

# Perceptive Content

## Release Notes

Version: Foundation 22.2

Written by: Documentation Team, R&D  
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# Documentation Notice

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## Overview

Perceptive Content Foundation 22.2 contains new features, product and platform enhancements, and updates. New features introduce the new functionality available in your Perceptive Content Foundation 22.2 system. Product enhancements provide an overview of the enhancements made to existing features. Platform enhancements provide an overview of the enhancements made to existing development tools, such as iScript. Patch releases specify the enhancements, both product and platform, and updates for each monthly patch.

A major or minor release, consistent with the versioning standard of *major.minor.incremental.build*, occurs approximately every eighteen months. Build releases, also known as patch releases, are posted each month.

## Perceptive Content Foundation 22.2 (7.9.0.x) Release (April 10, 2025)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Business Insight

#### Perceptive Content Business Insight

- Business Insight is upgraded to IBM Cognos 11.2.4 Fix Pack 5 to address security vulnerability issues. (PER-11420)

## Perceptive Content Foundation 22.2 (7.9.0.447) Release (March 10, 2025)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Server

#### Perceptive Content Server

- Resolved an issue where the amazons3.dll file, used by the OSM S3 plugin, would generate timestamps that were one day ahead during leap years. (PER-11371)
- Updated libcurl with latest version to fix potential security vulnerability CVE-2024-7264. (PER-11417)

## Perceptive Content Foundation 22.2 (7.9.0.424) Release (October 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Server
- Perceptive Content Business Insight

#### Perceptive Content Server

- Added a new setting, `login.node.monitoring.enabled`, to the [Session Management] section in the `inow.ini` configuration file. The setting is enabled by default but can be disabled to prevent potential database contention on the `IN_NODE` table during large volumes of session management operations. When login node monitoring is disabled, client-side performance reporting will not be available. For more information, see the `inow.ini` [Session Management] settings topic of the Manage Content help. (PER-10861)

#### Perceptive Content Business Insight

- Business Insight is upgraded to IBM Cognos 11.2.4 Fix Pack 4 to address security vulnerability issues. (PER-11040)

## Perceptive Content Foundation 22.2 (7.9.0.415) Release (August 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Server

#### All Perceptive Content Agents

- Added Document Filters as a runtime prerequisite to the Perceptive Content Agents. (PER-4621)

#### Perceptive Content Server

- Added a new setting to allow thumbnail generation to use Document Filter libraries. For more information, see the `generate.thumbnails.using.document.filters` setting in the [General] `inow.ini` help. (PER-4621)

## Perceptive Content Foundation 22.2 (7.9.0.406) Release (July 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client

### All Perceptive Content Agents

- Perceptive Content now supports RabbitMQ 3.13. If upgrading from previous versions of RabbitMQ, refer to the Perceptive Content RabbitMQ Update Guide. (PER-10675)
- Updated supported versions of Oracle Instant Client with ODBC on Windows and Linux. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-10675)
- Updated supported versions of Microsoft ODBC Driver for SQL Server on Windows and Linux. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-10675)
- Added Document Filters as a runtime prerequisite to the Perceptive Content Agents. (PER-4621)

### Perceptive Content Business Insight

- Business Insight is upgraded to IBM Cognos 11.2.4 Fix Pack 3 to address IBM JRE vulnerabilities and to provide support for TLS version 1.3. (PER-10408)
- Document type value is optional in Capture Document report. (PER-10638)

### Perceptive Content Client

- Updated the client to prevent loading JavaAccessBridge dependencies on startup if the feature is not installed. (PER-9576)

## Perceptive Content Foundation 22.2 (7.9.0.396) Release (June 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client

### Perceptive Content Client

- Resolved an issue in the client where exporting single PDFs would cause an error. (PER-9524)

## Perceptive Content Foundation 22.2 (7.9.0.390) Release (May 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Business Insight
- Perceptive Content Client
- Perceptive Content Forms Server
- Perceptive Content Integration Server
- Perceptive Content Server

#### Perceptive Business Insight

- Resolved an issue associated with running the reports when INOW database uses Oracle. (PER-9655)
- Business Insight report query is enhanced that now displays the list of active users that matches with the typed keywords. The complete list of sources available in Perceptive Content to capture the documents are also displayed in the Capture Source page. (PER-9507)

#### Perceptive Content Client

- Updated third-party viewing SDK with latest version, which resolved the following issues:
  - Opening an MSG file could cause the client to unexpectedly close. (PER-9361)
  - Perceptive Content desktop client and Output Agent failed to export certain HTML files. (PER-10141)
  - Updated PEDS Client to support TLS v1.3 communication to PDS Server. (PER-9518)

#### Perceptive Content Forms Server

- Updated distributed Apache CXF dependency. (PER-10168)

#### Perceptive Content Integration Server

- Updated distributed Apache CXF dependency. (PER-10168)

#### Perceptive Content Server

- Resolved issues with OpenID Connect login profiles failing to complete discovery of trusted public keys if the 'use' parameter was not present. (PER-10101)

## Perceptive Content Foundation 22.2 (7.9.0.377) Release (April 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Business Insight

### All Perceptive Content Agents

- Resolved an issue in iScript which could result in the incorrect time being returned, when Daylight Savings time is in effect, using a Date object's localized instance methods on Linux. (PER-10052)

### Perceptive Business Insight

- Business Insight is upgraded to IBM Cognos Interim Fix 9 for enhanced security. (PER-9639)

## Perceptive Content Foundation 22.2 (7.9.0.374) Release (March 8, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Server
- Perceptive Business Insight

### All Released Products

- Updated the code signing certificate for Windows applications. (PER-9359)

### All Perceptive Content Agents

- Resolved an issue in iScript which could result in the incorrect time being returned when using a Date object's localized instance methods on Linux. (PER-9164)

### Perceptive Content Server

- Resolved issues with OpenID Connect logins failing during token validation with "ID Token audience validation failed" errors when multiple audiences are present in the claim. (PER-9437)

### Perceptive Business Insight

- Removed additional information that were displayed in p2pd\_message log file. (PER-9444)

## Perceptive Content Foundation 22.2 (7.9.0.362) Release (February 10, 2024)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Server

### All Perceptive Content Agents

- Added support for Oracle Instant Client 21.12 with ODBC on Windows. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-9362)
- Added support for Oracle Instant Client 21.13 with ODBC on Linux. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-9362)
- Updated supported versions of Microsoft ODBC Driver 17 for SQL Server on Windows and Linux. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-9362)
- Perceptive Content now supports RabbitMQ 3.11 and 3.12. If upgrading from previous versions of RabbitMQ, refer to the Perceptive Content RabbitMQ Update Guide. (PER-9362)

### Perceptive Content Client

- Resolved issues with OpenID Connect logins persistently failing with some OpenID Provider integrations. Added a new setting to control whether this class of error should be ignored. For more information, see the `sso.openid.connect.login.ignore.client.aborted.requests.enabled` setting of the `imagenow.ini` [OpenID Connect Login Controls] settings help topic in the Manage Content help. (PER-9343/PER-8564)
- Resolved an issue where the client would not maintain focus on correct page when a multiple page document was saved. (PER-9145)
- Updated third-party viewing SDK with latest version, fixes potential security vulnerability CVE-2023-4863. (PER-9143)

### Perceptive Content Server

- Updated demo mode licensing policies to improve support for Active-Active configurations. (PER-9342)

## Perceptive Content Foundation 22.2 (7.9.0.347) Release (December 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides an overview of updates made to existing functionality.

#### All Perceptive Content Agents

- Resolved an issue where intermittent connectivity to RabbitMQ could occur when using TLS connections on Windows. (PER-9212)
- Added new settings to disable publication of informational events to the message queuing broker. If these events are not being consumed, it is recommended that these settings be disabled. For more information, see the `inow.ini` [Message Queuing] settings help topic in the Manage Content help. (PER-9212)
- The following cryptographic algorithms are deprecated and should no longer be used. Any user supplied keys that were generated using these algorithms should be updated to use newer algorithms to ensure compatibility with future Perceptive Content releases. Affected symmetric ciphers include Blowfish, CAST, DES, IDEA, RC2, RC4, RC5 and SEED. Affected hashing algorithms include MD2, MD4, MDC2, WHIRLPOOL and RIPEMD160. (PER-9233)
- Resolved an issue in remote agent installers that prevented the full token from being added to the configuration. Updated the installer Token Authentication dialog to unmask the authentication token control to support verifying the token is entered correctly. The following installers were updated: User Replication Agent, Recognition Agent, Output Agent, Fax Agent. (PER-8565)

## Perceptive Content Foundation 22.2 (7.9.0.338) Release (November 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Server

#### Perceptive Content Client

- Added a new setting to allow the Perceptive Content client to close the logon dialog window after a user is logged in to the Perceptive Content client. For more information, see the `close.logon.dialog.after.successful.logon` setting of the `imagenow.ini` [Logon Settings] help topic in the Manage Content help. (PER-9130)

#### Perceptive Content Server

- Updated demo mode licensing policies to allow Active-Active configurations. (PER-9102)

- Updated demo mode licensing policies to allow the Integration Server Transaction Pack license. (PER-9102)
- Resolved an issue with blocking when initializing the user information cache in environments with a large number of users. For more information, see the `users.bulk.load.max.entries` and `users.bulk.load.enable` settings of the `inow.ini` [Cross Node Cache] settings help topic in the Manage Content help. (PER-9070)
- New version of `IN_DB_UTIL` (version 5.0) and updates to `IN_DB_UPGRADE` for Oracle which includes the following enhancements:
  - Added a new stored procedure, `CLEANUP_WF_ARCH_DATA`, to the `IN_DB_UTIL` database package for Oracle, that cleans up old, archived workflow data from the database. (PER-9107)
  - Added a new parameter, `DISPLAY_BATCHES`, for toggling OFF/ON the displaying of batch results in the output of the `CLEANUP_AUDIT_DATA` and `CLEANUP_WF_ARCH_DATA` procedures. (PER-9107)

## Perceptive Content Foundation 22.2 (7.9.0.327) Release (October 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Server

#### Perceptive Content Client

- Updated Perceptive Content to support making OpenID Connect requests through an authenticated proxy. (PER-9020)
- Updated Perceptive Content with a configurable delay before triggering the OpenID Connect login. For more information, see the `sso.openid.connect.login.delay.seconds` setting of the `imagenow.ini` [OpenID Connect Login Controls] settings help topic in the Manage Content help. (PER-9020)

#### Perceptive Content Server

- New version of `IN_DB_UTIL` (version 5.0) and updates to `IN_DB_UPGRADE` for SQL Server which includes the following enhancements:
  - Updated the Perceptive Content `IN_DB_UTIL` database package for SQL Server to version 5. (PER-8991)
  - Added the `IN_DB_UTIL_LOG` table to record execution and error logging for `IN_DB_UTIL` and `IN_DB_UPGRADE` operations. Also includes a new parameter, `DISPLAY_BATCHES`, for toggling OFF/ON the displaying of batch results in the output of the `IN_DB_UTIL_CLEANUP_AUDIT_DATA` and `IN_DB_UTIL_CLEANUP_WF_ARCH_DATA` procedures. (PER-8991)

- Implemented the APPLOCK feature of SQL Server to allow for explicit locking of application resources (stored procedures and identifiers) when they are called during the execution of the IN\_DB\_UTIL package/procedures and by extension the IN\_DB\_UPGRADE package/procedures. (PER-9084)

## Perceptive Content Foundation 22.2 (7.9.0.321) Release (September 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Integration Server
- Perceptive Content Server

### All Perceptive Content Agents

- Removed upper limit on number of worker threads that can be configured for processing Perceptive Content work items. (PER-8919)

### Perceptive Content Client

- Ensured Perceptive Content Client version is validated for OpenID Connect Single Sign-On logins. Resolved an issue where older versions of the Perceptive Content Client could connect to incompatible Perceptive Content Server versions. (PER-8539)

### Perceptive Content Integration Server

- Ensured Perceptive Content Client version is validated for OpenID Connect Single Sign-On logins. Resolved an issue where older versions of the Perceptive Content Client could connect to incompatible Perceptive Content Server versions. (PER-8539)

### Perceptive Content Server

- Updated migration packages to ensure that custom property list values are not inadvertently renamed or removed if they are being consumed. (PER-8243)
- Resolved a system stability issue which may occur when modifying a custom property list value that is currently being consumed. (PER-8243)
- Updated CLEANUP\_AUDIT\_DATA logging/output and SQL Server version checks in the IN\_DB\_UTIL package. (PER-8953)
- Updated IN\_DB\_UPGRADE logging/output and IN\_DB\_UTIL version checks in the IN\_DB\_UPGRADE package. (PER-8953)

## Perceptive Content Foundation 22.2 (7.9.0.309) Release (August 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Business Insight
- Perceptive Content Client
- Perceptive Content Management Console

#### Perceptive Business Insight

- Resolved an issue associated with run.bat where users had to manually set JAVA\_HOME after installing the BI Integrator. (PER-8639)
- Resolved an issue associated with BI Authenticator logging additional data. (PER-8735)

#### Perceptive Content Client

- Updated Perceptive Content to support KeyView 12.13. This resolved an issue where Import Agent would not display .EML files correctly. (PER-7361)

#### Perceptive Content Management Console

- Added localized strings for Custom Property Job Management. (PER-8804)

## Perceptive Content Foundation 22.2 (7.9.0.296) Release (July 10, 2023)

The following components are included in this month's patch.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Batch Agent
- Perceptive Content Client
- Perceptive Content Management Console
- Perceptive Content Server

#### Perceptive Content Batch Agent

- Updated Perceptive Content Batch Agent to handle processing custom property updates to a document or folder type. Perceptive Content Batch Agent must be running if asynchronous

processing of custom property updates are enabled via the inow.ini custom.property.job.framework.enable setting. (PER-7095)

## Perceptive Content Client

- Resolved an issue with the LearnMode script AppGetTree() function not working correctly with Google Chrome versions 114 and later. (PER-8653)

## Perceptive Content Management Console

- Added the ability to view and manage custom property jobs under the Custom Properties section in Management Console. (PER-7086)

## Perceptive Content Server

- Enable asynchronous processing of custom property updates to a document or folder type. For more information, see the custom.property.job.framework.enable setting of the inow.ini [Custom Property Job Management] help topic in the Manage Content help. (PER-7095)

# Perceptive Content Foundation 22.2 (7.9.0.281) Release (May 10, 2023)

The following components are included in this month's patch.

## Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Forms Server
- Perceptive Content File System Agent
- Perceptive Content Integration Server
- Perceptive Content Workflow Agent

## All Perceptive Content Agents

- Updated performance statistic logging to sanitize arguments. (PER-498)
- Added settings to control the maximum length for arguments that are output in the performance statistic logs. For more information, see the stats.<type>.param.max.length settings of the inow.ini [Statistics] help topic in the Manage Content help. (PER-498)

## Perceptive Content Client

- Resolved an issue where the system could not open documents that were exported or emailed as HTML documents. (PER-7334)

## Perceptive Content Forms Server

- Perceptive Content Forms Server now supports Tomcat version 10.1. (PER-7729)

## Perceptive Content File System Agent

- Ensured that database recovery is triggered appropriately for work processed by File System agent. (PER-7639)

## Perceptive Content Integration Server

- Resolved an issue where Integration Server conversion, rendition or export calls could result in empty pages when GRAPHIC\_DPI rendering options were adjusted in File Conversion Service configuration. (PER-8099)
- Perceptive Content Integration Server now supports Tomcat version 10.1. (PER-7728)

## Perceptive Content Workflow Agent

- Added Workflow agent settings to facilitate workload balancing customization: work.queue.type.work.items.minimum, work.queue.type.work.items.maximum, work.queue.type.work.items.multiple, batch.work.items.maximum, minimum.work.item.batches. For more information, see the inserverWorkflow.ini help topic in the Manage Content help and Workflow Agent performance tuning topic in the Workflow Designer help. (PER-498)

# Perceptive Content Foundation 22.2 (7.9.0.272) Release (April 10, 2023)

The following components are included in this month's patch.

## Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Business Insight
- Perceptive Content Client
- Perceptive Content Integration Server
- Perceptive Content Server

## All Released Products

- Updated Perceptive Content to distribute OpenSSL 1.1.1t. (PER-7735)
- On Windows, updated Perceptive Content to inherit supported TLS protocols from system wide WinHTTP DefaultSecureProtocols for calls made to external web services. By default, Windows disables deprecated TLS protocols. For more information refer to Secure Protocols for Microsoft Windows HTTP Services under Special considerations in the Perceptive Content Update Guide. (PER-8112)

## All Perceptive Content Agents

- Updated Perceptive Content to support TLS v1.3 for calls made to external web services. (PER-7434)

## Perceptive Business Insight

- Updated log4j dependency to log4j2 version 2.17.1 for Business Insight Integrator. (PER-7430)
- Resolved an issue associated with Business Insight Installer that displayed Cognos 10 installation location. (PER-7709)
- Resolved an issue associated with Business Insight report where users were unable to open and view reports on subsequent attempts. (PER-7721)

## Perceptive Content Client

- Resolved an issue where exporting documents with very large page files could cause the client to close unexpectedly. (PER-7722)

## Perceptive Content Integration Server

- Ensured that Integration Server API calls are not charged transactions for Perceptive Content bearer tokens associated with a Project Titan client session. (PER-8074)
- Updated OpenID Connect Login Profiles `sso.openid.profile.<profileName>.max.response.value.size` default value to be 3000 bytes. For more information see the Appendix A: `integrationserver.ini` file options section of the Perceptive Integration Server Installation Guide. (PC-8091)
- Updated Bearer Token Login Profiles `sso.bearer.profile.<profileName>.max.bearer.token.size` default value to be 3000 bytes. For more information see the Appendix A: `integrationserver.ini` file options section of the Perceptive Integration Server Installation Guide. (PC-8091)

## Perceptive Content Server

- Resolved an issue where changes to a folder or document could not be made if a modified custom property was missing from the instance. (PER-7090)

# Perceptive Content Foundation 22.2 (7.9.0.248) Release (March 10, 2023)

The following components are included in this month's patch.

## Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content Integration Server
- Perceptive Content Server
- Perceptive Content User Replication Agent

## All Perceptive Content Agents

- Resolved an issue where iScript String object `toUpperCase` and `toLowerCase` methods could truncate double-byte character values. (PER-7256)

## Perceptive Content Client

- Improved support for emailing Perceptive Experience Content Apps links to documents in Thunderbird email client. (PER-7383)
- Resolved an issue where capturing using Hyland Virtual Printer would use printer page settings instead of capture source profile page settings, such as landscape, legal, and A4 pages. (PER-7734)

## Perceptive Content Integration Server

- Updated Integration Server session management to gracefully cleanup connection resources to Perceptive Content Server when a connection is disconnected. Perceptive Content Server must be running the same or newer version of Integration Server. (PER-7408)

## Perceptive Content Server

- Updated Perceptive Content Server to gracefully cleanup connection resources when Integration Server disconnects a connection. (PER-7408)

## Perceptive Content User Replication Agent

- Improved error handling in Perceptive Content User Replication Agent to prevent the unintended removal of users from the system when certain intermittent errors occur. (PER-7365)

# Perceptive Content Foundation 22.2 (7.9.0.233) Release (February 10, 2023)

The following components are included in this month's patch.

## Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Content Client
- Perceptive Content iConvert
- Perceptive Content Integration Server
- Perceptive Content Forms Server

## All Perceptive Content Agents

- Added support for Oracle Instant Client with ODBC 21.8 on Windows. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-7666)
- Updated supported versions of Microsoft ODBC Driver 17 for SQL Server on Windows and Linux. See the Perceptive Content Technical Specifications for ODBC driver and operating system compatibility. (PER-7666)

## Perceptive Content Client

- Updated Perceptive Content to allow login profile synchronization when launching new client applications when another client instance is running. For more information, see the `login.profile.client.sync.enable` setting of the `imagenow.ini` [General] settings help topic in the Manage Content help. (PER-7336)
- Resolved an issue with importing certain TIFF files. Additionally, you can now annotate LZW encoded TIFF images in the client. (PER-7459)

## Perceptive Content iConvert

- Resolved an issue where the `inserverConvert` installer would install or update the deprecated SMTP settings, `smtp.server` and `smtp.server.port`, during the installation process. (PER-6930)

## Perceptive Content Integration Server

- Resolved an issue where `eForm` `serverAction` would fail if the input parameters contained reserved XML characters. (PER-7126)

## Perceptive Content Forms Server

- Resolved an issue where `eForm` `serverAction` would fail if the input parameters contained reserved XML characters. (PER-7126)

# Perceptive Content Foundation 22.2 (7.9.0.219) Release (December 16, 2022)

The following components are included in this month's patch.

## Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Business Insight
- Perceptive Content Client
- Perceptive Content Fax Agent
- Perceptive Content File Processing Agent
- Perceptive Content Integration Server
- Perceptive Content Output Agent
- Perceptive Content Server
- Perceptive Content User Replication Agent

## All Perceptive Content Agents

- Perceptive Content now supports RabbitMQ 3.10 and 3.11. If upgrading from previous versions of RabbitMQ, refer to the Perceptive Content RabbitMQ Update Guide. (PER-7435)

## Perceptive Business Insight

- Resolved an issue associated with search, where the complete list of users in Perceptive Namespace is displayed instead of list of users based on the specified search criteria. (PER-6905)
- Resolved an issue associated with the search, where the complete list of users in Perceptive Namespace is displayed when searched using a value that would have no results returns. (PER-7404)
- Resolved an issue where some reports' sub-headings displayed reversed or flipped lettering. (PER-7445)
- Resolved an issue where the user had to log in twice to the Perceptive Namespace to view a report in Perceptive Content Client. (PER-7444)
- Resolved an issue with scheduling and running reports when authenticated with OpenID (PER-7457, PER-6943, PER-7325, PER-7326)
- Business Insight is upgraded to IBM Cognos Fix pack 5 which resolved the intermittent issue that occurred when a filter was applied on the past activities in the administrator console of IBM Cognos. (PER-7588)

## Perceptive Content Client

- Improved print scale functionality for digital signature annotations. (PER-6658)

## Perceptive Content Fax Agent

- Resolved a missing dependency that may prevent the agent from starting on Windows. (PER-7525)

## Perceptive Content File Processing Agent

- Resolved a missing dependency that may prevent the agent from starting on Windows. (PER-7525)

## Perceptive Content Integration Server

- Resolved an issue where form scripts would not execute if the blockContentTypeSniffingEnabled setting was set to TRUE in Apache Tomcat. (PER-7390)

## Perceptive Content Output Agent

- Resolved a missing dependency that may prevent the agent from starting on Windows. (PER-7525)

## Perceptive Content Server

- Resolved an issue with a delay in validating the Perceptive Content Server license on service start when the Hyland Cloud Licensing feature is enabled. (PER-4635)
- Resolved an issue that prevented the Perceptive Content Client from connecting to HRCS when a line character was present in the token file. (PER-7477)

## Perceptive Content User Replication Agent

- Resolved a missing dependency that may prevent the agent from starting on Windows. (PER-7525)

## Perceptive Content Foundation 22.2 Release (November 2022)

The following enhancements and updates are included in the initial release of Perceptive Content Foundation 22.2.

### Product updates

This section provides, in alphabetical order, an overview of updates made to existing functionality.

- Perceptive Connector for SAP ArchiveLink
- Perceptive Content Client
- Perceptive Content Forms Server
- Perceptive Content iConvert
- Perceptive Content Integration Server
- Perceptive Content OSM Agent
- Perceptive Content Server

### All Released Products

- Updated the code signing certificate for Windows applications. (PER-6991)
- Updated Perceptive Content to support TLS v1.3 when connecting to a RabbitMQ cluster. For more information, see the `mq.secure.enabled` setting of the `inow.ini` [Message Queuing] settings help topic in the Manage Content help. (PER-466)

### All Perceptive Content Agents

- Improved error message content of installation errors caused by inability to access remote shared location. (PER-4609)
- Resolved issues where Microsoft Visual C++ Runtime installer prerequisites were not installing in some environments. (PER-891)
- Perceptive Content now supports RabbitMQ 3.9. (PER-7335)
- Perceptive Content now supports PostgreSQL 13. (PER-121)
- Updated IXOS, AcuoStore, and Amazon S3 OSM plugins to minimize CPU utilization while streaming data from a remote server. (PER-6982)
- Updated Amazon S3 OSM plugin to resolve issues when attempting to establish a non-TLS connection on Windows to a remote S3 compatible instance. (PER-6982)
- Updated HTTP client libraries to minimize CPU utilization while streaming data from a remote server. (PER-6982)
- Resolved an issue where OSM physical object retrieval could concatenate error responses and physical object data when retrying transient OSM errors. (PER-7400)
- Resolved an issue where the system could not render retrieved page content or would incorrectly display it as text. (PER-7400)

## Perceptive Connector for SAP ArchiveLink

- Resolved an issue where a connection error could cause Apache Tomcat to unexpectedly close. (PER-7117)
- Updated documentation to limit number of connections to 10. (PER-7117)
- Updated documentation to have KGS Content Server recover the inserver connection. (PER-7117)
- Updated a new setting, `client.connect`, to the [Remote] section in the `insapaplink.ini` configuration file. For more information, see the `insapalink.ini` [Remote] settings topic of the Perceptive Connector for SAP ArchiveLink Installation Guide. (PER-7117)
- Updated SAP Client behavior to attempt to recover on inserver connection failure. (PER-7117)

## Perceptive Content Client

- Resolved an issue where Document Viewer would incorrectly render numbers in Excel XLS and XLSX files. (PER-7118 and PER-4707)
- Resolved an issue where the system would not save repeating rows that were added to a form by a user when using Internet Explorer 11 browser Emulation mode. (PER-7005)
- Resolved multiple display issues with the client when OpenID Connect authentication was enabled. (PER-7072)
- Updated OpenID Connect login to support Windows Integrated Authentication through Active Directory Federation Services (ADFS). (PER-7071)
- Added new settings to specify the trusted sites that you can use for integrated authentication. By default, these settings are derived from the Intranet trusted sites configured in the Windows Internet Properties. For more information, see the `imagenow.ini` [OpenID Connect Login Controls] settings topic of the Manage Content help. (PER-7071)
- Resolved an issue where saving a form with invalid characters could cause the client to close unexpectedly. (PER-7075)
- When using a non-English version of the client that does not have corresponding translated documentation, the Help button now opens the English documentation. (PER-7170)
- Updated Perceptive Content client OIDC login to leverage the `GET /v1/serverInfo/lgid` operation from Integration Server. (PER-7009)
- Improved ability to triage OpenID Connect login flows in the Perceptive Content Client. For more information, see the Troubleshoot OpenID Connect in Perceptive Content Client topic in the Manage Content help. (PER-7218)

## Perceptive Content Forms Server

- Perceptive Content Forms Server now supports Java 17. (PER-277)
- Perceptive Content Forms Server now supports Tomcat version 10. (PER-279)
- Updated CXF dependencies to a newer version. (PER-7119)
- Resolved an issue with forms loading slowly. (PER-6942)

**Note** After the restart of a service, the system clears the cache for all previously loaded forms. As a result, the initial loading of a form, after the cache is cleared, may take longer than expected. Subsequent loads will perform as expected.

- Updated Forms Server to support agent token authentication. See the `forms.server.authentication.token` setting in the Form Server Installation Guide for more information. (PER-7285)
- Added two new settings, `connection.socket.keep.alive.enabled` and `forms.server.authentication.token`, to the [PerceptiveContentForms] > Perceptive Content Server settings section in the `imagenowforms.settings` configuration file. For more information, see the `imagenowforms.settings` parameter section in the Forms Server Installation Guide. (PER-7285)
- Added four new secure-processing options to the Java XML settings, `com.imagenow.xml.sax.parser.factory.secure.processing`, `com.imagenow.xml.document.builder.factory.secure.processing`, `com.imagenow.xml.schema.factory.secure.processing`, and `com.imagenow.xml.transformer.factory.secure.processing`. For more information, see the Configure Java XML topic in the Manage Content help. (PER-6942)
- Added four new settings, `forms.xsltcache.filesystem.size`, `forms.xsltcache.memory.size`, `forms.xsltcache.background.enabled`, and `forms.xsltcache.directory` to the [Forms] section in the `imagenowforms.settings` configuration file. These new settings improve form loading performance. The file system XSLT cache can only be used when using the XSLTC TransformerFactory. For more information, see the `imagenowforms.settings` parameter section in the Forms Server Installation Guide. (PER-6942)
- Resolved an issue that prevented some TransformerFactory implementations from creating Transformers in Forms Server. (PER-6942)

## Perceptive Content iConvert

- Resolved an issue where the `smtp.server.url` setting could prevent emails from being sent. (PER-6931)

## Perceptive Content Integration Server

- Perceptive Content Integration Server now supports Java 17. (PER-277)
- Perceptive Content Integration Server now supports Tomcat version 10. (PER-279)
- The GET `/user/{id}/privilege` and GET `userGroup/{id}/privilege` operations now require a set value of either TRUE or FALSE when the query parameter GLOBAL is passed in the request. (PER-6980)
- Improved handling of timed out socket connections to Perceptive Content Server. The `server.call.timeout.retry.enabled` setting was added to the [General] section of the `integrationserver.ini` configuration file. For more information, see the Appendix A: integration server.ini file options section of the Perceptive Integration Server Installation Guide. (PER-6889)
- Resolved issues with `server.call.retry.count` setting not correctly retrying the specified number of times after a call to Perceptive Content Server failed. (PER-6889)
- Added support for configurable Perceptive Content token scopes. For more information, see the `inserver.ini` [Perceptive Token Management] settings topic of the Manage Content help. (PER-7006)
- Updated Integration Server authorization API to support issuing identity tokens. For more information, see the Integration Server Operations documentation. (PER-7006)

- Updated Spring Framework dependencies to a newer version. (PER-7119)
- Updated CXF dependencies to a newer version. (PER-7119)
- The CXF 3.5 series is the last to support Java 8. We recommend upgrading to Java 11. (PER-7119)
- Added introspect operation to Integration Server authorization API to validate and inquire about the current state of a Perceptive access token. For more information, see the What is Perceptive Content introspection? topic of the Manage Content help. (PER-7007)
- Added a new operation, GET /v1/serverInfo/lgid, which returns the system license group ID of the Perceptive Content environment. (PER-7009)
- Resolved an issue where the Max-Age cookie attribute was not being set correctly. (PER-7286)
- Added support for an application session load balancer cookie. For more information, see the integrationserver.ini session.load.balancer.cookie.enabled setting in the Integration Server Installation Guide. (PER-7221)
- Added support for the SO\_KEEPALIVE option on sockets created when connecting to Perceptive Content Server. For more information, see the integrationserver.ini connection.socket.keep.alive.enabled setting in the Integration Server Installation Guide. (PER-7222)
- Added four new secure-processing options to the Java XML settings, com.imagenow.xml.sax.parser.factory.secure.processing, com.imagenow.xml.document.builder.factory.secure.processing, com.imagenow.xml.schema.factory.secure.processing, and com.imagenow.xml.transformer.factory.secure.processing. For more information, see the Configure Java XML topic in the Manage Content help. (PER-6942)
- Added four new settings, forms.xsltcache.filesystem.size, forms.xsltcache.memory.size, forms.xsltcache.background.enabled, and forms.xsltcache.directory to the [Forms] section in the integrationserver.ini configuration file. These new settings improve form loading performance. The file system XSLT cache can only be used when using the XSLTC TransformerFactory. For more information, see the integrationserver.ini file options section in the Integration Server Installation Guide. (PER-6942)
- Resolved an issue that prevented some TransformerFactory implementations from creating Transformers in Integration Server. (PER-6942)
- Implemented support for passing anti-CSRF tokens as a request header and allowed for query parameter support for anti-CSRF tokens to be disabled. Added a new setting, session.csrf.query.parameter.enabled, to the integrationserver.ini configuration file to configure this behavior. For more information, see the Appendix A: integrationserver.ini file options section of the Integration Server Installation Guide. (PER-605)
- Improved Integration Server performance by reducing resource contention. (PER-1136)
- Improved validation for OpenID Connect Login Profile names. Login profile names defined in the integrationserver.ini must be comprised of lower-case alpha-numeric characters. (PER-7346)
- Resolved an issue to suppress the document content in the integration server log file. Payload associated with JSON and XML are now logged in according to the configured log levels. (PER-6629)

## Perceptive Content OSM Agent

- Updated physical object cleanup work to reschedule work items of OSM trees that are currently in recovery. (PER-6997)

## Perceptive Content Server

- Added a new setting, `bypass.drawer.lock.on.capture`, to the [Capture] section in the `inow.ini` configuration file. For more information, see the `inow.ini` [Capture] settings topic of the Manage Content help. (PER-4603)
- Added a new setting, `enable.private.heap.allocators`, to the [Memory] section in the `inow.ini` configuration file. For more information, see the `inow.ini` [Capture] settings topic of the Manage Content help. (PER-6973)
- Updated libcurl to load the `libssl.so.1.1` and `libcrypto.so.1.1` on Linux. (PER-6989)
- Resolved an issue where a Perceptive Content Server session may fail to be promoted to active even though the current number of running Perceptive Content Server instances is within the concurrent license count. (PER-4985)
- Updated license monitoring to be performed by a single Perceptive Content Server instance in an Active-Active environment. (PER-4985)
- Updated Perceptive Content to handle connection cleanup in batches to minimize the possibility of database timeouts when attempting to start an agent that had many active connections when the instance was stopped. (PER-7038)
- Added a new setting, `inowd.session.cleanup.batch.size`, to the [Session Management] section in the `inow.ini` configuration file. For more information, see the `inow.ini` [Session Management] settings topic of the Manage Content help. (PER-7038)
- Added the ability to configure a whitelist of allowed scopes for supported token types. For more information, see the `inserver.ini` [Perceptive Token Management] settings topic of the Manage Content help. (PER-7006)
- Optimized workflow privilege resolution for Route from Anywhere queues. (PER-6995)
- Optimized the allocation of converters used for transcoding data during message serialization and de-serialization. (PER-7149)
- Optimized the queries used to associate a view with a department when populating views privileges. (PER-7149)
- Added new settings to manage verbose logging for message protocol serialization and de-serialization. For improved performance it is recommended that these settings are disabled. For more information, see the `inow.ini` [Debug] settings topic of the Manage Content help. (PER-7149)
- Added a new setting, `cache.offline.state.grace.period.seconds`, to the [Cross Node Cache] section in the `inow.ini` configuration file. For more information, see the `inow.ini` [Cross Node Cache] settings topic of the Manage Content help. (PER-7150)
- Updated cross-node cache to have a grace period prior to taking the cache fully offline after disconnecting from the message queuing broker. (PER-7150)
- For new installations, updated the default value of the `mq.client.reconnect.interval` and `mq.reconnect.interval` settings. We recommend that you review this setting in your current environments and decrease it to improve the speed of recovery when clients or agents are disconnected from the message queuing broker. For more information, see the [Message Queuing] settings topic of the Manage Content help. (PER-7150)
- Added a new INTool command, `create-introspection-bearer-token`, to create a bearer token that is authorized to invoke the Integration Server introspect endpoint. For more information, see the INTool commands > Server commands topic of the Manage Content help. (PER-7007)

- Updated ODBC driver compatibility for PostgreSQL. For more information, see the Perceptive Content Technical Specifications. (PER-7144)
- Added application support for the TLS 1.3 protocol when using Secure LDAP. On Windows, LDAP client support for TLS 1.3 is determined by the operating system. (PER-1312)
- Updated default TLS protocol policies for Secure LDAP. TLS 1.2 and TLS 1.3 are supported by default. For more information, see the `ldap.ssl.version.min` and `ldap.ssl.version.max` settings of the `inow.ini` [Logon Control] settings topic in the Manage Content help. (PER-1312)
- Distributed NSS 3.82 on Linux. Support for db7 databases has been removed. If the certificate database is no longer supported, create a new truststore database. For more information, see the Import a certificate into Perceptive Content Server on Linux topic of the Manage Content help. (PER-1312)

## Perceptive Content User Replication Agent

- Added application support for the TLS 1.3 protocol when using Secure LDAP. On Windows, LDAP client support for TLS 1.3 is determined by the operating system. (PER-1312)
- Updated default TLS protocol policies for Secure LDAP. TLS 1.2 and TLS 1.3 are supported by default. For more information, see the `ldap.ssl.version.min` and `ldap.ssl.version.max` settings of the `inow.ini` [Logon Control] settings topic in the Manage Content help. (PER-1312)
- Distributed NSS 3.82 on Linux. Support for db7 databases has been removed. If the certificate database is no longer supported, create a new truststore database. For more information, see the Import a certificate into Perceptive Content Server on Linux topic of the Manage Content help. (PER-1312)

## Known issues

- When running Windows installers that install to a remote shared location, both the current user and the SYSTEM user must have access to the shared location at installation time. To login as a different user, you can use the **net use** command in both the current user and SYSTEM context.

A workaround for this issue, if you choose not to give both the current user and SYSTEM user access, is to update the `environment.ini` configuration file to use a local directory. To update the file, complete the following steps.

1. Migrate the shared location to a local location on the machine. For more information, see the Perceptive Content Shared Directory Migration Guide.
  2. Run the installers.
  3. Migrate the shared location back to the remote location. For more information, see the Perceptive Content Shared Directory Migration Guide.
- The `forms.xsltcache.directory` setting in the `imagenowforms.settings` configuration file should only use relative paths. Using full paths will cause the `filesystem.xsltcache` to fail if `forms.xsltcache.filesystem.size` is enabled.