

# What's New

## Version 3.8 (2019)

Version 3.8 is intended to be the final sub-version of version 3 of fSeries. It rounds off the products as we prepare for large changes and a whole new version of fSeries, due in 2021. There are a few new features, detailed below, but this version chiefly concerns performance improvements and bug-fixes.

### Data Gathering

NEW: A new plugin is available called "Data Export". [Further information can be found here.](#)

NEW: New plugins called "RestApi" and "RestApiRelative" allow JSON-based APIs to be called by DSDs. [Further information can be found here.](#)

FIX: Applying sorting to a data group that was set to "Design At Top Level" resulted in no data being returned.

FIX: Following issues in schema gathering from some data source formats, schema generation has been reversed to that used in v3.6.

FIX: The rank plugin would cause any subsequent data group functions that refer to the same datagroup as the Rank plugin to not return data.

### fDocs

NEW: The "Image\_Base64" special tag will display an image based on a piece of Base64 text. The Base64 content can come from another tag placed within the Image\_Base64 tag.

NEW: The "ChartRotate" special tag, placed around a table of data for a chart, switches the axis for viewing the chart with data rotated.

NEW: The "ChartMatrix" special tag, placed around a table of data with a series, category, and value columns, allows the chart to be broken down into Series.

NEW: The "HTML" special tag, placed around other tags or functions, converts HTML content into Word-friendly format.

NEW: Reports can now be produced in Open Document (ODT) format by adding "odt" to the list of formats in fAdmin

NEW: A collection of special tags are now available within the "Properties" special tag. These allow you to set the Author, Manager, Description, Created By, Date and Title of the generated document. These special tags can have data tags placed within them.

NEW: Outputs are now generated with the Created On and Created By set to a default of the generation date and the logged in fSeries user unless overridden by use of one of the Properties special tags described above. Previously this was left as the date and owner of the template.

NEW: Data errors found when gathering data are now highlighted and put into bookmarks in generated outputs.

CHANGE: File generation is now handled by the Apose.Words component. This

should result in faster document generation.

## **fDocs Actions**

CHANGE: fDocs Actions now handle the relevant document via a memory stream, rather than by creating a temporary file. This should speed up document handling by fDocs Actions.

## **fPanels**

NEW: The “Chart Matrix” option is now available within Chart Designer. This allows you to add a third, initial column of data to your chart to be used as the Series of values.

CHANGE: The code responsible for managing highlighting in panels has been improved, leading to an increase in performance and speed.

## **fMaps**

CHANGE: When linking from one fMaps area to another fMaps report, or fPanels report, this link would fire on a single-click which prevents the infobox from appearing. This has now been changed to activate on a double-click.

FIX: Microsoft Bing would not always return a full set of results when geocoding was required for points that did not have an easting/northing set in the source data. Now, fSeries will repeatedly ask Bing for any missing locations until no additional matches can be found.

FIX: When linking from one fMaps area to another fMaps report, or fPanels report, the link would sometimes misfire depending on various circumstances.

## **Other Changes**

NEW: New functions are available throughout fSeries. These are =HIGHEST, =LOWEST, =DISTINCT, and =AVERAGE, and will return the relevant result from the list of values given within brackets.

NEW: Previously, the “DataPath” setting that told fSeries where to find the config (and start the application) required specifying in the machines registry during software installation. Now, it can be specified in the main web.config of the webroot, and registry access is no longer required.

Please contact Fibonacci to check which options you are currently licensed to use and so which of these will form part of your next upgrade.

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# **Version 3.7 (2018)**

In Version 3.7 fSeries introduces location-based displays of information through a new module – **fMaps**. This now brings the number of modules available in fSeries to six:

- *fData* – gather data from data sources
- *fPanels* – display on-screen interactive data presentations
- *fMaps* – display information around areas or points on a map
- *fDocs* – generate documents from gathered data
- *fSheets* – document generation in spreadsheet format
- *fRemote* – share gathered data securely with other *fSeries* servers

In addition, there is a further module available upon request to customers with a service agreement licence for creating database queries without needing to have knowledge of SQL, and there are numerous improvements throughout the rest of the application suite.

## **fMaps**

*fMaps*, new for version 3.7, presents information in the form of a map together with a number of different ways to view, filter and analyse the data.

*fMaps* uses Microsoft's [Bing Maps](#) services to draw maps and find locations. **Important information about licensing is available [here](#).**

There are four different types of map available:

- **Points Map** – shows pin points for all locations. When clicked, they are shown as selected with no other action. Double clicking a point actions a link such as opening an *fPanels* presentation related to the point.
- **Areas Map** – shows areas, coloured on a gradient based on values in selected columns in the locations data provided.
- **Menu Map** – shows pin points for all locations which when clicked, action a link, similar to those in *fPanels*.
- **Heat Map** – The purpose of a heat map is to show the density of points on a map. By default all locations in the map data are grouped into a single heat layer. You can separate out specific layers as not being in the heat layer in which case these location are shown as pin points overlaid on the heat map.

[Click here to learn more about \*fMaps\* for \*fSeries\*.](#)

## **Data Gathering Improvements**

Underpinning everything that *fSeries* does, the way that the DSD data schema is gathered (the information about what fields are available for putting into presentations, document outputs, or made available in *fData*) has been improved. Rather than execute a query in order to find the fields available, this information is gathered in a new fashion, speeding up time not only to show the fields available in *fData*, but also during data gathering.

## **fPanels**

We have made some large performance improvements for *fPanels*. The way that applying filters works has been sped up when loading a presentation, and improvements have been made to the way that *fPanels* loads your data on the page. Combined with the data gathering improvements described above, this has given up to a 400% speed improvement in loading complex presentations including large sets of data.

Previously, *fPanels* could only handle up to 2Mb of data being loaded onto the page and would time-out if this limit was reached. This restriction has now been lifted so that large sets of data can be loaded.

*fMaps* can be used to insert a simple map as a new panel alongside other data in a presentation. The map uses the same structure of data as other panels, and a panel of data can be turned into a map by changing it's layout, in much the same way as you can switch a panel of data into a chart.

Finally, the number of colours available when creating highlighters has been increased from the four previously available to also include 25 new hues around the colour wheel.

## **fSheets**

First introduced in version 3.6, *fSheets* now has tighter integration within menus and *fSheets* presentations be called as a type of menu link.

## **fDocs**

A new special tag, *Format*, allows you to create rules to change the format of content displayed in generated documents, such as changing text colours or background colours dynamically depending on data brought into the document.

## **fData**

In *fData*, it is now possible to add a filter to a data group to immediately remove rows of data that do not match criteria you specify, and you can also specify that only rows with distinct sets of values be returned. For example, you can now only show the different surnames for a group of people, or the different ages of people in a cohort. Traditionally this was only possible using an SQL query, but this can now be applied to any data group, regardless of its source.

From version 3.6, *fData* could produce a document informing the DSD designer how a DSD was set up and the data group structure. This was useful so that a hard copy could be kept for reference purposes. This report has now been improved, and shows which presentations, templates, and other places in the system where the DSD is being used.

## Security Improvements

In previous versions of *fData*, users were prevented from entering any SQL queries that did not start with the word “*SELECT*”. This was to help prevent users from executing commands that could update SQL data sources, as *fSeries* is designed to be a read-only application, and we encourage system administrators to set up read-only user accounts when connecting *fSeries* to their data sources.

However, there are times when you may wish to use a read-only function at the start of your SQL query, such as “*WITH*”. *fData* now allows you to enter any SQL query you wish when setting up SQL data groups, and *fSeries* automatically rolls back any transactions that could result in source databases being updated.

*fSeries* has also been further hardened against many methods of attack employed by potential hackers.

There is a new option for setting up and maintaining user passwords using one-time reset password emails. In addition, a new plugin, *BlockUser*, can now be placed into DSDs and can block user accounts depending on conditions you specify, such as a number of invalid attempts to login, or any other comparisons you wish to apply. Both these options are available if you use the *fSeries* database to maintain user accounts.

Finally, the *UserInfo* function has been improved and now has more information available about the person using the system, which can be used in your reports, presentations, or internally within your DSD.

## *fAdmin*

*fAdmin* has been updated visually to tie in with the *fSeries* menu structure. Menu options are now shown down the left hand side of the screen, providing quicker navigation around *fAdmin*.

## Other Changes

*fSeries* no longer requires you to specify the location of the data folder within the windows registry – it can be specified in the web.config file within the *fSeries* webroot, or if not specified will fall back to it’s default location of *C:\fSeries\Data*.

All selection pages (used for entering values when running *fPanels* presentations or *fDocs* outputs etc.) are now HTML5 based and make use of improved number entry and date entry dialogues.

There are further updates to the client tools [fData](#), [fTest](#) and [fDocs Designer](#) which can be found on their release notes pages.

## Deprecation of Custom XML (“pink tag”) templates

In version 3.6 of *fSeries* support for generating output documents using *fDocs* Version 1 (Word 2003 XML) templates was deprecated. In version 3.7 this has been extended so that templates based on custom XML based templates (these templates were shown in *fDocs* Designer with pink tags) are no longer supported for generating outputs. Support by Microsoft for Custom XML templates ceased in Microsoft Word 2007.

*fDocs* Designer ceased supporting custom XML templates from version 3.0, and we are not aware of any customers still using custom XML based templates for output – please contact Fibonacci if you have any concerns.

Please contact Fibonacci to check which options you are currently licensed to use and so which of these will form part of your next upgrade.

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## Version 3.6 (2017)

Version 3.6 brings performance improvements and new functionality in two main areas – ***fSheets***, and ***fRemote For Groups***.

### ***fSheets***

*fSheets* lets you generate a spreadsheet (***xlsx***) based on data gathered using *fData*. You can generate a spreadsheet in one of three ways:

1. Directly based on the contents of a DSD (Data Set Definition)
2. Based on a template spreadsheet to design the layout and content
3. Based on the contents of an *fDocs* template

Further information is available in the new [fSheets](#) section of our help site.

### ***fRemote For Groups***

*fRemote* is the *fSeries* module that takes care of information sharing. In version 3.5 this is for sharing data gathered by one organisation for use by another organisation in their own *fSeries* system. For example the Local Authority can share data with an NHS Trust.

*fRemote* includes a number of features to ensure tight security of access and when combined with the *fData* data access control features and audit log, *fRemote* provides a powerful, safe and secure method to share data with other organisations.

For version 3.6 Fibonacci is now expanding *fRemote* in two ways:

1. To make it possible to share outputs (*fDocs* documents and *fPanels*)

presentations)

2. To be able to share with groups of users using the same *fSeries* server

In the past, only the data required to generate outputs could be shared. Now the outputs themselves can be shared. Which means that you have full control over the information you share.

For each group (or organisation) that you share with you can designate a list of *fDocs* documents and *fPanels* presentations to which they have access. *fRemote* takes care of making sure that no member of the group can gain access to outputs (or data) that is outside of this designated list.

Setting up the designated list is done using the standard *fSeries* menu builder, so it's as easy as setting up your own menus.

Users in the share group need only to open a link to an *fSeries* menu, *fPanels* presentation or *fDocs* document.

The standard set up for *fRemote* in version 3.5 is for it to share information with users on another *fSeries* server (e.g. LA to NHS).

However, if the requirement is for the host organisation to share outputs only, there is no need for a second server to be used. For example if the LA needs to provide client information in the form of documents or presentations.

By configuring your own server (the host server) to have different entry points for each user group, *fRemote* is aware of which group the user belongs to and provide only the outputs and data appropriate.

This is the least cost option and is useful for external users such as NHS, and for internal users such as other departments within the LA.

The key difference between this single host option and the server-to-server option is that with server-to-server, each organisation maintains its own security setup on its own *fSeries* system. This is likely to be a single sign on Active Directory method.

However, with the single host option the host organisation retains control of all user setup. Because external organisations will not be with the host's network, external users will need to log in to *fSeries* for a session using an allocated user id and password.

## **New DataGroup Type – Rank**

The Rank plugin is a new DataGroup type that allows you to quickly rank rows of data from another DataGroup and order it by most or least common values.

For example, Local Authorities may wish to total up a list of Missing Children incidents and order it by name to find out who is the person with the most missing incidents. Or, you may wish to order by a cohort by Ethnicity, Religion, or another demographic piece of information. The Rank

plugin allows this, in addition to restricting the number of results that are returned to the top 5, or the top 10, whatever your wish.

You can also filter matches, so that only rows which have another piece of data that matches your requirements are counted when totalling up the number of values to rank.

The Rank plugin returns the common values, along with a count of each match, and a percentage across the whole cohort. In this way the results from a Rank can easily be put into a bar chart, pie chart, or used for creating a filter for a main cohort of data using *f*Panels.

## ***f*Docs Template Designer – Support for Word 2016**

Version 3.6 of *f*Docs Designer now includes support for creating templates using Microsoft Word 2016. Previous versions of *f*Docs Designer are not compatible with Word 2016, so if you intend on using Word 2016 to manage *f*Docs templates, please upgrade to this version. Any existing DOCX/DOCM templates created using previous versions of *f*Docs Designer will continue to function as normal.

## **Deprecation of Word 2003 (XML) templates**

In version 3.6 of *f*Series support for generating output documents using *f*Docs Version 1 templates has now been deprecated.

Since version 2 of *f*Series (using Word 2007) all templates have been created using the DOCX file format and the *f*Docs Designer has only supported DOCX. From version 3.6, any templates created using the first version of *f*Docs Designer (using the Word 2003 XML file format) are no longer supported for generating output documents.

We are not aware of any customers still using *f*Docs Version 1 templates – please contact Fibonacci if you have any concerns.

Please contact Fibonacci to check which options you are currently licensed to use and so which of these will form part of your next upgrade.

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## **Version 3.5 (2016)**

For version 3.5 Fibonacci has added many new features to *f*Series as well one new module. *f*Series is now comprised of four modules:

- *f*Data – gather data from data sources
- *f*Panels – display on-screen interactive data presentations
- *f*Docs – generate documents from gathered data
- *f*Remote – share gathered data with other *f*Series servers



*fData* is the backbone of *fSeries* and is a pre-requisite for all other modules.

*fRemote* is a new module that brings together existing technology and adds some new capabilities to allow your *fData* to share data with another *fData* with precise control over the data you make available.

*fSeries* now includes all of the following new options. Please contact Fibonacci to check which options you are currently licensed to use and so which of these will form part of your next upgrade.

- [Faster data gathering](#)
- [Automatic data dependency calculation](#)
- [Data access control \(role and attribute based\)](#)
- [fRemote](#)
- [New web style](#)
- [New Menu Builder](#)
- [fPanels Viewer](#)
- [fPanels touch/swipe compatibility](#)
- [fPanels CSV download](#)
- [DSD based data groups](#)
- [Enhanced Abandon options](#)
- [fAdmin data source test options](#)
- [Additional document conversion options \(e.g. PDF\)](#)
- [fDocs Action to add workflow in document generation](#)
- [In-page functions help](#)
- [Additional fDocs template indexing options](#)
- [Event logging \(authentication, generation and fRemote\)](#)
- [New features in fData DSD Designer](#)
- [New features in fTest](#)
- [New features in fDocs Template Designer](#)

## **Faster Data Gathering (Async)**

In previous versions, *fData* gathered data by processing data groups in the order you specified, one at a time. From 2016 (v3.5) by default data groups are processed asynchronously, or in parallel. This means that if you have, say, five data groups they may all be executed at once, rather than each waiting in turn for the previous one to complete.

In order to make this safe and avoid conflicts due to inter-dependent data groups *fData* now calculates the data group dependencies and sequences the data groups as appropriate. For example if you have a DSD that gets a client's ids in various databases and then gets data from each database, *fData* will ensure that the data groups that get the detailed information don't start until the data group that gets the ids has finished.

This process is fully automatic and even checks that your DSD does not

contain dependency loops.

This only applies to the first level of data gathering, not child data groups.

Legacy DSDs will still gather data in the old way, and you can control whether a DSD is gathered this way or not with the Async option in a DSD's Advanced options in the *fData* DSD Designer.

## Automatic Data Dependency Calculation

In previous versions data groups were processed in the order you specified. You can still arrange the sequence of data groups but *fData* will now check the inter-dependencies of data groups and automatically adjust the order if necessary.

This is particularly important for the new Async data gathering.

## Data Access Control (DAC)

v3.5 includes facilities for detailed control over the data gathered, down to row and field level, based on roles and rules. This allows for Role Based Access Control (RBAC) and Attribute Based Access Control (ABAC) to be implemented when gathering data.

When *fSeries* gathers data, as each data group is gathered, *fSeries* Data Access Control (DAC) checks against rules set for the data group in the DSD. DAC applies each rule and either clears corresponding field values or removes rows accordingly. Several rules may be set for a data group and all will be checked and applied.

DAC restricts fields and rows in a data group based on either the user's data access role (established at login) or any condition expressed as an *fSeries* function, or a combination of both. The function is evaluated immediately after the base data is gathered and any data items have been calculated, so that the condition may be based on values in the row.

## *fRemote*

*fRemote* is a new module that makes it possible for *fSeries* user organisations to share data with precise control over the data that they share.

Data is shared via DSDs that are designated as being available to remote *fSeries* servers. The remote *fData* uses an *fData* data group to request data from one of these designated DSDs. In this way the provider of the data is fully in control of who can request data and precisely what data they receive. At no time does the requester of data have control over the data supplied to them.

*fRemote* makes data sharing possible without giving access rights to other organisations. You control precisely what data you allow others to request

from you.

Please note that this is a new module and therefore not included in annual maintenance upgrades.

## **New Web Style**

All web browser based pages (except *fPanels* Presentation and *fPanels* Designer) have been redesigned with an improved and consistent layout and appearance.

## **New Menu Builder**

The new Menu Builder replaces all previous types of menu in *fSeries*.

With an easy to use drag-and-drop design tool, simple or complex menus can be created to deploy *fDocs* documents and *fPanels* Presentations.

*fSeries* Menus may be used in three ways:

1. With the *fSeries* Menu page run directly from other application links or a desktop shortcut
2. With the new *fPanels* Viewer page
3. As a panel inside an *fPanels* presentation

*fSeries* Menus are included as part of both *fDocs* and *fPanels* licenses and so are available to all customers.

*fSeries* Menus replace the old *fDMenu* and *fPanels* Menu option which are now deprecated and for which there are converters provided.

## **fPanels Viewer**

The new *fPanels* Viewer web page provides a deployment framework for *fPanels* presentations using the new *fSeries* Menu Builder to create a structured menu of presentations from which the user may choose.

## **fPanels Touch/Swipe**

The design of *fPanels* has been adapted to ensure it is more easily usable on touch/swipe tablet devices. In addition, if a presentation is viewed within *fPanels* Viewer or Single Viewer the menu is automatically hidden to provide more viewing area for the presentation.

## **fPanels CSV Download**

A new option for links in *fPanels*: download the contents of a panel as a CSV. On most PCS this will open as a spreadsheet.

## **DSD Based Data Groups**

From v3.5 it is now possible to use one DSD as a source of data in another. For example, if you have a DSD that gathers a specific client's ids in different databases you can call this DSD into any other DSD. This makes for consistency and ease of later maintenance of your setup.

This facility is also used by *fRemote* to request data from a different *fSeries* server.

## **Enhanced Abandon Options**

In previous versions of *fSeries* the Abandon data group type made it possible to stop further data gathering based on the result of an *fSeries* function. Wherever you positioned the Abandon data group in the sequence of data groups, all following data groups would be switched off.

From v3.5 you can now specify a separate DSD to be run and return a value that determines whether execution should stop. For example if you have a DSD that checks if a specific user has access rights to a specific client's details you can call that DSD from any other DSD to carry out the check consistently. The old method of using a function is still available.

Because of the new automatic data dependency calculation and Async data gathering, the sequence in which data groups are executed is no longer necessarily set by you. So a new facility in the Abandon data group lets you specify which data groups are affected (or all others). The new dependency calculation will take this into account when sequencing the execution of data groups.

## ***fAdmin* Data Source Tests**

For SQL database connections, file locations and *fRemote* servers you can now click an option in the setup to test whether the connection is correctly configured.

## ***fDocs* Document Format Conversion**

In previous versions it has been possible to convert documents to other formats such as PDF by running MS Word on the *fSeries* server with an impersonated user to carry out a "Save As" to create the converted document. From v3.5 there are two new options ('Aspose.Words for .Net' and 'Spire.doc for .Net') that do not require MS Word to be installed.

Aspose.Words is included as part of the product, however Spire.Doc requires a third-party licence to be purchased separately. *fDocs* has been adapted to use both of these converters, so no further software modification is necessary.

Please contact Fibonacci for further details.

## **fDocs Actions**

You can now configure actions to be taken when a document is generated, such as saving the generated document or emailing. The action is specified using tags in the *fDocs* template which means you can include values such as email subject or save location based on data in the document. You can also apply data group loops to repeat the action (e.g. send emails to multiple recipients or save to multiple locations) and compare/condition blocks so that the actions are only carried out in specified circumstances.

## **In-Page Functions Help**

Functions are an essential part of *fSeries*. They are used throughout all modules to retrieve values, calculate new values, compare different values, and for many more purposes.

The new *fSeries* Functions.aspx page is a complete and searchable list of all functions available, what they do and how to use them. This page is available directly from a browser and is also available by clicking on options within the various designers.

## **fDocs Template Indexing**

It has always been possible to index your *fDocs* templates by specifying a single index in a DSD which would then index all templates using that DSD. But this option has generally only been used for the TV Assess application.

From v3.5 you can specify multiple indexes and even set a default index for all DSDs with no other index set. *fDocs* automatically manages the indexes as you create and publish templates.

Any index may then be used in the new *fSeries* Menus to include all templates into a menu that feature in the specific index. You can further specify that only documents in the index for which appropriate values have been supplied (e.g. ClientId) are to be included in the menu.

## **Event Logging**

Options are now available to use the Windows event log to monitor activities in three areas:

- Login and authentication
- Document generation
- *fRemote* data requests

More event logging will be added in future versions.

Please contact Fibonacci Support for further information.

## **fData DSD Designer**

New features include:

- New button in fData DSD Designer to reconnect to the server if the connection is lost
- Detects if you go offline and prompts you to export the current DSD as a backup
- Visualise Test now automatically saves the DSD before running
- DSD Validation now includes all data groups, even if they are closed
- Async option in Advanced settings
- Checks for data group dependency loops
- Option to add data group dependencies manually (adds to automatic detection)
- DSD Hub (data group list) shows all dependencies, not just parent
- User Entry format now has option for Text List (in line with placeholders)
- Placeholders, data items and sort fields setup changed and now all are updated automatically
- Data Access Control setup added to data group options

## **fTest**

New features include:

- Raw DSD XML now available to view
- Number of records shown for each data group
- Automatically opens maximised to give full view of results

## **fDocs Template Designer**

New features include:

- New “Compare” special tag options: “Is In” and “Contains” for substring comparison
- Option to suppress Compare dialogue from appearing when inside Compare tags
- New “Remove No Data” special tag removes content if no data is to be inserted within it (unlike “Remove Empty” which removes content if no text is present at all).
- New “Comments” special tag lets you annotate your template. The “Comment” tag is removed when the document is generated

Please refer to the Release Notes menu on our help site for further version information on fSeries client tools.