

Docmosis Tornado v2.7.1 Release Notes

Dec 2018

Docmosis core updated from version 4.4.0 to 4.4.1

Tornado Changes

#	Change
1	All tornado parameters can now be passed from the command line and by using environment variables. This allows Tornado to be completely configured (or adjusted) by scripts or the operating environment without needing to manually interact with the web console. Related are new optional command line args to Tornado: a. <code>java -jar docmosisTornado.war help</code> - print the help including all options b. <code>java -jar docmosisTornado.war clearConfig</code> - to wipe any saved configuration

Web Service API Changes

#	Change

New Core Engine Features

#	Change
1	New template functions: - <code>replaceStr(source, searchFor, replaceWith [, ignoreCase])</code> - <code>replaceFirst(source, searchFor, replaceWith [, ignoreCase])</code>

Bug Fixes / Technical Changes

#	Change
1	Improved converter bootstrapping process to prime the converter with a more realistic document. This avoids the increased processing time for a first-time-used converter.
2	Fixed issue where table-cell colouring wasn't being applied (when driven by data eg ' <code><bgcolor="#ff0000"/></code> ') to table cell when field providing the style information was number or bullet listed
3	Fixed issue with DOCX image substitution from DOCX templates that could result in the image not being sized correctly and the text 0.00.0 being displayed.
4	Fixed issue where <code><<cc_>></code> , <code><<rr_>></code> , <code><<cr_>></code> tags might be ignored if list-styled (bullet or numbered) in the template.
5	Fixed an issue with TableAnalysis which could mis-track which cell is being processed across the row.

#	Change
6	Adjusted error handling to not report bad section matches when ending a list if errors have already been reported. This stops two errors being reported for one problem.
7	Fixed initialization issue where preferences could not be saved via the console if the previous preferences were bad or the key had expired.
8	Improved search for default Libre Office install when properties are defaulting for first use.
9	Improved validation and tool tips for Office Dir to better validate and guide user.
10	Fixed end of line characters with packaged startTornado.sh script for linux.

See below for previous 2.7 release notes.

Docmosis Tornado v2.7 Release Notes

Oct 2018

Docmosis core updated from version 4.3.0 to 4.4.0

Tornado Changes

#	Change
1	Support for Java up to version 11 Note: Java 11 will give Warnings during Tornado Startup such as: <code>WARNING: An illegal reflective access operation has occurred</code> These can be ignored for the time being as they won't affect Tornado's execution. A future release of Tornado will resolve these issues when related libraries become Java 11 compliant.
2	Support for LibreOffice 6

Web Service API Changes

#	Change
1	New end point “/status” The “/status” end point goes further than the “/ping” service, confirming the engine is ready to render documents.
2	New render response header “X-Docmosis-Document-Errors-Detected” HTTP response header “X-Docmosis-Document-Errors-Detected” is set when rendering in Dev mode. This allows the client to determine if the rendered document is known to have errors.

New Core Engine Features

#	Change
1	Improved Error Handling in Dev Mode Top level errors now written closer to the location of the error rather than top of document.

#	Change
2	Improved XML and JSON Sample Data Generation Generated JSON data is now more compact. Sample data generation now supports nested names for fields. For example: <pre><<a.b.c>></pre> Generates the sample data: <pre>{"a": {"b": {"c": "value1"}}</pre>
3	New sentenceCase(), isBlank(), ifBlank(), and squote() Functions Use <code>sentenceCase()</code> to convert text data to sentence case format: <pre>sentenceCase('this is a sentence.') => This is a sentence.</pre> Use <code>isBlank()</code> or <code>ifBlank()</code> to test and act based on blank data values: <pre>isBlank('') => true</pre> Use <code>squote()</code> to replace double quotes with single quotes in a string literal or data to allow quote-escape: <pre>squote('This sentence"s quotes.') => This sentence's quotes.</pre>
4	New Built-In Template Variables <code>\$num</code> - the current counter into the data. <code>\$num1, \$num2...</code> - provide the absolute index into the repeating sequence starting at zero (i.e. 1,2,3,4,5,6...). <code>\$itemidx1, \$itemidx2...</code> - provide the absolute index into the repeating sequence starting at zero (i.e. 0,1,2,3,4,5...). <code>\$nl</code> - a new line character. <code>\$nowMS</code> - the current UTC time in milliseconds since epoch <code>\$nowUTC</code> - current UTC time as an ISO 8601 string <code>\$quot</code> - a single-quote character
5	Improved Numbered List Processing Now handles more complex cases of: - conditioning out some numbered items and resuming numbering - lists continue after sub-lists rendered - allow lists to continue from master template into sub-template using a new "<code><<list:continue>></code>" directive

Bug Fixes / Technical Changes

#	Change
1	Added ability use SSL for remote converters.
2	Improved the way URLs work to include context for items displayed in the console (e.g. ping, status, wadl). This resolves some issues around when deploying Tornado to different Tomcat contexts.
3	Improved template-functions to not raise errors when given null values.
4	Improved rendering of merged documents by renaming styles to remove conflict of styles.
5	Updated further functions to handle null/empty params better
6	Updated remote converter to preserve the extension of the files being transferred. This fixes an issue with HTML injection where the file encoding is not correct if Libre Office imports the file and doesn't realize it is html.
7	Added <<list:continue>> directive to allow sub-templates to specify they want to continue numbering from a master template.
8	Improved list processing to track the lists rendered so that stripped lists (e.g. conditional sections) don't break linkages between lists.
9	Updated GetTemplate* services to log the exception trace when a Not Found occurs since it's quite a normal error.
10	Fixed several getX() services that could download a file with a "/" in the content-disposition.
11	Fixed issue in Tornado configuration which expects the template directory to be writable when saving configuration.
12	Updated tornado to be able to be configured with a "log.dir.override" setting to log outside of the configured working dir (helpful in Docker environments).
13	Fixed bug in TemplateContext constructor which wasn't correctly removing duplicate "/" characters.
14	Fixed bug in SimpleJSONTemplateStructureProcessor.finish() which wasn't keeping the adjustment to the indent variable.
15	Fixed issue with SimpleTemplateTable.hashCode() which was not correctly hashing the array.
16	Updated repeating section processing to correctly handle more complex cases of repeating and variable references. This also fixes a corner case problem with <<pageBreakNotLast>> not working after an internal <<rs_a.b.c>>blah<<es_>> upset the indexing.
17	Fixed Thread leak in MailSystem. When Transport instances are being cached AND a TransportListener is attached, the JavaMail system spawns a thread per Transport for each Thread a Transport was created in.
18	Fix to writing in-document errors into header and footer (some where hiding).
19	Updated bookmark and image processing to be able to use a bookmark that appears just after the image frame rather than wrapping the image. This helps with imports of Docx files in LO5 and looks like it helps with DOC files where the image has a different wrap mode.
20	Corrected processing of [F-L] type range directives which were doing the wrong thing under some cases.
21	Updated stepping and indexing processes - allows more flexible ranges e.g. [1,2,1,1,2].
22	Improved error messages from template-functions - provide function name in message.

#	Change
23	Fixed issue resulting in corrupt documents when new line characters in data were mixed with html-like (, <u>, etc.) directives.
24	Fix to HTML injection where <<html:xxx>> fields being last element in a paragraph could leave "repairme" message.
25	Improvements have been made to the auto-detection of the LibreOffice/OpenOffice locations for the first-runs of Tornado when no configuration has been created.

Docmosis Tornado v2.6 Release Notes

Feb 2018

Docmosis core updated from version 4.3.0 to 4.3.1

Tornado Changes

#	Change
1	none

Web Service API Changes

#	Change
1	none

New Core Engine Features

#	Change
1	

Bug Fixes / Technical Changes

#	Change
1	Fixed issue with image processing particularly for docx import into LibreOffice 5. An image at the start of the table as the first element in a document could sometimes fail to be recognized as an image for replacement.

Docmosis Tornado v2.6 Release Notes

Nov 2017

Docmosis core updated from version 4.2.0 to 4.3.0

Tornado Changes

#	Change
1	Sample data creation has been improved to recognize barcodes and generate a barcode rather than an image display.

Web Service API Changes

#	Change
1	Render can now stream result base64 encoded in payload The “/render” end point has a new parameter: <code>streamResultInResponse</code> which can be set to “y” or “true” when streaming the resulting document back. Setting this flag will mean that the document will not be returned as a binary stream, instead it will be returned in the JSON or XML response. The JSON/XML response will include a key “resultFile” which is the base64 encoded document.
2	New end-point “/getSampleData” The new end-point can generate sample data for the selected template in XML or JSON format.

New Core Engine Features

#	Change
1	Number Formatting more control over Locale The “numFormat” template now supports a new optional parameter to be able to enable / disable the application of the specified Locale when parsing the supplied data: <pre><<{numFormat(value, outputFormat, locale, applyLocaleToInput)}>></pre> The default behavior is to apply the locale to both the input and output, however this is incorrect in some circumstances. For example: <pre><<{numFormat('0.0257', '#.##0,##', 'nl')}>></pre> Incorrectly produces “257” because the “nl” locale is applied when parsing 0.0257 into a number. This can now be corrected by disabling the parse-phase conversion: <pre><<{numFormat(0.0257, '#.##0,##', 'nl', false)}>></pre> So the correct result (“0,03”) is produced.

Bug Fixes / Technical Changes

#	Change
1	Improved template-expression processing: - processing of unary operators (NOT in particular) - processing of more complex logical expressions - booleans handled better.
2	Improvements to streams dealing with UTF-8 content
3	Changed behaviour of DataProviderBuilder.addJSONFile(File) to assume UTF-8 encoding of file contents.
4	Improved shutdown process with regards to closing the stderr stream and possible blocking scenario.
5	Fixed issue in “getTemplateStructure” service that was not cleaning up resources in a timely manner.
6	Improved document processing when merging templates and injecting HTML content to handle more complex cases involving page layout changes and large tables. The result is the layout is more consistent with the templates involved.
7	Improved issue with LibreOffice 5 installations on Windows platforms where OpenGL processing could cause DocX processing in particular to fail.
8	Improved the “numberFormat” template function to allow the locale to now be OPTIONALLY applied to the input values. This is required
9	Improved barcode processing to report errors if barcode is longer than 200 chars.

#	Change
10	Fix to another corner case of plain text fields not being recognized where expressions where using the ">" greater than operator.
11	Template processing improved with fixes for complex scenarios where errors in templates were unable to be reported and would result in a general failure to process the template instead of correctly indicating the error in the template.
12	Fixed issue where blank "fillin" fields in Word templates were being raised as a general error with no helpful specifics.
13	Fixed template processing error where a table contained repeating rows then a conditional row directive but with no rows inside the condition.
14	Improved "null" error message when a problem occurs processing a template so that implementation can be corrected.

Docmosis Tornado v2.5 Release Notes

Jun 2017

Docmosis core updated from version 4.1.4 to 4.2.0

Tornado Changes

#	Change
1	Email support for TLS and SSL have been added allowing many more email gateways to be used directly by Tornado.
2	HTTP and HTTPS configured ports are now tested before attempting to start the server and a more useful error message is provided.
3	Fixed an issue causing a warning to be written at start-up if the user doesn't have access to the Windows Registry outside the user's area.
4	The dummy-data function has been improved to identify hyperlink fields and the new "op:" fields and create dummy data with the correct key.

Web Service API Changes

#	Change
1	The Render function now supports url-encoded-form payloads supporting a greater variety of client applications.
2	There is a new end point <code>"/renderForm"</code> which expects to read data as normal http form elements (unlike the <code>"/render"</code> endpoint which expects a <code>"data"</code> element to provide all the data). See the Web Services Guide for more information.

New Core Engine Features

#	Change
1	Comments in Templates The templates can now contain comments. There are two sets of delimiters: <<## and ##>> and <</* and */>> See the Template Guide for more information.

#	Change
2	Optional Paragraph Fields A new field type (<<op:xxx>>) will strip the containing paragraph when no data is present for the field. This can be handy for fields like “addressLine2” which are often blank and should be removed as simply as possible. This can now be done using <<op:addressLine2>>. See the Template Guide for more information.
3	PDF Form Fields can be Pre Filled Templates (ODT format templates only) can create Fillable PDF form fields and pre-populate them. This means that completed or semi completed electronic PDF forms can be generated. See the Template Guide for more information.

Bug Fixes / Technical Changes

#	Change
1	Fixed issue where dynamic images in repeating sections would not render when using versions of Libre Office after version 5.0.
2	Fixed issues where Libre Office versions after 5.0 would not process a template that was open and modified.
3	Improved diagnostics logging for 32-bit / 64-bit mismatch between Java and Libre Office
4	Improved error message when missing section ends are detected
5	Increased plain text default max length from 150 to 1024 characters to support long template expressions
6	Fixed corner-case “null” error when processing complex tables with varying numbers of columns in rows that are repeating.
7	Fixed some character stream outputs which were not writing in UTF-8 explicitly.
8	Improved date parsing to fall-back if performing “Strict” matching and strict matching fails. This provides date parsing that succeeds correctly even when ambiguities are present.
9	Fixed HTML injection issue where inserting blank HTML into a table would leave a “repairme” indicator
10	Improved document loading to explicitly disable macros in templates when loading.

Docmosis Tornado v2.4 Release Notes

Feb 2018

Patch release to improve Tornado stability.

Docmosis core updated from version 4.1.1 to 4.1.2

Tornado Changes

#	Change
1	None.

Web Service API Changes

#	Change
1	None.

New Core Engine Features

#	Change
1	None.

Bug Fixes / Technical Changes

#	Change
1	Added new response header to Render service. When rendering in Dev Mode (devMode=y), the response will include the header: <pre>X-Docmosis-Document-Errors-Detected</pre> with a value of <code>true</code> or <code>false</code>. This means that in Dev Mode, when a document that contains errors is streamed back, the response HTTP header will indicate whether errors are present in the document. This is not relevant to Production Mode (devMode=n, which is the API default) since if an error is detected no document will be returned.

Docmosis Tornado v2.4 Release Notes

Dec 2017

Patch release to improve Tornado stability.

Docmosis core updated from version 4.1.0 to 4.1.1

Tornado Changes

#	Change
1	None.

Web Service API Changes

#	Change
1	None.

New Core Engine Features

#	Change
1	None.

Bug Fixes / Technical Changes

#	Change
1	Improved converter pool reliability when issues occur launching/repairing/shutting-down the converters. The pool is now resilient to unexpected failures during these steps. In corner cases, particularly in single-converter configurations, this could stop document production.

Docmosis Tornado v2.4 Release Notes

Oct 2017

Patch release to improve Tornado stability.

Docmosis core remains at version 4.1.0

Tornado Changes

#	Change
1	Added email field to “status” test bed of Tornado console to allow emails to be sent as part of testing..

Web Service API Changes

#	Change
1	None.

New Core Engine Features

#	Change
1	None.

Bug Fixes / Technical Changes

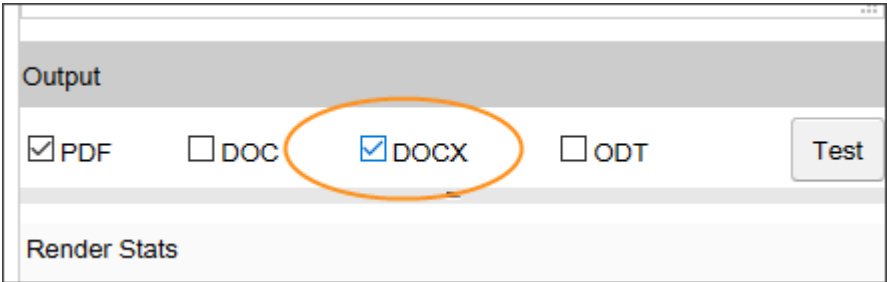
#	Change
1	Improved email system configuration, connection and dispatch

Docmosis Tornado v2.4 Release Notes

Aug 2016

Docmosis core updated from version 4.0.4 to 4.1.0

Tornado Changes

#	Change
1	Barcodes are now available in Tornado: - Code 128 - Code 39 - ITF 14 Adding a barcode is easy and quite configurable. Please see the template guide. 
2	Docx Output option added to the GUI. 
3	Images can be injected from URLs in data. Docmosis will fetch the image and stream into the document. This feature is also security controlled so that only white-listed URLs can be used to fetch images. JSON data example: <pre>"image1":["imageUrl:http://xmpl.co/images/test.png"]</pre> Whitelisting eg: <pre>docmosis.external.resources.whitelist=http://xmpl.co/images;http://e2.com/other</pre>

Web Service API Changes

#	Change
1	None.

New Core Engine Features

#	Change
1	Docx Enabled by Default. Docx processing is now enabled by default. This requires LibreOffice which has DOCX support, or the ODFConverter to be used if using Open Office.
2	TIFF Image Support. TIFF images are now supported in the templates and data streams.
3	New toAlpha(), toAlpha2(), toRoman() Functions. New number formatting functions toAlpha, toAlpha2, toRoman have been added to allow Docmosis to support numbering itself. This means that Docmosis can provide numbering in different formats based on the current index: <pre><<rs_items>> <<{toAlpha(\$itemnum)}>>). This is an item <<es_>></pre> Would produce output like: a) . This is an item b) . This is an item c) . This is an item d) . This is an item ... toAlpha() maps numbers to a, b, c..., y, z, aa, bb, cc, dd etc. For example: toAlpha(1) => a toAlpha(26) => z toAlpha(27) => aa toAlpha(28) => bb toAlpha2() maps numbers to a, b, c..., y, z, aa, ab, ac, ad etc. For example: toAlpha2(1) => a toAlpha2(26) => z toAlpha2(27) => aa toAlpha2(28) => ab which is the same as toAlpha() except when hitting double letters. toRoman() maps numbers to Roman Numerals. For example: toRoman(1) => i toRoman(26) => ii toRoman(27) => xxvii toRoman(28) => xxviii

Bug Fixes / Technical Changes

#	Change
1	Fixed bug in <code>FileUtilities</code> where unzipping a zip file with sub folders was failing because the sub-folders were not being created.
2	Improved field detection where plain text fields near the bottom of a page could be left unrecognized.
3	Fixed bug where injecting html that was simply a table would leave the "repairme" text behind.
4	Fixed issue where table borders and other style information was lost for some simple tables where <code><<rr_>></code> or <code><<ref:>></code> fields existed, but no tables in the document had lookup fields.
5	Reduced diagnostics logging for the <code>ExpressionFunctionAdapter</code> to make sure that when a processing error occurs, the message doesn't contain the package and class of the exception. This makes the message more meaningful to the user.
6	Updated evaluator to not spit out same message about overridden functions every construction.
7	Fixed NPE in table analysis where conditional column was spanned. This could show up as an error with message "null".

Docmosis Torando v2.3 Release Notes

Apr 2016

Docmosis core updated from version 4.0.3 to 4.0.4

Tornado Changes

#	Change
1	GUI changes for Tornado console: - Added “ping” hyperlink to show how to access PING service - Added “Status” hyperlink to show how to access STATUS service - Added “WADL” hyperlink to allow WADL to be accessed easily See details for the API calls below

Web Service API Changes

#	Change
1	New “ping” web service endpoint added: eg. http://localhost:8080/rs/ping This service can be called to determine whether the Tornado web server is running. It is a simple minimal check. The service returns: http: 200 on success.
2	New “status” web service endpoint added: eg. http://localhost:8080/rs/status This service can be called to determine more detailed Tornado operation including whether it is ready to render documents and current utilisation. The service returns the following JSON response summarizing operation: <pre>{ "detail": { "converterCountInUse": "0", "converterCountOffline": "0", "converterCountOnline": "4", "converterCountTotal": "4", "uptimeSeconds": "20" }, "message": "ready", "ready": "true" }</pre>

New Core Engine Features

#	Change
1	Field parsing has been improved to allow the period character (“.”) to appear in template string literals. Eg. ‘ab.cd’.
2	Date Rendering has been improved such that if an input date string includes a timezone, that same timezone will be applied to the output value. Previous behavior is that the local timezone would be applied when outputting the resulting date/time.

#	Change
3	Improved startup processing to work when running as a Windows Service.
4.	Fixed issue where table borders could be rendered incorrectly when using repeating rows with a “step directive” eg. <<rr_xx:stepN>> .

Bug Fixes / Technical Changes

#	Change
1	Fixed field parsing to identify a special case of plain-text-field that could cause the field not to be recognized by Docmosis and ignored.

Docmosis Torando v2.2 Release Notes

Dec 2015

Docmosis core updated from version 4.0.2 to 4.0.3

Tornado Changes

#	Change
1	GUI improvements for Tornado console: - Test button is always visible - Its now easy to resize the display to make the data area larger to work with
2	Rendering updated to always use “localhost” when invoking the render. This fixes the issue where the server is unable to reach back to itself via the public hostname / address. Two new configuration settings are available to override this configuration: <code>docmosis.tornado.render.useHostName=localhost</code> <code>docmosis.tornado.render.useUrl=http://my.host.com:8080/</code>
3	Added command line settings for control over logging: - <code>log.level=debug info error</code> to specify the level of logging to the console and log files - <code>log4j.config.file=path</code> to set the log4j logging configuration file - <code>java.util.logging.config.file=path</code> to set Java Util logging configuration file

Web Service API Changes

#	Change
1	<no changes>

New Core Engine Features

#	Change
	<no changes>

Bug Fixes / Technical Changes

#	Change
1	XML sample data creation no longer creates invalid duplicate keys.
2	Bug fix where template processing errors for conditional sections inside bullet/numbered lists where the conditional section end is in a different paragraph.

Docmosis Torando v2.1 Release Notes

Nov 2015

Docmosis core updated from version 4.0.1 to 4.0.2

Tornado Changes

#	Change
1	The release has been updated to a ZIP file containing various materials including the program, documentation and license information.
2	GUI improvements for Tornado console: - Feedback when render is executing - When admin password is set, session expiration now redirects to login page - XML Sample Data creation no longer produces duplicate "keys"
3	Added command line settings for control over logging: - <code>log.level=debug info error</code> to specify the level of logging to the console and log files - <code>log4j.config.file=path</code> to set the log4j logging configuration file - <code>java.util.logging.config.file=path</code> to set Java Util logging configuration file

Web Service API Changes

#	Change
1	<no changes>

New Core Engine Features

#	Change
	<no changes>

Bug Fixes / Technical Changes

#	Change
1	Fixed issue where session expiry would give unhelpful error if admin password is configured. Now automatically redirects to login.
2	Much logging has been moved to debug level so the default info level logging is more succinct.
3	Http caching disabled for Tornado console to aid with browser cache related problems.
4	Fixed bug stopping the restart button from being enabled.
5	Render now always uses <code>localhost</code> to execute the render rather than non-deterministically choosing a local address to use.

Docmosis Torando v2.0 Release Notes

Oct 2015

Docmosis core updated from version 3.3.0 to 4.0.1.

Tornado Changes

#	Change
1	Added the ability to generate XML sample data based on the template (new button on the GUI)
2	Render requests are now done in DEV mode. This means errors will be injected into the document to help with locating problems. The render REST API supports the choice of dev/prod mode.
	There is a new REST API endpoint <code>"/convert"</code> which can be used to convert (not populate) files between formats including spreadsheets and drawings.
	GUI Updates for the web console including: • Text wrapping • Display 200 templates in browser tree • New scroll bars • XML dummy data button

Web Service API Changes

#	Change
1	render endpoint allows <code>storeto</code> to be empty as well as not specified
2	web services - updated render end point to set header <code>X-Docmosis-PagesRendered</code> when successful.
3	web services - updated <code>getTemplateStructure</code> to correctly detect <code>TemplateNotFoundException</code> and return as a 400 failure with the correct message
	web services - updated render to have new parameter <code>"ignoreUnknownParams"</code> to allow systems to pass unreasonable params. This is because one customer has a system they call to issue the request to Docmosis. It adds it's own params and the customer can't avoid that.
	web services - added PING endpoint (<code>"/ping"</code>)
	web services - allowed <code>"+"</code> character in output file names
	New endpoint: <code>convert</code> for converting documents without requiring data or templates. This endpoint is considered experimental. Contact Docmosis support if you would like access to this service.
	Image data can reference images by fetching from URLs.
	Updated render service where response message was being constructed in JSON rather than XML or choosing between XML and JSON correctly.

New Core Engine Features

#	Change
	If / Else / Else-If Support in Conditional Sections Simple “else” looks like this: <pre><<cs_true>> true <<else>> false <<es_>></pre> “else-if” is written like this: <pre><<cs_isPerson>> I have a person <<else_isPlant>> I have a plant <<else>> I have something I didn't expect <<es_isPerson>></pre> Conditional Sections Support the new Expression Syntax (described below) Eg: <pre><<cs_{val < 10.0}>> Low value = <<val>> <<else_{val > 100.0}>> High value = <<val>> <<else>> Nominal value = <<val>> <<es_>></pre>
	New Expression Engine A new expression engine has been added that improves computational capabilities of templates. Operators and functions can be applied to String and numeric data. The following lines summarize the way this affects the templates. Expressions in Docmosis templates are still delimited by the braces (“{” and “}”) characters. Expressions can now include: • Precedence using the brackets “(” and “)” characters • Mathematical expressions • Mathematical and String functions • Boolean logic
	Direct Expression Evaluation Fields which are expressions can be used to insert data into documents. For example: <pre><<{1 + 2 + 3}>> <<{round(val/100,2)}>>% <<{titleCase(firstName + ' ' + lastName)}>></pre>

#	Change
	Assignment of Expressions to Variables Variables can now be assigned the results of expressions: << \$m={expr} >> Eg. <<\${m}={round(1+ceil(2*3.5))}>> <pre>round(1+ceil(2*3.5)) = <<\${m}>></pre>
	Boolean Logic <pre><<cs_{val1 (val2 && val3)}>> val1 is true or both val2 and val3 are true <<es_>></pre>
	Maths functions Typical math functions are supported. Eg. <<{max(4.522, 4.5)}>> The round() function has been extended to support an optional precision: <pre><<{round(1.236)}>> <<{round(1.236, 2)}>></pre> The precision also pads: <pre><<{round(1.2, 5)}>></pre>
	String Functions charAt, compareTo, compareToIgnoreCase, concat, endsWith, equals, equalsIgnoreCase, indexOf, lastIndexOf, length, replace (character replacement), startsWith, substring, toLowerCase, toUpperCase, Trim, map, titleCase, split, eg: <pre><<{equals('a', 'b')}>> <<{indexOf('abc', 'b')}>> <<{startsWith('this is', 'this')}>> <<{titleCase('joe blogs')}>></pre>
	Formatting Functions numFormat and dateFormat functions have been created to perform numeric and date formatting functions. These functions are based on the similarly named FieldRenderers that already existed in Docomsis. <pre>numFormat(<value>, <format>[, <locale>]) <<{numFormat(value1, '###,###.00')}>></pre> <pre>dateFormat(<value>[, <output format>[, <input format>]]) <<{dateFormat(value1, 'dd/MM/yy', 'dd-MMM-yyyy')}>></pre>
	Operators The well known operators are supported: <pre>() + - * / % + - = == != < <= > >= && !</pre>
	XML population has been updated to allow "<r>" to result in paragraph insertion (in addition to "<r\n>" and "<\n>"). This helps XML data processing where the xml contains this type of new lines.

#	Change
	Logging is by default quieter now with more logging information moved to DEBUG/FINE level.
	Hyperlink processing has been updated to be able to use variables and variables set from expressions. The hyperlinks are now expected to be of the format <<link:xxx>> but the <<link_xxx>> format is still supported.
	Sub-templates can now set template-variables that are visible to the “master” template and subsequently processed templates.

Bug Fixes / Technical Changes

#	Change
1	Fixed issue where no data being given by client results in an error
2	New license key format
3	Fixed bug with JSON image dummy data provision which didn't work for ODT templates
	JSON dummy data structure processor improved to handle case where image and text field have same key.
	Updated Tomcat to 7.0.65 (from 7.0.27) which fixes runtime JSP compilation errors under Java 8
	Fixed issue where spaces around data input via web console would stop data being recognized as JSON format.
1	Improved hyperlink insertion to deal with being given blank data. This was corrupting DOC output.
	Updated field parsing to handle more cases where set-variable fields occurring in redundant paragraphs (blank lines) was causing parsing errors.
	Improved injection of errors into the document (in “dev” mode): - Errors not being visible in the document - stopping template errors highlighting in red
	Improved JSON data provision for anonymous arrays (arrays that have a list of values without keys). Internally, the new key "" is used for items that are anonymous which fits current data provision perfectly - and is semantically a good fit.
	Improve population of <<rs_\$this>> and <<rs_\$current>> to work with JSON anonymous arrays of arrays.
	Updated analysis to detect when overlapping sections are caused by an over-zealous image bookmark and raise a better error message. This occurs when the bookmark captures more than just the image so other content could be accidentally removed from the result.
	Updated field processing in numbered and bullet lists. Removes the default assumption that a bullet list with a field in it is intended for repetition and makes it much more "normal".
	Increased the default window size for xml processing for templates with large/complex paragraphs particularly in docx format.
	Fixed issue where hidden ("_GoBack") bookmarks created by new versions of word (Mac) were causing blank paragraphs to be left behind.
	Updated error handling for when a start or end tag is in a list (but not the matching tag) - causing the related other tag to be lost/remote

#	Change
	Fixed issue where looping over including sub-templates more than 2 levels deep would incorrectly determine a cycle in template referencing and raise an error.
	Updated number renderer to be able to take a second parameter which identifies the locale to use when parsing/formatting the date.