Overview

Red Hat JBoss
Current Architecture

Data Virtualization

- **Virtual Database** definition
  > Data source schema definition
  > View model transformations
- VDB represents “catalog”
- Translators > DB-specific data
- Query plan development & execution
- Data access via JDBC call

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Current Architecture

**Modeling**

- VDB development and management
  - source model definition
  - view model transformations
  - data roles (security, data access)
- Testing VDBs
- Query plan analysis
Current Architecture

**Teiid Designer**
- Models
- VDBs
- .xmi files

**Import**
- JDBC
- DDL
- WSDL
- etc...

**Eclipse Data Tools**
- Connection Profiles

**Application Server**
- Teiid Admin API
  - deploy VDB
  - create or select -ds.xml
  - select translator
  - deploy data source

- JNDI Data Sources (-ds.xml)
- Translators
- VDBs

- Teiid JDBC Connection

**Data Sources**

**Teiid JDBC**
- Connection
  - .xmi files

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History

- **MetaMatrix - Modeler**
  - Java
  - Versions 1 thru 2 – JLoox and Swing
    - custom metamodels
  - Versions 3 thru 5 – Eclipse/Draw-2d/EMF
    - E-core/EMF metamodels

- **JBoss - Teiid Designer**
  - Versions 6 thru 8 – Eclipse/Draw-2d/EMF
    - E-core/EMF metamodels
  - 8.3 Final due in 2013 Q4
  - Follow-on 8.x releases to support Teiid 8.6+ releases
Legacy Tooling Issues

- Large model support
  - EMF metamodel is heavy-weight
  - 100% in-memory

- VDB artifact is heavyweight
  - XMI models
  - Indexed metadata files for each model
  - Teiid runtime requires index conversion to runtime metadata

- Testing Limitations
  - Eclipse-only UI
  - Modeling engine/logic interwoven with UI
  - Larger test coverage requires SWTBot/Plugin tests
Komodo Vision

- Large model support
  - Replace EMF with DDL metamodel
  - Utilize Modeshape DDL parsing/sequencing
  - Leverage Polyglotter modeling engine development

- VDB-centric modeling
  - Lighter-weight VDB archive
  - Replace XMI/EMF models with Teiid dialect DDL files
  - DDL files ARE indexed metadata and compatible with Teiid Runtime/engine (i.e. no index conversion by Teiid)

- Testing
  - Develop headless modeling/editing framework
  - UI-independent testing
Current Architecture

JBoss Developer Studio

Teiid Designer
- Models
- .xmi and index files
- Import

- JDBC
- DDL
- WSDL
- etc...

Eclipse Data Tools
- Connection Profiles
- Test/Query

Application Server

Teiid
- JNDI Data Sources (-ds.xml)
- Translators
- VDBs
- Teiid JDBC Connection

Teiid Admin API
- deploy VDB
- create or select -ds.xml
- select translator
- deploy data source

Data Sources

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Komodo Architecture

JBoss Developer Studio

Teiid Designer

- Models
- VDBs

Metadata Via Teiid Connection

- Data Source Deployment
- Dynamic Source VDB

import

Application Server

Teiid

- JNDI Data Sources (-ds.xml)
- Translators
- VDBs

Teiid Admin API

- deploy VDB
- create or select -ds.xml
- select translator
- deploy data source

Tesii JDBC Connection

Test/Query/Import

Data Sources
Integration Points

• Teiid
  – Admin API (deploy/undeploy artifacts)
  – Query parsing, resolving and validation (Client-side?)

• Polyglotter
  – Embedded/common Modeshape repository
  – Leverage Modeshape modeler engine
  – Teiid DDL metamodel (MS ddl-sequencer)
  – Artifact publishing/management via SRAMP
New Features

- **Data Source Configuration Management**
  - Common metamodel (MS CND definition)
  - Connection Profiles (Eclipse Data Tools?)
  - Data Sources (Resource Adapters?)
  - Import Properties

- **Translator Overrides**
  - Common metamodel (MS CND definition)
  - Re-usable

- **Community Repository**
  - Documentation
  - Example projects/VDBs
  - Example data sources
  - Example Schema (DDL)
Komodo Development Timeline

- TBD...