

OAC: When & Why to Use Essbase



Tim German



Director, Qubix

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About Me

- Director at Qubix
- 20 years experience with Oracle EPM and Analytics
- Oracle ACE since 2015, Director since 2018  **ORACLE**
ACE Director
- Vice-President at ODTUG
- tim.german@qubix.com
- www.linkedin.com/in/tim-german-757a8177/
- @CubeCoderDotCom
- www.cubecoder.com

About this Session

- OLAP and its Flavors
- Some Ancient History
- Some Recent History
- Essbase
 - Dimensional Modeling
 - Calculation
 - Performance
 - Experience
- Is MOLAP Still Relevant?
- When does Essbase Make Sense?

OLAP and its Flavors

- **On-Line Analytical Processing**
- Multidimensional View of Data
- Dimensional Modeling means
 - Categorization of Data
 - Hierarchies in those Characteristics

OLAP and its Flavors

- Relational OLAP aka **ROLAP**
- Data and metadata sits in relational tables
- Classic 'Star' and 'Snowflake' Schemas can be used for ROLAP
- Easy to integrate
- Familiar toolsets
- Standard languages
- Performance requires work
- Dimensional calculation logic requires work

OLAP and its Flavors

- Multidimensional OLAP aka **MOLAP**
- Proprietary data store
- Harder to integrate
- Less familiar toolset
- Standard languages *just about*
- High performance
- Dimensional calculation logic is easier

OLAP and its Flavors

- Hybrid OLAP aka **HOLAP**
- **MOLAP** on top of **ROLAP**
- Provides strengths and weaknesses of each

Some Ancient History

- Essbase dates from the early 1990s
- Not quite the first...
- The Genius of the Dense / Sparse paradigm
- The Genius of 'Query By Example'
- Codd's 12 Rules

Some Recent History

- On-Premises through 11.1.2.4
- Oracle Analytics Cloud
- March 2017
- The title of this presentation...
- 19c coming
- Essbase will no longer live in OAC

Is MOLAP Still Relevant?

- Do we still need proprietary data stores for performance?
- Doesn't Columnar Database / ADW / Hadoop / etc do this for me?
- There *are* Big Data 'OLAP' Products (e.g. Kylin)
- Do they *natively* do what *native* OLAP does

Essbase – Dimensional Modeling

- Many dimensions
- Many levels
- ‘Alternate’ Hierarchies
- Attributes
- Dynamic vs Stored

Essbase – Dimensional Modeling

- Some real examples...
- The classic ‘Sample’ application

Essbase - Calculation

- Consolidation Calculations
- MDX and the BSO language
- MDX is 'semi-standard'
- BSO language is very rich
 - Financially aware
 - Allocations
 - Currency
 - Interest / Internal Rate of Return etc
 - Trends
 - Dimensional calculation

Essbase – Performance

- BSO for complex calculations
- Smaller datasets (millions of input data point)
- Aggregation ‘processing’
- Sub-second query response again

Essbase – Performance

- ASO for ‘rack and stack’
- Supports billions of input data points
- Sub-second query response
- Instant inclusion of new data at all aggregations

Essbase – User Experience

- Power users can develop models
- Show unstructured import in OAC <Demo...>
- Power users can understand calculation
- ‘Query by Example’ in Smart View and other tools <Demo...>
- Most Data Visualization tools connect (MDX and XMLA)

When Does Essbase Make Sense

- Rich calculation language
- Very high performance
- User Comprehensible models (especially for Finance)
- Intuitive reporting tool (especially for Finance)
- Enterprise Support from Oracle
- Cloud and On-Premises future