

Product White Paper: Eurocenter Business Intelligence (ECBI) Framework



'Business Intelligence (BI) is all about efficient and effective decision making. Delivery of accurate, useful information to the appropriate decision makers within the necessary timeframe is the main responsibility of a BI framework'

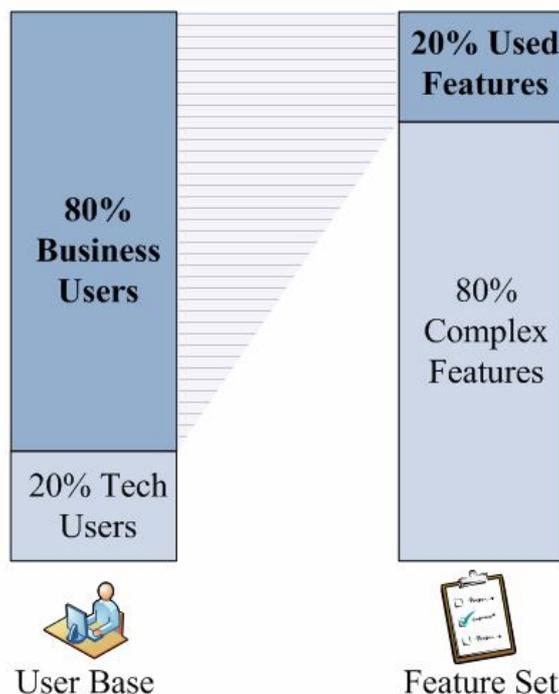
TABLE OF CONTENT

CHALLENGE FOR TODAY'S BUSINESS INTELLIGENCE	3
INTRODUCTION TO EUROCENTER BI FRAMEWORK.....	4
BACKGROUND.....	4
ECBI JAVA.....	4
ECBI .NET	5
ECBI FRAMEWORK FEATURES	6
OVERVIEW	6
KEY FEATURE HIGHLIGHT	7
<i>Personalization</i>	7
<i>User Friendliness</i>	7
<i>Different Presentations</i>	7
<i>Drilldown Capabilities</i>	7
<i>Automatic Refresh</i>	7
<i>Data Export</i>	7
<i>Query Parameters</i>	8
<i>Multiple Databases</i>	8
<i>Magnify</i>	8
<i>Authorization</i>	8
FRAMEWORK ECBI ARCHITECTURE OVERVIEW	9
DATA CONNECTORS	9
BUSINESS INTELLIGENCE API	9
WEB PORTAL.....	10
PERSONALIZATION CONTROLLER.....	10
CHARTING ENGINE.....	10
MS OFFICE INTEGRATION	10
FUTURE ROADMAP	11
CONCLUSION	12

Challenge for Today’s Business Intelligence

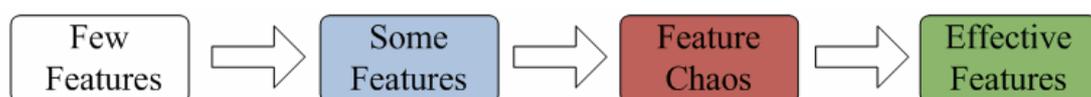
Historically business intelligence was considered as a largely manual, back office work performed by high tech professionals. Data from different sources was periodically integrated in to a set of defined reports and forwarded to business users for their decision making.

Due to the ever increasing competition, the business world demands technology to deliver more dynamic and comprehensive “live” information to its end-users for faster and better decision-making. Over the past few years, the business intelligence feature-set has rapidly grown and the definition of business intelligence has shifted to include front office and production-floor audiences. During this period, numerous products have appeared in the market, delivering lots of advanced and sophisticated features.



Although these products empowered users to make better decisions, most of the business intelligence products have unfortunately ignored an important fact. That is, ‘80 percent of the *information users* in a typical organization are often non-technical decision makers’. The complications introduced by the advanced feature set makes these products to be overly difficult for end-decision makers. According to recent studies, less than 20 percent of the available features are effectively used by business users in day-to-day decision making.

Subsequently, the well-known 80-20 rule has a negative impact on the business intelligence product domain too. Overcoming this problem is becoming one of the most important challenges for BI products today. We believe that the business intelligence industry is now at its next maturity transition which can take the products to focus on ‘effective features’ by getting out of ‘features chaos’.



Proper channeling of “right features” to individual users for effective decision making in a production environment is what is expected from the next generation business intelligence products. As a result, organizations are on the lookout for simpler and more focused BI products from the marketplace today.

Introduction to Eurocenter BI Framework

Background

Eurocenter has been involved in all aspects of product engineering during the past eight years. Thorough understanding of the end user behaviors is one of the greatest assets earned through our exposure. During late 2006, Eurocenter was in a search for a business intelligence product for its internal operations. We have evaluated numerous commercial as well as open source products, but the expected simplicity was not readily found in those products.

ECBI Java

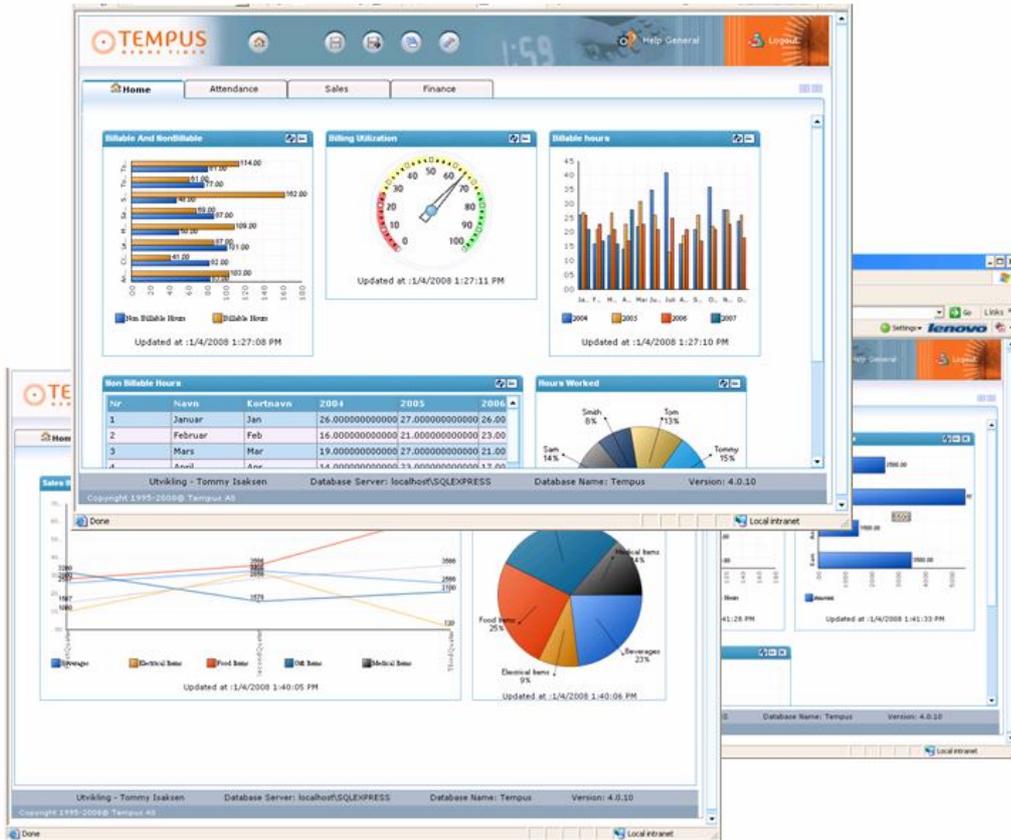
This made Eurocenter to think about a novel approach that can fulfill the requirements that is being used "80 percent of the time" as discussed above.



Our R&D project initiated on 'Java' technologies and was completed and deployed in production in 2007. The product was named 'Eurocenter Business Intelligence (ECBI)'. Operation ease for the end decision makers and system administrators was the primary focus of the solution design.

ECBI .NET

Once the ECBI Java product was launched, the simplicity of the concept has gained lot of attraction of our customers and other stakeholders.



The demand from Microsoft based customers was high enough for us to replicate the ECBI framework on top of .NET technologies. Our ECBI Microsoft .NET based version is designed with a robust architecture and carry several feature additions and improvements.

ECBI Framework Features

Overview

Eurocenter business intelligence framework is capable of presenting intelligence information to the decision makers through a personalized portal. Every user can have their own portal to obtain the information of their interest. Zero foot print web deployment allows users to access the portal from anywhere without having any installations on the user's desktop.

The rich web portal of ECBI can provide a user experience similar to a rich windows application. Decision makers can create pages and objects and add information to the pages with a few mouse clicks. This is important as decision makers most often do not have the time to navigate a complex data warehouse model to configure the reports they need, even though they are technical enough to use complex BI tools. Through the well planned user interface of ECBI, picking up of information and building the portal is made really simple.

Built-in SQL based data extraction allows the portal administrators to extend the portal by adding intelligence information with a minimal effort. ECBI framework can extract data from any SQL compliance data source. It only takes several seconds for the administrator to add new intelligence information when the data extraction SQL is on hand. Decision makers are no longer required to wait for complex configurations to happen before information is available to them.

Eurocenter business intelligence framework architecture can accommodate various data connectors (to extract data) and presentation interfaces (to display information). SQL based data connector is one of the data extraction providers supported by the architecture. Custom data providers can be plugged to extract data from various other sources. On the other hand built-in web portal interface is only one of the possible interfaces. Information can be easily made available through other web sites or portals.

Although ECBI can be implemented in an organization as it is, the underline architecture supports process flow customizations if required. These customizations can be directed to match the business intelligence features to the business processes of the organization. This flexibility becomes really powerful when the ECBI is required to integrate in to an existing product owned by our customers (as a part of the product). This flexibility is important as competitive edge of an organization is often defined by its process uniqueness.

Key Feature Highlight

Personalization

Personalization to match individual user expectations is one of the most important features of a modern business intelligence portal. ECBI has powerful personalization support including paging, repositioning, sizing, parameterizing, etc. Changes made by one user to his personal portal are completely transparent to other users.

User Friendliness

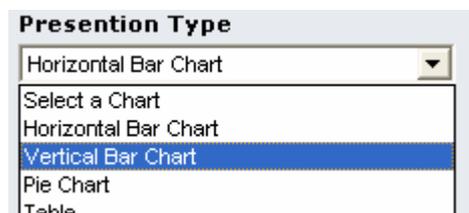


Available operations of the portal are at the user's fingertip with simple context menus (right click menus).



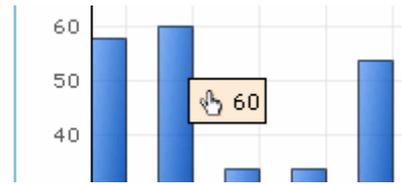
ECBI portal also supports advanced usability features like mouse drag'n-drop. For an example it allows user to change the page layout by repositioning the information with drag'n-drop.

Different Presentations



Users may dynamically change the presentation type (chart, table, etc) of information to get different view sites for same information.

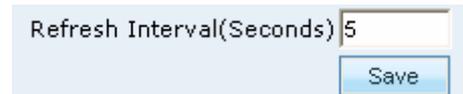
Drilldown Capabilities



ECBI allows users to drilldown on a particular chart section (e.g. a bar on a bar chart) to see the details. Administrators can define the information available with the drilldown option.

Automatic Refresh

ECBI framework allows automatic refresh capabilities for highly dynamic information.



For better performance and lesser backend load, only the required information (portlet) will be refreshed while rest of the page portions remains unaffected.

Data Export



Row data behind the presented information can be exported to Excel for further analysis.

Query Parameters

When adding information to the portal, administrators may define parameters that can be provided by the users. This allows users to even customize (for changing/filtering data) the information in interest. This is an optional feature for the IT literal end users.

Sys Para	Friendly Name	Data Type	Defalut Value
\$name	<input type="text" value="name"/>	String	<input type="text" value="John"/>
\$prj	<input type="text" value="project"/>	String	<input type="text" value="ECBI"/>

Well designed rich user interface for defining these parameters makes the task really simple for the administrators.

Multiple Databases



Any organization typically maintains several databases for different IT systems. ECBI framework supports data extraction from multiple databases simultaneously.

Magnify

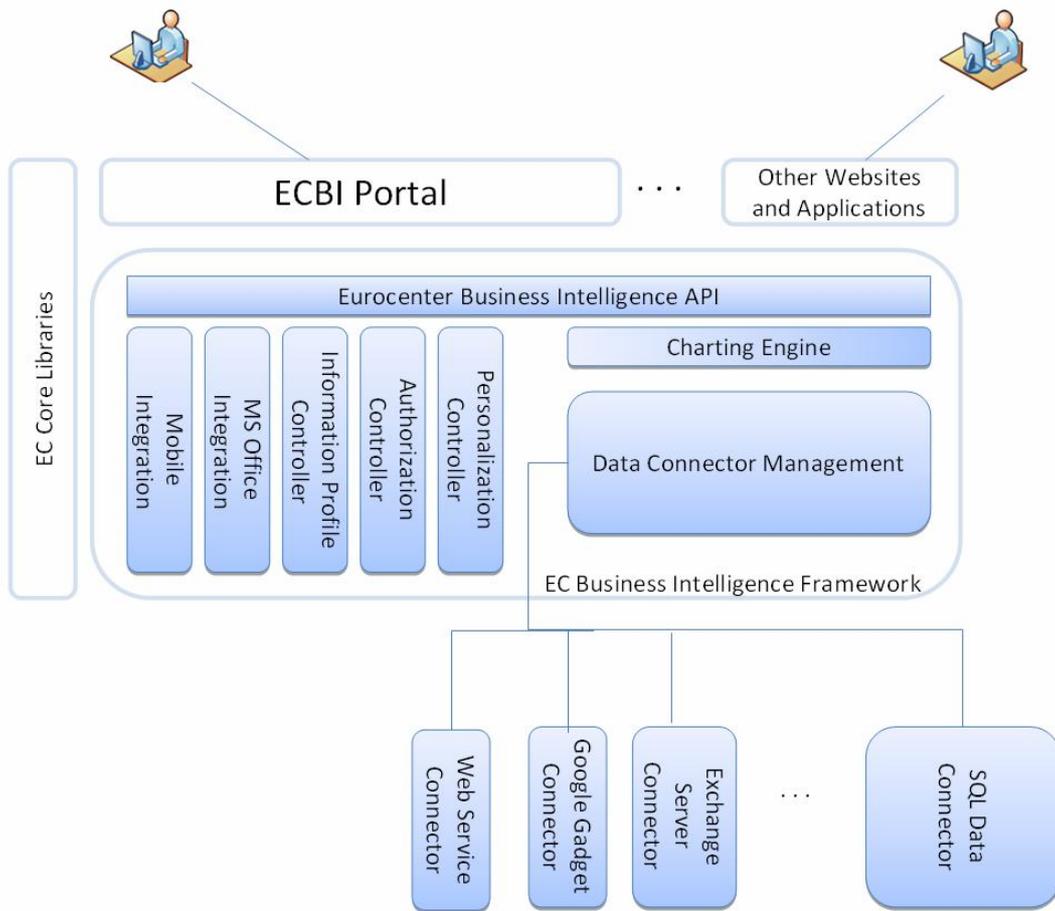


The information presented in the portal can be viewed in an enlarged mode for better visibility.

Authorization

Administrator may restrict the access to sensitive information by specifying the authorized roles. Administrator can also define roles and available operations for those roles in the application.

Framework ECBI Architecture Overview



Data Connectors

Even though SQL is the built-in data connector of the product, architecture supports extensions through adding other custom connectors. As a proof of concept 'Google Gadget Connector' was developed by Eurocenter team to host Google gadgets in the ECBI portal.

Business Intelligence API

The API exposes a logical interface to the ECBI functionality. Different presentations (such as web portal, web site, mobile, windows) can easily be developed on top of this layer. For an example it is really straightforward to embed a BI chart into some other website as that functionality is readily available through the API.

Web Portal

ECBI web portal is developed in compliance with ASP.NET 2.0 Web Parts specification. This allows easy migration of the BI Web Parts to other compliant portals such as Microsoft Office SharePoint Server.

Personalization Controller

Personalization capabilities provided by the ASP.NET 2.0 Web Parts framework are extended to build a fully fledged personalization framework. For an example, the page management is added with personalization capabilities by the Eurocenter development team.

Charting Engine

Charting is an important aspect of any dashboard system. ECBI charting engine make use of industry leading charting tools for high performance rendering of information. Charting engine can be extended easily by plugging new chart types and no code level change is required for these extensions.

MS Office Integration

ECBI server technology stack is designed to have no dependency on the Microsoft Office product suite. This prevents the probable version conflicts and configuration complexities often observed in MS Office dependent products. Office integrations such as Excel export are done using independent libraries fully operating on managed code.

Future Roadmap

The well defined future roadmap of Eurocenter Business Intelligence framework guarantees empowerment of decision makers without compromising simplicity.

Information access through mobile devices is one such promising feature under development. A variety of mobile devices may be supported. The thorough knowledge and experience of Eurocenter on mobile application development is an added advantage in this process.

Several visual enhancements are also under discussion for enhancing user experience. Data caching and manipulation at client side with the use of technologies like Adobe Flash and Microsoft Silver Light is among the interesting topics.

Eurocenter has also built a Reporting Framework which eases the information analysis for business users. There are plans in the pipeline to have an integration between these two frameworks available to deliver additional power where required. This integration will be kept optional so that those additional features will have no impact on the basic business intelligence features.

Conclusion

As discussed in this white paper, Eurocenter Business Intelligence framework holds in its vision to deliver the best value for our customer's investment.

ECBI focuses on providing the most demanded and used BI features while exposing minimum complexity for end users.