# Reporting and Business Intelligence Tools

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Tutorial Session

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# **Acknowledgements**

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❑ Many thanks to everyone who participated in the development of presentation.

# Assumptions/Scope/Disclaimer

❑ Assumption Audience has a basic understanding of Business Intelligence (BI).

❑ Disclaimer: The samples provided are for demonstration purposes only.  No part of the content of this presentation should be construed for fitness to a particular purpose or a warranty of any kind.

# Objective

- ❑ Compare and contrast various reporting and business intelligence tools which are used across the gamut of the OHS application suite, including Siebel CTMS/LSH/OC/TMS/RDC and AERS/Argus Safety.

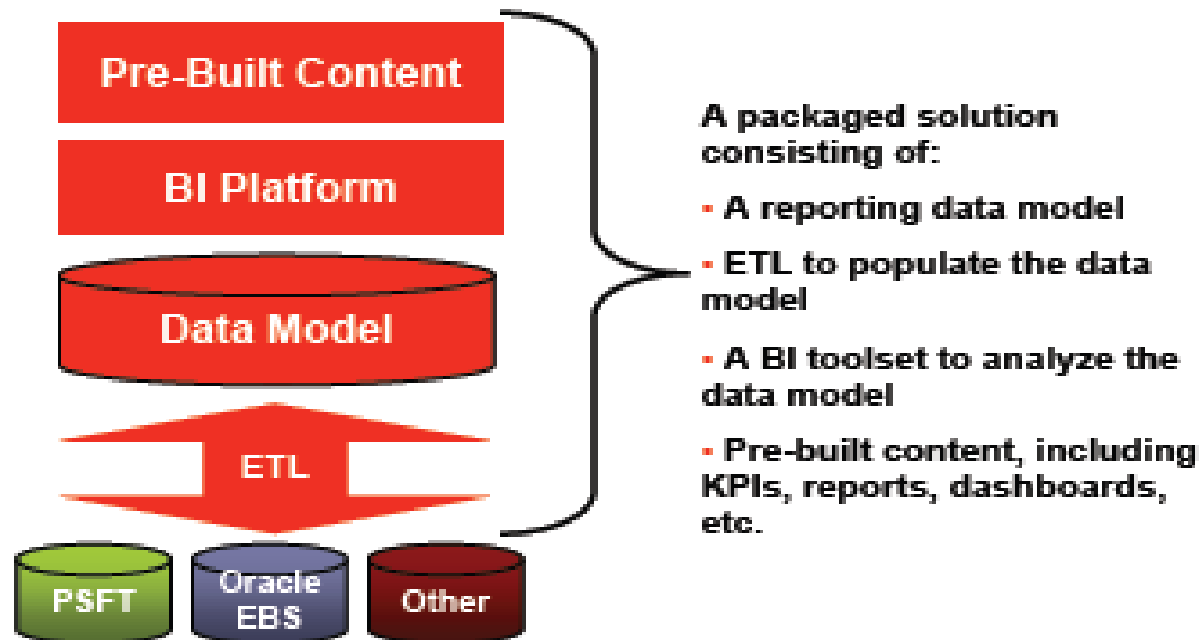- ❑ Strengths and weaknesses of each tool

# What is BI

- ❑ BI is a terminology representing a collection of processes tools and technologies .

- ❑  Helps in achieving <u>more profit </u>by improving the

   Productivity, sales and service of an enterprise.

- ❑ Business intelligence is the technology and practice of applying information to make decisions.

- ❑ This is much more than storing information, which is Data Warehousing.

# What is BI

❑ Corporate Data can be organized, analyzed in a <u>better way</u> and converted into an useful knowledge of information.



A packaged solution consisting of:

- A reporting data model

- ETL to populate the data model

- A BI toolset to analyze the data model

- Pre-built content, including KPIs, reports, dashboards, etc.

# BI Software Features

Common BI Software Features

❑      Web based Access

❑      Adcock Reporting

❑      Flexible Output Formats

❑      Dynamic Scheduling & Delivery

❑      Financial Reporting

# When Choosing BI Solution

Look for

❑ Scalability

   Expanding capacity needs and support broader

   access.

❑ Unlimited Data Access

   All time easy data access.

❑ Visualization

   Charts/graphs/matrixes/Histograms..etc.

❑ Predictive Analytics

   forecasting and advanced planning features.

# BI Reports & Zero Footprint

BI Reports

❑ Provides different views of data by pivoting or rotating the data across several dimensions.

❑ Capable of displaying data in several formats like tables/pivots/charts/query results or reports Zero Footprint Technology.

❑ Most of BI Reports uses this Technology.

❑ Allows users to connect to the database and see the reports through web browsers.

❑ Eliminates installation of additional software .

# Major Key Players in Reporting/ BI Space

**ORACLE**

**BUSINESS INTELLIGENCE**

- ❑ Widely established  vendor of business intelligence solutions.

- ❑ Gartner recognized the Siebel Business Analytics platform as one of the most comprehensive and visionary BI platforms available.

- ❑ Oracle solutions are designed to integrate seamlessly with any existing database systems.

# Key Strengths

□  Comprehensive BI functionality built on a unified infrastructure—Includes interactive dashboards, proactive intelligence delivery and alerts, enterprise and financial reporting, online analytical processing (OLAP) analysis and presentation, full ad hoc queries and analysis high-volume production reporting, disconnected analytics, as well as integration with Microsoft Office .

□ Provides relevant insight to everyone, not just analysts. All levels of the organization can see information optimized for their role .

# Key Strengths

❑ Unified business model—Built on an enterprise information model that unifies metadata across the Oracle BI tools and analytical applications for the lowest TCO.

❑ Hot-Pluggable BI infrastructure—Integrates with any data source, ETL tool, major business application, application server, security infrastructure, portal technology, other front-end and analytical tools, and databases including IBM DB/2, Teradata, Microsoft SQL Server; SAP Business Information Warehouse (BW), Microsoft Analysis Services; flat files; XML data; and unstructured data.

# Technology

❑ Hosted: Oracle On-Demand delivers business solutions online.

❑ On-Premise: Complete web-service oriented architecture allows BI functionality to be added to any data source, warehouse or ETL tool, and any data source including relational databases like Oracle Database, IBM DB/2, Teradata, Microsoft SQL Server, multidimensional sources such as Oracle Essbase, SAP NetWeaver BI, Microsoft Analysis Services, flat files, XML data, and unstructured data.

# Software /Tools

Business Intelligence Foundation Products:

❑ Business Intelligence Suite, Enterprise Edition Plus 11g (OBIEE+)

❑ Business Intelligence Standard Edition One (OBIE)

❑ Business Intelligence Publisher

❑ Business Intelligence Answers

❑ Real-Time Decisions

# Software /Tools

**Business Intelligence Applications:**

- ❑ Oracle BI Suite Enterprise Edition
- ❑ Oracle Financial Analytics
- ❑ Oracle Human Resources Analytics
- ❑ Oracle Procurement and Spend Analytics
- ❑ Oracle Supply Chain and Order Management Analytics
- ❑ Oracle Sales Analytics
- ❑ Oracle Service Analytics
- ❑ Oracle Contact Center Analytics
- ❑ Oracle Marketing Analytics
- ❑ Oracle Business Indicators

- Actuate provides software and services for business intelligence, performance management, and reporting applications in the United States and internationally.

- Actuate products and services are used in the development and deployment of Internet applications in a range of business functions, including financial management, sales management, account management, and customer self-service.

# Key Strengths

- Actuate's Information Application Platform is the foundation for many organizations and packaged application software vendors create reporting and analytics applications that scale to empower their user community inside and outside the firewall.

- Actuate offers a wide variety of business intelligence products, and analytics and reporting capabilities for any size project.

- Strong reporting and Business Performance Management (BPM) dashboards.

# Key Strengths

- Information Applications built with Actuate enable companies to increase their business agility, improve customer and partner relationships, adhere to corporate governance policies, and increase revenues while leveraging existing technology assets.

- When tested against other business intelligence products, Actuate's Information Application Platform has been proven to offer industry-leading scalability, the best performance, lowest total cost of ownership.

# Technology

- ❑ Actuate provides business intelligence users with a robust platform that supports all BI applications in an environment capable of unlimited scalability and 24/7service.

- ❑ Platform is backed by the open source information application developer community, grounded in BIRT.

# Software /Tools

- ❑ BIRT and Business Report
- ❑ Web Dashboards
- ❑ Actuate e.Reports
- ❑ Actuate e.Spreadsheet
- ❑ Actuate Analytics
- ❑ Actuate Performance soft

# Actuate   vs.   BI Publisher

**Actuate (By Developer)** :

❑  Generate Report Objects Library

❑  Create Report in Actuate

❑  Compile Report

❑  Deploy Report executable

❑  Associate report with View

❑  Deploy SRF

**Oracle BI  Publisher (By End User)**

❑  Generate  XML Data

❑  Create Report Layout Template in  MS Word

❑  Upload Report

❑  Associate report with View

❑  No SRF

- Cognos provides business intelligence and complete Corporate Performance Management (CPM) software for the enterprise companies.

- Supports enterprise planning, score carding, and business intelligence.

# Key Strengths

- ❏ The new IBM Cognos 8 BI Midmarket Reporting Packages offer midsize organizations an affordable, single, Web-based solution for all components of the reporting lifecycle: managed reports, ad-hoc reports, and transactional, operational, production, and statement-style reports.

- ❏ These reports can be authored once and consumed anywhere, and are adaptable to any data source.

- ❏ IBM Cognos 8 Business Intelligence delivers the complete range of BI capabilities on a single, service-oriented architecture (SOA). Customers can author, share, and use reports that draw on data across all enterprise sources for better business decisions.

# Key Strengths

- ❑ IBM Cognos 8 Analysis enables the guided exploration of information that pertains to all dimensions of a business, regardless of where the data is stored.

- ❑ The solution gives businesses the power to analyze and report against online analytical processing (OLAP) and dimensionally aware relational sources.

# Weak Points

❑ Cognos software is divided into more parts than it's necessary. For example, three – Report Studio, Query Studio, and Analysis Studio. Many experts say that three studios might be operated by one common tool (comparable functionality is offered by BO Web Intelligence application).

❑ Its scalability leaves much to be desired – the loss of performance is significant while adding hardware and users in the same proportion.

❑ Despite all the advantages, the reporting platform – based on the ReportNet - still stays unproven in terms of huge implementations.

# Technology

❑  The IBM Cognos BI/Analytics solution resides on an IBM DB2 balanced data warehouse running on an IBM System platform provides a flexible and scalable business intelligence infrastructure to support the delivery of information as a service.

❑ Built with modern, service-oriented architecture, IBM Cognos 8 Business Intelligence integrates with technology standards today, and can adapt as companies evolve.

# Software/Tools

IBM Cognos 8 Business Intelligence

❑ Reporting

❑ Analysis

❑ Dashboards

❑ Dynamic Business Intelligence

❑ Personalized Information

❑ Trusted Data Source

❑ Score carding

IBM Cognos TM1

IBM® Content Analyzer

❑ SAP Business Objects provides a complete set of Business Intelligence and Enterprise Performance Management (EPM) tools and applications which support reporting, data querying and data analysis, interactive data visualization, data management, planning, budgeting and forecasting.

# Key Strengths

- Flexible reporting options using Crystal Reports, SAP BusinessObjects Web Intelligence and Xcelsius
- Adhoc  reporting capabilities
- Hosted Data warehouse for enhanced security, fast installation and setup
- Automated report sharing
- SAS 70 Certified
- Reduced risk with low up-front investment
- Fast access to answers
- Scalable, adaptable solution

# Weak Points

- ❑ SAP Business Objects is repeating risk of gaining inconsistent data results – the data connections should be improved.

- ❑ Multiple locations options work well but their enabling was inconsistent.

- ❑ Separate parts of the suite differs in the development requirements.

- ❑ Only a few of changes might be done personally by the customer. Majority of them still demand engaging the IT developers.

- ❑ SAP offers plenty of products responsible for financial consolidation. It's great until it comes that the communication among them is hardened – lack of migration path.

- ❑ Further, the breadth is stunning but modifying the content requires complicated and labor-consuming IT lifting.

# Technology

## SAP Business Objects Enterprise platform

❑ SAP Business Objects Enterprise platform provides a shared infrastructure for managing the users' Business Intelligence content.

❑ The Business Objects BI platform includes a web portal for accessing the Business Intelligence data (such as reports, analysis and cubes) and an administrative console to support such features as security, audit, data access methods, etc.

# Software /Tools

Advanced Analysis

❑ SAP BusinessObjects Voyager

❑ SAP BusinessObjects Predictive Workbench

Dashboards and Visualization

❑ SAP BusinessObjects Xcelsius Enterprise

❑ SAP BusinessObjects Dashboard Builder

Information Infrastructure

❑ SAP BusinessObjects Enterprise

Ad hoc Interactive Analysis

❑ SAP BusinessObjects Web Intelligence

# Software /Tools

Reporting

❑ SAP Crystal Reports
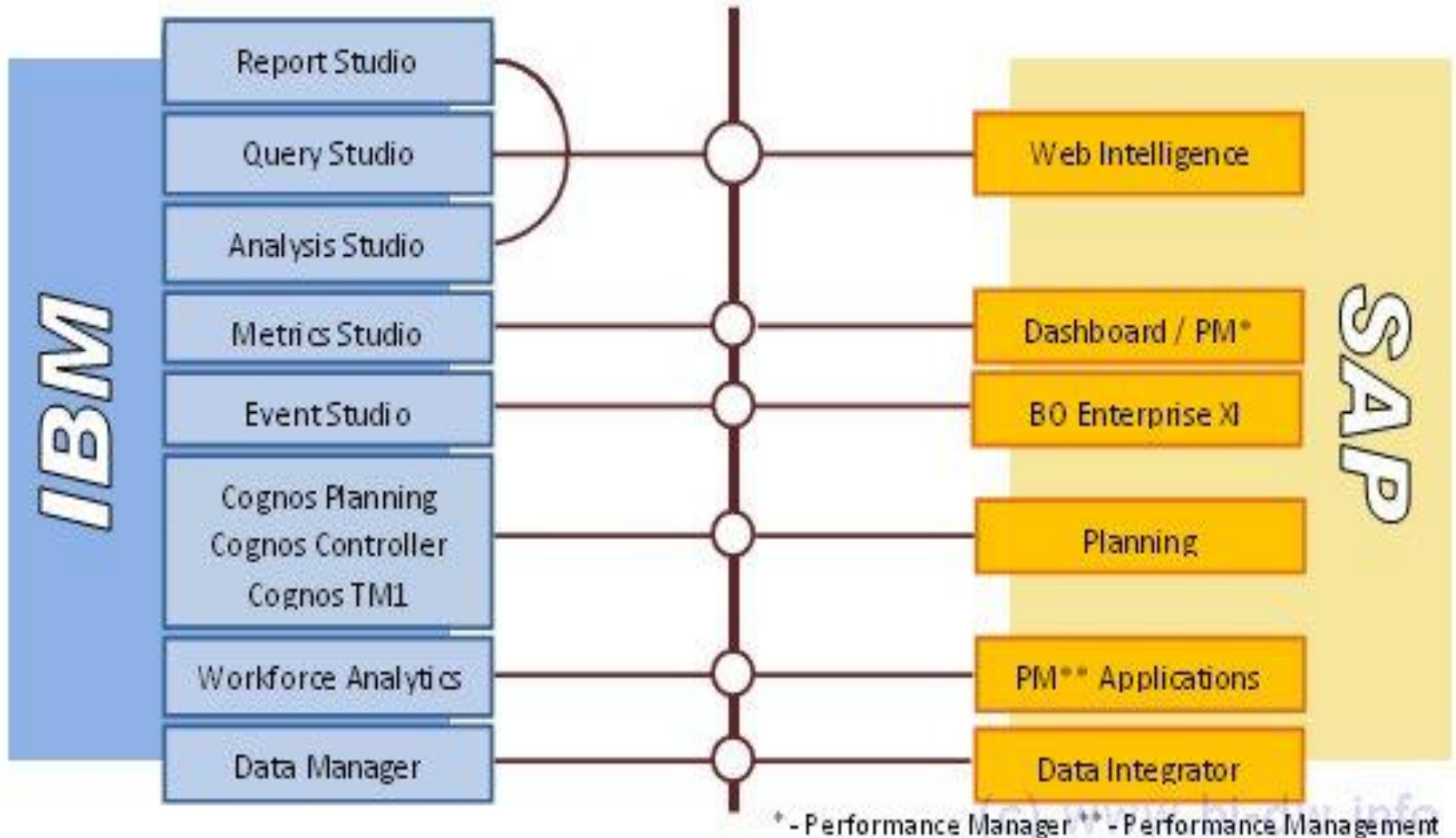
Data Exploration

❑ SAP BusinessObjects Explorer

SAP BusinessObjects BI ONDEMAND

SAP BusinessObjects Data Services

# IBM Vs SAP



\* - Performance Manager \*\* - Performance Management

**Microsoft**

- ❑ Microsoft Business Intelligence (BI) solutions build on client's existing technology investments so employees can gain access to accurate, up-to-date information for better, more relevant and timely decision-making.

- ❑ MS BI solutions integrate the strengths of Microsoft Office 2010, Microsoft SharePoint 2010, and Microsoft SQL Server and truly empower informed decision-making.

# Key Strengths

- ❑ Enable Business Users to store and share Office Documents in a Managed Environment.
- ❑ Show Data in the Context of Diagram /Interactive Map.
- ❑ Identify and Automatically clean up Bad Data.
- ❑ Combine Data from Broad Variety of Sources.
- ❑ Implement an Enterprise-Class Relational Database system.
- ❑ Empower Analysts with Advanced Analysts and Visualizations/Provide Predictive Analytics .
- ❑ Microsoft's Dynamics GP Business Intelligence solution product lets you plan more effectively .
- ❑  Business intelligence reports can be stored on Office SharePoint Server 2007 or another shared network location for easy access and instantly refreshed at any time to ensure data is current.

# Key Strengths

*Microsoft*

❑ Analysis Cubes in Microsoft Dynamics GP enables people to take full advantage of SQL Server Analysis Services by providing out-of-the-box preconfigured OLAP cubes. Analysis Cubes provides virtually unlimited ways to look at data with powerful interactive analysis.

❑ SmartList in Microsoft Dynamics GP enables people to organize and present data from the accounting system in a way that makes sense to them.

❑ Integration between industry-leading tools and Microsoft Dynamics GP, such as Microsoft Office Excel, Microsoft SQL Reporting Services, and Microsoft FRx Professional, gives people the information they need to forecast and make business decisions.

# Technology

❑ Microsoft BI is delivered through three layers or workloads: data warehousing, reporting and analysis, and performance management.

❑ The Microsoft Dynamics licensed suite of products, built on familiar and widely used Microsoft technologies, offers several solutions for business intelligence and reporting.  MS Dynamics GP licensed solution can be integrated with Microsoft SQL Server and the Microsoft Office system .

# Software /Tools

- Microsoft SQL Server 2005

  Integration Services

  Analysis Services

  Reporting Services

- Microsoft 2007 Office System

  Office Excel 2007

  Office Sharepoint Server 2007

- PerformancePoint Server

  ProClarity Analytics

- Microsoft Dynamics GP Business Intelligence

- ❑ SAS provides business intelligence and analytical software and services.

- ❑  SAS software useful for  improve performance through insight from data, resulting in faster, more accurate business decisions;  relationships with customers and suppliers; compliance with governmental regulations; research breakthroughs; and better products and processes.

# Key Strengths

- ❑ Strong in advanced analytic analysis.
- ❑ Subscription-based pricing model.
- ❑ SAS business intelligence offers decision-makers fast, simple access to reports and analysis. Self-service reporting and familiar interfaces are tailored to the different skills and needs of individuals, enabling every one to generate reports on their own.
- ❑ The SAS Business Intelligence solution suite gives companies the information when they need it, in the format they need.
- ❑ A point-and-click interface allows users to exploit the power of SAS and publish dynamic results throughout the organization.
- ❑ Interactive dialog boxes guide users through analytic and reporting tasks that range from simple to complex, and can export the results to other Windows and server-based applications.

# Key Strengths

❑ By integrating data from across the enterprise and delivering self-service reporting and analysis, IT spends less time responding to requests, and business users spend less time looking for information, so more time is spent on making better, more informed decisions.

❑ By leveraging existing data and system assets and bringing Business Intelligence to everyone through familiar and intuitive interfaces.

# Technology

❑  The SAS on-demand hosted SaaS solution delivers end-to-end linked technologies, including data access, data quality and a common metadata layer, that increase consistency of data and business rules.

# Software /Tools

## SAS Business Intelligence Solution Suite

- ❑ SAS Business Intelligence Reporting
- ❑ SAS Integrated Analytics
- ❑ SAS Visualization
- ❑ SAS Statistics
- ❑ SAS/IML Software
- ❑ SAS Visual Data Discovery
- ❑ SAS Forecasting
- ❑ Econometrics & Time Series with SAS/ETS® Software
- ❑ SAS Enterprise Miner
- ❑ SAS Desktop Visual Data Discovery for Midsize Business

**Information Builders**

- Information Builder Provides award-winning combination of business intelligence and enterprise integration software .

- Information Builders' WebFOCUS product is the widely utilized business intelligence platform.

# Key Strengths

- Strong BI on-demand platform: secure, scalable, good integration, low TCO, simplified developer and user interactions.

- The company's WebFOCUS solution is a comprehensive and fully integrated enterprise business intelligence platform: its architecture, integration, and simplicity permeate every level of the global organization – executive, analytical, and operational – and make any data available, accessible, and meaningful to every person or application who needs it, when and how they need it.

- Web FOCUS equips with scalable BI solutions to effectively address the daily business pressures of getting the right data to the right employees.

# Technology

- Information Builders' on-demand BI solution is delivered from self-optimizing autonomic servers whose workload and traffic management and capacity planning eliminate complexity, improve system performance, and dramatically reduce TCO.

- WebFOCUS's super-linear technology provides scalability through multiple technological advantages, a unifying integration infrastructure that accesses, reconciles, cleanses, and prepares any and all data for business intelligence use, and service-oriented architecture support with the ability to create, consume, and publish Web services.

# Software /Tools

**Information Builders**

Enterprise Business Intelligence (WebFOCUS)

- End user Reporting
- Report Distribution
- Financial Reporting and Analysis
- Print-ready Reporting
- Query and Analysis
- Dashboards and Scorecards
- Visualization
- Location Intelligence/GIS

- MicroStrategy provides business intelligence software that enables companies to report, analyze and monitor the data stored across their enterprise.

- MicroStrategy's flagship BI solution, MicroStrategy 8 provides integrated reporting, analysis, and monitoring software that helps leading organizations make better business decisions.

# Key Strengths

- ❑ Microstrategy offers an unprecedented range of monitoring, reporting, and analyzing capabilities within a single architecture to allow every-one to make better business decisions every day, and drive business performance goals.

- ❑ The company's solution product, MicroStrategy 8, is the first business intelligence architecture to unify reporting, analysis, and real-time business monitoring into one seamless experience to Users.

- ❑ The MicroStrategy 8 platform consists of product components, such as Intelligence Server, a foundation for the BI platform; Report Services, the enterprise reporting engine that delivers a range of enterprise reports, including production and operational reports, managed metrics reports, and scorecards; OLAP Services, an extension of Intelligence Server that allows Web and desktop users to manipulate Intelligent Cubes databases.

# Key Strengths

- MicroStrategy provides a robust, holistic business view of enterprise data. Users do not need to understand databases, table structures, or query languages -- just how to point and click.

- MicroStrategy's workflow guides help users "drill" into detail as represented by their business model, not their database model.

- With drill anywhere capabilities, users can view summary- to detail-level data, with access to the entire breadth and depth of data contained in a database.

# Technology

- ❑ MicroStrategy's on-demand BI solution is built and delivered from MicroStrategy Intelligence Server, the industry's most advanced, scalable secure and robust business intelligence server.

- ❑ MicroStrategy Intelligence Server provides the core analytical processing and job management for all reporting, analysis and monitoring applications.

- ❑  Employing a Services-Oriented Architecture (SOA), MicroStrategy Intelligence Server makes it easy to standardize on a single, open platform for all an enterprise's reporting and analysis needs through a number of access channels: Web browsers, Microsoft Office, Desktop clients, and emails.

# Software /Tools

MicroStrategy 8 Business Intelligence Platform

❏ Business Intelligence Monitoring

❏ Business Intelligence Reporting

❏ Business Analytics

# QlikTech™

- ❑ QlikTech provided next-generation business intelligence solutions, offering sophisticated in-memory analysis and reporting solutions for enterprise and individual customers.

- ❑ QlikTech supports an open information architecture, where business information is broadly, affordably and quickly available to those who need it.

- ❑ QlikTech's flagship product, QlikView click driven, visually interactive interface is simple for end users to learn and use.

# Key Strengths

❑ QlikTech's flagship product, QlikView, simplifies analysis for everyone. QlikView works the way your mind works – making associations by connecting data from many sources in a few clicks.

❑ This patented in-memory association technology brings fast results and better decision making to a wide range of customers and industries.

❑ QlikView provides fast, powerful and visual in-memory business analysis – without the limitations, cost or complexity of traditional BI tools. QlikView can be deployed in days and users trained in minutes.

❑ Designed specifically for business users, QlikView puts information at your fingertips instantly, giving you the intelligence you need to act – faster.

# Key Strengths

- ❑ QlikView makes it simple to deploy powerful analysis. QlikView takes advantage of 64-bit multi-core hardware platforms to allow thousands of users to access billions of records of data.

- ❑ The QlikView in-memory data model allows an integrated view of information through dashboards, ad-hoc analysis, and reports – all from a single platform.

- ❑ QlikView is easy to learn and use. Because of its color coded, point- and-click user interface, QlikView is extremely intuitive and easy-to-learn for any employee.

- ❑ Changes to QlikView applications are done in seconds, which makes it easy to respond quickly to the changing BI needs of an organization.

# Key Strengths

- With the QlikView Connector Certified for SAP NetWeaver®, SAP customers can now take full advantage of the power of QlikView, the leading in-memory business intelligence solution that allows for dynamic analysis and reporting.

- SalesLogix Visual Analyzer is a fully integrated sales and marketing analysis module for your SalesLogix CRM system.

- Based on QlikTech's QlikView business intelligence platform, SalesLogix Visual Analyzer gives SalesLogix users a real-time snapshot of organizational, departmental and individual performance against objectives.

# Technology

- Unlike most BI packages, QlikView doesn´t rely on OLAP, it is an in-memory analysis solution.

- QlikView gives you all the benefits of OLAP-based BI—multi-dimensional "slice-and-dice" data analysis—without the limitations.

- QlikView applications deploy quickly, are easy for the IT department to maintain, and give end-users unlimited freedom for ad-hoc queries across any dimensions in the data.

- Runs natively on SAP, NetWeaver BI, Microsoft Analysis Services and Hyperion Essbase.

# Software/Tools

❑ QlikView

# **Conclusion**

❑ Each of the reporting environments has their individual strengths like

  ❑ Oracle OBIEE is at it's best in dashboarding

  ❑ Cognos is at it's best in cube building

  ❑ Business Objects is at it's best in "BI reporting" (financial reporting,producton reporting)..etc

❑ When choosing the right business intelligence platform for your organization it might be a good idea to precisely define your business needs and test the appropriate tool in your business environment.

# Question and Answers

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# Biographies

- Prasad Veeramachaneni, Senior Oracle BI ( Siebel) Reporting Consultant, DBMS Consulting, Inc.
- Prasad is a Senior Reporting Expert for DBMS Consulting, with 10+ years of Siebel configuration and Reports Development experience.

# **Appendix**

- ❑ Converting Reports from Oracle Reports to Oracle BI Publisher" -Report Designer's Guide - http//www.oracle.com/technology/products/xml-publisher

- ❑ Actuate Conversion Assistant Download - https//metalink3.oracle.com/od/faces/index.jspxpatch #8288024

- ❑ "Converting reports from Business Objects Crystal Reports to Oracle BI Publisher" http//download.oracle.com/otndocs/xmlp/CrystaltoBIP.pdf

# Appendix Contd..

## Conversion Stratégies and Techniques:

- ❑ Oracle Reports Conversion to Oracle BI Publisher
- ❑ Actuate Report Conversion to Oracle BI Publisher
- ❑ Crystal Reports Conversion to Oracle BI Publisher

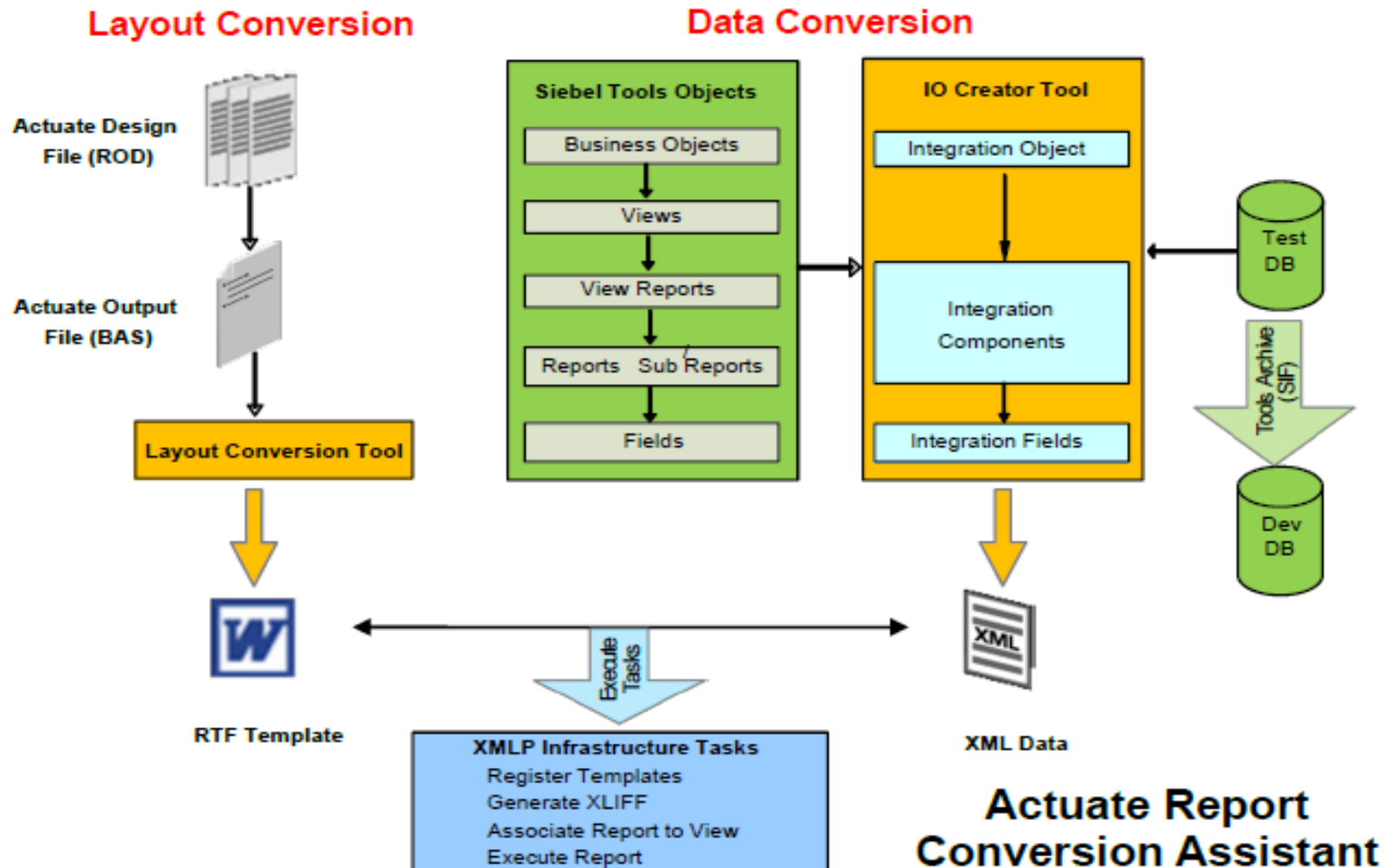# Oracle Reports Conversion to Oracle BI Publiser

**Command Line Tool**

Oracle Report RDF files → rwconverter → XML (RDF XML) → Conversion Tool Component →
- Data Template (XML)
- LOV xml (XML)
- .xdo file
- RTF Template
- .PLS files
- Log file
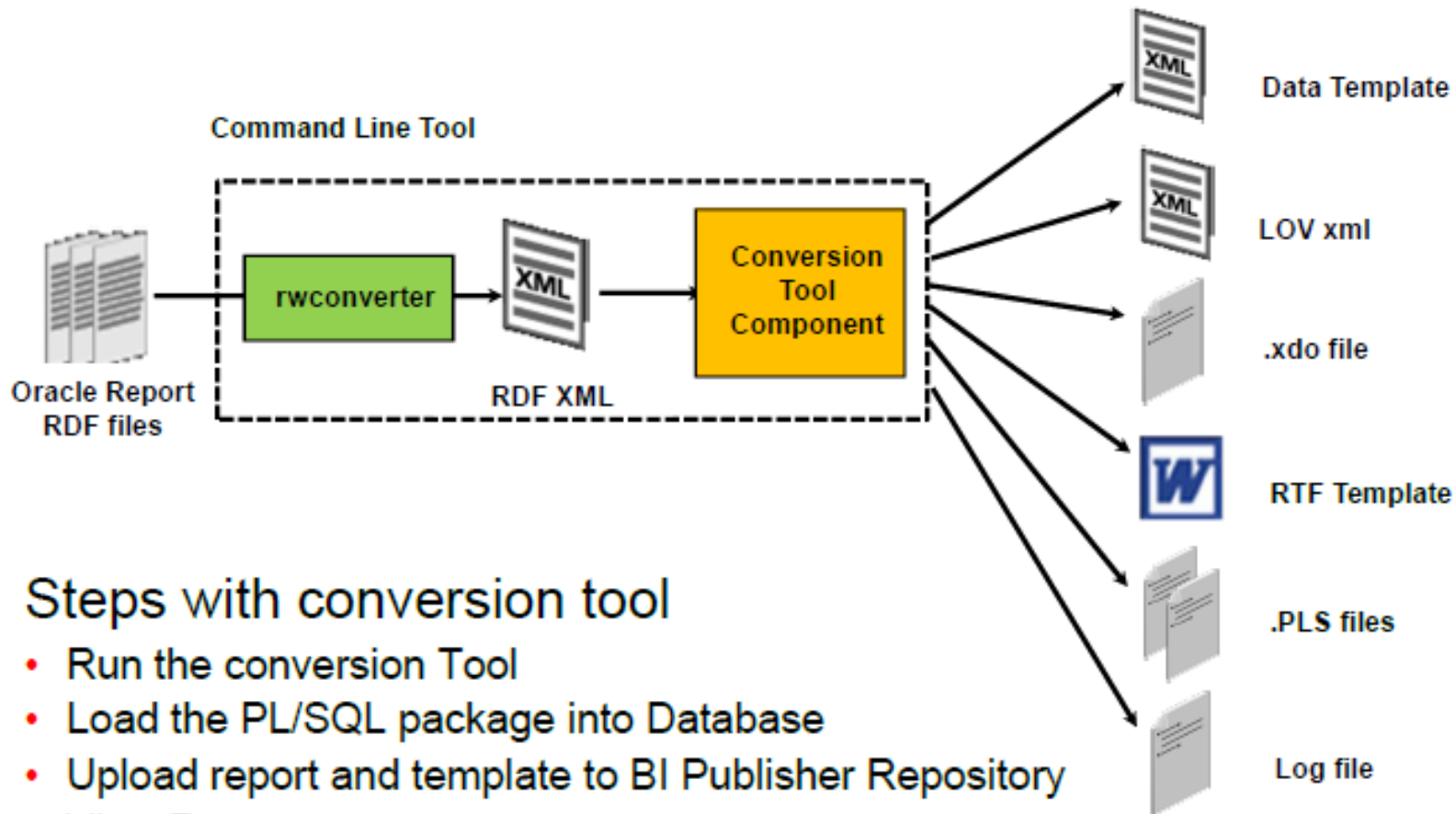
## Steps with conversion tool

- Run the conversion Tool
- Load the PL/SQL package into Database
- Upload report and template to BI Publisher Repository
- View Report
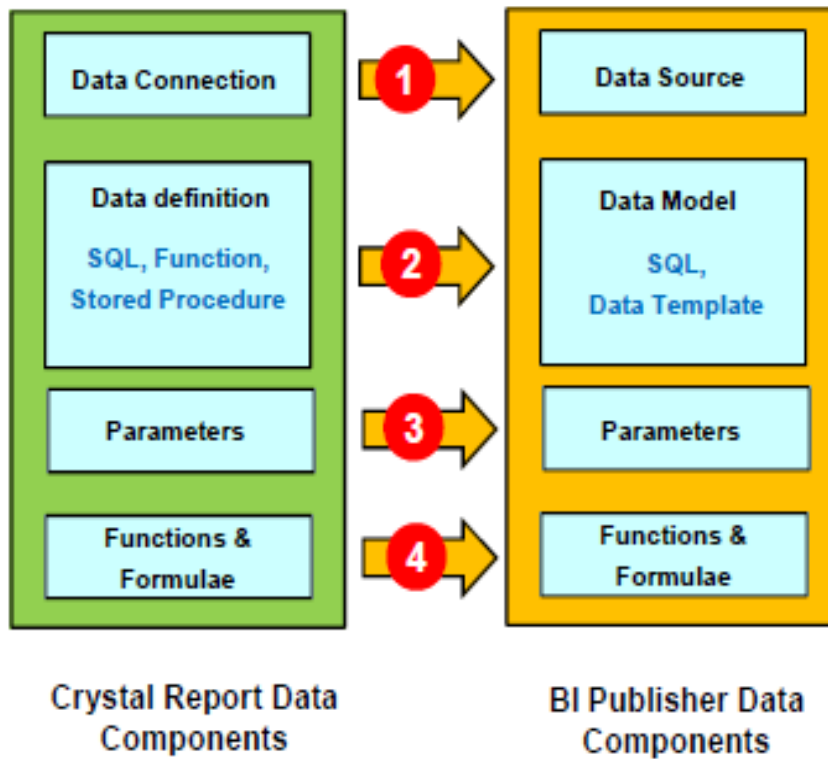- Check Log file for parts needing manual conversion

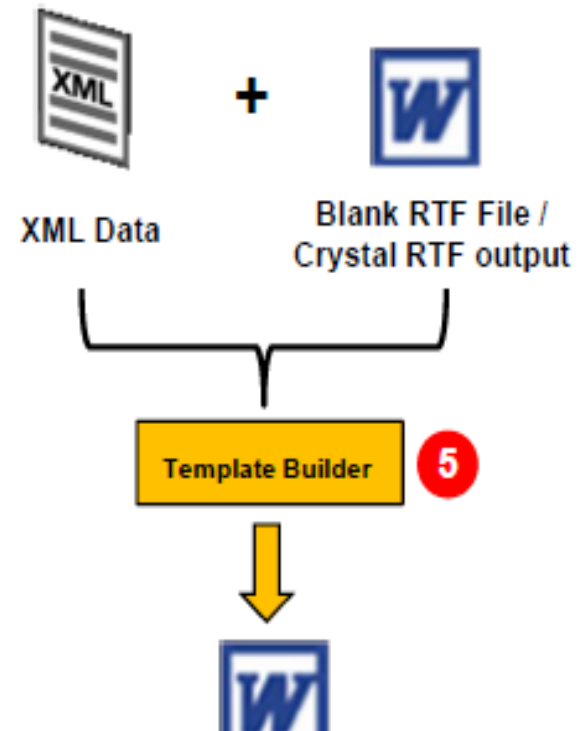# Actuate Reports Conversion to Oracle BI Publiser

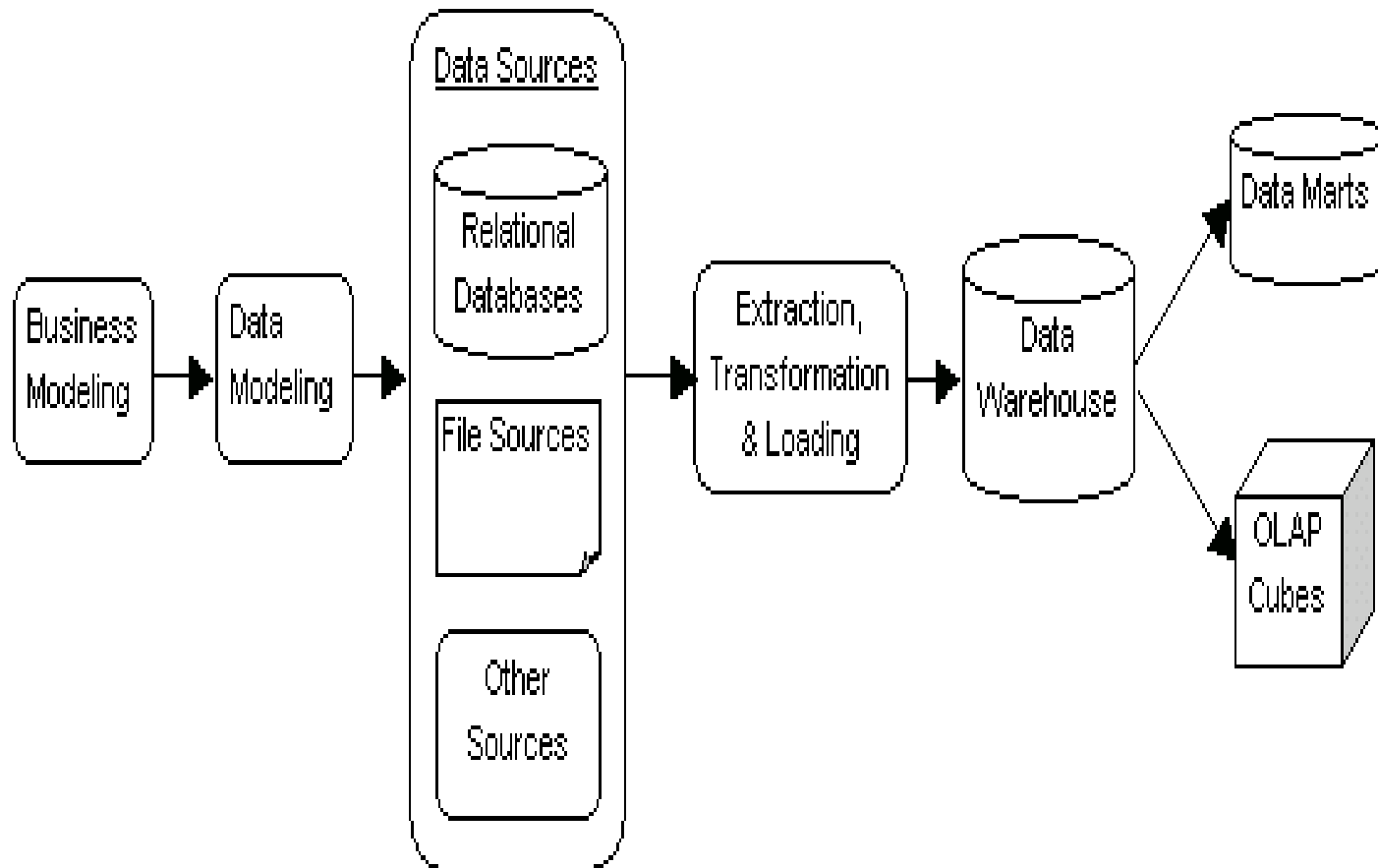# Crystal Reports Conversion to Oracle BI Publisher

# BI Environment & Business Flow

# Key Steps to build a BI Solution

Develop detailed understanding of operational data sources

Design a data warehouse by subject area

License an ETL tool to move data from operational systems to this DW

Build ETL programs for every data source

License interactive user access tools

Research analytic needs of each user community

Build analytics for each audience

License / create information delivery tools

Set up user security & visibility rules

Perform QA & performance testing

Manage on-going changes/upgrades

These steps require different types of BI and DW technology

These steps require significant resources with specialized skills / expertise

These steps typically take a long time to perfect as knowledge of best practices is learned