Essbase 11.1.1.0 Preview
Agenda

- Oracle’s EPM 11 Release Strategy
- Beta Program Changes
- Plan of Activities
- Release overview
  - Installation changes
  - Essbase
  - Studio
  - EAS, EIS
  - Smart View (relevant for Essbase features)
- Questions / Feedback
Oracle’s EPM 11 Release Strategy

- “Kennedy” release renumbered to 11.1.1.0.0
  - Tentatively Late June, 2008
  - Windows only
- “Shelley” release 11.1.1.1.0
  - All other platforms
  - Minor enhancements
  - Tentatively Q3 CY2008
- “Dickens” release 11.1.1.2.0
  - Localization
  - Tentatively Q4 CY2008
New installer

- New common installer for all products
- Easier to install
  - One installer, 4 main screens
  - Configuration tool
- Change in directory structure
New installer - screens
New installer - screens
New installer - screens
New installer - uninstalling
New installer - directories

- Single HYPERION_HOME
  - No HYPERION_HOME for common files
  - No HYPERION_HOME for each product
- Products are installed under HYPERION_HOME\products
- Web apps auto deployed are under HYPERION_HOME\deployments
- Essbase uses a new variable ESSBASEPATH
New installer - environment variables

- APS_HOME=C:\Hyperion\products\Essbase\aps
- ARBORPATH=C:\Hyperion\products\Essbase\EssbaseServer
- EAS_HOME=C:\Hyperion\products\Essbase\eas\server
- ESSBASEPATH=C:\Hyperion\products\Essbase\EssbaseServer
- ESSLANG=English_UnitedStates.Latin1@Binary
- HABNET_HOME=C:\Hyperion\products\Essbase\habnet
- HYPERION_HOME=C:\Hyperion
- ISHOME=C:\Hyperion\products\Essbase\eis
- ISLOADINFO=C:\Hyperion\products\Essbase\eis\loadinfo
- SMARTSEARCH_HOME=C:\Hyperion\products\Essbase\SmartSearch
New installer - directories
Configuration Tool
Essbase Product Suite

- Essbase Server
- Essbase Administration Services
- Hyperion Provider Services
- Essbase Integration Services (no new features)
- Essbase Spreadsheet Add-in (Classic)
- Essbase Studio (NEW!)
Essbase New Features

- Varying Attributes (Slowly Changing Attributes)
- Text/date Measures (aka Text lists)
- Backup, transaction logging and replay
- ASO features
  - Partial Data Clear
  - Target of a partition
  - Write-back to level 0 (9.3.1)
- New Time intelligence, Calc script and MDX functions
- XOLAP (Relational Access)
Essbase New Features - continued

- Shared Services
  - Default to use CSS authentication
  - Native Security still available
- Life Cycle Management
Varying Attributes (aka Slowly Changing Attributes)

- Varying attributes feature enables you to:
  - Store data for situations where attributes can change, such as:
    - Employee hierarchy - over time
    - Product packaging - over different markets

- Analyze data based on perspectives
  - Historical data – reflect the actual changes
  - Point-in-time – as how the hierarchy was a certain point
### Varying Attributes - Perspectives

- **Reality perspective**

<table>
<thead>
<tr>
<th>Manager</th>
<th>Category</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
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<th>Sep</th>
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<th>Dec</th>
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<tr>
<td></td>
<td>Cream Soda</td>
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- **March perspective**

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<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
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<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Cream Soda</td>
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- **July perspective**

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<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tbody>
<tr>
<td></td>
<td>Cream Soda</td>
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Text and date measures

- Use text and dates as measures in multidimensional reporting
- Perform analysis based on text or date measures
- New types of reports and analysis

<table>
<thead>
<tr>
<th>Sales Rank</th>
<th>Sales</th>
<th>Satisfaction</th>
<th>Transaction date</th>
<th>Sales Rank</th>
<th>Sales</th>
<th>Satisfaction</th>
<th>Transaction date</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>385</td>
<td>Satisfied</td>
<td>1/7/2006</td>
<td>9</td>
<td>3324</td>
<td>Satisfied</td>
<td>2/13/2006</td>
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<tr>
<td>4</td>
<td>385</td>
<td>Rather satisfied</td>
<td>1/19/2006</td>
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<td>3307</td>
<td>Rather satisfied</td>
<td>2/24/2006</td>
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<tr>
<td>5</td>
<td>2078</td>
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<td>1/16/2006</td>
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<td>471</td>
<td>Very dissatisfied</td>
<td>2/22/2006</td>
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<tr>
<td>6</td>
<td>345</td>
<td>Rather satisfied</td>
<td>1/12/2006</td>
<td>4</td>
<td>3342</td>
<td>Rather satisfied</td>
<td>2/26/2006</td>
</tr>
<tr>
<td>7</td>
<td>223</td>
<td>Rather satisfied</td>
<td>1/5/2006</td>
<td>2</td>
<td>4599</td>
<td>Satisfied</td>
<td>2/18/2006</td>
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<tr>
<td>8</td>
<td>3867</td>
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<td>1/14/2006</td>
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<td>Dissatisfied</td>
<td>2/23/2006</td>
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</table>

<table>
<thead>
<tr>
<th>Sales Type</th>
<th>Sales</th>
<th>Package Type</th>
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<tr>
<td>Cola</td>
<td>40013.2</td>
<td>Bottle</td>
</tr>
<tr>
<td>Diet Cola</td>
<td>12640.6</td>
<td>Can</td>
</tr>
<tr>
<td>Caffeine Free Cola</td>
<td>6281.6</td>
<td>Can</td>
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<tr>
<td>Colas</td>
<td>59935.4</td>
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</table>

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Sales Program Start Date</th>
<th>Sales Program End Date</th>
<th>Life Span</th>
<th>Deviation from Average Life Span</th>
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<tr>
<td>All Merchandise</td>
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<td>Digital Cameras</td>
<td>April 8, 2004</td>
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<td>Photo Printers</td>
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<td>Handhelds</td>
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<tr>
<td>Memory</td>
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<tr>
<td>Other Accessories</td>
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<td>March 23, 2006</td>
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<tr>
<td>Boomboxes</td>
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<tr>
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<td>August 1, 2006</td>
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<tr>
<td>Direct View</td>
<td>December 23, 2005</td>
<td>March 5, 2006</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ORACLE
Text and date measures

- Customer list
- Sales is a numeric measure
- Satisfaction is a text measure
- Transaction date is a date

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sales Rank</td>
<td>Jan 2006</td>
<td>Sales</td>
<td>Satisfaction</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>Daria Zalack</td>
<td>385</td>
<td>Satisfied</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Garey Bennett</td>
<td>2709</td>
<td>Satisfied</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>Brady Sell</td>
<td>264</td>
<td>Rather dissatisfied</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>Tammie Weisgarbe</td>
<td>393</td>
<td>Rather satisfied</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Kian Clark</td>
<td>2079</td>
<td>Very dissatisfied</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>Harriett Laurenzi</td>
<td>349</td>
<td>Rather satisfied</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>Aaliyah Shaffer</td>
<td>223</td>
<td>Rather satisfied</td>
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<tr>
<td>8</td>
<td>1</td>
<td>Kallyn Joyce</td>
<td>3606</td>
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<tr>
<td>9</td>
<td>8</td>
<td>Madge Zoucks</td>
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<td>Satisfied</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>Christianne Nicola</td>
<td>462</td>
<td>Very satisfied</td>
</tr>
</tbody>
</table>
Text measure analysis

- Because text measures are stored as numbers, you can perform calculate averages and summaries.
- Example: Find average Rating for a group of customers.
- Group A is average satisfaction for the group.

```
<table>
<thead>
<tr>
<th></th>
<th>Sales</th>
<th>Time</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Daria Zalack</td>
<td>365</td>
<td>Satisfied</td>
</tr>
<tr>
<td>2.</td>
<td>Garey Bennett</td>
<td>2709</td>
<td>Rather dissatisfied</td>
</tr>
<tr>
<td>3.</td>
<td>Brady Sell</td>
<td>264</td>
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<td>Harriet Lawrenzi</td>
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<td>8.</td>
<td>Kailyn Joyce</td>
<td>3608</td>
<td>Rather dissatisfied</td>
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<tr>
<td>9.</td>
<td>Madge Zoucks</td>
<td>307</td>
<td>Satisfied</td>
</tr>
<tr>
<td>10.</td>
<td>Christianne Nicola</td>
<td>463</td>
<td>Very satisfied</td>
</tr>
<tr>
<td></td>
<td>Group A</td>
<td>10969</td>
<td>Rather satisfied</td>
</tr>
</tbody>
</table>
```
Backup, transaction logging and replay

**BSO Only ***

- **Backup/ Restore:**
  - Copy the files to a specified location during backup
  - Database in read-only mode during backup
  - Restore from copy at later point. This can be used in conjunction with operational transaction logging and playback capabilities to restore to a previous state.

- **Transaction logging & replay**
  - Logging: Track write operations to the database.
  - Following events will be logged:
    - Outline changes, data load, calculations, lock and send
  - Replay: Choose which events to replay or replay all. This feature could be used as pseudo data mirroring.
Backup, transaction logging and replay

- Administration Console
- MAXL
ASO features

- **Partial Data Clear**
  - Remove data before load (for example last 3 months)
  - Set region of data to 0 or #MISSING with MDX statement
  - Logical or Physical Clear

- **Target of partition**
  - An ASO cube can be a target of a replicated partition. From a BSO cube data is transferred into an ASO cube.
  - Customer will take care of cube structural maintenance between the source and the target once the replication is done.

- **Write-back to level 0**
  - Data at upper levels will be ignored
Partial Data Clear – Physical

- The PHYSICAL option completely removes cells in the specified region.
Partial Data Clear - Logical

- Logically removes cells by creating compensating cells in a new slice
Data Clear - Performance

- **Customer X Database**
  - Input data cells 64,253,181 (Load Time: 543 sec)
  - Aggregate cells 13,675,311 (Aggregation Time: 356 sec)
  - Data size 908 KB

Region definition {([Aug '05], [Days_From_Inventory_To_Sale])}

- No. of cells in region 276,862
- Elapsed time for logical clear 13.64 sec
- Elapsed time for physical clear 393.494 sec
ASO as target of a partition

- **Current state**
  - Full support for BSO partitioning
  - ASO can only be source of transparent partition

- **New in Essbase 11.1.1**
  - ASO as target of transparent partition
    - BSO can be used for complex calcs
    - ASO can be used for aggregation performance benefits
ASO as target of a partition

• Consolidate multiple cubes into target
• Target provides unified view into multiple source cubes
• Measures with different granularity
  • Overcomes limitation of write-back to upper levels
  • Cell can be leaf level (lev0) member in source, but non-leaf level in target
ASO as target of partition

BSO source

ASO target
New calc script functions

- **@ANCESTORS/ @DESCENDANTS examples**
  - `@DESCENDANTS(@LIST("100", "200", "300"), 0)`
    - Returns all the descendents for the members “100”, “200” and “300”
  - `@DESCENDANTS(@LIST(@UDA(Market, "Major Market")), 0)`
    - Returns all the descendents for the members (till level 0) in ‘Market’ dimension which are associated to attribute ‘Major Market’. The result set will have the descendents of “East” and “Central”
  - `CALC ALL EXCEPT MBR(@ILDESCENDANTS(@LIST("100", "200")))`
    - Calculate the entire database except for the descendents of the members “100” and “200” including the base members.”
New calc script functions - ShiftSibling

• **@SHIFTSIBLING**
  • Returns the nth previous member as a string.
  • Generate a member name string based on the relative position of the focus member.

• **Syntax**
  • `@SHIFTSIBLING (mbrName, [N])`
  • `mbrName`: Name of base member
  • `N`: Optional argument to specify by what position to shift the sibling in the outline order.
  • Values N can assume:
    • `N = 0` the base member itself
    • `N < 0` the previous sibling after N relative shift. If this shift goes beyond the left most member then return an empty string ("")
    • `N > 0` the next sibling after N relative shift. If this shift goes beyond the right most member an empty string ""
    • The default value of N is set to zero.
New calc functions

• For shifting one member
  • @PREVSIBLING(mbrName)
    • Returns the previous sibling for the input member. If the input member is the left most member then return ““; This is equivalent of calling @SHIFTSIBLING with -1 as the optional argument N
  
  • @NEXTSIBLING(mbrName)
    • Returns the next sibling for the input member. If the input member is the right most member then return ““. This is equivalent of calling @SHIFTSIBLING with 1 as the value for optional argument N.
Environment Variables in Calc scripts

- To use environment variables in a calc script, use a leading $ sign:

  DATAEXPORT "File" "," $ENV_FILE;

- Note: $ is reserved for environment variables.
  - If a member name begins with $, enclose it in quotation marks.
New MDX Time Intelligence functions

- JulianDate - To the given Unix date, get its julian date.
- UnixDate - To the given julian date, get its Unix date.
- GetNextDay - To the given date and the week day, get the next date after input date that corresponds to the week day.
- GetFirstDay - For a given date_part, this function returns the first day of the time interval for the input date, following a standard Gregorian calendar.
- GetLastDay - For a given date_part, this function returns the last day of the time interval for the input date, following a standard Gregorian calendar.
- GetRoundDate - For a given date_part, this function returns the rounded date of the input date to the input time interval, following a standard Gregorian calendar.
New MDX function - LinkMember

• LinkMember
  • Returns a member’s shared member along a given hierarchy

• Syntax
  • Member.LinkMember( hierarchy )
    OR
  • LinkMember( member, hierarchy )

• Enables ranking along shared level of alternate hierarchies – the general purpose function can be used in lot of other scenarios.

• Available from 9.3.1.1
XOLAP
eXtending OLAP on Relational Database

- Cube that is dynamically sourced from RDBMS
- Application construction (Dimensional Modeling of Database tables/columns) with Essbase Studio
- Use with OLAP Aware tools – Reporting and Analysis
  - Office – Smart View
  - BI+ tools – Web Analysis / Financial Reports / OBI
  - Visual Explorer
XOLAP Functional Summary

• ASO-style application – aggregation then calculation
• Complete Outline built
  • no automatic refresh from dimension table changes
• Data retrieval by issuing SQL on demand
  • no caching (yet)
• Aggregate awareness – support for summary tables
• RDBMS friendly (read fewer/simpler) SQL queries
• “Hybrid” aggregation strategy
• Transparency of Access
  • query interfaces/calculations/partitions/Drill-thru
XOLAP removes pain points of Hybrid

- No restriction on types of formulas
- Efficient SQL
  - Metadata resolution does not generate SQL
  - Specific support for Keep-only, Remove-only types of operations
    - Heuristics drive generation of IN clause vs. filtering in Essbase
  - Multiple-query-aggregation levels handled by normalizing SQL to lowest query aggregation level
    - Other aggregations handled by Essbase
- Zoom-out zooms out to the right parent
- XOLAP can participate in partitions framework
- XOLAP models can be drill through enabled
**XOLAP Restrictions**

- No support new Essbase features directly on XOLAP partition (Varying Attributes/Text list / Date-Time etc.)
- Attribute Dimensions not supported
- Densification for raggedness required to be handled at the source
- Write-back not supported
- Relies on database views for filters
Lifecycle Management

- Consistent, repeatable movement of apps, cubes, repositories or individual artifacts between dev, test, prod

- User interface & command line capabilities
- Auditing & application comparisons
- Available in next major release:
  - Essbase, HFM, Planning, EPMA, Calc Mgr, BI, Profitability Mgt, HPS, HSS (security, task flows, registration)
- LCM available with Shared Services
LCM Features

- Migration of entire app/repository or individual artifacts
- LCM security
  - LCM Admin role
- Browse applications and folders
- Search artifacts
- Compare applications and folders
- Export/Import HSS from/to local or server file system
- Save and load package file
- Audit report
- Migration status report
Supported environments

- Connected environments
  - Dev, test and prod environments are connected
- Connected environments utilize 1 Shared Services
- Migrations occur directly from one app to another
Supported environments

- Disconnected environments
  - Dev, test and prod environments are completely isolated
- Separate environments utilize separate Shared Services
- Migrations utilize the file system
EAS, EIS
New Features exposed in EAS, EIS

- Varying Attributes
  - Manual Assignment (Studio for building from source)
- Text/Date Measures
- All other features except
  - XOLAP (requires Studio)
- EIS is updated to build existing cubes into Essbase 11.1.1.0
  - It is not enhanced to support new 11.1.1.0 Essbase features
  - Goal is to move to Studio
Essbase Studio
Essbase Studio

- Next generation of Essbase application building and administration
  - Graphical modeling environment – ease of use
  - Integrate Cube creation capabilities of EIS and EAS
  - Promote reuse and consistency
  - Manage change through impact analysis and artifact lineage
  - Update data source administration and access
Essbase Studio

- Enhanced User Experience
  - Single Interface for cube design, deployment and administration
  - Managing deployment of Essbase applications
- Sources supported for modeling
  - Relational databases
  - OBI EE
  - Flat files
  - Dimension Server Library (EPMA)
- Support for Varying Attributes
- Support for new data types
  - Text measures
  - Date Measures
- Catalog browsing & exploring
  - High Usability and Reusability
- Lineage Analysis

- Drill through
  - Cell based
  - Member based
  - OBI EE, Java method, FDM, Essbase, URL, Relational database
- Role based security
  - Viewer, DSAdmin, DM and Admin
- Improvements in architecture
  - Parallel dataloads
  - Optimization for Teradata TPT API
Smart View
Connections

- Old Connection Manager Discontinued
- Part of Spreadsheet Real Estate
- Show/Hide Option
Connections (Contd.)

- Organized by Product Areas
- Central Definition - Admin
- Provision for Default
- Underlying URL:
  http://<host>:<port>/aps/SmartView
Data Perspectives
Getting Data…

• Typical end user navigates top down
  • Product Sales for All Regions
  • Show Data for Eastern Region
• Save format for Re-use
• Provide Query Capability Centrally
• Apply additional filters
  • Product Sales for East: Products 100 & 200 only
Personalized Office Analytics

- Database slices
  - User defined
  - Distributable
- Default:
  - Queries
  - POV
  - User options
- Filtered database views:
  - For example only see 4 dimensions of 12 dimensional model
  - Anchor other dimensions
Smart Slice

- Unexpanded member filters
  - Children
  - Descendants
  - Etc
- Specific options
  - Suppression
  - Zoom
  - Depth
  - etc
Smart Slice Cont.

- Creation ability secured
  - Set per database by admin
  - Longer term personal repository
- Define in Excel
- Leverage across Office
- Confined ad-hoc access
- Required to leverage Report Designer
Query

- Based on Smart Slice
  - e.g. Sales for Region West
- Pre-cursor to Report Design
- Report Objects associate to Query
Sub-Query

- Local filter
  - e.g. Sales for Region East: for Products 100 & 200
- Ability to associate Report Objects
- Multiple Report Objects linked to Single Query
Report Designer
Report Designer

- Data Integration
- Stylized Output:
  - Formats
  - Tables
  - Charts
  - Formulae
- Linked POV
- Cascade Output
- Word and PPT Table/Report Authoring
- Report Controls
Report Designer

- Workbook as a report
  - One or more Smart Slices
  - Multiple data sources
  - Object based display of Smart Slices
- Can mix ad-hoc and report
- Display by view or sheet
- VBA capable
- Linked POV across same source
- Leverage design mode
Report Controls

- Native to Office
- VB controls
- Work on Smart Slice
- Chart – Chart control, not the same as Office 2007 charts
- Slider – Office control, allows multiple members from a dimension to filter grid or chart
- Flex Grid – Scrollable grid based control, fixed headers, zoom, and pivot
- Table – Drill, Scroll Bar
Report Controls Cont.

• Drop-down list – list control that contains multiple members from a dimension to filter grid or chart
• POV – POV control that lets user change POV on grid
• Refresh/Submit button – Control that lets you refresh or submit a given sheet or subsection of a sheet
Essbase Enhancements

- Smart Slice modeling
- Essbase Studio drill-through
  - Display in pop-up
  - Format
  - Launch:
    - URL (in browser window)
    - Relational report
    - Java method
- Varying attribute support
- Textual data support
  - Drop-down list in Excel
# Drill Through Reports

Custom color coding indicating member cells have a drill through report associated

Custom color coding indicating data cells have a drill through report associated

Tool tip showing the various reports applicable at the context of the cell. Dynamically generated tool tip

### Microsoft Excel - Book1

<table>
<thead>
<tr>
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<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
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</tbody>
</table>

Drill Through:
`\{SalesAnalysisModeling\}\{Reports\}\{SalesDetails\}\{ProductDetails\}`
Essbase 11.1.1 Key Features Summary

- **EPM Initiatives**
  - Shared Services Security
    - Shared Services is now Default
    - Security Import/Export
    - Remove OpenLDAP Dependency
  - Lifecycle Management
  - Expanded Smart Search capabilities
- **General Essbase Features**
  - Essbase Studio
  - Textual/ Date Measures Support
  - Common installer
  - Enhanced Cancellation
    - Data load
    - Maxl, MDX, Calc and report scripts execution
- **Block Storage Specifics**
  - Time Intelligence enhancements
    - Calc script functions
    - Time Dimension Wizard
  - Transaction logging, backup and recovery
- **Aggregate Storage Specifics**
  - HOLAP/ROLAP optimizations (XOLAP)
  - Parallel Streaming loads from SQL
  - Varying Attributes
  - Target of a Transparent Partition
  - Target of a Replicated Partition
  - Unicode