

# **HPE IDOL Server**

Software Version: 11.1.0

**IDOL Server Release Notes** 

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# Contents

New in this Release	6
Content Component New in this Release Resolved Issues	
Category Component New in this Release Resolved Issues	
Community Component	10
New in this Release	10
Resolved Issues	10
Connector Framework Server	10
New in this Release	10
Resolved Issues	11
Controller New in this Release Resolved Issues	
Coordinator	12
New in this Release	12
Resolved Issues	12
Distributed Action Handler New in this Release Resolved Issues	
Distributed Index Handler	13
New in this Release	13
Resolved Issues	13
File System Connector CFS	13
New in this Release	13
Resolved Issues	14
HTTP Connector CFS (Solaris only)	14
New in this Release	14
Resolved Issues	15
IDOL Admin	15
New in this Release	15
Resolved Issues	15
IDOL Proxy Component	16
New in this Release	16
Resolved Issues	16

IDOL Speech Server	16
New in this Release	
Resolved Issues	
License Server	
Resolved Issues	
Media Server (Windows and Linux only)	10
New in this Release	
Resolved Issues	
Query Manipulation Server Component	23
New in this Release	23
Resolved Issues	
Statistics Server Component	
New in this Release	
Resolved Issues	
View Server Component	
Resolved Issues	24
Web Connector (Windows and Linux only)	25
New in this Release	
Resolved Issues	
Upgrade Information	
Upgrade to IDOL 11.x	
Upgrade Document Tracking	
Poquiromente	20
Requirements	
Minimum System Requirements	
Software Dependencies	
Supported Operating System Platforms	
Notes	
Documentation	34

## New in this Release

The following sections describe the enhancements for the components of IDOL Server version 11.1.0.

## **Content Component**

### New in this Release

• The Content component now supports Unicode characters between U+10000 and U+10FFF in index fields in documents encoded as UTF-8. These characters require four bytes to encode. This means that you can make it possible to search for characters such as emoji symbols by adding them to the TangibleCharacters or SoftSeparators configuration parameters for your language configuration.

Some 4-byte UTF-8 characters are now tangible (text) by default. In particular, the CJK ideographs from Extension blocks B-E (20000-2CEAF), and the CJK Compatibility Ideographs Supplement (2F800-2FA1D) are now included as text. These characters are also recognized as CJK when you set NGramOrientalOnly to True.

In addition, characters that are listed as letters in the following scripts now also treated as tangible by default: Ahom, Avestan, Bassa Vah, Brahmi, Caucasian Albanian, Chakma, Cuneiform, Deseret, Elbasan, Gothic, Grantha, Hatran, Imperial Aramaic, Inscriptional Pahlavi, Inscriptional Parthian, Kaithi, Kharoshthi, Khojki, Khudawadi, Linear A, Linear B, Lycian, Lydian, Mahajani, Manichaean, Meroitic, Miao, Modi, Multani, Nabataean, Old Hungarian, Old Italic, Old North Arabian, Old Permic, Old Persian, Old South Arabian, Old Turkic, Pahawh Hmong, Palmyrene, Phoenician, Psalter Pahlavi, Sharada, Siddham, Sora, Takri, Tirhuta, Ugaritic, Warang Citi.

- The Content component now supports ligature characters as part of European ordering rules for sorting alphabetically when the SortComparisonMethod configuration parameter is set to 1. In this case, ligatures are treated as variations on the base letter (for example, æ is a variation of ae), and are sorted after accented characters (for example a á æ b).
- You can now preserve the index queue when you initialize your index by using the DREINITIAL index action. To preserve the queue, set the PreserveOnInitial configuration parameter to True in the [IndexQueue] section. By default, the index queue is reset. You can also override the configuration parameter by setting the PreserveQueue parameter in the DREINITIAL index action.

The configuration parameter and action parameter apply only when you reset the index. When you use DREINITIAL to restore the index from a backup, Content always replaces the existing index queue with the index queue in the backup.

- The generation of **Context** summaries with the Sentences parameter has been improved so that Content can now identify list-like items as sentences.
- The GetTagNames action FieldType parameter now accepts a comma-separated list of field types.
- The performance of Fuzzy queries has been improved, by making use of the unstemmed index. Fuzzy matches now also more closely match the user's input text.

The FuzzyUseUnstemmed configuration parameter has been added to the [Server] section. Set this parameter to False if you want to use the previous matching behavior.

• The TermInfoReadBlockSize configuration parameter has been added to the [Server] section. This parameter allows you to tune the size of each disk read when term information is read.

In most cases, HPE recommends that you use the default value. However, different storage devices have different characteristics, so you might be able to improve performance by modifying this parameter, particularly if Content is reading many terms, for example when it processes a broad Wildcard query.

- The timer set by the MaxSyncDelay parameter now starts only when there is data to flush to disk (work that needs to be done). Previously, the timer would run continuously so that the first job received MaxSyncDelay seconds after the last flush always triggered an immediate flush.
- The IncludeExpiredResults parameter has been added to the [Server] section. Set this parameter to False if you want Content to check the expiration dates for documents at query time, and exclude any documents that have expired.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- The DocumentStats action with the QueryAnalysis parameter set to True can now operate without a MatchID or MatchReference restriction.
- If a stop list file was configured but did not exist, the Content component failed to start without any indication of what the error was.
- Content could not process a DREDELDBASE index action if the configuration file was marked as readonly.
- At startup, an inconsistent refindex could cause the server to exit silently. It now exits with an
  appropriate log message.
- The GetQueryTagValues action could return an error when a metafield (including usermetafields) existed in the FieldName parameter and RestrictedValues was set to True.
- When the IndexCompression configuration parameter was set to 2, attempting to use a Wildcard in a proximity expression could lead to an interruption of service.

**Note:** When IndexCompression is set to 2, Content does not store proximity information, so proximity queries are not supported. For more information, refer to the *IDOL Server Reference*.

- A complex query that contained a phrase that started with a very common term could cause an interruption of service if a document that contained an agentweight was evaluated during the query processing (for example, because it matched some other part of the query).
- A query for a term that occurred in many documents could result in an interruption of service if a large proportion of those documents had been deleted and a compaction was running.
- If the reference nodetable was damaged then a DREEXPORTIDX index action would fail, even though the main nodetable files were still intact.

- A document that used a ReferenceMemoryMappedType field to link back to a document that contained multiple reference fields could successfully link to only the first reference value in the document.
- A DRECOMPACT index action sometimes failed to update the statistics used for scoring, resulting in erroneous term weights.
- Indexing individual IDX documents larger than 2GB in size could result in an interruption of service (either when stored or when retrieved in a query). Documents above this size are now rejected at index time.
- Querying large documents between 1GB and 2GB in size could result in an interruption of service.
- When NodeTableSecureDelete was set to True, and duplicates were indexed, a spurious index log message could be generated.
- The MemoryReport action could show a negative amount of memory for the term cache if persistent TermCache settings were configured.
- The persistent term cache was not used correctly after new terms were indexed.
- Sending a DREINITIAL index action with the RestoreTime parameter when there was no configured archive directory could result in an interruption of service.
- When there were a large number of custom characters (separators, tangible characters, and so on) in the language configuration, the internal ConceptSettings action (for example, used by the Category component to its configured Agentstore) could cause an interruption of service.
- The QuerySummary response could include blank or whitespace elements when the SoftSeparators configuration parameter included non-alphanumeric characters.
- In the GetQueryTagValues action, specifying the DateOffset parameter could force the output XML to be encoded in ISO-8859-1, regardless of the value of OutputEncoding or the original document encoding.
- Content did not detect when the SortFieldStorageLength configuration parameter was modified without regenerating the index. These changes are now logged, and result in a configuration validation error.
- Data in SortType fields that was not valid (for example, because the SortFieldStorageLength option was modified without regenerating the index) could cause an interruption of service.
- Canceling a DREADD index action that was being processed could result in incorrect (possibly negative) document counts for databases in the GetStatus response.
- In GenericStemming mode, when both German and Dutch stemming schemes were enabled, certain terms could be stemmed incorrectly, with the stemmed form being potentially invalid UTF-8.
- Parametric ranges were only printed to six significant figures. Content now returns the full precision instead.
- A TextParse query that contained a TextParseIndexType field that contained only whitespace characters could fail with an error.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Category Component**

### New in this Release

• The performance for training a category using a large quantity of documents (specified by using a state token) has been significantly improved.

In addition, the FastBuild parameter has been added to the CategoryCreate and CategorySetTraining actions. You can use this parameter when you specify the training as a state token (StateID) to speed up the calculation of terms and weights for a category. If you set FastBuild to True, you must use BuildNow to build the category immediately, and you cannot use the CategoryBuild action to build the category. In addition, if you use FastBuild to build a category, the category cannot accept any additional training (that is, you can only use a StateID to train the category, and you cannot retrain the category).

• The CategoryExportToXML and CategoryImportFromXML actions are now available when you have set the MultipleParentsAllowed configuration parameter to True.

**Note:** When the MultipleParentsAllowed configuration parameter is set to True, the CategoryImportFromXML action rejects any category that conflicts with another. This includes categories that have the same ID, or the same name and position in the category hierarchy.

- The NormalMinDocOccs parameter has been added to the CategorySetDetails action. You can set this parameter to the minimum number of documents that a term must occur in for the term to be given a weight in the category training. The default value is 0.
- You can now update the details for a simple category before you build it by using the CategorySetDetails action.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- When the Category component was connected to a Content component that had the NGramOrientalOnly parameter configured, the Category component could ignore the NGramOrientalOnly parameter in its internal language configuration.
- At full log level, Category sometimes added log messages without using new lines.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Community Component**

### New in this Release

- The BaseDNPassword configuration parameter for LDAP security repositories now accepts a basic or AES encrypted password string, as well as plain text.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- On some Windows operating systems, when Community was configured with NT security, running the Security action could result in an interruption of service.
- The BackupServer action did not back up the Community configuration file.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

### **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

- CFS can enrich documents that represent image and video files by sending the media to Media Server for analysis. There is a new analysis task named MediaServerAnalysis, and new Lua functions named analyze\_media\_in\_document and analyze\_media\_in\_file.
- The parameter IndexBatchSizeBytes has been added. This specifies the maximum size a batch of documents can reach, in bytes, before CFS indexes the batch.
- CFS supports the following Lua functions:
  - delete\_path, which deletes an empty directory.
  - extract\_text, which extracts text from a string of data.
  - extract\_text\_from\_file, which extracts text from a file.
  - LuaConfig:new, which is the constructor that creates a new LuaConfig object.

- LuaDocument: new, which is the constructor that creates a new LuaDocument object.
- removeSection, which is available on LuaDocument objects and removes a specified document section.
- script\_path, which returns the path and file name of the script that is running.
- Asynchronous action queues can be stored in a MySQL database.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

- Temporary files were not deleted in cases where a Lua script was used to modify the content of a document and the size of the content was reduced from over 1MB to less than 1MB.
- In document metadata produced as a result of sending audio to Speech Server, non-ASCII characters were not encoded correctly.
- The ShowPermissions action did not return details for ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## Controller

#### New in this Release

- You can use the new StatisticsDirectory and ServiceMonitoringDirectory parameters in the Paths section of the configuration file to configure the location of the Stats.db and MonitoringDatabase.db database files.
- The GetStatus action now returns a new field, ssl\_indexport\_enabled. This field consists of a Boolean value that indicates whether SSL is configured.
- If you are using a script to control a service, the GetServices action now returns the Linux script name for the service.
- This release of Controller supports the uploading of files as post bodies, without requiring you to Base64-encode them first.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

• An issue affecting Linux and Solaris was resolved whereby the StartService action failed to start connectors when the ControlMethod parameter was set to Process.

- The GetServices action now displays running services correctly on Solaris.
- An issue with ACI timeout errors in the statistics monitoring log file was resolved.
- Process type statistics now save values over time rather than recording a single value.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## Coordinator

#### New in this Release

- You can use the new StatisticsDirectory parameter in the Paths section of the configuration file to configure the location of the Stats.db database file.
- The GetStatus action now returns a new field, ssl\_indexport\_enabled. This field consists of a Boolean value that indicates whether SSL is configured.
- This release of Coordinator supports uploading files as post bodies, without requiring you to Base64encode them first.
- The StartService, StopService, and RestartService actions are now all asynchronous by default, but you can run them synchronously by setting the Synchronous parameter to True.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- Process type statistics now save values over time rather than recording a single value.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Distributed Action Handler**

#### New in this Release

There were no new features in Distributed Action Handler version 11.1.0.

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

- When the DAH was not configured in SimpleCombinatorMode, it would not process the LanguageSettings action correctly.
- When configured with distributor VDBs, the DAH could handle databases in SecurityInfo strings incorrectly.
- When using SecurityInfo strings with distributor VDBs, the DAH could load-balance incorrectly.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Distributed Index Handler**

### New in this Release

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

• The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **File System Connector CFS**

### New in this Release

- Asynchronous action queues can be stored in a MySQL database.
- The connector supports the following Lua functions:
  - delete\_path, which deletes an empty directory.
  - LuaConfig:new, which is the constructor that creates a new LuaConfig object.
  - LuaDocument: new, which is the constructor that creates a new LuaDocument object.
  - removeSection, which is available on LuaDocument objects and removes a specified document

section.

- script\_path, which returns the path and file name of the script that is running.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- The synchronize fetch action could fail when provided with an identifier, because some platforms use backslashes as a path separator and others use forward slashes. When the connector runs on Windows, the synchronize action now accepts both, but the identifiers added to ingested items always use backslashes.
- The identifier returned by the insert fetch action did not match the identifier returned when the item was subsequently indexed into IDOL Server.
- The connector could terminate unexpectedly if it encountered an XML file with a file size of 0 bytes.
- The connector could terminate unexpectedly if the view action was used to view a file with a file size of 0 bytes.
- The ShowPermissions action did not return details for ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## HTTP Connector CFS (Solaris only)

### New in this Release

- Asynchronous action queues can be stored in a MySQL database.
- The connector supports the following Lua functions:
  - delete\_path, which deletes an empty directory.
  - LuaConfig:new, which is the constructor that creates a new LuaConfig object.
  - LuaDocument: new, which is the constructor that creates a new LuaDocument object.
  - removeSection, which is available on LuaDocument objects and removes a specified document section.
  - script\_path, which returns the path and file name of the script that is running.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

• The ShowPermissions action did not return details for ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **IDOL Admin**

### New in this Release

- IDOL Admin now supports the following browsers:
  - Internet Explorer 11 and later
  - Edge
  - Chrome (latest version)
  - Firefox (latest version)
- If the amount of server capacity used is greater than 70%, the IDOL Admin interface displays capacity information on the **Overview** tab on the Status page.
- If IDOL Admin is deployed against a License Server, you can view information on aggregated resource usage and limits in the **Licenses** section in the Control menu.

### **Resolved Issues**

- An issue with the PurgeDatastore action in Internet Explorer 11 was resolved.
- Missing tabs and pages now display when IDOL Admin is deployed against a DAH.
- An issue was resolved whereby IDOL Admin terminated unexpectedly on startup when deployed against a DAH in non-mirror mode pointing at two Content instances with different language settings.
- The query on the **Test Action** tab in the Console section now allows for any language type, rather than just the default language type.
- An issue was resolved whereby IDOL Admin for a DAH did not load when the DAH was configured with a CFS distributed engine.

## **IDOL Proxy Component**

### New in this Release

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- If an action returned certain errors, including connection timeout and unrecognized actions, IDOL Proxy returned the response in XML format, regardless of the value of the ResponseFormat parameter.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **IDOL Speech Server**

#### New in this Release

TelWavToTextPunct

• This release includes a set of tasks that you can use to add punctuation to speech-to-text output:

WavToTextPunct	StreamToTextMusicFilterPunct
StreamToTextPunct	PunctuateCtm

You can use the new NonSentFinalWords parameter with any of these tasks to specify a list of

words in the recognized language that are highly unlikely to end a sentence.

• This release includes a new set of alternative tasks for audio fingerprinting:

AfptMatchWav	AfptAddTrackStream
AfptMatchStream	AfptRemoveTrack
AfptAddTrackWav	AfptDatabaseInfo

These tasks are based on a more robust but less scaleable algorithm, and as such are more tolerant of echos, audio distortion and so on, but are only useable with smaller datasets.

• You can use the FrameDupl parameter to allow for greater time efficiency with only a minimal loss of

recognition accuracy. You can use this parameter in the following tasks:

WavToText	StreamToTextMusicFilter
StreamToText	WavPhraseSearch
TelWavToText	WavToFMD

- This release includes three new standard tasks that allow greater control over reviewing and editing the thresholds associated with speaker templates:
  - The SpkIdSetEditThresh parameter allows you to modify the threshold of a single template in an audio template set file.
  - The SpkIdTmpEditThresh parameter allows you to modify the threshold of a single template by specifying the template file.
  - The SpkIdTmpInfo parameter allows you to write information on specified template file to a log file.
- You can use the TimeQuant configuration parameter in the afp module, and the TimeQ action parameter in the afpMatchWav and afpMatchStream tasks, to control the amount of quantization to use.
- You can use the MinPhoneRate parameter in language identification tasks to manipulate the threshold at which a segment is considered valid. You can use this parameter in the following tasks:

LangIdSegWav	LangIdBndStream
LangIdCumWa∨	LangIdSegLif
LangIdBndWa∨	LangIdCumLif
LangIdSegStream	LangIdBndLif

LangIdCumStream

In addition, you can also use the SpeechThresh and SilThresh parameters in the LangIdFeature task and all the tasks mentioned above, to manipulate the threshold between speech and non-speech, or silence and non-silence.

- You can specify the name of the generated Language Model Information file by using the NewLmInfoFile parameter. You can retrieve the file by using the GetResults action with the Label parameter set to 1mi. You can also use the NewLmInfoFile parameter in the [lmbuild] module to set the output LMI file name. In addition, the NewDictionary parameter in the [lmbuild] module and LanguageModelBuild task is no longer compulsory.
- You can use the new DropFrames parameter in the [filter] module to discard filtered frames rather than including them in the output.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

- The default value for the DataExt action parameter and the DataListExt configuration parameter has been changed from .plh to .atv. This affects the SpkIdDevel and SpkIdTrain tasks, and the audiotemplatedevel and audiotemplatetrain modules.
- Segmentation of Chinese, Japanese, and Korean now uses the latest Rosetta Language Processing (RLP) libraries, to resolve an issue with loss of service when using older libraries.
- An issue was resolved that could lead to loss of service when outputting multiple speech-to-text lattice files simultaneously across multiple tasks.
- The default values for the LabPath, LabExt, and Format parameters in the audioTemplateDevel, audioTemplateTrain, and sidout modules have been updated. In addition, the FullInfo parameter in the sidout module has been deprecated.
- In Speaker Identification, the speaker name in non-speech sections is now NonSpeech\_instead of Unknown\_.
- LMI files generated by LanguageModelBuild tasks are now deleted when you call the DeleteResults action, as well as TLM and DCT files.
- An issue was resolved that could lead to errors whilst running multiple speaker ID development tasks in parallel.
- Audio fingerprint matching now gives an error if the supplied database is empty (that is, if it contains no audio tracks), instead of processing the data regardless of the fact that it will never produce any results.
- ENUS normalization now uses the correct format for spelling out months. In addition, 1000 is correctly normalized as *one thousand*, and 2:00 pm is now correctly spelled as *two pm* instead of *two zero pm*.
- The language model loading process is now more robust in terms of handling network errors.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **License Server**

#### New in this Release

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

• The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## Media Server (Windows and Linux only)

#### New in this Release

#### Media Server Core

- Media Server can process image files.
- Media Server can process office document file formats, such as PDF files and Microsoft Office documents, that can contain both embedded images and text.
- The SourceData parameter has been added to the process action. You can use this parameter to upload a media file through an HTTP POST request.
- In the latest activity page, available through action=activity, the host name and ACI port of the Media Server are populated automatically.
- Asynchronous action queues can be stored in a MySQL database.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

#### Ingest

- Media Server includes a new ingest task (Type=Image) for ingesting image and document files.
- Media Server can ingest video streamed using the RTMP and MMS protocols.
- The configuration parameter StartOffset has been added to the LibAv ingest task. You can use this parameter with the MaximumDuration parameter to specify part of a video file to process.

#### Analysis

- Media Server includes new analysis tasks:
  - Audio match analysis (Type=AudioMatch) uses an IDOL Speech Server to identify occurrences
    of known audio clips in ingested audio or video. One use case for audio matching is to detect
    copyright infringement.
  - Clothing analysis (Type=Clothing) provides the location of the clothing covering the upper body of a person detected by face detection.

- Image Hash analysis (Type=ImageHash) generates a hash that describes the approximate color distribution of an image or video frame. The hash is suitable for indexing into IDOL Server. You can use image hashes to detect duplicate images, because identical images will have identical hashes.
- Language identification (Type=LanguageID) uses an IDOL Speech Server to determine the language of speech in audio or video.
- Object detection (Type=ObjectDetection) detects instances of objects that belong to predefined classes, such as "car" or "van". The task returns a bounding box for each detected object.
- News segmentation (Type=NewsSegmentation) analyzes news broadcasts and identifies the times at which news stories begin and end. It also extracts the key terms from each story.
- Media Server can read additional types of barcode:

Codabar	EAN-13	Patch Code
Code-128	EAN-8	PDF417
Code-39	125	UPC-A
Code-93	IATA 2/5	UPC-E
Datalogic 2/5	Industrial 2/5	
Data Matrix	Matrix 2/5	

- Media Server uses a new algorithm for face demographics analysis that uses convolutional neural networks. The new algorithm provides better accuracy with similar speed.
- The OCR analysis task supports the OCRMode configuration parameter, which specifies whether the input images are pages of machine-printed text, or images of scenes that contain text.
- The OCR analysis task handles all text extracted from PDF files and office documents. The output of the task includes the text produced by running OCR on embedded images, and also the embedded text extracted directly from the file.
- Speaker identification uses the new speaker identification functionality introduced in IDOL Speech Server 11.0. The new functionality allows Speech Server to be faster, more efficient in terms of memory use, and more scalable.
- The accuracy of optical character recognition in number plate recognition has been improved.
- The face detection and OCR analysis tasks support the configuration parameter NumParallel. This specifies the number of frames to analyze concurrently when processing video.
- The color cluster and image classification tasks support a new configuration parameter, RestrictToInputRegion. This specifies whether to analyze a region of the input image or video frame that is described in the input record, instead of the entire image. For example, if you use object detection to detect an object, you can use color analysis to analyze only the region where the object is located.
- The image classification task supports a new configuration parameter, ClassificationThreshold. This specifies the minimum confidence score necessary for Media Server to output a classification result.

- Media Server can synchronize with the training database (load the latest training) before beginning an analysis task. The configuration parameter SyncDatabase has been added to the analysis tasks for face recognition, object recognition, vehicle model identification, and image classification.
- The action UnsyncClassifiers has been added. This removes all image classification training from memory. If image classification is not required, you can use this action to reduce memory use.
- Media Server includes new training actions, NullFaceImageData and NullObjectImageData, which remove face and object images from your training database but do not remove the training. This means that the face or object can still be recognized but the training images are no longer stored in the database.
- You can stop the actions TrainFace, TrainObject, BuildFace, and BuildObject using action=QueueInfo&QueueAction=Stop.
- Analysis tasks that interact with Speech Server now send asynchronous actions to Speech Server, making the system more robust in case of network issues.
- Speech-to-text and speaker identification tasks set an action ID for actions sent to Speech Server. The action ID is the same as the action ID provided (or generated) for the process action that started the task. This means you can identify the Speech Server tasks that were started by a specific process action sent to Media Server.
- The Scene Analysis Training Utility no longer includes masked areas when calculating the autoluminance threshold.
- Number plate recognition can read number plates from:
  - Canada.
  - Singapore
  - Syria.
  - United States Washington, DC.
- Media Server can read new number plates now in use in Abu Dhabi.
- Media Server now has separate number plate formats files for each of the emirates in the United Arab Emirates.
- The accuracy of number plate recognition has been improved for UAE number plates.
- The accuracy of number plate recognition has been improved for Thai number plates.
- The performance of number plate recognition has been improved in some locations where number plate recognition expects to see plates from multiple countries or states.
- The configuration parameter BlackAndWhiteCamera has been added to number plate recognition. This specifies whether the camera providing the source video captures grayscale video.
- The configuration parameter MaxRead has been restored to number plate recognition (it was removed in Video Server 10.11.0).

#### Encoding

- The rolling buffer encoder no longer writes a message to the log file every time a frame is dropped. Media Server now provides a summary of dropped frames at regular intervals.
- The CreateClip action can now return a video clip in an MP4 container file. The action has a new parameter named OutputFormat.

• The Path parameter, for the CreateClip action, is now optional. If you do not set a path, the file is returned in the action response.

#### **Event Stream Processing**

 Media Server includes a new ESP task (Type=Combine), which identifies related events in different tracks and creates an output track where the information from both tracks is combined into a single output record. This differs from the And task because it produces a single output record for each record in the first input track, and this output record contains copies of all related records from the second input track. In comparison, the And task creates one output record for each pair of related records.

#### Transformation

- Media Server includes new transformation tasks:
  - Cropping (Type=crop) produces cropped images based on region data supplied by analysis tasks. For example, if you run face detection you can use this task to produce cropped images that show detected faces.
  - Blurring (Type=blur) produces images with blurred regions, based on region data supplied by analysis tasks. For example, if you run face detection you can use this task to produce images where detected faces are blurred and therefore unrecognizable.

#### Output

- Media Server includes a new ODBC output task (Type=0DBC). The new task can run more complex queries and output data to more than one table.
- Media Server includes new output modes:
  - Page mode produces documents that represent a page of an image or document.
  - AtEnd mode produces documents that represent media assets (one document is produced for each process action).
- Media Server includes a new XSL template, toCFS\_MMAP.xs1. This template transforms records into
  documents that are suitable for indexing into an IDOL Server, through CFS. The documents that are
  created by this transformation have standardized field names that are used by other IDOL
  components, such as the HPE MMAP application.
- The Ido1Db configuration parameter has been added to the CFS output task. The value of this parameter appears in the output and can be used to populate the DREDBNAME document field (but you must configure your XSL transformation to do this).
- The configuration parameter DestinationURL, for the HTTP POST output task, now accepts a string that includes macros.

- Media Server could terminate unexpectedly when ingesting video files or streams.
- Media Server could terminate unexpectedly when ingesting an RTSP video stream and the stream stopped.
- The process action would not finish when attempting to process a file that contained an audio stream but no audio packets.
- The keyframe analysis task did not preserve the aspect ratio of source images when writing images to its ResultWithSource track.
- The ODBCdeprecated output task did not replace binary data in pre-XML files with a GUID.
- After category settings were optimized, the Scene Analysis Training Utility could create configurations with invalid values.
- When category settings were optimized, the Scene Analysis Training Utility could set the texture threshold too high, which could result in missed alarms.
- The Scene Analysis Training Utility could terminate unexpectedly if the configuration file mediaserver-sceneanalysis-session.cfg did not exist.
- Scene Analysis would enforce the texture threshold when the background update was 0 (zero), meaning that objects were not detected. The Scene Analysis Training Utility now allows you to set a texture threshold of 0 (zero), and does not enforce the texture threshold when the background update is 0 (zero).
- Number plate recognition would fail when the Location parameter was set to PH (for the Philippines) because the formats file was not named correctly.
- Media Server saved failed requests from an HTTP POST output task to the Media Server installation folder.
- The IsasTuDataOption configuration parameter was not read unless the parameter name was lower case.
- An error in the toIDX XSL transformation meant that the start time and end time of a video were not populated in documents sent to IDOL Server.
- In some cases, when an error occurred, Media Server did not print the configuration used by a process action to the engine log stream.
- The ShowPermissions action did not return details for ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Query Manipulation Server Component**

#### New in this Release

• QMS now supports stored state tokens including cardinal placements and promotions. If you send a Query action through QMS with the StoreState parameter set to True, QMS now stores the result including any cardinal placements. If the Query action also has the Promotions parameter set to

True, QMS stores the promotion results.

You can control the lifetime of the stored state tokens by setting the StoredStateTokenLifetime and StoredStateTokenEpiryPeriod configuration parameters in the [Server] section of the QMS configuration file. You can also set the StatePath configuration parameter in the [Paths] section to change the directory where QMS stores the stored state token information. For more information, refer to the QMS Reference.

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- The request cooker was not able to modify the value of the PromotionsScope parameter.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **Statistics Server Component**

### New in this Release

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- Statistics Server did not shut down cleanly when it was stopped by using the Windows Service Manager.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## **View Server Component**

### New in this Release

• You can now set a timeout for downloading a URL in the View action, by setting the DownloadURLTimeout action parameter. View times out the download request after this number of seconds. You can also set a default timeout by setting the DefaultDownloadURLTimeout configuration parameter in the [Viewing] section of the configuration file.

• The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

### **Resolved Issues**

- When the StripScript parameter was set to True in the View action, View could terminate unexpectedly while attempting to parse certain documents.
- The ShowPermissions action did not return details for IndexClients, ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

## Web Connector (Windows and Linux only)

### New in this Release

- The connector can write rendered images, PDF files, and thumbnails to a folder rather than ingesting them as the content of documents.
- The parameter FullPageRender has been added. This parameter specifies whether rendered images and thumbnails show the entire page or only the top part of the page, that you would see when viewing the page in a web browser.
- The parameters ClippedImageRendition, ClippedThumbnailRendition, and ClippedPdfRendition have been added. You can use these parameters to specify whether images, thumbnails, and PDF files generated by the connector show web pages before or after clipping.
- The parameters CustomHeaderName and CustomHeaderValue have been added. You can use these parameters to specify custom HTTP headers to include in all requests sent to the web server.
- The connector can retrieve the location of sitemaps from the robots.txt file for a web site.
- The connector can retrieve a list of URLs from a sitemap compressed with GZIP compression.
- The connector can be configured to ignore scope errors in a sitemap. By default the connector only retrieves pages that are hosted below the sitemap, and ignores other pages. You can now set IgnoreSitemapScopeErrors=TRUE to ignore these errors and process the pages anyway.
- The connector now follows redirects that are initiated by scripts.
- You can configure the SSL options used to retrieve pages over HTTPS.
- Asynchronous action queues can be stored in a MySQL database.
- The connector supports the following Lua functions:
  - delete\_path, which deletes an empty directory.
  - LuaConfig:new, which is the constructor that creates a new LuaConfig object.

- LuaDocument: new, which is the constructor that creates a new LuaDocument object.
- removeSection, which is available on LuaDocument objects and removes a specified document section.
- script\_path, which returns the path and file name of the script that is running.
- The ShowPermissions action now shows the rules that define whether a particular origin IP has a particular type of permission. This information is returned only if you send the ShowPermissions action from a client IP that is configured in the AdminClients configuration parameter.

- The connector failed to process and ingest pages that contained a link with an invalid URI.
- An error could occur if a script on a page changed the display URL for the page.
- The connector could skip a page when the page URL was retrieved from a sitemap, but that URL then redirected the connector to another page.
- The connector could produce documents with no content when downloading large files.
- The ShowPermissions action did not return details for ProxyClients, ServiceStatusClients, and ServiceControlClients if these values were not explicitly set in the configuration file.

# **Upgrade Information**

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

# Upgrade to IDOL 11.x

The simplest way to upgrade is to index data into a fresh installation of IDOL 11.0, whilst also activating any further functionality that is appropriate for your use case. However, IDOL 11.0 is also fully compatible with existing installations and indexes, so you do not need to reindex, as long as you include certain configuration settings before you run the IDOL 11.0 executable.

You must add the following configuration setting for the Content component, unless a different value is already present. If you create a new IDOL index, you can ignore this step.

[Server] ParametricMaxPairsPerDocument=104858

If you want to upgrade to IDOL 11.x from IDOL 7.x, there are some additional configuration updates. For more information, refer to the *IDOL 11 Upgrade Technical Note*.

## **Upgrade Document Tracking**

In IDOL 10.9, the database schema for Document Tracking was updated. For information about upgrading your document tracking database backend from IDOL 10.8 or earlier to IDOL 10.9 or later, refer to the *Document Tracking 10.9 Upgrade Technical Note*.

The database schema for Document Tracking was updated for IDOL 10.3. For information about upgrading your document tracking database backend from IDOL 10.2 or earlier, refer to the *Document Tracking 10.3 Upgrade Technical Note*.

# Requirements

This section describes the system requirements, supported platforms, and software dependencies for IDOL Server 11.1.0.

## **Minimum System Requirements**

The following are minimum system requirements for IDOL Server 11.1.0 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 11.1.0, 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 11.1.0 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 HPE IDOL software. The following table details the IDOL Server software and feature dependencies.

Component	Dependencies	
Java	Windows, Solaris, Linux: JRE 1.6 or later	
Browsers	<ul> <li>Internet Explorer 9 and later</li> <li>Mozilla Firefox 18 and later</li> <li>Chrome 25 and later</li> </ul>	

## **Supported Operating System Platforms**

The following operating system platforms are available for IDOL Server 11.1.0.

- 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 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) 5
- CentOS 5
- SuSE Linux Enterprise Server (SLES) 10
- Ubuntu 12.04
- 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.

## **Connector Framework Server**

- If you are upgrading from CFS 10.9.0 or earlier, ensure that your CFS finishes indexing data into IDOL before you upgrade. There must be no data left in the outgoing folder.
- The default configuration file installed with CFS now runs field standardization. Field standardization renames document fields so that documents created by different connectors use the same field names to store the same type of information. In some cases field standardization modifies field values so that the values are in standard formats.

**Note:** You might need to make configuration changes to other IDOL components and front-end applications if you have configured them to rely on specific document fields.

If you would prefer to disable field standardization, modify the CFS configuration file as follows:

- In the [ImportService] section, set the configuration parameter EnableFieldNameStandardization to FALSE.
- In the [ImportTasks] section, remove the field standardization import task by deleting the line Post0=Standardizer.
- The ImageServerAnalysis and VideoServerAnalysis tasks have been deprecated. HPE recommends using the MediaServerAnalysis task instead.
- The Lua functions analyze\_image\_in\_document, analyze\_image\_in\_file, analyze\_video\_in\_ document, and analyze\_video\_in\_file have been deprecated. HPE recommends using the functions analyze\_media\_in\_document, and analyze\_media\_in\_file instead.

## **Media Server**

- Keyframe analysis (when running as the only analysis task) no longer consumes a visual channel from your Media Server license.
- The behavior of the actions TrainFace and TrainObject has changed. If the action returns an error or all of your training images fail (for example Media Server cannot detect a face or object features), then Media Server does not add the face or object to the database.
- The output of the face demographics, OCR, and image classification analysis tasks has changed. Refer to the *Media Server Administration Guide* for information about the values that can be returned.

• The following data structures that are returned by Media Server have been renamed. As a result, any XSL transformations and Lua scripts that use these will need updating.

Media Server 11.0	Media Server 11.1
BarcodeAndImage	BarcodeResultAndImage
ClothingAndImage	ClothingResultAndImage
DemographicsAndImage	DemographicsResultAndImage
FaceAndImage	FaceResultAndImage
FaceRecognitionAndImage	FaceRecognitionResultAndImage
FaceStateAndImage	FaceStateResultAndImage
ObjectAndImage	ObjectResultAndImage
ObjectClassAndImage	ObjectClassResultAndImage
OCRAndImage	OCRResultAndImage

- Speaker identification uses the new speaker identification functionality introduced in IDOL Speech Server 11.0. You must update any Media Server configuration that performs speaker identification. To continue using legacy speaker identification, set the configuration parameter UseLegacyAction=TRUE. To use the new speaker identification functionality, replace the configuration parameter AstPath with TemplateSet, which specifies the path to the audio template set file to use for identifying speakers.
- The vehicle model identification analysis task supports a new configuration parameter, MatchQuality, which specifies the minimum confidence that is required for a result to be included in the output. The default value is 0.5. To achieve results similar to previous versions of Media Server, set this parameter to 1.0. The default value prioritizes capturing more results over identification accuracy.
- The following changes have been made to configuration parameters for number plate recognition:
  - InverseOption has been removed.
  - Location no longer accepts the value AE (for the United Arab Emirates), because Media Server now includes a formats file for each emirate in the United Arab Emirates. If you have set Location=AE in any of your configuration files, you must update the parameter value.
  - MinValidScore now accepts values from 80 to 100. If you have set this parameter to a value lower than 80, you should update your configuration(s).
  - ThreadCount has been renamed to NumParallel.
- The default values for the following configuration parameters have been updated:

	Configuration	Default value	Default value
Feature	parameter	Media Server 11.0	Media Server 11.1

Face detection	MinSize	24	48
Face recognition	RecognitionThreshold	0	50
Keyframe analysis	KeyAtMostSec	0	1
Number plate	MinRead	3	2
recognition	Sensitivity	5	6
Vehicle identification	DetectEveryFrame	False	True

- The following features have been deprecated:
  - The Color Cluster (Region) analysis engine.
  - The Broadcast Monitoring output engine.
  - The ODBC output engine has been deprecated and renamed to ODBCdeprecated, because Media Server includes a new ODBC output engine that can output data to more than one table. HPE recommends that you modify your configurations and XSL templates and use the new ODBC output engine. However, if you want to continue using the deprecated ODBC output engine, modify your configurations by replacing Type=ODBC with Type=ODBCdeprecated. The ODBCdeprecated output engine may be removed in future.
  - The FrameRate configuration parameter, previously available on many analysis tasks, has been deprecated or removed. For some analysis tasks you can set the new parameter SampleInterval instead, but in most cases HPE recommends that you use the default value.
  - The KeyAtLeastSec and KeyAtMostSec configuration parameters, for keyframe analysis, have been deprecated. HPE recommends that you use the new parameters ForceAfter and QuietPeriod instead.
  - The Perspective configuration parameter, for object recognition, has been deprecated. HPE recommends that you use the new parameters Geometry and Geometry3 instead.
- Media Server 11.1.0 includes changes to macros to improve usability and consistency.
  - The %hostname% and %platform% macros have been renamed %system.hostname% and %system.platform%. The old names are deprecated and may be removed in future.
  - The system time macros have been renamed %currentTime.*TIME\_FORMAT*%, for example %currentTime.iso8601%. The old names are deprecated and may be removed in future.
  - When time format macros are used in file paths, illegal characters such as colons are now replaced with underscores rather than spaces.
  - Macros that take data from UUID and Text data types are now consistent with the record XML. For example, you can use %record.id% instead of %record.id.uuid%.
  - The deprecated macros %segment.TIME\_FORMAT%, for example %segment.year% have been removed.

- The [Modules] Enable configuration parameter supports the values demographics and facestate. The value faceanalyze, which is equivalent to setting both demographics and facestate, is deprecated.
- Media Server OCR no longer supports the Ido language.

## Documentation

The following documentation was updated for this release.

- IDOL Expert
- IDOL Getting Started Guide
- IDOL Server Reference (online help)
- IDOL Server 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
- IDOL Speech Server Reference (online help)
- IDOL Speech Server Administration Guide
- Knowledge Graph Reference (online help)
- Knowledge Graph Technical Note