

Managing Performance Risk with Enterprise Empower

White Paper



Managing Performance Risk

The role of a CEO or CFO in any organisation is to control the shape of the future. Data-driven analysis of the historic performance of the company in meeting its targets is a vital tool to help achieve this, together with updated forecasts of likely future outturns. The most effective line and finance managers use such analyses in combination with their experience and intuition to make decisions and steer the future performance of the organisation under their control.

To manage the future effectively, decision-makers need credible forward-looking information focused on whether the firm is on track to achieve its targets and provide early warnings of potential bad news ahead. This includes the identification of performance turning points and an objective assessment of the degree of upside or downside risk in forecasts created by local management teams.

This information needs to bring out the key messages for management in a way which can be readily assimilated and communicated to others, avoiding dense numeric schedules in which it is hard to see the wood for the trees.

To address these needs, large organisations are increasingly implementing a technique for performance risk analysis that has the following characteristics:

- Automatic – credible risk ranges are routinely calculated from data already collected, without imposing an additional reporting burden
- Enterprise-wide – applicable at subsidiary, division and group level
- Interactive – available for rapid and intuitive exploration by finance and line managers alike
- Objective – not subject to managers' bias or emotion
- Universal – capable of being applied to all businesses in a group, irrespective their particular business drivers
- Simple – easy to explain, understand and communicate.

Amplifying Intuition

Metapraxix provides a family of software-based techniques called Empower to implement performance risk analyses that satisfy all the above criteria and help decision-makers **amplify their intuition** about the future. The techniques provide interactive, future-focused information in a medium that enables the key management messages to be readily diagnosed, understood and communicated to others so that appropriate action can be taken.

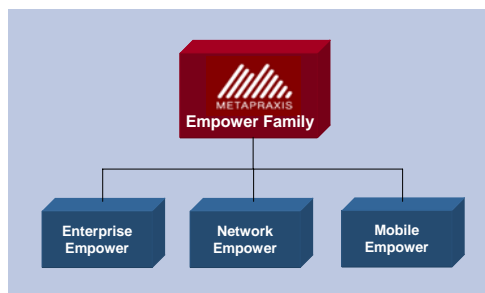
Each member of the Empower family contains a unique "Management Library" of intelligent business analysis templates designed to answer management questions that arise across complex organisations in virtually any business sector. The answers are provided in the form of graphical messages of great clarity that can be used to communicate and motivate managers at every level.

The Empower software components are readily integrated with clients' existing consolidation systems, data warehouses and business intelligence tools to provide complementary forward-looking risk assessments.



The Empower Family of Software

The Empower family of software consists of three components:



These components address specific business needs and can be used individually or in combination.

This white paper describes Enterprise Empower in some depth, but a brief overview of Network Empower and Mobile Empower is provided below for the sake of completeness.

Enterprise Empower

Enterprise Empower has been introduced as a new member of the Empower family during 2007. It is a fully web-based product that delivers the benefits of Empower and the Metapraxis Management Library as a set of server-side dynamic link libraries (DLLs). These components interact directly with business intelligence tools, consolidation systems and data warehouses via standard API interfaces or through web services. The metadata and data from those source systems feed powerful forward-looking business analysis techniques, which are then provided to decision-makers through the standard portal or browser adopted by the client company.

Enterprise Empower provides enhanced management insights to existing company data warehouses, financial management and business intelligence systems, and provides a way of benefiting more fully from the rich data that these systems provide. The implementation of Enterprise Empower supports the goal of maximising the return on investment from such systems.

This document briefly explores the technical architecture underpinning Enterprise Empower and the advantages of this new way of providing management information to answer decision-makers' questions about future performance risks and opportunities.

Network Empower

Network Empower enables the rapid delivery of Management Library analyses to multiple users that may be situated in different locations around the world. It integrates metadata and data from any number of underlying data repositories from software vendors such as Oracle | Hyperion, SAP OutlookSoft, Business Objects (Cartesis), Microsoft and Cognos / Applix.

The main user interface is the Empower dashboard, which can be designed within Network Empower by users who have appropriate access rights. Empower dashboards comprise multiple interconnected panels, each of which contains one or more analysis templates from the Metapraxis Management Library. Users may explore dashboards interactively, create their own personal dashboards, send analyses by e-mail and publish analyses as PowerPoint, Word or Excel files. An Excel add-in is also provided.

All metadata is stored within Network Empower in a multidimensional 'site' which may be maintained in a Microsoft SQL Server database or Empower's own filing system. Data may be stored alongside this metadata to provide fast response answers to users' enquiries or may be live-linked from its native data store. Data stored in Empower may be encrypted as an option. Full security and user management functions are maintained.

Network Empower has a powerful in-built calculation engine capable of consolidation, currency conversion, KPI calculation, time transformations, scenarios and interactive visual planning.



Network Empower may be deployed to multiple concurrent users over a WAN / LAN and it is compatible with Citrix Presentation Server. It may also be deployed as a Microsoft .NET application using Empower.NET technology. This enables Network Empower dashboards to be explored interactively over the company intranet without the requirement for any technology other than a web browser to be installed on users' PCs.

Mobile Empower

Senior executives rarely have the time to digest management reports in their offices and it is therefore often an essential requirement they are able to diagnose and review the business at any time and in any place. Mobile Empower extends the core capabilities of Network Empower to enable standalone laptop-based analysis. It is usually used in conjunction with Network Empower, with automated arrangements enabling the user to request an update of the metadata and data on his or her laptop whenever this is needed. As with Network Empower, industry-standard strong encryption of metadata and data is supported.

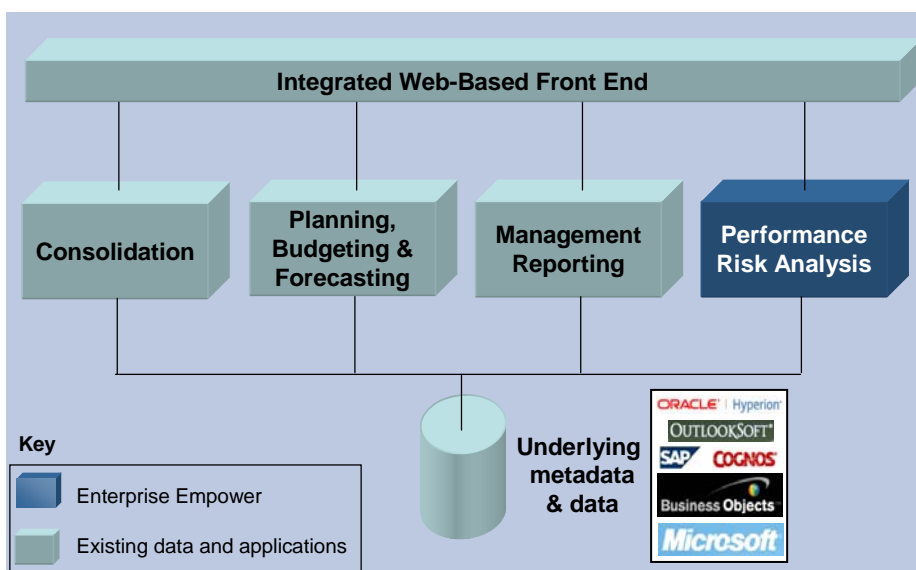
Overview of Enterprise Empower

Enterprise Empower is a web-based software tool running on Microsoft's Internet Information Services (IIS) platform. It provides decision-makers with answers to their top down questions about current business performance and future risk ranges in a way that brings the fundamental management messages alive, complementing existing in-company management reporting and business planning software.

Live metadata and data access is maintained directly with the client company's source systems so there is always a single version of the truth. User authentication and access privileges are also controlled by the underlying source systems.

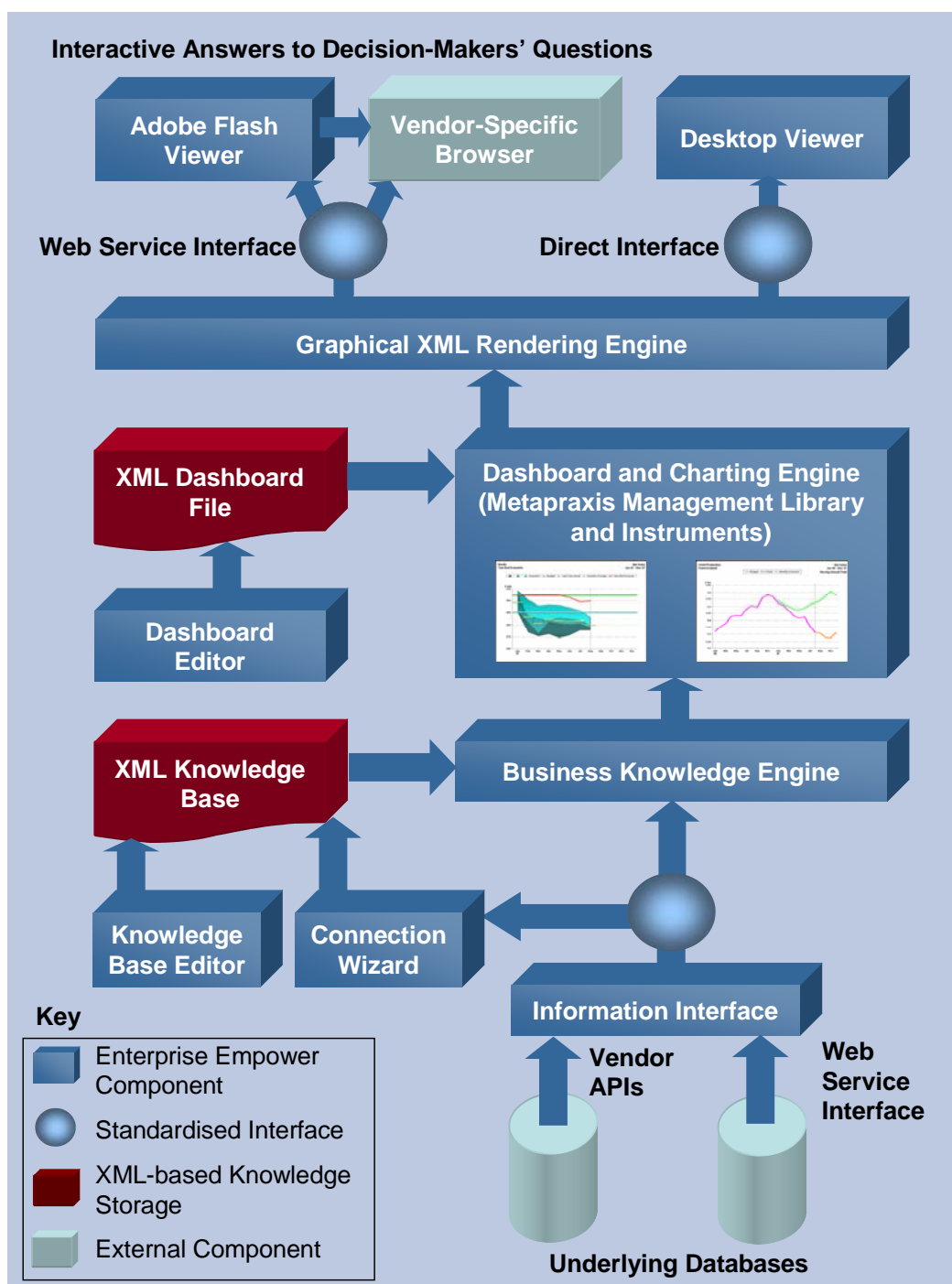
Enterprise Empower is fully compatible with an ever increasing number of financial management systems and databases, including Microsoft Analysis Services, BusinessObjects Finance, Oracle | Hyperion Essbase, Oracle | Hyperion Financial Management, Cognos 8, Applix TM1, SAP BW and OutlookSoft. Metadata and data are accessed live by Enterprise Empower from underlying repositories.

The interactive business analyses created by Enterprise Empower can be delivered through the same front end as the client company's existing consolidation, management reporting, business intelligence and business planning applications. This provides a consistent interface for the user and the ability to drill down into other applications as required.



Architecture of Enterprise Empower

Enterprise Empower is made up of a number of interactive components that can be selected to best meet each client organisation's needs in relation to its existing management information system architecture. The following diagram illustrates how these modules fit together. Each group of components is described further on the next page.



Information Interface

Enterprise Empower connects to underlying data sources using a standardised Information Interface that manages the connections with particular management information databases via the vendor's API, the ADO MD standard interface or via a web service. Examples of these interfaces include the following:

- Oracle | Hyperion Essbase via the Essbase API
- Oracle | Hyperion Financial Management via the HFM API
- Microsoft Analysis Services and SAP BW via ADO MD
- BusinessObjects Extended Analytics via ADO MD

Enterprise Empower reads metadata and data directly from the underlying systems on demand. This means that no metadata synchronisation or data refresh is necessary and there is no possibility that data used to make decisions is out of date compared with what is in the underlying system.

The Information Interface utilises the user authentication and security inherent in the underlying system where available, thus simplifying the process of user management. Users must identify themselves to the underlying system via the usual login dialog. Data or metadata that the end user does not have access to in the underlying system cannot be loaded.

Future versions of Enterprise Empower will enable information from multiple sources (including databases from different vendors) to be integrated and analysed as a whole. This opens up the possibility of drawing on financial data from a consolidation system and market data from a data warehouse to provide a powerful one stop shop for management information.

Enterprise Empower is connected to a data source using a simple wizard that stores details of the connection in the XML Knowledge Base. This XML file is available for subsequent editing as required.

Business Knowledge Engine

Underlying financial management databases are usually structured with a view to addressing the technical requirements of consolidation. Hierarchies of companies within these databases may be deeper than those required for management analysis and include units to deal with eliminations of intercompany trading, minority interests and currency conversion. Performance indicators may be arranged in deep hierarchies with sales at the lowest level in the structure. Data for monthly actuals is often compartmentalised into annual epochs of time that do not readily join together into a multi-year performance series for the purposes of underlying trend analysis.

The XML Knowledge Base maintains a record of business rules and additional metadata such as business analysis hierarchies that are not necessarily coded into the underlying system. The Business Knowledge Engine uses this information to restructure data and metadata on the fly to optimise the ability to answer management questions.

For example, if time is contained in two or more dimensions in the underlying system (such as one dimension describing the year and another dimension describing the month), the Business Knowledge Engine will dynamically unfold these dimensions to enable trend analysis over multiple years.

The Business Knowledge Engine applies a distinction between standing balances such as balance sheet items or headcount, flows of data such as sales volume and sales value, and statistics such as selling price or margin %. This enables stocks, flows and statistics to all be treated correctly if, for example, a year to date or moving annual total time transformation is requested by the user.

Additional calculations that are needed to compute future scenarios and other forward-looking analyses can be performed by the Business Knowledge Engine, meaning that no modification to calculations of data within the underlying external database is required. This allows the rapid implementation of new analyses in direct response to the latest business issues facing the company.

Dashboard and Charting Engine

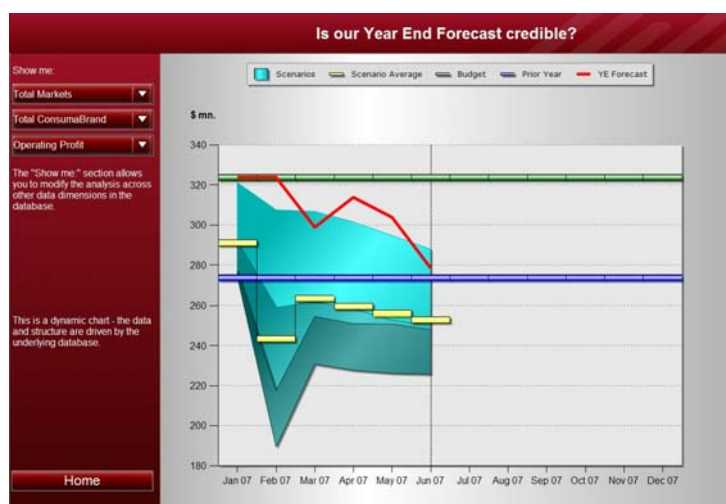
The Dashboard and Charting Engine contains the well-established Metapraxis Management Library of intelligent business analysis templates, along with optional additional dashboard instruments such as element selectors and intelligent labels that run particular actions (eg drill down, change panel, transmit chart focus) or display data values.

Company dashboards are created in a Dashboard Editor and stored as XML Dashboard files. These define the layout and images of the dashboard panels, and refer to the charts from the Dashboard and Charting Engine. Enhanced or additional analysis templates can be readily created in this engine using predefined chart elements.

Analysis Front End

A graphical XML rendering engine translates dashboard panels into a format that can be relayed to an appropriate viewing platform. This viewing platform is typically an ASP.NET application running Adobe Flash in a web page, which can be accessed via any standard browser such as Internet Explorer, Firefox or Safari. The ASP.NET application may also be run from within a vendor’s workspace environment, such as Oracle | Hyperion System 9 BI+ and its workspace or BusinessObjects Extended Analytics.

An alternative Enterprise Empower Desktop Visualiser application is also available to render the interactive dashboards for corporations that do not install or support the Adobe Flash player. Support for Microsoft Silverlight will be introduced in a future version of Enterprise Empower.



Example of an interactive forecast risk analysis created by Enterprise Empower

Distribution Options

Enterprise Empower is a zero footprint application. Internet Information Services (IIS) simply need to be installed on the host server alongside the Enterprise Empower DLLs. The only software required on end users’ machines is a standard browser and the Adobe Flash player or the Enterprise Empower Desktop Visualiser (which can be installed without alteration to registry settings).

A further benefit of the Enterprise Empower server-based solution is that lower specification user machines do not result in poor performance, since the server is responsible for loading and rendering the dashboards and their data.

Enterprise Empower is a highly scalable solution, allowing many users to log in without a significant increase in memory usage. Server capacity can be increased by scaling out (for example into a server farm) rather than scaling up (upgrading the server itself).



Workload on hard-pressed IT functions is very low, as any updates are made solely to the server and the user benefits from the upgrade instantly at the next log in.

Comparison Between Members of the Empower Family

	Enterprise Empower	Network Empower	Mobile Empower
Metadata access	Live-linked	Periodically synchronised and stored	Periodically synchronised and stored
Data access	Live-linked	Batch update or live-linked	Batch update. Live linking possible if underlying data is on the laptop
Multiple data sources	Currently one data source, but multiple sources will be supported in a future version	Unlimited data sources	Unlimited data sources
Authentication & user security	Security managed by the underlying source system	Security managed within Network Empower	Security managed within Mobile Empower
Installation footprint	Empower software is server side, the sole exception being the optional Desktop Viewer.	Empower Architect, Designer, Planner and Director are installed on local machines or on a Citrix server. No software installation for users of Empower.NET only	Empower software must be installed on the user's laptop
Scalability	Highly scalable	At least 200 concurrent users per 'Empower site' (i.e. database)	Single user only
Interactive Visual Planning	Not currently supported	Supported in Empower Architect, Designer and Planner	Supported
Portability	Not applicable: user must be connected to the underlying data source at all times	Not applicable	Highly portable
Publishing to Excel, Word, PowerPoint	Not currently supported but will be in a future version	Supported by the Empower rich client, not currently by Empower.NET	Supported
Excel add-in	Not supported	Supported by the Empower rich client	Supported
Portal integration	Support for SharePoint is under development	Not supported	Not supported
Speed of implementation	Results within one to two weeks	Results within one to two weeks	Results within one to two weeks
Size limitations	Limited only by the data in the source system	Limited only by the data in the source system	Limited only by the data in the source system
Metapraxix Management Library	Most popular charts	Complete	Complete