



SAP BI Authorizations

Aligning access rights in
SAP R3 & BI through a uniform
authorization concept

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Agenda

1. Introduction
2. ERP System Concepts
3. BI System Concepts
4. Main BI Challenges
5. Lessons Learned
6. Questions & Answers
7. Contact

Goals

Understand BW Authorizations design strategies

- Understand the different challenges
- Understand the different solutions

Conceptual

- Target audience: BW project stakeholders
- Technical design level, but no implementation focus

ERP System Concepts



ERP System focus

Transactions (OLTP)

- Focus is high volume of small business transactions
 - Fast transaction processing
 - Data integrity
 - Availability of system
 - Users access a high number of different transactions

ERP authorizations – Functional limitations

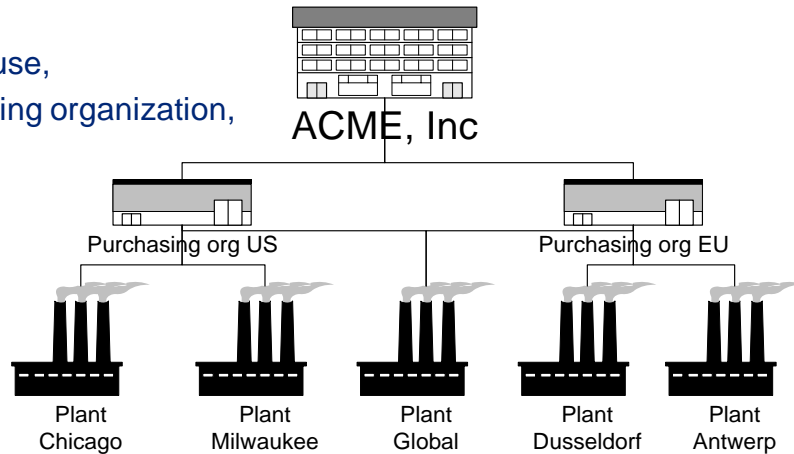
Limitations on function in the organization

- Functional domain:
 - Accounting,
 - Controlling,
 - Sales,
 - Purchasing,
 - ...
- Level
 - Manager,
 - Clerk,
 - Contractor

ERP authorizations - Organizational limitations

Limitations on position in the organization

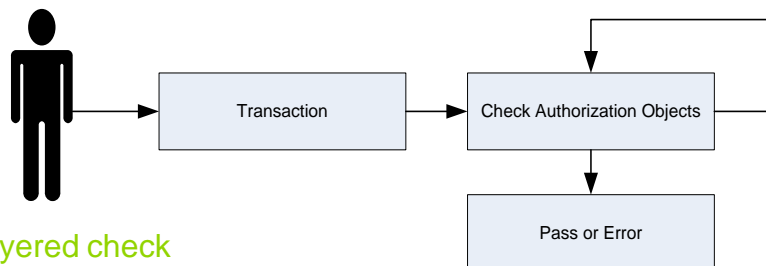
- company code,
- plant,
- warehouse,
- purchasing organization,
- ...



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ERP authorizations – ABAP Authorizations



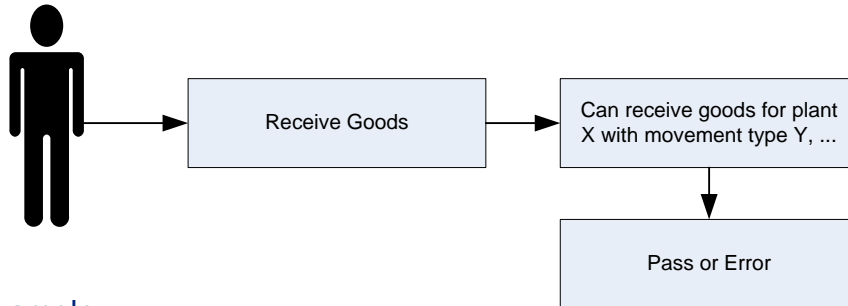
Two-layered check

- Transaction code
 - Coarse check if a user can use a transaction
 - Transaction leads to a program
- Authorization object
 - Detailed checks on **how** a user can use a program
 - Values control **where** in the organization a user can use a program

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ERP authorizations – ABAP Authorizations



Example:

1. User executes transaction code to receive goods.
2. System checks if the user has this transaction in his roles.
3. System checks if the user has authorization objects to receive goods.
4. User enters goods movement details.
5. System checks if the user has authorization objects to
 - create a goods movement for this plant,
 - of the requested movement type,
 - etc.

BI System Concepts



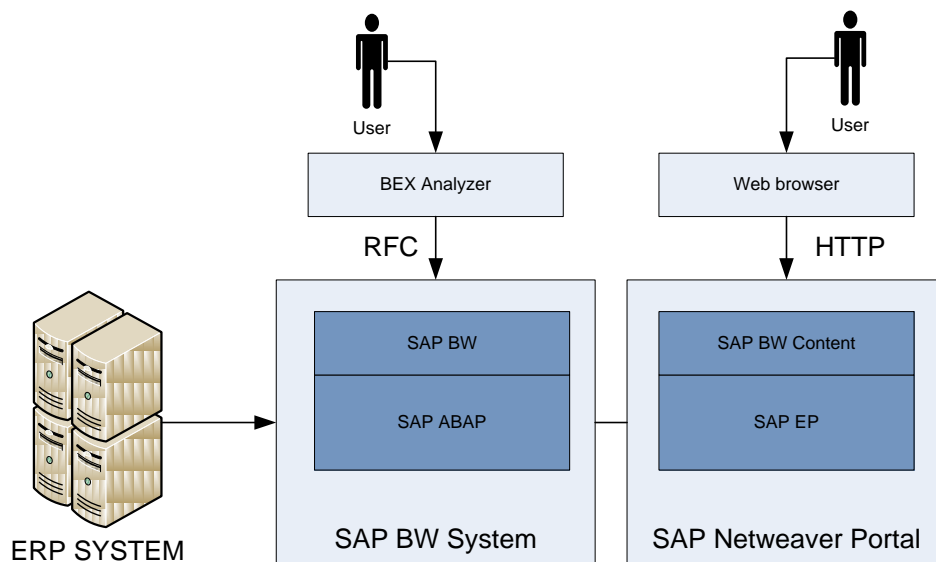
BI System focus

Analysis (OLAP)

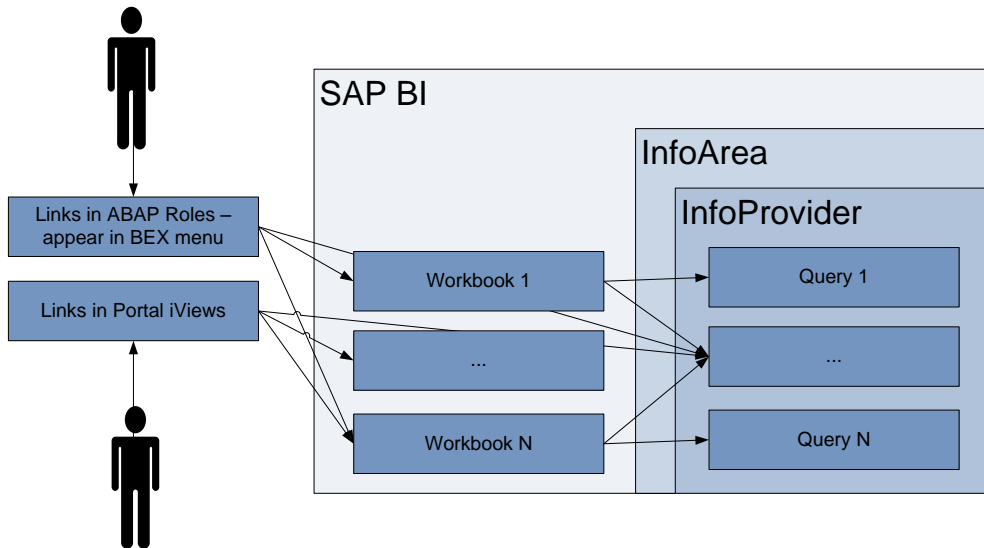
- Focus is data analysis
 - Flexibility of reporting
 - Response time
 - Users access a limited number of queries

- Same limitations should apply
 - Functionally
 - Organizationally

High-level architecture for BW



Key concepts in BI 7.0



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Key authorization concepts in BI 7.0

ABAP Authorizations

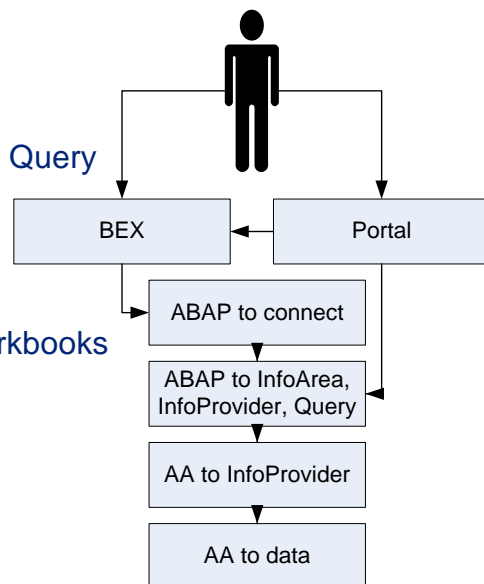
- Access to system
- Access to InfoArea, InfoProvider, Query
- Access to links (menu roles)

Portal Authorizations

- Access to iViews with links to workbooks

Analysis Authorizations

- Performed after ABAP checks
 - Access to InfoProviders
 - Access to data
- analysis of WHERE-clause in SQL statement



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Main BI Challenges (and Solutions)



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BI 7.0 Main Security Challenge : Alignment

Challenge Align functional level of access between ERP and BI

Solution Role Naming Strategy

Challenge Align organizational level of access between ERP and BI

Solution Organizational Design Strategy

Challenge Align AA's with ABAP auth's in BI

Solution BI Role design strategy

Role Naming Strategy

Clarity needed

- Logic in naming convention
- Role mapping document

Simplify user maintenance

- User administrators don't want guidelines to the guidelines

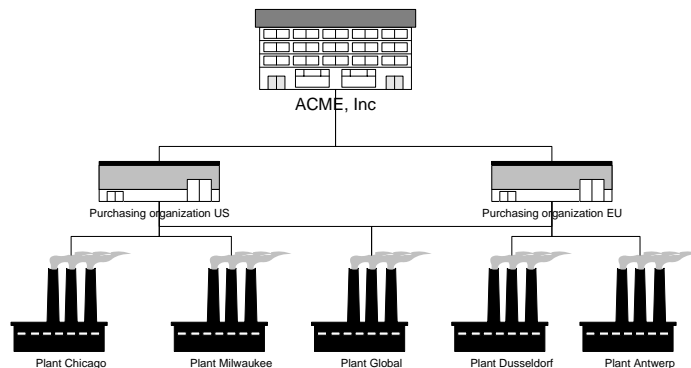
Assurance on user access

- Users get appropriate reporting access
 - Functional Domain in ERP
 - Functional Level in ERP

Organizational Design Strategy

ERP field to BI characteristic mapping

- Based on data classification
- Determine relevant characteristics in BI based on ERP design
- Translate ERP organizational field values to BI characteristics

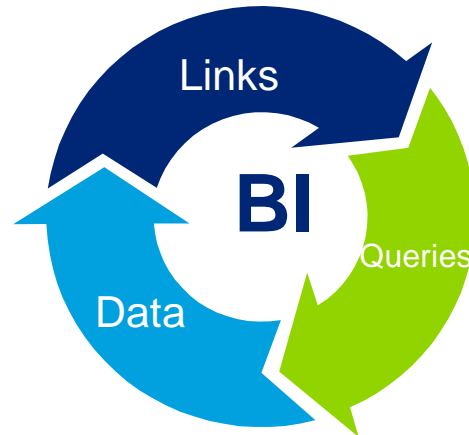


Key differences between ERP and BI

- ERP authorizations are –**task based** groupings of
 - transactions and
 - required objects

Characteristic	ERP	BI
Number of different transactions	High	Very low
Number of different objects	High	Very low
Based on different tasks	Yes	No
Based on general access to data	No	Yes

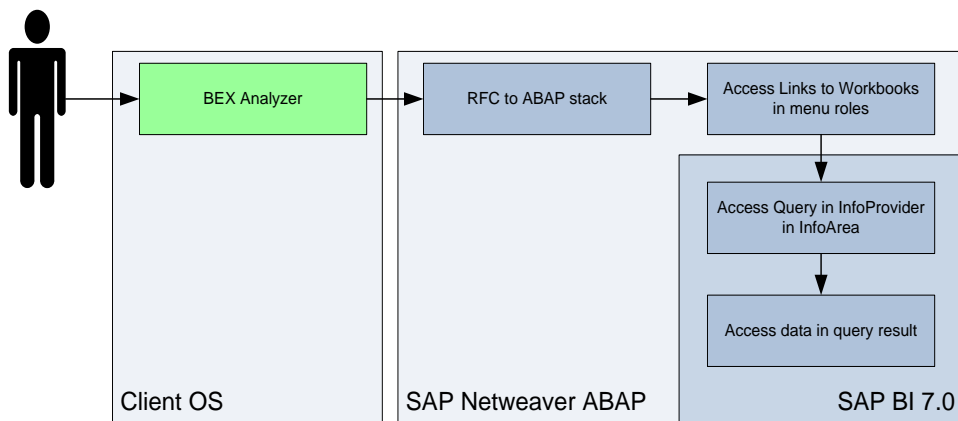
- BI authorizations are –**access based** triplets,
 - giving access to a menu,
 - the queries behind it and
 - data



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BI 7.0 Authorizations – user path to data – BEX only

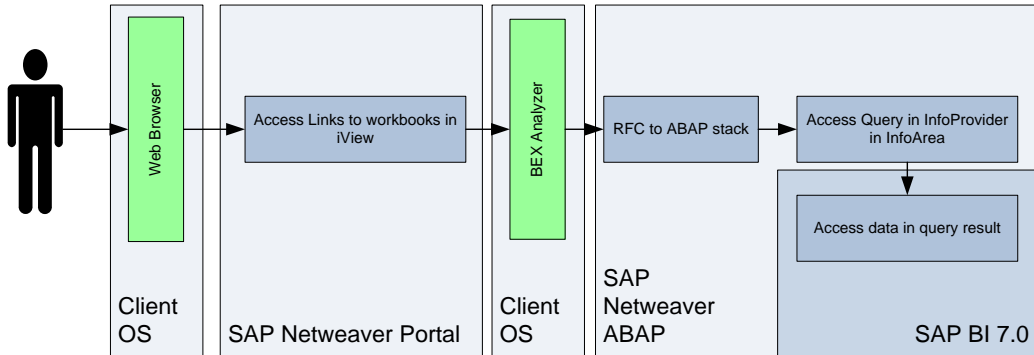


- ++ Only one system to maintain
- Cumbersome maintenance to ABAP menu roles
- Less user friendly

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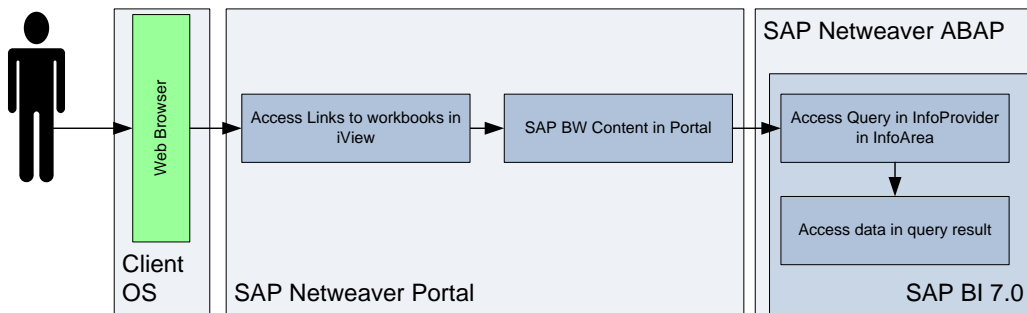
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BI 7.0 Authorizations – user path to data – Portal + BEX



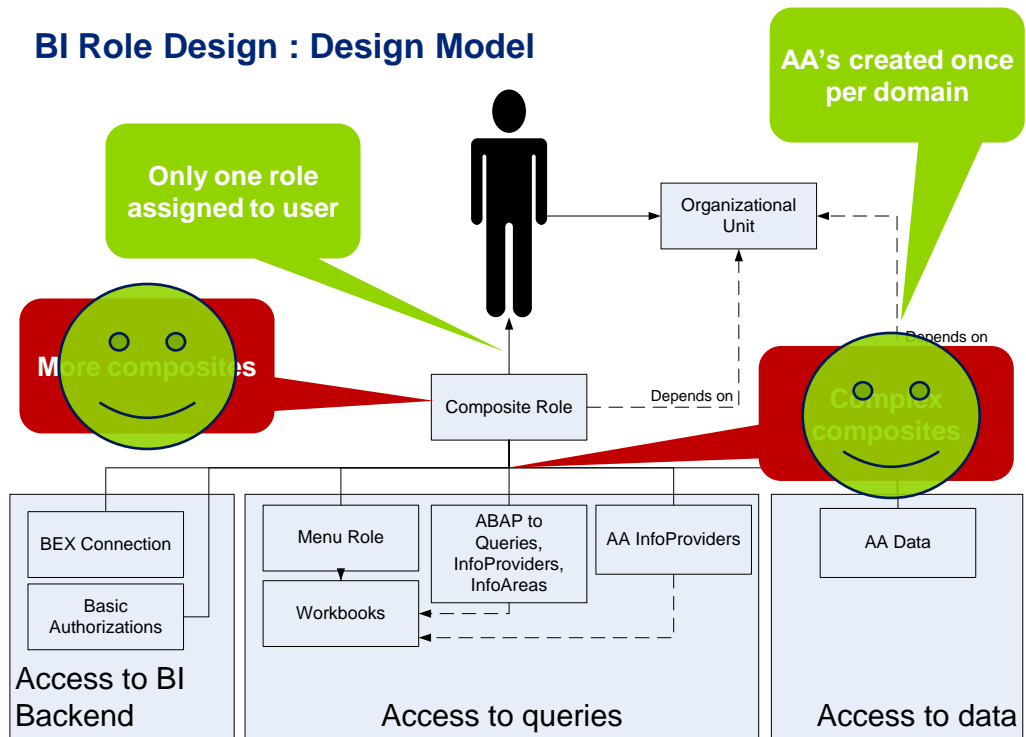
- Roles for Portal and ABAP backend need to be aligned
- + iView maintenance is easier than ABAP menu role maintenance
- ++ Very user friendly

BI 7.0 Authorizations – user path to data – Portal only



- Roles for Portal and ABAP backend need to be aligned
- Portal has performance impact
- + iView maintenance is easier than ABAP menu role maintenance
- + User friendly

BI Role Design : Design Model



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BI Role Design : Other solutions

Single layer concept

- Separation of
 - access to backend,
 - access to queries,
 - access to data

Variations in single layered-ness

- Create composites for functional access
- Assign data access in separate roles

Move away from roles

- Assign data access directly

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Lessons Learned



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Lessons Learned

Manage requirements

- Use a risk-based approach
- If it takes a day to explain to an expert, it's probably not going to work

Use menus

- What a user sees must work
- Users need easy access

Stable environment preferred

- If queries move or change, authorization requirements may change

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Questions & Answers



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