ASG

Universe Design Best Practices for BI4

Joshua Fletcher
SAP Mentor
SAP BI Practice Manager
@josh_fletcher
josh@geek2live.net
http://dslayer.net/

Agenda

- BI4 Universe New Features

- Universe Design Best Practices

- BI4-Specific Best Practices

- Demonstrations
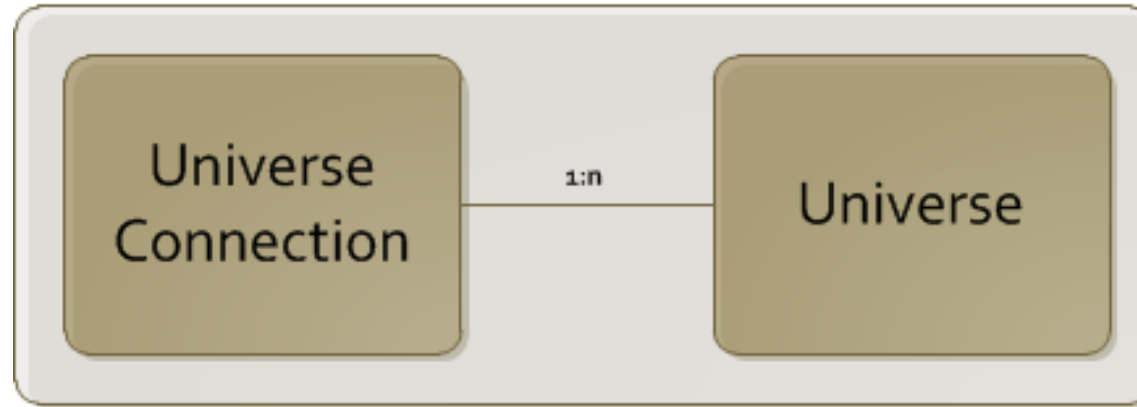
- Questions

BI4 Universe New Features

- New version of SAP BusinessObjects, BI4, was released late 2011

- Introduced a new version of the universe (UNX), built using the Information Design Tool

- Many improved features and new features available

- Most legacy universes (UNV) can be converted to UNX with a conversion wizard

- BI4 does allow you to continue to use XI 3.1 UNV legacy universes, but some new features are not supported

- BI4 reporting tools introduced direct access to BICS as native BW connection method

- UNX universes can also utilise BW InfoProviders as a data source but will be presented relationally
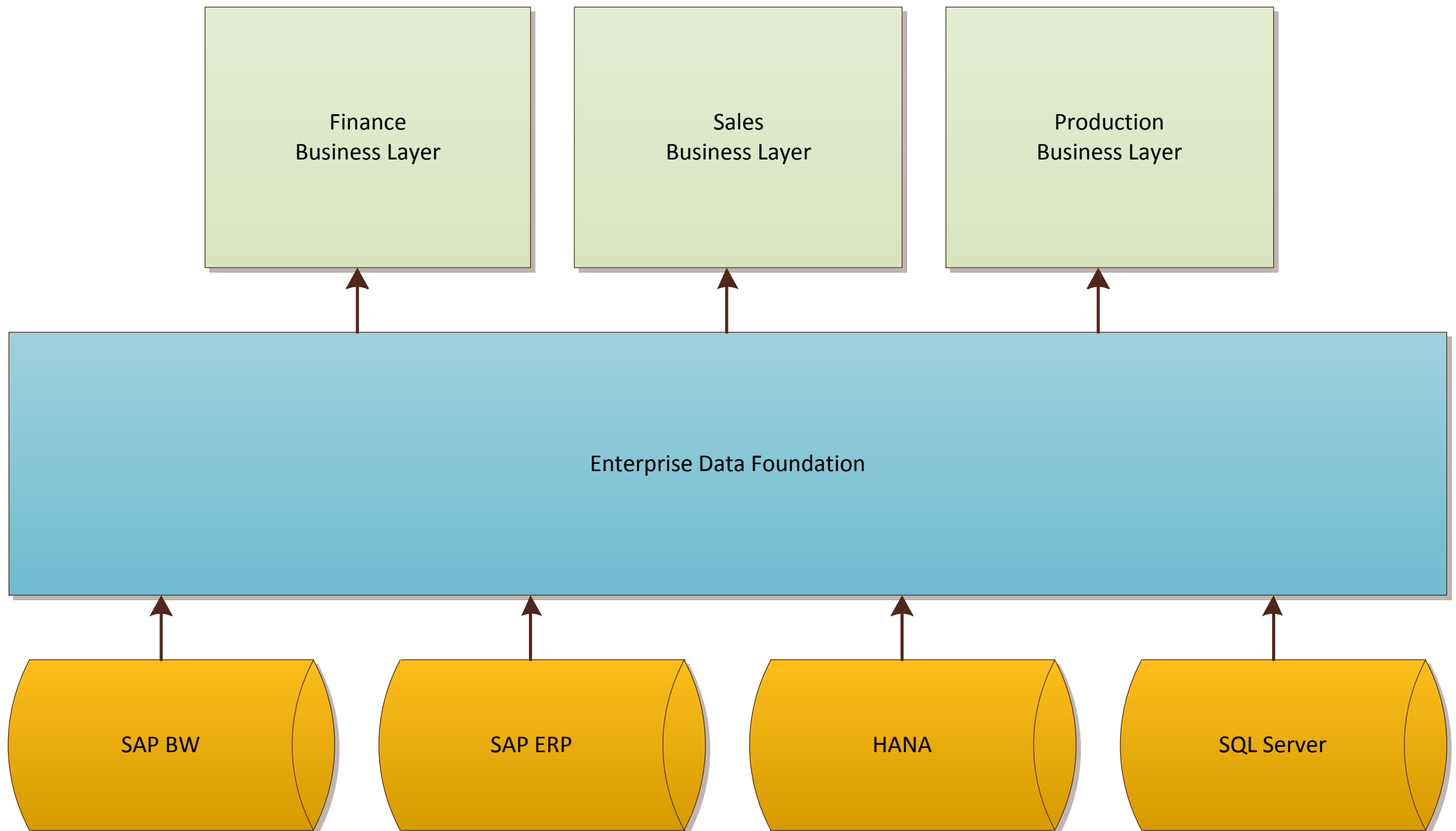
Version Comparison

SAP BusinessObjects XI 3.1

Universe Connection — 1:n — Universe

SAP BusinessObjects BI 4.0
Single-Source Universe

Data Connection — 1:n — Data Foundation — 1:n — Business Layer

SAP BusinessObjects BI 4.0
Multi-Source Universe

Data Connection — n:n — Data Foundation — 1:n — Business Layer

Universe Possibilities

ASG

Finance
Business Layer

Sales
Business Layer

Production
Business Layer

Enterprise Data Foundation

SAP BW

SAP ERP

HANA

SQL Server

New and Improved Features

Improved Features

- Contexts
- Data Display
- Comments
- Derived Tables
- LOVs
- Search
- Enhanced Integrity Check
- Unlimited Undo/Redo

New Features

- Calculated Columns
- Families
- BI Projects
- Multi-Source Universes
- BusinessObjects SQL
- OLAP Hierarchy Support
- Predefined Filters
- Data Profiling
- Prompts
- Query Editor
- Computation Statistics

Universe Design Best Practices

Best Practice Categories

- Categorises best practices into three:

  - User focus – delivering business value

  - Technical focus – being technically sound

  - Performance focus – ensuring high performance

- Each category needs to be addressed to ensure a universe is optimally designed

- Remember – if the universe isn't user friendly, technically correct, and performs well, you can do better!

User Focus

- Define a universal naming convention that makes sense for your business, and ensure it is used in all universe designs

- Object classification, naming, descriptions, and formatting should be relevant to the business

- Define custom hierarchies that are relevant to the business

- Ensure universes are regularly reviewed with the business and continuously improved

- Provide shortcuts for the end users, such as predefined filters and date objects already expanded (Year, Quarter, Month)

Technical Focus

- Define measures to use SQL aggregation functions as well as projection functions

- Don't allow Cartesian products to be generated

- Resolve any SQL traps

- Utilise contexts and aliases to resolve loops

- Put comments in your universe where it adds value

- Add development release notes by comments to the business layer or data foundation, on the properties or within LifeCycle Manager

Performance Focus

- Do a performance check after user and technical focus has been achieved

- Leverage performance increases by using:

  – Tune the database connection(s)

  – Index awareness

  – Aggregation navigation

  – Shortcut joins

  – Prefer materialised tables or views over derived tables, where possible

BI4-Specific Best Practices

BI4 Best Practices

- Prefer single-source universes for performance reasons (due to native SQL generation)

- If using multi-source universes, spend extra time testing performance with many different queries

- Utilise improved functionality with families, contexts, and business layer or universe views

- Universe developers can now work solely within the Information Design Tool for all development and unit testing

BI4 Best Practices

- For system testing, ensure you are testing all the platform tools:
  - Webi, CR4E, Explorer, Dashboards
- If reporting against SAP Business Warehouse:
  - Preferred technique is using BICS native connectivity
  - Utilise multi-source universe if you require multiple data sources including SAP NetWeaver BW
  - Beware that you will not be able to leverage OLAP navigation and data will be presented relationally

Demonstrations

Demonstrations

1. Build a multi-source universe

2. Context vs alias in resolving loops

Additional Resources

- Official Product Tutorials – SAP BusinessObjects Information Design Tool

  - http://scn.sap.com/docs/DOC-8461

- SAP Idea Place – SAP BusinessObjects Semantic Layer (including Universe Designer) – be part of the discussion

  - https://cw.sdn.sap.com/cw/community/ideas/businessanalytics/sbosemanticlayer

- Tammy Powlas, "SAP BusinessObjects BI 4.0 The New Semantic Layer - ASUG Webcast Summary" (SCN Blog Post, April 2011).

  - http://scn.sap.com/community/semantic-layer/blog/2011/04/05/sap-businessobjects-bi-40-the-new-semantic-layer--asug-webcast-summary

- Michael Welter's Blog – Universe Blog Posts

  - http://michaelwelter.wordpress.com/

Additional Resources

- Jonathan Haun's Blog – Federated Universes

  – http://jdh2n.wordpress.com/2012/04/11/to-federate-or-not-to-federate/

- Geek2Live.net – Universe Design Best Practices

  – http://geek2live.net/posts/universe-design-best-practices/

- Diversified Semantic Layer

  – http://dslayer.net