

Sales Performance Management for Salesforce.com Performance Blueprint

A Web-based performance management solution



Sales Performance Management for Salesforce.com Blueprint Overview

This document explains the content of a Web-based solution for reporting from salesforce.com. The solution is an asset for managing and measuring sales performance data and can help sales management make faster decisions by providing views of a company's pipeline, revenue and forecast from multiple business perspectives.

IBM Cognos® Blueprints are pre-defined data, process and policy software models developed in partnership with industry thought leaders, IBM Business Partners, academic institutions and IBM customers. They are essentially "quick-start" data models that IBM customers can download and implement at no extra cost.

Using the *Sales Performance Management for Salesforce.com Blueprint* with your IBM Cognos performance management system, your sales managers and personnel can clearly identify their performance and track it in a consistent, logical manner. It is a simple yet powerful way to gain insight into different metrics and KPIs for a better understanding of performance.

This *Blueprint*, together with your IBM Cognos performance management software, is a reliable, consistent reporting tool that you can use to analyze past, current and future sales performance at its different stages.

This *Blueprint* focuses on sales performance analytics that can these meet sales performance management and salesforce.com challenges:

- Sales management and their support staff spend too much time "crunching numbers" rather than analyzing them to support measuring, monitoring and planning.
- While an excellent solution for operational reporting, the analytics provided with salesforce.com lack multi-dimensional capabilities and are not able to incorporate data from additional sources.

The *Sales Performance Management for Salesforce.com Blueprint* includes:

- Pre-built report content, based on key sales metrics of pipeline, revenue and forecast, that is mapped to the salesforce.com data model for connectivity to salesforce.com
- Easy-to-use multi-dimensional interface
- Incorporation of external data for multiple sources

Source data model overview

Salesforce.com data structure

Salesforce.com data is defined as a relational database with multiple entities and relationships. The original entity-relationship diagram (ERD) available from salesforce.com for each module is the basis for the reporting structure defined for this *Blueprint*.

The salesforce.com data structure used to perform the analysis and the extract, transform, load (ETL) process is available at salesforce.com as follows:

- SFDC ERDs:
http://www.salesforce.com/us/developer/docs/api/index_Left.htm#StartTopic=Content/data_model.htm
- Sales ERD:
http://www.salesforce.com/us/developer/docs/api/Content/sforce_api_erd_majors.htm

Blueprint data structure

The *Blueprint* has a reporting data structure that holds the metadata for the schema and entities required for reporting. This foundation for this is the salesforce.com data structure for a vanilla environment. Any customizations performed to a salesforce.com vanilla environment result in a review to verify that the object definition in IBM Cognos Virtual View Manager is still valid and applicable.

Figure 1 shows the ERD for the reporting structure.

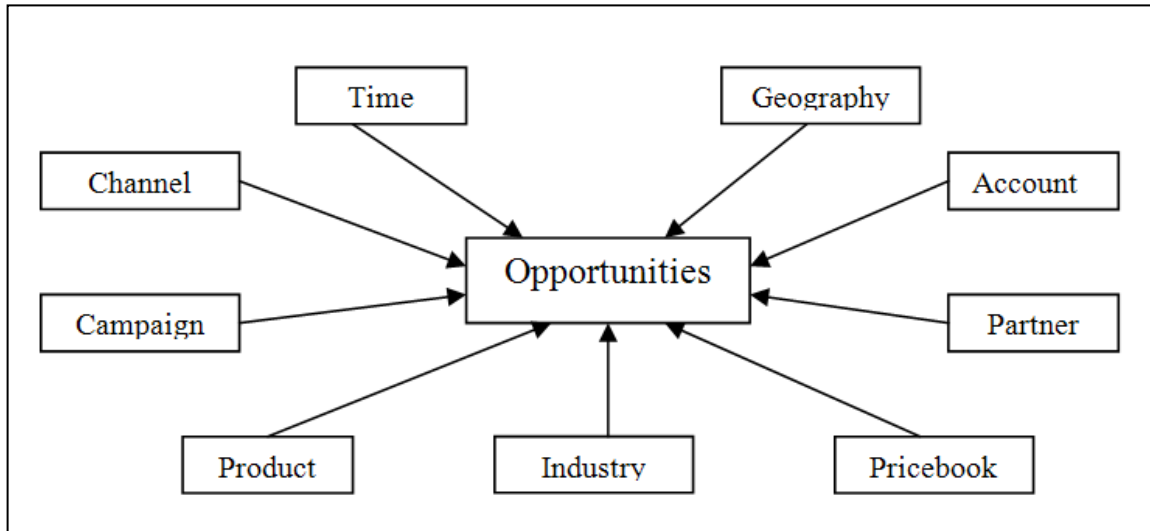


Figure 1. Reporting structure ERD for the Blueprint

This diagram applies to all the measure dimensions. The dimensions available are:

- Channel: Hierarchy for Channels
- Time: Hierarchy for Time Periods: Year – Quarter - Month
- Geography: Hierarchy for Geography: Country - Region - City
- Account: Flat Hierarchy for Client Accounts
- Partner: Flat Hierarchy for Partners
- Campaign: Flat Hierarchy for Marketing Campaigns
- Product: Hierarchy for Products
- Pricebook: Flat Hierarchy for Pricebooks
- Industry: Hierarchy with Industries and Sectors

There are eight main measure dimensions and each one of these objects has the business keys required to link to the dimensions.

Figure 2 shows the complete ERD.

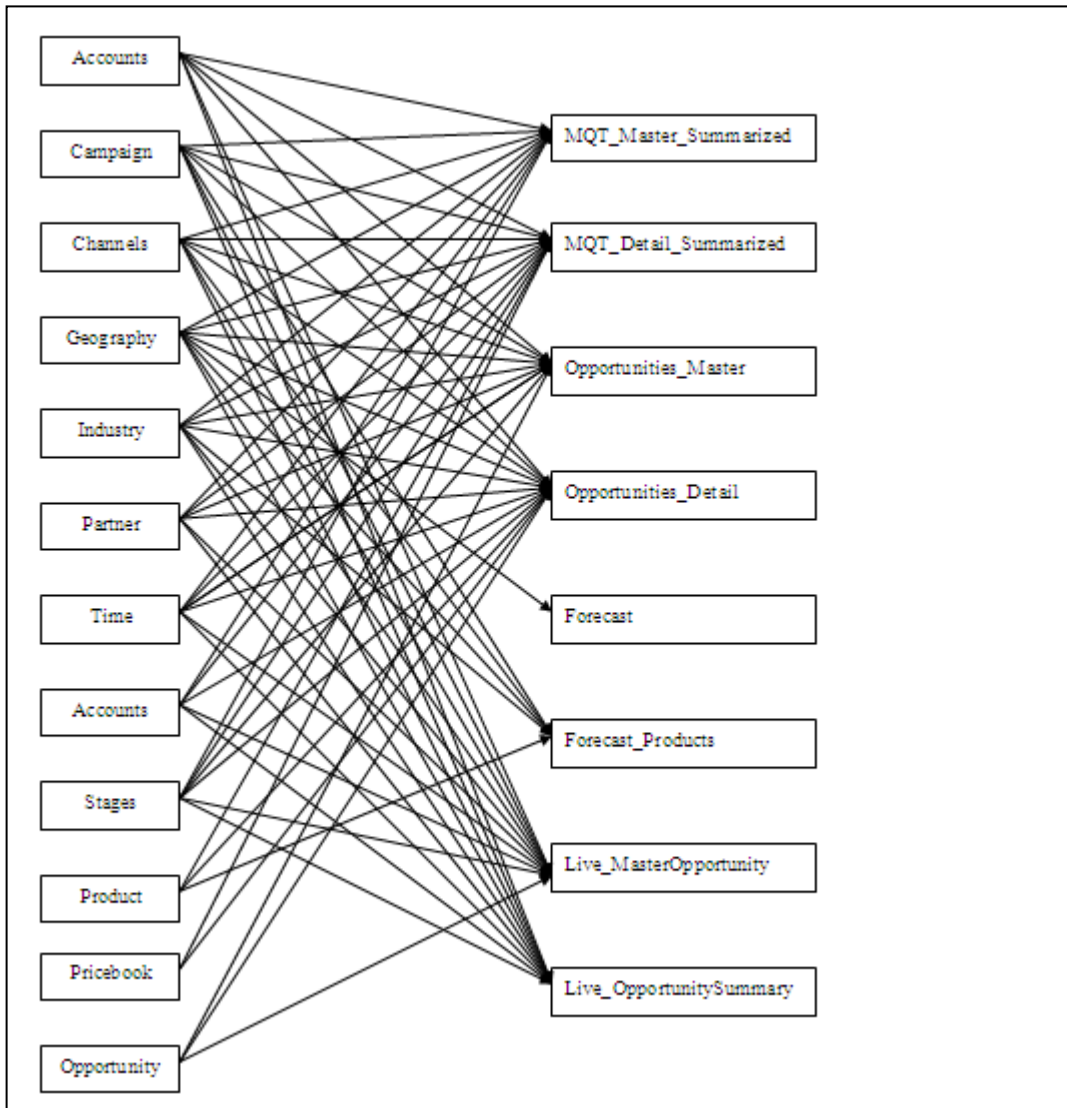


Figure 2. Complete ERD

Although not visible as an object in the previous ERD, the *Blueprint* joins salesforce.com data with an external source. The *Blueprint* has an additional table object that stores goals set by geography. The geography hierarchy is the basis for the table; city, the lowest level of this hierarchy, populates the goals.

IBM Cognos Virtual View Manager

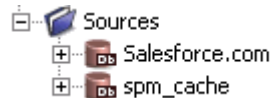
IBM Cognos Virtual View Manager provides high-performance, federated access to data from disparate sources. It combines, simplifies and delivers this data in a single view that has relevance and meaning to sales managers and personnel. It also provides:

- Real-time access to data
- Pre-build views to simple query packaged-application data from salesforce.com
- Ability to cache to memory, disk or database with flexible management

Virtual View Manager provides federated access to combined data sources, combines data and creates, simplified and pre-built views to simplify querying. This *Blueprint* uses caching to offer high performance. Salesforce.com data is configured to cache data from queries and underlying sources and frequently-accessed data sources to minimize the impact on operating systems and to support quality of service in the architecture.

Sources

Two data sources are available:

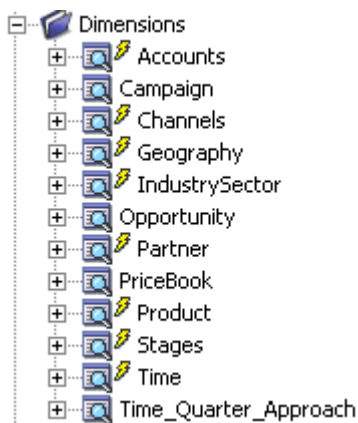


As their names indicate, they come from:

- Salesforce.com: WSDL data access to salesforce.com.
- spm_cache: Cache database hosted by a SQL Server Database. It is possible to change this database so that other DBMS providers can host it.

Dimensions

Based on the data structure explained previously, these dimensions are in Virtual View Manager:



The basis for these dimensions is where the content for them is available in salesforce.com. Although a few are already hosted by their own objects in salesforce.com, the ETL in IBM Cognos Virtual View Manager creates some of them.

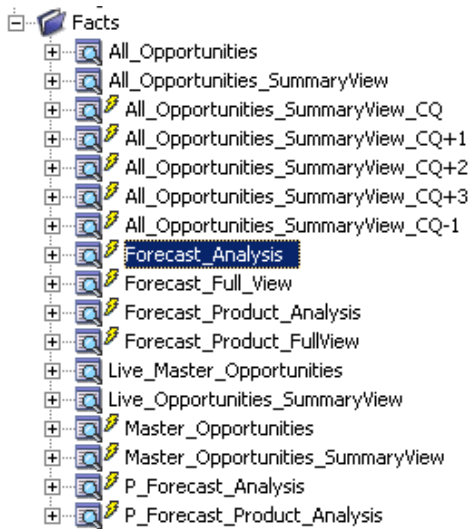
The following dimensions are directly available in tables in salesforce.com:

- Accounts
- Campaigns
- Partner
- Pricebook
- Product
- Stages

The following dimensions were extracted from other salesforce.com objects because they were part of "picklists," which are not exposed as tables:

- Channels: Extracted from opportunity type
- Geography: Extracted from accounts
- Industry: Extracted from accounts
- Time: Created based on the opportunities table

Facts/Measures dimensions



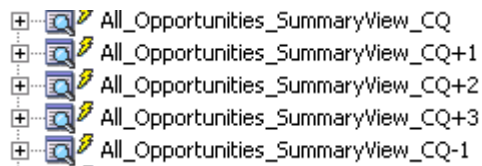
Note: All the objects with a lightning flash are set to be cached. IBM Cognos Virtual View Manager refreshes the cache to ensure that the BI content displays your organization's salesforce.com data. In addition, the external object holding the goals set by geography must be updated as well.

The measures available in the fact tables are directly related to:

- Total Opportunity Amount: Total values of an opportunity
- Total Opportunity Line Item Amount: Value of a product within an opportunity line item
- Average Opportunity Size
- Number of Opportunities

The fact tables available are:

- Master Opportunities: Entity holding opportunity information with the business keys to join to the dimensions. It exposes the total opportunity amount measure.
- Master_Opportunities_SummaryView: MQT object with summarized data for multiple business perspectives. It exposes the total opportunity amount, average opportunity size and number of opportunities measures.
- All_Opportunities: Placeholder for opportunity information at the detail level. This entity holds every single-opportunity line item associated to Opportunities.
- All_Opportunities_SummaryView: MQT Object with summarized data for multiple business perspectives. This entity includes aggregation for two additional dimensions: Products and Pricebooks. This object is created with a union of multiple objects caching data for specific periods of time.



- Data for multiple periods were separated because it is possible that the cache for each of them needs to be set with different scheduling options. This reduces the number of requests sent to salesforce.com to update this measure dimension.

- Forecast_Full_view: Object with actuals, goals, submitted forecast and weighted forecast at the opportunity level. This entity is created with a JOIN to a table external to salesforce.com. The Goals set for each geography are stored in the table "Goals" hosted in the "spm_cache" database.
- Forecast_Product_FullView: Object with actuals, submitted forecast and weighted forecast measures at the opportunity line item level.
- Live_Master_Opportunities: Similar to Master_Opportunities; however, it holds only metadata because any requests are sent directly to salesforce.com.
- Live_Master_Opportunities_SummaryView: Similar as Master_Opportunities_SummaryView, however, it holds only metadata because any requests are sent directly to salesforce.com.

The following objects are included in the Virtual View Manager metadata, although the reporting solution does not use them:

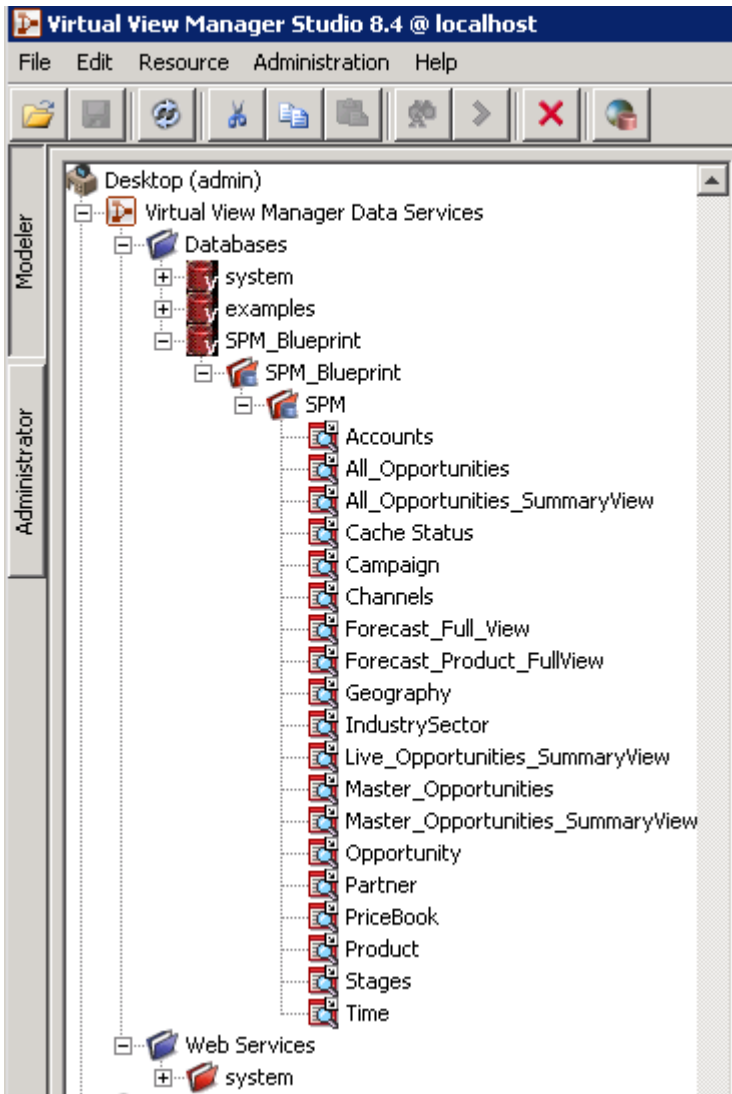
- Forecast_Analysis: Submitted forecast and goals by geography
- Forecast_Product_Analysis: Submitted forecast by geography, industry, channel, campaign and product
- P_Forecast_Analysis: Calculated forecast and goals by geography
- P_Forecast_Product_Analysis: Calculated forecast by geography, industry, channel, campaign and product

These objects were replaced because consolidated views were created for the submitted and weighted forecast.

After the salesforce.com and external sources have been introspected, IBM Virtual Manager Data Services makes the reporting objects available to IBM Cognos BI. You can access these objects with an ODBC connection to the server hosting IBM Cognos BI.

These objects could also have been made available with a Web service; however, for simplicity purposes, both IBM Virtual View Manager and IBM Cognos BI are assumed to be installed on the same server. If your organization has a multi-server installation, you might need to take additional steps to configure the connections between the two products.

The objects IBM Virtual View Manager makes available for reporting purposes are:



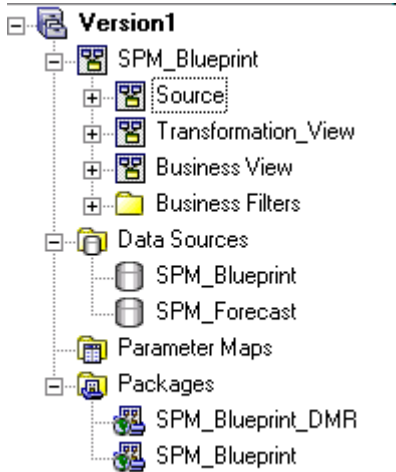
Note: To refresh the content of the cache data, you must edit each cache object in IBM Virtual View Manager to issue a "Refresh Now." After you have done this for all cached objects, reports will display the data associated to your organization's salesforce.com environment.

Framework manager business model

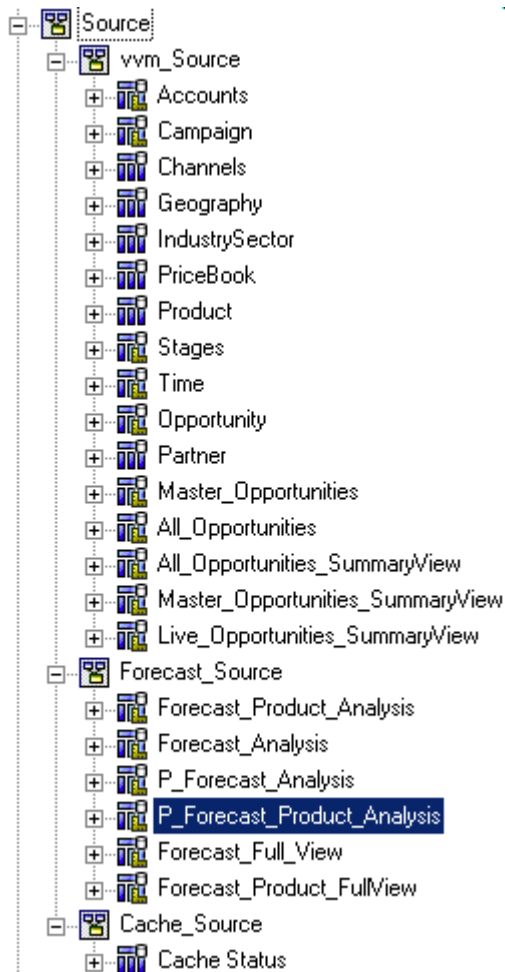
Relational and dimensionally modeled relational (DMR) models are available for reporting from the salesforce.com source. Depending on your reporting needs, performance expectations and user training, you can use any of the entities for reporting.

The intent was to have capabilities available for relational and DMR while offering the flexibility of using either. For example, a DMR model does not pass filters to the underlying data source. Therefore, the query result set is processed locally after retrieving all the rows for the query. Users will likely choose DMR for caching data to prevent requests from hitting any of row access, request numbers and other limitations put in place by salesforce.com. On the other hand, if the user still wants to report from live salesforce.com data, the relational model provides better query generation and filter handling while minimizing the number of rows and requests send to salesforce.com.

A three-tier business model was created to model the salesforce.com data source and the external data sources. The following lines explain the content of each layer:

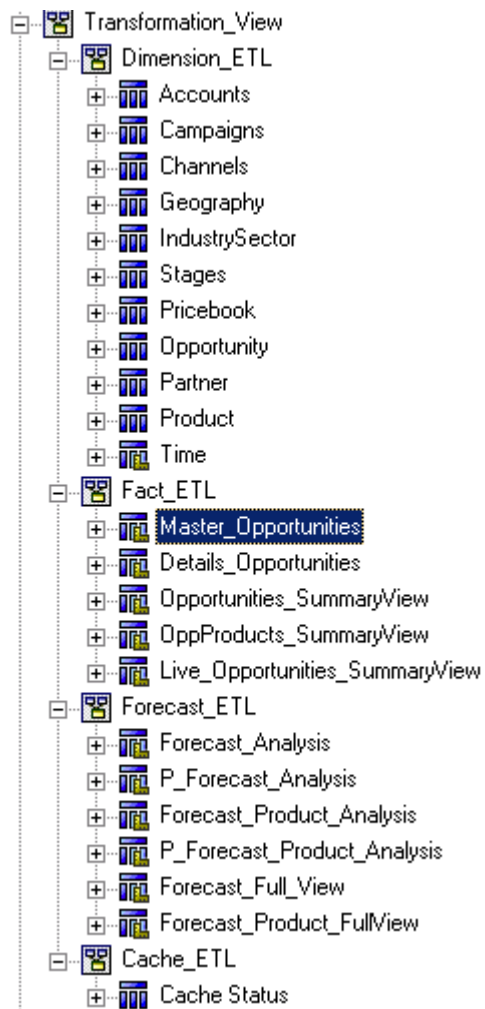


Source namespace has all the entity sources because Virtual View Manager exposes them from salesforce.com and forecast data and the cache database:



Vvm_source namespace contains the fact and dimension sources coming from Virtual View Manager. Forecast_Source focuses on where the combined data for forecasts and actuals are brought together into one single object. Cache_source imports the object required to query the status of the cache for all objects being cached.

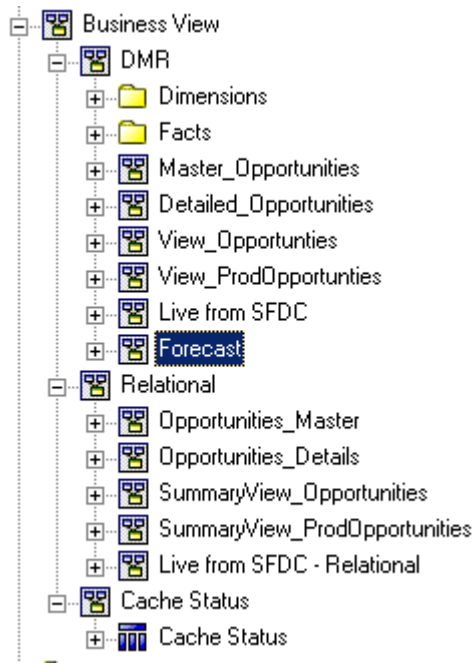
The Transformation_View namespace contains all the entities after applying the required ETL steps so they are more meaningful to the business user:



Attribute changes, new calculations and formatting changes were applied to the objects to facilitate the creation of the regular dimension and measure dimensions make up the third layer.

Business view namespace contains the objects as they are to be exposed to the end user. Multiple namespaces provide the flexibility of creating multiple packages for directed access to specific salesforce.com content. For example, it is possible to create a package that provides access to the opportunities at the master level; however, the user will not be able to see the details about the products involved in the opportunities.

Note: The guidelines for using the relational and DMR models explained previously are very important when you use the business view.



The DMR namespace contains all the objects for access to dimension and facts and their relationships. One namespace was created for every measure dimension with its own star schema:

- Master_Opportunities: A measure dimension with the total amount for each opportunity
- Detailed_Opportunities: A measure dimension with quantity, unit price, list price and total price for each of the items within an opportunity.
- View_Opportunities: Aggregated view with total opportunity value, average opportunity size and number of opportunities.
- View_ProdOpportunities: Aggregated view with the total price associated with each item within an opportunity. The main difference between it and View_Opportunities is that View_ProdOpportunities provides a view at the products and price book dimensions as well.
- Live from salesforce.com: Namespace included with the DMR model sending queries directly to salesforce.com. Although available for performance comparison purposes, this namespace should not be used for reporting.
- Forecast: Includes multiple measure dimensions for Forecast data. Each measure dimension has different metrics available for reporting.
- The dashboards included in the *Blueprint* content are based on: Forecast Full View and Forecast Products Full View, which are consolidated views that include both submitted and forecast.

Sales performance dashboards

The *Sales Performance Management for Salesforce.com Blueprint* has pre-developed content that addresses specific business needs for reporting, such as pipeline, revenue and forecast. Figure 3 shows how the content is structured for all the dashboards. Although the prompts/parameters might be located on a different position for the Report Navigator, they serve a similar purpose to allow global filtering.

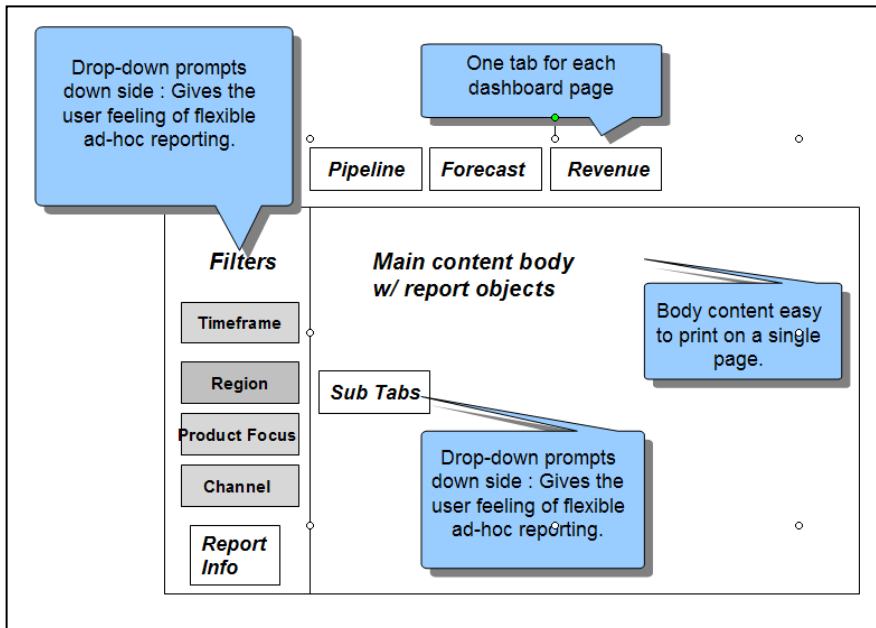


Figure 3. Dashboard structure

Pipeline dashboard

Pipeline reports provide a multi-dimensional view of your organization's pipeline. The key report on this page is the summary table, which provides a high level view of the most relevant quarters for a sales manager:

- The previous quarter, for reference purposes
- The current quarter for obvious reasons
- The next three quarters to give perspective on the longer term outlook.

The sub-tabs on this page allow for additional perspectives while keeping a simple navigational scheme. The parameters (Figure 4) act as filters for every report object in the dashboard. A change in any of the parameters re-executes the report to establish the new context. The parameters are geography, sector and industry, channels, products, periods and ranking.

Parameters

Geography

+ Geography(All)

Sector & Industry

+ Sector & Industry(All)

Channels

+ Channels(All)

Products

+ Product(All)

Periods

+ 2009

+ 2010

[Deselect all](#)

Ranking

5

Finish

Figure 4. Pipeline filters

Geography is the hierarchy for locations associated with accounts. Sector and industry is the hierarchy for sector and industries associated with accounts. Channels is the hierarchy for Channels. Products is the hierarchy for Products. Periods provides the time periods available in the salesforce.com data.

Pipeline by Sales Stages (Figure 5) is a single, comprehensive view of the pipeline sales stages. The main metric is the total value of the opportunity aggregated for each stage and period.

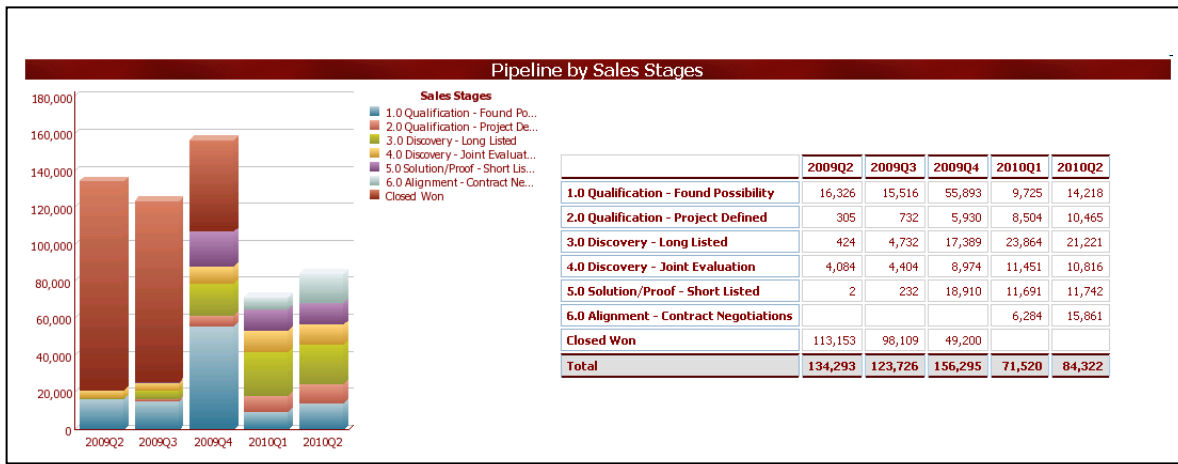


Figure 5. Pipeline by sales stage

Figures 6, 7, 8 and 9 show reports that are based on the same data; however, they display content from different business perspectives.

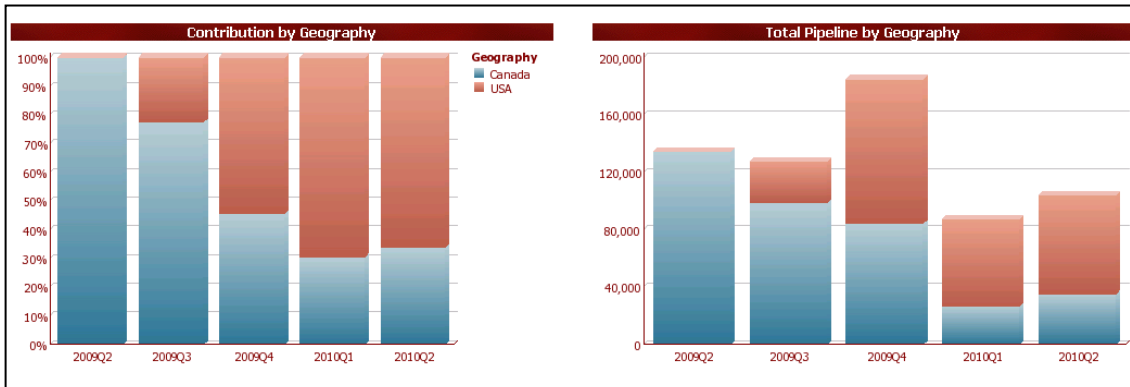


Figure 6. Pipeline by region.

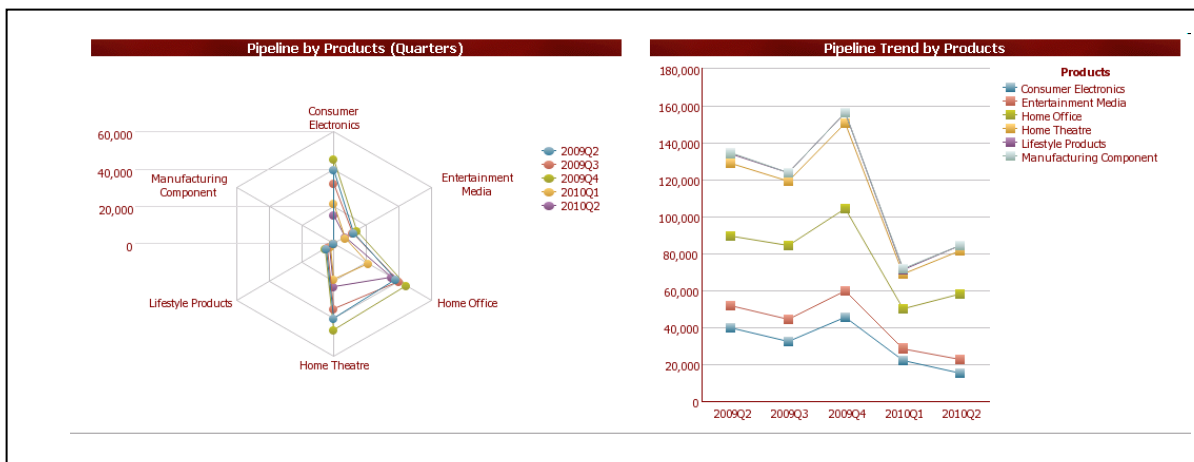


Figure 7. Pipeline by product

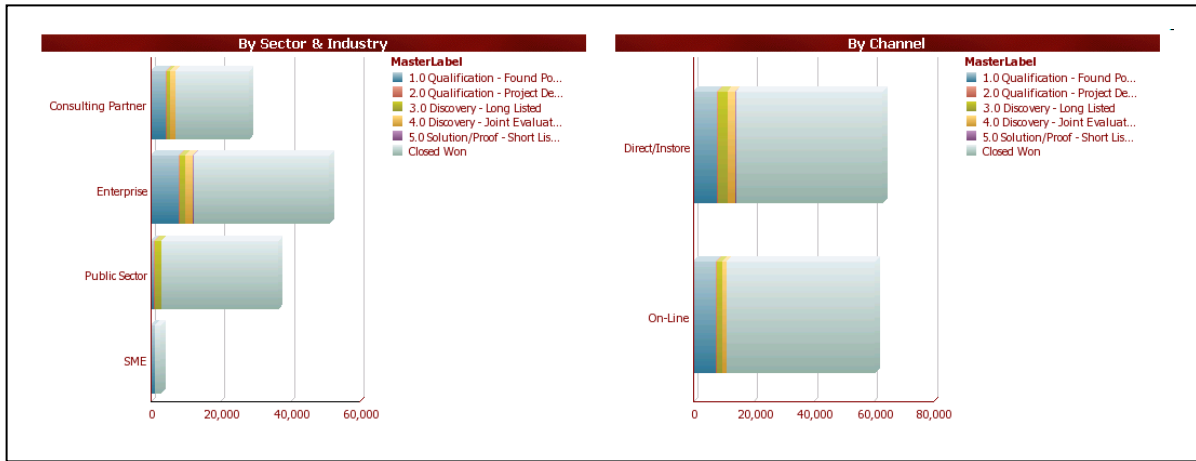


Figure 8. Pipeline by industry and channel

Top 5 Opportunities						
	Opportunity	Account	City	Close Date	Sales Stage	Opportunity Size
1	opportunity 2723	BOC Gases Australia	Miami	Aug 30, 2009	1.0 Qualification - Found Possibility	1,187
2	opportunity 4399	Shared Services Agency	New York	Jul 25, 2009	Closed Won	1,150
3	opportunity 4014	Ray White HIGHTON	Boston	Jul 28, 2009	Closed Won	1,087
4	opportunity 2897	THYSSEN MINING CONSTRUCTION OF AUSTRALIA PTY LTD	Las Vegas	Sep 30, 2009	Closed Won	1,057
5	opportunity 3190	Landar Electronics - Wholesale	Toronto	Aug 29, 2009	1.0 Qualification - Found Possibility	985

Top 5 Campaigns		Top 5 Partners		
	Campaign	Total Pipeline	Partner	Total Pipeline
1	Corporate Direct Mailer Campaign	21,002	Chignecto Central Regional School Board	21,250
2	National Residential Direct Mailer Campaign	17,243	Landar Electronics - Wholesale	7,293
3	Winter Business Traveller Airport Add Campaign	15,920	Lannick Group of Companies	5,320
4	Fall / Christmas Gaming Campaign	14,615	THYSSEN MINING CONSTRUCTION OF AUSTRALIA PTY LTD	4,611
5	National Computing Campaign	13,822	BPP CGA	1,982

Figure 9. Deals, campaigns and channels

The source of the top five opportunities in Figure 9 is live data from salesforce.com.

Revenue dashboard

The revenue dashboards facilitate trending and multi-dimensional analysis of your organization's historical revenue. The key report is the summary table, which provides the key metrics of relevance to the sales manager:

- Total revenue
- Average deal size
- Sales volume

The additional reports on this dashboard allow for different perspectives. The parameters for this dashboard (Figure 10) are geography, sector and industry, channels, periods, products, ranking and stages.

Parameters

Geography

Geography(All)

Sector & Industry

Sector & Industry(All)

Channels

Channels(All)

Periods

2009
 2010

Products

Product(All)

Deselect all

Ranking

Stage

Stages(All)

Figure 10. Parameters for revenue reports

Figures 11, 12, 13, 14 and 15 show the revenue reports you can run.

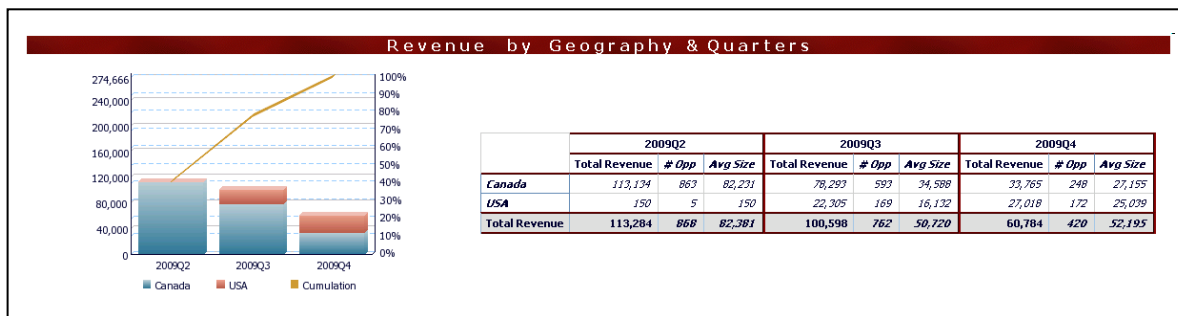


Figure 11. Revenue by geography and quarters

Top 5 Opportunities				
	Opportunity	Account	Close Date	Revenue
1	opportunity 2897	THYSSEN MINING CONSTRUCTION OF	Sep 30, 2009	1,057
2	opportunity 4151	Chignecto Central Regional Sch	Aug 25, 2009	931
3	opportunity 3016	THYSSEN MINING CONSTRUCTION OF	Aug 31, 2009	927
4	opportunity 3706	Chignecto Central Regional Sch	Aug 11, 2009	890
5	opportunity 3153	Landar Electronics - Wholesale	Sep 26, 2009	701

Figure 12. Top five opportunities

Top 5 Campaigns		
	Campaign	Revenue
1	Corporate Direct Mailer Campaign	16,925
2	National Residential Direct Mailer Campaign	13,129
3	Fall / Christmas Gaming Campaign	12,396
4	Winter Business Traveller Airport Add Campaign	12,223
5	Spring National Residential Direct Mailer Campaign	11,159

Figure 13. Top five campaigns

Top 5 Partners		
	Partner	Revenue
1	Chignecto Central Regional School Board	19,614
2	Landar Electronics - Wholesale	4,667
3	THYSSEN MINING CONSTRUCTION OF AUSTRALIA PTY LTD	3,819
4	Lannick Group of Companies	3,777
5	BPP CGA	1,929

Figure 14. Top five partners

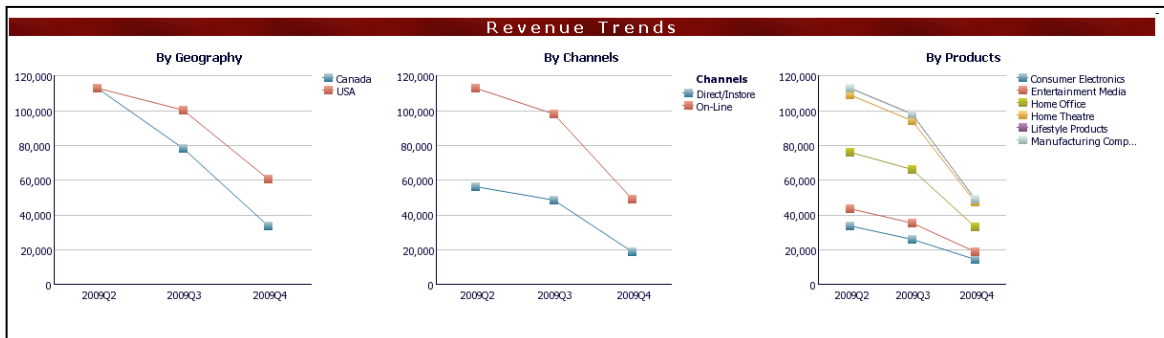


Figure 15. Revenue trends

Goals and forecast analysis dashboard

The objective of this dashboard is to highlight the comparison between forecast data from salesforce.com and goals data coming from an external data source. The key report on this page is the main table, which provides a comparison of the different forecast metrics to the quarterly goal:

- The weighted forecast is based on a mathematical formula applied to the different sales stages based on historical close trends.
- The submitted forecast is based on the probability field.
- One last comparison is made to the revenue closed to date.

A great feature of this dashboard is the ability to drill down into the regional level and view the forecast data at a lower level.

Figures 16, 17 and 18, show the reports included in this dashboard.

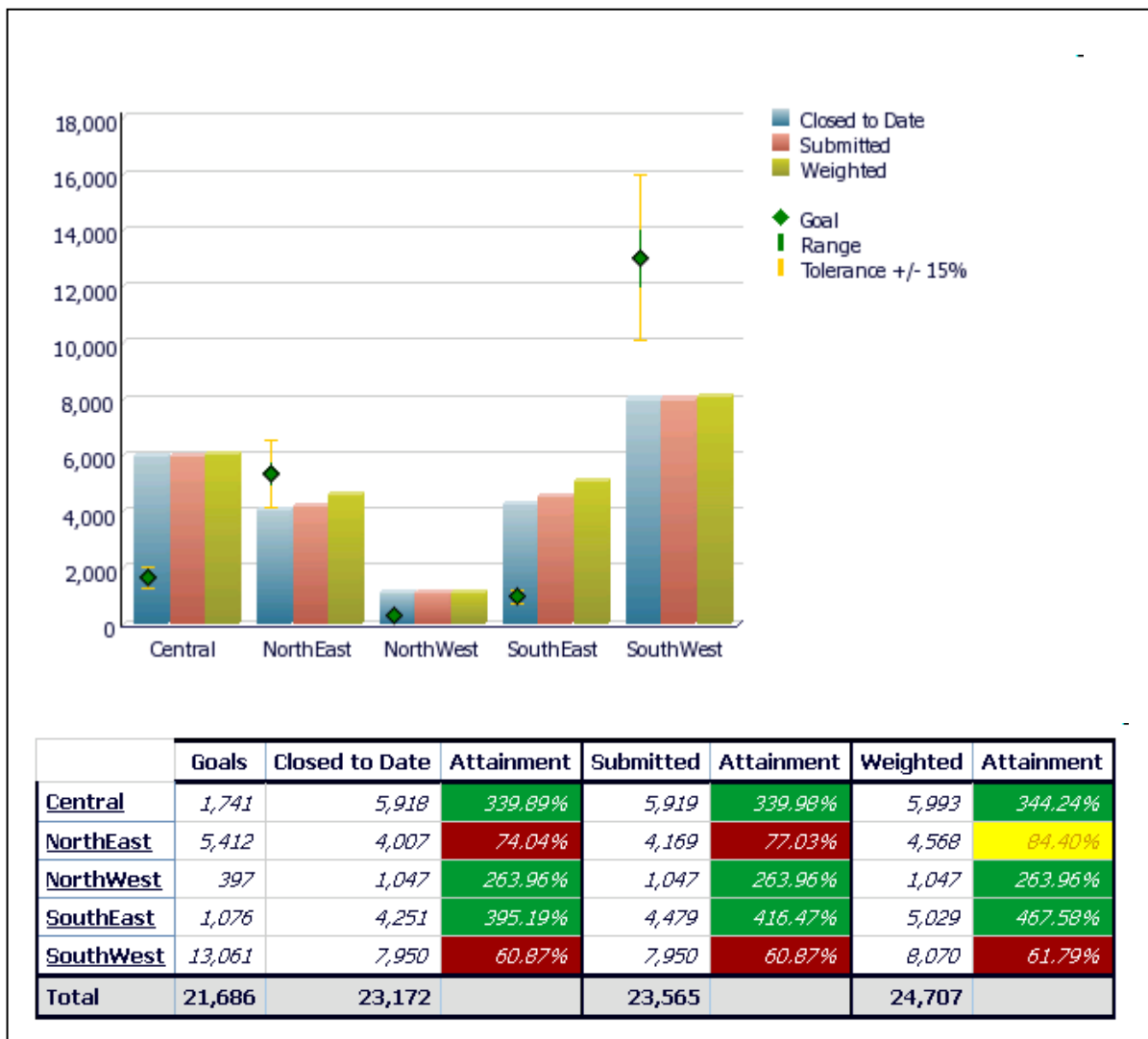


Figure 16. Closed to date, submitted and weighted forecast

Show Worst Cities Show Best Cities

Best 5 Cities

City	Closed to Date	Goals	Attainment	Submitted	Weighted
Chicago	5,918	1,741	339.89%	5,919	5,993
Miami	4,251	1,076	395.19%	4,479	5,029
Seattle	1,047	397	263.96%	1,047	1,047
Toronto	51,729	7,379	701.00%	53,436	56,416
Truro	31,834	9,315	341.74%	31,881	32,945

Figure 17. Best/worst cities

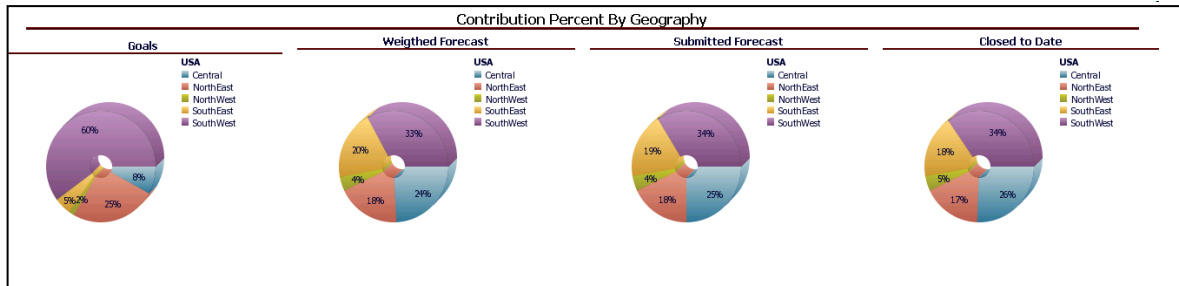


Figure 18. Contribution percentage by geography

Closed to date and forecast analysis dashboard

This dashboard provides the flexibility of analyzing forecast against several different dimensions. With this dashboard, users can drill up and down multiple dimensions and see the focus change, depending on the levels for each perspective.

This dashboard does not include parameters for filtering data; however, drilling down the multiple dimensions maintains the context of the chart so that it acts as a filter.

Figures 19, 20, 21, 22 and 23 show the reports included in this dashboard.

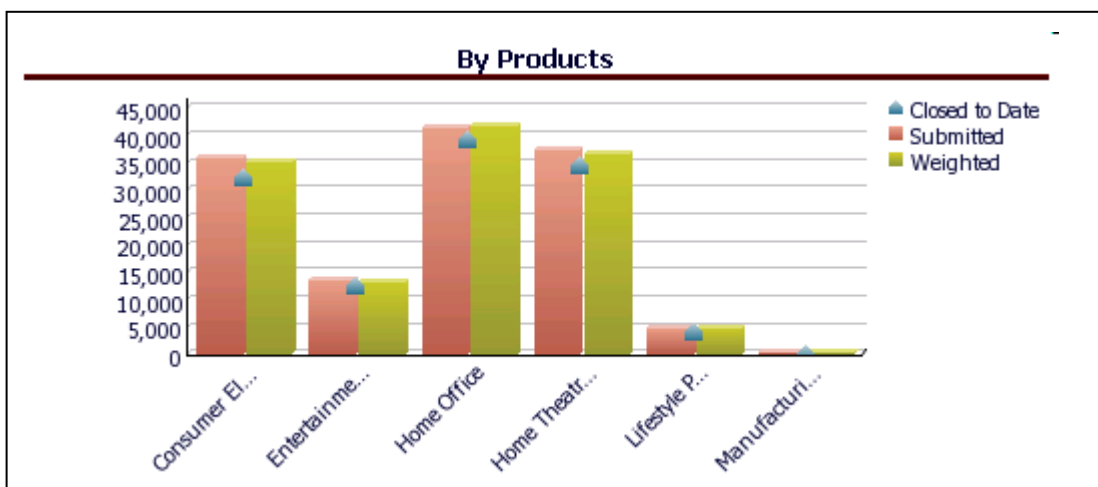


Figure 19. By products

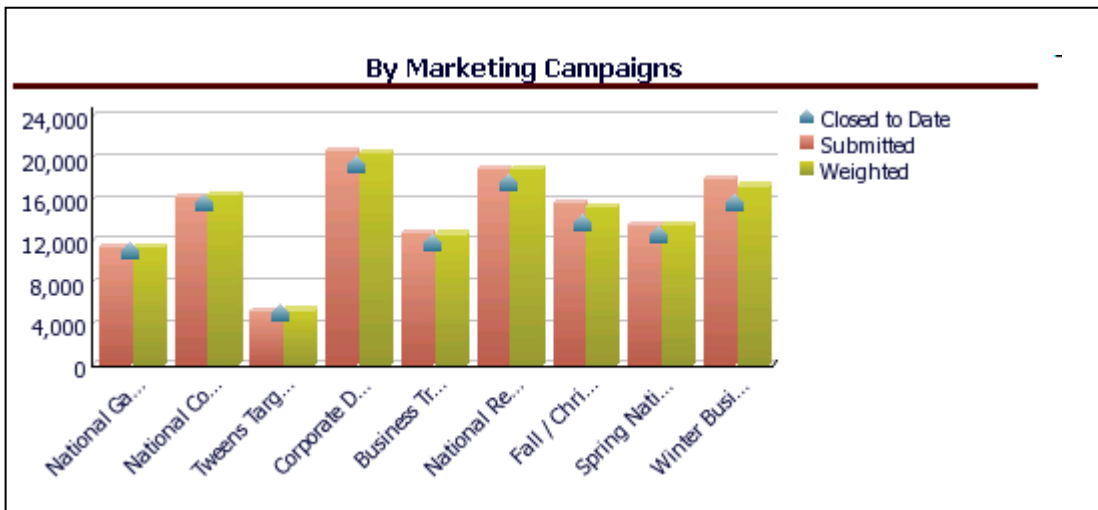


Figure 20. By marketing campaigns

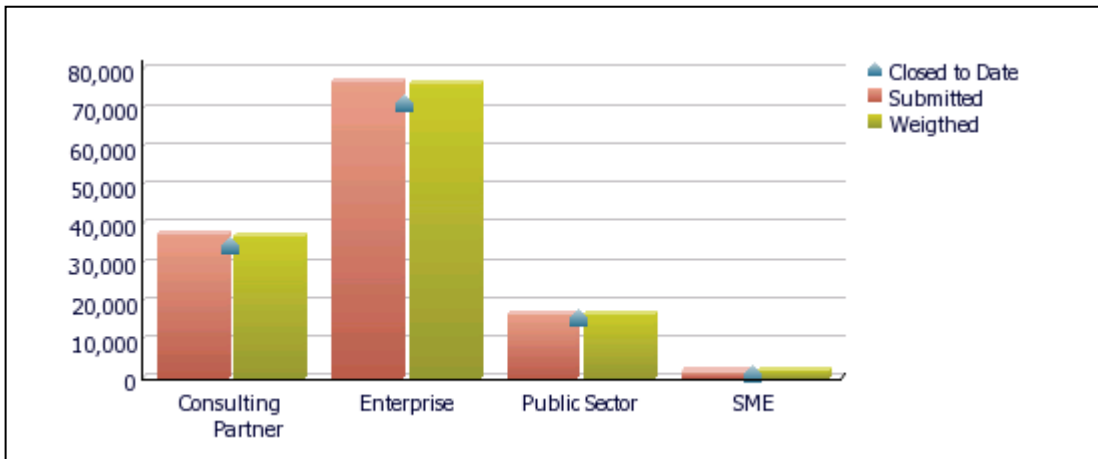


Figure 21. By sector

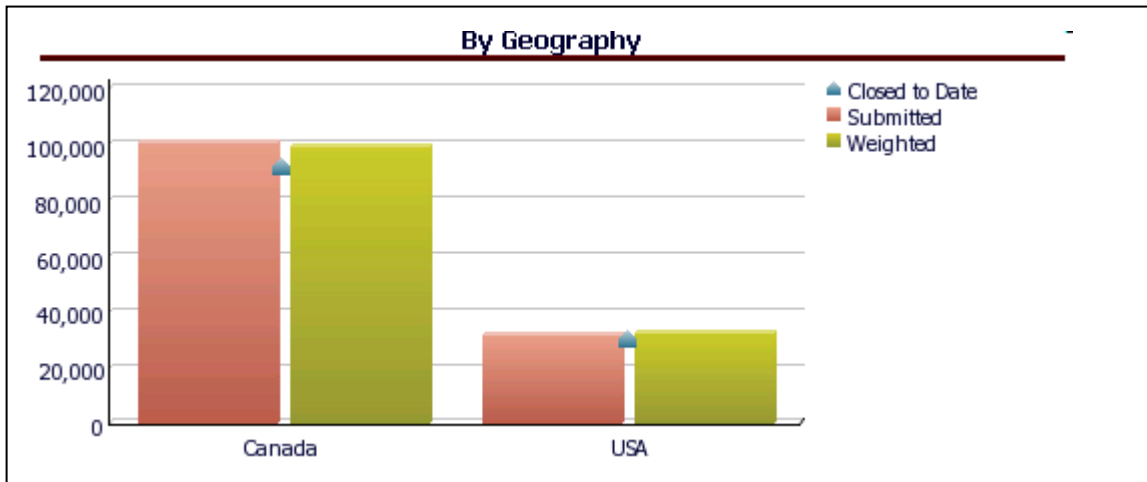


Figure 22. By geography

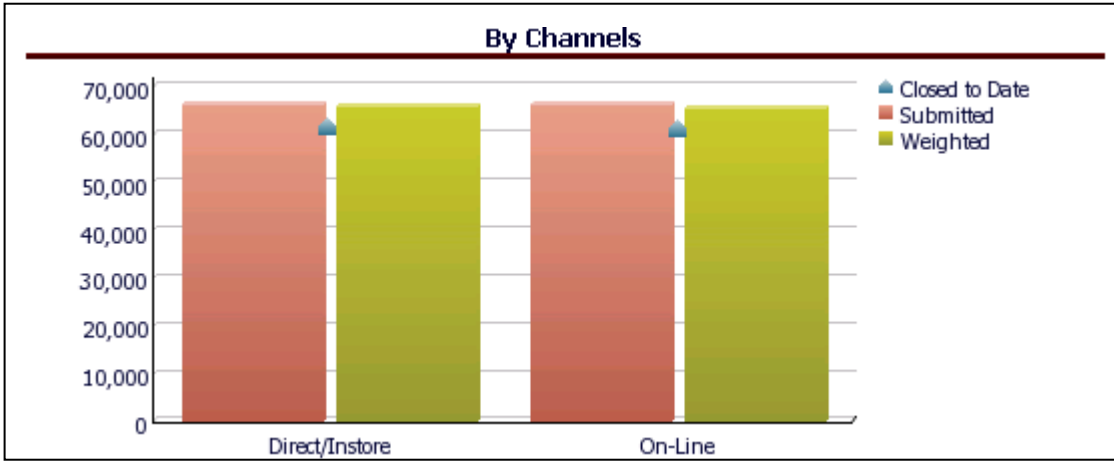


Figure 23. By channels

This dashboard can also change from charts to crosstabs (Figure 24) while maintaining the data context.

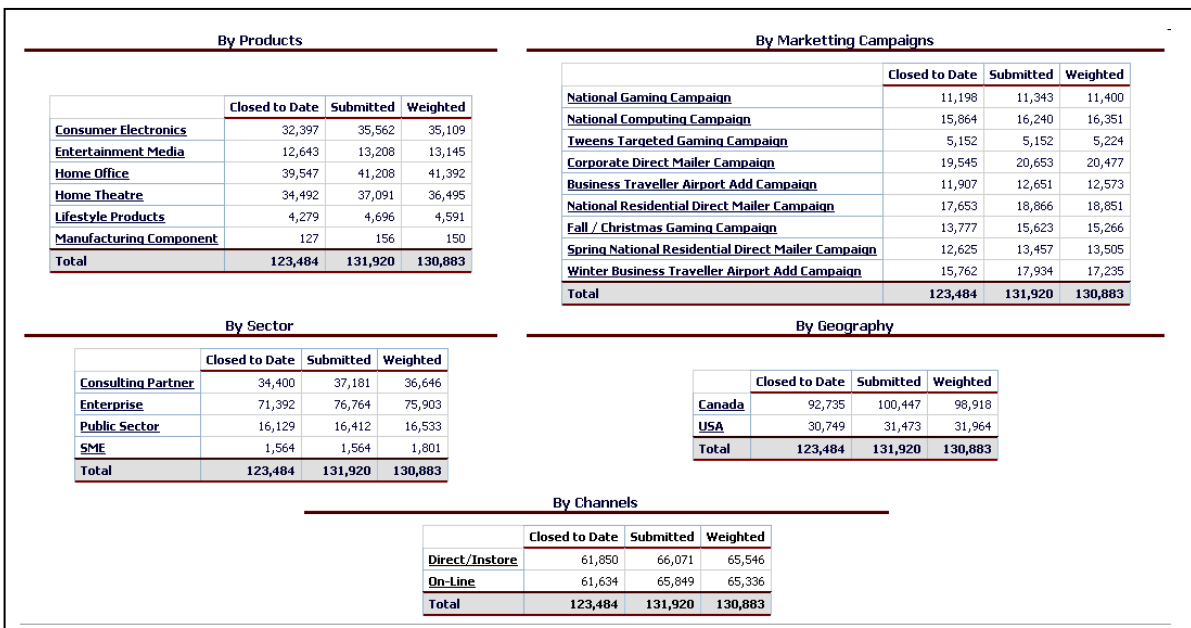


Figure 24. From charts to crosstabs

Utility dashboard components

The pre-developed content of this *Blueprint* includes operational utilities that can help your application administrator ensure the best usability and performance for the sales dashboard content.

Report navigator

With the report navigator, administrators can execute any report in any of the dashboard pages. Select from the filtering options (Figures 25 and 26) apply them to all report objects on the page.

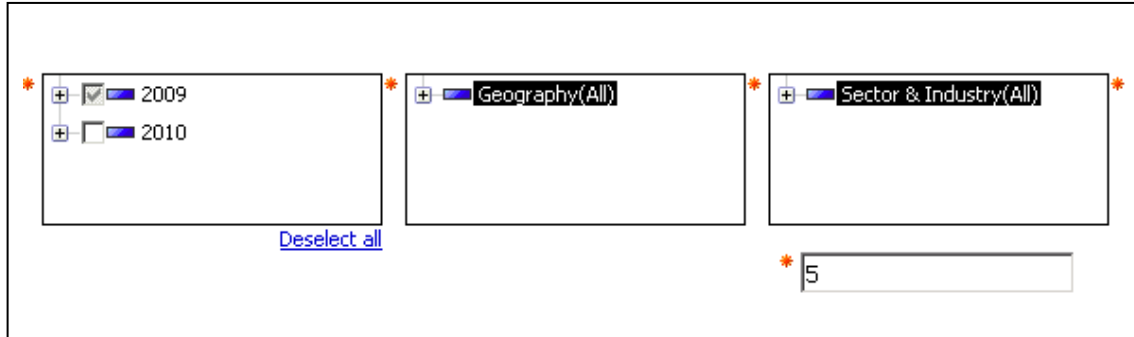


Figure 25. Report navigator filtering options (Part 1)

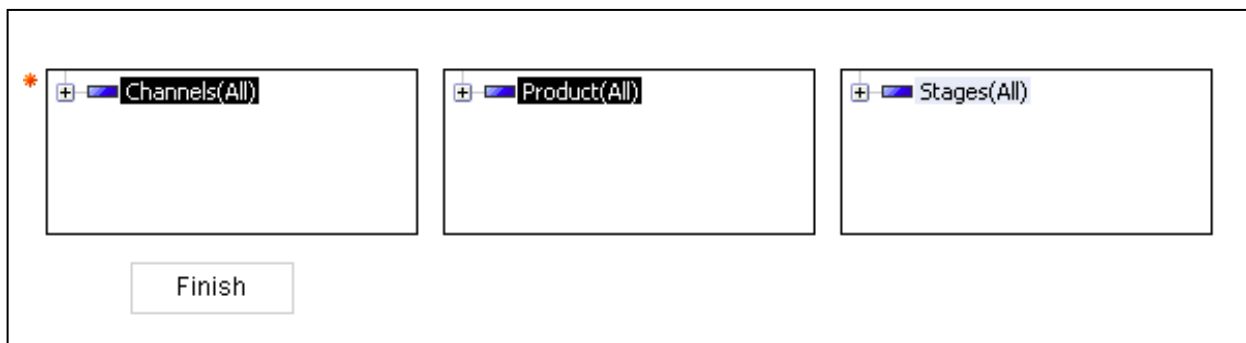


Figure 26. Report navigator filtering options (Part 2)

Figure 27 shows a list of the reports available for navigation.



Figure 27. Reports to navigate

Live versus cached

This dashboard report showcases performance of reporting from cached data. This dashboard depicts the pipeline by sales stages report, which is the same object with a different definition of source metadata definition. Although it displays the same numbers, the source of the data is different and the query request are sent to:

- Top Chart: Query request to SQL Server cache database through Virtual View Manager
- Bottom Chart: Query request to salesforce.com through Virtual View Manager

Salesforce.com load status

This report provides a view of the update status of the critical entities used for reporting purposes. By looking at this dashboard, system administrators can deduce whether a refresh of the cached data is required. Dimensions are considered to be good within a week of load, however. Facts were set to be good for one day. By looking at the lists in Figure 28, one can deduce that updates of all the All_Opportunities_Summary_CQ* are needed because the cache for these entities is based on the current date. All the quarters have been either updated or rolled over as the data is updated for 37 days.

Cache Information Update Status				
Business Facts				
Status	Table Name	Finish Time	# Days Outdated	Error Message
A	All_Opportunities_Summary_CQ	Sep 7 2009 10:06PM	37	
A	All_Opportunities_Summary_CQ-1	Sep 7 2009 9:38PM	37	
A	All_Opportunities_Summary_CQ+1	Sep 7 2009 9:42PM	37	
A	All_Opportunities_Summary_CQ+2	Sep 7 2009 9:45PM	37	
A	All_Opportunities_Summary_CQ+3	Sep 7 2009 9:49PM	37	
A	Forecast_Analysis	Sep 1 2009 9:47AM	43	
A	Forecast_Full_View	Sep 2 2009 11:37PM	42	
A	Forecast_Product_Analysis	Sep 1 2009 9:50AM	43	
A	Forecast_Product_FullView	Sep 1 2009 9:50AM	43	
A	Master_Opportunities	Sep 2 2009 11:29PM	42	
A	Master_Opportunities_Summary	Sep 6 2009 1:27AM	38	
A	P_Forecast_Analysis	Aug 19 2009 9:53AM	56	
A	P_Forecast_Product_Analysis	Aug 19 2009 9:54AM	56	
Business Dimensions				
Status	Table Name	Finish Time	# Days Outdated	Error Message
A	Accounts	Sep 7 2009 11:07PM	37	
A	Channels	Sep 1 2009 9:44AM	43	
A	Geography	Sep 1 2009 9:45AM	43	
A	IndustrySector	Sep 1 2009 9:45AM	43	
A	Partner	Sep 1 2009 9:46AM	43	
A	Product	Sep 1 2009 9:46AM	43	
A	Stages	Sep 1 2009 9:46AM	43	

Figure 27. Salesforce.com load status

About the IBM Cognos Innovation Center for Performance Management

The IBM Cognos Innovation Center was established in North America and Europe to advance the understanding of proven planning and performance management techniques, technologies, and practices. The Innovation Center is dedicated to transforming routine performance management practices into “next practices” that help companies:

- Cut costs
- Streamline processes
- Boost productivity
- Enable rapid response to opportunity
- Increase management visibility

Staffed globally by experts in planning, technology, and performance and strategy management, the Innovation Center partners with more than 600 IBM Cognos customers, academicians, industry leaders and others seeking to accelerate adoption, reduce risk and maximize the impact of technology-enabled performance management practices.

About IBM Cognos BI and Performance Management

IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices, and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.

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