Re-Implementing R12 - Just DON'T Do it! What We Learned the Hard Way.

Session ID#: 10675

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- R12.1.3, R12.2, OBIEE public vision instances
- Posted presentations on functional and technical topics
Agenda

- Upgrade vs. Re-implementation Terminology
- Evaluation process
- Re-implementation Drivers & Alternatives
- Objective decision matrix
- Q & A
Terminology

- Re-implementation = “starting over”
  - After installing a new instance of Oracle software, configure, then use data conversion methods to load data using open interfaces or APIs (Application Programming Interfaces)
  - Compare this to your original implementation

- Upgrade to R12
  - Install Oracle Software
  - Use Oracle upgrade process to transform data
    - All data available
    - Process fully tested and supported by Oracle
    - Significantly shorter/less costly
Potential Re-Implementation Consequences

- **Historical transaction data**
  - A significant amount of transactional history will be lost
    - APIs do not exist to migrate all historical transactions
    - There are no standard extract, transform, load scripts
    - Direct table updates are not supported

- **You may need to create reporting in a data warehouse to span old instance and new instance**
  - Do you have a data warehouse now?
  - What will it cost to normalize data with different configurations?

- **You may need to keep the sunset instance available in read-only mode**
  - Consider cost and maintenance requirements to maintain access
Evaluation process

- Identify long term corporate strategy
- Identify significant pain points
  - What doesn’t work in your current environment?
  - Include current pain points and expected pain with growth
  - This is a good way to engage your executives and get buy-in
- Evaluate customizations and extensions
  - Is there a plan to eliminate?
- Prioritize and quantify decision drivers
- Evaluate alternatives
- Evaluate time, pain, cost of re-implementation
- Enter results in decision matrix to quantify final decision
- How much history do you need?
- What would an ideal target EBS environment look like?
Challenge Your Thinking!

Typical Re-implementation Drivers and Alternatives
Typical Upgrade vs Re-Implementation Drivers

- Multiple Instances
- Poor Data Quality
- Business Transformation
- Configuration Changes
- Eliminate Customizations
- Obsolete Data
- Downtime window
Driver: Multiple Instances

- Option 1 – Re-implement All Instances
  - Consider consequences presented

- Option 2 – Upgrade primary instance and roll in other instances using standard data conversion methods
  - Is volume low enough to avoid programmatic data conversion
  - Data migration software may be a better solution than writing custom extract, transform, load scripts

- Option 3 – Consolidate instances
  - Commercial software available
  - Instances must be at same EBS release

- Option 4 – Leave as separate instances
  - If the only reason to merge is for consolidated reporting
    - Consider implementing a reporting tool or data warehouse
    - Oracle has no cross-instance functionality
  - Evaluate cost and maintenance for maintaining separate instances
Driver: Extremely Poor Data Quality

- How bad is bad enough?
  - Did you compromise data due to direct table updates?
  - Did you improperly change your calendar?
  - Were you a beta implementation that resulted in bad data?
  - Is the condition of data requiring you to customize reports to accommodate data anomalies
  - Do you have a large number of SRs resulting in data fixes?
Alternatives: Extremely Poor Data Quality

- **Option 1 - Re-Implementation**
  - Consider cost of re-implementation versus cost of alternatives
  - You will still need to correct data problems as part of data conversion effort

- **Option 2**
  - Use data transformation products to “clean” data
  - Partition the database and put “old data” or infrequently used data on less expensive drives
  - Evaluate whether there are supported tools or methods to clear interface tables, disable or end-date data, or transform “bad” conversion issues.
  - Create a separate ledger or operating unit for going forward

- **Option 3**
  - EBS standard purge processes
Driver: Business Transformation

■ Has your business changed so much that the original design no longer works?
  ▪ Consider your five year plan – not just business today

■ Are your business users stuck in a rut
  ▪ Will an upgrade result in maintaining the status quo

■ Disparate business process – Do you have different processes in different locations that need to be more aligned?

■ Can you eliminate the silos in your organization?
Alternatives: Business Transformation

■ Option 1 - Re-implementation
  ▪ Re-implementations often drive new ways of thinking – but at a very high cost

■ Option 2 - Gamification
  ▪ Use gamification techniques to drive change
  ▪ Conduct a global meeting to define required changes, and define what data or processes may be changed

■ Option 3 – Transformation software to realign EBS to new business processes
  ▪ Transformation software allows configuration changes to define the global business process
    — Change flexfields, legal entities, currency, calendars, etc..
    — Merge sets of books/ledgers, inventories, organizational units
    — Divest business units
Driver: Configuration Changes

- Configurations changes can be driven by:
  - Business transformations
  - More sophisticated software providing better solutions
  - Mergers and acquisitions
  - Need to comply with new statutory, regulatory requirements in new markets

- Examples of configurations that cannot be changed using standard Oracle functionality
  - Chart of accounts
  - Calendar
  - Costing methods
  - Flexfields
Alternatives: Configuration Changes

- **Option 1 – Re-implementation** – the costly option
  - How to be sure that the new instance will meet future requirements?

- **Option 2 – Custom Solution** – your own or other consulting firm
  - Many consulting firms have customized scripts to change configurations at a lower cost than re-implementation
  - Scripts need to be redone as requirements change
  - Full custom development effort with unit testing, error handling

- **Option 3 – Commercial Transformation Software to Remodel EBS Configurations**
  - Change chart of accounts, flexfields, legal entities, currency, calendars, etc.
  - Merge, split, or move sets of books/ledgers, inventories, organizational units

- **Option 4 – Create New Ledger, OU**
  - Going forward only
  - How to deal with in-flight transactions?
Driver: Eliminate Customizations

- Did you follow standards when building customizations and extensions?
  - Naming standards help identify customizations
  - Extensions and personalizations should be utilized where possible
  - Use provided APIs to update data
- Do you have undocumented invasive customizations?
- Is the functionality of the customizations covered by new Oracle functionality?
Alternatives: Eliminate Customizations

- Identify customizations and extensions
  - 3rd party products to find customizations and extensions
  - Contact your Oracle sales representative to get a CEMLI analysis
  - Consult other consulting companies for scripts to identify customizations
  - Find your own customizations and extensions
    - Queries
    - Oracle processes and reports
    - Migrate only what you need
  - Look for personalizations
- Determine whether new functionality can replace customizations
Eliminate Customizations and Extensions

- Query for OAF Pages with Personalizations
  - Note that because many OA Framework-based personalizations are shipped with Oracle E-Business Suite either as "seeded developer" or "localization" personalizations, this list can be much longer than you expect.
  
  - There is currently no way to tell, other than by looking at the actual personalization or personalization document, whether a shipped personalization has been further personalized at your site.

```sql
SELECT PATH.PATH_DOCID PERZ_DOC_ID,
jdr_mds_internal.getdocumentname(PATH.PATH_DOCID) PERZ_DOC_PATH
FROM JDR_PATHS PATH
WHERE PATH.PATH_DOCID IN
  (SELECT DISTINCT COMP_DOCID FROM JDR_COMPONENTS
   WHERE COMP_SEQ = 0 AND COMP_ELEMENT = 'customization'
     AND COMP_ID IS NULL)
ORDER BY PERZ_DOC_PATH
```
Query for OAF Personalizations Created by Customer

- **My Oracle Support Document 1292611.1**
- This query does not include the seeded personalizations even if they have been further personalized at your site

```sql
SELECT PATH.PATH_DOCID PERZ_DOC_ID,
      jdr_mds_internal.getdocumentname(PATH.PATH_DOCID) PERZ_DOC_PATH
FROM JDR_PATHS PATH
WHERE PATH.PATH_DOCID IN
  (SELECT DISTINCT COMP_DOCID FROM JDR_COMPONENTS
   WHERE COMP_SEQ = 0 AND COMP_ELEMENT = 'customization'
   AND COMP_ID IS NULL)
MINUS
SELECT PATH.PATH_DOCID PERZ_DOC_ID,
      jdr_mds_internal.getdocumentname(PATH.PATH_DOCID) PERZ_DOC_PATH
FROM JDR_PATHS PATH
WHERE PATH.PATH_DOCID IN
  (SELECT DISTINCT COMP_DOCID FROM JDR_COMPONENTS, JDR_ATTRIBUTES
   WHERE COMP_SEQ = 0 AND COMP_ELEMENT = 'customization'
   AND COMP_ID IS NULL
   AND ATT_COMP_DOCID = COMP_DOCID
   AND ATT_COMP_SEQ = 0
   AND ATT_NAME = 'developerMode'
   AND ATT_VALUE = 'true')
```
Eliminate Customizations and Extensions (continued)

- Removing OAF Extensions
  - Multiple methods to remove OAF Personalizations described in MOS document “How to Remove an OA Framework Personalization [ID 304670.1]”
    - Use the Functional Administrator responsibility
    - Temporarily disable
      - Set the profile option “Disable Self-Service Personal” = YES at the site or application level
    - Use JDR_UTILS package
      - Jdr_utils.deleteDocument(path&name)
Eliminate Customizations and Extensions (continued)

Form Personalizations

- How to find them:
  - Tools → Administration will show personalized forms
  - Press the Find button with the Form Name blank
Eliminate Customizations and Extensions (continued)

■ Form Personalizations
  ▪ Where are they stored:
    – FND_FORM_CUSTOM_RULES
      – Data from header and condition
    – FND_FORM_CUSTOM_SCOPES
      – Data from context area
    – FND_FORM_CUSTOM_ACTIONS
      – Data from actions tab
  ▪ To remove all, purge the tables above

■ Run your own scripts and check “last_updated_by”
  ▪ Look at items where created by is a user other than “INITIAL SETUP”, “AUTOINSTALL”, “ANONYMOUS”)
    – Responsibilities
    – Concurrent program definitions
    – Other configurations
Obsolete Data: We Have Too Much Data

- Re-implementation reduces data footprint due to loss of historical transaction data
  - Painful way to archive
  - History probably needs to be retained somewhere such as data warehouse or sunset instance

- Alternatives
  - Purge using seeded purge programs
  - Commercial archiving software
    - However, if you transform your configuration data, you will not be able to retrieve your historical data
  - Disk space is less expensive than maintaining an archive instance (purchase additional, less expensive, disk space and partition your history or high volume tables)
Query to find standard archive and purge programs

```
select substr(b.application_short_name,1,11) "APPLICATION",
       substr(a.user_concurrent_program_name,1,50) "CONCURRENT PROGRAM NAME",
       substr(a.concurrent_program_name,1,35) "SHORT NAME"
from fnd_concurrent_programs_vl a, fnd_application_vl b
where a.application_id = b.application_id
  and a.enabled_flag = 'Y'
  and (a.user_concurrent_program_name like '%urge%'
       or a.user_concurrent_program_name like '%elete%')
order by b.application_short_name;
```
Other Factors

- **Internal Resource Capacity**
  - Re-implementations require significantly more time
  - Custom scripts require a full development/testing effort

- **Downtime window**
  - The cutover window can be reduced further in a re-implementation
  - Existing instance remains as is
  - Majority of install, patching and data conversion completed in advance
  - Downtime weekend consist of incremental data conversion and testing

- **Oracle recommends the upgrade path**
  - Upgrade Advisor: E-Business Suite (EBS) Upgrade from 11.5.10.2 to 12.1.3 [ID 269.1]
<table>
<thead>
<tr>
<th>Driver</th>
<th>Alternatives to Re-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Instances</td>
<td>Upgrade primary instance and roll in other instances using standard</td>
</tr>
<tr>
<td></td>
<td>data conversion methods</td>
</tr>
<tr>
<td></td>
<td>Consolidate instances</td>
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<tr>
<td></td>
<td>Leave as separate instances</td>
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<tr>
<td>Business Transformation</td>
<td>Gamification</td>
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<td></td>
<td>Transformation software</td>
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<tr>
<td>Configuration Changes</td>
<td>Custom scripting solution</td>
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<td></td>
<td>Transformation software</td>
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<td></td>
<td>Create new ledger, OU</td>
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<td>Obsolete Data</td>
<td>Standard Oracle purge processes</td>
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<tr>
<td></td>
<td>Commercial archiving software</td>
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<tr>
<td></td>
<td>Partition data</td>
</tr>
<tr>
<td>Poor Data Quality</td>
<td>Data transformation products</td>
</tr>
<tr>
<td></td>
<td>Partition the database</td>
</tr>
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<td></td>
<td>Use tools or methods to get rid of “bad” data</td>
</tr>
<tr>
<td></td>
<td>Standard Oracle purge processes</td>
</tr>
<tr>
<td>Customizations and Extensions</td>
<td>CEMLI analysis</td>
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<td></td>
<td>Third-party products or find your own</td>
</tr>
</tbody>
</table>
## Analysis of Traditional Migration/Re-implementation Approach

<table>
<thead>
<tr>
<th>Custom ETL Scripts</th>
<th>Issue</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No standard extract/transform scripts provided</td>
<td>Code is custom and does not go through formal development and testing process with version control, error handling, development standards.</td>
<td></td>
</tr>
<tr>
<td>Custom code is not supported by Oracle</td>
<td>Oracle does not support or assist in the creation of custom extract, transform, and load scripts.</td>
<td></td>
</tr>
<tr>
<td>APIs do not exist for all tables</td>
<td>There are no tables to load any structural data or configuration data into a new (R12) environment.</td>
<td></td>
</tr>
<tr>
<td>Migration scripts are written for the current state of the data</td>
<td>Any changes require re-writing of the scripts. The change control process may not be documented. It is easy for a developer to perform a quick fix without documenting it or determining the impact of the change.</td>
<td></td>
</tr>
<tr>
<td>Requires technical expertise of all tables and usage in the E-Business Suite</td>
<td>Oracle does not enforce standards across all modules. A code combination may be stored in a column called Reference2, or Event8. An Org ID may refer to an Operating Unit, an HR Organization, or an Inventory organization. Developers who are not experienced in a particular type of migration or the business processes generally do not understand the complexity of the data structures in EBS and may compromise the relational or data integrity.</td>
<td></td>
</tr>
<tr>
<td>Results not available until all the code is written</td>
<td>As requirements change, or as the results are tested, any change results in a coding change. The impact of code changes may trickle down to other dependent code, and may involve rewriting of all scripts.</td>
<td></td>
</tr>
</tbody>
</table>

Create Extract, Transform, Load Scripts to move data from current structures to new structures.
<table>
<thead>
<tr>
<th>Custom ETL Scripts</th>
<th>Issue</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement of History</td>
<td>Generally only one year of history and open balances moved to the new structures</td>
<td>Generally, a historical entity (a sunset instance) is required for reporting, reconciliation, business intelligence, and audits.</td>
</tr>
<tr>
<td></td>
<td>Historical information not in the same format as new R12 instance or new structures</td>
<td>Every time the historical operating unit, key flexfield, set of books, or instance, is accessed, data must be transformed to align with the new (R12) structure.</td>
</tr>
<tr>
<td></td>
<td>If history (from a sunset instance) is to be accessible, then it must be upgraded, patched, and supported, or a “complete” EBS environment along with the apps tier must be maintained</td>
<td>Can’t access data from prior EBS versions from a R12 application. If there are multiple instances, then multiple sunset instances need to be maintained. This approach significantly reduces any cost savings that would have been recognized from going to a single environment.</td>
</tr>
<tr>
<td>Audit Trail</td>
<td>No audit trail of data as it is moved from an old structures to the new structures</td>
<td>At most, developers create a count of records for each transaction table. There is no trail of what data has been changed, split, or merged.</td>
</tr>
<tr>
<td></td>
<td>Difficult to reconcile changed data</td>
<td>The data in a new structures has been transformed, and there is no drill down to the historical detail or roll up to the general ledger. For example, if a set of books or ledger is split, an auditor would need to review every transaction in the source set of books and in the target set of books. Oracle has no cross-instance functionality or reports.</td>
</tr>
</tbody>
</table>
## Decision Matrix

<table>
<thead>
<tr>
<th>BUSINESS DRIVER</th>
<th>Upgrade</th>
<th>Re-Implement</th>
<th>How Important is This?</th>
<th>Upgrade Score</th>
<th>Re-Implement Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Sliding Scale</td>
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<td>Minimal</td>
<td>Significant</td>
<td>1</td>
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<tr>
<td>Major configuration changes</td>
<td>Y</td>
<td></td>
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<td>10</td>
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<tr>
<td>Ability to better focus on elimination of a higher</td>
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<td>number of customizations(WRICEP) components and will</td>
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<tr>
<td>result in better process changes (Re-implementation</td>
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<tr>
<td>drives change mindset.)</td>
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<tr>
<td>Higher change management cost/impact resulting in</td>
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<td>additional training to accommodate changed processes.</td>
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<tr>
<td>Keep all historical data</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>Limited downtime window available for the upgrade</td>
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<tr>
<td>weekend</td>
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<tr>
<td>Risk and cost of data conversion that would be</td>
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<tr>
<td>required for Re-implementation</td>
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<tr>
<td>Less time commitment required of functional</td>
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<td></td>
<td></td>
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<tr>
<td>team for upgrade</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need to maintain history</td>
<td>Y</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Time to complete project</td>
<td>Y</td>
<td></td>
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<tr>
<td>Cost</td>
<td>Y</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td><strong>Final score</strong></td>
<td></td>
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</tbody>
</table>
Sample New R12 Features – To Be Setup in R12 Instance

- Bank Accounts/Cash Management
- Subledger Accounting
- E-Business Tax
- MOAC (Multi-Org Access Control)
- Payments
- Secondary Ledgers (Either Balances Only or with Subledger Accounting)
  - Adjusting Ledger
  - Reporting Ledger (different currency)
  - Statutory Ledgers
  - Consolidation Ledgers
- Ledger Sets
- Data Access
- AGIS (Advanced Global Intercompany System)

The upgrade path will allow more time to focus on new features that can support business growth!
Summary

- Consider carefully a re-implementation decision
- The cost of the data conversion and loss of history can far outweigh the cost of 3rd party tools and development to fix issues and creativity
- Talk to people who have done it before
  - Would they do it again
- Talk to other experts
  - Upgrade SIG
  - Join the Upgrade Advisor Community
- Search for other presentations through OAUG
  - 10 Things You Can Do Today to Prepare for the Next Generation Applications – Cliff Godwin
Summary - The other side of the debate

- Everyone does not share my opinion...hard to believe 😊😊
  - Complete a QUANTITATIVE evaluation
    - Separate data migration/conversion costs
    - Obtain an accurate estimate of costs, project duration
    - Determine what internal/external resources are required
    - Separate costs of customizations, interfaces, reports that would need to be completed with either a reimplementation or an upgrade
    - Separate cost of implementing new functionality
  - Do your research
    - What is going to be required to maintain a sunset instance?
    - What are the extra costs to extract data from sources other than a current production environment ((either data warehouse, sunset instance, or reports) )
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No extract, transform, or load scripts</td>
<td>Change-in-place software</td>
<td>All data is changed in the current environment, so there is no need for a sunset instance or maintenance of historical information.</td>
</tr>
<tr>
<td>No custom code</td>
<td>Standard, out-of-the-box software that fits every customer’s environment</td>
<td>Standard development, rigorous testing and error handling, standard reports generated documenting the changes.</td>
</tr>
<tr>
<td>Flexibility to adapt to changing requirements</td>
<td>Rules-based system</td>
<td>Rules may be changed as customer requirements change during the course of the project, and as customers review the finished results. Rule changes can be completed in hours or a few days, rather than weeks with teams of developers.</td>
</tr>
<tr>
<td>Full audit trail available</td>
<td>Reports generated from software before and after transformations are made</td>
<td>All history is in the same format, in the same environment. (No need to set up new instance or new books or new operating units) All data (historical and current) is consistent, complete and accessible.</td>
</tr>
<tr>
<td>Maintains relational and data integrity</td>
<td>Software will not proceed to next step if the data integrity is violated</td>
<td>Code is automatically generated based on rules. When consolidating instances, every row of data and every data object is compared, and differences automatically resolved so there are no conflicts between source and target.</td>
</tr>
<tr>
<td>Testing of results</td>
<td>All changes are made by the software, so there is no need for unit testing of code or error handling.</td>
<td>Business users are given a functional system to test and reconcile.</td>
</tr>
<tr>
<td>Lower costs, shorter duration</td>
<td>Shorter project duration with fewer resources translates to lower costs.</td>
<td>Most projects completed in months. Costs are a fraction of migration costs.</td>
</tr>
<tr>
<td>Customizations, interfacing systems</td>
<td>Costs are the same with traditional or eprentise approach</td>
<td>eprentise reduces the risks associated with creating migration scripts only within E-Business Suite. (There is no impact on the time or effort required to analyze RICE-W objects or CEMLIs.)</td>
</tr>
<tr>
<td>New functionality</td>
<td>Process of adding R12 features like AGIS, secondary ledgers is the same with traditional or eprentise approach.</td>
<td>No need to re-configure what works in current environment. Only need to set up new functionality.</td>
</tr>
</tbody>
</table>
Questions and Answers
Thank You!

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