Abstract

Getting data into Oracle Cloud Applications is critical to the success of every implementation. To assist with the data migration, Oracle has created standard FBDI and ADFdi interfaces.

While these interfaces streamline one aspect of the data migration process, they do not address 80-90% of the data work that needs to be done. The presentation will cover common misconceptions about migrating data into Oracle Cloud Applications, managing converted data across PODs, and outline a process that will ensure that your data is both technically accurate and fit for purpose.

First, we will focus on the misconception that loading data into the Cloud applications is simple. While the execution of the load interface is mostly standardized, the work involved to get the data to a point where it is loadable can be significant. Adding to the complexities of loading the data into Oracle Cloud, there is a misconception that pods can be easily refreshed.

The second half of the presentation will cover the timings around pod refreshes, the difficulties of managing configuration across pods, and the difference pre-validations can make prior to attempting to push the data into the Cloud.
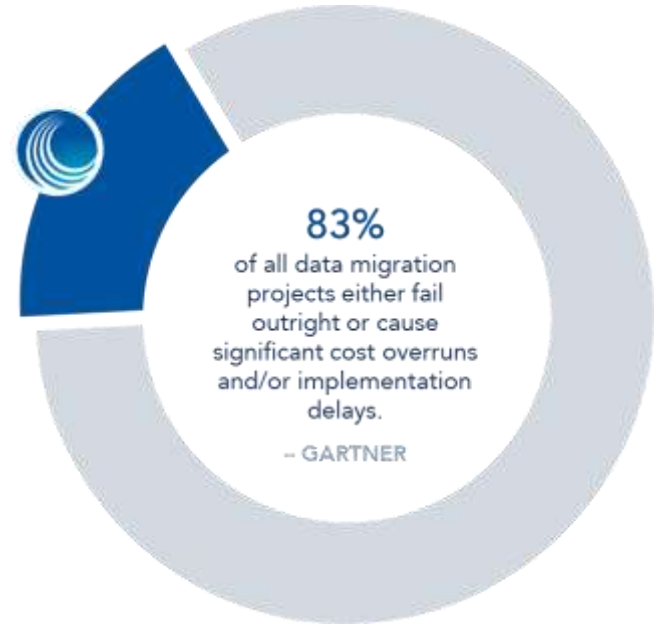
My background

Steve Novak

- Data migration consultant with 20 years of experience

- Entrusted to handle some of the most recognized brands in the world's data

- Worked on implementations for most of the major ERPs

Premier International

- Decades of experience with complex data migration projects

- Sole mission and focus is to remove data migration risk

83%
of all data migration projects either fail outright or cause significant cost overruns and/or implementation delays.

– GARTNER

Everything is easier in the Cloud!

- Is the pitch
- There is a lot of truth to it
- Sessions at this conference are going to highlight a lot of those benefits

But…

Everything is easier in the Cloud?

- There are aspects of Cloud implementations that are not easier and others that are just different

- This session will focus getting data into the cloud

Idea behind this presentation

- Finishing up a multi-year EBS rollout for half of large multi-national organization

- Need to modernize the other half of its business

- Decided to take that half to Oracle Cloud

- When they announced, the implementation team had varied reaction

"That's stupid!" "That's awesome!" "Cloud doesn't work!"
"Cloud is easy!" "Cloud is fast"

Open mouths of amazement/disbelief

In the meetings after discussing data

- First thing that was asked:
  - What's different between Cloud and On-Prem?
- Next was a series of "we've been told":
  - Getting data into Cloud is easier
  - Data migration will be faster/require less resources
  - Implementation cycles are faster
  - Validation is hard because you can't query the Cloud
  - Environment management is simpler

In this presentation we will discuss

- Talk through those inquiries

- Review some data migration best practices that can help your organization avoid some common pitfalls/be prepared

- Loading data into the cloud

- Accessing data within the cloud

- Discuss Oracle Pod environments

- Application Update schedule

What's the biggest difference?

- Many things are different…
  - This session will focus getting data into the cloud

- The biggest difference in terms of overall implementation
  - On-Premise: Customizations = Longest Path
  - Cloud: Data = Longest Path

How does that affect the implementation?

- Organizations struggled getting data ready when they had more time….

- Data needs to become more of a focus to prevent delays

- More important the data migration best practices are followed

What are other some other differences?

- Data quality requirements are more stringent

- Most all of the modules have canned load programs
  - For data conversion
    - This is change from customized loaders of the EBS world
    - Similar to the from Z-processors from JDE
    - Completely different from just loading the tables directly for PeopleSoft

- Your environments are on Oracle's Schedule
  - Can't refresh an environment whenever you want
  - Upgrades/Patches are coming whether you're ready or not

Organizations expect data migration
to be a relatively simple effort

Or

Expect it to be painful and slog through it

INHERENTLY COMPLEX
Every piece of legacy data must be identified, understood, and migrated correctly before the old system can be turned off.

DIFFERENT ERAS OF TECHNOLOGY
Transformations are very complex because old and new systems are from different eras of technology.

OUT-OF-DATE DOCUMENTATION
Legacy system documentation is out-of-date, thus the initial version of programming is inaccurate.

KNOWLEDGE GAP
No one person understands both old and new systems. Lack of data knowledge causes a trial & error process to correct problems.

POOR DATA QUALITY
Legacy data quality is much worse than expected, requiring emergency data cleansing projects.

DATA CONSTRUCTION
The new system requires data that does not exist in the legacy system, so new data must be invented.

ADDITIONAL DATA SOURCES
Additional unexpected legacy data sources are discovered during the project.
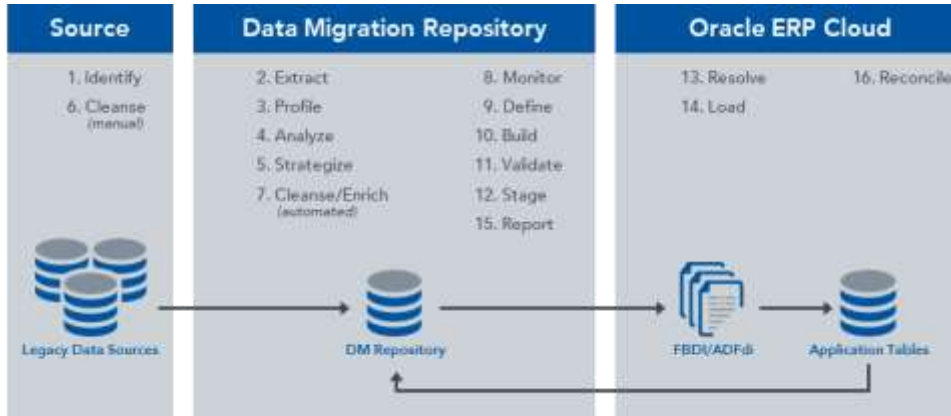
INCREMENTAL DISCOVERY
All of these problems are found piecemeal through "incremental discovery," causing a moving target with a huge number of programming changes.

MASSIVE REQUIREMENT CHANGES
ETL, SQL & traditional programming are too sluggish to respond to the massive volume of changes. Costs soar. Delays are common.

What is involved in data migration?

Source	Data Migration Repository		Oracle ERP Cloud	
1. Identify	2. Extract	8. Monitor	13. Resolve	16. Reconcile
6. Cleanse (manual)	3. Profile	9. Define	14. Load	
	4. Analyze	10. Build		
	5. Strategize	11. Validate		
	7. Cleanse/Enrich (automated)	12. Stage		
		15. Report		

Legacy Data Sources → DM Repository → FBDI/ADFdi → Application Tables

DATA ASSESSMENT
1. Identify Legacy Data Sources
2. Extract Legacy Data
3. Generate Legacy Data Profiles

DATA QUALITY
4. Analyze Data for Quality Issues
5. Develop Data Quality Strategy
6. Cleanse/Enrich (manual)
7. Cleanse/Enrich (automated)
8. Monitor Data Quality Issues

DATA TRANSFORMATION
9. Define Legacy to Target Mapping
10. Build data migration Programs
11. Validate Transformed Data/Errors

DATA LOAD
12. Stage Transformed Data
13. Resolve Exceptions and Errors
14. Load Data Through FBDI Interface

DATA VALIDATION
15. Generate Reconciliation Metrics/Reports
16. Perform Final Validation and Reconciliation

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How can the iceberg issues be addressed?

- Start with data assessment

- Early days of the project

- Provide valuable insight into the size of the iceberg that you're about to encounter

- Start to address data as a business issue, not a technical one

- Set the stage for the rest of the implementation

Data assessment activities

Identify

- Analyze the relevant data across your application landscape

- Generate detailed data statistics and facts for every data element in every relevant table/file

- Report invalid data scenarios

- Summarize unique data patterns in key data elements

- Identify additional data-related anomalies

Assess

- Understand redundant data within an individual application and across multiple disparate applications

- Review and quantify missing, erroneous, and inconsistent data

- Gather metrics summarizing identified data errors

- Compare legacy data against data governance standards

Prepare

- Review detailed findings with the project team and issue recommendations

- Define a data quality strategy that outlines cleansing recommendations for each distinct error

- Brief project leadership regarding potential risks

Make Decisions Based on Facts, Not Assumptions

Common data quality issues

- Duplicated data within and across disparate systems
  - Duplicated customers, suppliers, items, etc…
- Missing data
  - Missing payment terms, credit limits, county, etc…
- Invalid data
  - Bad addresses, old sales reps tied to customers
- Integrity issues
  - Inactive items, customers, suppliers on open orders

Addressing data quality issues

- Establish data quality strategy

- Strategy should address three types of cleansing
  - Manual/Legacy system
  - Programmatic rules
  - Hybrid Methodology

- Enable the business to make decisions quickly

- Monitor/Communicate the status of the cleanup

Data transformation/load

- Important that the conversions don't happen in silos

- Establish solid procedure for documenting the transformation rules

- Pre-validate the data prior to attempting the load

- Ensure the business owners approve the data prior to uploading into the cloud

- Accelerate the validation times by managing exceptions and comparing data to previous versions/validated data

FBDI templates

- More business friendly than traditional load files

- Readily available to download

- Actual execution of the load is slow

- Template layouts or business rules occasionally change from release to release without any real warning

- Loader program error messages are not as fleshed out as other Oracle products

Data access/updates

- Read
  - Can't query/SQL the way you are used to in EBS.
  - Some of the firms have also developed their own utilities that can query the back end tables
  - The most common way to access and query the data is to use BI Publisher

- Updates
  - Script updates not supported.
    - FBDI can be run as update, instead of create

- Delete
  - Only way is to copy over pod with a 'pristine' pod

- In a way is simpler than on premise
- But for implementations, a lot more thought needs to be put into the environment strategy

How to think about your environments...

Number of pods/environments

- Customers receive a production and non-production pod

  PROD

  TEST

- Customers can purchase additional pods, and will usually need to

  DEV1

  DEV2

  DEV3

  DEVx

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Environment control

- Oracle requirement for creation of (i.e., cloning of) a new environment/pod
  - Need to schedule with Oracle
  - 3 weeks

- Only way to create a pod is to copy a pristine pod over it
  - PROD often kept pristine until go-live; used as the basis of pod cloning
  - Can't pick and choose what is copied
  - Typically takes 24-48 hours execution time to clone one environment from another

- Cloning pods
  - A Production-To-Test clone (or P2T) is allowed
  - A Test-to-Test clone (or T2T) is allowed
  - A Test-to-Production clone is NOT allowed

Monthly patching and maintenance

- Monthly updates
  - First Friday of the month in non-production environments
  - Third Friday of the month in production environments

- Allows 2 weeks to validate in non-production before update is applied to production

- Timing of patches/maintenance
  - Typically start Friday evening (10PM EST)
  - Can last up to 24 hours, but typically last closer to 12 hours
  - Quarterly updates take longer than regular monthly updates

- Updates can change the requirements for the loading templates
  - Fields added, removed, additional tabs added, different rules for existing fields

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- No "Do-Overs"
- Pre-validation of migration becomes a critical
- Should validate
  - Conversion and transformation rules
  - Configurations within Oracle Cloud
- Simulate load errors without actually executing the load programs

Differences between On-Prem and Cloud

- Faster implementation timelines

- Long lead time for refreshing environments

- More obtuse error messages when loading

- Standardized load programs

- Less customizations

- Less data access

- No control over updates and patches

Data work remains the same

- Data issues that organizations struggle with remain the same
  - Data quality
  - Transformation
  - Validation/Reconciliation
  - Environment management/readiness
- Lack of environment control increases the importance of predicting conversion result

Q&A

Steve Novak
773.549.6945
Steve_Novak@premierintl.com
Premier-International.com