

*Any User. Any Data. Any Deployment.*

Technical  
White Paper



## BusinessReports

### Technical Overview

Enterprise Reporting Applications continue to be the medium that enables better corporate and operational performance. Organizations are looking at reporting application platforms to reach into enterprise data sources and empower 100 percent of the organization with timely and accurate information.

BusinessReports, introduced in Actuate 9, provides a self-service, ad hoc query and reporting environment wherein business users can get access to the data they need and create reports they need without IT intervention.

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## Collaborative Reporting Architecture

BusinessReports is an integral member of the Collaborative Reporting Architecture, which brings the principles of open source to reporting applications including participation, iterative development and modularity. BusinessReports drive self-service in collaborative reporting. The entire Collaborative Reporting Architecture includes:

- Actuate BIRT Reports, web reports based on the open source BIRT technology
- Actuate BusinessReports for ad hoc web report development
- Interactive Viewing to allow end users to customize or tailor a report to meet their own perspectives
- iPortal, the standards-based portal environment for hosting and accessing report content from Actuate

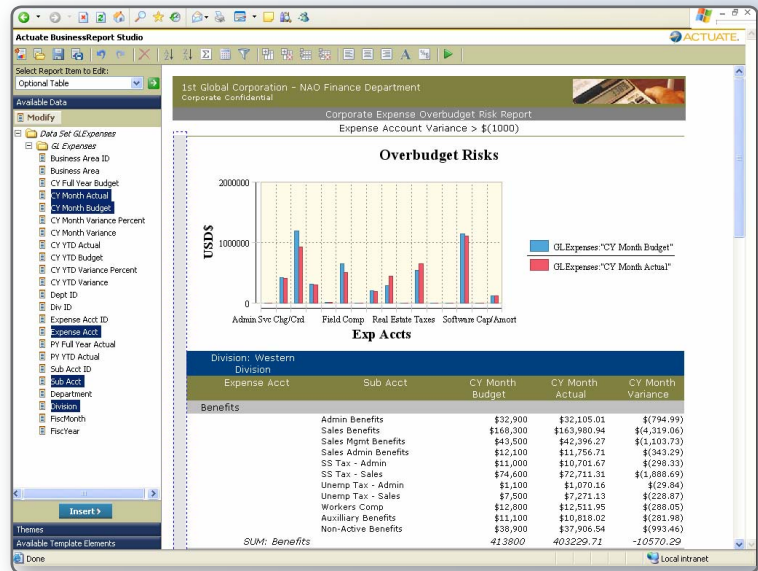
These diverse options provide an array of choices from which to create unique reporting applications that appeal to any type of user.

Within the Collaborative Reporting Architecture, BIRT-based designs and spreadsheets can be shared among high-skill report developers, business users and consumers who access iPortal. This encourages participation and enables an iterative report development process, which speeds development and adoption of the reporting application.

## Self-Service Query and Reporting for Business Users

BusinessReports is for organizations seeking to improve corporate performance by introducing easy-to-use, self-service, web report creation to meet the needs of business and power users.

However, efforts to equip business users with self-service tools have failed due to the complexity of the tool and significant training requirements. Consequently, IT departments continue to be inundated with requests for new reports, resulting in huge backlogs and less time for IT to work on strategic initiatives.



Actuate BusinessReports provides a comprehensive self-service environment where power and business users can access the information they need, analyze it and present it as a report that can be shared with other users in order to facilitate faster and more effective decisions.

Furthermore, users who review these reports—report consumers—can perform additional on-report analysis through the Interactive Viewing feature of BusinessReports, allowing them to tailor the report to meet their own perspectives.

### Key Benefits

**Empower business users with self-service ability to create ad hoc queries and author reports.** Business and power users can perform their own ad hoc queries against enterprise data sources and generate a wide range of reports to answer various business questions.

**Enable report consumers to analyze reports.** Using Interactive Viewing, users receiving BusinessReports can answer a number of additional business questions from the data in an existing report.

**Reduce the reporting bottlenecks in IT and improve requirements understanding between IT and end users.** Communication and satisfaction improves between report producers and consumers as self-service reduces the IT workload. IT is extricated from tactical report development and data extraction activities, and can instead focus on more strategic activities.

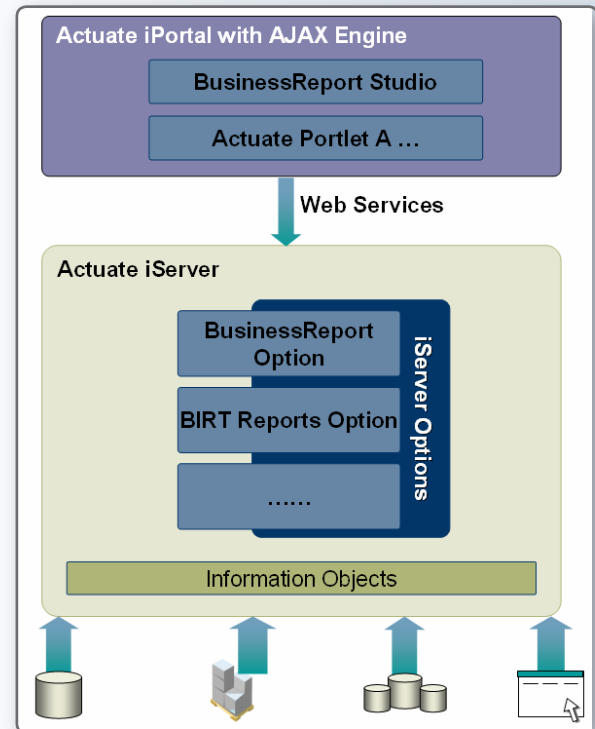
**Zero training and support costs.** The BusinessReports interface is intuitive and simple for business users. Almost immediately, they can quickly become self-sufficient without requiring extensive training. This zero-footprint, web-based solution ensures simplified deployment across the organization.

**Higher ROI.** By providing a platform that allows IT to empower business users to assemble their own reports, Actuate BusinessReport Studio improves the relationship between IT and business users. Self-service makes analysis available more quickly, which drives faster decisions. IT saves significantly on support and development costs, while user satisfaction increases as users become more efficient through timely access to the data they need.

## Product Overview

Actuate BusinessReports is comprised of an easy-to-use, web-based report designer for business users, and a powerful and scalable server-side engine to generate reports. Based on standard JSP (Java Server Pages) and AJAX (Asynchronous Javascript and XML) technology, BusinessReport Studio provides a zero-footprint solution to authoring reports. The server-centric architecture of BusinessReports provides a collaborative reporting environment where business users can share their report designs or formatted report documents with IT and other users in the organization. BusinessReports is the self-service reporting environment included in the Collaborative Reporting Architecture of Actuate 9.

From a technology perspective, BusinessReport Studio is an AJAX-based web application that is deployed on Actuate iPortal and can be accessed through a web browser. The server-side component of BusinessReports is the Java-based Actuate BIRT report engine that runs inside the Actuate iServer or within the workgroup deployment of iPortal. The interaction



between BusinessReport Studio and the server-side report engine takes place via web services. The remainder of this paper discusses only the Actuate iServer deployment. See the Actuate iPortal product brief for information on workgroup configuration.

The Actuate iServer provides a centralized environment to manage report designs or output documents. Access to the enterprise data sources is enabled in several different ways:

- *Predefined queries*
- *Information Objects*
- *Custom semantic layers or applications*

These mechanisms hide data complexity by both presenting information in business-friendly terms and automating the underlying query generation. Since these objects are securely deployed on the iServer, data access is restricted based on the user's privileges and roles.

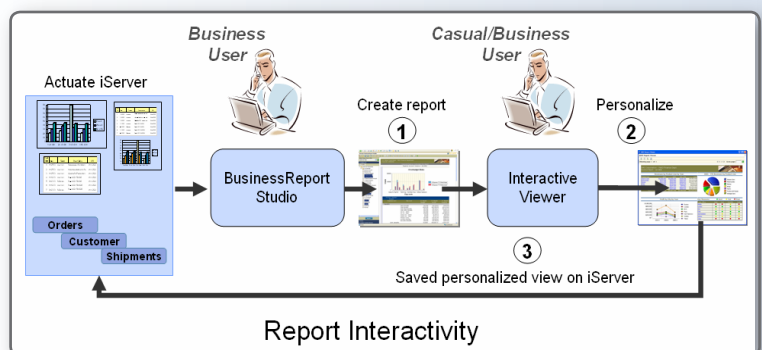
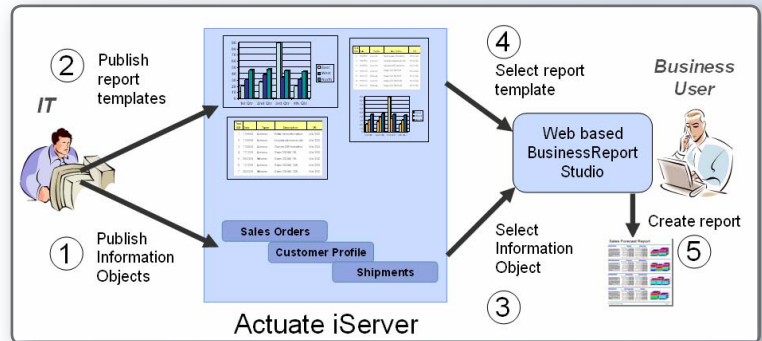
To use BusinessReport Studio, the business user must first select the report's data. This is typically done by choosing an available Information Object. Once chosen, the user can choose from a variety of report templates made available by IT to present the data. Report templates are BIRT Report designs developed by IT that can include layout information, data or both. For example, a basic report template can include standard report elements, such as a company logo, background image and copyright information as well as placeholders for report headers, footers and a column listing. Through the BusinessReport Studio web interface, users can type in the values for the header and footer as well as select the columns from an Information Object to display in the listing. This simple interaction results in a professionally formatted listing report with the standard company logo, background color and copyright information.

Furthermore, report designs or output documents can be saved on the iServer and shared with other users. Users running existing reports or viewing output documents can explore information using rich report interactivity features provided through the Interactive Viewer.

### Multiple Ways to Build Powerful Queries

Business users differ significantly in their knowledge and familiarity with enterprise data. Thus, it is imperative that they are provided an interface that is commensurate with their skills. BusinessReports provides a number of different mechanisms—all controlled by IT—for users to build their queries.

**Provide rapid access to data using predefined queries.** A predefined query is a simple and intuitive way to allow business users of all levels of computing sophistication to build their ad hoc queries. More simple and straightforward than traditional querying tools, a predefined query allows end users to select fields, sort and apply filters to quickly get the data they need. Because it leverages simplified naming structures, it dramatically reduces the need for training and support for end-user, ad hoc querying and enables end users to get the business answers they need quickly, without having to wait for IT assistance. This is ideal for business users who are not very data savvy.



**Empower business users via a semantic layer.** Actuate Information Objects provide a business-friendly semantic layer allowing business users to construct their queries without any IT support or training. Using Information Objects, IT can expose data from a range of disparate data sources using business-specific taxonomy. The powerful data integration engine within Information Objects constructs optimized queries to retrieve data for these users.

**Leverage an existing semantic layer or an application.** Most business-user query and analysis tools allow users to interact with the data using a semantic layer that is designed for the tool. While this may be sufficient for a number of applications, there are some applications that require a very customized

and context-specific interface to allow business users to browse through the data elements and select the columns. BusinessReports provides extensions to plug in a custom metadata layer or a query application to build data queries. These can then be formatted using BusinessReports.

### Rich Analysis and Formatting Capabilities

**Analyze data using a simple and intuitive web-based interface.** BusinessReport Studio allows users to conduct targeted data analysis by grouping data into categories or filtering and sorting it. Using more advanced features, users can also add their own calculations to create computed values. The AJAX-powered, live-edit interface provides continuous feedback to users as they manipulate data and build their report.

**Rich formatting.** Traditionally, web reporting tools have fallen far short of expectations when it comes to report formatting. Tools either offer too much functionality, making it difficult and tedious to format reports, or offer very little functionality, which results in very basic-looking reports. Through a combination of formatting capabilities and report templates, BusinessReports allows users to create rich and beautiful reports with minimal effort.

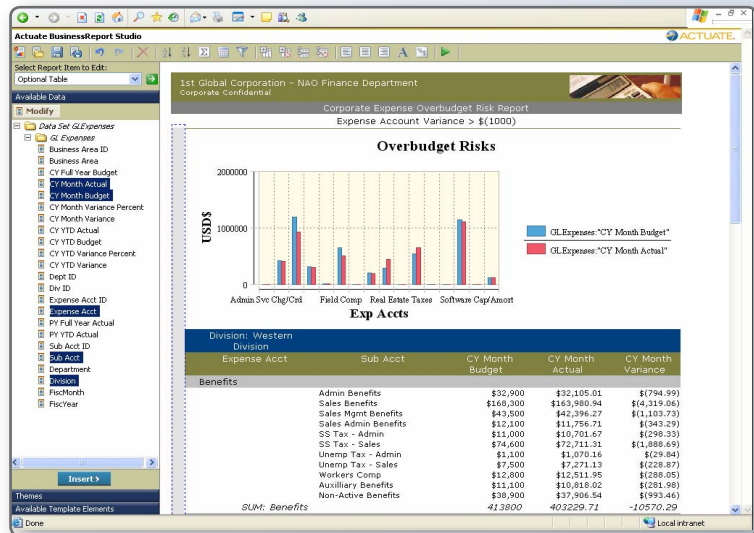
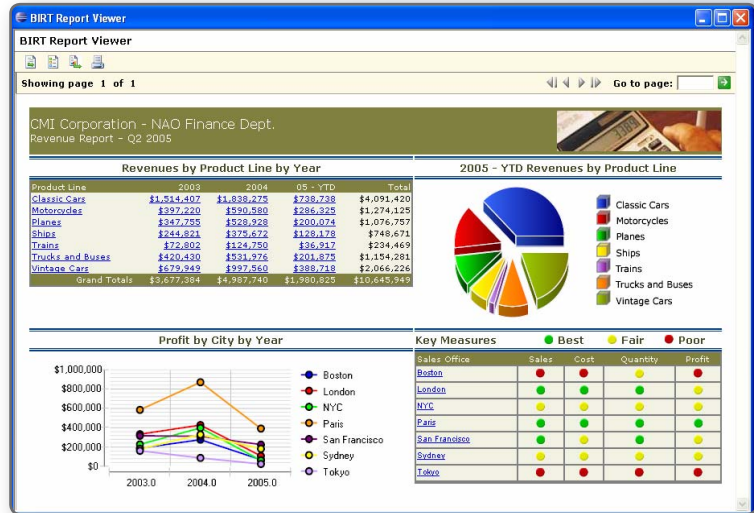
### Flexible Report Exploration and Interactivity

**Interactive Viewing and Output Personalization** While viewing a report in the included Interactive Viewer, users can manipulate the report data through application of additional filters, sorting criteria or new calculations. Users can change the axis of analysis by modifying the grouping criteria, or even identify trends by applying conditional formatting.

Once a report output has been personalized, it can be saved on the iServer for future access. The user can also automatically reapply the same personalizations whenever a new version of the report is generated.

### Print and Export Options

Whether the user wants to view the report in the browser or print the report, the flexible print and export options offer a number of different options, including print or export as delivered or according to the user's current view.



### Robust Development Platform for IT

#### Controlled Data Access

Actuate platform allows IT to expose enterprise data using a variety of different ways. As discussed earlier, IT can use:

- *Predefined queries*
- *Information Objects*
- *Custom semantic layer or application*

Access to these objects can be controlled within the iServer. This allows IT to empower business users to perform their own ad hoc query and analysis without compromising data security or performance.

#### **Customizable Report Templates**

Report templates are reusable report designs that expedite the report creation process. Templates can range from basic layout templates such as a “listing report” template, to highly context-specific templates such as an “income statement” template.

While a basic template provides a skeletal framework for the report, a context-specific template can provide pre-built data elements in addition to report layout.

Templates are completely customizable and can be of any level of complexity, thus allowing business users to create standard company reports.

#### **Interoperability with BIRT Report Designer**

BusinessReport templates are completely interoperable using Actuate BIRT Report Designer and Designer Professional. This allows business users and IT to collaborate on more complex report designs, developing them in an iterative manner. This capability is key to the Collaborative Reporting Architecture.

#### **Flexible Deployment Options**

##### **iServer As the Deployment Platform**

BusinessReports is available as a standard option on the iServer platform. Thus BusinessReports leverages all iServer-based services, such as resource management, security, high scalability and performance.

##### **Web Portal Server As the Deployment Platform**

For smaller workgroup deployment, BusinessReports can also be deployed within iPortal’s workgroup configuration.