



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

October 28th, 2014



About Presenter

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







Agenda

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



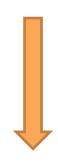
What is Drill-through?

- 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	



TRANSACTION_DATE	TRANSACTION_AMOUNT
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
Time	P01	PD = 01
Year	Yr2014	YR = 14
Location	705-808	DIV = 705, LOC = 808
Scenario	Actual	n/a
Department	Dt.001	n/a
Measure	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)
 - $-FY12 \rightarrow 12$
- '20' + #removeStarting('FY', #Years)
 - $-FY12 \rightarrow 12 \rightarrow 2012$
- 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 \rightarrow 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 halfdozen companies, with more on the way
- Submitted abstract for Kscope15
- Praise from users:
 - "It just works!"



Drillbridge Fan Club

















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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HOLLYWOOD, FLORIDA · JUNE 21-25



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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

