



Oracle (Hyperion) Essbase

The powerful Multidimensional Database

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Agenda

- What is Oracle Essbase?
- Customer case I – scoring application
- Customer case II – allocation application
- Questions



What is Oracle Essbase?

1. General overview
2. The database types and its possibilities
3. Essbase in relation to DWH's



General Overview of Essbase

- Multidimensional OLAP database (MOLAP)
- Stores only figures (integer) – no textual information (char) or other formats.
- Has no tables, no fact table no rows but uses the concept of dimensions.
- Has no (or little) concept of time.
- Intersections of dimension members must exist in hierarchy before loading data. Member load (dimension build) before data load. Master-data essential.
- Ragged Hierarchies possible.
- Security to cell level and LDAP and NTLM authentication.
- Rich Scripting language (MaxL).
- Two different data storage options available:
 - Block Storage
 - Aggregate Storage



General Overview of Essbase

- Has 3-tier architecture with multiple Client Tools. Essbase is database layer.
- Open API.
- Part of the Oracle BI Foundation.
- Deployment as “standalone” (Excel AddIn, WebAnalysis, Financial Reporting) or via Oracle BI Suite Enterprise Edition Plus (Answers).
- Link to relational database through Oracle Essbase Integration Service and Hybrid Analysis.
- Supports Triggers, Data mining, Partitioning, Unicode, etc.



General Overview of Essbase

Advantages of Essbase are:

- sub-second response times.

The database is pre-calculated including aggregations

- most advanced, high performance calculation engine on the market with over 350 pre-built, out-of-the-box functions

From financial to member set functions.

- straightforward use

Administrators can easily add members to hierarchies or modify calculation scripts.

- allow users to "write back" to an application's data repository under security

This also in aggregated levels – functionality used in Hyperion Planning.

The database types and its possibilities

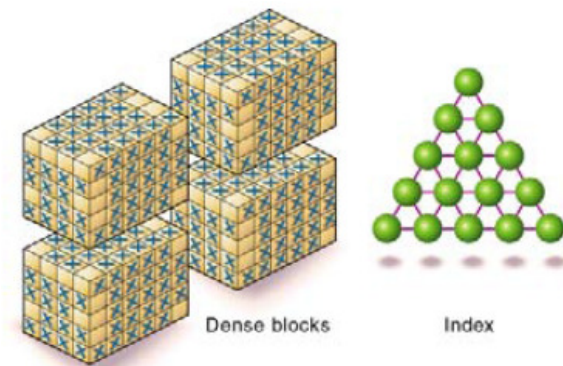
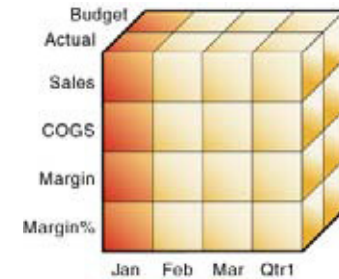
■ Block Storage Kernel

Has Data Blocks and Index

A Data Block represents all dense dimension members.

A Data Block can exist for all combinations of sparse members.

- Supports Calculation scripts and Calc script Functions. Better control of calculation order.
- Export of all data – also upper level
- Data load on all levels.





The database types and its possibilities

- Aggregate Storage Kernel

Works internally with kind of table spaces.

- Supports MDX calculations and queries.
- Aggregated Views – calculations at only at data retrieval.
- No upper level export.
- Data load only at bottom level.
- More scalable, because no “data explosion” when aggregating the data.



Essbase in relation to DWH's

Data Warehouse.

- Main repository of an organisation's historical data.
- Copy of OLTP data (cleansed) for data analysts performing queries (relational reporting).
- Data Extracts often serve as source for OLAP databases.

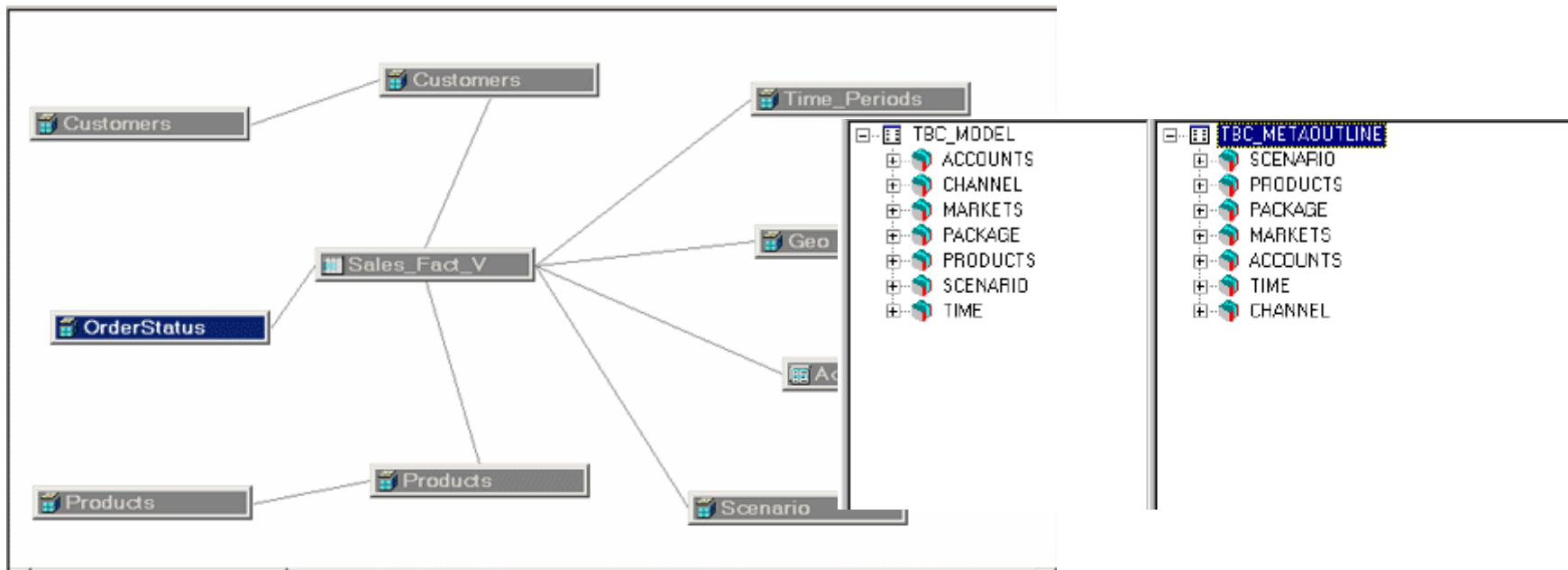
OLAP.

- Database for Reporting and Analysis.
- Modifying aggregations for specific audience and needs.
- Fast response times
- No transaction detail needed.

Essbase in relation to DWH's

Methods to connect DWH with Essbase are:


- ❖ Extract to ASCII files and load via Essbase rule files.
- ❖ SQL queries from Essbase rule files.
- ❖ Oracle Essbase Integration Service
- ❖ ETL tools (API or Reportscript)





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Customer Case I – scoring application

- Customer distributes products/services through resellers. Has revenue, expenses and commission expenses data over the last years per reseller.
- Need insight into which resellers are money losers, in which products, in which regions, and give fluctuations. Result is a list for improvement by Regional Sales Reps!
- Need insight which Region/Sales Rep has most “bad resellers” and how do they improve over time.
- Need insight which products and product combinations are typical for “bad resellers”.




Customer Case I – Steps to create the application

1. Create the outline
2. Load the data
3. Create the calculations
4. Build the reports
5. Automate the process



Customer Case I – creating the model (Dimensions)

- Dimensions needed:
 - Measures (Revenue, Expenses, Number of resellers, etc.)
 - Time (Years)
 - Products
 - Regions (reseller is lowest level)
 - Scoring (A, B, C, Cc, Ccc, Cccc)



Customer Case I – loading the data

- Data at the most detailed level.
- Cleansed and verified.
- All dimensions represented in records from Host.
- Load with “load rule” with simple field edits.
- Error log with rejected records (if any).



Customer Case I – creating the calculations

- Customer wants to know their bad performing resellers. Rate them on Profit%.
 - Calculation Profit = Revenue – Costs – Commission expenses
 - Calculation Profit% = (Profit / Revenue) *100

- Scoring rates given for classes A, B, Cc, Ccc and Cccc.
 - Cc = < 17 >=10
 - Ccc = < 10 >= 0
 - Cccc = < 0

- Scoring on Profit% for Total Core Products for each individual reseller.

- Score over the last 3, 4, 5 and all available years.



Customer Case I – providing the reports for action

- Calculate: how many resellers are in Region North with a Score of Cccc in the last 4 years and how much gross margin did they have this year?
- Who are the loss bringing resellers so we can stop the agreements?
- Rank these fellows!



Customer Case I – build the automation for IT

- Channel Sales wants to have this on a quarterly basis.
- IT does not want to do this manually
- Automation of the quarterly refresh needed
- MaxL is scripting language to do all database operations and can be scheduled with TWS or other tools. Error trapping possible.



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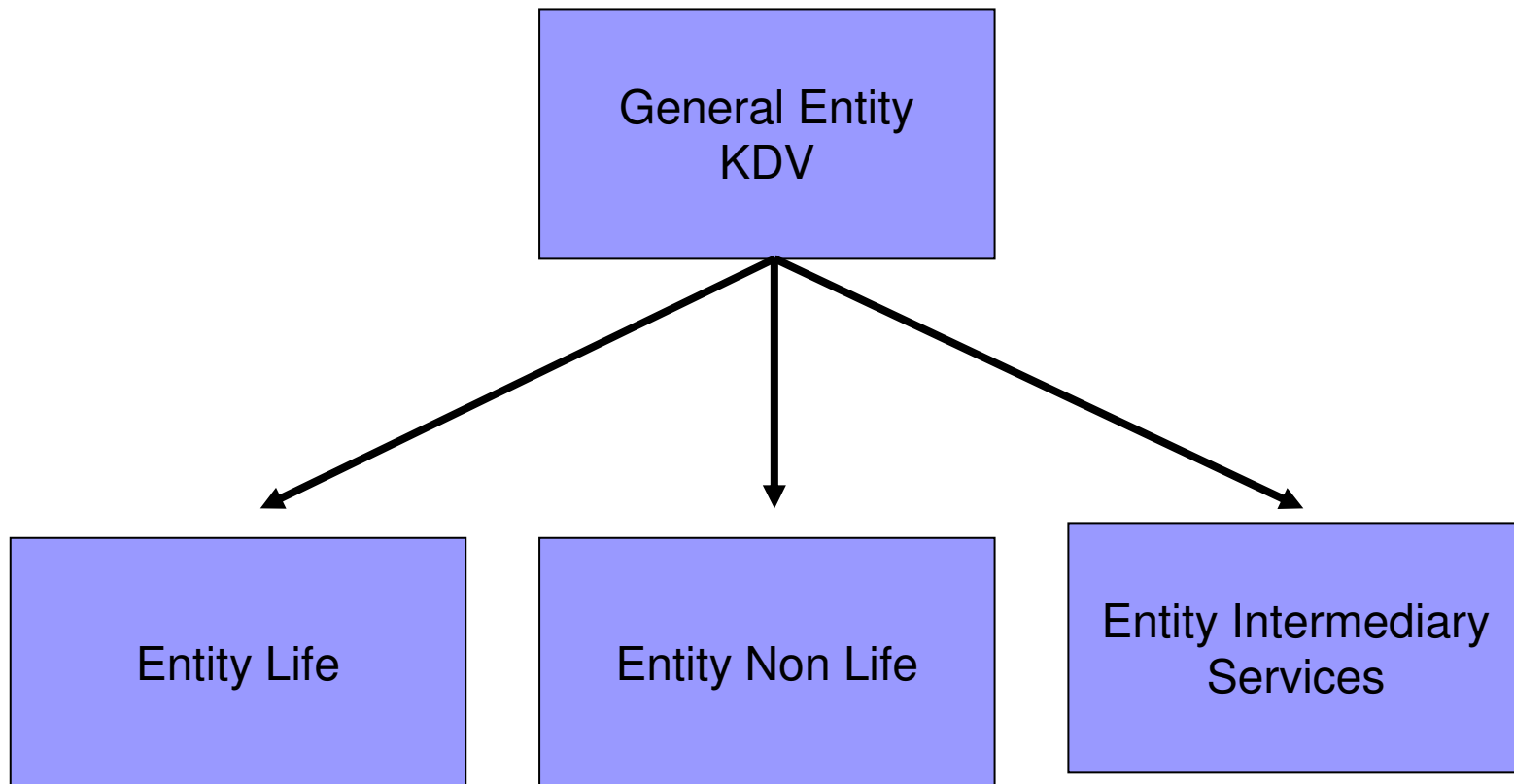


Customer Case II – allocation application

- The customer needs insight into the direct costs and indirect costs. With this, they want to control them better.
- Customer has various expenses on accounts which need to be allocated to different cost centers.
- There is a strict allocation order in which the data have to be allocated.
- Costs are finally arriving at cost centers of operations.
- -> Now new Oracle application for this: [Hyperion Profitability and Cost Management](#)

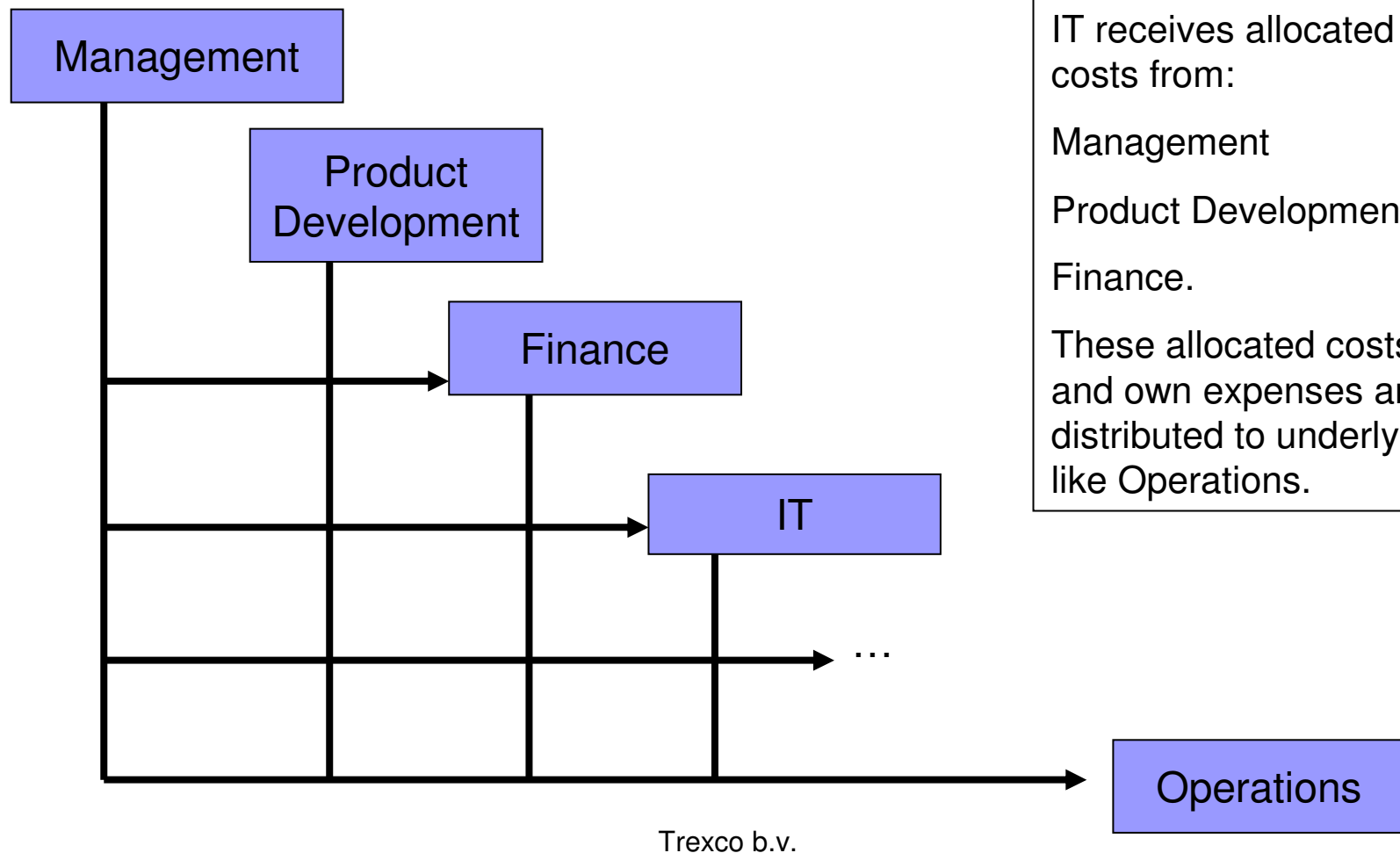
Customer Case II – allocation application

- Step 1. Allocation of general expenses to different entities.



Customer Case II – allocation application

- Step 2. Allocation expenses within each entity to different costcenters.



IT receives allocated costs from:

Management

Product Development

Finance.

These allocated costs and own expenses are distributed to underlying like Operations.



Customer Case II – allocation application

- Dimensions are updated monthly (new projects and new cost centers)
- Expenses data is loaded monthly
- Part of the drivers are loaded monthly (FTE from Peoplesoft).
- Other drivers are yearly fixed and collected via Excel sheets.



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