



The Easy (and Free!) way to implement  
drill-through

October 28<sup>th</sup>, 2014

## About Presenter

- Programming nerd
  - Various free and open source Hyperion utilities
  - Essbase Java API
- Essbase
- Oracle Data Integrator



Key  
Performance  
Ideas

## Agenda

- What is drill-through?
- Motivation
- Drillbridge
- Configuration
- Demo (10 minutes?!)

## What is Drill-through?

- Data in Essbase is typically consolidated somehow
  - Days into months
  - Transactions into account
  - Business units to division
- Oftentimes it would be useful to drill through to the original details (rows of data)

## Detail Behind a Data Cell

	Jan	Actual
Sales	61.50	



<b>TRANSACTION_DATE</b>	<b>TRANSACTION_AMOUNT</b>
Jan 15, 2014	10.25
Jan 18, 2014	20.75
Jan 21, 2014	30.50

## Drillbridge Motivation

- Past solution: Implemented with EPMA, Essbase Studio, ODI
  - EPMA to manage dimensionality
  - Studio to implement drill-through
  - ODI to extract dimensionality for Studio model
- Alternatives
  - Pure Essbase Studio
  - FDM

## Essbase Drill-through Definitions

- Oracle opened the door...
  - Showed up in 11.1.1.3
  - XML definition for pointing drill-through to a URL
- Drillbridge kicks it open!

## Overview

- Bridges the gap between Smart View, Planning, and FR to relational data
- Works without ODI, EPMA, FDM, EIS (EOL!), or Studio
- Quick setup
- Works with SQL Server, Oracle, MySQL, Informix, DB2 and other backend databases
- Uses built-in custom drill definition feature



## How it Works

- Drill through a data cell from Smart View
- Smart View reads the drill definition for that cell/cube and fires open a page in a web browser
- The members from the POV are passed to Drillbridge
- Drillbridge interprets and transforms the member names into an administrator-created SQL query
- The query results are displayed as a table in the web browser

# Essbase to Database Mappings

	Cube	Relational
<b>Time</b>	P01	PD = 01
<b>Year</b>	Yr2014	YR = 14
<b>Location</b>	705-808	DIV = 705, LOC = 808
<b>Scenario</b>	Actual	n/a
<b>Department</b>	Dt.001	n/a
<b>Measure</b>	Ac.0170100	ACCOUNT = 0170100

## Drillbridge Report Definition

- The dimensions from the drilled POV become variables with a value of the member name
  - #Scenario = Actual
  - #Time = P01
  - #Years = FY14
- Report query definition is a SQL query that has been parameterized to use the POV variables

## Mapping Types

- Drillbridge is handed “P01” as the Time member
- The backend database expects a value of “01”
- The transformation can be “take the right 2 characters of the member” or could be “strip the first character from the member”

## Report Query Example

- Target table has a column named `fiscal_year` where values are a four-digit year: (“2012”)
- Members in cube are “FY” and two digits (“FY12”)
- Use a Drillbridge expression to transform input

## Parameterization

- #removeStarting('FY', #Years)
  - FY12 → 12
- '20' + #removeStarting('FY', #Years)
  - FY12 → 12 → 2012
- Full token
  - '{{"name":"Years", "expression":"'20' + #removeStarting('FY', #Years)", "sampleValue":"FY12"}}'

## Full Query

```
SELECT *  
FROM TRANSACTIONS  
WHERE  
fiscal_year =  
  '{{"name":"Years", "expression":"'20' +  
#removeStarting('FY', #Years)",  
"sampleValue":"FY12"}'}
```

## SQL Query Executed on Server

```
SELECT *  
FROM TRANSACTIONS  
WHERE  
fiscal_year = '2012'
```



## Expression Functions

- #removeStarting
- #removeEnding
- #monthToTwoDigits
- #padZero
- #rightMinusStarting
- #leftMinusEnding
- Full Java String library
- Substrings
- Left, right characters
- Concatenation

## Report Queries

- Access to all variables from POV
- Typically will use multiple variables to narrow the query
  - Time Period
  - Year
  - Location
  - Account
  - ...

## Other Features

- Drill from upper level members
  - Qtr1 → Jan, Feb, Mar
- Smart formatting for dates, numbers, times
  - Internationalized
- Query with joins, against views, synonyms, etc
- Enhanced Security
  - Session Pinning
- Other databases supported by adding a JDBC driver
- Download to Excel
- Paging
- Custom CSS/HTML

## Deployment

- Install Windows service (single command!)
- Create a SQL connection
- Enter an Essbase server name
- Enter an app/cube
- Create the report definition (maps member names to to a query)
- Deploy the report
- Enjoy drill-through awesomeness!

## Other Thoughts

- Drillbridge is a very easy way to implement drill-through in a cost-effective manner
- Provides an incremental/evolutionary approach to drill-through instead of huge architecture rework/deployment
- Doesn't require perfect alignment between cube dimensionality and relational data

## Even Better...

- FREE!
- Drillbridge is in production at over a half-dozen companies, with more on the way
- Submitted abstract for Kscope15
- Praise from users:
  - “It just works!”

## Drillbridge Fan Club



Pierre Fabre



## Demo (10 minutes?!)

*“Thought you might have been showboating a little bit in saying you'd get it done in 10 minutes for the webinar, but this was seriously so simple to work through!”*





## Plan of Attack

- Prerequisites
  - Essbase server & relational database with tables
- Steps
  - Install Drillbridge
  - Setup Drillbridge objects
    - Connection (JDBC)
    - Essbase Server
    - Cube Mapping
    - Deployment Specification
  - Create report
  - Deploy report
  - Drill from Smart View



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## Thank You!

- Websites
  - <http://www.saxifrages.com>
  - <http://www.jasonwjones.com>
- Support forums & Wiki
  - <http://forums.saxifrages.com>
  - <http://wiki.drillbridge.com>



@jwj