

An EPM Solution Using Oracle Hyperion Tools

Executive Summary

Today's business environments are typically made up of a variety of operational systems. These systems hold the data necessary for planning, business assessment, and any necessary midcourse corrections. It is difficult to uncover the one tool in the array of tools that actually delivers on the promises and guaranteed results. As an alternative, organizations are now turning to EPM solutions, which offer a comprehensive approach to gathering and managing data, ensuring that information consumers are receiving and reporting on the same information and it all matches regardless of the tool used to access the data.

The move to EPM as a solution for maintaining data used for reporting and analysis has transformed corporate information from stagnant to dynamic, which means planning cycles now require constant vigilance and flexibility for corrections as dictated by the changing market climate. To stay current and competitive, not only are organizations implementing EPM solutions, they are also always looking for improved and enhanced EPM solutions.

This brief will look specifically at financial monitoring. It will lay out a proven EPM solution and demonstrate how it, combined with the included Hyperion tools, can extend measurements to personnel management, warehousing, manufacturing, and other areas of the business, resulting in better analysis and more timely decision making throughout an organization.

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Solution components include:

Relational Database: The relational database houses the financial data repository (FDR), which contains all data records (FACTS – counts, dollars or any other type measure) and the structure (Metadata) used to construct the hierarchies used by the Oracle Hyperion tool set. The FDR is best characterized as an operational data mart storing financial information, both metadata and transactional in nature, to create factables and dimension tables that update the Hyperion BI and reporting environments on a predetermined cycle (hourly, nightly, weekly, etc.). It is also what is used to recreate all of the reporting environments in the event of a disaster.

Essbase: A Multidimensional Online Analytical Processing (MOLAP) tool, Essbase allows you to view data through the use of a dimensional data model. Reports that query information from Essbase references data by the way it intersects various attributes. For example, if you wanted to perform a sales analysis, you might want to see Sales Dollars by region, by office, by sales managers, and by sales personnel assigned to each of the sales managers. The “by” is how you define each intersecting data point; and you are defining a dimension each time I use the word “by”. The dimensional model is what allows you to create the set of multidimensional points of interest and stores data (in this case dollars) at the intersection points of each dimension in an optimized storage array capable of doing near real-time retrievals.

Hyperion Planning: As part of the EPM suite of tools, Hyperion Planning creates an enterprise-wide budgeting and forecasting solution that marries the financial and operational planning processes for an organization. It also creates a set of planning models that delve into the operational portions of a business to provide information about the operational impact on the financial well being of an organization.

Planning couples the organizations financial and operational planning models. It helps the organization satisfy its immediate need for producing a financial planning model while also creating a cross functional platform that you can use in operational models. Because Planning is centralized within the organization, the planning process for the entire organization is created, viewed, and scrutinized through the application, creating a single sourced set of models that the entire organization uses.

Hyperion (HFM): Also part of the EPM suite of tools, HFM is a finance department maintainable tool that uses business rules to perform consolidations, currency translations, eliminations, journals, as well as reporting and analysis in one scalable solution.

Data Relationship Manager (DRM): DRM is a data management tool that allows the finance group to manage pertinent dimensions and metadata. It provides support for extensive validation and enforcement of business rules, and when used across the enterprise, will enable and enforce data governance and compliance. The enterprise can also use the tool to build a consistent set of terms and definitions across all systems using like metadata.

Data Integration Tools (FDM, ODI, etc.): These tools provide the Extract, Transform, and Load operations (ETL) that are necessary to move data from source systems into the FDR and between EPM applications. In addition to moving and mapping records, these tools provide a means to audit the flow of information, assuring that everything extracted from the source gets loaded to the target without losing records or changing values.

Reporting Tools (Hyperion Reports, OBIEE, SmartView): These tools comprise the presentation layer on top of EPM applications. These tools provide a broad set of methods for end users to access vital information from tightly formatted report packages, to interactive dashboards and ad hoc analysis in spreadsheets.

The EPM Solution

An enterprise maintains the majority of its financial information—and any other required reporting information—in the operational systems. These operational systems are typically any combination of Oracle Financials, PeopleSoft, SAP, and JD Edwards, along with any in-house developed systems or datawarehouses. The EPM solution described in this brief uses this combination of systems.

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 The right architecture and design
 can ensure performance today
 and scalability tomorrow.

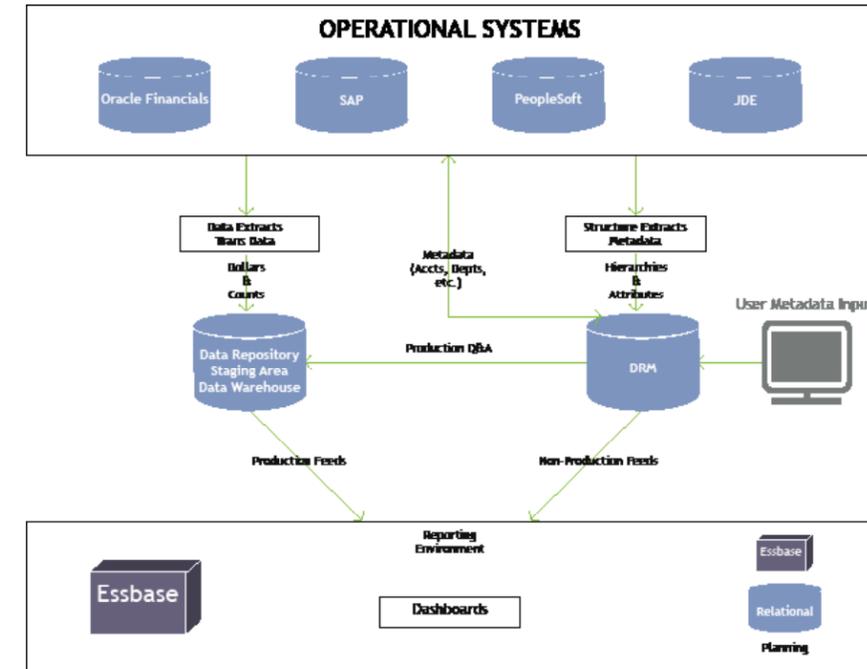


Figure 1 – Schematic of a typical EPM Deployment

Deploying the Solution

On a predetermined or on-demand basis, you pull extracts from the operational systems and push them to the FDR. From there, a routine strips the metadata (dimensions and attributes) from the files and creates a file that you can then compare against the existing dimension and attribute values currently in the FDR. Differences will range from new values coming in to changes in parent-child relationships. The results are delivered in a file that is used to update the information contained in the DRM hierarchies. Individuals responsible for maintaining the correct relationships within DRM will receive alerts about any new members discovered through the comparison. Upon receipt of this information, they will need to go into each of the dimensions and validate, correct, or modify the new entries, ensuring they have been positioned correctly within the appropriate hierarchies.

Upon completion of the validation process, exports of all the appropriate metadata (dimensions and attributes) are then spun out of DRM. Next, the appropriate FDR processes receive the new information and rebuild the dimension and attribute tables. These new tables then form the backbone for the loads that are used by the reporting layer. The new fact data and the FDR are now in synch. The new data is now ready to load into Essbase cubes, Planning applications, and/or HFM using EPM Data Integration Tools.

This ongoing cycle allows—

- Synchronization of metadata and new fact tables
- Merger of all of the data necessary to rebuild the financial reporting environment to reside in one location, simplifying backup and failover procedures.

If your organization uses any Lock and Send spreadsheets to make modifications or incorporate outlying data, then it is recommended that you also maintain these spreadsheets, for historical purposes, in the database.

Sample FDR Design

The sample FDR design shown below is an example of how to easily incorporate new dimensions and attributes without disrupting the existing design.

Incorporating a Star schema as an integral design element is a basic tenet of BI tools that work in conjunction with a relational database.

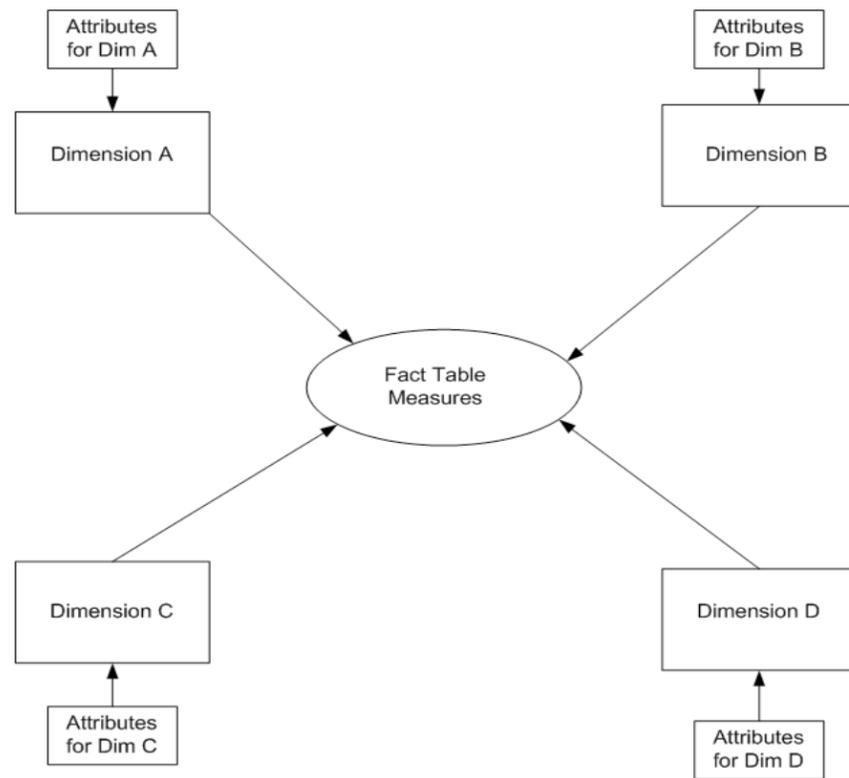


Figure 2 – A Typical Star Sche

Components of the Star Schema

In a typical Star schema, the fact table resides at the center of the design. The fact table consists of records within a table, which for each row in the table contains the dimension keys along with the measure value used to create the desired intersection point within the reporting environments. The key to each dimension contains the value that points to the dimension table and provides the necessary descriptors to give meaning to each row in the fact table. For each dimension member referenced in the fact table, there is a corresponding row in the dimension table. The corresponding row in the dimension table has the attribute values associated for that dimension.

Consider the following Fact table:

Account ID	Region ID	Office ID	Sales Person ID	Currency ID	Amount
1000-011	RG_2110	OF_1200	SP_34	CU_CA	1250.34

This row entry represents the revenue booked against all the dimensions contained in the row. Consider now the associated dimension tables:

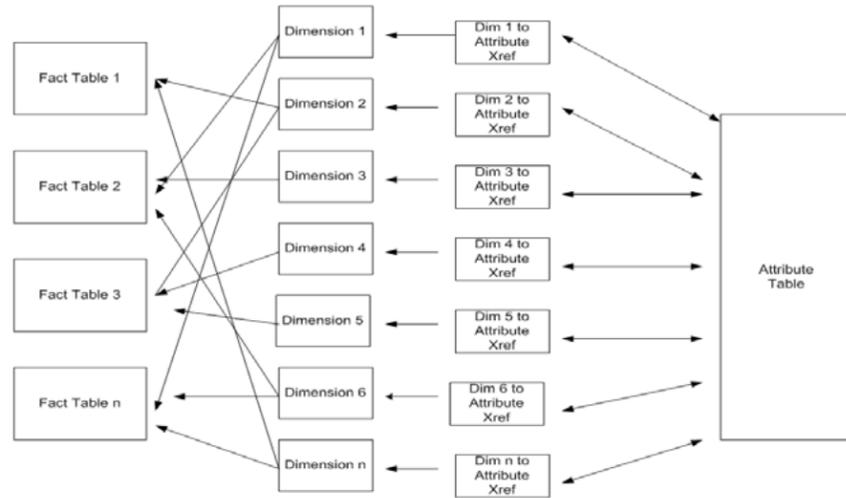
Dimension Name	Value	Description
Account Dimension	1000-011	Revenue for Product Line A
Region Dimension	RG_2110	Quebec, Canada
Office_ID	OF_1200	Downtown Quebec Sales Office
Sales Person ID	SP_34	Mark Thompson
Currency ID	CU_CA	Canadian Dollar
Amount	Measure	1250.34 Canadian Dollars

Consider also that associated with the Office Dimension is a Sales Outlet Type. For this particular OF_1200, the Sales Outlet Type is "Store Front." The row record in the Office Dimension would look like:

Office Key	Office Description	Sales Outlet Type
OF_1200	Downtown Quebec Sales Office	Store Front

FDR Deployment

Once the conceptual FDR has been designed, you can physically deploy the FDR. There are several methods available for FDR deployment. This example below is one of them.



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 Enterprise Performance management provides organizations with timely, proactive, actionable insight that is derived from heterogeneous historical and real-time data sources.

Figure 3 – Example of the physical FDR deployment

In this example, all of the attributes have been added to one physical database table. The structure for that table is built to support DRM, maintaining each of the attributes in separate tables. In this case, the minimum information for the Attribute Table would be:

- Sequential Key – Computer generated
- DRM Dimension Name (i.e. Asset Type)
- Parent Node Name
- Child Node Name

Each attribute is associated to the appropriate dimension table and a cross-reference record is created that lists at a minimum:

- Dimension ID
- Attribute Sequential ID
- Attribute Child Name

Once these associations have been set up, the Hyperion tools are free to build the required models using the appropriate dimensions and the associated attribute cross references as appropriate to process the correct fact tables.

Benefits of Using this Design

There are a number of benefits to implementing the FDR using this physical deployment. And, feedback consistently shows that the implemented FDR works especially well in environments that have multiple financial products—e.g., Essbase, Planning and HFM.

- The FDR design is a framework and foundation you can build and deploy without knowing all of the dimensions and attributes beforehand.
- DRM provides the framework to maintain all of the hierarchies for both dimensions and attributes.
- Adding new dimensions and attributes can be proceduralized, allowing for additions without disruption.
- Adding new dimensions and attributes does not disrupt existing models.
- The framework is easy to maintain and works well with all of the Oracle Hyperion BI tools used to build models.
- New models can easily be built to accommodate new fact tables as required.

Conclusion

When organizations invest in a product, the goal is often to go right to implementing the product and feeding Hyperion products directly. The difficulty comes when companies forgo the FDR and try to link source systems directly with Oracle Hyperion applications. This approach, without fail, quickly becomes unmanageable, increasingly time consuming and error prone, and often results in faulty data, reporting errors, and miss deadlines. Investing in an FDR—the middle tier between Hyperion and the source systems that brings everything into a central location and pushes it out in standard and consistent format to the implemented applications—is the best way to guarantee that all the systems used for maintaining and reporting data are accurate and consistent.

TopDown has experience with organizations wanting to skip the FDR step and link sources to products; and our field experts know the unfavorable results you get from this approach.

TopDown has successfully implemented FDRs at multiple companies in different industries. We leverage the deep and varied experience gained from these implementations to quickly assess business requirements, and partner with you to deliver a tailored EPM solution that increases productivity, reduces risk, and helps your organization become more efficient and make more effective business decisions. In addition, TopDown understands the urgency to get hands on the data that comes with a product purchase. To quickly deliver a powerful, flexible, scalable, elegant solution we employ a proactive and intentional analysis, recognizing and evaluating all aspects of your business to make sure proposed solutions are based upon a full examination.

Our team's unique understanding of finance, technology, business process, and implementation methodologies gives us keen insight into application interdependencies, sources and locations of data, upstream/downstream dependencies, points of integration, along with organization structure and culture, and the technology infrastructure that will house the solution. We are also proficient in our understanding of accounting concepts, financial controls, and compliance requirements

Learn More

Learn more about TopDown Consulting's EPM solutions that offer enterprises improved value, accountability, performance, and quality. Visit us at www.topdownconsulting.com or call (888) 644-8445.

About TopDown Consulting

About TopDown Consulting, Inc. Founded in 2000, TopDown Consulting is the acknowledged leader in designing, implementing, and deploying EPM solutions. TopDown has the experience, expertise, and proven approach to deliver successful implementations for Global 2000 clients. Our consultants average 20 years of Hyperion and industry experience with a complete range of skill sets, including: solution and system architects, CPAs, finance executives, MBAs, analysts, and project managers. TopDown's proven Project Success Methodology provides a customizable strategic framework for guiding and measuring project initiatives, enabling us to deliver solutions that meet our clients' current and future business and technology needs and their unique corporate culture.

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 "TopDown's consultants added great value to our project through their expert knowledge of all the Hyperion applications, by ensuring we are leveraging the Hyperion suite most effectively, and by teaching best practices for maintaining our solution."

Dave Burchett
 Business Intelligence Manager
 ArthroCare



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 TopDown Consulting, Inc. serves clients nationally and internationally from our San Francisco headquarters. For more information or to inquire about our services, please contact us.

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