



Integration between SAP BusinessObjects and Netweaver

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Agenda

- Evolution of BO Business Intelligence suite
- Integration
- Integration after 4.0 release
- Possible scenarios based on the business and industry requirements



Evolution of BO Business Intelligence suite

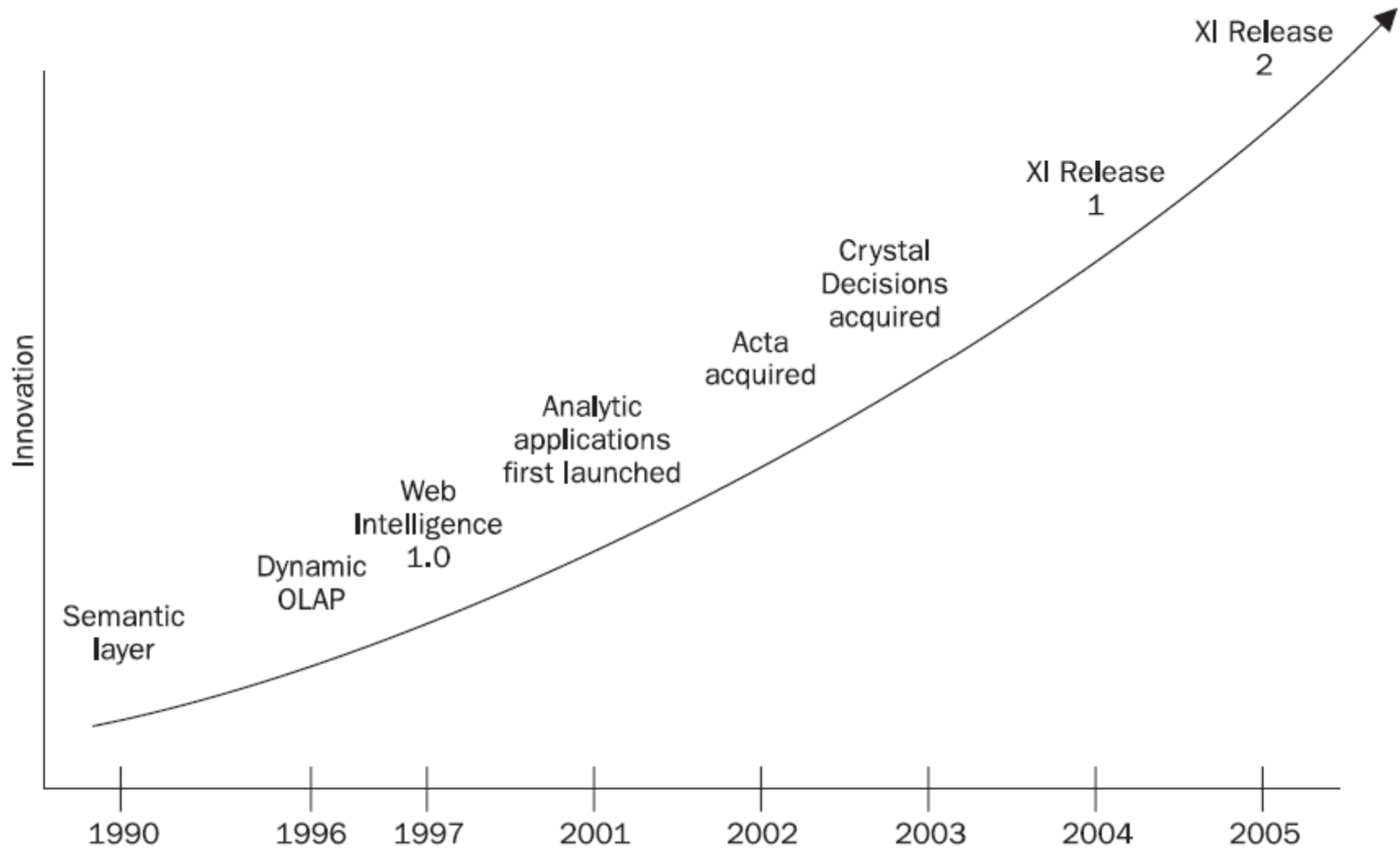
OLTPs vs DWs

ERP/Transaction System	Data Warehouse / Data Mart
Handling the orders, post Finance entries	Goal is to provide access to information to improve revenues, manage costs, improve customer service, achieve strategic goals
Current information with minimum history	Larger amounts of history allow multiyear trend analysis, this year versus last year comparisons
Real-time information	Information extracted on a periodic basis (hourly, daily, weekly, and so on)
Detailed data down to the line item or level of data entry	Aggregated data but increasingly granular
Fast inputs, but slow queries	Read-only; tuned for fast queries
Normalized tables in thousands	Denormalized star or snowflake schemas with fewer tables
Rarely hierarchical groupings	Hierarchical groups give level of time, chart of accounts, product groupings, customer groups, and so on
Fixed reports by one detailed dimension (cost center, plant, order number)	Fixed or ad hoc reporting and analysis by multiple dimensions across all business functions

Business Objects Product Line Diagram



Product innovations



The Evolution of Business Intelligence

1990s

2000s

2010s

BI Tools

Expert tools for a few

Environment: one business application
Challenge: functional limitations

BI Suite

Information democracy

Environment: multiple applications
Challenge: single version of truth

Process-Centric BI

BI as part of business processes

Environment: entire value chain
Challenge: complexity

Traditional BI

- Information dissemination defined and controlled by IT
 - Collect data
 - Integrate in corporate standard models
 - Disseminate on standardized channels
- Present an accurate and accountable picture of the past
- Understand why things happened
- Primarily for strategic use

Key Business Drivers

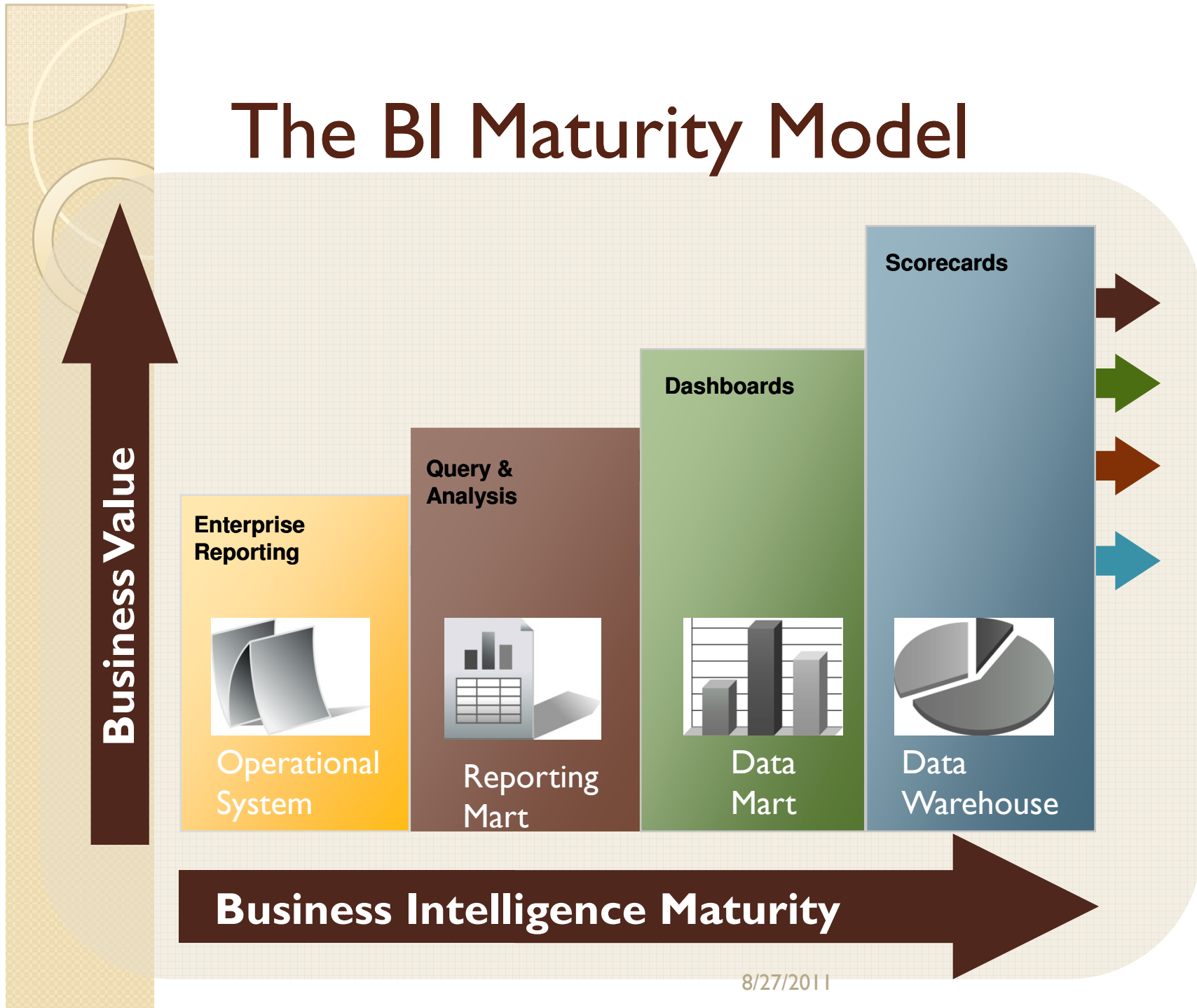
- Globalization
 - Short product cycles
 - Flat hierarchies
 - Global competition
- Innovation
 - Engine for success
 - Competitive differentiator
 - Culture of flexibility
- Efficiency
 - High number of decisions
 - Increased responsibilities
 - Compliance and transparency

Next-Gen BI

- Intelligence needs defined by business
 - Monitor business activities
 - Plan for business objectives
 - Respond to changed business models
- Plan, monitor and improve activities to reach objectives
- Integrated intelligence from strategy to execution
- Interlink business processes with BI

8/27/2011

The BI Maturity Model





BO capabilities

- Business Objects extended its capabilities into ETL on the back end and analytic applications on the front end.
- Simply attracting users from printed reports to online reports



Business Intelligence & Information Management

Business Intelligence enables customers to gain a better understanding of their business information to make business decisions.

- Enterprise Reporting
- Query and Analysis
- Dashboarding and Visualization

Information Management ensures a reliable data foundation for reporting – with one version of the truth.

- Data Integration
- Data Quality

SAP BusinessObjects Intelligence Platform

- **Reporting**

- Crystal Reports

- **Query & Analysis**

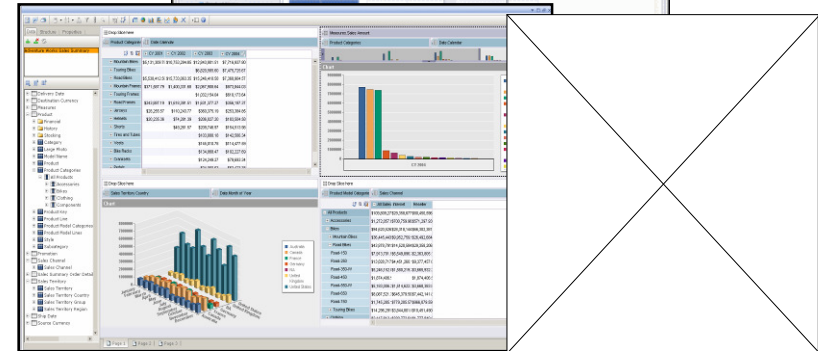
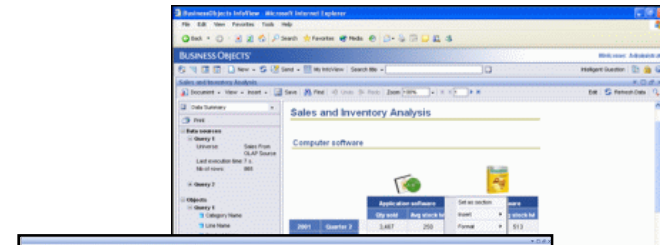
- SAP BusinessObjects Web Intelligence
- SAP BusinessObjects Voyager
- SAP BusinessObjects Explorer

- **Dashboards & Visualization**

- SAP BusinessObjects Dashboard Builder
- Xcelsius

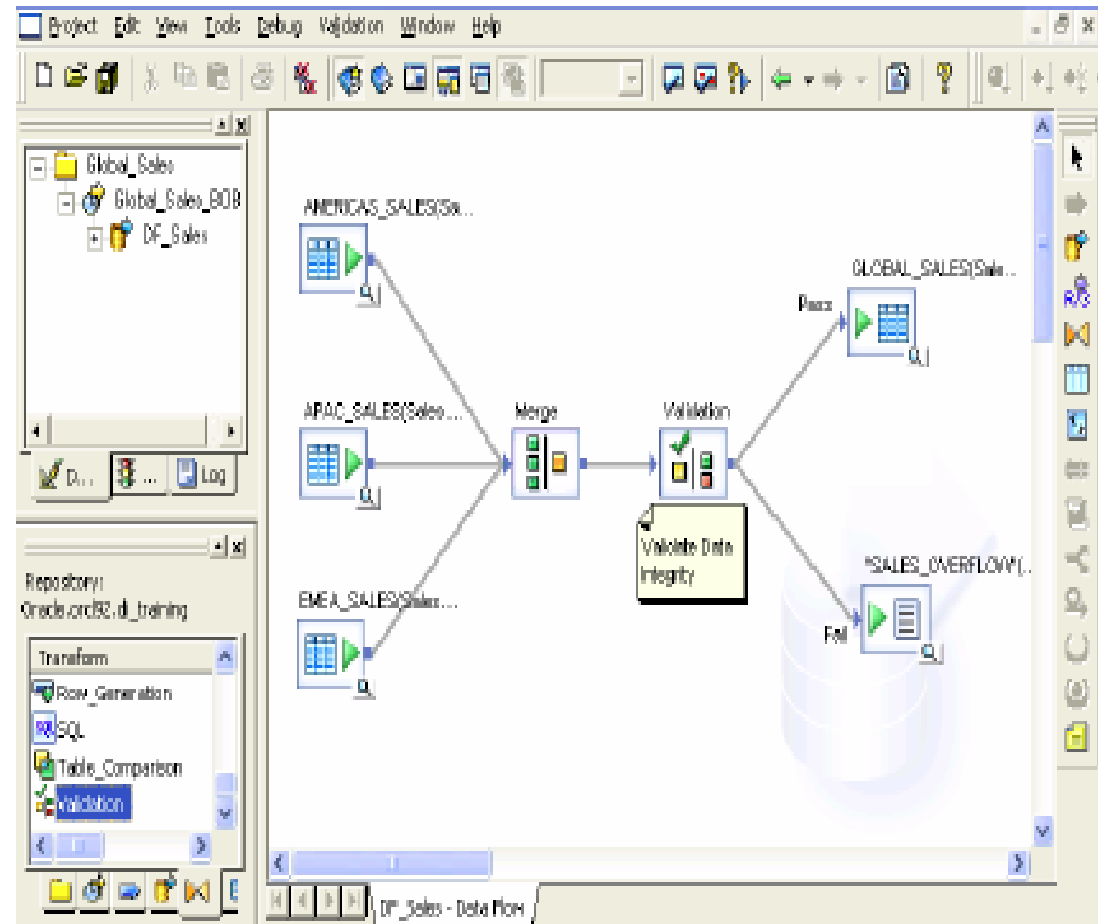
- **Business Intelligence Platform**

- SAP BusinessObjects Enterprise
- SAP BusinessObjects Designer
- SAP BusinessObjects Live Office
- SAP BusinessObjects Mobile



SAP BusinessObjects Information Management

- **Data Integration**
 - Data Integrator
 - Edge BI, version with Data Integration
- **Data Quality**
 - Data Services
 - Edge BI, version with Data Management



Data Integration and Data Quality functionality in a single intuitive interface

Products and its functionalities

Google like search capability bringing powerful BI to all users	SAP BusinessObjects Explorer
Design highly formatted Enterprise Reports	Crystal Reports
Create engaging visualizations to present data	Xcelsius (Dashboard)
Answer business questions without relying on IT	Web Intelligence / Explorer

Products and its functionalities

Integrate BI with Microsoft PowerPoint, Excel and Outlook	Live Office
Build ad-hoc reports for self-service query and analysis	Web Intelligence
Combine data from multiple data sources (ETL)	Data Integrator
Deliver reports personalized for each recipient	Publishing / Bursting (BI portal / platform)

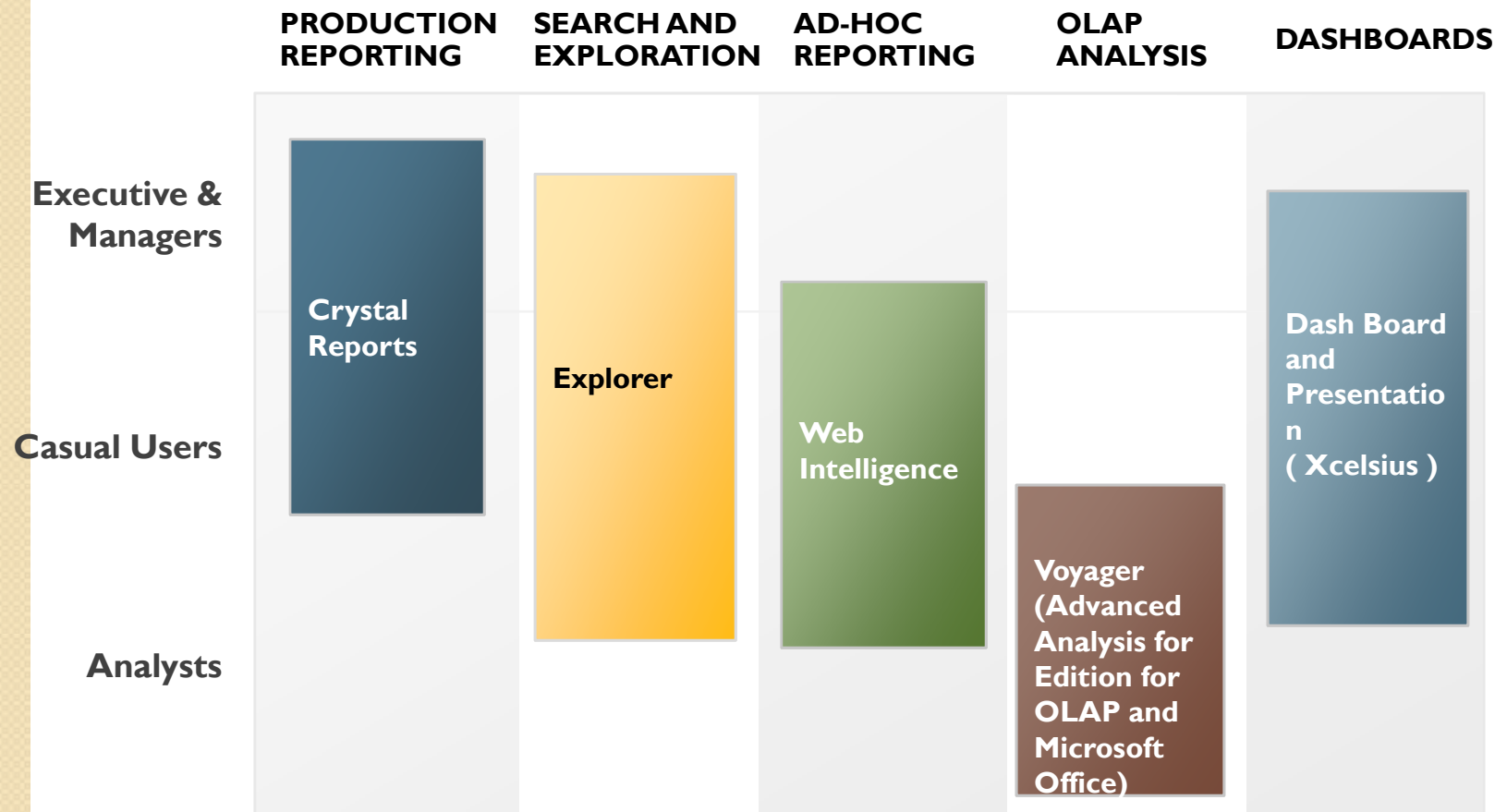
Products and its functionalities

A dashboard framework that can contain many content types	Dashboard builder
Ad-hoc reporting from an OLAP data source	Voyager (Advanced Analysis)
A single place to find and view all BI content	The BI Portal (InfoView)
Accessing BI from any device, such as a PDA	BI Mobile

Products vs Primary User Group

Product	Primary user group
Crystal Reports	IT developers to design pixel-perfect reports that may need to be bursted to multiple recipients or embedded within an application
Web Intelligence	Business authors to design shared reports or ad hoc queries and analyses
Intelligent Question	Executives who want fast answers to common business questions
Desktop Intelligence	Power users who want to design more complex reports for disconnected access
Live Office	Power users who prefer the Excel interface
Dashboard Manager	Executives and managers who want an overview of key metrics
InfoView only	Information consumers who want to view and refresh standard reports but who don't need to build their own. Reports can include those built in Crystal Reports, Web Intelligence, DesktopIntelligence
Performance Manager	Managers who wish to set and manage goals and understand cause and effect of performance indicators

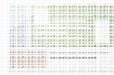
Information access based on Roles



BI and EIM Solutions

**ALL
People**

Multi Client Consumption



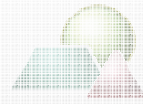
Enterprise Portals



Embedded in Enterprise Apps



MS Office



On Demand Services



Browsers



Mobile

ONE Platform

Common Management

Admin Console

Security

Storage

Scheduling & Publishing

Systems Management

Repository

Business Intelligence

Data Exploration

Advanced Analysis

Interactive Analysis

Dashboards and Visualization

Reporting

Predictive Analytics

Enterprise Information Management

Common Semantic Layer

Metadata Management

Data Integration & Federation

Data Quality

Master Data Management

Text Analysis

Embeddable Engines
and
Software Development Kits

Intelligence Platform

**ALL
Information**

Data Sources



ERP, CRM, SCM...
(SAP & Non-SAP)



OLAP Servers, Data
Warehouses & Marts



Other
ODBC, XML



Documents,
Email...



RSS

Old vs New names

Former Name	New Name
Enterprise	Business Intelligence platform
Xcelsius Enterprise > Xcelsius Enterprise Interactive Viewing	Dashboards> SAP BusinessObjects Dashboards Interactive Viewing
Xcelsius Enterprise	Dashboards
Advanced Analysis, Web Edition	Analysis, edition for OLAP
Advanced Analysis, Office Edition	Analysis, edition for Microsoft Office
Web Intelligence	Web Intelligence (Installer name and documentation refers to "Interactive Analysis")
Crystal Reports	SAP® Crystal Reports
Former Feature Name	New Feature Name
InfoView	BI launch pad
BI Widgets	Widgets
Universe Designer	Universe design tool



Integration

Customer Challenges

- **Business Intelligence complexity**

- End user adoption
- Too many tools
- Steep learning curves

- **Flexibility to respond to change**

- Long IT development cycles
- Short business timelines
- Data models become out of sync with business

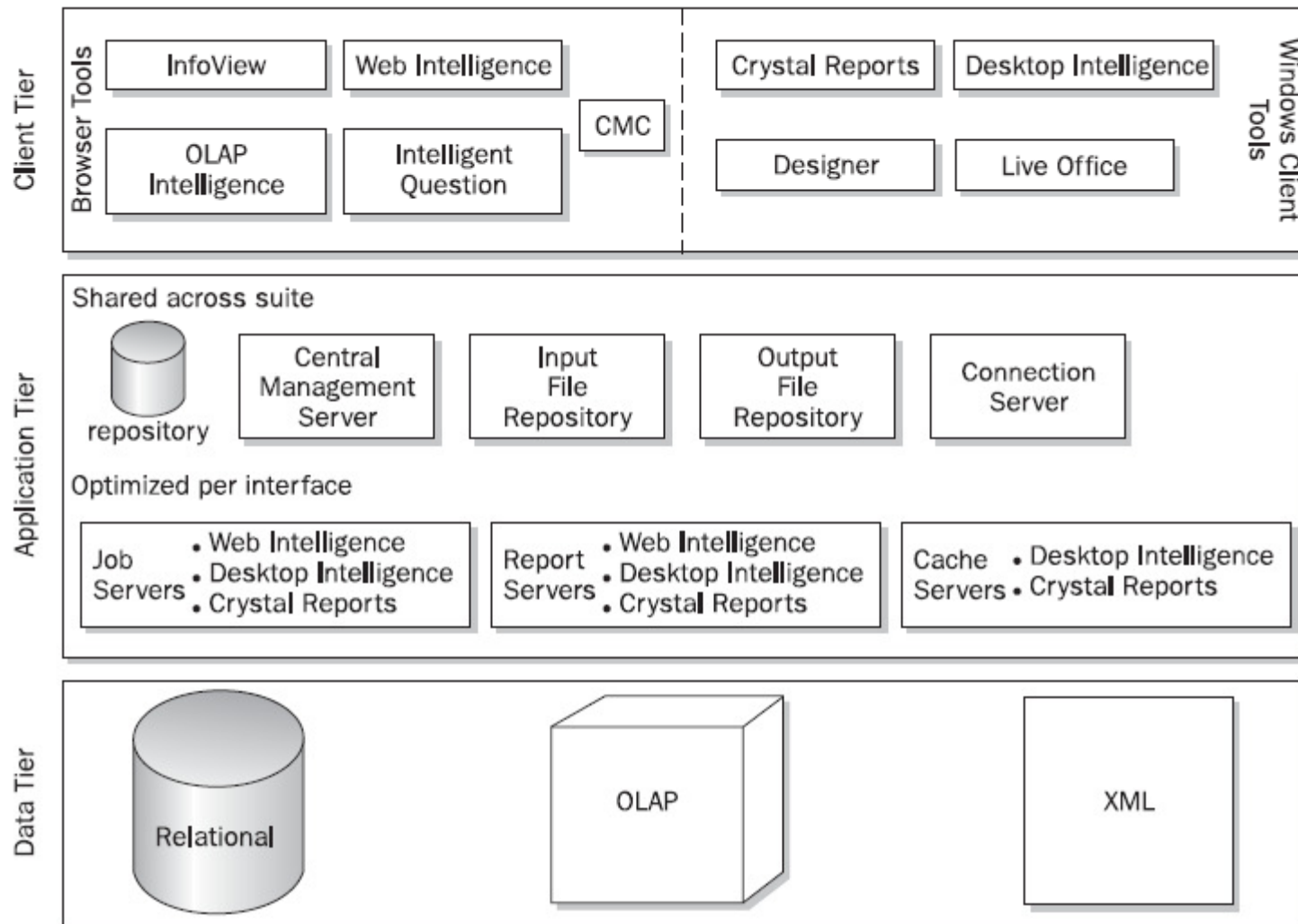
- **Information fragmentation**

- Disparate application silos and heterogeneous sources
- Integrating information requires expert knowledge
- Disconnect between analytic and operational applications

Multiple Tier Architecture

Client Tier	Browser and windows client tools
Application Tier	InfoView application is installed on the Web Application Server
Intelligence Tier	where the CMS, FRS, Event and cache processes are run
Processing Tier	The processes that refresh the reports against the data sources
Data Tier	The data sources used for reporting

Key components in architecture



SAP Integration Kit components

SAP Connectivity

This set of components provides database and communication drivers (called “transports”) that are designed specifically for reporting off SAP data. The following transports are included:



- Open SQL Connectivity transport
- InfoSet Connectivity transport
- Cluster Definition transport

Security definition at R3 level

SAP Authentication

Components for SAP authentication enable BusinessObjects Enterprise to authenticate users against the SAP systems. This is essential for accessing username / password protected data on the server.

- Authentication Helper transport
- Row-level Security Definition transport





BW connectivity

These components would provide support for the following in a BW environment:

- BW Publisher - to publish reports from SAP BW to BusinessObjects Enterprise.
- Web Content - includes SAP specific customizations to BusinessObjects Enterprise InfoView.
- BW Content Administration Workbench - to administer report publishing from within SAP BW.
- SAP Enterprise Portal - Knowledge Management and iView template



Preparation

Technical Prerequisites

Before installing the SAP IS Kit on your Windows Server several components and settings should be verified, including:

- SAP GUI
- SAP Java Connector
- SAP Server Patch Level
- SAP Transports
- SAP Single Sign On

The Java connector

The SAP Java Connector capability is required for the SAP authentication and for the SAP specific features in InfoView.

The “Java Connector” functionality is comprised of THREE files

- sapjco3.jar
 - sapjcorfc3.dll
- and
- librfc32.dll

The first two files are proprietary Java files that are NOT included in the kit, but can be downloaded for free from SAP’s service marketplace at:

<http://service.sap.com/connectors>

The third file, librfc32.dll, is an integral component of the Java Connector capability, but this file is automatically installed when you install the SAP GUI.

Location of connector files

The Java Connector files

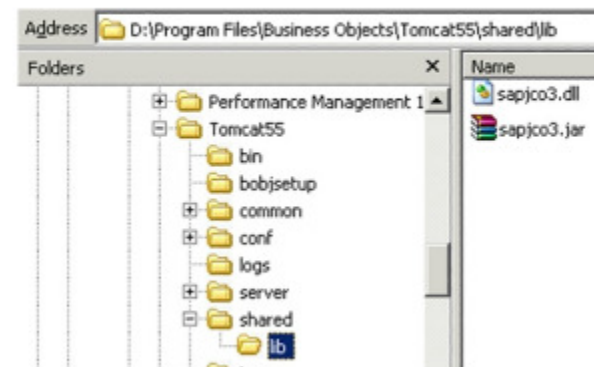
- **sapjco3.jar**
needs to be copied to the shared library path of the application server. In the case of a default Tomcat deployment the path would be:

C:\Program Files\Business Objects\Tomcat55\shared\lib\

- **sapjcorfc3.dll**
needs to be copied to the same folder or to the Windows system32 directory. Typically:

C:\Windows\system32\

- **librfc32.dll** completes the “Java Connector” capability and is installed by the SAP GUI into the C:\Windows\System32\ folder.



SAP instance patch level

Verify that the "Release" and "Level" values meet the installation kit release notes document's specified minimum "Version" and "Patch Level"

SAP System data

Component version	SAP ECC 6.0
Installation number	SAP-INTERN
License expiration	05.07.2009
Unicode System	Yes

Component information

System: Component information

Software Compon...	Release	Level	Highest Support...	Short Description of Software Compon
SAP_ABA	700	0015	SAPKA70015	Cross-Application Component
SAP_BASIS	700	0015	SAPKB70015	SAP Basis Component
ST-PI	2005_1_700	0005	SAPKITLQ15	SAP Solution Tools Plug-In
PI_BASIS	2005_1_700	0015	SAPKIPYJ7F	PI_BASIS 2005_1_700
SAP_BW	700	0017	SAPKW70017	SAP NetWeaver BI 7.0
SAP_AP	700	0012	SAPKNA7012	SAP Application Platform
SAP_APPL	603	0002	SAPKH60302	Logistics and Accounting
SAP_HR	600	0029	SAPKE60029	Human Resources

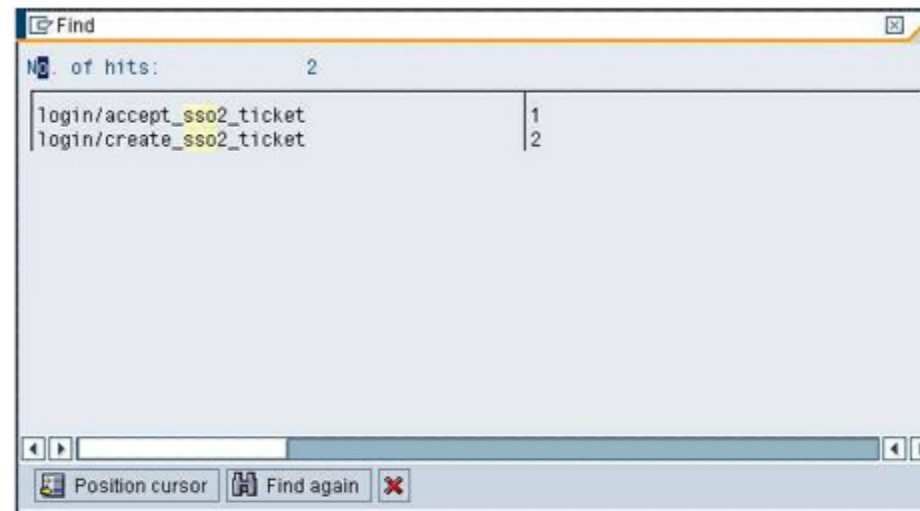


Transports in Integration kit summary

The SAP Integrated Solutions Kit includes transports as part of the product. These transports include functionality especially designed for the integration with SAP.

- Open SQL Connectivity transport
 - InfoSet Connectivity transport
 - Row-level Security Definition transport
 - Cluster Definition transport
 - Authentication Helper transport
-
- BW MDX Driver connectivity.
 - BW ODS connectivity..
 - Content Administration Workbench.
 - BW Query parameter personalization.

Verify the SSO enablement



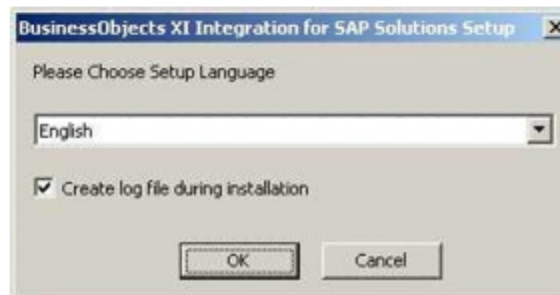
Parameter	Value	Meaning
accept_sso2_ticket	1	yes, system will accept logon ticket
create_sso2_ticket	1 or 2	1 = server has public key 2 = self-signed certificate

Install the Integration kit

The SAP IS Kit contains a “**setup.exe**” file. Execute that file and the following screen sequences will be presented:

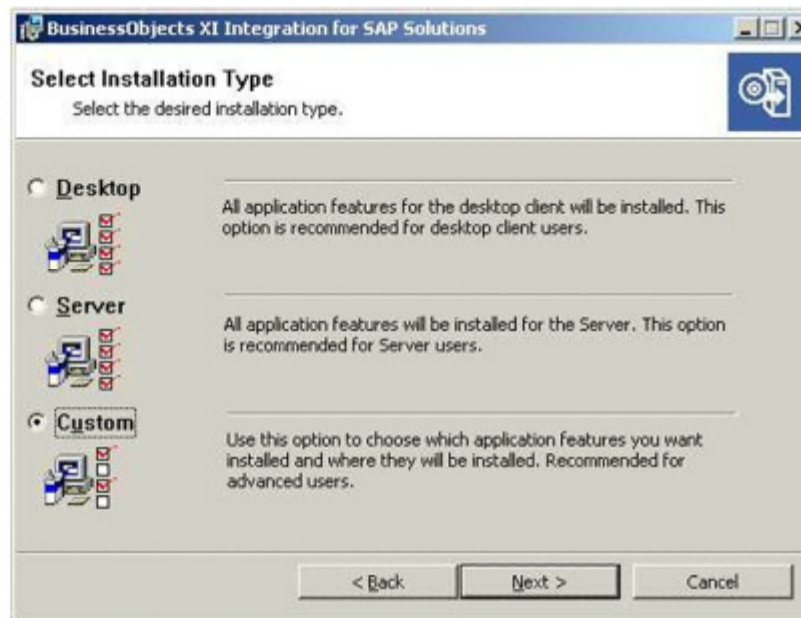
Select the language to use while performing the install...

■ #1 →

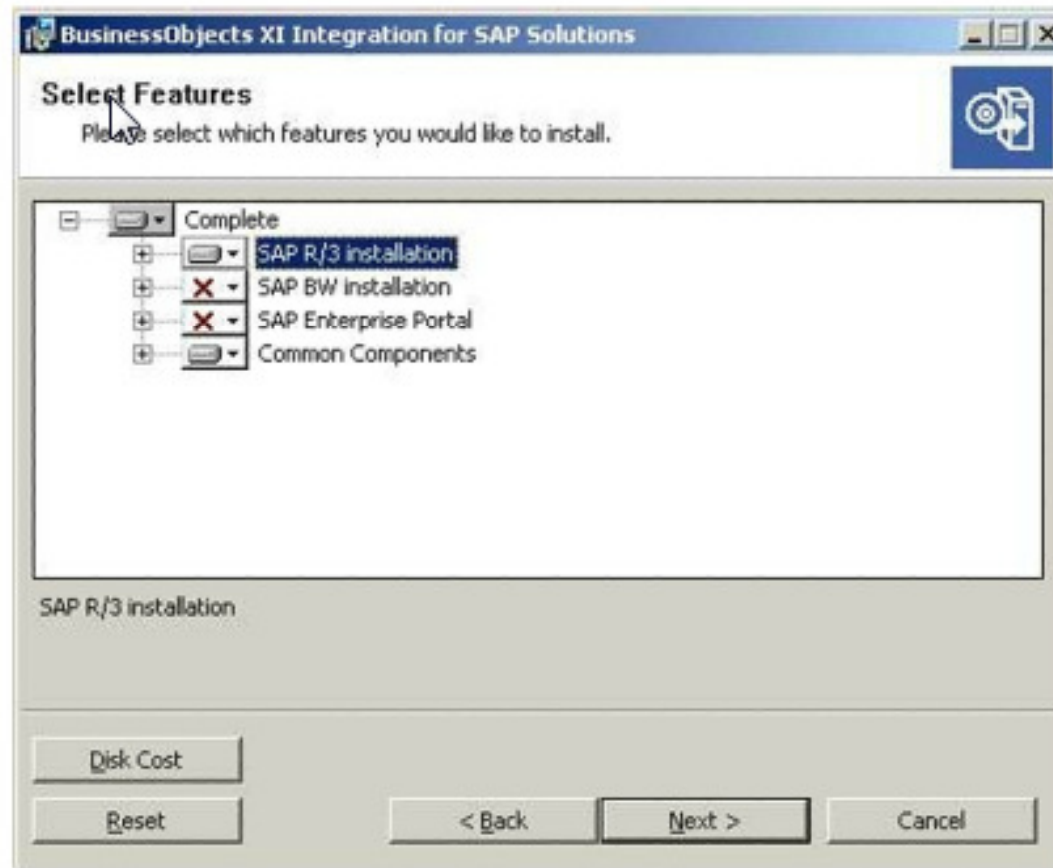


Select the installation type

For “Installation Type” the most versatile is the “Custom” option...



Select the integration components



Remember to read latest notes



Installation Summary

- SAP Integrated Solutions Kit components
 - SAP Connectivity and Authentication
- SAP Integrated Solutions Kit prerequisites
 - GUI, Connectors, Patch-Levels, Transports and SSO
- SAP Integrated Solutions Kit installation
 - Setup, License, Languages, CMS Server and Web-Application Server

Platform Roadmap

BOBJ ENTERPRISE XI 3.1

Official Name	SAP BusinessObjects Enterprise XI 3.1
Release Type	Standard
Upgrade from BOBJ ENTERPRISE XI 3.1 to	SBOP BI PLATFORM 4.0
Download	http://service.sap.com/swdc

General Data Database Systems Operating Systems

SBOP BI PLATFORM 4.0

Print...  Help

Official Name	SAP BusinessObjects Business Intelligence platform 4.0
Release Type	Standard
Upgrade to SBOP BI PLATFORM 4.0 from	BOBJ ENTERPRISE XI 3.0; BOBJ ENTERPRISE XI 3.1; BOBJ ENTERPRISE XI R2; BOBJ MOBILE XI 3.1
Download	http://service.sap.com/swdc

Availability	Delivery Date	Status	Date	More Information ...
	Release to Customer	Available	26.11.2010	

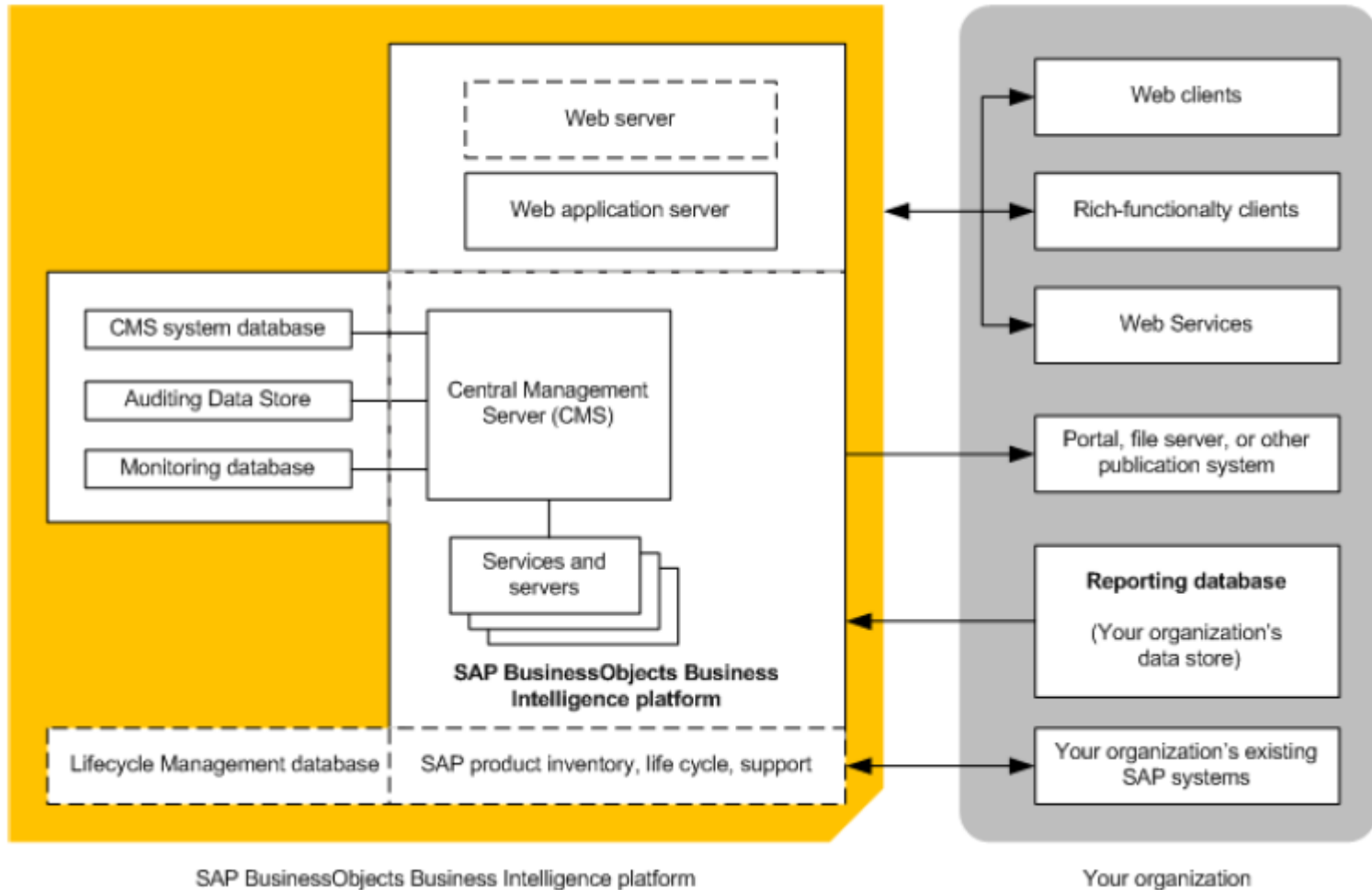
End of Maintenance	Maintenance Type	Date	More Information ...
	End of mainstream maintenance	30.06.2013	More Information ...

Quick Links	Product Homepage
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Integration after 4.0 release

BO 4.0 Platform Architecture





Setting SAP Authentication options

SAP authentication enables SAP users to log onto BI platform using their SAP user names and passwords, without storing these passwords in BI platform.

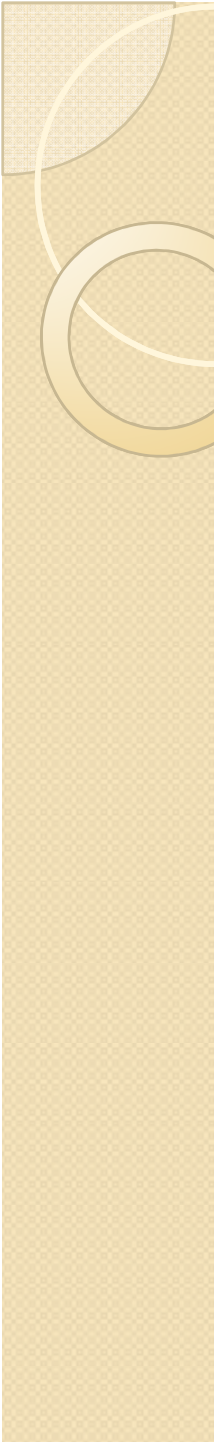
SAP authentication also allows you to preserve information about user roles in SAP, and to use this role information within the platform to assign rights to perform administrative tasks, or access content.



Connecting to SAP entitlement systems

Before importing roles or publish BW content to the BI platform, entries to be made about the SAP entitlement systems to be integrated.

BI platform uses this information to connect to the target SAP system when it determines role memberships and authenticates SAP users.



Integrating with SAP NetWeaver Business Warehouse (BW)

Administer can publish report from SAP NetWeaver Business Warehouse to BI platform after integrating with BI platform

- Set up folders and security in BI platform
- Default folder security patterns
- Configure the BW Publisher



Integration in to Solution Manager

- Solution Landscape Directory
- Solution Manager Diagnostics
- Introscope by CA Wily
- SAP Passport

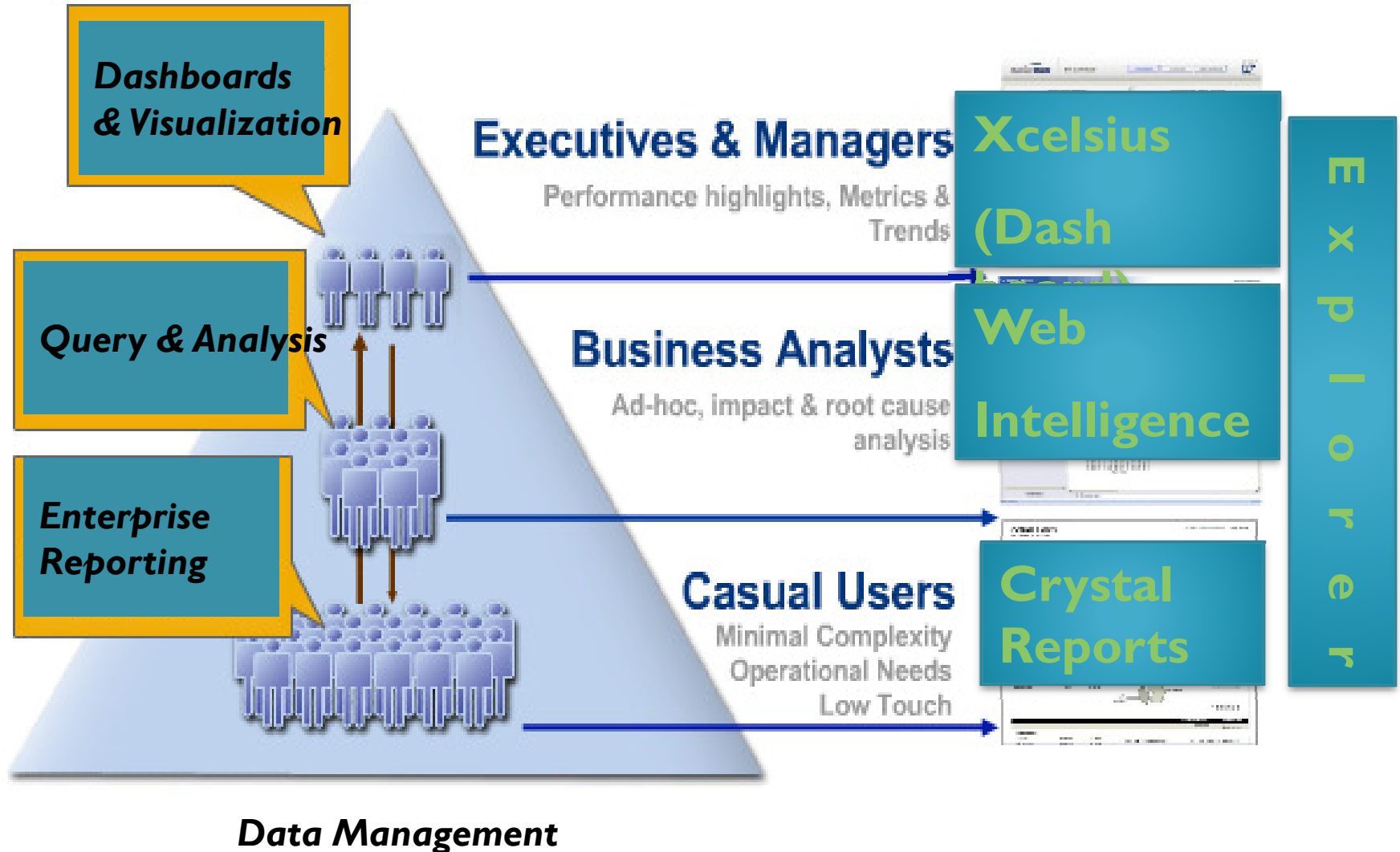
Solution Manager Integration Check list

SAP Solution Manager Support	Required for BI platform
SLD registration	<ul style="list-style-type: none"> - SAPHOSTAGENT must be installed to enable registration of BI platform servers. Note: BI platform installer will automatically register servers if SAPHOSTAGENT is already installed. - Must create a connect.key file for the data supplier reporting on the back-end servers. - (Optional) For SLD registration with WebSphere 6.1 or 7, the SLDREG registration tool must be installed on each WebSphere web application server. For more information, refer to SAP Note 1482727. - (Optional) For SLD registration with SAP NetWeaver 7.2, install SLDREG on every NetWeaver host. Refer to SAP Note 1018839 for more information.
SMD integration	<ul style="list-style-type: none"> - Must download and install SMD Agent (DIAGNOSTICS.AGENT) on all hosts of BI platform servers. - SMAdmin user account must be enabled in BI platform.
Performance instrumentation	<ul style="list-style-type: none"> - Introscope Agent must be configured to connect to Enterprise Manager. Use the BI platform installer or CMC node placeholders to configure the connections. - SMD Agent must be installed. - BI platform must be configured to connect to the SMD Agent. Use the BI platform installer or CMC node placeholders to configure the connections.
SAP Passport	<ul style="list-style-type: none"> - You need to download and install SAP Passport client tool.



Possible Scenarios

SAP BusinessObjects Information Pyramid



SAP BusinessObjects™ Edge Solutions

BOBJ Partner Offerings for the Mid Market

IT / All Lines of Business

SAP BusinessObjects™ Edge Business Intelligence with Data Management *adds:*

- Data Quality/Validation
- Global Address Cleanse*

SAP BusinessObjects™ Edge Business Intelligence with Data Integration *adds:*

- Graphical ETL
- Impact Analysis
- Data Lineage

SAP BusinessObjects™ Edge Business Intelligence Standard *includes:*

- Enterprise Reporting
- Ad-hoc Query and Analysis
- Dashboards and Visualization
- Office Integration
- Scheduling and Publishing
- Auditing
- Mobile
- Widgets
- Explorer (Polestar)

Finance / Plan Owners

SAP BusinessObjects™ Edge Planning and Consolidation (BPC)

- Financial and Operational Planning
- Budgeting
- Forecasting and Modeling
- Financial Consolidation
- Statutory Reporting

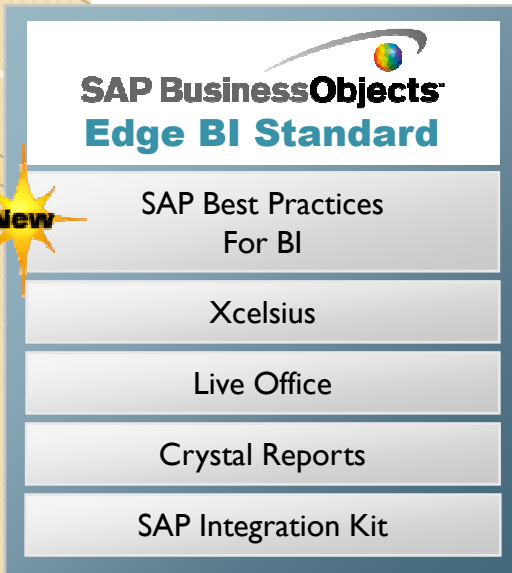
Executives/ Operational Managers

SAP BusinessObjects™ Edge Strategy Management (SSM)

- Strategy Maps
- Scorecards
- Metrics Management
- Objectives and Initiatives Tracking

* Requires subscription to postal address data (sold separately)

For SAP Business-All-in-One Customers



Business Needs

- Increased visibility and insight
- Increased alignment and accountability
- Lower cost of ownership

Technical Features

- Preconfigured ERP and BI integration
- Best practices and processes
- Rich BI functionality

Business Benefits

- Increase sales effectiveness
- Gain greater financial control
- Better manage operational processes

For SAP Business-All-in-One Customers



SAP BusinessObjects
Edge BI Standard

New

SAP Best Practices
For BI

Xcelsius

Live Office

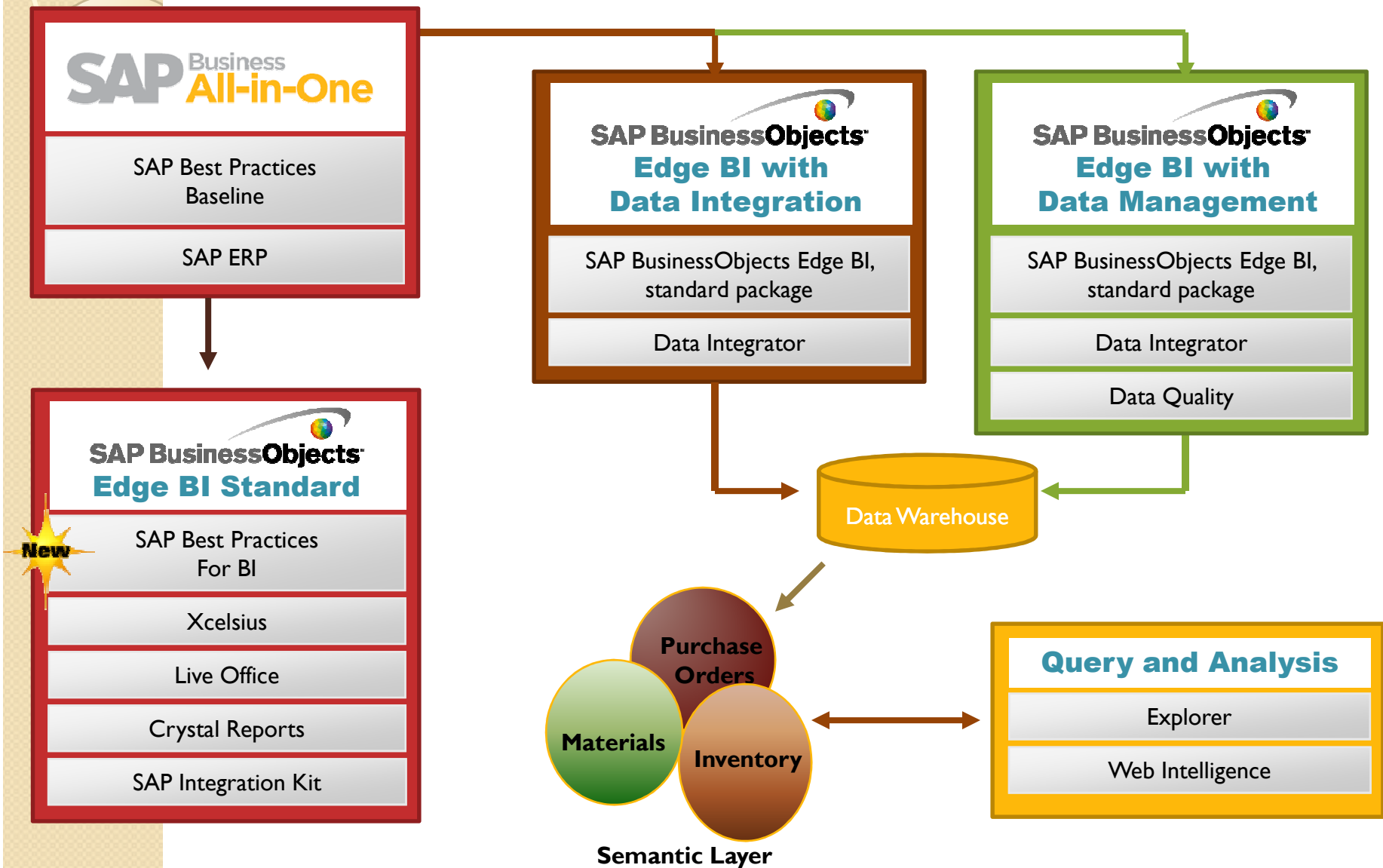
Crystal Reports

SAP Integration Kit

The Standard Package can take care the following

- Report directly off of
SAP R/3 or SAP NetWeaver BW
- No requirement to extract data out of R/3
- Needs to get up and running quickly
- Does not need to combine heterogeneous
data sources

For SAP Business-All-in-One Customers



For SAP Business-All-in-One Customers



SAP BusinessObjects Edge BI with Data Management

SAP BusinessObjects Edge BI,
standard package

Data Integrator

Data Quality

Query and Analysis

Explorer

Web Intelligence

Voyager

The version with Data Management takes care

- Combine SAP and non SAP data
- To handle data quality issues
- An alternative to SAP NetWeaver BW is required
- Requirement of query and analysis tools

Rapid Marts

Rapid Marts gives a jumpstart on BI deployment

- Customizable ETL jobs to build a data warehouse
- Sample universes and
- Sample Web Intelligence reports

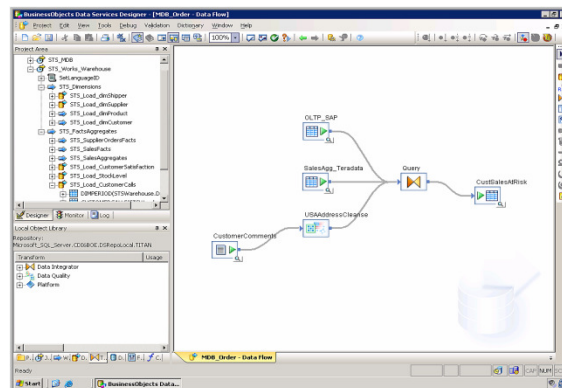
Source

SAP
Oracle etc



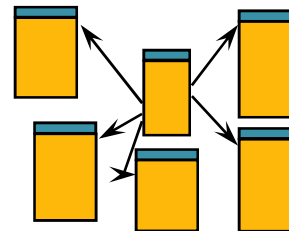
Extraction Routines
And ETL

Data Movement
Jobs



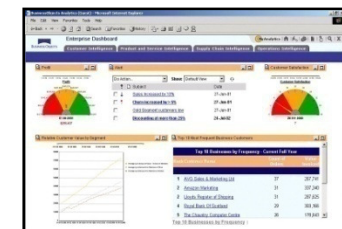
Data Marts

Data
Model



Semantic
Layer

UNIVERSES
and REPORTS



Large enterprise

Crystal Reports

Dash Boards

Data Federation

Web Intelligence

Integration kits

Explorer

Voyager

BI Platform

BI Portal (InfoView)

Live-Cycle Management

Scheduling and Publishing

Central Management Console

Live Office

Universe Designer

Dashboard Builder

Query as a Web service

Encyclopedia

Software Development Kits (SDK)

Metadata Management

Dash Board solutions selection guide

	SAP BusinessObjects Business Intelligence platform	SAP Data Sources	SAP BusinessObjects Edge	SAP Crystal Reports Server	Standalone
SAP BusinessObjects Dashboards	X	X	X		X
SAP BusinessObjects Dashboards Interactive Viewing	X	X	Included with CAL and NUL licenses		X
SAP Crystal Dashboard Design, Departmental Edition				X	X
SAP Crystal Dashboard Viewing option				Included with NUL licenses	X
SAP Crystal Dashboard Design, Personal Edition					X
SAP Crystal Presentation Design					X



Acknowledgements

- <https://service.sap.com/bosapsupport>
- <http://service.sap.com/solutionmanagerbp>
- **BusinessObjects® XI: The Complete Reference by Cindi Howson**