An Introduction to SAP BusinessObjects BI 4.x for SAP BW and SAP ERP

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Agenda

SAP BusinessObjects BI 4.x Portfolio
SAP BusinessObjects BI 4.x & SAP ERP
SAP BusinessObjects BI 4.x & SAP NetWeaver BW
SAP BusinessObjects Business Intelligence
One unified and complete BI Suite addressing the full spectrum of BI

Discover and analysis

**Discover. Predict. Create.**
- Discover areas to optimize your business
- Adapt data to business needs
- Tell your story with beautiful visualizations

Dashboards and apps

**Build engaging experiences**
- Deliver engaging information to users where they need it
- Track key performance indicators and summary data
- Build custom experiences so users get what they need quickly

Reporting

**Share information**
- Securely distribute information across your organization
- Give users the ability to ask and answer their own questions
- Build printable reports for operational efficiency
Discovery and analysis

Agility for business analysts and business users
- Discover trends, outliers, and areas of interest in your business
- Adapt to business scenarios by combining, manipulating, and enriching data
- Tell your story with self-service visualizations and analytics
- Forecast and predict future outcomes

Portfolio
- Lumira
- Explorer
- Analysis
- Predictive Analysis
SAP Lumira
to unleash business analyst creativity

Provides the freedom to understand your data, personalize it, and create beautiful content

Overview

• Download and install on your desktop in less than 5 minutes
• Insight from many data sources
• Combine, manipulate and enrich data to apply it to your business scenarios
• Self-service visualizations and analytics to tell your story
• Optimized for SAP HANA for real-time on detailed data
SAP BusinessObjects Explorer
for business users to quickly access information on their own

Provide business users with a simple experience to independently ask and answer business questions on the fly

Overview

- Quickly and easily explore your data using search
- Easily visualize your data
- Geographic and Time awareness
- Build simple, interactive views (Exploration views)
- Mobile ready
SAP BusinessObjects Analysis
for OLAP analysis

Provide Business Analysts with the ability to analyze OLAP data in both Excel and over the Web

Overview

- Recommended for OLAP analysis scenarios (multi-dimensional analysis)
- Quickly leverage your existing SAP investments with support for BW and HANA
- High productivity for analysts through both Web and Excel based interfaces
- Premium alternative for BEx customers
Predictive Analysis
to gain an extremely deep understanding of your business

Provide Business Analysts with sophisticated algorithms to take the next step in understanding their business and modeling outcomes.

Overview

- Perform statistical analysis on your data to understand trends and detect outliers in your business
- Build models and apply to scenarios to forecast potential future outcomes
- Breadth of connectivity to access almost any data
- Optimized for SAP HANA to support huge data volumes and in-memory processing
Dashboards and apps
Build engaging experiences

Build engaging, visual dashboards

- Powerful environment to build interactive and visually appealing analytics
- Rich set of controls: buttons, list boxes, dropdowns, crosstabs, charts, …
- Use custom code to extend and build workflows

Portfolio

- Design Studio
- Dashboards (a.k.a., Xcelsius®)
Design Studio
for building analytic applications on BW and HANA

Provides a development environment that contains a broad library of controls and visualizations to build analytic applications on BW and HANA

Overview

- Modern development environment and HTML5 runtime
- Native BW and HANA support
- Growing library of controls
- Recommended for BW customers (especially those with BEx WAD investments)
SAP BusinessObjects Dashboards
for building custom dashboards on any data

Provides a rich set of visualizations and controls to build highly interactive dashboards on third-party data sources

Overview

• Build rich, interactive dashboards and visualizations
• Broad visualization library to support KPIs and executive dashboards
• Leverage enterprise BI infrastructure with support for the semantic layer
• Recommended for use on 3rd party data sources
Reporting
Share information

High productivity design for report designers

- Quickly build formatted reports on any data source
- Securely distribute reports both internally and externally
- Minimize IT support costs by empowering end users to easily create and modify their own reports
- Enhance custom applications with embedded reports

Portfolio

- Web Intelligence
- Crystal Reports
SAP BusinessObjects Web Intelligence
for self-service query and reporting

Quickly build ad-hoc queries and reports without a knowledge of SQL or the underlying data structure

Overview

- Market-leading self service reporting solution for rapid report creation
- Support for multi-source semantic layer to bring together different sources of information – without having to know the DB structure or SQL
- Content accessible from anywhere: Mobile, Web, Desktop
SAP Crystal Reports
for formatted reports

Overview

- Access nearly any data source directly
- Build reports that look exactly the way you want through pixel-perfect positioning, layout and templates
- Powerful API to embed reports into applications
- Optimized for high-volume reporting and publishing
SAP BusinessObjects BI 4.x & SAP ERP
SAP BusinessObjects BI 4.0 & SAP ERP
Authored Access (Universe)
SAP BusinessObjects BI 4.0 & SAP ERP
Direct Access

Reporting
- Crystal Reports
- Web Intelligence

Discovery and Analysis
- Explorer
- Analysis
- Lumira

Dashboards and Apps
- Design Studio
- Dashboards

Authored Access
- XI 3.1 OLAP Universe (UNV)
- BI 4.x Relational Universe (UNX)

Direct Access
- BI Consumer Services (BICS)

SAP ERP
- Classic InfoSets
- SAP Queries
- ABAP Functions
- Table and Cluster

BI Client
- Bex Query
- Transient Provider

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**SAP BusinessObjects BI 4.x & SAP ERP**

**Data Connectivity and Meta-Data Support**

**Semantic Layer Access to SAP ERP**
- Classic InfoSets
- ABAP Functions
- ABAP Query

**Direct Access to SAP ERP**

**Crystal Reports 2011**
- InfoSets, ABAP Functions, Tables, and ABAP Queries

**Transient Provider**
- Leverage the local BI Client from your ERP System
- Allows to leverage classic InfoSets as data source
- Allows to leverage a BEx Query with direct access to ERP data using the BICS interface
Semantic Layer Data Foundation

- ABAP Functions are grouped by Function Group
- Each Table and Export is shown as separate table in the Data Foundation
- Input parameters from the ABAP Function are mapped to Input Columns

InfoSets are grouped first by Global / Local area

- Entry INFOSET is listing all InfoSets
- All other entries represent User Groups listing the InfoSet queries
- Selections from the InfoSet which are not included in the InfoSet fields will result in Input Columns
# SAP BusinessObjects BI 4.x & SAP ERP

Data Connectivity and Meta-Data Support

## InfoSet in SAP ERP

<table>
<thead>
<tr>
<th>Field Group/data fields</th>
<th>Technical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Flight schedule</td>
<td></td>
</tr>
<tr>
<td>- Airline Code</td>
<td>SPFLI-CARRID</td>
</tr>
<tr>
<td>- Flight Connection Number</td>
<td>SPFLI-CONNID</td>
</tr>
<tr>
<td>- Country Key</td>
<td>SPFLI-COUNTRYYFR</td>
</tr>
<tr>
<td>- Departure city</td>
<td>SPFLI-CITYFROM</td>
</tr>
<tr>
<td>- Departure airport</td>
<td>SPFLI-AIRPPFROM</td>
</tr>
<tr>
<td>- Country Key</td>
<td>SPFLI-COUNTRYYTO</td>
</tr>
<tr>
<td>- Arrival city</td>
<td>SPFLI-CITYTO</td>
</tr>
<tr>
<td>- Destination airport</td>
<td>SPFLI-APPTO</td>
</tr>
<tr>
<td>- Flight time</td>
<td>SPFLI-FLTIME</td>
</tr>
<tr>
<td>- Departure time</td>
<td>SPFLI-DEPTIME</td>
</tr>
<tr>
<td>- Arrival time</td>
<td>SPFLI-ARRTIME</td>
</tr>
<tr>
<td>- Distance</td>
<td>SPFLI-DISTANCE</td>
</tr>
<tr>
<td>- Flight type</td>
<td>SPFLI-FLTYPE</td>
</tr>
<tr>
<td>- Arrival in day(s) later</td>
<td>SPFLI-PERIOD</td>
</tr>
<tr>
<td>02 Flight Demo Table</td>
<td></td>
</tr>
<tr>
<td>- Flight date</td>
<td>SFLIGHT-FDATE</td>
</tr>
<tr>
<td>- Airfare</td>
<td>SFLIGHT-PRICE</td>
</tr>
<tr>
<td>- Aircraft Type</td>
<td>SFLIGHT-PLANETYPE</td>
</tr>
<tr>
<td>- Maximum capacity in economy class</td>
<td>SFLIGHT-SEATSMAX</td>
</tr>
<tr>
<td>- Occupied seats in economy class</td>
<td>SFLIGHT-SEATSOCC</td>
</tr>
<tr>
<td>- Total of current bookings</td>
<td>SFLIGHT-PAYMENTSUM</td>
</tr>
<tr>
<td>- Maximum capacity in business class</td>
<td>SFLIGHT-SEATSMAX_B</td>
</tr>
<tr>
<td>- Occupied seats in business class</td>
<td>SFLIGHT-SEATSOCC_B</td>
</tr>
<tr>
<td>- Maximum capacity in first class</td>
<td>SFLIGHT-SEATSMAX_F</td>
</tr>
<tr>
<td>- Occupied seats in first class</td>
<td>SFLIGHT-SEATSOCC_F</td>
</tr>
<tr>
<td>03 Flight booking</td>
<td></td>
</tr>
<tr>
<td>- Booking number</td>
<td>SBOOK-BOOKID</td>
</tr>
<tr>
<td>- Customer Number</td>
<td>SBOOK-CUSTOMID</td>
</tr>
<tr>
<td>- Customer type</td>
<td>SBOOK-CUSTTYPE</td>
</tr>
<tr>
<td>- Smoker</td>
<td>SBOOK-SMOKER</td>
</tr>
<tr>
<td>- Weight of Luggage</td>
<td>SBOOK-LUGGWEIGHT</td>
</tr>
<tr>
<td>- Invoice flag</td>
<td>SBOOK-INVOICE</td>
</tr>
<tr>
<td>- Flight Class</td>
<td>SBOOK-CLASS</td>
</tr>
</tbody>
</table>

## InfoSet in Universe

```
/"SAPQUERY/DEMO_FLBOOKING"
```
- "SFLIGHT-FLDATE"
- "SFLIGHT-PRICE"
- "TEXT_SFLIGHT-PLANETYPE"
- "SFLIGHT-SEATSMAX"
- "SFLIGHT-SEATSOCC"
- "TEXT_SFLIGHT-SEATSMAX_B"
- "SFLIGHT-SEATSOCC_B"
- "TEXT_SFLIGHT-SEATSMAX_F"
- "SFLIGHT-SEATSOCC_F"
ABAP Function in SAP ERP

Classification
Function Group: SAPBC_BAPI_SFLIGHT
Short Text: Find list of flights

ABAP Function in Universe

- BAPI_FLIGHT_CHECKAVAILABILITY
- BAPI_FLIGHT_CHECKAVAILABILITY.-EXPORT_CH_RETURN
- BAPI_FLIGHT_GETDETAIL
- BAPI_FLIGHT_GETDETAIL.-EXPORT_CH_EXTENSION_IN
- BAPI_FLIGHT_GETDETAIL.-EXPORT_CH_EXTENSION_OUT
- BAPI_FLIGHT_GETLIST
- BAPI_FLIGHT_GETLIST.-EXPORT_CH_DATE_RANGE
- BAPI_FLIGHT_GETLIST.-EXPORT_CH_EXTENSION_IN
- BAPI_FLIGHT_GETLIST.-EXPORT_CH_EXTENSION_OUT
- BAPI_FLIGHT_GETLIST.-EXPORT_CH_FLIGHT_LIST
- BAPI_FLIGHT_GETLIST.-EXPORT_CH_RETURN
- BAPI_FLIGHT_SAVEREPLICA
- BAPI_FLIGHT_SAVEREPLICA.-EXPORT_CH_EXTENSION_IN
- BAPI_FLIGHT_SAVEREPLICA.-EXPORT_CH_RETURN

Parameter Name: DATE_RANGE, EXTENSION_IN, FLIGHT_LIST, EXTENSION_OUT, RETURN
Type: LIKE
Associated Type: BAPIFLIGHTRA, BAPIFLIGHTX, BAPIFLIGHTDAT, BAPIFLIGHTX, BAPIFLIGHTX
Optional: ✔
Short Text: Selection range for flight date, Import customer enhancements, List of flights, Export customer enhancements, Return Messages
Long Text: ✔...
Crystal Reports & ABAP List Viewer (ALV)

- This integration becomes available with SAP Business Suite Innovation 2010 (ERP 6.0 EHP 05 / NW 7.02)
- You will be able to use Crystal Reports objects as layout option for Web Dynpro ALV and SAP GUI ALV layouts
- You will be able to create Crystal Reports objects as templates for all users
- Crystal Reports objects become part of the software logistics of the ALV
SAP BusinessObjects BI 4.x & SAP ERP
Performance Considerations

Easily *modifiable templates* that combine domain knowledge and best practices in data extraction and data modeling to produce customizable reporting content for quick and easy SAP analytical implementations.
SAP BusinessObjects BI 4.x & SAP HANA Analytics Foundation

- Instantaneous transactions - results-to-actions
- Unified view of operations without delay
- Empowerment for front-line employees
SAP BusinessObjects BI 4.x & SAP HANA Analytics Foundation

- **Immediate rollout with no integration challenges**
- **Easy extension and customization**

SAP BusinessObjects BI

- SAP-delivered Query Views
- Personalized Views
- Personalized Views
- Personalized Views

Customer Extensions

- Reuse Views
- Private Views
- Physical Tables

SAP HANA Analytics Foundation (VDM)

Rapid Deployment Solutions
SAP BusinessObjects BI 4.x & SAP NetWeaver BW
SAP BusinessObjects BI for SAP NetWeaver BW on SAP HANA
Exploit Unique SAP Integration

SAP Solution Manager
• Unified system monitoring
• End-to-end root cause analysis

SAP Change & Transport System
• Unified change and transport management
• BI lifecycle triggered from SAP CTS+

Common infrastructure
• Unified Java application environment
• Support for SAP NetWeaver WAS

Data Connectivity
• Support for direct BEx Query access
• Support for HANA models generated by BW
• Support for relational multi-source Universe
SAP BusinessObjects BI for SAP NetWeaver BW

Exploit Unique SAP Integration – Solution Manager

Technical Reporting
Prove value to business

Technical Monitoring, Alerting & Administration
Optimize operations

End-to-End Root Cause Analysis
Lower mean time to resolution

Component-Specific Tools

**SAP SOLUTION MANAGER**

- SAP EarlyWatch Alert
- Service Level Reporting
- Standard IT Reporting
- Customer BW Reporting

Technical Monitoring & Alerting
- Unified Alert Inbox
- Alert correlation & propagation
- Open monitoring infrastructure

Technical Administration
- Central planning and tracking
- Standardized and guided operations
- Open automation infrastructure

Managing Systems

- ABAP
- Java
- .net
- C(++)

End-to-End Change Analysis
- End-to-End Workload Analysis
- End-to-End Exception Analysis
- End-to-End Trace Analysis

IT Calendar
Runbook
Task Management
Explorer

Unified Planning and tracking
Standardized and guided operations
Open automation infrastructure
Supportability Integration Points

- CTS + Integration
- SAP Passport and Unified tracing
- Solution Manager Configuration
- SLD (System Landscape Directory)
- Central dynamic Trace switch
- Activity / Resource Monitoring
- AppSight Instrumentation
- Introscope Instrumentation
- Single user trace
- Administration read only role
- Remote Access
SAP BusinessObjects BI for SAP NetWeaver BW
Exploit Unique SAP Integration – Lifecycle Management

TMS System-Landscape Configuration – Representation of BOE Systems

Promotion of Jobs

1. Collect objects
2. Promote via CTS
3. Start the import in TMS to process the job

BOE Systems

TD1 (DEV System)
Transport Organizer Web UI
Transport Request
ZIP

TD2 (Test System)
Application Type BOLM
Transport Request
ZIP

XYZ (Prod System)
Application Type BOLM

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Direct native BICS access to BEx queries
- Streamline data access architecture for TCO reduction
- Perform optimally through native SAP-only API calls
- Expose all BW metadata: hierarchies, variables, structures, …

Leverage investments in BW cubes
- Re-use existing BW cubes across all BI scenarios
- Leverage custom cubes and SAP Business Content
- Benefit from existing aggregate and performance optimizations

Leverage investments in BEx query design
- Re-use existing BEx queries with SAP BusinessObjects Analysis Suite
- Apply existing BEx query design skills to cover other scenarios
- BEx Query Designer remains the tool to edit/design new queries
SAP BusinessObjects BI for SAP NetWeaver BW

Exploit Unique SAP Integration – Data Connectivity

- Consolidate BI for all users across all data sources on one BI platform
- Shield users from 3rd-party data access complexity with unified experience
- Best access method for each specific data source

![Diagram of SAP BusinessObjects BI 4.x with Multi-Source Universe and Direct Access options]

- SAP Suite on SAP HANA
- SAP NetWeaver BW on SAP HANA
- BEx Query
- InfoProviders
SAP BusinessObjects BI for SAP NetWeaver BW
Expand BI Footprint

Innovate without Disruption
- Analysis Office
- Analysis OLAP

Mobilize your BW
- Explorer
- Exploration Views

Expand BI Footprint

Move beyond classic BI
- Predictive Analysis
- Visual Intelligence

Dashboards and apps
- Design Studio

Reporting
- Web Intelligence
- Crystal Reports

BW on HANA
Key Points to Take Home

Your BI Strategy should start with the business requirements, not with the DWH.

SAP BusinessObjects BI 4.x allows you to re-use your existing BEx queries, but make sure you understand the limitations per BI client.

The direct connection to SAP NetWeaver BW removes the need for the Universe, but make sure you have everything in the BEx queries.
Additional Resources

**Reporting and Analysis with SAP BusinessObjects**
(2nd Edition)
(SAP Press, 2012)

**Integrating SAP BusinessObjects BI Platform 4.x with SAP NetWeaver**
(SAP Press, 2011)

**Mastering SAP BusinessObjects**
Analysis, edition for OLAP with SAP NetWeaver BW

**Interactive eBook:**
Kindle Edition

**Best Practices for integration SAP BusinessObjects BI 4.x with SAP NetWeaver BW**
Kindle Edition
Thank you

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