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Great Lakes Oracle Conference
PaaS this On: Moving from EBS to the Cloud? Don't forget all those Customizations!
MAY 15 & 16, 2019
CLEVELAND PUBLIC AUDITORIUM, CLEVELAND, OHIO
WWW.NEOOUG.ORG/GLOC

Agenda

- What is this session all about?
- Cloud Journeys – Vision and Reality
- Is it possible to move from EBS to the Cloud?
  - Depends on what has been customized in the past
- How can we enhance our Cloud apps environment?
  - Need to extend Cloud apps with PaaS
  - PaaS Tool Overview
- Other PaaS Considerations
- References
- Q&A

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- **ESOP - 100% Employee Owned**

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About The Speaker

Chris Tyner

- PM / Technical Architect / Senior Business Analyst / Employee Owner
- Northern Ohio OAUG (NOOAUG) - current Vice President
- 28 years of Consulting Experience
- 22 years in Oracle applications
- Extensive EBS Experience
- Started with Applications 9.4.2 in 1993
  - Many Implementations, Upgrades and Integrations
- Growing Cloud Experience at AXIA
  - Bolt-on / Hybrid projects
  - Training and Certifications

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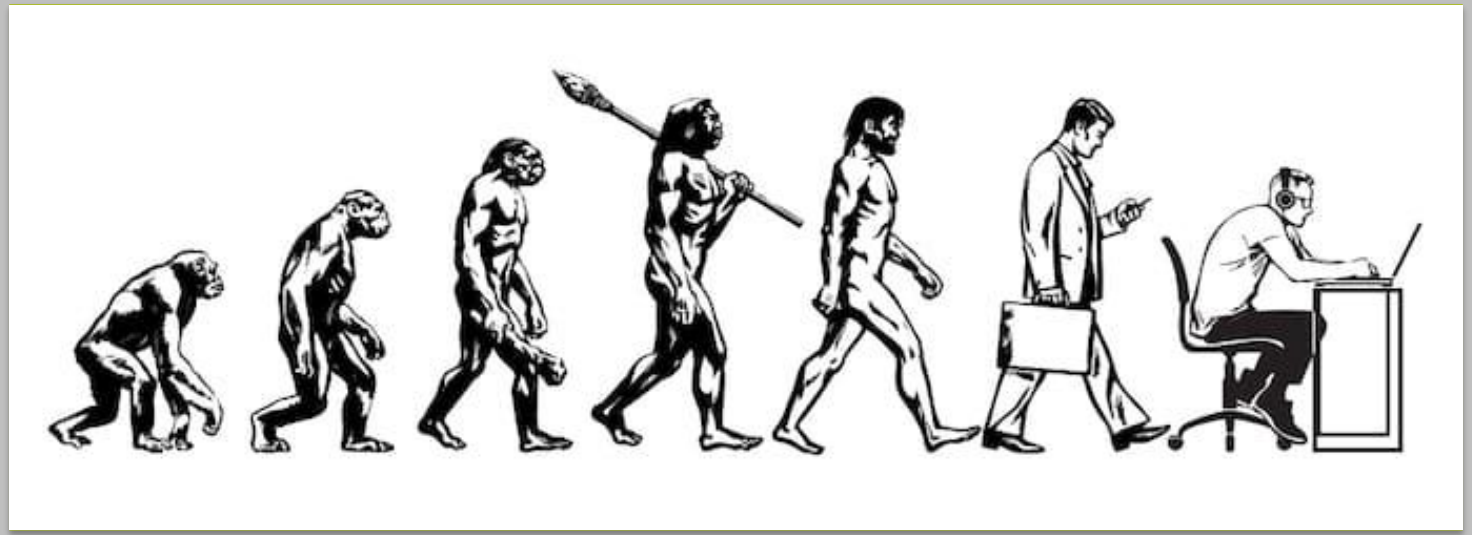
This session is about Evolution…



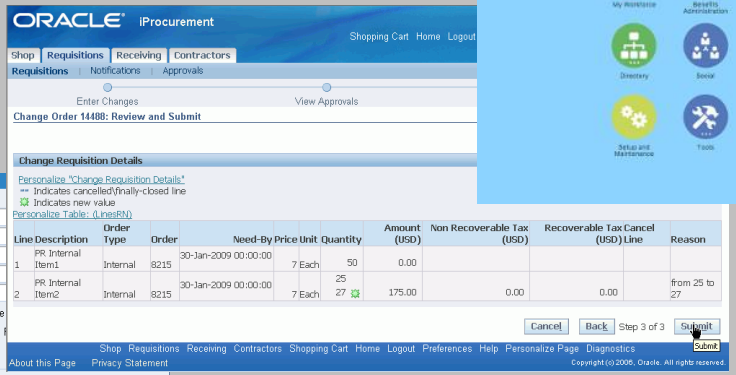
Oracle PaaS – What is it?

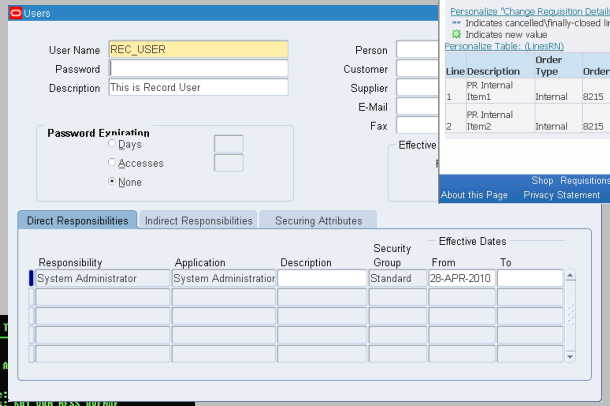
- **P**latform **A**s **A** **S**ervice
- Oracle Cloud Platform is a …combination of … technologies to enable you to … build, deploy, integrate, secure and manage all your enterprise applications
- …a category of cloud computing services that provides a platform allowing customers to develop, run, and manage applications
- What you need to extend and integrate your Cloud applications with the rest of your organization's systems architecture

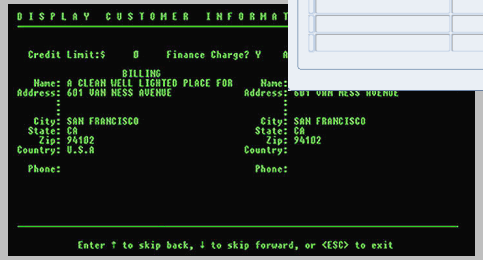
What this session is…

- An examination of the challenges for migrating from EBS to Cloud
- A Research Project
- A Comparison of EBS and Cloud Extensibility
- Can help put scope around your Cloud Journey

Another type of Evolution…







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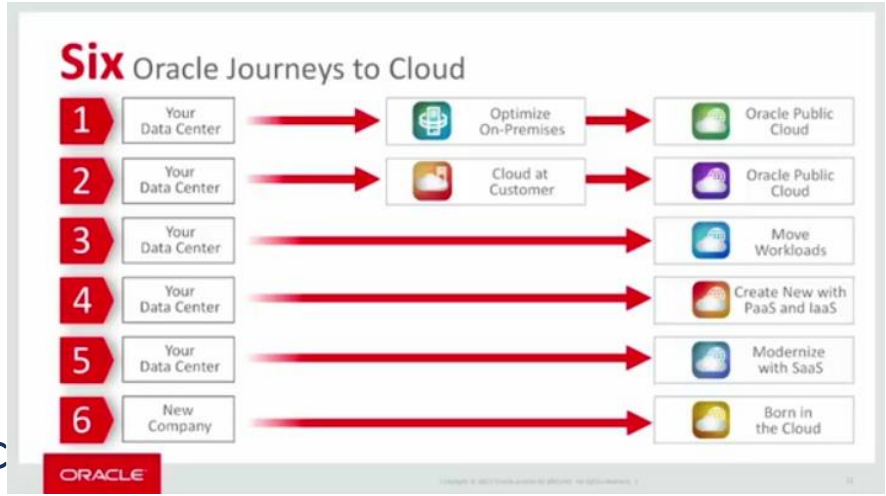
Why Cloud applications?

- There are many benefits of an organization running Oracle's Cloud ERP software
  - No need for same level of IT support as On-Premise solution
  - Obligated to stay current on the software versions, receive new features and functionality
  - Much lower infrastructure costs
  - No more DBAs, The database runs itself
  - Auto patching/updates, no more upgrades
  - Access to the most current developed features and functionality

What types of Cloud “journeys” are being taken?

- Most projects seen to date have been
  - Bolt-On, aka Hybrid Cloud
  - Net new customer
- What about the “Modernize with
- This could be:
  - Replacement / Re-Implementation
  - “Upgrade” of EBS, without the conc



The Vision

- Moving from EBS to the Cloud positioned as “The last upgrade you’ll ever do”
- Some offerings are emerging in the market to provide a path forward to Cloud
- Oracle SOAR, Rapid4Cloud, others?
  - Could also start from queries for inventory of custom features
- How automated can this be? As an example, what is in the SOAR offering?
  - Fixed price
  - Set up Cloud Apps based on EBS, with an automated tool
  - Migrate master data and convert transactions
  - Some fixed number of technical objects (e.g., 30 reports and 30 integrations)
  - Different assumptions / limitations for different Cloud modules

Why have I not gone to the Cloud already?

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Vision and Reality

- **Oracle's Vision**: Moving from EBS to Cloud apps is just another upgrade
- Has some merit because:
  - Cloud apps seem to be made of almost entirely EBS functionality in some areas
  - Should be possible to transfer Configs from EBS to Cloud
  - Master Data Migration is possible (What about Transaction History?)

- **Reality**: You probably want to preserve unique features of EBS during a migration.
  - Oracle may tell you to just dispose of custom functionality, i.e., you won't need it with the Cloud's Best Practices solution.
  - Most organizations have more than 30 reports and 30 integrations. How are these built?
  - Let's take a moment to review what might have been built into EBS over the years

More Reality

- List of EBS extensibility tools & techniques
  - Descriptive Flexfields
  - Forms Personalization
  - Custom.pll
  - APEX
  - DB Triggers
  - Concurrent programs
  - Attachments
  - PL/SQL packages, procedures, functions
  - Custom Tables, Views
  - DB Links to other systems/databases
  - Workflow
  - Alerts
  - OAF personalizations, Java Extensions
  - Should I continue?

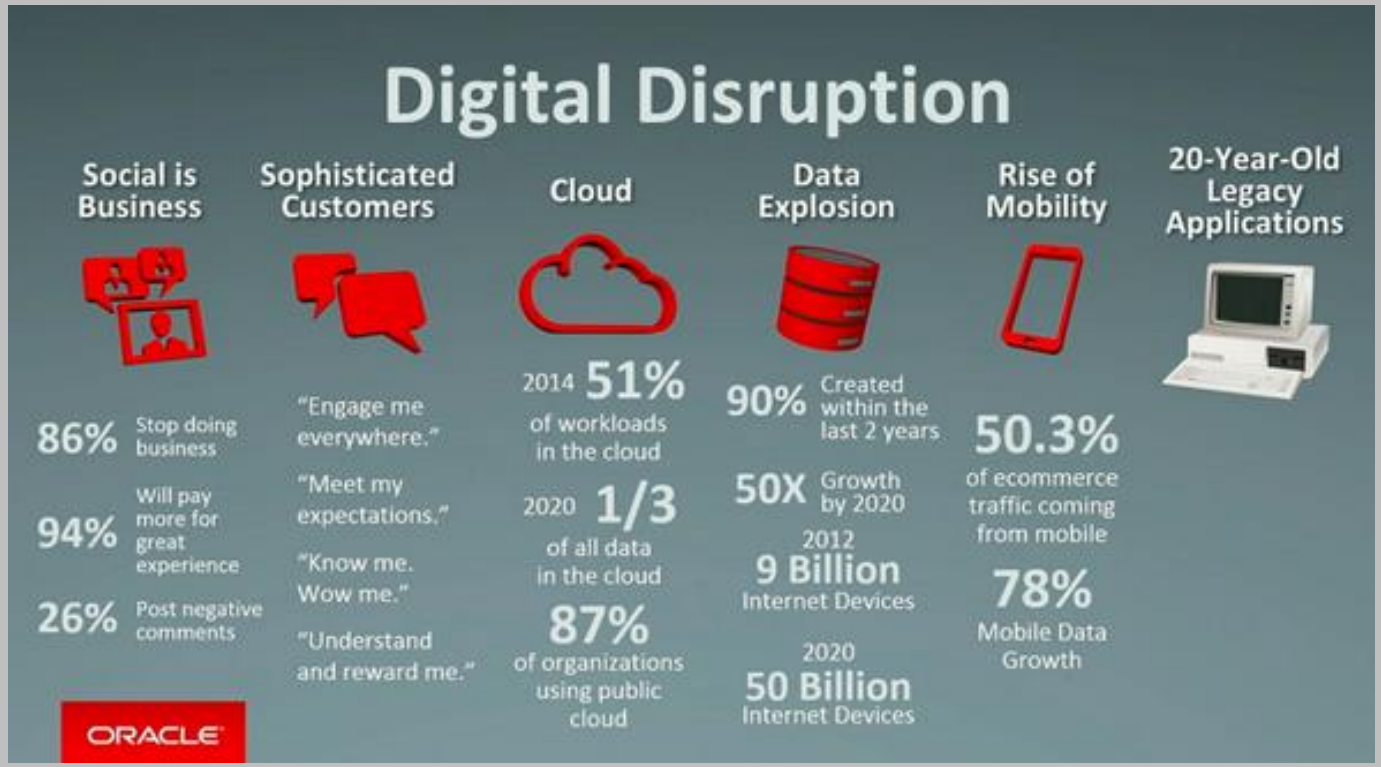
Real Examples

- Examples of RICE / CEMLI that have been built
  - AR AutoInvoice “Pre-Processor”
    - Assign Salesreps, Accounting and other data based on third party system data
  - OM Workflow enhancements
    - Certain Order Types require custom holds, reviews, and processing
  - Forms Personalization for PO Receipt Enhancements
    - Calculate Contained Weight for certain raw material item categories
  - Custom.PLL that can pre-fill Discrete Job transaction data
    - Based on user types and business unit processing differences
  - APEX form and custom tables/logic for optimal pallets in Shipping transactions
    - Allows final review of Picked order lines and assignment to trucks
  - Periodic Alerts to Notify parties via email
    - Warn Suppliers of any PO lines that are late on delivery
  - A custom view to simplify the TCA Customer tables

Oracle PaaS – Where it comes in

- PaaS is the Cloud answer to extending the SaaS applications
- PaaS is positioned to help drive insights for business innovation and transformation
- Three important sales features/buzzwords:
  - Simplified Business Automation
  - Actionable Insight
  - Rapid Iteration
- Three important practical features/buzzwords:
  - Service Endpoints (REST, SOAP)
  - Low-Code
  - Rapid Develop / Deploy
- And one more buzzword: Quickly respond to business disruption

How can my organization evolve?



Oracle PaaS

- There are 7 main areas, we'll focus on 4 of them
- Applicability to current EBS development tools
- Consider the components focused on SaaS application extensibility

- What we will not cover (But could be considered in an implementation)
  - SaaS implementation features
  - Configuration and UI changes done through SaaS product
  - 3rd party certified solutions that integrate with EBS

Oracle PaaS

- What are all the PaaS Components

Application Development

Data Management

Integration

Business Analytics

Security

Systems Management

Content and Experience

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Oracle PaaS

- What are the PaaS Components

Application Development

- Java
- Mobile Hub
- Digital Assistant
- Blockchain Platform
- Data Science Cloud
- Application Container
- Container Pipelines
- Developer
- Visual Builder
- API Catalog
- Messaging

Data Management

- Autonomous Transaction Processing
- Autonomous Data Warehouse
- Database
- NoSQL
- Big Data
- Big Data Cloud
- MySQL
- Database Backup
- Event Hub

Integration

- Integration
- Data Integration
- Data Integration Platform
- Internet of Things
- API Platform
- Self-Service Integration
- Process Automation
- SOA

Business Analytics

- Analytics Cloud
- Business Intelligence
- Data Visualization
- Essbase

…Our focus for today

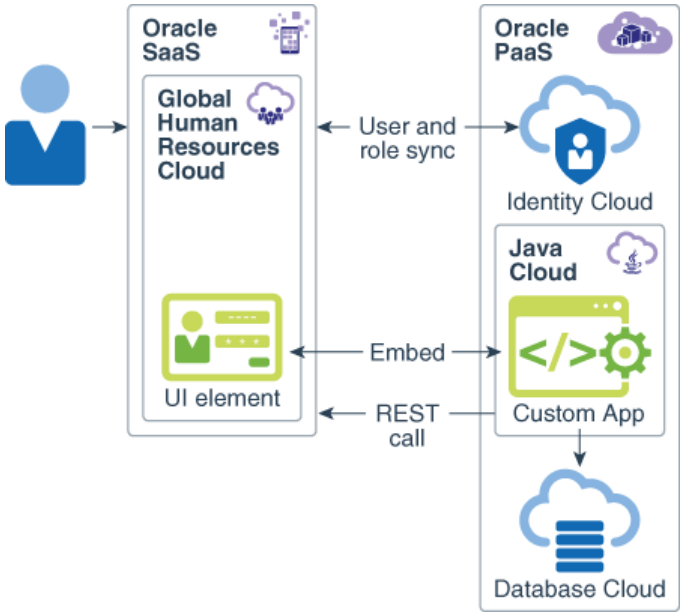
PaaS Tool Overview – Application Development

- **Developer Cloud Service**
  - Provides an open source standards-based solution to plan, develop, collaborate, build, and deploy applications in Oracle Cloud
  - Manages your development projects – repositories, issue tracking, deployment, etc.

- **Java Cloud Service – SaaS Extension** (JCS-SX)
  - What are the development skills needed – JDeveloper, builds ADF applications
  - Most powerful tool for developing complex business logic. Relies on Service endpoints being exposed.

PaaS Tool Overview

- JCS-SX, cont'd
- Leverages the SaaS security – "Set up Trust"
- Can embed the results in the SaaS applications menu
- Oracle Cloud Marketplace has "100s of pre-built extensions" from all Cloud tools
  - What is really out there?
  - Partners can develop items for this "apps store"
  - Many are adapters to 3rd party software



PaaS Tool Overview

- **Visual Builder Cloud Service**
- The latest and greatest way to build forms (Move over APEX)
  - Extend SaaS apps
  - Create custom objects
  - Embed in SaaS menus
  - Or build stand-alone apps
- No Coding! (Low-Code environment) Codeless Drag and Drop experience
- Develop, Test and Deploy in rapid manner
- Native support for Mobile interface
- Can it be as robust as APEX for deep custom development?

PaaS Tool Overview

- Visual Builder Cloud Service
  - Browser based Web Apps
  - Deploy as Mobile Apps

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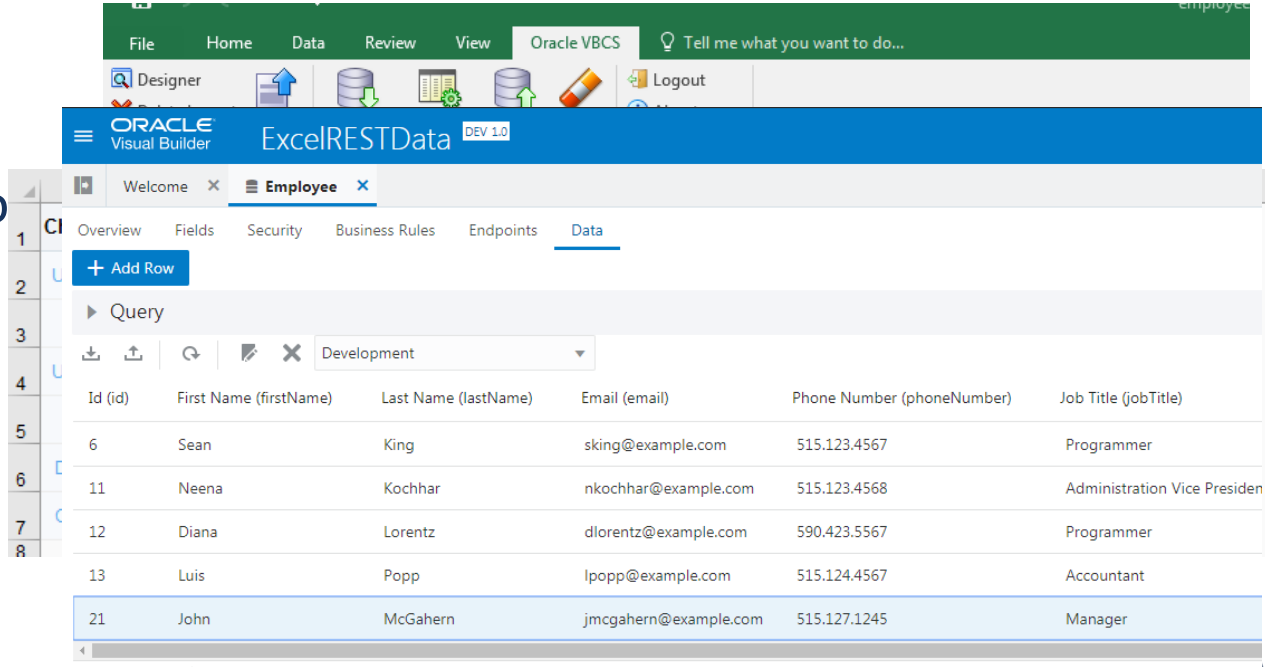
PaaS Tool Overview

- Visual Builder Cloud Service – Add-In for Excel
- Allows Excel users to edit business data available from REST services.
  - Query Data
  - Make Updates
  - Examine Results

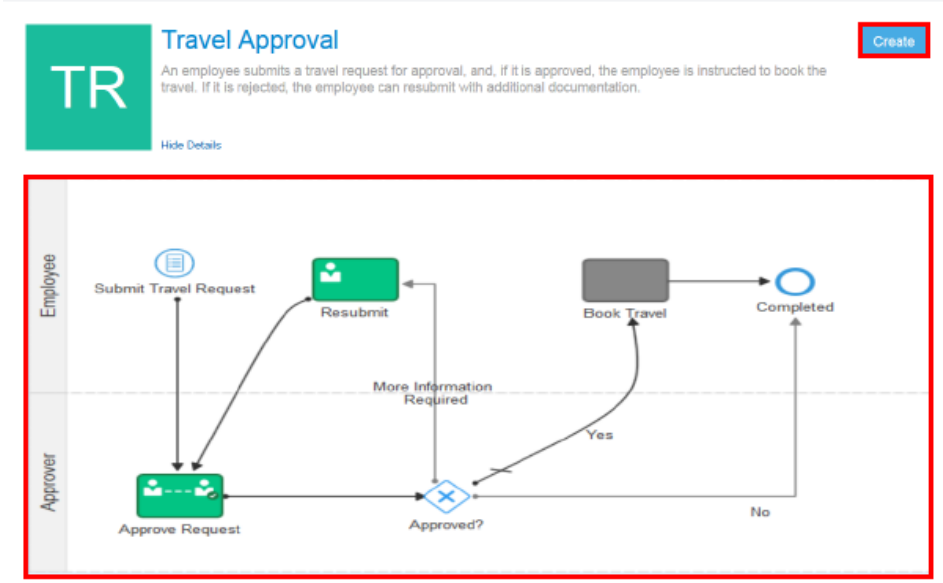


PaaS Tool Overview - Integration

- **Process Cloud Service**
- Not the same as Workflow. An evolution of BPM Suite 12c that could be used in EBS.
- Still, a possible partial replacement for EBS Workflow.
- Easy to use Composer and Work Space to develop human-task workflows.
- Low-Code environment! Develop, Test and Deploy in rapid manner
- Native support for Mobile interface
- Cloud apps may occasionally have their own embedded business process flows. This tool can supplement them, not serve to customize the embedded flows.

PaaS Tool Overview

- Process Cloud Service
- Can Access SaaS data as components of the Process Flow logic
- Can use “Quick Start Apps”
- Sometime found under marketing for Process Automation



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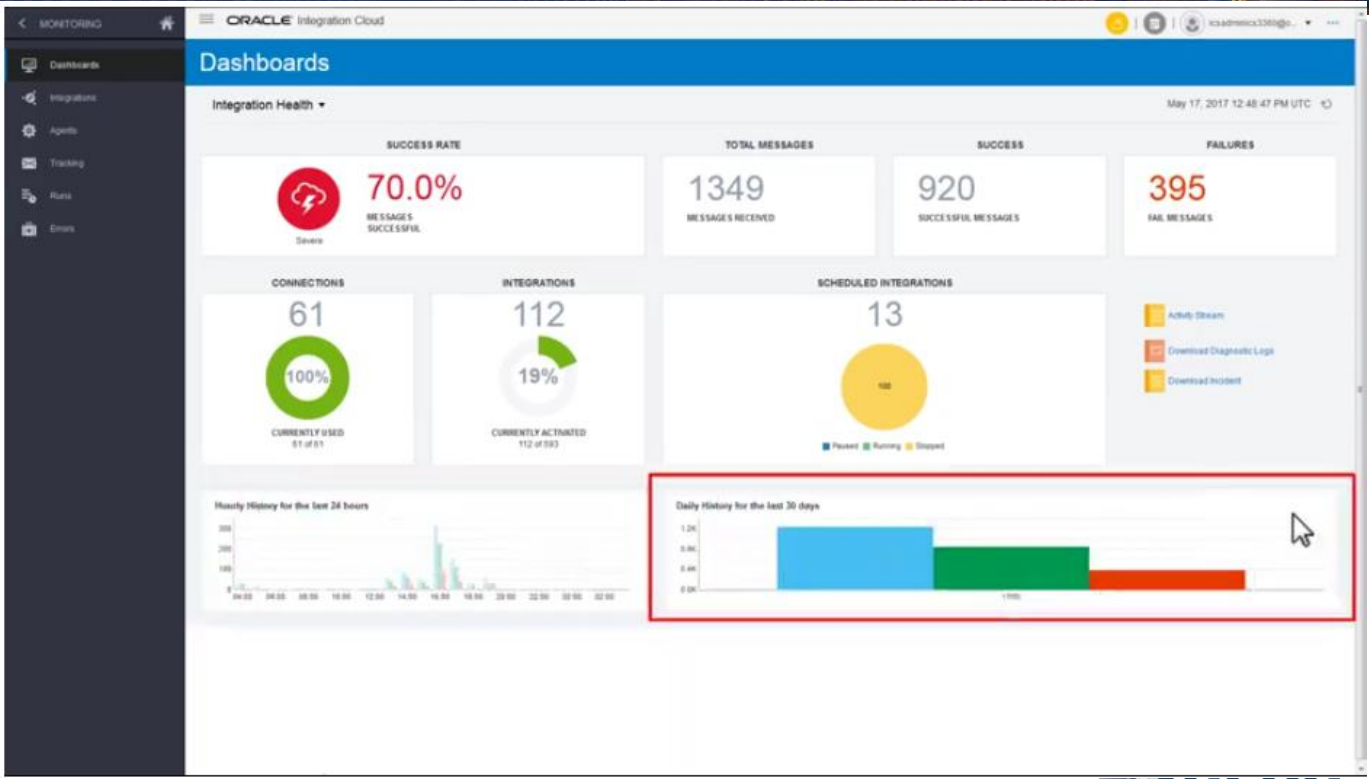
PaaS Tool Overview

- **Integration Cloud Service**
- Enterprise Edition includes Integration, Visual Builder and Process

- Other Integration PaaS Products Include:
  - SOA Cloud Service
  - API Platform
  - Managed File Transfer
- There are a lot of tools in this space.

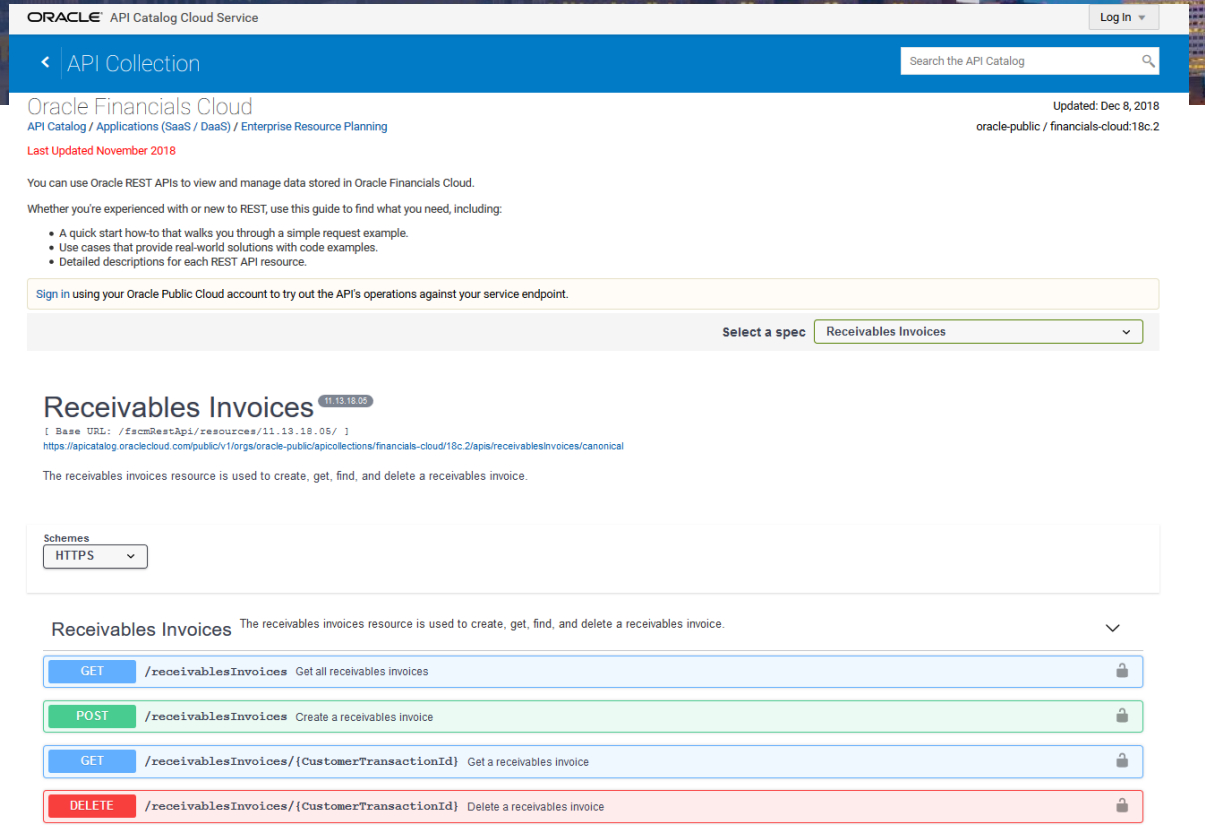
PaaS Tool Overview

- **Integration Cloud**
- 3 main features
  - Define Integration
  - Map Data
  - Monitor Activity



PaaS Tool Overview

- API Catalog
- Handy site to help you explore the services available in a given application / module



PaaS Tool Overview – Business Analytics

- **Reporting and Analytics Tools**
- For total flexibility to design powerful data visualization objects
  - Ready made to embed in Oracle Cloud modules
- Analytics Cloud
  - BI Publisher (access included with Analytics)
- Business Intelligence Cloud Service
  - Simplifies the creation, management, and deployment of analyses

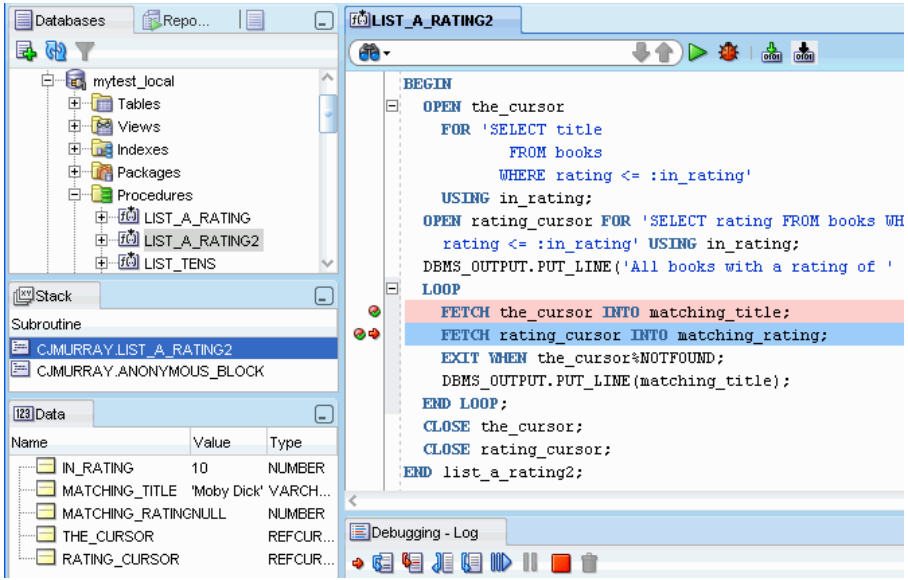
PaaS Tool Overview – Data Management

- **Database Cloud Service**
  - Oracle Database Cloud Service provides you the ability to deploy Oracle databases in the Cloud
  - Which means you might be using this service if your customizations need access to data outside of Oracle Cloud apps

- **There is another PaaS Bundle: Oracle Cloud Platform for Oracle SaaS**
  - Enterprise edition includes Visual Builder, Mobile Cloud Service, Developer Cloud Service, Oracle Identity Cloud Service, Oracle Integration, Data Integration Platform Cloud, Analytics Cloud

PaaS Tool Overview

- How to access data
  - Oracle SQL Developer Web (for Database Cloud Service)
  - Query Builder in OTBI -> use in BI Publisher
  - Use some of the other application building tools which manage REST service calls
    - Ex: Visual Builder Excel Add-In



PaaS Tool Overview – EBS Comparison

- "Translation" Mapping table

Old EBS Tool	New Cloud Tool
Workflow	Process Cloud Service
Forms, APEX	Visual Cloud Builder Service
Interfaces, Conversions	File Based Data Import (FBDI), Data Integration Cloud Service
JDeveloper	Java Cloud Service – SaaS Extensions
DB Objects	Data Base Cloud Service
Reports	BI Publisher
Discoverer	Oracle Transactional Business Intelligence (OTBI), Business Intelligence Cloud Service
OBIEE and related	Cloud Analytics

PaaS Tool Overview

- What I could not find a simple replacement for:
  - DB objects like Triggers (may be handled Application Composer / Groovy)
  - Event Alerts (see above)
  - Native Workflow modifications, calling out to custom code
  - Still working…

What else do I need to think about?

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Other Considerations

- Any Upgrade, including to the Cloud, calls for an effort to catalog, rationalize and prioritize your EBS enhancements.
  - Who owns them, what benefit provided, built with what tool.
  - Have they been an issue in Upgrades/patches, ongoing support costs, benefit types for each, etc.
- Map each customization to a standard Cloud feature, if possible.
- Let business review the full inventory of remaining customizations. This is important for getting the entire organization behind an upgrade effort.

Other Considerations

- What are all the new features available with Cloud, and can these be used?
- Larry Ellison told me at OpenWorld that I can “develop with everything that Oracle uses”
  - Voice/Digital Assistant
  - Machine Learning/AI
- Information on these tools is very light
- What are valid internal applications vs. customer facing or mobile applications?
- Would these make a migration to Cloud more attractive?

Other Considerations

- Remember the Oracle Cloud approach for applying updates – these are required updates
  - Do you want to be testing customizations constantly?
  - Can we dissect the new features in every update from documentation? Or will some automated testing solution become a requirement?
- Has Oracle published custom development standards for PaaS extensions to Cloud Apps? Perhaps this is unnecessary.
- How can we ensure that all PaaS development will not violate business logic encapsulated in Cloud apps
  - Service calls can be very powerful

Other Considerations

- What are all the Licenses that I need for PaaS Development?
  - There is a license for just about every PaaS component.
- As we have discussed, many of these tools are indispensable for you implementation, so take the cost into account.
- Examples:
  - Cloud Developer is free but may have disk space limits/overage charges (2217110.1)
  - JCS-SX has 3 “T-Shirt” sizes from $250 - $1500 / month. Each has its own data/memory limits, so that could lead to overage charges
  - Integration Cloud has many pricing models, but some of them also include Process Cloud and other tools bundled

Other Considerations – Final Thoughts

- Ultimately, is this holding back an explosion of Cloud implementations?
- Do we need to have better development “tools” for the Implementation / IT team?
- Even on net new clients, there are going to be enhancement requests to the Cloud “Best Practices”
- As the “low-code” tools evolve, I expect even current Cloud customers to be taking advantage to add new features

More Info

Reference Materials

General PaaS Resources

- Cloud Marketplace Portal
  https://cloudmarketplace.oracle.com/marketplace/en_US/homePage.jspx
  - Partners can learn how to make their own app

- Oracle Learning Library
  https://www.oracle.com/technetwork/tutorials/index.html

- community.oracle.com – community forum
  - *Remember to search on both Cloud and Fusion*

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Reference Materials

General PaaS Resources

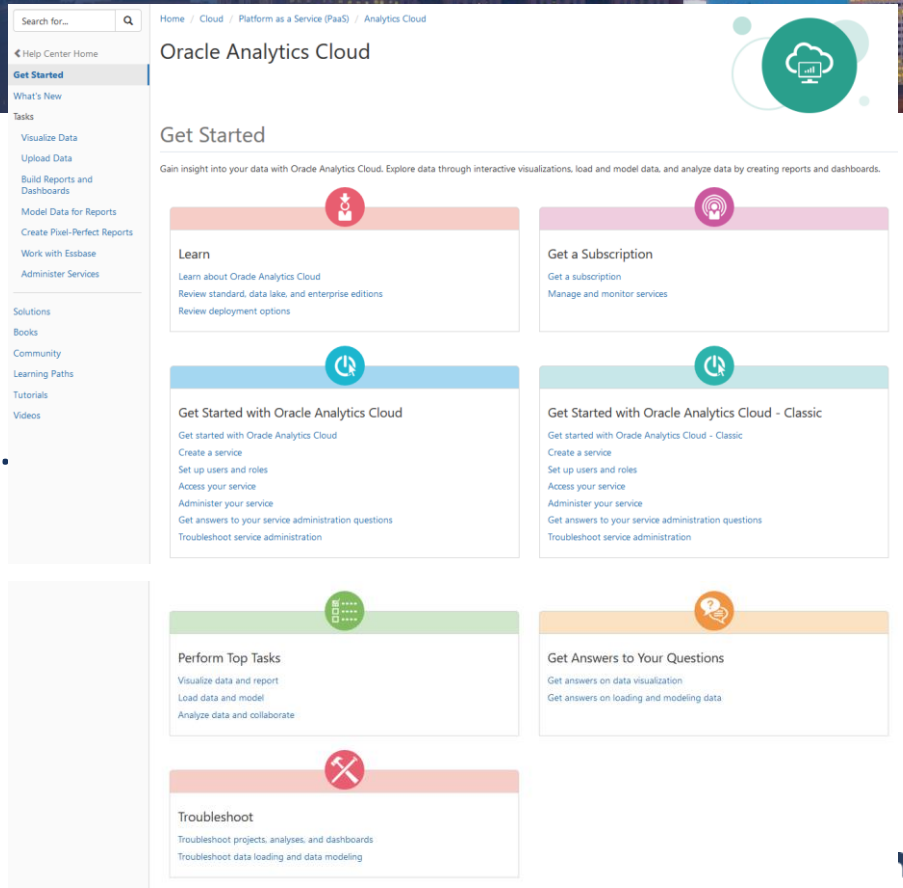
- "Get Started" on all PaaS Tools

  https://docs.oracle.com/en/cloud/paas

  – Some pages include demos, documentation, Community Links, etc.

- My Oracle Support

  Platform as a Service (PaaS) and Oracle Cloud Infrastructure (OCI) Information Center (Doc ID 2048297.2)



Reference Materials

General PaaS Resources

- Try Oracle Cloud Products

  https://cloud.oracle.com/tryit

  – 30 day trial

  – Free credits on usage

- Administration of Database Cloud Service
  https://docs.oracle.com/en/cloud/paas/database-dbaas-cloud/csdbi/get-started-this-service.html

Reference Materials

Application Development

- cloudmarketplace.oracle.com (JCS-SX)
- Free trial of Visual Builder Cloud Service at https://cloud.oracle.com/en_US/visual-builder
- Visual Builder Excel Add-In Guide https://docs.oracle.com/en/cloud/paas/app-builder-cloud/visual-builder-excel/toc.htm
  - Can be downloaded on OTN https://www.oracle.com/technetwork/topics/cloud/downloads/index.html

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Reference Materials

Data Integration

- API Catalog
  https://apicatalog.oraclecloud.com/ui/
  - Click on a link of your Cloud application to see a listing of APIs available

- Other useful Support notes
  - Oracle Fusion Applications - Using External Data Integration Services (Doc ID 1940553.1)
  - Using External Data Integration Services for Oracle ERP Cloud (Doc ID 2102800.1)
  - External Data Integration Services for Oracle Cloud (Doc ID 1474204.1)
  - Oracle Fusion Applications® External Data Integration Services (Doc ID 1490492.1)
  - Cloud Products have an information page with info on Integrations
    - Example: Oracle Sales Cloud at 2423111.2

Reference Materials

- What does the customer manage vs. Oracle? (2309936.1)
-

Service	Service Family	Who Manages?	Backup Responsibility
Analytics Cloud Service	Business Analytics	Customer	Customer
Oracle Cloud Infrastructure	Infrastructure	Customer	Customer
Data Visualization	Business Analytics	Oracle	Oracle
Database	Database Cloud	Customer	Customer
Developer	Middleware	Oracle	Oracle
Integration	Middleware	Oracle	Oracle
Java	Java Cloud	Customer	Customer
Java - SaaS Extension	Java Cloud	Oracle	Oracle
Managed File Transfer	Middleware	Customer	Customer
Mobile	Middleware	Oracle	Oracle
Oracle Visual Builder (Application Builder)	Middleware	Oracle	Oracle

Thank you very much

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Q&A

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