IDOL Server

Software Version 12.0.0

Release Notes

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Documentation updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

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Contents

Introduction to IDOL 12.0.0

IDOL 12 is the new major version of IDOL, which includes some significant new features, in addition to many other improvements and resolved issues.

The IDOL Server installer includes all of the major IDOL components.

- **IDOL Audio Analysis** functionality is now available in Media Server, so that you do not need to install IDOL Speech Server separately. See Media Server (Windows and Linux only), on page 24.

  > **NOTE:**
  > As a result of this change, IDOL Speech Server is not available separately in version 12.0.0.

- **IDOL Text Index Encryption**. You can now encrypt your IDOL text data index, using AES encryption. See Content Component, on the next page.

- **Geospatial Index**. The new IDOL text geospatial index improves the handling of geographical search. You can now index geographical regions, as well as points, and the new index supports several new FieldText operators for geographical searches. See Content Component, on the next page.

- **Dynamic Corpus Functionality**. Web Connector has new functionality to allow you to embed IDOL analytics into the decision making during the data collection process. It can now use custom algorithms to choose whether to ingest a page based on the result of a Lua script. See Web Connector (Windows and Linux only), on page 31.

- **Improved embedded Web browser**. The Web Connector has a new and improved embedded Web browser. See Web Connector (Windows and Linux only), on page 31.

IDOL NiFi Ingest

In addition to the new features and improvements available in the existing IDOL components, the wider IDOL 12.0.0 framework now includes IDOL NiFi Ingest.

IDOL NiFi Ingest is a new way to plan and configure your ingestion stream. It uses Apache NiFi to allow you to easily configure and manipulate your data ingest process, from your connectors, to KeyView and other import processes (such as media analysis and Eduction), and your IDOL index.

NiFi Ingest is intended as an alternative to the Connector Framework Server. For more information, refer to the *IDOL NiFi Ingest Help.*

New in this Release

The following sections describe the enhancements for the components of IDOL Server version 12.0.0.

Content Component

New in this Release

- You can now configure Content to encrypt document content that it stores on disk. Content uses 256-bit AES encryption. You can configure encryption by setting the `AESKeyFile` parameter in the `[DataEncryption]` configuration section to the path to your AES key file, or by setting the `-dataencryptionkey` command-line parameter to the 64-character hexadecimal AES key when you start Content. The command-line option takes precedence over any configured key file information.

  Encryption includes document data in the index and index cache, value mapping files used by the `parametric`, `match`, and `security` indexes, the term dictionary, the unstemmed term tree, the geospatial index, and also any data sent with index actions that is stored in your index queue before processing. You can determine the encryption status of your index by using the `GetStatus` action.

  To use index encryption in a distributed index, you must also update your DIH and DAH to version 12.0.0 or later.

- A new index type has been added to improve storage for geospatial information. You can configure fields to use this new index type by assigning the `GeospatialType` field property. This field property defines whether a particular field defines X, Y, latitude, longitude, or unified position information. The unified field type accepts Well-known text format POINT and POLYGON definitions, which specify a point or a region, respectively.

  You can use the new index type with the existing `DISTCARTESIAN`, `DISTSPHERICAL`, `BIASDISTCARTESIAN`, `BIASDISTSPHERICAL`, and `POLYGON FieldText` operators, as well as the following new operators:

  - `GEOINTERSECTS`. Finds points or regions that overlap a region that you specify.

  - `GEOWITHIN`. Finds points or regions that are wholly within a region that you specify.

  - `GEOCONTAINS`. Finds regions that wholly contain a point or region that you specify.

  You can also use the new fields for distance-based `Query` sorting, and `UserMetaFields`.

  You can configure the location of geospatial index files on disk by using the `GeospatialPath` configuration parameter in the `[Paths]` section. You can validate the state of the index by using the `DREVALIDATE` action with `Type` set to **Geospatial**, or by using the `ValidateGeospatial` configuration parameter. You can repair or update the configuration for the index by using the `RegenerateGeospatialIndex` configuration parameter in the `[Server]` section, or by using the `DREREGENERATE` action with `Type` set to **Geospatial**.

- The `Query` action now supports setting the `Highlight` parameter to `Proximity` in combination with `Print` set to `AllSections`.

- When `RequireGSSAuth` is configured, and an index connection is rejected, Content now logs the GSS Principal that initiated the connection.

- Query terms longer than 255 characters are now truncated, rather than ignored.

- You can now use the `AgentBooleanWeighting` configuration option with the `AbsWeight` query parameter. This might improve concept matching against AgentBoolean documents in some cases.

- Resilience to errors has been improved when updating the XML field names file (`main/xmln.db`).

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- Content could fail to deduplicate documents that were sent as update-only jobs in a distributed system if the system had reached its licensed capacity.

- Content sometimes highlighted section-broken XML documents incorrectly when the `Highlight` parameter was set to `Proximity` in a `Query` action.

- Content did not return query reason information for queries where the text had a leading wildcard character.

- When highlighting a term that contains a wildcard character, Content did not highlight content that contained a different stem form of the term.

- When using Korean sentence breaking, a misleading sentence breaking error could be returned if the `Text` parameter was UTF-8 encoded and contained only characters that have no corresponding mapping in the native Korean encoding.

  > **NOTE:**
  > To resolve this issue, you must update the `koreanbreaking` shared library in the `langfiles` directory.

- When using `SearchUncommittedDocuments` and when the index had more than one dynterm set, a `DRECOMPACT` operation could result in an interruption of service.

- Running a `GetStatus` action while the `DRERESIZEINDEXCACHE` was processing could result in an interruption of service.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Category Component

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  ○ **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  ○ **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  ○ **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Community Component

New in this Release

- You can now configure Kerberos communications between the Community component and its subcomponents. You can configure the `GSSServiceName` parameter in the `[AgentDRE]` and `[DataDRE]` sections to configure connections to the Agentstore and data Content component, respectively. When you use a DAH and DIH to connect to the Agentstore, you can also configure `DIHGSSServiceName` to connect to the DIH.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Connector Framework Server

CFS includes KeyView filters and can run Eduction. For new features and resolved issues related to these components, refer to the *KeyView Release Notes* and *Eduction Release Notes*.

New in this Release

- The Eduction task can write only the matched text to a document field, rather than the matched text, offset, and score. To configure this, set `SimpleOutput=TRUE`.

- CFS includes a new Lua function, `lang_detect`, to run language detection on a document.

- When parsing IDX and XML files and converting them to IDOL documents, CFS adds the filename of the original IDX or XML file to the `DREPARENTREFERENCE` and `DREROOTPARENTREFERENCE` fields of each resulting document.

- The server supports the `schedule` action, which schedules actions to run automatically on a defined schedule.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- CFS would report an import error when importing an empty zip file.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Controller

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Coordinator

New in this Release

- The number of Coordinator worker threads now scales automatically with the number of registered Controllers. You can configure a maximum value for this number of threads by setting the `MaxWorkerThreads` configuration parameter in the `[Server]` section. This parameter has a default value of 100.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

- **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

- **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

- **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- When a new Controller was added to Coordinator with the same UUID as an existing Controller, Coordinator overwrote the old Controller details with the new ones. Coordinator now returns an error when it receives a duplicate UUID.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Distributed Action Handler

New in this Release

- The DAH `GetStatus` action response now includes the encryption status of its Content child servers.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

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The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- DAH did not forward encrypted requests in OEM mode.

- DAH incorrectly returned a success response with empty `responsedata` when a child server returned an error description in the `/autnresponse/response` XML tag, and there was no `/autnresponse/responsedata` present. For example, this error could return when a client was not authorized to make a request because it used a non-valid GSS principal.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Distributed Index Handler

New in this Release

- You can now configure DIH to encrypt index data that it stores on disk in the index queue, and in the archive folder if you archive your index actions. DIH uses 256-bit AES encryption. You can configure encryption by setting the `AESKeyFile` parameter in the `[DataEncryption]` configuration section to the path to your AES key file, or by setting the `-dataencryptionkey` command-line parameter to the 64-character hexadecimal AES key when you start the DIH. The command-line option takes precedence over any configured key file information.

- When `RequireGSSAuth` is configured, and an index connection is rejected, DIH now logs the GSS Principal that initiated the connection.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

File System Connector

New in this Release

- The connector can send documents to NiFi Ingest, a new IDOL ingestion framework that is based on Apache NiFi. You can use NiFi Ingest instead of an IDOL Connector Framework Server.

- The connector supports the `schedule` action, which schedules actions to run automatically on a defined schedule.

- Field standardization can convert date values into custom date formats.

- The server can provide action responses in several different JSON formats. The default JSON response format (`ResponseFormat=JSON`) has been updated to use one of the new formats. For more information, refer to the documentation for the `ResponseFormat` action parameter.

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The connector would not stop when requested, if documents were being ingested.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Find

New in this Release

- You can now enable direct viewing of Web page content in the Find document preview, for example to allow you to view online videos directly. You configure this in the Find configuration file by using the new `previewWhitelistUrls` property in the `uiCustomization` section. This property accepts a mapping of strings that represent URL regular expressions to an underscore HTML template to use to generate the tag. For example:

```
"previewWhitelistUrls": {
    "^(https?://)?www\\.youtube(-nocookie)?\\.com/embed/.*": "<iframe
class=\"preview-document-frame\" allow=\"autoplay; encrypted-media\"
allowfullscreen src=\"<%-reference%>\">"
}
```

- You can now configure Find to display a chat box for use with an Answer Server conversation system. This option is available on the Find settings page.

- Find now adds hyperlinks to any links that it finds in the text response from Answer Server (that is, any text that starts with `http://`, `https://`, or that includes `<a href="">` tags. If the Answer Server response includes source information, and the source is a link, Find also hyperlinks the question to the source. If the source is just a name, it displays the name when the user hovers over the answer.

- When you use connector viewing mode, Find now uses the `AnyLanguage` option when it sends viewing requests, so that you can view documents in any language, rather than just the default language configured in IDOL.

- When you configure the `find.defaultusers` system property, Find now adds any default roles to the role list in Community, rather than replacing them. Find applies the default roles only if the user does not have permissions to log on to Find.

- You can now configure Find to add additional parameters to IDOL actions that use search filters (for example, `Query` and `GetQueryTagValues`) to identify the Find users. You can use these parameters, for example, to make it easier to troubleshoot issues, or in QMS to dynamically adjust queries for different users.

  To add user parameters, set the `idol.user.request.prefix` system property to a prefix to use for the parameters. Adding this parameter adds the user name to the request string, in a parameter with the name *Prefix*user, where prefix is your configured prefix. You can also add the `idol.user.request.fields` system property to define user fields to add as parameters. For more information, refer to the *Find Administration Guide*.

- You can now configure Find templates to activate when a document comes from a particular IDOL database. The template triggers configuration now accepts the `indexes` property, which you set to an array of database names.

- In the Find template configuration, the `regexIf` helper has been added. This conditional block helper accepts two arguments, a regular expression and a string to match. The conditional block runs if the specified string matches the regular expression.

- You can now specify the maximum number of documents to export in the CSV export, by setting the `exportStoreStateMaxResults` configuration option in the `config.json` configuration file.

- You can now configure the order that Find displays parametric values in the full list of parametric values for a field (that is, when a user expands the parametric fields list and clicks **See All** to view all values for that field). The new `parametricValuesSort` property in the `uiCustomization` section of the `config.json` configuration file allows you to set the sort order for these values. For a list of available options, refer to the *Find Administration Guide*.

- You can now configure Find to change the color that it uses to highlight search terms in the search results. By default, it highlights in bold. You can use the `styles.json` configuration file in the `customization` directory to add the `termHighlightColor` and `termHighlightBackground` properties, which sets the text and background color to use to highlight the search results.

- You can now use IDOL Community user profiles in Find. You can configure profiles in the new `profile` object in the `uiCustomization` section of the `config.json` configuration file. Setting up profiles enables a My Recommendations tab, which displays documents relevant to the user profile, and it also enables a new sort order for the list view to use intent-based ranking with QMS. For more information, refer to the *Find Administration Guide*.

- You can now optionally show the topic map, sunburst, trending, table, and recommendation tabs for users that have only the **FindUser** role, and not the **FindBI** role. You enable these options by modifying the `resultViewOrder` option in the `uiCustomization` section of the `config.json` configuration file. Previously these tabs would be hidden for users that have only the FindUser role, even if they were configured.

- You can now configure your map dashboard widgets to show your specified coordinates when the search results load, by using the `disableAutoZoom` property in the widget configuration. By default, the widget sets the zoom to show all the loaded markers.

- In the template configuration files, you can now use the `getFieldValue` and `getFieldValues` helpers as block helpers.

- Find now supports the new IDOL Content component geoindex fields, including unified `GeospatialType` fields that use POINT and POLYGON definitions in Well-known text format. For more information, refer to the *Find Administration Guide*.

  For the unified geospatial fields, Find now also supports the IDOL Content `GEOINTERSECTS` and `GEOCONTAINS FieldText` operators, which allow you to find all documents that have a Well-known text format shape that intersects or contains a polygon or point that the user provides. There is a new option on the geographic filters dialog box to allow users to change the operator.

- You can now configure Find to display a list of database options in the user interface for entity search, to control the databases that Find searches for the highlighting entity searches. For more information, refer to the *Find Administration Guide*.

- You can now optionally include a database restriction when you specify search text in the Find URL to start a search when you open the application. For example:

```
http://localhost:8080/public/search/databases/Archive,Twitter/query/my search
text
```

You must URI encode the search text and individual database names.

- You can now configure Find to include an action ID on the requests that it sends to IDOL, by setting the `idol.log.actionid.enabled` system property. Find generates the action ID by using a UUID string and an optional prefix, which you can configure by setting the `idol.log.actionid.prefix`.

- Find now uses QMS to retrieve related concepts, if it is configured. This change ensures that the related concepts apply any synonym or blacklist rules that you use for your queries.

- When expanding previews, Find now uses the IDOL `DREREFERENCE` field by default to avoid conflicts when there are documents with multiple reference fields. If you use a different field as your main reference, you can change this value by setting the `referenceField` property in the `config.json` file.

Resolved Issues

- Find did not save concepts correctly when an existing concept was modified to include an exact phrase search.

- Document previews did not display correctly for results in the Similar documents list.

- When exporting a map dashboard to PowerPoint, Find sometimes used blue map markers even if a custom marker color was configured.

- On the Settings page, the Find logo sometimes scrolled down the page and obscured options.

- The geographic map control selector could occasionally appear over the logout menu.

- When viewing the AUTN DATE chart, clicking the reset option could give a `Failed to load data` error when the underlying IDOL field was `NumericDateType`.

- For date fields, Find did not read IDOL *after upper end of range* and *before lower end of range* date labels, which could cause field filter loading to fail.

- In the `idol-access.log` file, responses were logged with the incorrect HTTP response code (off by 9).

HTTP Connector (Solaris only)

New in this Release

- The connector can send documents to NiFi Ingest, a new IDOL ingestion framework that is based on Apache NiFi. You can use NiFi Ingest instead of an IDOL Connector Framework Server.

- The connector supports the `schedule` action, which schedules actions to run automatically on a defined schedule.

- Field standardization can convert date values into custom date formats.

- The server can provide action responses in several different JSON formats. The default JSON response format (`ResponseFormat=JSON`) has been updated to use one of the new formats. For more information, refer to the documentation for the `ResponseFormat` action parameter.

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The connector would not stop when requested, if documents were being ingested.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

IDOL Admin

New in this Release

- IDOL Admin can now display statistics results from the IDOL Statistics Server component. The Statistics page is available from the Monitor menu, when you access IDOL Admin from Statistics Server.

- The Synchronize option is now available for more connectors.

- The Content component Regenerate option is now available for the new geospatial index.

Resolved Issues

- The details of child components of a Distributed Connector were not displayed correctly.

- The loaded resources for an IDOL Speech Server component were not displayed correctly.

- When a component had only one configured log stream, the log page did not display the logs correctly.

- Changing the database privilege did not update the value displayed in the interface until the whole page was refreshed.

- When the IDOL Content `[LanguageTypes]` configuration used a non-canonical name for a language, the **Languages only** table in the Languages status page displayed incorrect document counts.

IDOL Proxy Component

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

IDOL Site Admin

New in this Release

- IDOL Site Admin can now display statistics results from the IDOL Statistics Server component, using the embedded IDOL Admin interface. The Statistics page is available from the Monitor menu, when you access IDOL Admin from Statistics Server.

- The Content component Regenerate option is now available for the new geospatial index, in the embedded IDOL Admin interface.

- You can now edit the configuration file of services in IDOL Site Admin from the Service Control tab.

- When you register a service, IDOL Site Admin now automatically sets the service type from the `autn:commonname` that the service returns, if it is running. IDOL Site Admin now displays the type in the list of registered services. You can manually change it by using the Edit Service button.

Resolved Issues

- Document tracking did not show the source correctly when the component name contained an underscore character.

- The details of child components of a Distributed Connector were not displayed correctly.

- The loaded resources for an IDOL Speech Server component were not displayed correctly.

- When a component had only one configured log stream, the log page did not display the logs correctly.

- Changing the database privilege did not update the value displayed in the interface until the whole page was refreshed.

- When the IDOL Content `[LanguageTypes]` configuration used a non-canonical name for a language, the **Languages only** table in the Languages status page displayed incorrect document counts.

- On the Edit Service Control Method page, pressing Enter when focusing in the Script text input could cause the whole page to reload.

- On the Service Control page, some tooltips continued to be displayed after the user moved their cursor or the page was scrolled.

- When a service failed to start after being started from the Service Control page, IDOL Site Admin sometimes waited forever for the service to start. It now shows that start up failed, and reenables the start button.

- The IDOL Site Admin session cookie used the generic name `JSESSIONID`, which could result in session IDs being overwritten when multiple applications were run from the same domain. The IDOL Site Admin session cookie is now called `ISASESSIONID`.

  > **NOTE:**
  > If you want to run multiple IDOL Site Admin instances from the same domain, you can override the session cookie ID by adding the following argument to the Java run command:
  >
  > `-Dserver.session.cookie.name=MYNEWSESSIONNAME`
  >
  > This option allows you to keep the session details separate for your IDOL Site Admin instances.

Knowledge Graph Component

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

    - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

    - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

    - **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

    The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

License Server

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

    - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

    - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

○ **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Media Server (Windows and Linux only)

New in this Release

Media Server Core

- Media Server includes language identification, speech-to-text, speaker identification, audio matching, and audio categorization. You no longer need to install an IDOL Speech Server to perform these tasks. You can train speech-to-text custom language models, speaker identification, and audio matching by sending actions to Media Server. The configuration parameters for the audio analysis tasks have also been updated so that they are easier to configure and more consistent with other Media Server analysis engines.

- In session configuration files, you can list all of your processing tasks in a single section, `[Session]`, with a single parameter, `Engine`. In previous versions of Media Server you had to list tasks by engine type, using the parameters `IngestEngine`, `AnalysisEngine`, `EncodingEngine`, `OutputEngine`, and so on.

The following configurations are equivalent. Media Server 12 continues to support the older format.

Media Server 11	Media Server 12

`[Ingest]`
`IngestRate=1`
	`[Session]`
	`IngestRate=1`
	`Engine0=IngestSource`

```
IngestEngine=IngestSource          Engine1=FaceDetection
                                   Engine2=FaceRecognition
[Analysis]                         Engine3=CropImages
AnalysisEngine0=FaceDetection      Engine4=EncodeImages
AnalysisEngine1=FaceRecognition    Engine5=OutputXML

[Transform]
TransformEngine0=CropImages

[Encoding]
EncodingEngine0=EncodeImages

[Output]
OutputEngine0=OutputXML
```

- You can choose the directories to use for storing your Lua scripts and XSL templates by setting the new configuration parameters `LuaDirectory` and `XSLDirectory` in the `[Paths]` section of the configuration file.

- The `GetExampleRecord` action can now list example records from all analysis engines for a specific track.

- The server supports the `schedule` action, which schedules actions to run automatically on a defined schedule.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Ingest

- Media Server extracts subtitle (closed caption) images from ingested video. You can run OCR on the subtitles and extract the text.

- Media Server has a new ingest engine (`Type=VMS`) to ingest video from a Micro Focus Video Management Server.

Analysis

- Face recognition has a new configuration parameter, `OutputIdentities`, so that you can choose the types of identities to include in the output. For example, if you are attempting to recognize intruders in a building and your database contains people who are expected to be present, you could set `OutputIdentities=Unknown` to output only unrecognized faces.

- Images that contain multiple faces can be used to train face recognition. However, an image that contains multiple faces is accepted only if one of the faces covers more than double the image area of the others. The largest face is used to train Media Server and the others are ignored.

- Optical character recognition has a new mode (`Mode=Auto`) which automatically selects the algorithm to use to process still images.

- The following speech-to-text language packs have been improved:

Broadband	
English - British	ENUK
English - Singaporean	ENSG
English - US	ENUS
Italian	ITIT

Telephony	
Arabic - Modern Standard Arabic	ARMSA-tel
Chinese - Mandarin	ZHCN-tel
Czech	CSCZ-tel
Danish	DADK-tel
English - British	ENUK-tel
Italian	ITIT-tel
Portuguese - Brazilian	PTBR-tel
Russian	RURU-tel

- Clothing analysis now analyzes multiple video frames to produce a single result, which can increase accuracy. Providing you have sufficient computational resources, you can benefit from this improvement by setting the input for clothing analysis to the `DataWithSource` track that is generated by the face detection or object detection task that you have configured to identify people. The `Result` track generated by clothing analysis is more consistent with other analysis engines because it now contains a single record for each person. The clothing analysis engine now generates `Data` and `DataWithSource` tracks to provide the results for individual frames.

- Color clustering now analyzes multiple video frames to produce a single result, which can increase accuracy. When the input for color clustering is provided by an ingest engine, the color clustering task starts a new result when there is a significant change in the color clustering results. When the input is provided by an analysis engine that supports tracking, the color clustering task starts a new result for each event. The color clustering engine now generates `Data` and `DataWithSource` tracks to provide the results for individual frames.

- Image classification now analyzes multiple video frames to produce a single result, which can increase accuracy. When the input for image classification is provided by an ingest engine, the image classification task starts a new result when there is a significant change in the classification result. When the input is provided by an analysis engine that supports tracking, the image classification task starts a new result for each event. The image classification engine now generates `Data` and `DataWithSource` tracks to provide the results for individual frames.

- Image classification has a new configuration parameter `VariableState`, which specifies whether the classifier contains multiple classes that represent different states of the same type of object. For example, if you have an image classifier that recognizes dogs with classes "sitting dog", "standing dog", and "running dog", set this parameter to `TRUE`. This instructs Media Server that an object in a video can change states between frames.

- The following analysis engines now support segmented results:

    - Clothing analysis

    - Color clustering

    - Image classification

- Scene analysis can be configured to track objects and generate alarms only when the video from the camera matches a scene image. This is useful when you want to analyze video from a pan-tilt-zoom (PTZ) camera, but expect operators to move the camera, because it prevents false alarms being generated when the camera is moved away from the trained scene. You can use the scene analysis training utility to capture the scene image.

Encoding

- Media Server has a new encoding engine (`Type=EvidentialRollingBuffer`) for evidential recording.

Transformation

- Media Server has a new transform engine (`Type=SetRectangle`) which runs a Lua script to dynamically add a region to records. You might use this engine to add a region to be analyzed by a subsequent analysis task.

Resolved Issues

This section lists the resolved issues in Media Server version 12.0.0.

- Media Server could terminate unexpectedly if two PDF files were processed simultaneously.

- Processing document files such as PDF or RTF documents could cause unrelated Media Server actions to fail.

- In the scene analysis training utility, when a category was optimized but the user clicked cancel, the "Other Objects %" alarm filter did not revert to its original value.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Query Manipulation Server Component

New in this Release

- You can now adjust the `TypeAhead` action behavior to expand the user text as if it is a substring of the suggestion. By default, QMS expands a type ahead term as the start of any suggestion (for example, if the user types *th*, it might suggest *theater*, but never *with*). You can set the new `Behavior` action parameter to **substring** to instead match the user text as a substring (for example, to expand *th* to *theater*, *with*, and *anthem*).

    This parameter is available for all the type ahead modes. In dictionary mode, you can use the new `DictionaryMaxNGram` and `DictionaryMinNGram` configuration parameters in the `[TypeAhead]` section to adjust the matching behavior.

    > **NOTE:**
    > To use this parameter with type ahead in Answer Bank mode, you must also upgrade Answer Server to version 12.0.0 or later.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

    ◦ **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

    ◦ **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

    ◦ **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

    The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The request cooker Lua function `autn_aci.parse_request_string` did not allow parameter names that contained underscores.

- QMS did not return non-synonym rules in the `autn:expansionOrder` response if the request did not also activate a synonym rule.

- If the remote IDOL Content component language configuration included a sentence breaking DLL file that did not exist locally, and set additionally `SentenceBreakingOptions`, QMS could fail to configure language settings, resulting in errors for query actions. QMS now checks the `LanguageDirectory` configured in the QMS configuration `[LanguageTypes]` section, rather than using the paths returned from the remote IDOL.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Statistics Server Component

New in this Release

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use $ nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

View Server Component

New in this Release

- View now identifies additional charset encoding labels, including all the supported encodings listed in the WHATWG encoding standard (refer to https://encoding.spec.whatwg.org/#encodings). This change improves the range of page encodings that View server identifies and converts correctly.

- Several new modes have been added for the JSON response format. The `ResponseFormat` general ACI action parameter has the following new options:

  - **json/0**. The older JSON format, which returns single-element lists as objects rather than arrays.

  - **json/1**. A new JSON format, which returns single-element lists as arrays, for consistency with multiple-element lists.

  - **simplejson**. A new JSON format, similar to **json/1**, but it does not use `$` nodes to represent XML nodes unless the equivalent XML node contains attributes. This response format also does not use `autn:` prefixes in node names.

  The existing `ResponseFormat` option, **json**, uses your default JSON format, which you configure by setting the `JSONFormat` parameter in the `[Server]` section of the configuration file. The `JSONFormat` configuration parameter accepts the three values listed above, as well as **json**, which uses the latest JSON format version (currently **json/1**).

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- In Universal Viewing mode, document content taken directly from the Content component document store index could be incorrectly encoded if Content was configured with a default encoding other than ASCII.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a

client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Web Connector (Windows and Linux only)

New in this Release

- The embedded web browser that processes web pages has been updated, improving security, stability, and performance. When setting parameters that accept CSS selectors, you can now use CSS3 selectors. (This feature is not available on the RHEL7FIPS platform).

- Web Connector supports proxy servers that use the SOCKS5 protocol. To use a SOCKS5 proxy, set `ProxyScheme=SOCKS5`.

- The connector can obtain cookies from a list of URLs before it starts crawling a site. This means the connector can crawl sites that require it to have a cookie before it starts crawling (for example, a site might require you to log in and provide a cookie in response).

- The connector supports dynamic corpus functionality. This means that you can use IDOL analytics such as categorization to decide whether to ingest content. You can also use this feature to filter the links that are extracted from a page. The connector runs a Lua script to decide whether to ingest the page and which links to follow, so you can also implement a custom algorithm for deciding which pages to index. To specify the path to the script set the new configuration parameter `FilterPagesLuaScript`. To use this feature your Web Connector license must include dynamic corpus functionality.

- The connector can send documents to NiFi Ingest, a new IDOL ingestion framework that is based on Apache NiFi. You can use NiFi Ingest instead of an IDOL Connector Framework Server.

- The connector supports the `schedule` action, which schedules actions to run automatically on a defined schedule.

- Field standardization can convert date values into custom date formats.

- The server can provide action responses in several different JSON formats. The default JSON response format (`ResponseFormat=JSON`) has been updated to use one of the new formats. For more information, refer to the documentation for the `ResponseFormat` action parameter.

- The OpenSSL library has been updated to version 1.0.2n.

Resolved Issues

- Web connector now waits for scripts to finish when there are no `<script>` elements on a page but there is a relevant event, such as `<body onload="...">`.

- Web connector now applies custom JavaScript to all appropriate URLs in the loading process, rather than just the first.

- The connector would not stop when requested, if documents were being ingested.

- The `ShowPermissions` action did not show permissions for `SSLIdentities` configured in the `[AuthorizationRoles]`.

- If an ACI Server was configured to request client SSL certificates, running multiple requests from a client could sometimes fail with **session id context uninitialized** errors. For example, this could occur when loading IDOL Admin.

Upgrade Information

This section describes how to upgrade IDOL Server and its components.

Upgrade to IDOL 12.x

The simplest way to upgrade is to index data into a fresh installation of IDOL 12.0, while also activating any further functionality that is appropriate for your use case.

However, for most IDOL components, IDOL 12.0 is also fully compatible with existing installations and indexes, so you do not need to reindex.

> **IMPORTANT:**
> The default JSON response format has changed in IDOL 12.0. If you are using the JSON response format with an existing user interface, you might need to update your user interface to use the new format, or add the following value to your IDOL component configuration files to run the component in compatibility mode:
>
> ```
> [Server]
> JSONFormat=json/0
> ```

The IDOL Media Server 12.0 release includes significant changes to the configuration and installation files to incorporate the audio analysis functionality. To upgrade Media Server to 12.x, you must create a new installation of the component, and update the configuration file to include any functionality that is appropriate for your use case.

For more information about how to upgrade to IDOL 12, refer to the *IDOL 12 Upgrade Technical Note*.

If you want to upgrade from IDOL 10.x or earlier, there are additional required configuration changes. Refer to the *IDOL 12 Upgrade Technical Note*.

Requirements

This section describes the system requirements, supported platforms, and software dependencies for IDOL Server 12.0.0.

Minimum System Requirements

The following are minimum system requirements for IDOL Server 12.0.0 on any supported operating system platform:

- a dedicated SCSI disk

- 4 GB RAM

- 100 GB disk space

- a minimum of 2 dedicated CPU - Intel Xeon or AMD Opteron or above

To run IDOL Server version 12.0.0, or its components, on UNIX platforms, the server must have the following minimum versions of libraries:

- GLIBC_2.3.2

- GLIBCXX_3.4.20

- GCC_4.8.0

> **NOTE:**
> The IDOL Server installer and component stand-alone zip packages provide these libraries in the `libgcc_s` and `libstdc++` shared libraries.
>
> If you start components from the command line (rather than using the init script), you might need to set the `LD_LIBRARY_PATH` to include the *InstallDir*`/common` and *InstallDir*`/common/runtimes` directories, to ensure that the component can access the installed shared libraries.
>
> You can also copy the shared libraries to the component working directory.

To run IDOL Server version 12.0.0 on the Microsoft Windows operating system, you might need to update the Microsoft Visual C++ Redistributable packages. The IDOL Server installer includes the required redistributable files for Microsoft Visual C++ 2005, 2010, and 2013.

You can also update your packages by using the latest version at:

http://support.microsoft.com/kb/2019667

Software Dependencies

Some IDOL Server components depend on specific third-party or other Micro Focus IDOL software. The following table details the IDOL Server software and feature dependencies.

Component	Dependencies
Java	Windows, Solaris, Linux: JRE 8 or later
Browsers	- Internet Explorer 11 - Mozilla Firefox (latest version) - Chrome (latest version)

Supported Operating System Platforms

The following operating system platforms are available for IDOL Server 12.0.0.

- Windows x86 64
- Linux x86 64
- Solaris x86 64
- Solaris SPARC 64

The documented platforms are the recommended and most fully tested platforms for IDOL Server. The following sections provide more information about the most fully tested versions of these platforms.

Windows

- Windows Server 2016 x86 64
- Windows Server 2012 x86 64
- Windows 7 SP1 x86 64
- Windows Server 2008 R2 x86 64
- Windows Server 2008 SP2 x86 64

Linux

For Linux, the following lists the minimum recommended versions of particular distributions:

- Red Hat Enterprise Linux (RHEL) 6
- CentOS 6
- SuSE Linux Enterprise Server (SLES) 10
- Ubuntu 14.04
- Debian 7

Solaris

- Solaris 10

- Solaris 11

Notes

- If you are running IDOL server on the Solaris operating system, ensure you specify an installation path that is less than 30 characters. This prevents an issue with the stop script.

- Documentation for the deprecated `AdminClients`, `IndexClients`, `UserClients`, `QueryClients`, `ServiceControlClients`, and `ServiceStatusClients` parameters has been removed.

  This functionality is still available, but might be incompatible with new functionality, and might be deleted in the future. For details about the parameters, refer to the documentation for your components at version 11.6 or earlier.

Content

- Documentation for features related to the Verity Query Language (VQL) has been removed from the *Content Component Reference* and the *IDOL Server Reference*.

Category

- Documentation for the deprecated `[AnalysisSchedules] Number` parameter has been removed.

- Documentation for features related to the Verity Query Language (VQL) has been removed from the *Category Component Reference* and the *IDOL Server Reference*.

Eduction

- A new example script, `case_filter.lua` is available. This script provides an example of how to filter out matches by case, for example for use with personal name grammars. For more information, refer to the *IDOL Eduction User Guide*.

Media Server

- The standard Windows and Linux platforms now support GPU acceleration. If you want to enable GPU acceleration, you can now install Media Server with the standard IDOL installer. The `UseGPU` configuration parameter has been replaced with a new parameter named `CUDAVersion`.

- As a result of the improvements in audio analysis in Media Server 12.0.0, you must reconfigure your language identification, speech-to-text, speaker identification, audio matching, and audio categorization tasks. For information about configuring these tasks, refer to the *Media Server Administration Guide* and *Media Server Reference*.

- The following engines have been renamed:

Media Server 11.x	Media Server 12.x	Notes
LibAv	Video	
ObjectClass	ImageClassification	Image classification now returns results of type `ImageClassificationResult`.
ObjectDetection	ObjectClassRecognition	Object class recognition now returns results of type `ObjectClassRecognitionResult`.
		The relevant training actions have also been renamed.
		The `detector` configuration parameter has been renamed to `recognizer`.
		The `ListDatabases` action now returns entries named `objectclassrecognizer` rather than `detector`.
Object	ObjectRecognition	Object recognition now returns results of type `ObjectRecognitionResult`.

- The rolling buffer encoder no longer supports evidential mode. You can use the new evidential rolling buffer encoder instead.

- Media Server now generates records only in tracks that are used. For example, if you run face detection but do not use the face detection data track as the input for another task, Media Server does not generate records in that track.

- The default values for the following configuration parameters have been updated:

Feature	Configuration parameter	Default value Media Server 11.6	Default value Media Server 12.0
Media Server Core	StaticDataDirectory	`./`	`./staticdata/`
Face recognition	MaxRecognitionResults	5	1

Database Upgrade

> **IMPORTANT:**
> If you are upgrading from Media Server 11.3 or earlier, you must update the training database schema before installing Media Server 12.0.0.

- If your training data is stored in the internal database, upgrade to Media Server 11.4, 11.5, or 11.6 and start Media Server so that it can update the database.

- If your training data is stored in a MySQL or PostgreSQL database, run the appropriate database upgrade script. The database upgrade scripts for Media Server 11.3 and earlier are included with Media Server 11.4, 11.5, and 11.6.

For more information about upgrading the database schema, refer to the *Media Server Administration Guide*.

Deprecated Features

Category	Deprecated Feature	Deprecated Since
Analysis engines	Event tracks. The analysis engines that produce event tracks now have `Start` and `End` tracks. The `Start` and `End` tracks are the same as the `Data` track, but they only contain the first or last record for each event. This means that the records describing the start and end of events now have the same schema as records that provide the analysis results.	12.0.0
Scene Analysis	The configuration parameters `IsasTrainingDirectory` and `IsasAlarmDirectory`. Micro Focus recommends that you use the parameters `SceneAnalysisTrainingDirectory` and `SceneAnalysisAlarmDirectory` instead.	12.0.0
Server / Service	The `AdminClients`, `QueryClients`, `ServiceControlClients`, and `ServiceStatusClients` configuration parameters. Micro Focus recommends that you use authorization roles instead.	11.5.0
Rolling buffer	The action parameter `name`, available on the actions `AddStream`, `EditStream`, `GetStreamInfo`, `PreAllocateStorage`, and `RemoveStream`. Micro Focus recommends that you use the parameter `stream`, instead. The action parameters `OldName` and `NewName`, on the action `RenameStream`. Micro Focus recommends that you use the parameters `Stream` and `NewStream` instead.	11.4.0

Removed Features

The following features have been removed:

- Time durations with default units. In previous versions of Media Server, you could specify some time durations without units and the value would default to either seconds or milliseconds. In Media Server 12.0.0 you must specify the units.

- The `IngestTime` configuration parameter, from the `LibAv` ingest engine. Micro Focus recommends that you use the new configuration parameter `IngestDateTime` instead. The new parameter accepts values in a greater number of formats.

- The `Wittwin` ingest engine.

- The `Mode`, `ModeValue`, and `UseFrameDuplication` configuration parameters, from speech-to-text. You can replace all of these parameters with the new parameter `SpeedBias`.

- The `Bayesian` and `Maxvote` classifier types, for image classification. Convolutional Neural Network (`CNN`) classifiers provide better accuracy.

  > **NOTE:**
  > When you upgrade to Media Server 12.0, any Bayesian or Maxvote classifiers that exist in your training database are marked as `STALE`. You cannot use these classifiers to run image classification unless you retrain them as CNN classifiers. To retrain a classifier, run the `BuildClassifier` action. Micro Focus recommends that you review the training requirements for CNN classifiers because you might be able to achieve better accuracy by adding additional training images.

- The `ANPRFormatsDirectory` and `ANPRWeightsDirectory` configuration parameters. You can set the path for all static data folders by setting the configuration parameter `[Paths] StaticDataDirectory`.

- The configuration parameters `BlackAndWhiteCamera` and `RepeatDelay`, from number plate recognition. Media Server 11.5.0 and later automatically detect whether the source video is black-and-white. Media Server 11.6.0 and later produce a single result record for each appearance of a vehicle.

- The `resultstatus`, `integrationstatus`, and `finaldata` fields in number plate records.

- The configuration parameters `OutputAllIntResults` and `PlateSizeUnit`, from number plate recognition. You can use the new parameters `OutputAlternativeResults` and `CharHeightUnit`, respectively.

- The OCR configuration parameter `ImageBinarizeMethod`.

- The language ID configuration parameter `CumulativeMode`. Use the parameter `Mode` instead.

- Speaker identification with GMM models.

- The scene analysis configuration parameters `LearntSceneActivityTreshold`, `LearntSceneCompareProportion`, `LearntSceneDirectory`, `LearntSceneStem`, and `PtzFolder`.

- The scene analysis output track `TrainingUtilAlarms`.

Query Manipulation Server

- Documentation for the deprecated `[DAH]` configuration section has been removed.

Documentation

The following documentation was updated for this release.

- *IDOL 12 Upgrade Technical Note*

- *IDOL Expert*

- *IDOL Getting Started Guide*

- *IDOL Server Reference* (online help)

- *IDOL Server Administration Guide*

- *IDOL Document Security Administration Guide*

- *Distributed Action Handler Reference* (online help)

- *Distributed Action Handler Administration Guide*

- *Distributed Index Handler Reference* (online help)

- *Distributed Index Handler Administration Guide*

- *License Server Reference* (online help)

- *License Server Administration Guide*

- *Connector Framework Server Reference* (online help)

- *Connector Framework Server Administration Guide*

- *File System Connector (CFS) Reference* (online help)

- *File System Connector (CFS) Administration Guide*

- *HTTP Connector (CFS) Reference* (online help)

- *HTTP Connector (CFS) Administration Guide*

- *Web Connector Reference* (online help)

- *Web Connector Administration Guide*

- *QMS Reference* (online help)

- *QMS Administration Guide*

- *Media Server Reference* (online help)

- *Media Server Administration Guide*

- *Controller Reference*

- *Coordinator Reference*

- *Sentence Breaking API Technical Note*

- *Knowledge Graph Reference* (online help)

- *Knowledge Graph Administration Guide*

- *Find Administration Guide*

- *IDOL Admin User Guide*

- *IDOL Site Admin Installation Guide*

- *IDOL Site Admin User Guide*