BI Integrated Planning in SAP NetWeaver 7.0

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1. Planning Landscape Today

2. BI Integrated Planning
   2.1. Architecture -Technical View-
   2.2. Planning Model

3. Dimensions of Business Planning
   3.1. Integration and Collaboration
   3.2. Agility and Flexibility
   3.3. TCO and Scalability
   3.4. User Experience

4. Summary
The Starting Point – Is This You?

Sales Planning
- Tool A
  - Tool B

Revenue Planning
- Tool C
  - Tool D

Sales Analysis and Reporting
- Tool E
  - Tool F
Step 1: Back-End Integration

Sales Planning

Revenue Planning

Sales Analysis and Reporting

Common Database and Common Data Models
Step 2: Front-End Integration

Common Database and Common Data Models

Sales Planning  Revenue Planning  Sales Analysis and Reporting

Common Set of Tools

Personalization  Personalization  Personalization

Common Database and Common Data Models
Step 3: Collaboration and Process Support

Common Database and Common Data Models

Sales Planning

Revenue Planning

Sales Analysis and Reporting

Common Set of Tools

Personalization

Personalization

Personalization

Collaboration

Collaboration

Collaboration
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4. Summary
Integrated Planning with SAP NetWeaver BI supports easy-to-use planning in the SAP BI environment and is fully integrated in SAP NetWeaver.

**Integrated Planning with SAP NetWeaver BI provides:**

- Enhanced user productivity, reduced training costs
  - More flexible and user-friendly user interfaces; common UI for planning and reporting
  - Web-based planning modeler for creating and modifying all types of plans

- Faster implementation and reduced maintenance costs
  - Reduced number of customizing objects (such as variables, hierarchies, and one layout for reporting and planning)

- Improved performance
  - Reduced data redundancy (such as calculated key figures, currency translation) by using the OLAP functions from SAP BI
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4. Summary
Architecture in Detail: BW and BPS

BEx Suite
- BEx Analyzer
- BEx Web

BPS Front-end
- BPS Excel
- BPS Web

BPS Tools
- BPS ALV

BPS Metadata
- Services
  - Enqueue
  - Data Slices
  - Char. Combinations
  - Validations
- Functions & Sequences
  - Distribute
  - Formula
  - Copy
  - Revaluate
  - Repost
  - Custom defined

BW Metadata
- Desired usage in the planning world
  - Variables
  - Hierarchies
  - Aggregation
  - Sort
  - ...
- Caching Services
- OLAP Engine
- Planning Buffer
- Planning Engine

Large overlap in functionality

Shared Persistency for Reporting and Planning

Loose coupling via portal

Desired usage in the planning world

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Architecture BI Integrated Planning (Scenario)

User Interfaces
- Ad Hoc
- BI App
- Web Planning Layout
- MS Excel for planning

Business Explorer Suite (BEx)
- AdHoc Query & Analysis
  - Web Analyzer
- Reporting and Analysis Design
  - Web Application Designer
  - Report Designer

BI Consumer Services

BI Layer
- BEx Query Designer
- Analytic Engine
- Planning Modeller

Information Broadcasting
- MS Excel Integration
  - Analyzer (Add In)
Architecture BI Integrated Planning

BI Layer

BEx Query Designer

Analytic Engine

- OLAP Services
- Drilldown
- Currencies/units
- Calculations/formulas
- Exceptions/conditions
- Variables
- Hierarchies
- Aggregation
- Sort
- ...

Caching Services

Plan Data Cache

Planning Modeler

Planning Functions

- Distribute
- Formula
- Copy
- Revaluate
- Repost
- Forecast
- Custom defined
- ...

Planning-Specific Services

- Enqueue
- Validations
- Data slices
- Characteristic relationships

Data Sources

Operational DataStore

Data Marts

Data Warehouse Layer

Master Data

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Excel-based business planning

User Interfaces

Ad Hoc

BI App

Web Planning Layout

MS Excel for planning

Business Explorer Suite (BEx)

Information Broadcasting

AdHoc Query & Analysis

Reporting and Analysis Design

Web Analyzer

Web Application Designer

Report Designer

MS Excel Integration

Analyzer (Add In)

BI Consumer Services

BI Layer

BEx Query Designer

Analytic Engine

Planning Modeller

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4. Summary
Planning Model

Data Warehousing Workbench

Planning Modeler

BEx Query Designer

BEx Analyzer

Real-Time InfoCubes

For creating an aggregation level

For designing a query

For Web application

For Excel front end

BEx Web Application Designer
Planning Model

Creating an aggregation level (and other planning-specific objects)
Planning Model

Creating an aggregation level (and other planning-specific objects)

The InfoProvider determines the data basis for planning. It contains all the objects that are relevant to a planning model. In most cases this is a real-time InfoCube, partially writable MultiProvider.

Example: the InfoCube contains the characteristics fiscal year, country, product line and product and the key figures quantity, amount and revenue.

Select an InfoProvider. If you choose “start” immediately without making further entries, the system displays all InfoProviders that can be used for planning according to various search criteria. Select the InfoProvider you want to use by clicking on the relevant row.
Planning Model

BEx Query Designer

Use the BEx Query Designer for planning scenarios

- Use query functions in planning applications
  - Analysis functions
  - Calculated key figures
  - Aggregation, drilldown, flexible query views
  - And so on
- Enhanced productivity due to new user interaction model

→ Allows your business users to change and enhance the planning model
  - Apply, modify, and create formulas
  - Modify variables and filters
  - And so on
Planning Model

BEx Query Designer

Prerequisites for input ready cells in input ready queries

- Real-time InfoCube; foundation of planning application
- Setting real-time InfoCube load behavior
- Input ready query created on top of an aggregation level or MultiProvider containing an aggregation level; cell filled from aggregation level
- No prohibited combinations of characteristic relationships in the cells
Planning Model

BEx Query Designer

Prerequisite for input-ready cells in plan queries

- No locking situation
- No data slices for the characteristics used
- Permitted characteristic combinations only
- No calculated key figures for an input-ready cell
- Each characteristic in the aggregation level has to have just one single value selected for the input-ready cell
Planning Model

BEx Query Designer

- Input ready query setting: start query in change mode

- Cell settings in input ready query: Must have “planning” property

Designing a query
BEx Analyzer
- Established end user tool (for example, controlling department)
- Maximum flexibility
- Offline planning possible
- Distribution possible using Outlook or information broadcasting

BEx Web Application Designer
- Zero installation, zero footprint (no SAP GUI installation required, no local software installations [Excel] required)
- Seamless portal integration
- Export to PDF
- Web items available
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4. Summary
Using the MultiCube Concept

Example for modeling

Integration of:
• Transaction data
• Master data
• Metadata
Using the MultiCube Concept

Example for modeling

Integration of:
- Transaction data
- Master data
- Metadata
Integration in SAP NetWeaver 7.0

Data Extraction and Retraction

1. Extract data from OLTP system to InfoCube
2. Read actual data from basic InfoCube via MultiCube
3. Write plan data via MultiCube into real-time InfoCube
4. Retract data from real-time InfoCube to OLTP system
BEx Broadcaster Functions for Exporting and Printing

- Generate PDF documents, or print using the BEx Broadcaster.
- The BEx Broadcaster is available in the BEx Report Designer and in the BEx Web Application Designer, and from the context menu of BEx Web applications or ad hoc analyses created using the BEx Web Analyzer.
- Use information broadcasting to distribute the results of planning, or forward them for further editing.
What are the usage scenarios for information broadcasting with BI Integrated Planning (NW7.0)?

With BI/BI Integrated Planning you can choose between two end-user interfaces: Excel-based (BEx Analyzer) or Web-based (BEx Web).

- Planning applications are either BEx Analyzer workbooks or BI Web templates for entering data.

- Standard information broadcasting functions are also available for planning applications and data entry applications and can be used to distribute planning templates to users.
What are the usage scenarios for information broadcasting with BI Integrated Planning (NW7.0)?

1. BEx Web
   - Precalculate planning template and distribute a link (e-mail, BEx portfolio, KM folder)
   - If a file is distributed (PDF, ZIP, mHTML), the template is switched to read-only (data entry no longer possible)

2. BEx Analyzer
   - Precalculate workbook and distribute XLS file (e-mail, BEx portfolio, KM folder).
   - Available as of NW7.0 SPS9

3. “Bursting“ (BEx Web and BEx Analyzer)
   - Allows you to determine recipient based on master data attributes (for example, cost center – person responsible)
   - Allows you to set variables through precalculation or links based on master data attributes
What are the usage scenarios for information broadcasting with BI Integrated Planning (NW7.0)?

Additional option:

- Use collaboration room infrastructure to organize access to your planning-related tasks (for example, BEx portfolio with data entry sheets and reports, documents, news)
Use the BW-BPS Status and Tracking System to manage the approval of planning.

<table>
<thead>
<tr>
<th>STS node</th>
<th>Areas of Responsibility</th>
<th>Status</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not assigned</td>
<td>New</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PrGroup Juice</td>
<td>New</td>
<td></td>
<td>Anike Dietz</td>
</tr>
<tr>
<td>Juice001</td>
<td>In Process</td>
<td></td>
<td>Marc Bernard</td>
</tr>
<tr>
<td>Juice002</td>
<td>In Process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juice003</td>
<td>In Process</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Agenda

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Agility

- From static annual budgeting cycles to agile and adaptive planning
  - React to changing environments with continuous planning cycles
  - Dynamic and adaptive planning models can be quickly adopted using variables
- Reduce IT bottleneck by delegating modeling tasks to business
  - Local models complement centrally managed plans
  - BEx tools for business users → layered tool approach reduces load on IT
  - Supported by security concept
Flexibility

BI Integrated Planning has a flexible, model-driven architecture. Flexibility is built into various layers.

- Data modeling layer
- Calculation layer
- User interface
Flexibility

Development options for planning relevant exits in:

- Characteristic relationship
- Data slice can be based on an exit class
- Planning functions:
  - Planning function type formula: Define your own planning function with the FOX formula editor
  - Planning functions of type exit
- Exits in variables:
  - Characteristic Value Variable
  - Hierarchy Variable
  - Hierarchy Node Variable
  - Text Variable
  - Formula Variable
BI Integrated Planning covers a wide range of capabilities, allowing freedom for end users alongside possibility of high degree of integration.

“Freedom“ for end users

Integration

Tool coverage

Spreadsheets  ERP  BW-BPS

BI Integrated Planning
Agenda

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Total Cost of Ownership in Planning

TCO Drivers

- Heterogeneous planning tools and roaming spreadsheets produce high maintenance costs
- High education and training costs
- High integration costs due to manual integration of data
- Long budgeting cycles with many iterations bind resources

BI Integrated Planning

- Tool consolidation – One set of tools and one user interface for all planning and reporting tasks
- Built-in integration – Integration tools and BI Platform services
- Reduced data redundancy – MultiProviders and calculated key figures
- Fast response times – Fully automated processes offered by planning sequences in process chains
Be Ready for Growth..

BI Integrated Planning is also the scalable solution for high volume planning applications

SAP NetWeaver BI platform is ready to support your growth
- Proven to serve 1000s of users
- High volume and high throughput data warehouse
- Archiving and near-line storage solution available
- BI Accelerator technology to access plan data
- High-end enqueue server as additional installation option
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Integration of flexible Excel functionality and common database

Input ready query for planning

Data provided from back end

Query with exception

Example of user-specific calculation area in your own Excel environment

Button covers back end planning functions
Intuitive PDF-Based BEx Web Printing

- BEx Web applications, BEx reports and ad hoc analyses created using the BEx Web Analyzer can be converted to PDF and printed
- Leveraging SAP NetWeaver AS integration with Adobe Document Service

- Adobe Acrobat Reader required, no plug-in necessary
- Print options can be maintained globally or individually by the end user
## User Experience: BEx Analyzer

### BEx Report Designer for Formatted Planning Layouts

#### Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>Stakeholders’ Equities and Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible assets</td>
<td>Subscribed capital</td>
</tr>
<tr>
<td>451,224</td>
<td>345,414</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>Treasury stock</td>
</tr>
<tr>
<td>999,878</td>
<td>-490,554</td>
</tr>
<tr>
<td>Financial assets</td>
<td>Additional paid-in capital</td>
</tr>
<tr>
<td>120,212</td>
<td>311,670</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>Retained earnings</td>
</tr>
<tr>
<td>1,571,314</td>
<td>4,229,215</td>
</tr>
<tr>
<td>Inventories</td>
<td>Accumulated other comprehensive loss</td>
</tr>
<tr>
<td>10,443</td>
<td>-233,682</td>
</tr>
<tr>
<td>Accounts receivable and other assets</td>
<td>Shareholders's equity</td>
</tr>
<tr>
<td>2,317,221</td>
<td>4,162,063</td>
</tr>
<tr>
<td>Marketable securities</td>
<td>Minority interests</td>
</tr>
<tr>
<td>6,707</td>
<td>39,804</td>
</tr>
<tr>
<td>Liquid assets</td>
<td>Pension liabilities and similar obligations</td>
</tr>
<tr>
<td>2,832,518</td>
<td>121,521</td>
</tr>
<tr>
<td>Non-fixed assets</td>
<td>Other reserves and accrued liabilities</td>
</tr>
<tr>
<td>5,166,889</td>
<td>1,662,183</td>
</tr>
<tr>
<td>Deferred taxes</td>
<td>Reserves and accrued liabilities</td>
</tr>
<tr>
<td>213,415</td>
<td>1,783,704</td>
</tr>
<tr>
<td>Prepaid expenses and deferred charges</td>
<td>Bonds</td>
</tr>
<tr>
<td>66,098</td>
<td>9,821</td>
</tr>
<tr>
<td></td>
<td>Other liabilities</td>
</tr>
<tr>
<td></td>
<td>698,113</td>
</tr>
<tr>
<td></td>
<td>Total other liabilities</td>
</tr>
<tr>
<td></td>
<td>2,491,638</td>
</tr>
<tr>
<td></td>
<td>Deferred income</td>
</tr>
<tr>
<td></td>
<td>324,211</td>
</tr>
</tbody>
</table>

**Total assets** 7,017,716  **Total shareholders’ equity and liabilities** 7,017,716
User Experience Example: Smart Input

- Enter revaluation factors such as +12%, * 0.9, and so on in the cell → Enter → Result is calculated immediately
- Also works with multiple cells selected
The following options are available:

- No Disaggregation (default)
- Disaggregate the entered value
- Disaggregate the delta to the entered value
Type of the disaggregation:

- Equal distribution
- This structure member, i.e. analog distribution with respect to this structure member, in short ‘self reference
- Following structure member, i.e. analog distribution with respect to a structure member one can maintain
User Experience: BI Accelerator for Planning

SAP NetWeaver BI

Data Acquisition

BI Analytic Engine

Business Explorer

Any Tool

Plan buffer and caches

Real-time InfoCube open request

Real-time InfoCube closed request

Basic InfoCubes

Any Source

BI Accelerator responds to queries: joins and aggregates at runtime

Query and response

Indexes loaded into memory

... creates and stores indexes for InfoCubes

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User Experience: Process Chains

Administration Using Process Chains

Process Chain Maintenance Modified Version: Start Planning Sequence

- Execute Planning Sequence
- Switch Realtime InfoCube to Plan Mode
- Switch Realtime InfoCube to Load Mode

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Summary

- Enhanced user experience
- Better support and flexibility for power users
- Lower TCO
- Performance
- New types of analytic applications can be built
Thank you!