

But I Did What I've Always Done
and Ended Up
Over Budget and Under Expectations



About eprentise

❑ Origin

- Founded by industry veteran Helene Abrams who was Oracle's first Applications consultant

❑ Who we are

- Product company supporting Oracle E-Business Suite customers' needs for financial and operational change
- Oracle Gold Partner since 2007
- Patent for Consolidation Methodology, 2012

❑ Our current target markets

- Large global corporate organizations
- Cross-industry

❑ Our current product lines

- Four business transformation software product lines:
 - Consolidation merges and harmonizes one or more disparate, differently-configured, database instances into a single, fully-functional application
 - Divestiture filters data when a company is carving out or selling off part of their business, to create a stand-alone fully functional environment for the divested entity with a limited data set
 - FlexField changes the financial chart of accounts to support standardization and increase reporting reliability retaining all transactional history
 - Reorganization changes or moves any configurations or set-ups and all related transactions. Reorganization is a broad category and includes software solutions for merging or separating organization units, ledgers, inventory organizations, or legal entities, calendar changes, currency changes, etc. Reorganization Software is used to comply with new regulatory or statutory changes, new organization structures, entry into new markets, and to support mergers, acquisitions, or divestitures.

❑ New product lines

- Automated Financial Audit
- C Collection Analytics
- GDPR

❑ Does not violate Oracle Support Agreement

Learning Objectives

After completion of this presentation you will be able to:

Objective 1: Understand what is involved in the traditional approach of migrating data.

Objective 2: Recognize the many challenges that cause reimplementations to go over budget and fail to meet expectations.

Objective 3: Gain a perspective from client experiences and lessons learned.

Objective 4: Explore alternatives to a reimplementation.

Outline

- ❑ Introduction
- ❑ Business Scenarios
- ❑ Traditional Approach
- ❑ Challenges and Actual Examples
- ❑ Alternatives to Traditional Approach
- ❑ Other Considerations for Traditional Approach
- ❑ Conclusion

Jeff Bio/ Apps Associates Info

- ❑ Vice President of Applications and Apps Associates
- ❑ Former Big 5 and Oracle Consulting
- ❑ Working with Oracle Applications since 1995 (EBS 10.7 Character)
- ❑ Supply Chain/Manufacturing (Discrete, Project and Process)/Service and Projects functional experience
- ❑ Project and Program Management
- ❑ Industry experience – Aerospace and Defense, Oil and Gas, Life Sciences, Engineering and Construction, Industrial Manufacturing, Retail, High Tech Manufacturing



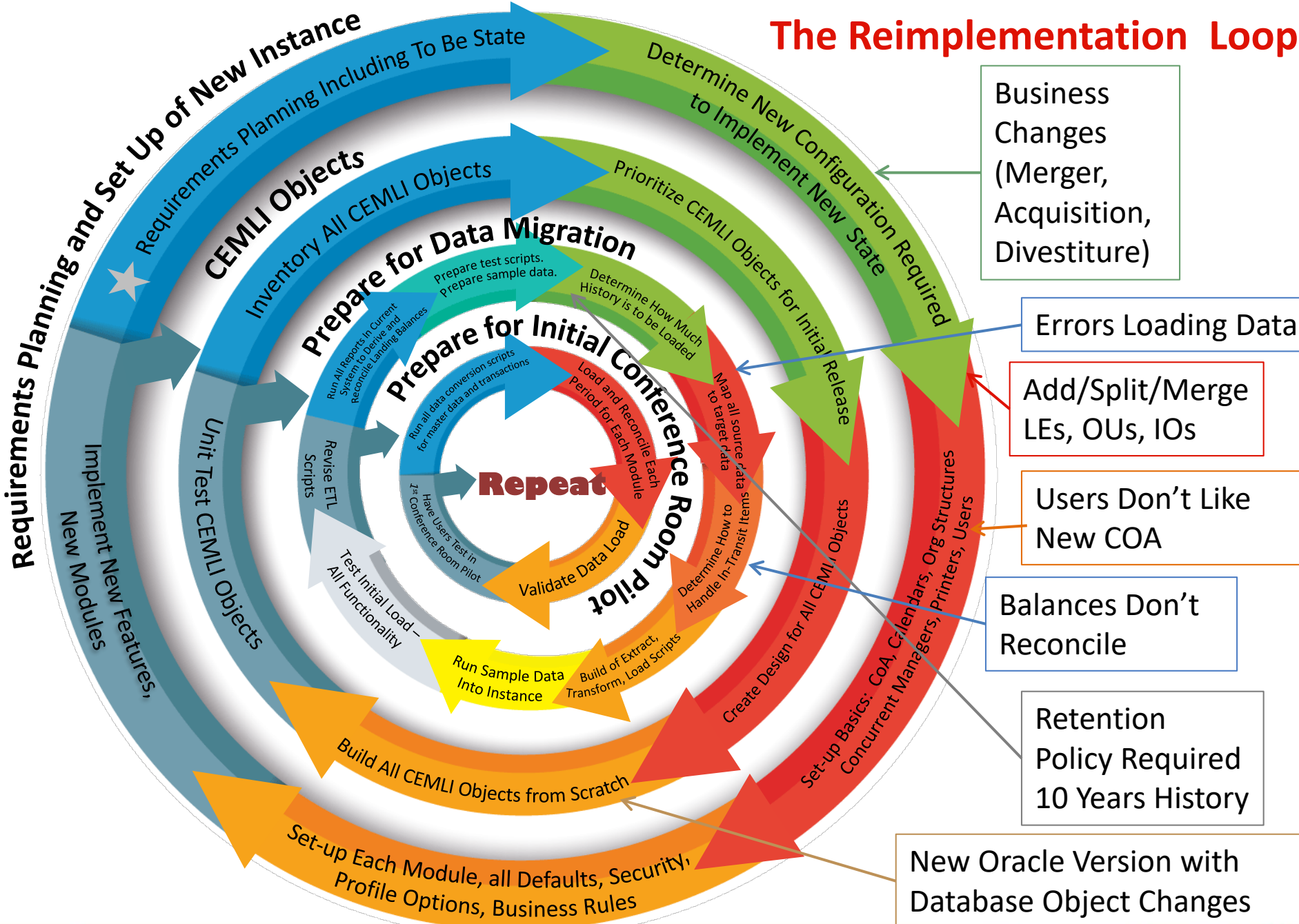
Business Scenario

- ❑ Decision to reimplement or migrate to a new instance is being considered
 - Multiple existing instances
 - Different versions
 - Desire to redesign or standardize business processes
 - Desire to eliminate customizations
 - Desire to implement common data standards
 - Desire to take advantage of new EBS features
 - Obsolete data
- ❑ Experience in data migration or conversion
 - Have converted other non-Oracle systems into EBS
 - Have rolled in new countries into the existing EBS instance

Traditional Approach

- ❑ Set up a new environment
- ❑ Install all modules, apply patches and localizations
- ❑ Define users, responsibilities
- ❑ Configure each of the modules including new modules, new functionality
- ❑ Create extract, transform, and load scripts
 - Generally 1 year's worth of history, landing balances, and open transactions
- ❑ Prepare test scripts, sample data
- ❑ Design and rebuild CEMLI objects including personalizations, profiles
- ❑ Convert all data
- ❑ Test, Validate, Reconcile, and Fix Issues – this is a cyclical and iterative process

The Reimplementation Loop



Challenges and Actual Examples

Challenge 1: Designing the New System

- ❑ **Modifying existing business processes into a “to-be” state**
 - **Definition of “as-is” state for each part of the enterprise**
 - Global, statutory, and regulatory requirements
 - Ownership of the process across divisions, product lines, etc.
 - Requires involvement from all parts of the business – all levels from detailed processes to management reporting from each country
 - **Determining agreed-upon to-be state**
 - Must meet both current and future needs of the business
 - What needs to be the same? What needs to be different?
 - Is the “to-be” state covered by standard Oracle functionality or is it going to require extensive customization?
 - Can the financial benefits of the “to-be” state be quantified? Is there a business justification for each change or is it change for change sake?

Challenge 2: Configuring EBS and Adding New Features

Implementation Guide or Set-Up Category	Number of Steps (Required and Optional)	Additional Sub-Steps, Optional Steps, Modules, and Lists of Values
HRMS	Total 387	
Key FlexFields	59	
Enterprise Workforce Management	42	
Payroll Process Management	5	
Compensation	80	
Benefits	43	
Workforce Sourcing	17	
Talent Management	13	
Workforce Intelligence	16	
HR Info Systems	61	
Setting Up Person Card	26	
Additional Steps for Regions	25	
General Ledger	72	92
Receivables – Collections (Presteps Only)	24	62
Asset Tracking	12	48 plus installation of 10 additional modules
Inventory Copy (only)	30	
Payables	28	62
WIP	32	
Total these modules only	585	

EBS is a very, very complex system

- R12.2 has 314 User Guides, Implementation Manuals, Process Manuals, Installation Guides and other miscellaneous documentation.
- There are over 25,386 tables for the major modules
- There are 1,902 configuration tables, and 84 master tables that need to be set up for the major modules

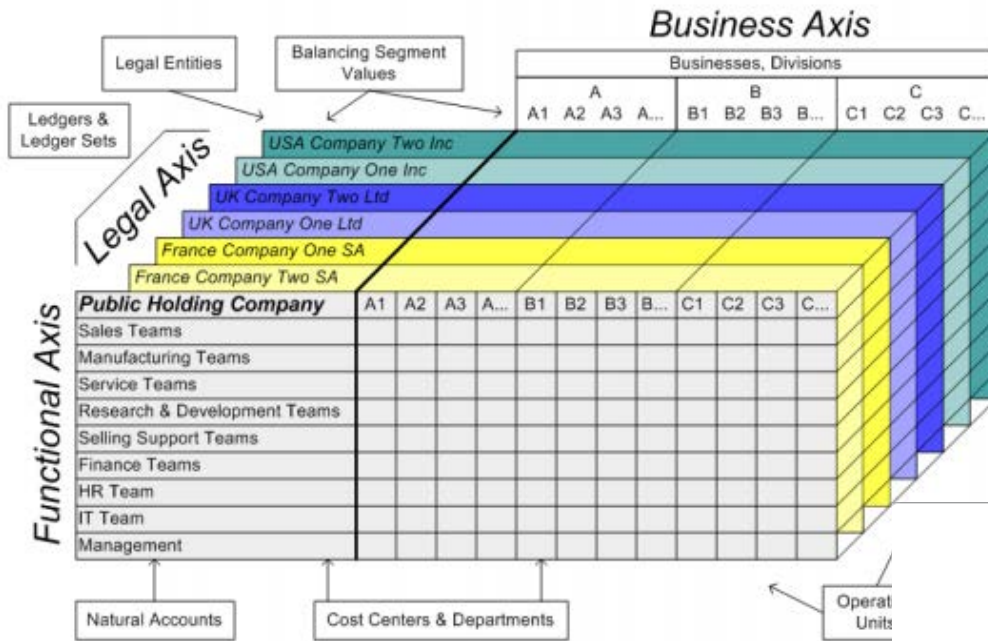
Challenge 3: CEMLI Objects

- ❑ Evaluate CEMLI portfolio in the current environment to determine
 - Which ones will be replaced by standard EBS functionality?
 - Of the ones to be retained, which are high priority or critical to running the business?
 - For the ones to be retained what modifications are required to implement the new “to-be” state and the revised configurations
 - New Ledger, LE< OU structures
 - New COA
 - New key flexfields
 - For the ones to be retained, what modifications are necessary
 - For a different EBS version?
 - For accommodating data from the current environment?
- ❑ Design the new/modified CEMLIs

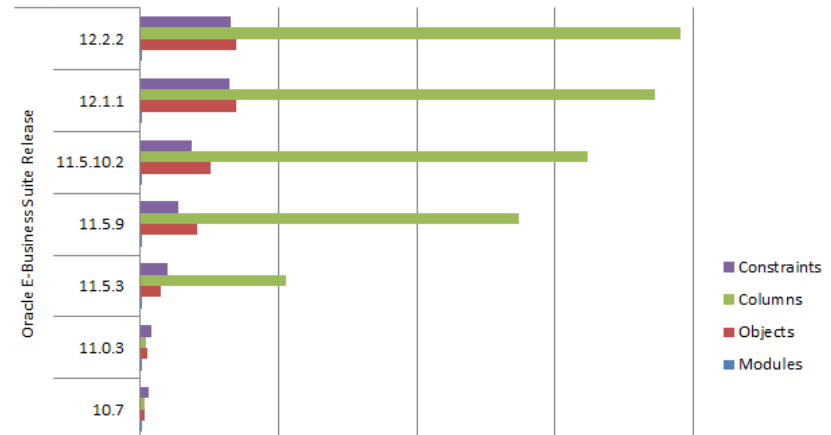
Challenge 4: Data Conversion

- ❑ Once the “to-be” design is done, the challenge is how to convert the existing data to the new configurations
 - Decisions need to be made regarding
 - How much history to convert?
 - How do you derive the landing balances?
 - How do you handle in-flight transactions?
 - How do you reconcile and validate?
 - What do you need to do to maintain history and a sunset instance?
- ❑ Actually converting the data means extracting the data from the current environment, transforming it to align with the new configuration, and then loading it into the newly re-implemented instance
- ❑ Developers tend to work individually on the modules they know rather than as a team for an entire business process
 - That means that the code is separate, and may not follow standard development guidelines.
 - Code for transforming one set of data has an impact on other modules and may be impacted by conflicting configurations for each module
- ❑ APIs are not available for all tables – especially configuration tables
- ❑ Loading data is generally a serial process – the data integrity may be compromised by trying to load related data from different modules
- ❑ Loading data may be very time consuming

Data Conversion Challenge 4, Continued: Data in EBS Is All Related



Changes by Release in Oracle E-Business Suite



	Oracle E-Business Suite Release						
	10.7	11.0.3	11.5.3	11.5.9	11.5.10.2	12.1.1	12.2.2
■ Constraints	31,695	38,116	99,752	135,710	188,179	324,605	327,382
■ Columns	15,607	21,296	526,182	1,370,745	1,616,585	1,861,226	1,954,834
■ Objects	18,072	23,823	72,224	203,594	254,175	346,827	347,382
■ Modules	35	46	142	202	258	288	293

Data Conversion Challenge 4, Continued: Operational History Necessary for Supply Chain

□ Supply Chain History

- Planning and analytics
 - Complete inventory transaction available: inventory history, purchasing history, sales history all replicated for a full view of supply chain history
- Reorder points
- Purchasing/supplier history
 - Purchasing contracts and pricing history
- Costing and absorption data (direct material, direct labor, overhead)
- Shipping and delivery data
 - Inbound and outbound
- Inventory costing layers
 - Costs layers for LIFO
 - Overage/underage/wastage for standard costing
 - Calculating average costing for items

Data Conversion Challenge 4, Continued: Continuing Uses of History

❑ Analytics and Business Intelligence

❑ Financial and GL

- Comparable periods reporting, audit, trend analysis, user data
- Historic currency conversion rates
- Budgeting

❑ Assets

- Date placed in service for assets
- Assets not retired, remaining life, accumulated depreciation, depreciation reserve

❑ Legal Compliance and Risk/Loss Minimization

- Materials and item tracking for recalls, litigation, and quality assurance
 - Necessary data for issues pertaining to an item or a material often includes
 - Details of receipt of raw materials with drill down to PO, lot number
 - On-premises events including item history, on-premises handling
 - Details of shipping (e.g., customer, date shipped, ship to address, etc.)
- This is crucial for a manufacturing company
- Data retention policies for different countries

Challenge 5: Test, Fix, Revise Cycle

- ❑ Data is typically converted for a module and type of data individually
- ❑ Users do not see an “interim” stage. Their data is not available until all the coding is done
- ❑ The conversion process is for the current state of the data
 - During the course of a year or more of reimplementation, there are obviously data changes, business changes, and even Oracle release changes
 - Anytime something changes, the code may have to be rewritten, and then the impact of the code changes evaluated on all other extract, transform, and load changes

Challenge 6: Cost, Time and Expectations

- ❑ A reimplementation for a simple environment averages about 15.5 months, and costs an average of \$1,260,000.
- ❑ For a complex global environment, the duration averages about 89 months and costs an average of \$17,450,000.
- ❑ Based on a survey of 20 customers who used the traditional approach, 19 said that the project was over budget.
- ❑ Those same 20 customers rated their reimplementation as being the same or worse than their original EBS implementation

Criteria	Agree	Disagree	Unknown or Mixed
I got rid of most of my CEMLI objects	70%	25%	5%
My EBS allowed me to re-design my business processes	10%	80%	10%
My company received financial value (return on investment) from the reimplementation		95%	5%
The reimplementation met our company's expectations		95%	5%
Our project was on time and on budget		95%	5%
If I had to do it again, I would reimplement or migrate my data	10%	80%	10%

Reimplementation Tasks and Range of Costs

Task #	Task	Description	Approx. Duration for a Simple Environ.	Approx. Duration for a Complex Environ.	Approx. Range of Costs
1.	Requirements Planning	Determine the business requirements, and develop the business case. Design and document the as-is and the to-be state. This must be done for each business process (i.e. order-to-cash, procure-to-pay, etc.) and each module. Develop a tentative upgrade timeline, and do a high level review of CEMLI objects.	2 weeks	6 months	\$80,000 - \$1,000,000
2.	Upgrade the Technology Stack (Optional)	Make sure that you have sufficient hardware, are working with the latest version of the operating system and the database. Review memory and capacity requirements.	6 weeks	6 months	\$100,000- \$1,000,000
3.	Obtain and Run Product Installation Files, Update Scripts, and Apply Update Scripts	Verify licenses for all modules to be installed. Determine which modules are installed, and which are shared. Download and execute all Oracle install scripts and patches including legislative and regulatory updates, enhancements, bug fixes, critical security patches. Apply localization patches.	6 weeks	3 months	\$120,000- \$250,000
4.	Configure Each Module	Make configuration decisions and document all configurations for each module. Follow the implementation guide steps to set up the chart of accounts, the calendar, document sequencing, and each module. Set up new structures (ledgers, OUs, LEs, Inv Orgs, etc.), the defaults for each module. Set up the concurrent manager and other job processing functions, the account generator, printers, users, and security. Define profile options, responsibilities, all key flexfield structures and values, descriptive flexfields, workflows, business rules, and all lookups.	2 weeks	10 months	\$50,000- \$1,500,000
5.	Implement New Features and Functions (Optional)	Install and Setup any new features	4 weeks	6 months	\$50,000 - \$1,000,000
6.	Unit Test Configurations for Each Module (CRP1)	Prepare test scripts. Prepare sample data. Manually insert data into CRP1 instance. Resolve issues. Update and sign off on configurations, test scripts. This is usually considered CRP1, and generally does not include any CEMLI objects	4weeks	4 months	\$250,000 - \$1,200,000

Reimplementation Tasks and Range of Costs

Task #	Task	Description	Approx. Duration for a Simple Environ.	Approx. Duration for a Complex Environ.	Approx. Range of Costs
7.	Inventory CEMLI Objects and Prioritize	Review new functionality to see if customizations can be eliminated. Review Extensions, Modifications, Localizations, and Interfaces to see what must be done immediately, and what is optional. (i.e. switch custom reports from distribution lines to subledger (XLA) accounting tables, update data warehouse, ADI templates, etc...)	4 weeks	5 months	\$50,000 - \$750,000
8.	Build all CEMLI objects	Design, develop and unit test extensions, personalizations, customizations, modifications, and interfaces. Rebuild data warehouse.	6 weeks	18 months	\$80,000 - \$2,000,000
9.	Create beginning position for all modules	Run all reports in current system. Derive and reconcile landing balances. Validate opening balances	3 weeks	4 months	\$60,000 - \$300,000
10.	Data Conversion	Functional design. Determine how much history is to be loaded. Map all source data to target data. For each in-transit or open item, determine how to handle (transactions with new accounts, new item numbers, receiving, payments, etc.). Build of extract, transform, load scripts, Run all data conversion scripts for master data and transactions. Conversions must be done a period at a time, one module at a time. Period movement must be validated for each module for each period. Once a period's data is loaded into the system, the subledgers are brought into the general ledger, adjusting entries are created, and each period must be closed and reconciled.	12 weeks	18 months	\$200,000 - \$2,500,000
11.	Perform Necessary Performance Tuning (Optional)	Reduce the time required to run the scripts. May also include purging obsolete data so that there is less data that needs to be upgraded.	2 weeks	2 months	\$35,000- \$150,000
12.	Complete at Least Two Additional Test Cycles or Conference Room Pilots	Test end to end production data set and all business scenarios. Repeat all conversions and data loads. Compare key reports with the source instance and the new instance, and do data verification tasks. Establish the downtime window and prepare for production. Depending on complexity of your environment, you may need to do additional conference room pilots. Do full integration testing with all CEMLI objects and upstream and downstream systems. Steps 2, 3, 4, 5, 8, 9, 10, and 11 will need to be repeated for each cycle.	16 weeks	36 months	\$250,000- \$4,550,000

Reimplementation Tasks and Range of Costs

Task #	Task	Description	Approx. Duration for a Simple Environ.	Approx. Duration for a Complex Environ.	Approx. Range of Costs
13.	Preparation for production cutover	Install and configure all modules. Create all responsibilities. Implement all security requirements. Convert all master data. Convert all history except for most recent month. Validate connectivity, verify infrastructure readiness. Update all CEMLI objects. Freeze updates in current system (i.e. addition of new accounts, suppliers, etc.)	2 weeks	2 Months	\$35,000-\$350,000
14.	Cutover to Production	Cutover tasks include closing all activities in the current environment (i.e. period close, final check runs, run depreciation, payroll, manual adjustments and invoice entry, etc.), stopping jobs and interfaces, clearing all queues, verifying of opening balances, and converting remaining data. Cutover activities also include validation of period movement and status of in-transit items for each module for each period to be converted and validating the production data before turning over to the users.	2 weeks	2 Months	\$35,000-\$150,000
15.	Post-Production Support	Issue resolution after the cutover to the production environment.	3 weeks	3 months	\$50,000-\$200,000
Minimum Total Cost (Optional items not included)					\$1,295,000

Challenge 7: Too Much “Unused” Data Streamline and Simplify

- ❑ Over time, as companies grow by acquisition and sell parts of their business, EBS accumulates data that the current business does not need
 - Historical data from an acquired system that does not belong to the current company
 - Data from divisions that have been divested
 - Modules that are no-longer in use or have been replaced by another system
 - Localizations that are not needed for the new company
- ❑ Ledgers, operating units, inventory orgs are redundant and make EBS more complex
 - Data that exists after a “start-over” when a new ledger or legal entity or operating unit was created and the old, historical data is beyond the required retention period
 - Migration is more complex when there are duplicate business processes
 - The “garbage-in”, “garbage-out” means that reporting and operations in the new system will inherit the same issues that you had within your EBS environment that made your close cycle longer, reconciliation more complex, and required extensive use of spreadsheets and third-party systems
 - Data in the new system will not be complete, consistent, and correct

Summary of Challenges of a Reimplementation

- ❑ Challenge 1: Designing the New System
- ❑ Challenge 2: Configuring EBS and Adding New Features
- ❑ Challenge 3: CEMLI Objects
- ❑ Challenge 4: Data Conversion
- ❑ Challenge 5: Test, Fix, Revise Cycle
- ❑ Challenge 6: Cost, Time and Expectations
- ❑ Challenge 7: Too Much “Unused” Data
Streamline and Simplify

Alternative 3: Approach for CEMLI

- ❑ Still need to evaluate CEMLI portfolio
- ❑ Consolidate multiple instances
 - Target should have the most/complex CEMLI
 - Once the instances are at the same version with all the modules installed, they are consolidated so there is no concept of source and target being different
 - Not like migration where you are bring partial data from one instance into the “future state” instance
- ❑ Revise the high-priority CEMLI first in the existing environment
 - Usually there is very little modification to accommodate additional source data other than where IDs are hard-coded
 - Rebuild or redesign the high-priority CEMLI that are to be retained to accommodate the “to-be” state
- ❑ CEMLI that are to be replaced by standard Oracle functionality can be retired over time as users are trained in the EBS new functionality

Managing Ongoing Change

- ❑ Yours is not a static environment
- ❑ Undertaking a multi-year rollout of new applications and business processes means that you need to have an environment that can be easily changed
 - You can't reimplement every time there is a business change
 - The current environment must be stable so that there is minimal impact
- ❑ Having data (history) in a sunset instance or data that is not standard means that it will be difficult to accommodate new requirements and still carry on operations
 - Carving out part of the business
 - Integrating a large acquisition
 - Entering new markets

Sample Tasks That Get Eliminated with an Alternative Approach

Task Name	Work	Duration
3 Project Management Activities and Planning		38 hrs 4.75 days
7 Fresh Install Activities		40 hrs 5 days
10 Detail Design		400 hrs 10 d
11 Financials - GL, AR, FAH, AP, PO, iProc		80 hrs 10 d
16 Distribution		80 hrs 10 d
20 Human Resources/Projects/Assets		80 hrs 10 d
25 Manufacturing - Cost, INV, BOM, WIP, ENG, Quality		80 hrs 10 d
32 Build and Test	25,968 hrs	183
33 New Configurations (All Modules) for CRP1	280 hrs	10 d
57 CRP1 Unit Testing	2,900 hrs	30 d
107 Review and Update SMW Validation Plans for	200 hrs	5 da
112 Data Conversion - Practice 1	0 hrs	109
118 Data Conversion Development in DEV	4,224 hrs	88 d
119 Data Conversion Validation and post conversion data cleansing	4,200 hrs	105
120 Extensions	14,164 hrs	183
121 Extension Functional Design - Write Additional Designs	960 hrs	30 d
122 Extension Functional Design - Approve (Global and new)	3,024 hrs	70 d
123 Extension Technical Design - Code or Transfer	2,640 hrs	55 d
124 Autoform Install, Train, Design and Coding	440 hrs	55 d
125 Shop Floor Design Code Test	792 hrs	55 d
126 User Unit Testing	2,160 hrs	50 d

Design

Conversion

Task Name	Work	Duration
1 Data Conversion Development		51.75 days 5,483.65 hrs
2 PO		35 days 826 hrs
3 Analysis, Coding, Testing, Documenta		35 days 546 hrs
4 Suppliers (includes Site Consolidation)		15 days 120 hrs
9 PO (Open, Closed)		8 days 50 hrs
19 Receipts		4 days 32 hrs
24 Requisitions		5 days 40 hrs
29 AP		5.25 days 124 hrs
30 Analysis, Coding, Testing, Documenta		5 days 80 hrs
31 Bank Accounts		5 days 40 hrs
39 AR		27.86 days 562.8 hrs
40 Analysis, Coding, Testing, Documenta		27.86 days 460 hrs
41 Customers		13.57 days 152 hrs
43 Mapping, Development/Coding		10.36 days 58 hrs
44 Unit Testing		2.86 days 16 hrs
45 Invoices (Open Only)		13.57 days 152 hrs
46 High-Level Tech Design		0.36 days 2 hrs
47 Mapping, Development/Coding		10.36 days 58 hrs
		17.14 days 384 hrs
		42 days 928 hrs
		44.75 days 1,106 hrs
		38 days 912 hrs
		21.25 days 226.85 hrs
		10 days 560 hrs

Task Name	Work	Duration
106 Cutover	32,677.62 h	2379.75 h
107 EBS	32,166.03 h	2379.75 h
120 GL Prior Period Conversions	23,906 h	480 h
490 R11-AP/PO Final Interface Runs and Shut down (After queue cleansing)	123.83 h	602.65 h
645 Master Data Conversions (Locations, Employees, Users, iExp Auditors, AR Collectors, Buyers, Items)	431.57 h	105 h
821 R11-Validate purchase releases are created and invoice is scheduled to be paid because purchase releases are not converted	4 h	4 h
822 R11-Final AP Payment Run (Small run for exception items)	253.85 h	17.17 h

Cutover

Maintaining a Sunset Instance - Increased Future Costs

- ❑ Handling in-transit items
- ❑ Master data
 - Supplier contracts
 - Customer history
 - Leveraging the power of a large, global company
- ❑ Access to the data for reporting, taxes, audit
 - Transformation
 - Need to go through IT for each request
 - Custom code required
- ❑ Infrastructure costs
 - Upgrades
 - Support
 - CEMLI
 - Interfacing systems
 - Maintenance
 - Data Center
 - Server space, network, bandwidth
 - Security, access
- ❑ Business not going to stay the same
 - Carving out part of the business
- ❑ Privacy and retention policy

Summary of Other Considerations of Traditional Approach

❑ 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 be 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

Conclusion

- ❑ Go through an extensive evaluation approach
 - What doesn't work in your current environment?
 - Evaluate alternatives to a reimplementation or data migration effort
 - Determine how to get buy-in on decisions
 - Standardization
 - Silos
 - What would an ideal target EBS environment look like?
- ❑ Evaluate CEMLI objects
- ❑ Prepare a thorough analysis of the time, pain, cost of a reimplementation
 - Separate data migration/conversion costs
 - Separate costs of customizations, interfaces, reports that would need to be completed regardless of the approach

Why is the eprentise Transformation Solution Different Than Traditional Reimplementation or Migration Projects?

- ❑ **Complex Business Challenges can not be met with Typical Conversion Approach:**
 - Data between disparate systems doesn't lend itself to simple mapping
 - Effect of change on underlying database structure complicates the process
 - Users and engineers are often unaware of these intricate, complex issues
 - Changes can impact thousands of tables and columns
- ❑ **What transformation offers over conversion:**
 - Maintaining database integrity
 - Ultimate delivery of consistent data
 - Complete, 100% accurate set of historical financial (and other) transactions
 - Ability to support various situations (mergers and acquisitions, divestitures etc.)
 - Increased data quality
 - Repeatable process reduces risk
- ❑ **Consistency and completeness:**
 - Code is dynamically generated to implement require changes which eliminates coding errors
 - Rules execution engine saves the time and cost of custom coding and error handling, and reduces the risk of compromising the data integrity
 - Definition, design and re-use of rules
 - Permits modeling scenarios as requirements change
- ❑ **Enables fastest and safest time-to-value:**
 - Reduces project timelines and costs, allowing IT executives to more efficiently manage the project
 - Improves accuracy and predictability

Thank You!



Contact

Jeff Dunford | Vice President, Apps Associates

Cell: 617.320.2892 | Email:

jeff.dunford@appsassociates.com

www.appsassociates.com



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www.eprintise.com

www.AgilityByDesign.com