UNICA Facebook Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Facebook Connector v25.1.1	HCL_Unica_Facebook_Ads_connector_v07112025.zip
HCL UNICA LinkedIn Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica LinkedIn Connector v25.1.1	HCL_Unica_LinkedIn_Ads_connector_v04112024.zip
HCL UNICA Mandrill Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Mandrill Connector v25.1.1	HCL_Unica_Mandrill_connector_v30082024.zip
HCL UNICA Salesforce Connector v25.1.1 Multiplatform Multilingual e-Assembly	

HCL Unica Link components	Installable packages and Version
HCL Unica Salesforce Connector v25.1.1	HCL_Unica_Salesforce_connector_v14102025.zip
HCL UNICA Twilio Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Twilio Connector v25.1.1	HCL_Unica_Twilio_connector_v30082024.zip
HCL UNICA Google Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Google Connector v25.1.1	HCL_Unica_Google_Ads_connector_v07102025.zip
HCL UNICA Google REST Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Google REST Connector v25.1.1	HCL_Unica_Google_Rest_Ads_connector_v14112025.zip
HCL UNICA Twitter Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica Twitter Connector v25.1.1	HCL_Unica_Twitter_connector_v11022024.zip
HCL UNICA BATCH PUSH Connector v25.1.1 Multiplatform Multilingual e-Assembly	
HCL Unica BATCH PUSH Connector v25.1.1	HCL_Unica_Batch_Push_Messaging_connector_24112023.zip

Additionally, HCL Unica Campaign v25.1.0.1 also supports the following HCL Unica Link connectors:

HCL_Unica_Zoho_connector_v10092025.zip
HCL_Unica_Instagram_connector_v10092025.zip
HCL_Unica_SurveyMonkey_connector_v10092025.zip
HCL_Unica_HubSpot_connector_v10092025.zip
HCL_Unica_CleverTap_connector_v26112025.zip
HCL_Unica_Infobip_connector_v26112025.zip
HCL_Unica_Gupshup_WhatsApp_connector_v26112025.zip

Application Server	<ul style="list-style-type: none"> • Apache Tomcat 10.1.29 or later • Node.js 20.10 or later • Redis (Linux) 7.0.15 or later • Redis (Windows) 5.0.14 or later • MongoDB 7.0.15 or later
Operating System	<ul style="list-style-type: none"> • Windows 10 Enterprise • Windows 10 Pro

	<ul style="list-style-type: none"> • Windows 10 or later • Windows Server 2016 or later • Windows Server 2019 • Linux Red Hat 8 • Linux Red Hat 9 • Ubuntu Focal 20.04 • Ubuntu Jammy 22.04 • Ubuntu 20x or later
Kafka Server	Kafka Server 2.0.x and later
Java/JRE Version	<p>openjdk "17.0.15" 2025-04-15</p> <p>OpenJDK Runtime Environment Temurin-17.0.15+6 (build 17.0.15+6)</p> <p>OpenJDK 64-Bit Server VM Temurin-17.0.15+6 (build 17.0.15+6, mixed mode, sharing)</p>
Additional Information	<p>Refer to the below links for all the supported versions for node.js:</p> <ul style="list-style-type: none"> • nodesource/distributions: NodeSource Node.js Binary Distributions (github.com) • node/BUILDING.md at c2e4b1fa9ad0b744616c4e4c13a5017772a630c4 · nodejs/node (github.com)

Operating System and Databases supported with HCL Unica Director

Operating System (e)	System Table Database (c)	Active MQ	Java/JRE version
<ul style="list-style-type: none"> • Windows Server^(j) 2016, 2012R2 	<ul style="list-style-type: none"> • DB2^(h) 11.1, 11.5 • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)^(m), 19.3.0.0.0 • SQL Server 2014, 2016 SP1, 2017 • MariaDB 10.6 	Apache Active MQ version 5.15.7	Oracle JDK/JRE 1.8

Operating System (e)	System Table Database (c)	Active MQ	Java/JRE version
<ul style="list-style-type: none"> • AIX 7.2 TL4, 7.1 TL5 • RHEL 7.x , RHEL 8, RHEL 9 • SUSE 12 SP3 	<ul style="list-style-type: none"> • DB2⁽ⁿ⁾ 11.1, 11.5 • Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3)⁽ⁿ⁾, 19.3.0.0.0 • MariaDB 10.6 	Apache Active MQ version 5.15.7	Oracle JDK/JRE 1.8 AIX - IBM JDK/JRE 1.8

 **Attention:** Although Unica Director supports all versions of RHEL 7.x and up to RHEL 9.3, it will support Unica Campaign only on RHEL 8.x to 9.3.

It is recommended to use the latest version of the supported software versions highlighted in bold. Products appear in bold are actively supported with HCL Unica Director.

 **Note:**

- a. The following are the HCL Unica –JRE/JDK requirements for different application servers:
 - Oracle WebLogic Application Server is required to be running Oracle/Java JDK 1.8 with update 112 onwards. Other JDKs are not supported (for example, JRockit JDK).
- b. Please find below considerations for WebLogic deployments.
 - Clustering of HCL Unica products is not supported on WebLogic.
 - For Plan deployment in WebLogic patch number 26923558 is required to be applied. For details, go to https://support.oracle.com/knowledge/Middleware/2331453_1.html.
- c. Support for system and user databases:
 - The environment guide does not include supported environments/system requirements for installation of HCL Unica supported databases. Please refer to the vendor documentation for the respective databases.
 - Support for Oracle database includes both Standard and Enterprise editions.
 - JDBC or ODBC drivers are neither bundled nor shipped with Unica products and the customers are required to procure and configure it.
 - The following are the supported database drivers:

Database	Supported Driver(s)
MS SQL Server 2014 SP1, 2016 SP1, 2017, 2019, 2022	<ul style="list-style-type: none"> ▪ Version 6.4 (mssql-jdbc-6.4.0.jre8.jar) ▪ Version 7.0 (mssql-jdbc-7.0.0.jre8.jar) ▪ Version 7.4 (mssql-jdbc-7.4.1.jre8.jar) ▪ Version 13.2 (mssql-jdbc-13.2.1.jre8.jar)



Database	Supported Driver(s)
Oracle 12c Release (12.1.0.1,12.1.0.2, 12.2.0.1) Oracle 19c Release (12.2.0.3) Oracle 23ai	<ul style="list-style-type: none"> ▪ Oracle 12c Driver – 12.x (ojdbc8.jar) ▪ Oracle 19c Driver – 19.x (ojdbc8.jar) ▪ Oracle 23.0.0.0.0 ODBC Driver (ojdbc8.jar)
IBM DB2 11.1.x,11.5, 11.5.9	<ul style="list-style-type: none"> ▪ DB2JDBC type4 driver (db2jcc4.jar)
MariaDB 10.4.x, 10.5.9, 10.6, 11.8.2	<ul style="list-style-type: none"> ▪ JDBC - MariaDB Connector/J is for Java 8 version 2.5.2 ▪ ODBC - MariaDB ODBC Connector 3.1.6 for RHEL 8.x and WINDOWS ▪ ODBC - MariaDB ODBC Connector 3.2.2 (for RHEL 9.x) ▪ ODBC - MariaDB ODBC Connector 3.1.9 for SUSE
Amazon Redshift	<ul style="list-style-type: none"> ▪ Amazon Redshift ODBC driver (1.4.11.1000 – 64-bit) ▪ Amazon Redshift ODBC driver version 2.0.0.3 ▪ Unix ODBC driver manager-2.3.7
Action Vector 5.1.0	Linux - action-vector-client-6.0.0-129-free-linux-ingbuildx86_64.tgz Windows - same version as of linux
Google BigQuery	SIMBA ODBC Driver – Version 2.1.23, 2.5.2.1004
Cloudera Impala	ODBC Driver 2.6.13
Singlestore	Singlestore ODBC Connector Driver 1.1.1
Trino Build 399	SIMBA ODBC Driver – Version 2.1.0
Hive Database	3.x
Hadoop	3.2.0
Hive ODBC Driver version	2.7.0.1002, 2.8.0.1000
HP Vertica	Vertica ODBC Driver - 24.2.x

- d. Unica products are certified with WebSphere - Base, Express, and Network Deployment (ND) 64-bit editions. For WebSphere - HCL Unica product clustering support is certified with WebSphere Network Deployment (ND) 64-bit edition only. Unica product clustering support is also certified with Tomcat and JBOSS. WAS 8.5.5.26 is supported for Unica 25.1.1.
- e. SQL Server support for Unica Journey is available from version 12.1.0.3 and higher.



- f. This column is applicable for the Unica Campaign family of products. Unica Interact do not support Netezza, Teradata, Amazon Redshift, dashDB, HP Vertica, or Hadoop for customer profile tables. While using Interact, Campaign and Interact DBs must be of same type, for example, if Campaign system tables are in Oracle, all Interact DBs must also be in Oracle.
- g. Support for Unica Campaign uses data sources on Big Data platforms:
- Hive based Hadoop Big Data user data source is supported only on RHEL Operating Systems.
 - Hadoop Big Data instance running on Hive version 0.14 or higher is supported for the following vendors:
 - IBM BigInsights
 - Cloudera CDH
 - MapR
 - Apache HortonWorks
 - Connections to Hive based Hadoop Big Data instances are supported using select type of drivers and the drivers should be procured directly from the vendor. Following are the supported drivers:
 - Cloudera Hive ODBC Driver version 2.5.16 for Cloudera CDH
 - HortonWorks Hive ODBC Driver for Hadoop (Driver version compatible with Hadoop version)
 - Progress DataDirect Connect64(R) for ODBC Release 7.1.5 for other supported Big Data vendors
 - Progress DataDirect Connect64(R), ODBC Release 7.1.5 version on AIX Operating System for HortonWorks Big Data based on Hive
 - Cloudera Impala ODBC Driver 2.5.41 or higher for Cloudera Big Data based on Impala
 - The listed drivers are neither bundled nor shipped with Unica Campaign and the customer has to purchase/download and configure them.
 - Unica Campaign supports only “TextFile” format with Hive/Impala based Bigdata user data source.
 - Kerberos authentication is supported for Unica Campaign data sources on Hive/Impala based Cloudera Big Data platform and requires Campaign Analytical Server (listener) to be running on RHEL Operating system. Please refer to Unica Campaign installation guide for more details.
- h. Unica Campaign requires a 64-bit driver for DB2 on Windows. IBM DB2 11.1,11.5, **11.5.9** is supported for system tables and for Campaign user tables only with BLU turned off.
- i. HCL Unica version 25.1.1 supports all versions of RHEL 8.x and up to RHEL 9.3. HCL Unica does not support RHEL running on IBM PowerSystems.
- j. Unica Campaign supports HP Vertica with the following caveats:
- HP Vertica is supported only on RHEL operating system.
 - Users must install the same version of HP Vertica client as the database version.
- k. JBoss application server versions 7.1.x, 7.2.x, 7.4.x are supported with the following caveats:
- JBOSS EAP is supported on Microsoft Windows and RHEL Operating systems only (https://access.redhat.com/articles/2026253#EAP_71).
- l. IBM DB2 on z/OS is supported only as user data source with the following caveats:
- DB2 10.1 z/OS and 11.0 z/OS with RSU1205 and PUT1205 are supported only with “New Function” mode
 - There is no out-of-the-box approach for Loaders on z/OS. Manually, the following procedure can be followed:



- Set up USS Pipes on z/OS.
 - Write a stored procedure to invoke the DSNUTILU and a script to invoke the stored procedure.
 - Configure the loader to invoke the script.
 - When leveraging temp tables, you must set the parameter “DB2NotLoggedInitially” to “FALSE” in the datasource properties for the database.
- m. IBM dashDB for Analytics is now known as IBM DB2 Warehouse on Cloud.
- n. Oracle database connectivity is also supported with ODBC connection, refer to Campaign Install guide for more details. Oracle Database versions 12.2.x and 19c with native client connectivity are supported with following caveats:
- On Oracle database server the following parameter needs to be added in “sqlnet.ora” file located under ORACLE_HOME/network/admin/:
- ```
SQLNET.ALLOWED_LOGON_VERSION_SERVER
```
- Consult with your DBA for configuring an appropriate value for this parameter. Please refer to below link for more details: <https://docs.oracle.com/database/121/NETRF/sqlnet.htm#NETRF2016>
  - Oracle 19c is also supported with ODBC connectivity, User would not be required to edit the sqlnet.ora parameters as mentioned above while connecting with ODBC.
- o. Teradata Database versions 16.10, 16.20, 17.0 and **17.20** are supported for Unica Campaign user data source with the following caveat:
- The client and the database version of Teradata needs to be the same.
- p. Tomcat Application Servers 9.0.30, 9.0.45, 9.0.86 are supported with the following caveats:
- Oracle JDK/JRE v1.8 on Windows is required for deployments on RHEL and SUSE operating systems.
  - IBM JDK / JRE v1.8 is required for deployments on AIX.
- q. MariaDB support has below considerations:
- MariaDB is not supported as system tables or user tables on AIX operating system.
  - Unica Deliver supports MariaDB from v12.1.0.3 (FP3) onwards.
  - Unica Journey supports MariaDB from version 12.1.0.3 (FP3) onwards.
- r. Unica Campaign supports Action vector v5.1.0 database as user database from version 12.1.0.4 onwards for RHEL and Microsoft Windows.



- s. Unica Campaign supports Google BigQuery (multiple datasets are also supported) and Trino as user database, only on RHEL OS (versions 2.1.23, 2.5.2.1004). Unica Campaign supports Singlestore as as user database, only on Microsoft Windows and RHEL OS.
- t. Unica Journey is supported on Amazon-managed Kafka: MSK on on AWS3. Unica Journey is supported on AMQ Kafka managed by RedShift on OpenShift.

## Other Software Support and Configurations

### Client Web Browser Support

| Browser <sup>(a,c)</sup>                                                            | Operating System                        |
|-------------------------------------------------------------------------------------|-----------------------------------------|
| Safari <sup>(b)</sup> Version 26.1 (20622.2.11.119.1)                               | MacOS: Sequoia version 15.6.1           |
| Google Chrome for Business edition Version 140.0.7339.81 (Official Build) (64-bit). | Windows7 SP1, Windows 8 SP1, Windows 10 |
| Microsoft Edge Version 142.0.3595.94 (Official Build) (64-bit).                     | Windows 10                              |

### Adobe Acrobat Support

Annotations using the Adobe Acrobat markup feature in Unica Plan are supported only on the following browsers:

| Browser <sup>(a)</sup>                   | Operating System                         | Adobe Acrobat          |
|------------------------------------------|------------------------------------------|------------------------|
| Internet Explorer 11 (32-bit and 64-bit) | Windows 7 SP1, Windows 8 SP1, Windows 10 | Adobe Acrobat Pro 2022 |

### Supported Resolution

For an improved user experience, set your screen resolution to 1600 x 900 and set “Size of the text, apps, and other items” under “Display Setting” > “Scale and layout” to 100%. Lower resolutions can result in some information not being properly displayed. If you use a lower resolution, maximize the browser window to see more content.

### Directory Server Support

| Directory Server                                                                 | Host Operating System |
|----------------------------------------------------------------------------------|-----------------------|
| Microsoft Active Directory <sup>(a)</sup> 2012, 2012R2, 2016                     | Windows               |
| Oracle (Sun) ONE Directory Server Enterprise Edition 11gR2                       | All OS                |
| IBM Security Directory Server (formerly known as Tivoli Directory Server) 10.0.3 | All OS                |

**Note:**

Windows Integrated Login is available only for HCL Unica products installed on Windows systems through IIS deployment. For details, contact HCL Support.

**Authentication Provider Support**

| Authentication Provider                                                                                                         | Host Operating System |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Windows Active Directory Server 2012, 2012R2, <b>2016</b>                                                                       | Windows               |
| CASingle Sign On (formerly known as Siteminder) <sup>(b)</sup><br>12.5                                                          | All OS                |
| IBM Security Access Manager (Formerly known as Tivoli Access Manager for eBusiness) <sup>(a)(b)</sup> <b>9.0.4</b> ,<br>8.0.1.3 | All OS                |
| Federated Single Sign-On based on SAML 2.0 standards <sup>(c)</sup>                                                             | All OS                |

**Note:**

1. IBM Security Access Manager (formerly known as Tivoli Access Manager for eBusiness) v8.0.1.3 is compatible with HCL Unica as authentication provider.
2. Unica Centralized Offer Management, Unica Interact, and Unica Plan work with HTTP methods such as `GET`, `PUT`, `POST`, `PATCH`, and `DELETE`. By default, these HTTP methods are not enabled on ISAM and Siteminder. For these Unica products to work with ISAM and Siteminder enable these methods.
3. Unica Journey does not support Federated Single Sign-On based on SAML 2.0.

**Kafka Support**

| Type                                        | Description                                                                                                                                                                                                                     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Message Queue Support                       | For Interact Triggered Messages and Activity orchestrator, Apache Kafka 2.2.2, Kafka 3.4.0, 3.9.0, or later is supported. If Apache Kafka is deployed in a cluster, then Apache ZooKeeper 3.5.5, 3.6.3, or higher is supported. |
| Kafka Support for Unica Content Integration | Optionally, in addition to in-memory mode, the Autosync feature for Content Integration framework can work with Kafka version 2.13-2.8.1 and Kafka 3.4.0, 3.9.0.                                                                |

| Type                             | Description                                                                                                                                                                                                                                      |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unica Deliver                    | Optional. Kafka version 2.13-2.8.1. Kafka version 3.4.0 and 3.9.0 is also supported for Deliver RCT to process responses. Refer <i>Unica Deliver Startup and Admin Guide</i> on how to configure Kafka for Response and Contact tracker utility. |
| Kafka Support for Unica Interact | Kafka version 3.9.0 is also supported for Unica Interact.                                                                                                                                                                                        |

### Open SSL Configurations

In release 25.1.0.1 , for Unica Campaign, we have upgraded the OpenSSL library from v3.0.7 to v3.0.16.

When upgrading Campaign to release 25.1.1, add the following environment variables based on the operating system:

|                              |                                                                                                                                                                                                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Microsoft Windows            | <p>Add these variables in <code>cmpServer.bat</code>.</p> <pre>set OPENSSL_CONF=&lt;CAMPAIGN_HOME&gt;/bin/openssl.cnf set OPENSSL_MODULES=&lt;CAMPAIGN_HOME&gt;/bin</pre>                          |
| Unix-based Operating Systems | <p>Add these variables in <code>setenv.sh</code> on RHEL, SuSE, and AIX.</p> <pre>export OPENSSL_CONF=&lt;CAMPAIGN_HOME&gt;/bin/openssl.cnf export OPENSSL_MODULES=&lt;CAMPAIGN_HOME&gt;/bin</pre> |

### Redis Support for Unica Interact

Optionally, in addition to Distributed Ignite caching mechanism, the distributed caching feature on the Cloud-native environment for Unica Interact works with Redis version 6.0.

### Reporting Server Support

| Product                                                         | Reporting Tool                                            | Supported System tables                                                                                                                                                                          |
|-----------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unica Campaign<br>Unica Interact<br>Unica Plan<br>Unica Deliver | IBM Cognos Analytics 12.0.3, <b>12.0.4</b> <sup>(a)</sup> | <ul style="list-style-type: none"> <li>• DB211.1, <b>11.5</b></li> <li>• Oracle12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3), 19.3.0.0.0</li> <li>• SQLServer 2014, 2016 SP1, 2017, 2019</li> </ul> |

| Product                                                                                                                | Reporting Tool | Supported System tables                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unica Campaign <sup>(d)</sup> UnicaDeliver <sup>(d)</sup>                                                              | Open Insights  | <ul style="list-style-type: none"> <li>• DB2 11.1, <b>11.5</b></li> <li>• Oracle 12.1.0.1, 12.1.0.2, 12.2.0.1, 19(12.2.0.3), 19.3.0.0.0</li> <li>• SQL Server 2014, 2016 SP1, 2017, <b>2019</b></li> </ul>                                                                                                |
| Unica Campaign<br>Unica Centralized Offer Management<br>Unica Deliver<br>Unica Interact<br>Unica Journey<br>Unica Plan | Superset       | <ul style="list-style-type: none"> <li>• Microsoft SQL Server</li> <li>• IBM DB2</li> <li>• MariaDB</li> <li>• Oracle</li> <li>• PostgreSQL</li> </ul> <p> <b>Note:</b> Unica Deliver does not support PostgreSQL.</p> |

 **Note:**

1. IBM Cognos Analytics 12.0.3 and 12.0.4 is supported with the following caveats:
  - IBM Cognos Analytics 12.0.3 server requires 32-bit Oracle client libraries to connect to Oracle database server (32-bit or 64-bit).
  - IBM Cognos Analytics 12.0.3 server requires 32-bit DB2 client libraries to connect to DB2 database server (32-bit or 64-bit).
  - IBM Cognos Analytics 12.0.3 server requires 32-bit SQL Server client libraries to connect to SQL Server database server (32-bit or 64-bit).
  - A separate reporting server is required and the minimum system requirements can be found in the IBM Cognos Analytics 12.0.3 and 12.0.4 Installation and Configuration Guide. IBM Cognos Analytics



also requires a web server. For full compatibility information for IBM Cognos Analytics 12.0.3 and 12.0.4, see:

<http://www-01.ibm.com/support/docview.wss?uid=swg27047186>

2. From Unica 12.1.2 release, Google Looker on-premises version 21.4.22 is supported for Campaign and Deliver Open Insights Offering. Please note, Unica does not support Google Looker Cloud version. Unica supports Oracle, IBM DB2, and SQL Server databases Open data model for Campaign and Deliver products.

## Virtualization Software Support

With every HCL Unica release, HCL Unica products are certified for a specific set of operating systems as listed in this guide. HCL Unica also recognizes the growing presence of hardware virtual machine software and OS-level virtualization software (for example, VMWare, Microsoft Virtual Server, Solaris Containers) in customer environments. Following sections, outline our support policy on the same.

### Support of Virtualization Environments

HCL supports customers who run its products on any of the listed operating systems, irrespective of whether they are running a virtual machine in their environment. HCL supports any product-specific issues that occur while running within a virtual machine; however, HCL does not rigorously test our products inside of any virtual machine. As a result, virtual machines are supported as a compatible environment.

Virtualization software vendors support a set of certified operating systems and hardware. The customer and the virtual machine vendors are responsible for any interactions and/or issues that arise at the hardware or operating system layer as a result of their use of the virtualization software.

### Performance

The use of a virtual machine adds software overhead that may affect performance and/or scalability. Any statements on expected product performance on a hardware platform cannot be interpreted to apply to a virtual machine running on the same hardware platform.

### Troubleshooting Issues

HCL Technical Support is unable to accept virtual images from customers as troubleshooting tools due to licensing concerns with respect to third-party software products, which might be included in those images.

Should HCL customers who use its products inside a virtual machine experience issues, HCL customers will not be required to recreate and troubleshoot every issue in a non-virtualization environment. However, HCL does reserve the right to request our customers to diagnose certain issues in a supported operating system environment without the virtual image. HCL will make this request only when there is reason to believe that the virtual environment is a contributing factor to the issue.

## Supported Environments Revisions

This section provides an overview of changes in the supported software for this version of HCL Unica products.

## Newly Supported Software Versions

HCL Unica version 25.1.1 has added support for the following new versions of third-party software.

| Supporting Software Entity | Supporting Software Version <sup>(r)</sup>                         |
|----------------------------|--------------------------------------------------------------------|
| Application Server         | Apache Tomcat 9.0.112<br>IBM WebSphere Application Server 8.5.5.28 |
| Database                   | HP Vertica 25.4                                                    |

## Discontinued Support Software Versions

HCL Unica version 25.1.1 has discontinued support for the following versions of third-party software:

| Supporting Software Entity | Supporting Software Version <sup>(r)</sup>                          |
|----------------------------|---------------------------------------------------------------------|
| Application Server         | Apache Tomcat v9.0.102<br>IBM WebSphere Application Server 8.5.5.26 |

## Java/JRE version support for Application Server

| Application Server | Java/JRE Version Support              |
|--------------------|---------------------------------------|
| Oracle WebLogic    | Oracle JDK / JRE 1.8                  |
| Apache Tomcat      | Oracle JDK / JRE 1.8 and Open JDK 1.8 |
| Red Hat JBoss      | Oracle JDK / JRE 1.8 and Open JDK 1.8 |
| IBM WebSphere      | IBM JDK 1.8                           |

## Chapter 2. Unica+ Products

This chapter will cover system requirement details for HCL Unica+ products.

### Overview

This document lists the software environments and minimum system requirements recommended for the following HCL Unica+ products:

1. MaxAI
2. MaxAI Workbench
3. HCL Detect
4. HCL Customer Data Platform (CDP)
5. Real Time Personalization (RTP)

### Supported Locales

The following are the list of supported locales for the HCL Unica+ products:

| Locale                | RTP | MaxAI | MaxAI Workbench | HCL CDP | HCL Detect |
|-----------------------|-----|-------|-----------------|---------|------------|
| English               | Y   | Y     | Y               | Y       | Y          |
| French (France)       | Y   | Y     | Y               | N       | N          |
| German (Germany)      | Y   | Y     | Y               | N       | N          |
| Japanese              | Y   | Y     | N               | N       | N          |
| Korean                | Y   | Y     | N               | N       | N          |
| Portuguese (Brazil)   | Y   | Y     | N               | N       | N          |
| Spanish (Spain)       | Y   | Y     | N               | N       | N          |
| Chinese (Simplified)  | Y   | Y     | N               | N       | N          |
| Chinese (Traditional) | Y   | Y     | N               | N       | N          |
| Italian               | Y   | Y     | N               | N       | N          |
| Russian               | Y   | Y     | N               | N       | N          |



**Note:** The locales mentioned are Unica Platform locales. In addition to the Unica Platform locales, HCL MaxAI supports three additional locales (Greek, Turkish, and Hebrew). These locales are specific only to HCL MaxAI and its features.

## Supported Login Methods

The following are the list of supported login methods for the HCL Unica+ products:

| Login Methods | RTP | MaxAI (GenAI + Workbench) | HCL CDP | HCL Detect |
|---------------|-----|---------------------------|---------|------------|
| LDAP          | Y   | Y                         | N       | Y          |
| SAML          | Y   | Y                         | Y       | Y          |
| Siteminder    | Y   | Y                         | N       | Y          |
| ISAM          | Y   | Y                         | N       | Y          |

## Recommended System Requirements

Minimum hardware and software requirements required for HCL Unica+ products installation.

### MaxAI System Requirements

Minimum hardware and software requirements for the HCL Unica+ MaxAI installation.

#### Docker Engine (Version 20.10 or higher)

Docker serves as the container runtime that packages MaxAI and its dependencies. Verify your installation by running `docker --version` and ensure the Docker daemon is running properly.

#### A working Kubernetes cluster (Version 1.27 or higher)

Kubernetes cluster provides the orchestration platform where MaxAI will run. This can be a managed service like Amazon EKS, Google GKE, Azure AKS, or a self-hosted cluster using tools like kubectl or k3s.

#### Helm (Version 3.8 or higher)

Helm acts as the package manager for Kubernetes, simplifying the deployment and management of MaxAI. Install Helm on the machine from which you will perform the deployment.

#### kubectl configured to connect to your cluster

The kubectl command-line tool allows you to interact with your Kubernetes cluster. Ensure it's configured to communicate with your target cluster by running `kubectl cluster-info`.

#### Images and Bundles

Access to the MaxAI docker images (for the applications) and Helm Deployment bundle.

### Ingress Controller

NGINX Ingress Controller 2.0 must be installed.

## Access Requirements

### Cluster Administrative Access

You need cluster-admin privileges or sufficient RBAC permissions to create namespaces, deploy applications, and manage cluster resources.

### Container Registry Access

Ensure your Kubernetes nodes can pull container images from the registry hosting MaxAI images. This may require configuring image pull secrets for private registries.

### Network Connectivity

Verify that your cluster has outbound internet connectivity for downloading Helm charts and container images.



**Note:** Not applicable when you're using a fully air-gapped environment with local mirrors.

## Minimum System Configurations

The MaxAI consists of multiple powerful components, we have a minimum system requirement to be able to install, configure and run the applications successfully. However, actual working configuration needs to be discussed and decided during the capacity planning and site-survey conducted jointly by HCL Software and Client teams.

### Hardware Requirements

|                |           |
|----------------|-----------|
| <b>Memory</b>  | 16 GB RAM |
| <b>Storage</b> | 50 GB HDD |
| <b>CPU</b>     | 8 vCPUs   |

## Supported Software

**Supported Database:** MaxAI supports the following databases in the 25.1.1 release:

- IBM DB2
- Microsoft SQL Server
- Oracle
- PostgreSQL

## MaxAI Workbench System Requirements

Minimum hardware and software requirements for the HCL Unica+ MaxAI Workbench installation.

## Minimum Hardware Requirements

The minimum hardware requirements for Cloud Native MaxAI Workbench are as follows:

|                |                        |
|----------------|------------------------|
| <b>Memory</b>  | 32 GB RAM              |
| <b>Storage</b> | 250 GB Hard Disk Drive |
| <b>CPU</b>     | 16 CPU Machines        |

## Software Requirements

The recommended software requirements for Cloud Native MaxAI Workbench are as follows:

| <b>Software Type</b>         | <b>Recommended Requirement</b>                                                                                                                                                                                                                                                  |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating System</b>      | CentOS 8<br>Red Hat Enterprise Linux 8<br>SuSE Linux Enterprise Server 12 Service Pack 5 (hosted Operating System)                                                                                                                                                              |
| <b>Base Operating System</b> | The base Operating System used for all images is Red Hat Universal Base Image 9                                                                                                                                                                                                 |
| <b>Database</b>              | Oracle<br>PostgreSQL                                                                                                                                                                                                                                                            |
| <b>Other Software</b>        | Docker Enterprise 20.10.17<br>Kubernetes 1.29 and above<br>Helm 3<br>EKS, AKS, and OpenShift<br><b>Ingress:</b> New Ingress controller repo<br><a href="https://kubernetes.github.io/ingress-nginx">https://kubernetes.github.io/ingress-nginx</a> NGINX Ingress Controller 2.0 |

## Minimum Required Resources for Containers

The following table lists the minimum resources required for each container:

| <b>Resource Name</b> | <b>Resource Value</b>               |
|----------------------|-------------------------------------|
| <b>CPU</b>           | 2000m (2000 millicpu per container) |

| Resource Name | Resource Value                                                                                                                                                                                                                                                                                                                       |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memory        | 2048 MB                                                                                                                                                                                                                                                                                                                              |
| Storage       | <p>NFS is supported with MaxAI as persistent volume</p> <p>Openshift - NFS</p> <p>Azure - Azure Files</p> <p>Google - File storage</p> <p>If the containers fail and restart, the installation and the database data persist. However, setups are not packaged with the solution, and they need to be placed at the mount point.</p> |



**Note:** The configuration will impact the minimum hardware requirements. It is recommended that you use a configuration that is slightly higher than the minimum requirements. If a container does not get the required resources, it might hang.

### Docker Image Security Vulnerabilities

For Operating System package vulnerabilities, like NSS, SQLite, etc., run the yum updates within the containers.

### MaxAI CDM Requirements

This topic provides the system requirements required for using HCL MaxAI CDM.

#### Prerequisites

|                         |                       |                                                                                                                                                                                                                                                    |
|-------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kubernetes Cluser (K8s) | v1.31.13              | A Kubernetes cluster is required to run Apache Airflow and all Data Engineering (DE) pipeline components. The Bespoke, DBT, and 360 containers (pods) will be automatically deployed within the cluster when the Airflow DAG pipeline is executed. |
| Apache Airflow          | Version 3.0 or higher | <p>Apache Airflow 3.0 or higher is required to orchestrate the DAG (Directed Acyclic Graph) pipeline.</p> <p>A Persistent Volume (PV) must be configured within Kubernetes to store all DAGs, DDLs (Data Definition</p>                            |

|  |                                                              |
|--|--------------------------------------------------------------|
|  | Language), configuration files, and other pipeline artifacts |
|--|--------------------------------------------------------------|

## Other Requirements

### Network Connectivity from Kubernetes Cluster

Both the UDS Oracle Database and the Unica MariaDB System Database must be accessible from the Kubernetes cluster. All relevant network ports for both databases must be open and reachable from within the cluster to ensure seamless connectivity.

### Installation Package

By default, the installation package will be available in the UNICA MaxAI Docker Multiplatform Multilingual e-Assembly in the MHS portal. The installation package includes the following components:

- Docker image for DBT
- Docker image for Bespoke
- Docker image for 360
- UDS DAG ZIP package, containing:
  - DAG code
  - Database DDLs
  - Pipeline configuration files

## Required Python Packages

The necessary Python packages are bundled within the respective Docker images.

- DBT Docker Image includes:
  - `dbt-core==1.9.0`
  - `dbt-oracle==1.9.1`
- Bespoke Docker Image includes:
  - `pandas>=2.2.2`
  - `numpy>=1.26.4`
  - `oracledb>=3.1.0`
  - `psycopg2-binary>=2.9.9`
  - `PyMySQL>=1.1.1`
  - `pyodbc>=5.1.0`
  - `openpyxl==3.1.5`
  - `requests==2.32`

## Sizing Recommendations

Recommended resource allocations for key components of the HCL MaxAI Canonical system, including the Airflow orchestrator and the Canonical Database. These guidelines are intended to support the listed data volumes, though actual

production environments may require higher specifications based on factors such as concurrency, ETL frequency, and overall data volume.

**Table 1. Data Volume Overview**

|                  |                      |
|------------------|----------------------|
| <b>Audiences</b> | <b>SRC_CH+SRC_RH</b> |
| 100,000          | 20 Million           |

**Table 2. Airflow (for DAG Orchestration)**

|            |            |             |
|------------|------------|-------------|
| <b>CPU</b> | <b>RAM</b> | <b>DISK</b> |
| 8          | 32 GB      | 500 GB      |

**Table 3. Canonical DB**

|            |            |             |                    |
|------------|------------|-------------|--------------------|
| <b>CPU</b> | <b>RAM</b> | <b>DISK</b> | <b>Oracle Node</b> |
| 16         | 64 GB      | 500 GB      | 1                  |



**Note:** This includes resources for 5-10 concurrent users trying to retrieve canonical data via MaxAI.

**Canonical DB Disk Space:** Estimate the required database disk space using the following link: [Disk Space Calculator](#).



**Note:** This is minimum sizing. Actual production environments require higher specifications depending on concurrency, ETL frequency, query complexity, number of DAGs, task concurrency, and data volume.

### Supported Environment

The Supported Environments section provides a list of required versions for third-party components like the OS, databases, Airflow, and Python.

| <b>Supported Third Parties</b>      | <b>Version</b>                 |
|-------------------------------------|--------------------------------|
| Operating System                    | RHEL 8.x, 9.x                  |
| CDM System Database                 | Oracle 19.*                    |
| Unica Campaign with System Database | MariaDB 10.4.x, 10.5.x, 10.6.x |
| Airflow                             | 3.*                            |
| Python                              | 3.10.*                         |

### RTP System Requirements

Minimum hardware and software requirements for the HCL Unica+ RPT installation.

## Minimum hardware requirements

The minimum hardware requirements for RTP are as follows:

|                |                       |
|----------------|-----------------------|
| <b>Memory</b>  | 8 GB RAM              |
| <b>Storage</b> | 50 GB Hard disk drive |
| <b>CPU</b>     | 4 CPU machines        |

## Recommended Software Requirements

The recommended software requirements for RTP are as follows:

| Software type               | Recommended requirement                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating System            | <ul style="list-style-type: none"> <li>CentOS version 8</li> <li>RHEL version 8</li> <li>SUSE Linux Enterprise Server 12 Service Pack 5 (hosted operating system)</li> </ul>                                                                                                                                                                                                                      |
| Base Operating System       | The Base Operating System used for all images is Red Hat Universal Base Image 9.                                                                                                                                                                                                                                                                                                                  |
| Database                    | MariaDB                                                                                                                                                                                                                                                                                                                                                                                           |
| Embedded Application Server | Apache Tomcat® 9.0.108                                                                                                                                                                                                                                                                                                                                                                            |
| Other Software              | <ul style="list-style-type: none"> <li>Docker Enterprise version 20.10.17</li> <li>Kubernetes versions 1.21, 1.22, and above</li> <li>Helm version 3</li> <li>EKS, AKS, GKE, and OpenShift</li> <li><b>Ingress:</b> New ingress controller repo:<br/> <a href="https://kubernetes.github.io/ingress-nginx">https://kubernetes.github.io/ingress-nginx</a> NGINX Ingress Controller 2.0</li> </ul> |

## Minimum Required Resources for Containers

The following table lists the minimum resources required for each container:

| Resource Name | Resource Value                       |
|---------------|--------------------------------------|
| CPU           | 2000m (2000 millicpu per container). |
| Memory        | 2048 MB.                             |

| Resource Name | Resource Value                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage       | <p>NFS is supported with Unica as persistent volume</p> <ul style="list-style-type: none"> <li>• Openshift - NFS</li> <li>• Azure - Azure Files</li> <li>• Google - File storage</li> </ul> <p>If the containers fail and restart, the installation and the database data persist. However, setups and <code>JDBC</code> drivers are not packaged with the solution and they need to be placed at the mount point.</p> |



**Note:**

- The configuration will impact the minimum hardware requirements. It is recommended that you use a configuration that is slightly higher than the minimum requirements. If a container does not get the required resources, it might hang.
- **Docker Image Security Vulnerabilities:** For Operating System package vulnerabilities, like NSS, SQLite, etc., run the yum updates within the containers.

## CDP System Requirements

There are two parts of the deployment:

- Micro services based components, to be deployed on containerization platform. Here, Red Hat OpenShift is the choice of the Container orchestration platform.
- Virtual Machine (VM) based deployment.

Before proceeding with the installation of the required components, you have to ensure that Red Hat OpenShift is installed and properly configured. Refer to the Red Hat OpenShift documentation for [installation guidelines](#).

Also, below tools are expected to present in the deployment to facilitate the installation:

1. OpenShift CLI ("oc" command)
2. Kubernetes command line tool ("kubectl" command)
3. Helm CLI tool ("helm" command)

## Hardware Requirements

Given below is the minimum hardware requirement for the CDP deployment.

## Standalone VMs

| Server/Node            | No. of Server/Node | CPU                        | Memory    | Storage         | Network            |
|------------------------|--------------------|----------------------------|-----------|-----------------|--------------------|
| Bastion host           | 1                  | 2 vCPUs for a 7h 12m burst | 8.0 GiB   | EBS only        | Low to Moderate    |
| Aerospike DB           | 2                  | 4 vCPUs                    | 16.0 GiB  | 150 GB NVMe SSD | Up to 10 Gigabit   |
| DMP server             | 1                  | 2 vCPUs                    | 8.0 GiB   | EBS only        | Up to 12.5 Gigabit |
| Druid server           | 2                  | 16 vCPUs                   | 128.0 GiB | EBS only        | Up to 10 Gigabit   |
| Mongo DB Server        | 4                  | 4 vCPUs                    | 16.0 GiB  | 150 GB NVMe SSD | Up to 10 Gigabit   |
| Mongo DB Server        | 1                  | 2 vCPUs for a 4h 48m burst | 2.0 GiB   | EBS only        | Up to 5 Gigabit    |
| Nifi DB                | 3                  | 2 vCPUs                    | 16.0 GiB  | 75 GB NVMe SSD  | Up to 10 Gigabit   |
| SFTP Server            | 1                  | 2 vCPUs                    | 8.0 GiB   | EBS only        | Up to 12.5 Gigabit |
| postgres-1             | 2                  | 2 vCPUs                    | 8.0 GiB   | EBS only        | Up to 12.5 Gigabit |
| RabbitMq               | 1                  | 2 vCPUs                    | 8.0 GiB   | EBS only        | Up to 10 Gigabit   |
| TC Redis               | 1                  | 2 vCPUs                    | 16.0 GiB  | EBS only        | Up to 10 Gigabit   |
| Redis & RMQ for Celery | 1                  | 2 vCPUs                    | 16.0 GiB  | EBS only        | Up to 10 Gigabit   |
| Scheduler              | 1                  | 2 vCPUs                    | 16.0 GiB  | EBS only        | Up to 10 Gigabit   |

## EKS Cluster

| Server/Node | CPU      | Memory   | Storage  | Network            |
|-------------|----------|----------|----------|--------------------|
| 3 Nodes     | 32 vCPUs | 64.0 GiB | EBS only | 12.5 Gigabit       |
| 18 Nodes    | 4 vCPUs  | 16.0 GiB | EBS only | Up to 12.5 Gigabit |

## EMR Cluster

| Server/Nodes | CPU     | Memory   | Storage  | Network          |
|--------------|---------|----------|----------|------------------|
| Primary Node | 4 vCPUs | 16.0 GiB | EBS only | Up to 10 Gigabit |
| Core Node    | 4 vCPUs | 16.0 GiB | EBS only | Up to 10 Gigabit |

## Software requirements

Given below is a list of components to be deployed and configured before the deployment for CDP Core modules. CDP utilizes the functionalities from these modules to perform the end-to-end operations.

| Application/Service                                                              | Deployment Type            | Version       |
|----------------------------------------------------------------------------------|----------------------------|---------------|
| HashiCorp Vault                                                                  | Helm chart                 | Vault v1.17.2 |
| Red Hat Quay Operator                                                            |                            |               |
| RHBK Operator, OpenShift RBAC                                                    | NA                         |               |
| NFS                                                                              | Storage Class on OpenShift |               |
| AMQ streams                                                                      | OpenShift Operator         |               |
| SMTP server                                                                      |                            |               |
| Trino                                                                            | Helm chart                 | v0.7.0        |
| Apache Spark (Spark ETL jobs)                                                    | Helm chart                 | 3.5.1         |
| HAProxy(route/ingress)                                                           | Route on OpenShift         |               |
| MinIO                                                                            | Helm chart                 | v5.0.15       |
| Apache Airflow                                                                   | Helm chart                 | 2.9.2         |
| Stackable Operator for Apache Spark (certified) / Spark Helm Operator(Community) | Helm chart                 | 24.3.0        |
| PostgreSQL                                                                       | PgSQL on VM                |               |
| AMQ broker                                                                       | OpenShift Operator         |               |
| 3Scale                                                                           | Api-Gateway                |               |

## Detect System Requirements

There are two parts of the deployment:

- Kubernetes cluster provides the required orchestration platform, detect can be deployed on managed services such as Amazon EKS, Google GKE, Azure AKS, or Red Hat OpenShift, as well as on a self-hosted Kubernetes environment.
- VM based deployment.

Before proceeding with the installation of the required components, you have to ensure that Red Hat OpenShift is installed and properly configured. Refer to the Red Hat OpenShift documentation for [installation guidelines](#).

Also, below tools are expected to present in the deployment to facilitate the installation:

1. OpenShift CLI ("oc" command)
2. Kubernetes command line tool ("kubectl" command)
3. Helm CLI tool ("helm" command)

Before you begin the installation process, ensure that the following prerequisites are met:

## Hardware Requirements

The minimum hardware requirements for HCL Detect are as follows

| Hardware Type                                   | Requirement                                                                          |
|-------------------------------------------------|--------------------------------------------------------------------------------------|
| OpenShift Kubernetes Cluster                    | 10 CPUs with 16GiB of memory upto 16 CPU with 24GiB of memory                        |
| Virtual Machine                                 | Minimum 8 CPUs with 16GB RAM and 200GB disk                                          |
| Ports required to access between Cluster and VM | 80, 443, 2181, 2182, 2183, 3306, 8010, 8081, 9092, 9093, 9094, and range 32768-42769 |
| OpenShift Storage for PVC                       | As required                                                                          |

## Software Requirements

The recommended software requirements for the RTP are as follows:

| Software Type                        | Requirement                            |
|--------------------------------------|----------------------------------------|
| Operating System                     | Red Hat Enterprise Linux 8 and 9       |
| Database                             | MariaDB 11.8.2                         |
| Kubernetes                           | Kubernetes Version 1.21 and above      |
| Container                            | Docker Version 20.10.7 and above       |
| Package Manager                      | Helm Version 3                         |
| Container Platform                   | OpenShift Container Platform (OCP) 4.8 |
| Distributed Event Streaming Platform | Apache Kafka 3.9.1                     |

## Supported Cloud Platforms

**Table 4. Supported Cloud Platform Matrix**

| Product        | Amazon EKS (AWS) | Google Cloud Platform (GCP) | Microsoft® Azure | Red Hat OpenShift® | Kubernetes (General) |
|----------------|------------------|-----------------------------|------------------|--------------------|----------------------|
| HCL Unica+ RTP | Y                | Y                           | Y                | Y                  | N                    |

**Table 4. Supported Cloud Platform Matrix (continued)**

| Product             | Amazon EKS (AWS) | Google Cloud Platform (GCP) | Microsoft® Azure | Red Hat OpenShift® | Kubernetes (General) |
|---------------------|------------------|-----------------------------|------------------|--------------------|----------------------|
| HCL MaxAI Workbench | Y                | Y                           | Y                | Y                  | Y                    |
| HCL MaxAI           | N                | N                           | N                | N                  | Y                    |
| HCL CDP             | Y                | N                           | N                | Y                  | N                    |
| HCL Detect          | Y                | N                           | N                | Y                  | Y                    |

## Downloading Cloud Native Image for Unica+ Product

Perform the following steps to complete the registration process and configure the deployment:

| Topic                                                                            | Section                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Register on My HCLSoftware (MHS) Portal                                          | <a href="https://support.hcl-software.com/csm?id=kb_article&amp;sysparm_article=KB0109011">https://support.hcl-software.com/csm?id=kb_article&amp;sysparm_article=KB0109011</a><br><a href="https://support.hcl-software.com/csm?id=kb_article&amp;sysparm_article=KB0069114">https://support.hcl-software.com/csm?id=kb_article&amp;sysparm_article=KB0069114</a> |
| Create Deployment                                                                | <a href="https://help.hcl-software.com/myhclsoftware/topics/introduction.html">https://help.hcl-software.com/myhclsoftware/topics/introduction.html</a>                                                                                                                                                                                                            |
| Generate Deployment key                                                          |                                                                                                                                                                                                                                                                                                                                                                    |
| Map Entitlements                                                                 |                                                                                                                                                                                                                                                                                                                                                                    |
| Download Product Installers and Complete the Installation and Deployment process |                                                                                                                                                                                                                                                                                                                                                                    |

## Other Software Support and Configurations

### Client Web Browser Support

| Browser <sup>(a,c)</sup>                                                            | Operating System                        |
|-------------------------------------------------------------------------------------|-----------------------------------------|
| Safari <sup>(b)</sup> Version 26.1 (20622.2.11.119.1)                               | MacOS: Sequoia version 15.6.1           |
| Google Chrome for Business edition Version 140.0.7339.81 (Official Build) (64-bit). | Windows7 SP1, Windows 8 SP1, Windows 10 |
| Microsoft Edge Version 142.0.3595.94 (Official Build) (64-bit).                     | Windows 10                              |

## **Supported Resolution**

For an improved user experience, set your screen resolution to 1600 x 900 and set "Size of the text, apps, and other items" under "Display Setting" > "Scale and layout" to 100%. Lower resolutions can result in some information not being properly displayed. If you use a lower resolution, maximize the browser window to see more content.

## **Performance**

The use of a virtual machine adds software overhead that may affect performance and/or scalability. Any statements on expected product performance on a hardware platform cannot be interpreted to apply to a virtual machine running on the same hardware platform.

## **Troubleshooting Issues**

HCL Technical Support is unable to accept virtual images from customers as troubleshooting tools due to licensing concerns with respect to third-party software products, which might be included in those images.

Should HCL customers who use its products inside a virtual machine experience issues, HCL customers will not be required to recreate and troubleshoot every issue in a non-virtualization environment. However, HCL does reserve the right to request our customers to diagnose certain issues in a supported operating system environment without the virtual image. HCL will make this request only when there is reason to believe that the virtual environment is a contributing factor to the issue.