
Reporting Solution

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Overview

In any enterprise people share information at all levels. Executives share information that helps them make decisions about profitability. Managers analyze and share information to help ensure that business processes are running smoothly and the employees share information about specific projects. The information is shared in form of various types of reports. So, reports containing critical business information should be available to decision makers throughout organization quickly and cost effectively.

Here the need of reporting tools arises, because businesses have hundreds or even thousands of reports that are created and needs to be maintained.

So, reporting solutions should provide flexibility, capability and usability in creating the reports you need to run your business.

Report Types

On the basis of requirements and output types reports can be categorized as follows:

- **Operational Documentation** – Documents used as part of day to day operations internally.
- **Customer Facing Documentation** – Documents that are given to or viewed by customers and which, as a result, require professional looking formatting.
- **Ad-Hoc Reporting** – The process of creating a query and a report without the need for a development skill set or life-cycle management, the results of which answer a specific, often one-off, question.
- **Financial Reporting** – As distinct from the other areas, financial reporting may be either one-off or periodic in nature. The differentiation here is the fact that it requires an underlying understanding of corporate financial structures, although the output types are similar to the other report types.

- **Regulatory Reporting** – As distinct from the other areas, regulatory reporting must meet requirements that are generated externally. The differentiation here is the fact that it requires compliance to government standards that may change unexpectedly over time.
- **Analytics** – The process of creating reports that show performance of a business and that output either to physical media or, more often, to electronic distribution channels such as dashboards.

Good Reporting Process = Good Reporting Output

No matter what type of report output is required, there are specific business processes that determine how efficiently and effectively the creation of output is accomplished. Although the business is typically focused on the output itself, We need to understand what is happening in a specific division, the path to getting there runs through the process used to create the output starting at the point of choosing what data should be included and moving all the way through to generating the end document or browser content. Therefore, in order to improve output capability or quality it becomes important to examine not only the output requirements themselves but also the processes used to create those reports. Improving process across the board while keeping the intended output in mind results in better reporting infrastructure which results in better reporting output: *better process = better reports*.

Report Creation Process

The creation of those reports, regardless of end type, requires the execution of several processes. Breaking these out into individual components, rather than having them all handled as a single monolithic process, creates opportunity for process improvement and enhanced reporting capability.

- **Extraction** – The process of extracting data from the data source whether this is live transactional data or data stored in a mart or warehouse.
- **Transformation** – The process of transforming data into consumable formats. For the sake of clarity, transformation in this context will refer to data transformations that are required at the time a report runs.
- **Publication** – The process of creating consumable output from the extracted and transformed data whether in the form of physical media or electronic content.
- **Distribution** – The process of delivering a publication to the desired audience through a defined channel, such as to a printer, email, or electronic.

Buy vs. Build the Reporting Solution

There is a wide variety of reporting requirements, and whether to buy or build a reporting tool for your business intelligence needs is also heavily dependent on the type of requirements. Typically, the determination is based on the following:

- **Number of reports:** The higher the number of reports, the more likely that buying a reporting tool is a good idea. This is not only because reporting tools typically make creating new reports easier (by offering re-usable components), but they also already have report management systems to make maintenance and support functions easier.
- **Desired Report Distribution Mode:** If the reports will only be distributed in a single mode (for example, email only, or over the browser only), we should then strongly consider the possibility of building the reporting tool from scratch. However, if users will access the reports through a variety of different channels, it would make sense to invest in a third-party reporting tool that already comes packaged with these distribution modes.

Ad Hoc Report Creation: Will the users be able to create their own ad hoc reports? If so, it is a good idea to purchase a reporting tool. These tool vendors have accumulated extensive experience and know the features that are important to users who are creating ad hoc reports.

- A second reason is that the ability to allow for ad hoc report creation necessarily relies on a strong metadata layer, and it is simply difficult to come up with a metadata model when building a reporting tool from scratch.

Reporting Solution Functionalities

Either you choose to buy or build the reporting solution, pay attention to the following functionalities which are required in any reporting solution:

- **Data source connection capabilities:** In general there are two types of data sources, one the relational database, the other is the OLAP multidimensional data source. Nowadays, chances are good that you might want to have both. Many tool vendors will tell you that they offer both options, but upon closer inspection, it is possible that the tool vendor is especially good for one type, but to connect to the other type of data source, it becomes a difficult exercise in programming.
- **Scheduling and distribution capabilities :** In a realistic data warehousing usage scenario by senior executives, all they have time for is to come in on Monday morning, look at the most important weekly numbers from the previous week (say the sales numbers), and that's how they satisfy their business intelligence needs. All the fancy ad hoc and drilling capabilities will not interest them, because they do not touch these features.
Based on the above scenario, the reporting tool must have scheduling and distribution capabilities. Weekly reports are scheduled to run on Monday morning, and the resulting reports are distributed to the senior executives either by email or web publishing. There are claims by various vendors that they can distribute reports through various interfaces, but the only ones that really matter are delivery via email and publishing over the intranet.
- **Security Features:** Because reporting tools, similar to OLAP tools, are geared towards a number of users, making sure people see only what they are supposed to see is important. Security can reside at the report level, folder level, column level, row level, or even individual cell level. By and large, all established reporting tools have these capabilities. Furthermore, they have a security layer that can interact with the common corporate login protocols. There are, however, cases where large corporations have developed their own user authentication mechanism and have a "single sign-on" policy. For these cases, having a seamless integration between the tool and the in-house

authentication can require some work. It is recommended that you have the tool vendor team come in and make sure that the two are compatible.

- **Customization:** Every one of us has had the frustration over spending an inordinate amount of time tinkering with some office productivity tool only to make the report/presentation look good. This is definitely a waste of time, but unfortunately it is a necessary evil. In fact, a lot of times, analysts will wish to take a report directly out of the reporting tool and place it in their presentations or reports to their bosses. If the reporting tool offers them an easy way to pre-set the reports to look exactly the way that adheres to the corporate standard, it makes the analysts jobs much easier, and the time savings are tremendous.
- **Export capabilities:** The most common export needs are to Excel, to a flat file, and to PDF, and a good report tool must be able to export to all three formats. For Excel, if the situation warrants it, you will want to verify that the reporting format, not just the data itself, will be exported out to Excel. This can often be a time-saver.
- **Integration with the Microsoft Office environment:** Most people are used to work with Microsoft Office products, especially Excel, for manipulating data. Before, people used to export the reports into Excel, and then perform additional formatting / calculation tasks. Some reporting tools now offer a Microsoft Office-like editing environment for users, so all formatting can be done within the reporting tool itself, with no need to export the report into Excel. This is a nice convenience to the users.

Reporting softwares

Following are available reporting softwares under two categories (Commercial and open source).

Commercial softwares

- Actuate
- Alchemex
- Cognos BI
- Crystal Reports
- InetSoft(InetSoft Style Report)
- Information Builders' FOCUS and WebFOCUS
- Intellicus
- LogiXML
- Microstrategy
- Oracle XML Publisher
- Business Objects
- DevExpress Reporting
- Telerik Reporting
- SQL Server Reporting Services
- Proclarity
- RepGen.Net
- JReport

Open source softwares

- Agata Report
- Eclipse BIRT Project
- JasperReports
- Pentaho
- GNU_Enterprise (reporting sub-package)

USA	India		
Corporate Office	Development Center	Regional Offices	
7 Lincoln Highway, Suite 205, Edison, NJ 08820 Phone 732.548.9268 Fax 732.548.8913	Plot No. 38, Electronics city Sector 18, Gurgaon -122 015, India Phone: 91-124- 2397660-62, 5017660 Fax: 91-124- 2397655, 5019955 http://www.binarysemantics.com	20, 2nd Floor, Arihanth Complex 1st Cross, CKC Garden (Off: Mission Road) Bangalore - 560 027 Phone: 91-80- 22240222 / 22241222 Fax: 91-80- 22277867	Basera - Plot No.48, 3rd Floor, Santhawadi Lane Opp. Jain Upasarai, Jaiprakash Road, Andheri (W) Mumbai - 400 058 Phone: 91-22- 26705762 /26286748/62 TeleFax: 91-22-26705763