Prophix®

Prophix and Corporate Performance Management

A white paper prepared by Prophix Software

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Overview

Prophix develops software that manages financial processes and is part of the Corporate Performance Management (CPM) category. This white paper is Prophix Software's position on what CPM software consists of and attempts to answer some of the commonly asked questions about CPM.

This document is intended to be an educational document for non-IT professionals, especially those who work for mid-market companies and government agencies.

What is Corporate Performance Management?

Among other descriptions, industry analysts have made the following definitions of CPM:

- *"Corporate Performance Management (CPM) is an umbrella term that describes the methodologies, metrics, processes, and systems used to* ***monitor*** *and manage the business performance of an enterprise."*
- *"An umbrella term for systems that* ***monitor*** *the key metrics of business performance. A corporate performance management (CPM) suite contains software to help* ***plan*** *initiatives,* ***track*** *progress and* ***analyze*** *the results."*

Words like "monitor," "plan," "track," and "analyze" are used to describe CPM, but the "formal" definition of Corporate Performance Management (which Prophix Software follows) is that CPM consists of the following five types of software application:

1. Budgeting, Planning and Forecasting software
2. Software used for Financial, Statutory and Management Reporting
3. Applications used for formal Financial Consolidation
4. Software used for Profitability Modelling and Optimization
5. Strategy Management software

The main attributes these applications have in common are:

1. They are "high-level" applications used to manage a business.
2. They are collaborative applications (i.e. they are not personal productivity tools like spreadsheets and word processors).
3. They are non transactional (unlike an accounting system or an ERP).
4. They are used to automate processes that are usually managed by the Finance department.
5. They not only record or analyze what has happened in the past but also attempt to look forward into the future.

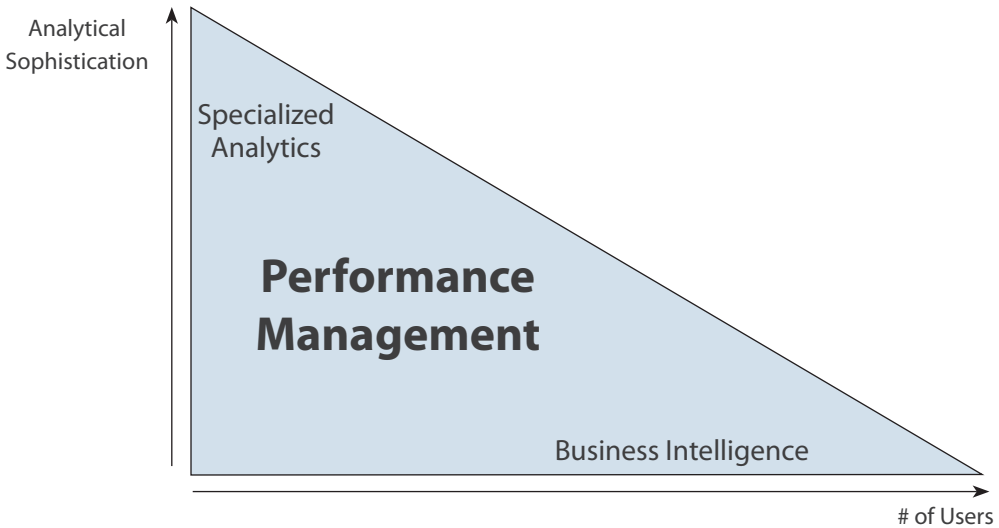
6. There is often a need for them to interact with each other—for example, budgets, plans and forecasts are used when reporting financial figures.

Because of the above, they have been grouped together under the CPM umbrella and the conventional wisdom in the software industry is that CPM is a useful and well-defined category of software, especially for the "Enterprise" market.

In the software industry each vendor has a different tale to tell, so that, after Corporate Performance Management, other flavours of performance management soon evolved, including Business Performance Management (BPM), Enterprise Performance Management (EPM), Strategic Performance Management (SPM), and Organizational Performance Management (OPM); these are essentially all synonyms for CPM. To make things even more confusing, the term Performance Management can refer to software used by HR departments to keep track of employees' performance. Prophix Software uses CPM because it was the original term and it is relatively unambiguous (for example, BPM also means Business Process Management, which is a totally unrelated type of software).

Confusion Between BI and CPM

The term Business Intelligence (BI) originated around 1997 and referred to a category of software that made it easy for business users to view information online in a graphical format with gauges and charts. Business Intelligence is often confused with Corporate Performance Management software. BI is better known than CPM, which is a term that originated around 2001 to describe many software applications including not only financial applications such as planning, variance analysis and financial consolidation but also some that at first sight might look like BI. Because of this, a fair amount of confusion exists around what these terms actually mean.



This diagram illustrates the relationship between CPM, BI and other, more analytical applications that are referred to as "Specialized Analytics" (please note that this is not a commonly used term):

- Business Intelligence applications are used to give relatively large numbers of users access to data with an unstructured user interface; they are helping companies cope with the increasing volumes of internally generated electronic information. They usually involve charting and graphical devices such as gauges. They usually have limited calculations capabilities—though data can be manipulated and calculated as part of the process of importing data to the BI system.
- Performance Management applications typically are used by fewer users than BI applications but they have more calculation capabilities. They are used for automating financial processes such as budgeting, reporting and consolidation. They are also used to give users access to data with a structured user interface in such applications as dashboards and scorecards and with graphical screens that can look very much like BI applications.
- Specialized Analytics includes applications such as Predictive Data Mining and statistical analysis. These are often vertical applications that apply to a specific industry.

The lines between the types of application are not rigid; there is a fair amount of overlap. For example, Prophix, although it is not marketed as a BI product does contain functionality for querying numerical data that is as good as that found in most BI products.

It is important to understand that some CPM applications (e.g. scorecards) can appear to be very like BI systems—they both display data graphically using charts, dials and other graphical objects. However, the user interface, the way users navigate through data structures and the way users format data are very different. CPM applications are structured (users are limited to what they can see but are guided to what is important) while BI systems give users a free rein to select and format what they see (often through very flexible navigation).

Corporate Performance Management and Business Intelligence are different categories of software; Prophix Software has produced a separate white paper explaining the difference between BI & CPM and how Prophix can be used in a BI implementation.

Why is There a Need for CPM Software?

There is a clear need for CPM software in the market. This is because basic CPM applications such as budgeting, consolidation or monthly reporting are

not transactional and hence not addressed by most ERP or accounting systems. Although they involve multi-user processes (such as budget approvals or report distribution), they are often consigned to the "Finance can do that with Spreadsheets" bucket; but in most companies, it is not a viable solution to have finance staff developing multi-user systems using spreadsheet products.

The problems with this approach include:

- Productivity issues – Finance staff spend too much of their time laboriously and repetitiously developing, copying and formatting formulas and data in spreadsheets. Using spreadsheets can be an ineffective use of the time of finance staff who can be better used analyzing and understanding the company's business.
- Maintenance issues – Finance is not set up to develop, support and maintain multi-user systems. Developing multi-user applications with spreadsheets can be inefficient and costly. There is also potential for data security to be compromised when spreadsheets need to be shared among many users.
- Accuracy issues – Large spreadsheets are rarely error-free but it can be very difficult not only to be aware of but also to find errors in a spreadsheet.

Because of this, there is a clear demand for software that addresses the CPM needs of the marketplace and Prophix is dedicated to meeting this need.

Simply using a spreadsheet as a front-end tool for users to enter data into a budgeting or planning system is not an "industrial strength" solution. While some budget suppliers may be content with simple spreadsheets for data entry, to minimize development and maintenance costs, a true multi-user planning system requires Data Entry functionality such as:

- Automatic user-initiated data spreading across time periods or organizational entities
- Driver based planning where data in General Ledger accounts is automatically calculated
- Line Item Schedules, where users choose to build up data in General Ledger accounts from constituent parts
- Delta Analysis, which enables users to compare plans with historical data (and other plans) and to automatically generate plans based on desired variances
- Automatic distribution of data entry templates
- Workflow for submission and approval of budgets and plans

Types of CPM Products

At the higher end "Enterprise" market, many vendors have grown by acquiring complimentary products. For example, a financial consolidation vendor might acquire a developer of budgeting software or vice versa. One result is that these vendors often ended up with a portfolio of products that, although incorporating most of the CPM functionality, include diverse user interfaces (requiring higher training costs), multiple ways of storing data and complex ways of moving data between the various components.

Believing that having a single technology for all CPM applications is essential, Prophix uses its domain experience to develop a single software product that addresses multiple CPM applications with a common user interface and common methods for storing and manipulating data. This reduces potential errors in using the software, the time needed to implement applications and also training costs for both implementers and end users.

Higher end products are mainly older toolkits that provide an environment for building CPM applications. Because they take this approach, implementation can take a long time and involve customization by IT professionals. These systems are also very expensive to maintain; very often, upgrading to newer versions of the software involves buying still more services from the vendor. They usually use an OLAP database, which is often their own proprietary technology.

At the other end of the spectrum, there are products that appeal to the lower end of the mid-market; they usually use relational database technology because of ease of development and are not true CPM products. These types of products often address only one aspect of CPM functionality; for example, they might address only budgeting or only reporting. In particular, a budgeting solution of this type typically includes a pre-built business model with limited capabilities for modification to the needs of any specific company; in other words, if you want to use these products you may need to adapt the way you do your planning.

Prophix aims to fill the gap between the high end and the lower end CPM solutions. Prophix offers customers the flexibility of enterprise systems coupled with an ease of implementation that makes it much more cost effective; yet Prophix uses an industry-standard OLAP database which gives it the same reporting and calculation flexibility as higher end systems.

One obvious question is "What makes Prophix so easy to implement?". The answer is that Prophix Software has "productized" much of the complex functionality (like importing data and designing reports) that in more expensive

systems requires time consuming and expensive customization. For example, Prophix includes an easy-to-use wizard for building business models. Using Prophix, a business user can create a model and import the model structure and data in hours or even minutes; in other products this often takes days of work by a skilled consultant.

Prophix Software was able to create such a flexible and easy-to-implement product because of its domain experience. The founders of Prophix were designing multidimensional business models on mainframes before PCs were invented and, hence, have gained extensive knowledge about financial applications. The current Prophix product is the third complete re-write of the software, and each has been more functional and easier to use than the previous product.

CPM Calculations

As mentioned above, Corporate Performance Management applications differ from Business Intelligence applications because they require more calculations. Lower end products are usually "canned" applications where the calculations cannot be flexibly modified; on the other hand, higher end toolkits often use an OLAP database for simple aggregation of data while more complex calculations are handled in a spreadsheet.

Prophix, however, as well as utilizing spreadsheet calculations, has two other powerful ways of incorporating calculations in a CPM implementation:

- Prophix has an easy-to-use point-and-click interface for actually incorporating calculations in the OLAP database. This means that any software that reads data from a Prophix model will have the correct results calculated—whether it is a component of Prophix that is accessing the data or software from another vendor that is using Prophix's open architecture to read data from Prophix. These database calculations are extremely flexible, for example, different formulas can apply to different planning scenarios.
- Prophix also includes patent-pending functionality called InfoFlex for performing large scale calculations within a model. Examples of where this is useful include:
  - Calculating a "first pass" of a plan by copying historical expense data and increasing it by an inflation factor
  - Allocating costs to activities, products and/or customers to perform profitability analysis
  - Performing scenario analysis by easily adjusting data in multiple scenarios

Unlike other software, implementing these calculations does not require knowledge of a complex scripting language. This is because InfoFlex adheres to Prophix Software's design philosophy with an easy-to-use interface that addresses the specific needs of finance professionals.

Workflow and CPM

In all sizes of companies, Performance Management is multi-user, even if, in a relatively small company, users are simply on the receiving end of reports. To adequately manage multi-user processes, CPM software should include workflow functionality to help administrators control the timing and the order of data import, data entry and reporting processes. Examples of workflow include:

- Marketing plans are entered and approved before users start entering sales forecasts.
- Daily operational data is scheduled to be imported from an ERP overnight and reports from the data automatically distributed by email.
- In a monthly financial consolidation process, adjustments in journal entries must be approved by management before being posted.

Workflow extends the concept of CPM components such as budgeting and reporting beyond being "personal productivity" applications; they become true multi-user systems. Workflow enables the automation of processes and hence increases the productivity of the Finance department.

The functions that are essential components of CPM workflow include:

- Automatic emails to users reminding them of time constraints
- Scheduling processes to be run at pre-arranged times (e.g. overnight)
- Requesting users to approve data that has been entered or imported
- Distribution of reports using email or by publishing to Microsoft Sharepoint
- Giving users access to screens for data entry
- Performing calculations such as allocations
- Importing data from external sources

As well as automating existing processes, workflow also enables new processes to be implemented. For example, at month-end corporate governance can be extended to include the approval of financial values, including expenses, by departmental management after they have been posted to the General Ledger. This minimizes the opportunities for internal fraud.

Data Analysis and CPM

A CPM product includes the integration of analytical tools with all CPM applications. For example, being able to drill through to detailed transactional data should be available from not only a product profitability report but also from a budgeting data entry screen. Moreover, the user interface should be the same, irrespective of the initiating CPM application.

One important analytical function should be the ability to switch seamlessly from any CPM screen to view numerical data in an easy-to-use BI-style ad hoc interface where users can perform actions such as:

- Drilling down on data, based on the data being currently viewed
- Swapping the rows and columns on the screen
- Having a recall button to "go back" to previously viewed data
- Selecting the accounts, time periods and organizational entities for which data is being displayed
- Saving data views for later analysis
- Integrated access to structured analytical tools

In addition to unstructured ad hoc analysis, there are other types of more structured analytical capabilities that are desirable in a CPM solution. These include:

- The ability to drill through from any screen to underlying relational data that is typically sourced from an ERP. For example, a departmental manager who is examining sales revenues from the General Ledger can drill through to transactional data to see which customers bought which products during the month being reported.
- A method for comparing the time series associated with the data being displayed on a screen with other relevant time series. For example, comparing the sales forecast for a specific product with that of another product; or comparing expenses for the prior 12 months with the same expenses from a year earlier.
- A method for making adjustments to data that has been incorrectly posted to the General Ledger with debit/credit intelligence built in. For example, if a sale has been posted to the wrong department, the CPM should be able to make the correction and produce an audit trail of corrections so that if the CPM is not the system of record then adjustments can be made in the ERP.

Why is CPM Reporting Different than Viewing Data Online in a BI-Type Interface?

Most BI systems (and CPM applications such as Dashboards and Scorecards) are designed for online viewing of data. But there is a big difference between viewing data and the reporting available in a CPM solution like Prophix. For example, in many companies the finance department distributes monthly financial data in a Reporting Book that is customized for each recipient; this is formal page-based reporting that is part of a month end process and, unless a CPM application is available, can be a laborious process that involves a lot of spreadsheet work. This reporting paradigm is not found in most BI applications.

This table summarizes the two approaches:

CPM Reporting Paradigm	BI Viewing Paradigm
Reports are designed to contain multiple pages.	Data is viewed online, usually in a web browser, with limited pagination.
Reports are structured – the order of rows and columns is pre-defined independently of the data.	The order of the data being viewed is not defined by users but by the characteristics of the data – for example, rows will be sorted based on the data, instead of in a user-defined order.
Reports are easily printed and they can easily be published in different document formats such as Adobe PDFs, spreadsheets or in a word processor format.	Printing capabilities may be limited to what is available in a web browser.
Individual values in a report can be formatted.	The BI can format columns or rows, but often not cells – for example, if most columns contain dollar values but one contains a percentage then this can be a problem.
Reports can include spreadsheet-type calculations	Most BI systems have some calculation capability, but they are often difficult to use.
Reports can not only be viewed by users online but can also be distributed by email or using a collaborative application such as Microsoft SharePoint.	Users must initiate the viewing of data, usually by accessing an application and choosing which data they will view.
Reporting can be integrated in workflow to include formal approval of data and an audit trail of who has had access to reports.	BI systems usually have no workflow capabilities.

CPM reporting is paginated, flexibly formatted, easily printed and integrated with workflow; BI reporting is for immediate viewing, initiated by the viewer and with limited formatting.

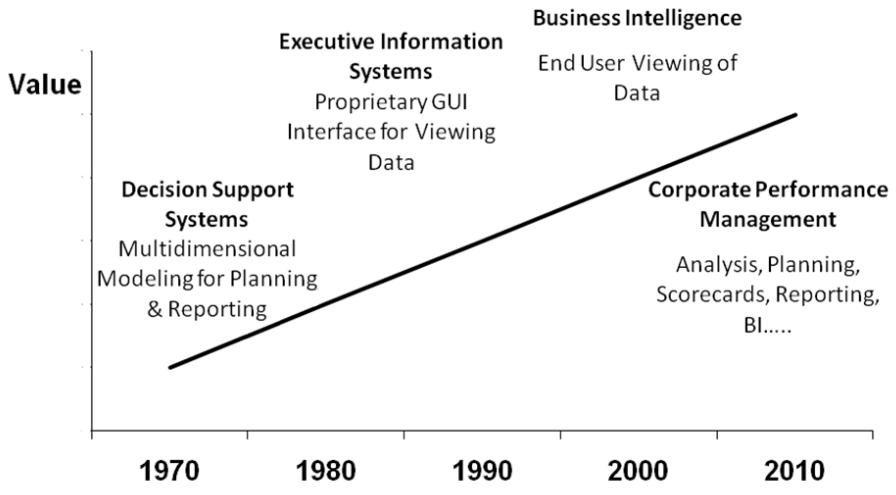
Prophix Software's domain experience is in the fields of OLAP technology and in financial applications such as planning, consolidation and reporting. However, there is a major difference between users viewing data in a BI application and structured reporting. In most companies, the Finance department understands the need for Structured Reporting and that it is a process that must occur on a regular basis (usually monthly for financial data) for a company to be effectively managed. There is a lack of software that addresses this need for the mid-market and this is one area where Prophix focuses its efforts.

What does Prophix know about CPM?

Software industry experts like to think that every software category with a new acronym is leading edge, but enterprise companies were using mainframe software during the 1980s for CPM applications such as budgeting and monthly financial reporting. Executive Information Systems (EISs) first became available towards the end of the 1980s (using proprietary technology) and contained most of the functionality and capabilities of current BI systems.

Prophix Software has been involved with CPM software and OLAP database technology since the 1980s; we have expertise in both BI and CPM applications.

Developing a CPM software product such as Prophix is much more complex



than developing a BI product. Budgeting, planning, forecasting and financial consolidation all require multiple users to enter data as well as simply report on

it. This is technically more complex, as anyone who has allowed many users to enter data into the same spreadsheet will know.

Prophix Software embraces several core values. One of these is the superior functionality of OLAP databases over relational databases for Corporate Performance Management applications. This is especially true for reporting, whether BI or Structured Reporting. The functional advantages of OLAP include:

- More flexible report layouts in terms of what appears on the rows and columns of a report
- More sophisticated calculations that are defined in the OLAP database
- Speed of retrieval of data

Microsoft SQL Server Analysis Services (MSAS) is an excellent OLAP database, for both Financial Analytics and BI applications. MSAS is becoming the standard OLAP database in the industry and hence MSAS is the database used by Prophix.

What are the Benefits of Using Corporate Performance Management Software?

The original benefits associated with CPM software, such as the ability to make better business decisions with more accurate data and better analysis, were typically not easily measurable. These benefits are still relevant, but now other more quantifiable benefits are being recognized, such as better employee productivity in the Finance Department and faster month-end closes. Giving staff better analytical tools is often simply asking for more work from people who are already very busy; making them more productive gives them the time to perform and interpret the analysis.

One irony of the business use of computer technology is that the Finance department was usually the first to automate, by using accounting systems to process and store transactions. But now, whereas departments like Production, Manufacturing, Services, Design, and Sales & Marketing are becoming progressively more automated, most ERPs don't address the modern needs of a Finance department.

What CPM really does is automate processes that otherwise are performed with spreadsheets. With CPM software, Finance departments are embarking on their second wave of process automation. This time, the processes are not accounting processes but analytical processes.

CPM products like Prophix are helping the Finance departments become organizational leaders by:

- Automating multi-departmental financial processes such as budgeting so the whole company becomes more efficient and productive
- Analyzing and understanding the company's business better, having relevant information available at the relevant time and gaining greater insight into historical business performance
- Acting as agents of change by providing a forward-looking view of corporate performance and enabling the company to react to changing market conditions

Although historically CPM applications have mainly benefitted Fortune 500 companies, the most active part of the market for CPM software is currently the upper mid-market (companies with revenues between $250 million and $1 billion). Like transactional accounting software before, the benefits of using CPM is becoming available to the mid-market and will eventually percolate down to all companies with revenues of $10 million and above. CPM, especially Budgeting and Financial Reporting, will become essential to running the Finance department of a mid-sized company.

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