

## Overview

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### Connectors included with CloudView

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Data source	Description
Comma-separated value (CSV) files	Using the CSV connector you can accumulate rows, apply column filters, rename columns, and crawl multiple filesystem paths.
Database (JDBC)	The JDBC Database connector allows you to index the content of an SQL Database accessed through JDBC. It uses configurable queries to extract records.
ATOM, RDF, and RSS feeds	The Feed Fetcher connector allows you to crawl RSS feeds.
File system	Use the Files connector to crawl either a local filesystem, or a remote filesystem on a shared network. Works for both UNIX or Windows.
HTML pages	Use the Crawler to index any number of URLs accessible from the CloudView server.
IMAP	The IMAP connector indexes attachments and links them with email messages.
LDAP	The LDAP connector allows you to index the contents of an LDAP directory.
Log files	The Log connector indexes log files in Apache or log4j format. You can also define an automatic format detection, or define a custom format using regular expressions.
IBM Lotus Domino	The Lotus Notes connector indexes Domino databases. It can index any note in a database and reuse inherent Domino security so only authorized users have access to search results.
XML files	The XML connector allows you to index XML files stored on a filesystem. It extracts data using predefined processors such as XPath and XSLT, by element name. You can also develop your own processor.

### Additional Connectors

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These connectors require an additional license and need to be installed separately.

Data source	Description
Documentum	The EMC Documentum Server connector provides access to an EMC Documentum Server to index an unlimited number of docbases.
ENOVIA SmarTeam	The ENOVIA SmarTeam connector indexes a pre-defined scope of data. It can be used as a batch application as well as an interactive application.
ENOVIA	The ENOVIA connector enables CloudView to index Business Objects and Relationships on an ENOVIA Matrix database, as well as files referenced by the Business Objects that reside on an ENOVIA File Collaboration Server (FCS). It indexes both file content and metadata.
Hadoop File System (HDFS)	The Hadoop File System (HDFS) is a distributed file system used with Apache Hadoop. It is an extended version of CloudView's File System connector. The only difference is you must use it with the HDFS Security Source.
IBM Lotus Web Content Management	The IBM WCM connector allows you to index a single WebSphere portal and secure document access.
Informatica PowerCenter	The Informatica connector allows you to add connectors to CloudView that that trigger PowerCenter workflows.

Data source	Description
Jalios	The Jalios Connector allows you to index Jalios content, with optional security support.
Microsoft Exchange	The Exchange connector uses Exchange Web Services to index data on a Microsoft Exchange server or a farm of Exchange servers.
MS SharePoint	The SharePoint connector allows you index a SharePoint farm and secure document access using the native SharePoint security policy.
OpenText Content Server	The OpenText Livelink connector uses the SOAP API to connect to Livelink and retrieve Livelink objects.
Lotus Quickr	The Quickr connector is based on our legacy Lotus Notes connector. It improves the mapping of the h_Form field from an ID to a human-readable label, so the document can be categorized by type. Also includes security improvements.
SalesForce	The SalesForce connector crawls SalesForce objects, offering a full search experience. It also handles multiple-query processing. You can use one CloudView instance for multiple SalesForce instances.
SOLIDWORKS Enterprise PDM	This connector enables EXALEAD CloudView to connect to SOLIDWORKS Enterprise PDM.

## Connectors in detail

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Each of the pages that follow is dedicated to one connector and lists:

- which CloudView and data source versions are supported.
- the coding language and APIs used to build the connector.
- key features of the connectors.

## CMS

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### Documentum connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The EMC Documentum Server connector provides access to an EMC Documentum Server to index an unlimited number of docbases.
Data source	Documentum
Data source version	5.2.5 SP3 to 6.0 SP1
CloudView version	V6R2013 or higher
Connector version	6.0.0
Packaging	Plugin
Security source	Yes
Dedicated Push API filter	No
Code	Java
CloudView APIs	Push API and Management API
Data source APIs	DFC 5.2.5 SP3 to 6.0 SP1
Incremental synchronization	Checkpoint-Based
Security	Early Binding
Configuration check	No
Data source connectivity check	No
Definable indexing scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	Level 2
Connector status	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes

Hit content thumbnail/preview

Dynamic

## IBM Lotus WCM connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The IBM WCM connector allows you to index a single WebSphere portal and secure document access.
Data source	IBM Lotus Web Content Management
Data source version	7.001 CF19
CloudView version	5.1.14, V6R2013.SP1 or higher
Connector version	1.5
Packaged as	Manual
Dedicated security source	Yes
Dedicated Push API filter	No
Code language	Java
CloudView APIs	Push API
Data source APIs	WCM API
Third-party technology	None
Incremental synchronization	Checkpoint-based
Security	Yes
Configuration check	No
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration wizards	No
Tuning options	No
Error handling	Detects error and Reports on error
Connector Status	Connector's Logs
Hit content local download	No
Hit content opening from data source	Yes
Hit Content thumbnail/preview	No

## Jalios connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Jalios Connector allows you to to index Jalios content, with optional security support.
Data source	Jalios
Data source version	7SP2 and 7.1
CloudView version	V6R2013.SP1 or higher
Connector version	1.0.6
Packaging	Plugin and Manual
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	Jalios REST API
Data source API expiration date	n/a
Third-party	None
Incremental synchronization	Event-Listener-Based and Checkpoint-Based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	Yes or No
Tuning options	Yes or No
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	No
Hit content opening from data source	Yes
Hit content thumbnail/preview	Precomputed

## MS SharePoint connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The SharePoint connector allows you index a SharePoint farm and secure document access using the native SharePoint security policy.
Data source	MS SharePoint
Data source version	2010 and 2013
CloudView version	V6R2013x or higher
Connector version	1.0
Packaging	Manual
Security source	No
Dedicated Push API filter	No
Code	.NET
CloudView APIs	Push API
Data source APIs	Microsoft Sharepoint Indexing API
Data source API expiration data	
Third-party	none
Incremental synchronization	Log-Based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	Level 2
Activity monitoring	Level 1
Hit content local download	Yes
Hit content thumbnail/preview	Dynamic
Hit content opening from data source	Yes

## OpenText connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The OpenText Livelink connector uses the SOAP API to connect to Livelink and retrieve Livelink objects.
Data source	OpenText Content Server
Data source version	10 SP2
CloudView version	V6R2014x or higher
Connector version	1.2
Packaging	Plugin
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	OpenText Content Server webservices (les-services.war)
Data source API expiration date	
Third-party	H2
Incremental synchronization	Stamp-based or Checkpoint-based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	Level 2
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic



## CRM

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### SalesForce connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The SalesForce connector crawls SalesForce objects, offering a full search experience. It also handles multiple-query processing. You can use one CloudView instance for multiple SalesForce instances.
Data source	SalesForce
Data source version	API 29
CloudView version	V6R2013x SP3 or higher
Connector version	1.1
Packaging	Plugin
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	SOAP, BULK and METADATA API 29
Data source API expiration date	end of year 2016
Third-party	SalesForce WSC library
Incremental synchronization	Checkpoint-Based
Security	Early Binding
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	FIXME Abort scan and Reports on error
Activity monitoring	Level 1
Hit content local download	No
Hit content opening from data source	No

Hit content thumbnail/preview	No
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## Databases

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### JDBC Database connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The JDBC Database connector allows you to index the content of an SQL Database accessed through JDBC. It uses configurable queries to extract records.
Data source	Database (JDBC)
Data source version	n/a
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Java
CloudView APIs	Push API
Data source APIs	JDBC
Data source API expiration date	n/a
Third-party	Third party JDBC drivers to be installed (not shipped within the product for licensing reasons)
Incremental synchronization	Event-Log or Checkpoint-Based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	Yes
Definable enumeration scope	No
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	No
Hit content thumbnail/preview	Dynamic or Precomputed

## Directories

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### LDAP connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The LDAP connector allows you to index the contents of an LDAP directory.
Data source	LDAP
Data source version	LDAP V2 and V3
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Java
CloudView APIs	Push API
Data source APIs	javax.naming
Data source API expiration date	n/a
Third-party	n/a
Incremental synchronization	Stamp-Based or Checkpoint-Based
Security	No
Configuration check	No
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	No
Tuning options	Yes
Error handling	Level 1
Connector status	Level 1
Hit content local download	Yes
Hit content opening from data source	n/a
Hit content thumbnail/preview	Dynamic

## ETL

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### Informatica connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Informatica connector allows you to add connectors to CloudView that that trigger PowerCenter workflows.
Data source	Informatica PowerCenter
Data source version	9.1.0
CloudView version	V5.1.12 or higher
Connector version	1.0.6
Packaging	Plugin and Manual
Security source	No
Code	Java and C++
CloudView APIs	Push API
Data source APIs	PowerCenter plugin
Data source API expiration date	n/a
Third-party	None
Incremental synchronization	Source side
Security	No
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Not out of the box
Definable mapping with PAPI Document	Yes
Configuration helpers	No
Tuning options	No
Error handling	FIXME Reports on error
Activity monitoring	Level 1
Hit content local download	No
Hit content opening from data source	No
Hit content thumbnail/preview	No

## File system

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### CSV connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	Using the CSV connector you can accumulate rows, apply column filters, rename columns, and crawl multiple filesystem paths.
Data source	Comma-separated value (CSV) files
Data source version	RFC4180
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Java
CloudView APIs	Push API
Data source APIs	n/a
Data source API expiration date	n/a
Third-party	n/a
Incremental synchronization	Checkpoint-Based
Security	No
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	No
Hit content opening from data source	No
Hit content thumbnail/preview	Precomputed

## File system connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	Use the Files connector to crawl either a local filesystem, or a remote filesystem on a shared network. Works for both UNIX or Windows.
Data source	File system
Data source version	n/a
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	native
Data source API expiration date	n/a
Third-party	n/a
Incremental synchronization	Stamp-Based
Security	Early Binding
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## HDFS connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Hadoop File System (HDFS) is a distributed file system used with Apache Hadoop. It is an extended version of CloudView's File System connector. The only difference is you must use it with the HDFS Security Source.
Data source	Hadoop File System (HDFS)
Data source version	1.0.3
CloudView version	V6R2013x or higher
Connector version	1.0
Packaging	Plugin
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	Hadoop FileSystem API
Data source API expiration date	
Third-party	
Incremental synchronization	Stamp-Based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes
Error handling	Level 1 Reports on error
Connector status	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic



## Log files connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Log connector indexes log files in Apache or log4j format. You can also define an automatic format detection, or define a custom format using regular expressions.
Data source	Log files
Data source version	n/a
CloudView version	latest
Connector version	V6R2014X
Packaging	Embedded
Security source	No
Code	Java
CloudView APIs	Push API
Data source APIs	
Data source API expiration date	
Third-party	
Incremental synchronization	Checkpoint-Based
Security	No
Configuration check	Advanced
Data source connectivity check	No
Definable enumeration scope	No
Definable mapping with PAPI Document	No
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## XML connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The XML connector allows you to index XML files stored on a filesystem. It extracts data using predefined processors such as XPath and XSLT, by element name. You can also develop your own processor.
Data source	XML files
Data source version	n/a
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Java
CloudView APIs	Push API
Data source APIs	DOM, XPath, SAX, XSLT
Data source API expiration date	n/a
Third-party	Saxon (open source version)
Incremental synchronization	Stamp-Based or Checkpoint-Based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	No
Definable mapping with PAPI Document	Yes
Configuration helpers	No
Tuning options	Yes
Error handling	Level 1
Connector status	Level 1
Hit content local download	No
Hit content opening from data source	No
Hit content thumbnail/preview	No

## Messaging

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### Domino Lotus Notes connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Lotus Notes connector indexes Domino databases. It can index any note in a database and reuse inherent Domino security so only authorized users have access to search results.
Data source	IBM Lotus Domino
Data source version	8 and higher
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	Lotus Notes 8
Data source API expiration date	n/a
Third-party	n/a
Incremental synchronization	Stamp-Based
Security	Early Binding
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes

Hit content thumbnail/preview	Dynamic
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## MS Exchange connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Exchange connector uses Exchange Web Services to index data on a Microsoft Exchange server or a farm of Exchange servers.
Data source	Microsoft Exchange
Data source version	2007SP1 / 2010
CloudView version	5.1.14 or higher
Connector version	2.40
Packaged as	Plugin
Security source	Yes
Dedicated Push API filter	No
Code	Java
CloudView APIs	Push API
Data source APIs	Exchange Web Services
Data source API expiration date	n/a
Third-party	Microsoft EWS Java API
Incremental synchronization	Checkpoint-based
Security	Early Binding
Configuration check	Basic
Data source connectivity check	No
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration wizards	No
Tuning options	Yes
Error handling	Level 1
Connector status	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## QuickR connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The Quickr connector is based on our legacy Lotus Notes connector. It improves the mapping of the h_Form field from an ID to a human-readable label, so the document can be categorized by type. Also includes security improvements.
Data source	Lotus Quickr
Data source version	8.1 for Lotus Domino
CloudView version	V6R2013xSP2 or higher
Connector version	1.0
Packaging	Embedded
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	Lotus Notes 8
Data source API expiration date	n/a
Third-party	n/a
Incremental synchronization	Stamp-Based
Security	Early Binding
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes

Hit content thumbnail/preview	Dynamic
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## IMAP connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The IMAP connector indexes attachments and links them with email messages.
Data source	IMAP
Data source version	4rev1
CloudView version	V6R2012 or higher
Connector version	1.3
Packaging	Embedded
Security source	Yes
Code	Java
CloudView APIs	Push API
Data source APIs	FETCH, LOGIN, LOGOUT, STATUS, UID, ...
Third-party	javamail
Incremental synchronization	Checkpoint-based
Security	Yes
Configuration check	Basic
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes (limit size of emails fetched, limit size/number of emails in bulk fetch)
Error handling	Detects error and Reports on error
Connector status	Administration Console and Connector's Logs
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic



## PDM/PLM

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### ENOVIA connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The ENOVIA connector enables CloudView to index Business Objects and Relationships on an ENOVIA Matrix database, as well as files referenced by the Business Objects that reside on an ENOVIA File Collaboration Server (FCS). It indexes both file content and metadata.
Data source	ENOVIA
Data source version	Matrix 10.6 to V6R2014
CloudView version	5.1.8 or higher
Connector version	1.2.1
Packaging	Plugin
Security source	Yes
Dedicated Push API filter	No
Code	Java
CloudView APIs	Push API and Management API
Data source APIs	Matrix - Studio Modeling Platform Rich Clients
Data source APIs expiration date	n/a
Third-party	
Incremental synchronization	Checkpoint-based
Security	Late Binding
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 2

Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## ENOVIA SmarTeam connector

To understand the values for certain features, see [Features explanation \(see page 31\)](#).

Description	The ENOVIA SmarTeam connector indexes a pre-defined scope of data. It can be used as a batch application as well as an interactive application.
Data source	ENOVIA SmarTeam
Data source version	V5-6R2012 (R22)
CloudView version	V6R2014SP3 or higher
Connector version	1.0
Packaging	Plugin
Security source	Yes
Code	Java / .NET
CloudView APIs	Push API
Data source APIs	SmarTeam API
Data source API expiration date	n/a
Third-party	None
Incremental synchronization	Stamp-based
Security	Late Binding or No
Configuration check	Yes
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	No
Configuration wizards	No
Tuning options	Yes or No
Error handling	Level 1
Activity monitoring	Level 2
Hit content local download	Yes
Hit content opening from data source	No
Hit Content thumbnail/preview	Dynamic

## SOLIDWORKS ePDM connector

Description	This connector enables EXALEAD CloudView to connect to SOLIDWORKS Enterprise PDM.
Data source	SOLIDWORKS Enterprise PDM
Data source version	2010 SP2, 2013
CloudView version	V6R2014SP3 or higher
Connector version	1.0
Packaging	Plugin
Security source	Yes
Code	Java / .NET
CloudView APIs	Push API
Data source APIs	SolidWorks ePDM
Data source API expiration date	n/a
Third-party	None
Incremental synchronization	Stamp-based
Security	Late Binding or No
Configuration check	Yes
Data source connectivity check	Yes
Definable enumeration scope	No
Definable mapping with PAPI Document	No
Configuration helpers	No
Tuning options	Yes or No
Error handling	Level 1
Activity monitoring	Level 1
Hit content local download	Yes
Hit content opening from data source	No
Hit content thumbnail/preview	Dynamic

## Web

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### Crawler

Description	Use the Crawler to index any number of URLs accessible from the CloudView server.
Data source	HTML pages
Data source version	n/a
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Exascript
CloudView APIs	Push API and Management API
Data source APIs	n/a
Data source API expiration date	n/a
Third-party	none
Incremental synchronization	Event-Listener-Based
Security	No
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 3
Activity monitoring	Level 3
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## Feed Fetcher

Description	The Feed Fetcher connector allows you to crawl RSS feeds.
Data source	ATOM, RDF, and RSS feeds
Data source version	n/a
CloudView version	latest
Connector version	n/a
Packaging	Embedded
Security source	No
Code	Exascript
CloudView APIs	Push API and Management API
Data source APIs	n/a
Data source API expiration date	n/a
Third-party	none
Incremental synchronization	Event-Listener-Based
Security	No
Configuration check	Advanced
Data source connectivity check	Yes
Definable enumeration scope	Yes
Definable mapping with PAPI Document	Yes
Configuration helpers	Yes
Tuning options	Yes
Error handling	Level 3
Activity monitoring	Level 3
Hit content local download	Yes
Hit content opening from data source	Yes
Hit content thumbnail/preview	Dynamic

## Features explanation

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This page explains the possible values for several connector features.

### Incremental synchronization

No	No incremental capability - full synchronization algorithm is used.
Stamp-based	<ol style="list-style-type: none"> <li>1. Full synchronization enumeration to push Source Items for which no PAPI Document exists in CloudView index.</li> <li>2. Compare stamps of PAPI Documents and Source Item to identify need of update.</li> <li>3. Determine PAPI documents in CloudView index but no in Source to delete them.</li> </ol>
Checkpoint-based	<ul style="list-style-type: none"> <li>• Use PAPI Checkpoint mechanism to recover (global/area specific) last scan data/event.</li> <li>• Use a journal/logs of the data source to refresh index against creation, modifications, and deletions events (since last scan)</li> </ul>
Event-Listener-Based	Listen Data Source's event publisher to catch creations, modifications, and deletions operations to refresh CloudView index accordingly.

### Security

No	Security is not supported.
Early binding	CloudView Security provider can implement all security policies of Source. Security tokens set by connector during indexing fulfill Source security policies..
Late binding	Security policies of the Source cannot be deduced while indexing. It requires an additional custom post-filtering component at search-time.

### Configuration check

No	Connector is not configured in CloudView Administration Console and therefore cannot be verified.
Basic	Use the basic form validation mechanism available in CloudView Administration Console.
Advanced	Performs additional consistency checks of the configuration during validation.

### Definable mapping with PAPI Document

When configuring the connector, you can define which metas to index, or which data model classes to use.

### Configuration helpers

Features in the UI to help speed up configuration, such as being able to automatically generate a data model based on your connector's configuration, or to auto-generate the XML file that defines indexing scope.

## Error handling

Level 1	Detects error. This ensures a connector never loses a document. Errors are included in the connector logs.
Level 2	Level 1 plus: options to retry later, and includes options in configuration to tell the connector what do when it encounters an error (# retries, max # of errors before failing)
Level 3	Level 2 plus: can be managed from the Administration Console

## Activity monitoring

Level 1	Basic status reporting (idle, working, stopped, etc) in the Administration Console
Level 3	Dedicated connector graphs in the Monitoring Console.
Level 2	General server status reporting in the Monitoring Console.

## Hit content thumbnail/preview

No	Connector does not support Source Document content.
Static	Connector cannot ask Source to provide Document content on demand. There CloudView indexing chain must be configured to precompute thumbnail at indexing time.
Dynamic	Content preview can be generated at Search Time because the connector can asked the content to the Source on demand.