BIRT Analytics 5.0
Technical Summary of New Features

The BIRT Analytics 5.0 release is focused on the streamlining and improvement of our Architecture which not only optimizes internal functioning by improving and extending loading and synchronization processes, but also, thanks to its fully JAVA based technology extends our offering across all major platforms: Windows, Linux and Mac OS X.

This release has also focused on user experience, improving visualization and usability in analysis tools. It is now even more convivial with fast and easy installation processes and new features such as being able to export your analyses to BIRT files that can be edited in BIRT Designer and published on the BIRT iHub Visualization Platform as well as BIRT iHub F-Type.

User friendliness has been heightened through the addition of Handy tips appearing in the main windows, easy access to recent analyses and the automatic formatting of date, date/time and numeric values depending on the user's chosen location/language settings.

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Introduction

BIRT Analytics provides remarkably fast, free-form visual data mining and predictive analytics. The uniqueness of BIRT Analytics results from a combination of the ease of use of its data discovery and data mining tools with the power and sophistication of its analytic products. Thanks to BIRT Analytics, sophisticated, large volume data analysis is no longer the private domain of highly technical data scientists and statisticians.
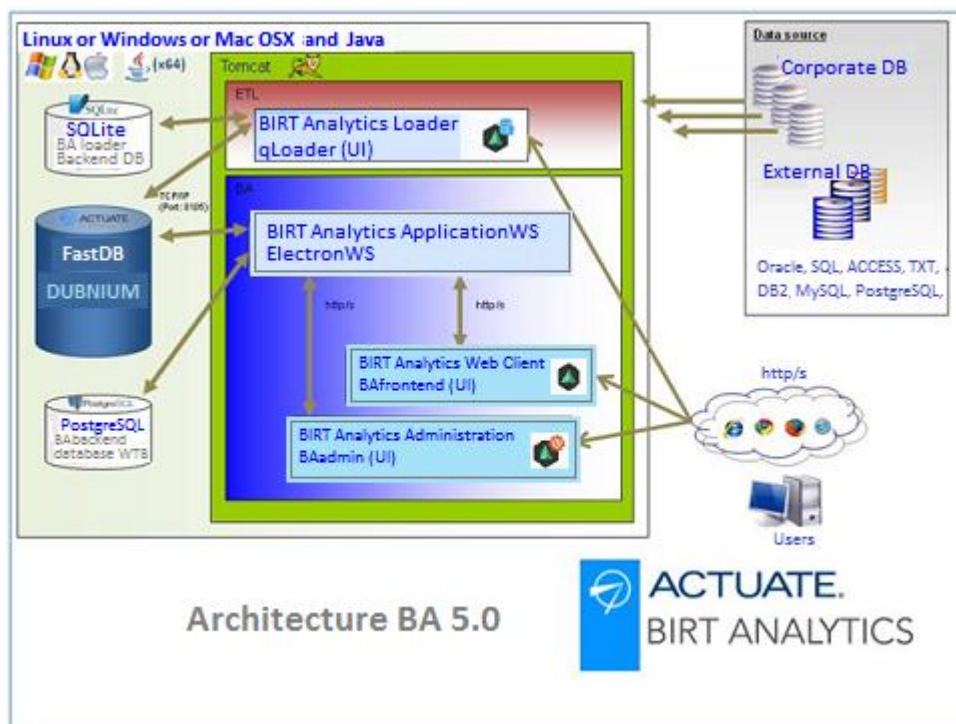
A main focus of this release has been to streamline and consolidate our architecture to better extend our offer across all major platforms while at the same time providing additional useful features to further improve the many productive analytic/statistical techniques already pre-built into our FastDB engine.

A summary list of new BA 5.0 improvements appears below:

- Streamlined, fully integrated JAVA based architecture that offers *full multi-platform coverage* including **Windows, Linux** and **Mac OS X** along with simplified, user-friendly installation processes.

- New function for exporting Crosstab, Venn, Bubble and Profile analysis as BIRT files that can be edited in BIRT Designer and published on the BIRT iHub Visualization Platform as well as BIRT iHub F-Type.

- New functions and features in FastDB, QLoader and BAFrontend that accelerate and improve internal interactions and further extend analysis possibilities.

Architecture

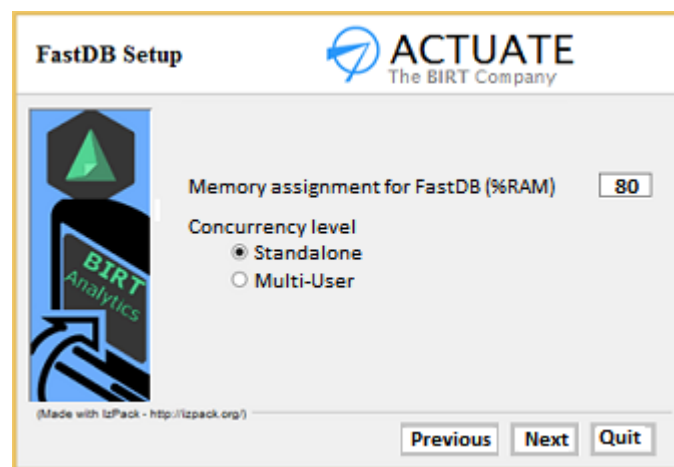The following figure shows the architecture of BIRT Analytics 5.0:

BIRT Analytics software is now entirely based on **JAVA** along with **APACHE Tomcat** web server. Thanks to this JAVA based approach we are able to offer full installation and use of our software on all major development platforms: **Windows, Linux** and **Mac OS X**.

HTML5 is used for its industry recognized, easy to implement imaging and visualization capacities.

The optimized architecture of BIRT Analytics 5.0 allows for faster, more **direct communication** among all modules due to their more integrated positioning, with analyses now directly sending requests to the engine. A new tab in the software gives access to a **Postload process** for synchronizing and eliminating the cache, which is now embedded in QLoader. This eliminates the need for the external synchronization tool BAShell, present in earlier releases. The **Crosstab Export process** is done directly from the engine. Both speed and viability of interactions benefit from these changes.

Installation

BIRT Analytics 5.0 provides a simple installation process with intuitive steps. It offers **fully Standalone installers** that also provide **multi-tenant server installation** possibilities. **Analysis samples** are now embedded in the BA installation process. BA 5.0 offers **direct integration** with Active Directory by **LDAP**, with no intermediate steps required. Easy integration with the iHub application is done much in the same way.

Functional Enhancements added to FastDB

Changes in the grammar of expressions

The most apparent enhancements to the FastDB database, as seen from the user viewpoint, involves changes in the grammar of expressions, in particular those concerning the formatting of **date and date/time** expressions as well as the formatting of **thousands grouping** for integers and long integers. These are also relevant for QLoader and BAFrontend. The following is a list of a few of these new expressions:

```
STRING(<integer>, <thousands format:string>, <thousands grouping:integer|longint>)
STRING(<longint>, <thousands format:string>, <thousands grouping:integer|longint>)
STRING(<date>, <date format:string>, <date separator:string>)
STRING(<time>, <time format:string>, <time separator:string>, <time decimal separator:string>)
DATE(<string>, <date format:string>)
DATETIME(<string>, <datetime format:string>)
TIME(<string>, <time format:string>)
```

Functional Enhancements added to QLoader

The following welcome enhancements have been made to QLoader:

PostLoad function:

Thanks to the new Post loading tab in the software, synchronization and cache clearing is now a simple procedure for the user.

Standardization of Qloader log-in:

When logging in to Qloader, the User name "Administrator" now replaces the previous name "SYSTEM". In this way, the User name is now the same for all the BIRT Analytics UI elements: Frontend, Administration and Qloader. Only FastDB maintains "SYSTEM" as its user name.

Unindexing function:

If desired, users can now save time by removing column indexing while in the process of building voluminous data columns – doing only a single indexing at the end of the process .

New hash functions:

MD5 and SHA1 hash functions have been implemented in BA 5.0 as expression functions. They return a MD5 or a SHA1 hash of a free text or a field containing text.
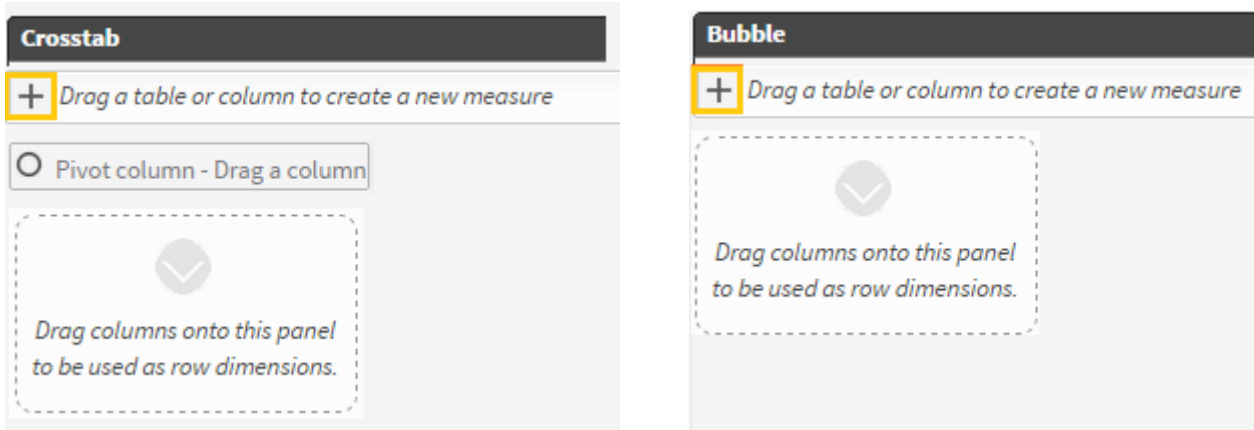
New delimiters for export to CSV file:

The *exporting to CSV* process now supports the following new delimiters: *comma, colon, semicolon, at, sharp, quote, plus, minus, apos, tilde.* Both the new hash functions and the new delimiters are also implemented in BAFrontend.

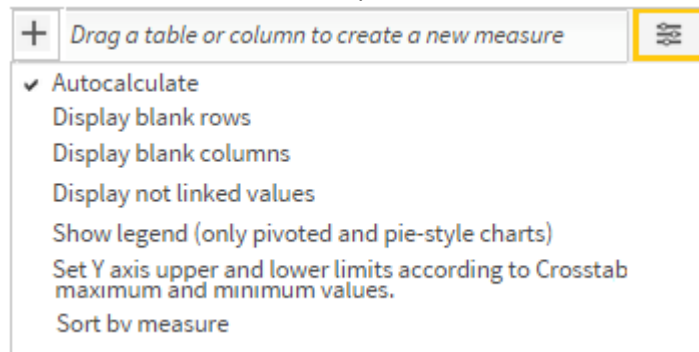# Functional Enhancements added to BAFrontend

BIRT Analysis 5.0 has significantly improved both the usability of its *tools and the visualization of analysis results.* The following list shows some of our Bubble and Crosstab improvements:

- *Expression functions in measures*: In Crosstab, all expression functions can now be implemented in measure formulas.
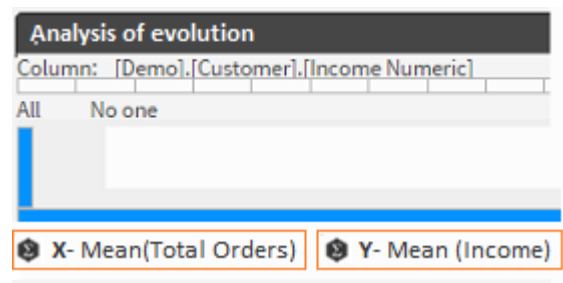
- *Direct addition of new measures in Crosstab and Bubble*: A new button for quickly adding new measures [+] now appears near the top of both the Crosstab and Bubble workspaces. It is just one of the many improvements in this version designed to simplify measure creation. The most important being the possibility to create measures directly in the workspace after dragging in the desired columns and tables to their relevant fields.

- *New "Options " button in Crosstab and Bubble:* Several options are available for your measures by simply clicking on the new *Options* button on the upper right of the workspace. Options vary depending on whether you are in the Crosstab or the Bubble workspace.
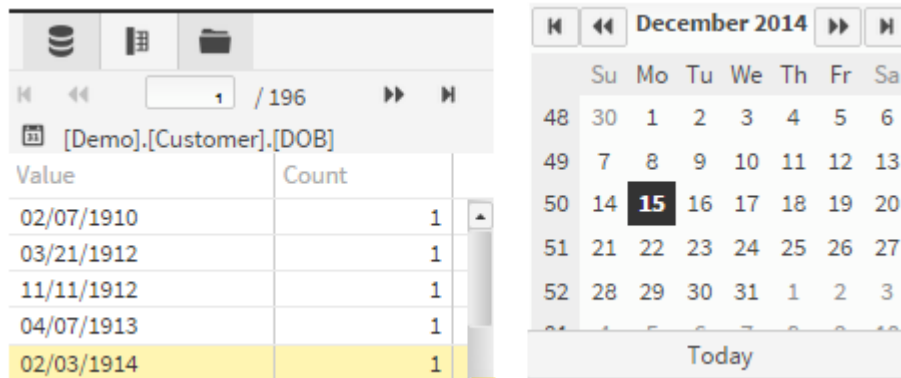

- *Better cross-tool measure visibility:* Although the Evolution workspace did not need the addition of the new Add button, it still benefits from two new visual fields at the bottom of the workspace. These fields display the measures currently in use (that make up the x and y axis of the evolution). They are populated automatically through processes that are triggered when measures are added to an analysis.
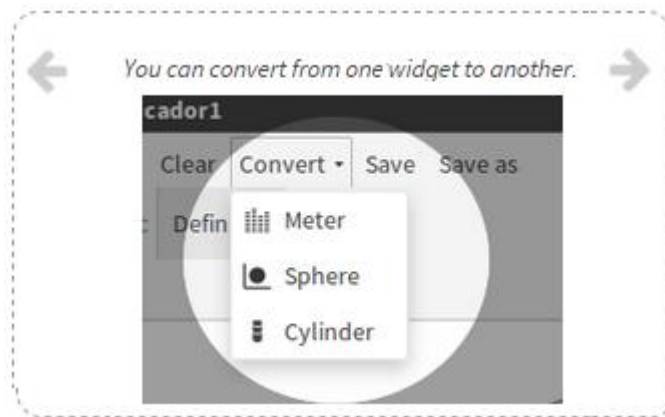
Date ,Time and Numerics available in local formatting

This release also focuses on conviviality offering *automatic local formatting* depending on the *user's chosen location/language* settings. This concerns *date, time and date/time values* as well as for the formatting of *numeric values.* These local dates and times appear in Calendar form. They include those displayed in the discrete values grid, in Crosstab row dimensions, and in Bubble, Pareto and Profile displays as well. Crosstab and Bubble documents, that have been exported as .pdf and .csv files, also display local formatting on numeric, date, date-time and time columns.
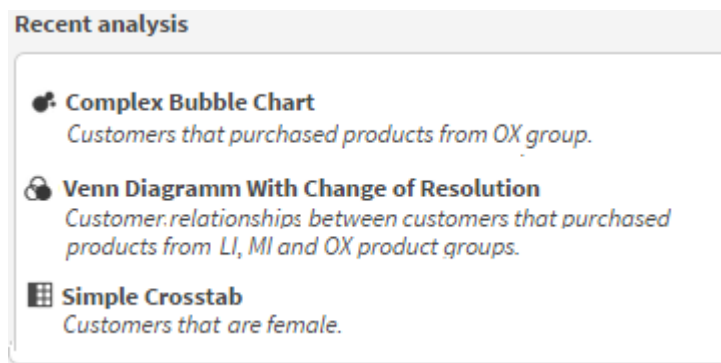
Helpful Tips

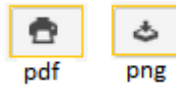Main windows now provide *useful tips* to help both new and experienced users

List of recent analyses

A new panel in the Start screen lists up to the *last ten analyses* that were done.
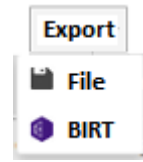
Extended exporting functions

New workspace buttons let you export your work to *.pdf* files as well as save charts and images as *.png* files.

The *Export* tab in the Crosstab, Venn, Bubble and Profile analysis tools gives access to an option allowing you to export your analyses as BIRT files that can be edited in BIRT Designer and published on the BIRT iHub Visualization Platform as well as BIRT iHub F-Type.
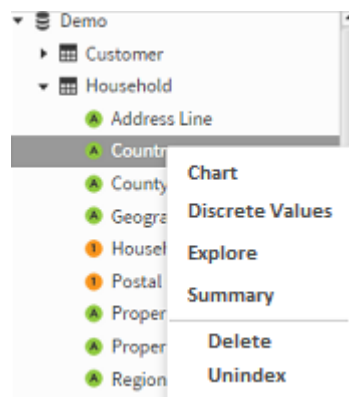

Full indexing capacity

Full indexing capacity now exists for building your columns.

These, and many other small but welcome enhancements, together help to make using BIRT Analytics 5.0 a satisfying user experience. Below are some additional enhancements found in this version:

General enhancements

- *Maximized windows:* Main tool windows open at maximum size and can be minimized and restored using the conventional control in the right hand corner of the screen.
- *New context menu options for repository objects:* Right clicking on repository objects gives access to various options depending on the object:

Database →	Summary	
Table →	Summary, Explore, Delete	
Column →	Chart, Discrete Values, Explore, Summary, Delete and Unindex	
	(with Statistics option for numerical columns)	
Domain →	Explore	

Sharing enhancements

- *Group permissions inheritance:* Now new users added to an existing User Group inherit the group permissions
- *Analysis sharing:* User Groups can share saved analyses including with new users.
- *Campaign workflows:* Workflow stages can be assigned by User Groups
- *Icons in shared analyses:* different icons indicate whether shared analyses have "read' or "write " permissions

Selection enhancements

- *Selection by row number*: In Selections, the "Select All" item has been modified to allow Users to filter records by row number.
- *Creation and change of selection items*: Dragging a table from the Datatree and dropping it on a Selection item creates a new "Select All" item. Dragging a column onto a Selection item creates a "Query" item.
- *Multi-value textbox drag&drop function:* an IN operator (for Query items) allows the user to drag discrete values into the Multi-value textbox.
- *"Selection panel" column selection and removal*: You can select columns from the tree by double-clicking on them. You can also drag multiple selected columns directly out of the list.
- *Edit domain via Scratchpad*: Double-clicking on a Scratchpad item or clicking on the "Edit" option from the context menu reopens the domain definition in a selection window where you can edit or recalculate the domain.
- *Selection window title entry:* the title initially appears as "New block". It changes as the user fills in the main block's "label" field.
- *Formatting input texts according to column type:* In the past, the user had to enter simple query values in the format required by the engine. Now the user must enter the values in the local format - according to the chosen local/language settings of the software.

Ranking and Mapping enhancements

- *Ranking enhancement:* You can now edit your ranking definitions.
- *Mapping enhancement:* There is a new .svg map showing California counties.

Upgrading to BIRT Analytics 5.0

New installation of BIRT Analytics 5.0 requires a license key specific to BA 5.0.

A specific migration tool would be necessary for installations that do not use the FastDB default parameter values for date, datetime or real format column values. More detailed information on upgrading from BA4.4 to BA 5.0 will be available upon request.