InterSystems®
Creative data technology

InterSystems Supported Platforms

Version 2018.1
2024-04-03

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About This Book

Caché, Ensemble, and HealthShare run on a number of operating systems on various platforms. They work with many types of technologies and provide support for several national languages. This document describes the details of what is supported in this version and also indicates which versions of technologies are no longer supported that have been in previous releases. The information is presented in the following chapters:

- "Supported Technologies" describes which operating systems support which features including server platforms, client platforms, web servers and browsers, language bindings, SQL and Java interfaces, LDAP, multithreaded callin, T-SQL programming extensions, and the MQ interface.

- "Supported Languages" provides a list of supported languages and character sets for Caché and Ensemble, indicates whether or not InterSystems provides utility translations for each language, and provides a list of supported languages for iKnow.

- "Discontinued Platforms and Technologies" provides information on which technologies supported in the previous version of the product have been discontinued.

- "Supported InterSystems Version Interoperability" provides information on the cross-version compatibility of selected components and technologies within the most recent releases of InterSystems products.

There is also a detailed Table of Contents.

1

Supported Technologies

1.1 Supported Platforms

This release supports the listed server platforms and operating system releases on the indicated InterSystems products.

- Server Platforms
- Cloud Platforms
- Development Platforms

1.1.1 Operating System Patches and Service Packs

Because InterSystems relies on the operating system vendor to ensure compatibility, InterSystems does not certify its products for specific operating system patches or service packs.

In the rare event that a specific patch or service pack (SP) is required to run InterSystems products, the appropriate table indicates the explicit requirement.

If a vendor introduces new features or functionality in a base version to create a new offering, InterSystems does not do additional testing but relies on the vendor to assure the quality of the base version. Windows Server 2008 R2 is an example of this instance.

1.1.2 Server Platforms

Platform	Caché Ensemble	HealthShare	Notes
IBM AIX® 6.1 TL6100–05, 7.1, 7.2 for Power System-64	✓	✓	
Microsoft Windows Server 2008, Vista, 7, 8, 8.1 for x86-32	✓	✓	
Microsoft Windows Server 2008, Server 2012, Server 2016, Server 2019, Vista, 7, 8, 8.1, 10, 11* for x86-64	✓	✓	
Oracle Linux 6.1, 7 for x86–64	✓		Unmodified kernel.

Platform	Caché Ensemble	HealthShare	Notes
Red Hat Enterprise Linux 6 for x86-32	✓		To use Kerberos on the Red Hat platform, you must install the krb5-devel package in addition to the krb5-libs package. See the Red Hat Linux Considerations section of the "Installing Caché on UNIX® and Linux" chapter of the *Caché Installation Guide* for detailed information on obtaining these components.
Red Hat Enterprise Linux 6, 7 for x86-64	✓	✓	
Red Hat Enterprise Linux 8 for x86-64	✓		
SUSE Linux Enterprise Server 11 for x86-32	✓		
SUSE Linux Enterprise Server 11, 12 for x86-64	✓	✓	
Ubuntu 16.04 LTS, 18.04 LTS, 20.04 LTS for x86-64	✓	✓	HealthShare support on this platform is limited to Health Connect.

* New, starting with the 2018.1.7 maintenance release.

Note: On Linux systems, Caché and Ensemble include OpenSSL 1.0.2 as part of the product installation. Caché and Ensemble do not use the version of OpenSSL that is installed with the operating system. Further, InterSystems recommends that you do not have other services that require newer versions of OpenSSL running on the same server as Caché or Ensemble.

1.1.3 Cloud Platforms

InterSystems verifies its standard installation kits on the cloud service provider/guest operating system combinations listed in this table. For example, "Microsoft Windows Server 2012 on Amazon EC2 for x86–64" in this table represents Caché, Ensemble or HealthShare for Microsoft Windows x86–64 installed on the 64–bit version of the Microsoft Windows Server 2012 guest operating system on Amazon EC2. To install Caché on Microsoft Windows Server 2012 Amazon EC2 for x86–64, select the standard Caché Microsoft Windows 64–bit kit (cache-*version*-win_x64.exe) from the WRC download page.

Cloud Platform	OS Platform	Caché Ensemble	HealthShare	Notes
Amazon EC2 for x86-64	Microsoft Windows Server 2008, 2012, 2016, 2019	✓	✓	
	Red Hat Enterprise Linux 6, 7, 8	✓	✓	To use Kerberos on the Red Hat platform, you must install the krb5-devel package in addition to the krb5-libs package. See the Red Hat Linux Considerations section of the "Installing Caché on UNIX® and Linux" chapter of the *Caché Installation Guide* for detailed information on obtaining these components.
	SUSE Linux Enterprise Server 11, 12	✓	✓	
Microsoft Azure for x86-64	Microsoft Windows Server 2008, 2012, 2016, 2019	✓	✓	
	Red Hat Enterprise Linux 7, 8	✓	✓	To use Kerberos on the Red Hat platform, you must install the krb5-devel package in addition to the krb5-libs package. See the Red Hat Linux Considerations section of the "Installing Caché on UNIX® and Linux" chapter of the *Caché Installation Guide* for detailed information on obtaining these components.
	SUSE Linux Enterprise Server 11, 12	✓	✓	
	Ubuntu 16.04 LTS, 18.04 LTS, 20.04 LTS	✓	✓	HealthShare support on this platform is limited to Health Connect.
Rackspace Open Cloud for x86-64	Microsoft Windows Server 2008, 2012, 2016, 2019	✓	✓	

The following restrictions apply to the preceding table:

- IP addresses are required for mirroring. Virtual IP addresses are not supported for mirroring.

1.1.4 Development Platforms

Platform	Caché Ensemble	HealthShare	Notes
CentOS-7 x86-64	✓		Requires Caché/Ensemble kits for Red Hat
Apple macOS 10.11, 10.12, 10.13 for x86-64[1]	✓	✓	

[1] Key Management Interoperability Protocol (KMIP) is not supported on macOS.

Support for development platforms is subject to the following qualifications:

- Development platforms are to be used for application development only; they are not supported for deployment of applications.

- The results of comparative analysis will not be underwritten by InterSystems. No valid conclusions can be drawn from performance, sizing, or other measurements taken on supported development platforms versus other supported platforms.

- InterSystems will reevaluate its continued support for these platforms with each major release of Caché/Ensemble.

1.1.5 Hardware Considerations

In most cases, this document focuses specifically on operating system versions, and only generally on the characteristics of the underlying hardware. This section is intended as a refinement of that approach, describing specific features of individual hardware offerings that InterSystems products recognize and use to their advantage.

Advanced Encryption Standard (AES)

When run on Intel 64-bit processors, beginning with the Intel® Xeon® Processor (Westmere), Caché makes direct use of hardware instruction(s) to perform AES encryption.

1.2 Supported File Systems

This release supports the following file systems:

Platform	Btrfs	ext3[1]	ext4[1,2]	HFS	JFS2[6]	NFS[3]	UFS[6]	VxFS[6]	XFS	ZFS	NFS
Apple macOS for x86-64				✓*							
IBM AIX® for Power System-64					✓*			✓			
Microsoft Windows for x86-32 and x86-64											✓*
Oracle Linux 6.1 for x86-64		✓	✓*								

Platform	Btrfs	ext3[1]	ext4[1,2]	HFS	JFS2[6]	NFS[3]	UFS[6]	VxFS[6]	XFS	ZFS	NFS
Oracle Linux 7 for x86-64									✓*		
Red Hat Enterprise Linux for x86-32		✓	✓*			✓		✓			
Red Hat Enterprise Linux for x86-64		✓	✓			✓		✓	✓*[5]		
SUSE Linux Enterprise for x86-32	✓[4]	✓	✓			✓		✓	✓*		
SUSE Linux Enterprise for x86-64	✓[4]	✓	✓			✓		✓	✓*		
Ubuntu for x86-64	✓[4]	✓	✓			✓			✓*		

* InterSystems recommends this file system for use on this platform.

[1] The `data=journal` mount option for ext3/ext4 file systems is not supported.

[2] InterSystems recommends using the ext4 file system with Red Hat Clusters.

[3] Due to data corruption issues with NFS-mounted file systems on IBM AIX® platforms, InterSystems recommends that you do not host the NFS server on those platforms; for more information see "September 30, 2010 – Advisory: Data Corruption with NFS mounted file systems".

[4] Btrfs is supported as of SUSE Linux Enterprise 11 SP2.

[5] XFS is supported on Red Hat Enterprise Linux version 7 only.

[6] For optimum journaling performance, the **cio** mount option is recommended for JFS2 and VxFS file systems on all supported platforms. If you cannot use **cio** on VxFS, mounting with direct I/O enabled (file system mount options **mincache=direct,convosync=direct**) is supported for journaling.

1.3 Supported Web Servers

This release supports the Caché Server Pages (CSP) technology on the following web servers for the indicated platforms. This does not necessarily mean that all InterSystems products run on these platforms, but rather that the CSP web server component does.

Web Server	Platform
Apache 2.2, 2.4	Apple macOS
	IBM AIX® for Power System[†]
	Microsoft Windows
	Red Hat Enterprise Linux
	SUSE Linux Enterprise
	Ubuntu

Web Server	Platform
Microsoft IIS 7.0 and later	Microsoft Windows
Nginx	Apple macOS
	IBM AIX® for Power System[†]
	Microsoft Windows
	Red Hat Enterprise Linux
	SUSE Linux Enterprise
	Ubuntu

[†] Using Kerberos security and/or SSL for the CSP Gateway on 64-bit UNIX® platforms requires 64-bit Apache.

1.4 Supported Web Browsers

Caché supports CSP on the web browsers listed in the following tables.

Browser Platforms

New versions of the browsers listed in the following table will be supported with the understanding that critical issues may be found that will have to be corrected in a major release of Caché. Those fixes will not be backported to earlier releases of Caché.

InterSystems also requires that browsers support the XML HTTP interface which limits support for some older browser versions.

Web Browser	Windows	Linux	Android	iOS	macOS
Chrome	✓		✓		✓
Internet Explorer	✓				
Edge	✓				
Firefox	✓	✓			✓
Opera	✓				✓
Safari	✓			✓	✓

Portals

Support for the Management, Ensemble and HealthShare Portals is limited to the browsers listed in the following table. New versions released by vendors are assumed to provide backward compatibility; they are supported as described in the "Browser Platform" section, above, and are tested as they become available.

Web Browser (Platform)	Version	Management	Ensemble	HealthShare
Chrome (Windows, macOS)	latest released	✓	✓	✓
Internet Explorer (Windows)	9	✓	✓	✓

Web Browser (Platform)	Version	Management	Ensemble	HealthShare
Internet Explorer (Windows)	10[1]	✓	✓	✓
Internet Explorer (Windows)	11[1]	✓	✓	✓
Firefox (Windows, macOS, Linux)	latest released	✓	✓	✓[2]

[1] Internet Explorer 10 and 11 are not supported in Metro mode.

[2] HealthShare Portal and Clinician Portal.

1.5 Supported Client Platforms

ODBC Support

InterSystems products support both single and multithreaded ODBC on most platforms. The following special conditions apply to ODBC support:

- The InterSystems ODBC driver on UNIX®-based systems requires one of the following driver managers:

  - The iODBC driver manager (see http://www.iodbc.org) — for use with the Unicode and 8-bit ODBC APIs; works with the **select** executable, the **select.sh** script, and the following drivers:

libcacheodbc35.so	iODBC 3.5 driver
libcacheodbciw35.so	iODBC 3.5 unicode driver
libcacheodbc.so	iODBC 2.5 driver
libcacheodbciw.so	iODBC 2.5 unicode driver

  - The unixODBC driver manager (see http://www.unixodbc.org) — for use with the 8-bit ODBC API only; works with the **selectu** executable, the **selectu.sh** script, and the following drivers:

libcacheodbcu35.so	unixODBC 3.5 driver
libcacheodbcuw35.so	unixODBC 3.5 unicode (UCS4) driver
libcacheodbcu.so	unixODBC 2.5 driver
libcacheodbcuw.so	unixODBC 2.5 unicode (UCS4) driver

    When building with #define BUILD_REAL_64_BIT_MODE, and *only* with #define BUILD_REAL_64_BIT_MODE, use the following unixODBC drivers:

libcacheodbcur6435.so	unixODBC Real Mode built 3.5 driver
libcacheodbcur64.so	unixODBC Real Mode built 2.5 driver

Important: Microsoft Windows for x86-64 requires 64–bit ODBC applications; connections to applications (for example, Microsoft Office) with 32–bit ODBC are not supported by Microsoft.

The ODBC client in this release is compatible with all supported server platforms running product versions beginning with the following releases: Caché 5.0.13, Ensemble 3.1, and all versions of HealthShare.

Servers running this release support the ODBC and JDBC clients in product versions beginning with the following releases: Caché 5.0.13, Ensemble 3.1, and all versions of HealthShare.

Caché eXTreme Support

This release supports Caché eXTreme for Java and C++ on the platforms specified in the following table:

Platform	eXTreme for Java [1]	eXTreme for C++
Apple macOS for x86-64	✓	
Microsoft Windows for x86-32 [2]	✓	✓
Microsoft Windows for x86-64 [2]	✓	✓
Oracle Linux for x86-64	✓	✓
Red Hat Enterprise Linux for x86-32	✓	✓
Red Hat Enterprise Linux for x86-64	✓	✓
SUSE Linux Enterprise for x86-32	✓	✓
SUSE Linux Enterprise for x86-64	✓	✓
Ubuntu for x86–64	✓	✓

[1] Includes Java Native Interface (JNI) components. See Supported Java Technologies for the Java versions supported on all platforms.

[2] Due to default Java stack size limitations on Windows, each Java virtual machine invocation must pass in the argument *-Xss1024k* for Caché eXTreme for Java to work correctly.

Other Client Support

This release supports C++, Perl, Python, .NET and Node.js clients on the platforms indicated in the following table. (Supported operating system versions are those listed in the Supported Server Platforms table.)

Platform	C++	C++ Light	Perl and Python [1]	.NET [2]	Node.js [3]
Apple macOS for x86-64	✓		✓		✓
IBM AIX® for Power System-64					
Microsoft Windows for x86-32	✓		✓	✓	✓
Microsoft Windows for x86-64	✓	✓	✓	✓	✓
Oracle Linux for x86-64	✓		✓		

Platform	C++	C++ Light	Perl and Python [1]	.NET [2]	Node.js [3]
Red Hat Enterprise Linux for x86-32	✓		✓		✓
Red Hat Enterprise Linux for x86-64	✓	✓	✓		✓
SUSE Linux Enterprise for x86-32	✓		✓		✓
SUSE Linux Enterprise for x86-64	✓	✓	✓		✓
Ubuntu for x86–64	✓	✓	✓		✓

[1] For Perl client requirements see the Installation and Configuration section of *Using Perl with Caché*. For Python client requirements see the Installation and Configuration section of *Using Python with Caché*; this release supports versions prior to Python 3.0.

[2] Supports Visual Studio 2005 and later, and the .NET framework versions 4.0 and 4.5. Caché .NET clients do not support Kerberos because the .NET framework does not include direct Kerberos support.

[3] For information about installation and configuration see the "Introduction" chapter of *Using Node.js with Caché*.

1.6 Platform Endianness

When restoring a backup or transferring a database, the target system must be the same Endianness (Big-endian or Little-endian) as the source system; for example, if a backup was created on a Big-endian system, it cannot be restored to a Little-endian system. For information, see the section on "Using cvendian to Convert Between Big-endian and Little-endian Systems" in *Caché Specialized System Tools and Utilities*.

The following table identifies the Endianness of the supported server platforms for this release:

Platform	Big-endian	Little-endian
Apple macOS for x86-64		✓
IBM AIX® for Power System-64	✓	
Microsoft Windows for x86-32		✓
Microsoft Windows for x86-64		✓
Oracle Linux for x86-64		✓
Red Hat Enterprise Linux for x86-32		✓
Red Hat Enterprise Linux for x86-64		✓
Red Hat Enterprise Linux Amazon EC2 for x86–64		✓
SUSE Linux Enterprise Server for x86-32		✓

Platform	Big-endian	Little-endian
SUSE Linux Enterprise Server for x86-64		✓
Ubuntu for x86–64		✓

1.7 Supported SQL Gateway Databases

The Caché SQL Gateway supports the following legacy relational database systems:

Database System	Version	Notes
IBM DB2	9.7, 10.5	
Informix	12.10	
Microsoft SQL Server	2012, 2014, 2016	
MySQL	5.6	
Oracle	11g, 12c	
Sybase Adaptive Server Enterprise	16	Data expected in UTF-8 format

This release supports both the JDBC-based and the ODBC-based gateway on all platforms on which the Caché SQL Gateway is available.

1.8 Supported Java Technologies

InterSystems Java products, such as the Apache Formatting Objects Processor (FOP), require a Java Development Kit (JDK) from Oracle (formerly Sun) or a compatible JDK. This release supports the following development kits for Apache FOP and all other Java technologies:

Development Kits	Versions
Java SE Development Kit (JDK)	7 update 79 (1.7.0_79) and later, 8

Support for Enterprise JavaBeans (EJB) is available in accordance with the following enterprise specifications:

Enterprise Specifications	Versions
Java Enterprise Edition (Java EE)	6, 7

Ensemble also contains the *Java Gateway*, which provides an easy way to interoperate with Java components. (The Java Gateway .jar files are built with the most recent supported version of Java.)

Please contact InterSystems if you would like to take advantage of InterSystems product license sharing when running Java on Windows Terminal Servers.

1.9 Java Binding Client/Server Compatibility

The Caché Java binding provides full client/server compatibility between all Caché versions from 2010.1 forward.

1.10 Other Supported Technologies

This release supports other technologies as specified in the following tables:

Technology	Platform
Adobe® Dreamweaver® CS6	Microsoft Windows Vista x86-32 Microsoft Windows 7 x86-32

Supported Libraries	Version
ICU	4.0
Xerces	3.1.1
Xalan	1.11.0.0
OpenSSL	Instance-specific; to determine the version in use by the instance, call **$SYSTEM.Encryption.OpenSSLVersion()**

InterSystems supports XML 1.0.

ODBC Driver Managers	Version
unixODBC	2.3.4
iODBC	3.52.4

1.11 Other Supported Features

InterSystems products support the LDAP protocol, multithreaded callin, T-SQL programming extensions, and the MQ Interface as indicated in the following table. (Supported operating system versions are those listed in the Supported Server Platforms table.)

Platform	LDAP	Multithreaded Callin	T-SQL	MQ Interface
Apple macOS for x86-64	✓		✓	
IBM AIX® for Power System-64	✓		✓	✓
Microsoft Windows for x86-32	✓	✓	✓	✓

Platform	LDAP	Multithreaded Callin	T-SQL	MQ Interface
Microsoft Windows for x86-64	✓	✓	✓	✓
Oracle Linux for x86-64	✓	✓	✓	✓[1]
Red Hat Enterprise Linux for x86-32	✓	✓	✓	✓[1]
Red Hat Enterprise Linux for x86-64	✓	✓	✓	✓[1]
SUSE Linux Enterprise for x86-32	✓	✓	✓	✓[1]
SUSE Linux Enterprise for x86-64	✓	✓	✓	✓[1]
Ubuntu for x86–64	✓	✓	✓	✓[1]

[1] The minimum version supported by Caché is WebSphere MQ V7.0.

2

Supported Languages

InterSystems provides National Language Support (NLS) for selected regions in one or more character sets. Caché and Ensemble also include utility translations for some languages. These localizations exist for the languages as indicated in the following table. HealthShare-specific utilities are not currently translated.

InterSystems documentation is available in English and Japanese.

2.1 Caché and Ensemble

The languages in the following table are supported by Caché and Ensemble in this release:

Language	Character Sets	Utility Translation
Arabic	CP1256 (Arabic), Latin/Arabic, Unicode	
Chinese (Simplified)	GB18030 (Chinese National Standard), Unicode	
Chinese (Traditional)	Unicode	
Chinese (Mandarin)	Unicode	✓
Czech	CP1250 (Central Europe), Latin-2, Unicode	
Danish	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	
Dutch	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
English	ASCII[†], Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
Finnish	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	
French	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
German	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
Greek	CP1253 (Greek), Latin-G, Unicode	
Hebrew	CP1257 (Hebrew), Latin-H, Unicode	
Hungarian	CP1250 (Central Europe), Latin-2, Unicode	

Language	Character Sets	Utility Translation
Italian	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
Japanese	Unicode	✓
Korean	Unicode	✓
Lithuanian	CP1257 (Baltic), Latin-4, Latin-6, Latin-7, Unicode	
Maltese	Latin-3, Unicode	
Polish	CP1250 (Central Europe), Latin-2, Unicode	
Portuguese (Brazil)	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
Russian	CP1251 (Cyrillic), Latin-C, Unicode	✓
Slovak	Unicode	
Slovenian	Unicode	
Spanish	Latin-1, Latin-9, CP1252 (Western Europe), Unicode	✓
Thai	CP874 (Thai), Latin-T, Unicode	
Turkish	Unicode	
Ukranian	Unicode	✓

[†] US English only.

2.2 iKnow

The following languages are supported by iKnow in this release:

- Dutch
- English
- French
- German
- Japanese
- Portuguese
- Russian
- Spanish
- Swedish
- Ukrainian

3

Discontinued Platforms and Technologies

This topic lists the platforms that this release no longer supports.

3.1 Discontinued Technologies and Features

From time to time, InterSystems discontinues development of a technology when newer and better options are available. *However, product support for these capabilities continues* in the same way that it does for products beyond our Minimum Supported Version.

Deprecated designates a feature or technology that InterSystems no longer actively develops and for which better options exist. Deprecated items should not be used for new development. The *deprecated* designation indicates that customers should plan to eliminate use of the feature or technology. InterSystems maintains the staff expertise to support *deprecated* product capabilities. Examples include Zen and Zen Reports.

Discontinued designates a feature or technology that is no longer viable for use, even in existing applications. InterSystems feels that continued use of such technology is a risk for our customers. The reasons for this include but are not limited to:

- Usage has declined to a small number of customers.

- The feature has become incompatible with current technologies or security practice.

- Incompatibilities between the feature or technology and our current product implementation make application maintenance prohibitive.

- The feature or technology depends on discontinued content from a third party.

Examples include DCP (Distributed Cache Protocol superseded by ECP), WebLink, and Caché Direct (Visual M/VISM).

3.2 Discontinued Server Platforms

This release is not available for the following server platform versions:

Platform	Operating System Version
HP-UX	11i v3
Oracle Solaris (SPARC-64)	10, 11

3.3 Discontinued Web Servers

At this release, CSP cannot be used with the following web server versions:

Web Server	Version
None	

3.4 Discontinued Web Browsers

At this release, CSP cannot be used with the following web browser versions:

Web Browser	Version
None	

3.5 Discontinued SQL Gateway Databases

This release is not available for the following legacy relational database system versions:

Database System	Version
None	

3.6 Discontinued Java Development Kits

This release is not available for the following Java Enterprise specifications:

Java Development Kit	Version
None	

3.7 Other Discontinued Technologies

This release is not available for the following previously supported technologies:

Technology	Version
None	

4

Supported Version Interoperability

This section describes supported interoperability between different versions of InterSystems products.

4.1 Version Interoperability Table

The following table shows the cross-version compatibility of this release with the most recent releases of InterSystems products.

For example, a Caché 2018.1 instance can be the shadow destination of Caché 5.1 (or later) servers; conversely, only Caché 2007.1 (or later) instances can be the shadow destination of journal files created on 2018.1 servers.

Note: Mixed Caché clusters including Caché 5.2 (or earlier) and 2007.1 (or later) servers are not supported.

Component	Client/Destination	Server/Source
CSP Gateway[4]	2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	2018.1 or earlier
ECP[1]	5.1, 5.2, 2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	5.1, 5.2, 2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
Backup Restore	2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	5.0, 5.1, 5.2, 2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
Journal Restore	2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	5.0, 5.1, 5.2, 2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
Mirroring[3]	2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
Shadowing	2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	5.1, 5.2, 2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
Studio[2]	2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1	2007.1, 2008.1, 2008.2, 2009.1, 2010.1, 2010.2, 2011.1, 2012.1, 2012.2, 2013.1, 2014.1, 2015.1, 2015.2, 2016.1, 2016.2, 2017.1, 2017.2, 2018.1
xDBC	5.0.13 or later	5.0.13 or later

[1] An ECP application server that is connected to a mirrored data server must be version 2010.2 or later. To run any object-based application over ECP, the server and the clients must use the same product version.

[2] Caché Studio is not forward compatible; it does not connect to systems with higher version numbers. The Caché Studio version on a client must be the same or later than the Caché server version to which it connects. This restriction does not apply to maintenance releases.

[3] Only reporting async members can be of a different version than the other members of the mirror; in this table, **Client/Destination** refers to reporting async members and **Server/Source** to failover members and disaster recovery (DR) async members. The failover members of a mirror and any DR async members must all be of the same version, and can differ within the range of releases defined in this table only for the duration of one of the upgrade procedures described in Minimum Downtime Upgrade with Mirroring in the "Upgrading Caché" chapter of the *Caché Installation Guide*.

[4] A mirror-aware CSP gateway can be configured only if the mirrored instance is version 2016.1 or later.

4.2 Supported Upgrade Paths

You can upgrade directly to this release of Caché from release 2009.1 or any later release. However, if you are upgrading a pre-2012.1 instance containing any 2K block size databases, these must be converted to 8K format before upgrading to version 2012.x or beyond, using the procedure described in Supported Upgrade Paths in the "Upgrading Caché" chapter of the *Caché Installation Guide*.

To upgrade from a version older than 2009.1, you must first upgrade to 2009.1 or later, then upgrade to the current release (using the procedure for converting 2K block size databases if applicable). For assistance with upgrading from earlier versions, contact the InterSystems Worldwide Response Center (WRC).