Delivering Personalized and Secure Business Intelligence
With the SAP BusinessObjects Business Intelligence 4.0 Information Design Tool
Chicago BusinessObjects User Group (CHIBOUG) Friday, November 18, 2011

Dallas Marks - Session 5010

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http://bi2012.com/
Breakout Description

Do you need to tailor semantic layer security to specific users or groups within your organization? Attend this session to learn about security profiles in the new Information Design Tool in SAP BusinessObjects Business Intelligence 4.0 (BI4.0). Understand how security profiles can control objects, rows, query types, and connections. See live demonstrations of each type of restriction and the effect they have on end users’ interactive experience.

This presentation is an updated version of “Secure Universes Using Restriction Sets”, presented at BusinessObjects Insight 2007 in Orlando, Florida. The original presentation covered XI R2 (and therefore XI 3.0/3.1 universe security) and is available for download at http://www.dallasmarks.org/blog/presentations.
About Dallas Marks

- Dallas Marks is Manager of Pre-Sales and Training at Kalvin Consulting, an SAP Services Partner focused on business intelligence, business analytics and data warehousing. Kalvin is also a SAP BusinessObjects Authorized Education Provider, providing on-site education services at client locations throughout North America.

- Dallas is an SAP Certified Application Associate and authorized trainer for Web Intelligence, Information Design Tool, Universe Design Tool, Dashboards (formerly Xcelsius), and SAP BusinessObjects Business Intelligence administration. A seasoned consultant and speaker, Dallas has worked with SAP BusinessObjects tools since 2003 and presented at the North American conference each year since 2006.

- Dallas has implemented SAP BusinessObjects solutions for a number of industries, including retail, energy, health care, and manufacturing. He holds a master’s degree in Computer Engineering from the University of Cincinnati.

- Dallas blogs about various business intelligence topics at http://www.dallasmarks.org/. You can follow him on Twitter at @dallasmarks.
About Kalvin Consulting

Intelligent Data, Strategic Excellence
About Kalvin Consulting

- At Kalvin, we take a holistic approach to your business. Think of us as your end-to-end solution partner who can help you see critical milestones in your road map.
- From intelligent data foundations to business intelligence to predictive analytics, we help organization measure and monitor their business strategy.
Agenda

- The Information Design Tool
- The Need for Universe Security
- Introducing Security Profiles
- Creating Security Profiles
- Demonstration
- Next Steps
- Your Questions
Delivering Secure and Personalized Business Intelligence

THE INFORMATION DESIGN TOOL
Disclaimer

“I'm just a simple man trying to make my way in the universe.“
—Jango Fett
Learn more about Information Design Tool

- **Building a Universe with the SAP BusinessObjects BI 4.0 Information Design Tool**
  Pierpaolo Vezzosi | Session 5007
  Tuesday, October 11, 2011 10:45 AM - 11:45 AM

- **The Road to Universe 4.0: Migrating from Universes to Univexes**
  Maria Silva | Session 5005
  Monday, October 10, 2011 4:00 PM - 5:00 PM

- **Top 10 Likes and Dislikes in the SAP BusinessObjects 4.0 Information Design Tool**
  Cindi Howson | Session 5006
  Tuesday, October 11, 2011 9:30 AM - 10:30 AM

- **The BusinessObjects Universe: An Update From the SAP BusinessObjects Semantic Layer Influence Council**
  Derek P Loranca, Aetna, Pierpaolo Vezzosi | Session 1205
  Monday, October 10, 2011 4:00 PM - 5:00 PM

This list represents only a portion of semantic layer breakout sessions at the ASUG SAP BusinessObjects User Group Conference. Please check the official conference schedule for a full listing.
What is a legacy UNV Universe?

*.unv

Connection
What is a traditional UNV Universe?

Created with the Universe Design Tool, formerly known as “Universe Designer” or simply “Designer”.

Business Layer

Data Foundation
What is a UNX Universe?

The term “Common Semantic Layer” is also used to describe the new universe format.
What is a UNX Universe?

Created with the new Information Design Tool
Web Intelligence 4.0 Query Methods

- Web Intelligence now allows Bex (SAP BW) and Analysis Views to be queried directly without universe.
- Web Intelligence Desktop edition (shown) adds support for Excel, Text and Web Services.
- This presentation focuses on securing universes created with the new Information Design Tool 4.0.
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THE NEED FOR UNIVERSE SECURITY
Two Methods for Securing Universes

- Restrict access to entire universe by setting universe rights in the Central Management Console (CMC)

- Create various forced and optional restrictions within Information Design Tool
  - Forced
    - Object restrictions
    - Self-restricting joins
    - Inferred extra tables
  - Optional
    - Filter objects
Introducing Security Profiles

Need to secure business critical data based on a user’s role in the organization, but standard universe design solutions affect all users unilaterally…

…a different solution is required to apply security conditionally to specific users and groups: security profiles.
Introducing Security Profiles

Database specific techniques such as Teradata Query Banding and Oracle Virtual Private Databases can be used but are beyond the scope of this discussion.

Security Profiles are ideal for organizations that use multiple database platforms and need a single, integrated approach to data security.
Securing and Personalizing eFashion

Gotta analyze those party pants sales!
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INTRODUCING
SECURITY PROFILES
What is a Security Profile?

- A **security profile** is a group of security settings that apply to a universe published in the repository.
- Similar features are available in the Universe Design Tool for traditional universes (UNV), known as access restrictions or restriction sets.
- **Data Security Profiles** have security settings defined on objects in the data foundation and on data connections.
- **Business Security Profiles** have security settings defined on objects in the business layer.
What can be restricted in traditional UNV universes?

<table>
<thead>
<tr>
<th>Type of restriction</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Connection</td>
<td>Override the default universe connection with an alternate connection</td>
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<tr>
<td>Query controls</td>
<td>Limit the size of the result set and query execution time</td>
</tr>
<tr>
<td>SQL generation controls</td>
<td>Control how SQL is generated by user query</td>
</tr>
<tr>
<td>Row access</td>
<td>Row-level security – force restrictions into the WHERE clause of inferred SQL</td>
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<td>Alternative table access</td>
<td>Replace a table referenced in the universe with another table in the database</td>
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### What can be restricted in new UNX universes?

#### Data Foundation Restrictions

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Similar restrictions exist in Universe Design Tool
What can be restricted in new UNX universes?

### Business Layer Restrictions

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<td>Create Query</td>
<td>Defines the universe views* and business layer objects** available to the user in the query panel.</td>
</tr>
<tr>
<td>Display Data</td>
<td>Grants or denies access to the data retrieved by objects in the business layer when the user runs a query.*</td>
</tr>
<tr>
<td>Filters</td>
<td>Defines filters using objects in the business layer.*</td>
</tr>
</tbody>
</table>

* New feature of BI 4.0
** Similar to object restrictions in Universe Design Tool
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CREATING SECURITY PROFILES
Securing Universes – Design Process

1) Create & Manage Security Model
2) Build and Export Universe
3) Add Security Profile
4) Create Web Intelligence Documents*
5) Deploy using Lifecycle Manager

* Crystal Reports and Dashboards (formerly Xcelsius) based on universes can also leverage Security Profiles
Importing Secure Universes from XI R2 or XI 3.x

Import BIAR file into BI 4.0 using Upgrade Management Tool

Import & Convert UNV to UNX using Information Design Tool

Validate Converted Security Profile

Test and Deploy
Default Universe Parameters – Data Foundation Layer

SQL Options
- Allow Cartesian products
- Multiple SQL statements for each context
Default Universe Parameters – Business Layer

**Universe Parameters**

- **Name**: eFashion2011RS

**Query limits**
- Limit size of result set to 90000 rows
- Limit execution time to 5 minutes

**Query Options**
- Allow use of subqueries
- Allow use of union, intersect, and minus operators
- Warn if cost estimate exceeds 1 minute
Access Restrictions in Universe Design Tool (UNV)

Access restrictions can be accessed from either the tools menu or the editing toolbar.
Access Restrictions in Information Design Tool (UNX)

Access restrictions available via Security Editor on Window menu or editing toolbar.
1. Select Universe and create Security Profiles
Using the Security Editor – Step 2 of 4

2. Assign Users or Groups
Using the Security Editor – Step 3 of 4

3. Adjust Options
Using the Security Editor – Step 4 of 4

4. Test Specific Users and Groups
Information Design Tool - Security Editor
Data Security Profile - Connections

- Replace default universe connection
- Use Case: default connection may point to production but Security Profile points UAT users to UAT connection.
Data Security Profile - Controls

- Limit number of rows or execution time
- Use Case: Conservative default settings for all users but more aggressive settings for power users
Data Security Profile – SQL

- Control complexity of user queries
- Use case: Default settings may allow subqueries and combined queries but security profile limits casual business users
Data Security Profile - Rows

- Force restrictions into SQL Where clause
- Use case: Row level security for sales team so they only see “their” numbers
- May also desire to disable ability to view SQL in Web Intelligence
Data Security Profile - Tables

- Point to different table in database schema

- Use Case:
  Default users point to 1 year of facts but security profile points to 3 years of facts for power users

- Not necessary for replacement table to be defined in universe
Business Security Profile – Create Query

- Hide business layer views or business layer objects from certain users
- Use Case: Control visibility of sensitive measures such as profit margin.
Business Security Profile – Display Data

- Prevents display of objects on report.
- If `AUTO_UPDATE_QUERY` parameter is No, then refreshing report generates an error.
- If `AUTO_UPDATE_QUERY` parameter is Yes, then the denied objects are removed from query and any business layer filters.
Business Security Profile – Filters

- Filter universe objects at the business layer, not database columns at data foundation layer.
- Still applies filter to SQL statement.
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DEMONSTRATION
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NEXT STEPS
Recommended Reading

- SAP BusinessObjects Business Intelligence 4.0 Business Intelligence Platform Administrator Guide
- SAP BusinessObjects Business Intelligence 4.0 Information Design Tool Guide
- SAP BusinessObjects Business Intelligence 4.0 Web Intelligence User’s Guide
- Quick Reference Getting Around Information Design Tool (SCN)

Visit the SAP Community Network and SAP Help Portal at http://help.sap.com to download these free resources.
Official Product Tutorials on SCN

SAP BUSINESSOBJECTS INFORMATION DESIGN TOOL
OFFICIAL PRODUCT TUTORIALS

The following tutorials have been developed to help you get started using the Business Intelligence Suite products. New content is added as soon as it becomes available, so check back on a regular basis.

Are there topics we've missed or things we can improve? Submit new ideas or vote on existing ones to help us better address your learning needs for the BI Suite of products.

Looking for eLearning for the rest of the Business Intelligence Suite? SAP BI Suite Official Product Tutorials

KEY CONCEPTS (with audio)
- Concept: Navigate the interface
- Concept: Create a universe
- Concept: Create a multsource-enabled universe
- Concept: Create joins
- Concept: Compare the information design tool to the universe design tool

GETTING STARTED
- Create a project
- Create a connection to a relational database
- Create a data foundation based on a single source relational database
- Create a business layer based on a single relational data source
- Publish a new universe file based on a single data source

VISUALIZING DATA IN A UNIVERSE
- Run a business layer query
- Edit a business layer query
- Run a business layer query with pre-defined filters
- Profile column values in a chart

BUILDING A MULTI-SOURCE UNIVERSE
- Create a data foundation based on multiple MS Access connections
- Create a business layer on a basic multsource data foundation
- Create a data foundation based on multiple RDBMS connections
- Add a connection to an existing multsource-enabled data foundation
- Create calculated columns in a multsource-enabled data foundation
- View data from multiple tables in a multsource-enabled data foundation
Relevant Training

- **SAP BusinessObjects Business Intelligence 4.0: Administration and Security**
  2 days - course code BOE310

- **Information Design Tool 4.0**
  Introduction – 3 days - course code BOID10
  Advanced - 2 days - course code BOID20

- **Web Intelligence 4.0**
  Introduction – 2 days - course code BOW310
  Advanced – 1 day - course code BOW320

Official SAP BusinessObjects curriculum is available on-site at your location or at authorized education centers around the world.
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YOUR QUESTIONS
Thank you for participating.

Please remember to complete and return your evaluation form following this session.

For ongoing education on this area of focus, visit the Year-Round Community page at www.asug.com/yc

SESSION CODE: 5010

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