



Zebra Solutions Pathway

Analytics And ADW Solution For Commerce Cloud

Manav Purohit
Sr. Manager – BI and Analytics
February 23rd, 2020



Agenda

- Introduction to Zebra Technologies
- Zebra Solutions Pathway - Use Case
- Architecture
- Advantages of the solution
- Usage Metrics
- Future Plans For The Platform

Times like these call for a market leader



#1

Mobile Computing

#1

Data Capture

#1

Barcode Printing

#1

**Radio-Frequency
Identification
Readers**

Named a Leader

Gartner Magic Quadrant for Indoor Location Services — Global*

Sources: VDC Research and Zebra analysis (#1 marketshare), *Gartner, Inc., "Magic Quadrant Indoor Location Services, Global," Tim Zimmerman, Annette Zimmermann, 13 January 2020 (A Leader)

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You know Zebra as...

A Product Company



...but we have a broad solutions portfolio

Barcode
Printing



Mobile
Computing



Sensing /
Scanning



Locationing



Data
Platforms



Software



Services



Supplies



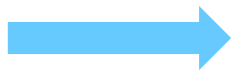
Zebra Customer First Initiative

- Zebra sells its products and services through a Distribution Channel
- Zebra partners play a critical role in enabling our customers work better, faster and smarter
- Zebra's Customer First Initiative was launched to focus on
 - Cultivating more brand loyalists
 - Creating more positive word of mouth,
 - Generating more profitable customer / partner relationships, and
 - Further engage our Zebra team
- Zebra Solutions Pathway was launched as part of this initiative

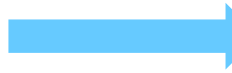
Zebra Solution Pathway

DEVELOP A WORLDCLASS ECOSYSTEM THAT HELPS OUR CUSTOMERS, PARTNERS AND EMPLOYEES CAPTURE THEIR PERFORMANCE EDGE

CUSTOMER FIRST



PROCESS



OPPORTUNITIES



TECHNOLOGY APPROACH

Customer First Intent
Improve end-user and partner satisfaction
Lay the foundation for a customer-centric enterprise
Change our organization, systems, processes and people to put the customer first in everything

Customer First 3 Phase Approach
Easier to do business with Zebra through more customer-centricity

- Phase 1: Collect and Analyze Input
- Phase 2: Identify Improvement Areas
- Phase 3: Develop Action Plans

CAPTURE QUICK WINS

For ELT Consideration – Sale to Fulfillment

For ELT Consideration – Post-Sale Support

For ELT Consideration – Partner Management



Sale to Fulfillment

Processes and systems associated with customer quoting, pricing and ordering and product fulfillment.



Post Sale Support

Encompasses a wide range of services designed to assist a customer with product use and create brand loyalty.



Partner Management

An ecosystem of methodologies, strategies, communications, and capabilities that help manage partner relationships.

Commerce/Hub & CPQ addresses 6 of the 11 Systems/Technology identified gaps

LACK OF CONFIGURATOR FUNCTIONALITY

COMPLEXITY WITH PARTNER OPPORTUNITY MGMT (DR'S) / PRICING

LACK OF ORDER STATUS, VISIBILITY & ACCURACY

CHALLENGES CONTACTING ZEBRA

CONTRACT PURCHASING CHALLENGES

ENTITLEMENT DISPUTES DELAYING SUPPORT

SELF-SERVICE SUPPORT LIMITATIONS

RMA PORTAL FUNCTIONALITY / REPAIR STATUS VISIBILITY

LIMITED EFFECTIVENESS OF PARTNER COMMUNICATIONS

PARTNER COMPLIANCE COMPLEXITY/ CHALLENGES

LEAD TIMELINESS



1. COMMERCE/PRODUCT HUB

(e.g. Shopping Cart, Order & Invoice Status, Catalog & Content Syndication, Improved Partner Experience and Reach)



2. CONFIGURE, PRICE QUOTE (CPQ)

(e.g. Solution/Product Modeling, Price Optimization, Quoting)



3. USER EXPERIENCE

(e.g. Personalization, program information, tools, intelligent dashboards)



4. ANALYTICS

(e.g. Intelligent search – speed time to assist, reduce call handling, address “white space”)

Goals Of Zebra Solutions Pathway – Launched in March 2020

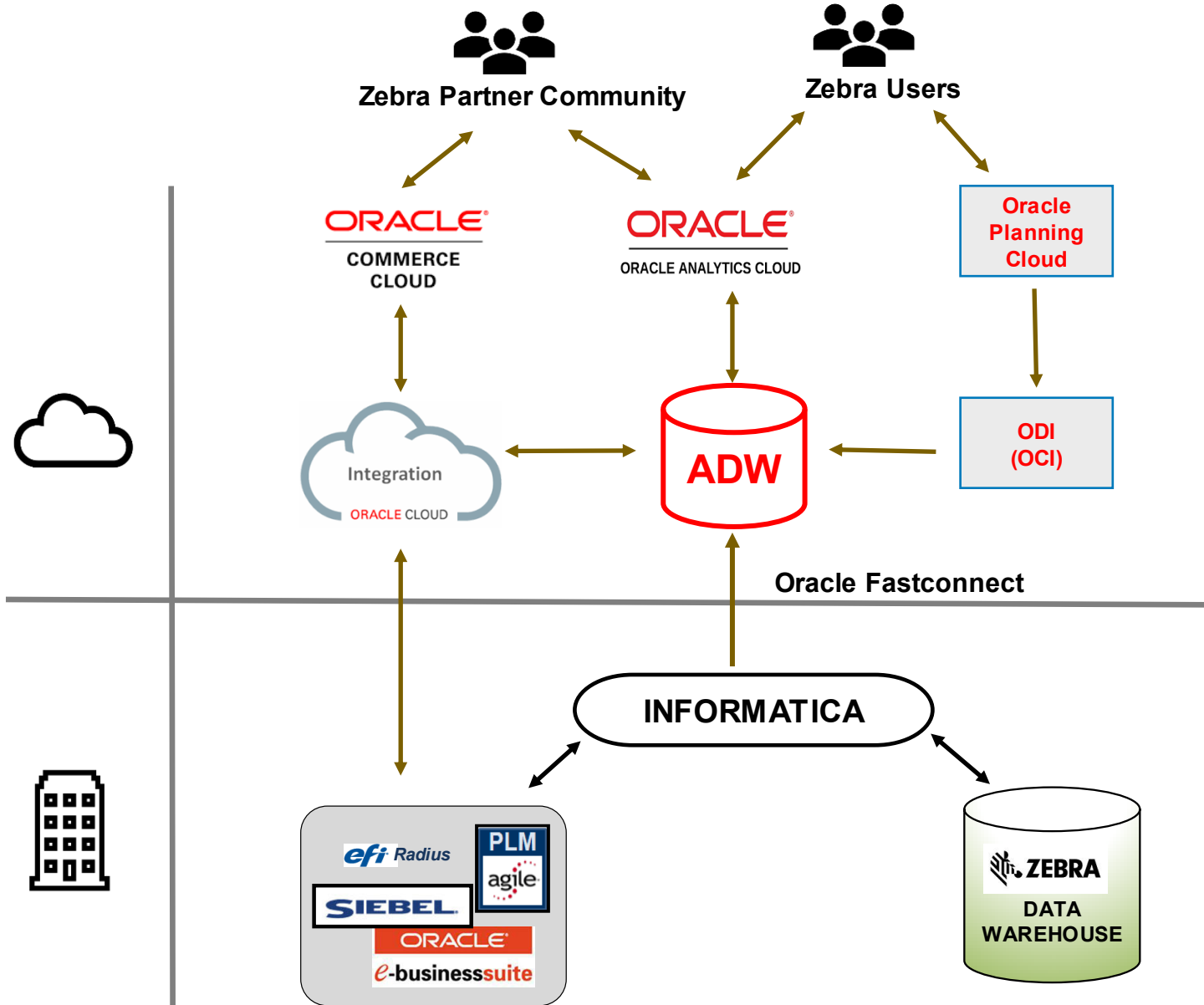
Goals Of Zebra Solutions Pathway

- Replace/Complement the existing legacy systems and multiple commerce sites
- Modernize our shopping cart experience for Distributors & Partners
- Provide enhanced product descriptions and marketing assets
- Facilitate up-sell and cross-sell throughout the catalog and configurator
- Allow all sellers and partners to configure valid SKUs

New Applications Added To IT Portfolio

- Oracle Commerce Cloud (OCC)
- Oracle Configure, Price and Quote (CPQ)
- Oracle Integration Cloud
- Oracle Analytics Cloud
- Oracle Autonomous Data Warehouse
- Stibo PIM System

Architecture Of Zebra Solution Pathway



Key Building Blocks For Analytics

- Order Capture through Oracle Commerce Cloud and Siebel
- Shipment and Invoicing in Oracle E-Business Suite
- Networking: Oracle Fastconnect enabled between Zebra and OCI
- Networking was the key challenge for implementation
- Data Sets In ADW: Sales Order, Deliveries, Sales Invoices
- Integration:
 - Informatica ETL running every 15 minutes
 - ODI for bulk data movement from Oracle Planning to ADW
 - Realtime integration between OCC and Siebel and ADW
- Reporting: Oracle Analytics Cloud used for providing reporting for Partners

Building Blocks For Journey To The Cloud

New Applications Build In-Progress

- The platform laid out for Zebra Solutions Pathway is also the foundation for our cloud journey
- Zebra is moving from Oracle VCP to Oracle Planning Cloud
- Oracle Data Integrator from OCI Marketplace used as ELT tool for data extracts from Oracle SaaS application
- Oracle ADW will form the repository of the Planning Data Mart
- Oracle Analytics Cloud will form the reporting
 - Users will switch from existing APCC reports (which are accessed from within OAC) to new subject areas seamlessly

Usage Metrics For Zebra Solutions Pathway

Dashboard Pages

20

Unique Users

1,926

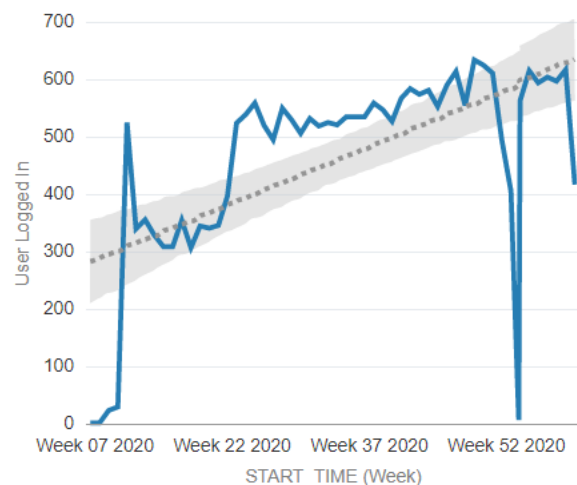
Average Response Time (Secs)

1.87

Queries

1,367,681

Unique Users By Week



... Trend (95% Confidence)

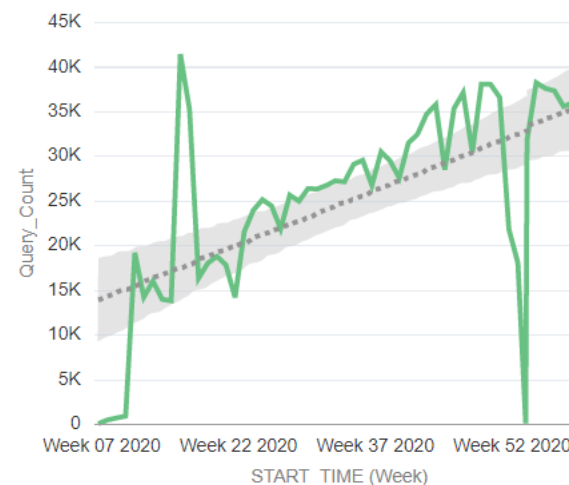
Unique Users By Week

The data represents the User Logged In between February 9th, 2020 and February 14th, 2021.

- Overall, the User Logged In went up throughout the current period, rising from 3 to 418.
- The measure plunged on January 2nd, 2021 at 8.
- The User Logged In has seen an outstanding 13,833.33% growth in comparison with its initial value.

At least one START_TIME (Week) is apparently missing in the current selection. You can try to either change your selection or check whether your input data is complete.

Queries By Week



... Trend (95% Confidence)

Queries By Week

The data represents the Query_Count between February 9th, 2020 and February 14th, 2021.

- Overall, the Query_Count went up throughout the current period, rising from 105 to 14,561.
- The measure peaked on April 12th, 2020 at 41,467. The measure also plunged on January 2nd, 2021 at 145.
- The Query_Count has seen an outstanding 13,767.62% growth in comparison with its initial value.

At least one START_TIME (Week) is apparently missing in the current selection. You can try to either change your selection or check whether your input data is complete.

Usage For Last 1 year

Advantages Of This Solution

Productivity And Delivery Turn Around

- Ease of Implementation enables rapid deployment of new environments
- Team is focused more on creating content needed by end users
- Time spent on creating the most optimal data model has greatly been reduced

Scalability and Performance

- Reports are very responsive, and this fact has been greatly appreciated by our end users
- Auto Scaling feature provides peace of mind that Partner community won't see poor performance
- Scaling up as we add more users to the platform would be very easy

Availability

- The Ordering Portal and Analytics Solution are available during Zebra's Quarterly Outages without interruption
- Minor Patching events are automated and transparent to the end users
- Major Patching events are easy to plan for and see only 30 minutes outage
- Availability of preview periods enables us to test key features on a clone without affecting existing operations

Future Plans For This Platform

Future Use Cases Planned For ADW and OAC

- Continue to deliver reporting and analytic use cases for Zebra Partners
- Transition on-prem data warehouse data sets to ADW
- Use ADW for custom use cases for future Oracle SaaS implementations

Future Use Cases To Be Explored On ADW and OAC

- Machine Learning capabilities in ADW combination with OAC
- Moving business created “Data Puddles” to central cloud repository

Thank You



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Oracle Autonomous DW for Real-time Analytics and Reporting

Sree Ghantasala,
Vice President, Engineering
Optum Financial

Oracle Global Leaders Event, Feb 23, 2021

ORACLE
Oracle Global Leaders Program

ConnectYourCare



Nationally recognized—
solution of choice and
industry pioneer, top CDH
administrator



**Innovation with a
purpose**—continuous
evolution to deliver the
highest level of service



Domain expertise—well
rounded team of banking,
marketing, compliance and
payment card experts



**Cloud-based
technology**—modern
platform with leading
architecture



**Operational and service
excellence**—vision to
precision, delivering what is
promised



**Revolutionary
solutions**—unique
innovation and artificial
intelligence tools



Participant value —
24/7/365 U.S. based
customer service, friendly,
fast access



Partner value—reporting
and analytics, tools, and
automation for full
transparency



Partnership —
engagement and planning
to meet goals together



CYC Client Profile

Financial Services	 Liberty Mutual	 SUNTRUST	 citibank	 STATE STREET	 M&T Bank	
	 T. Rowe Price	 USAA	 ZIONS BANCORPORATION	 BMO		 THOMSON REUTERS
Technology	 amazon	 Microsoft	 salesforce	 facebook	 Square	
	 PREMIER BLUE CROSS	 AdventHealth	 Genesis HEALTHCARE SYSTEM	 BlueCross BlueShield of North Carolina	 Geisinger Health Plan	
Health Care	 CHANGE HEALTHCARE	 Ascension	 CENTENE Corporation	 Alina Health		
Industrial	 FedEx	 Hormel	 Cargill	 HALLIBURTON		
Consumer Goods/ Retail	 WHATABURGER	 Constellation Brands	 GFS gordon food service	 Kimberly-Clark		
Public Sector						
Higher Education						

* CYC Partner

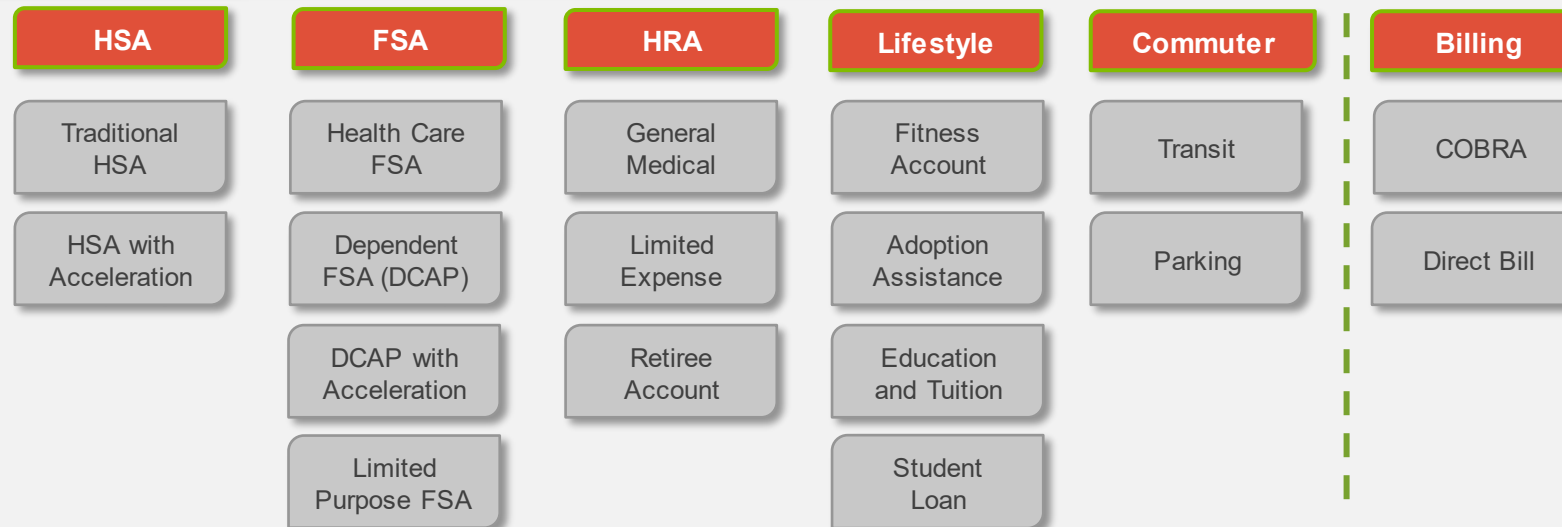




All-in-One Platform Technology to Address Diverse Client Benefit Requirements

Delivering a complete ecosystem experience that results in greater satisfaction, understanding and retention

smartCDH™ (Consumer-Directed Healthcare) Single Experience

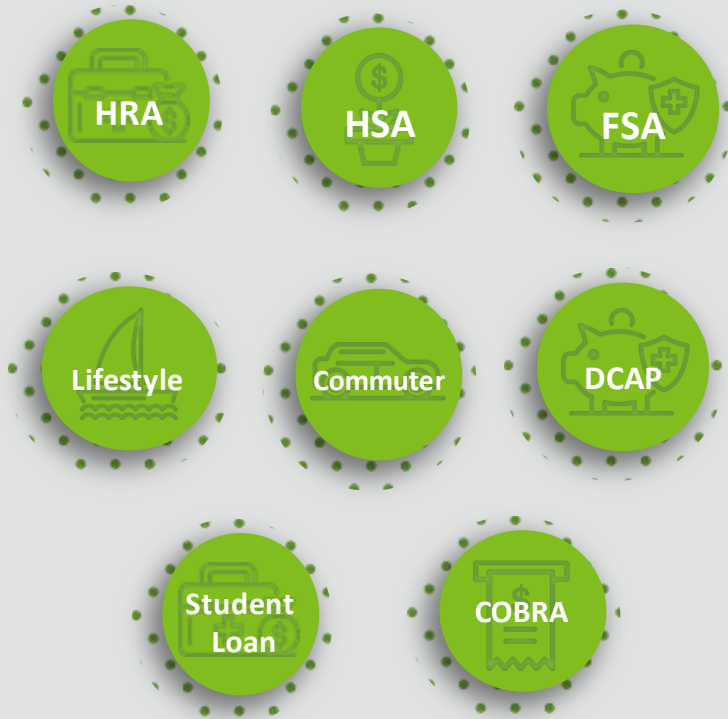


Smart Payment Card | Mobile App | Command Center | Employee Portal | Integration APIs

SIMPLE • INNOVATIVE • PROVEN • SUPPORTED



CYC Products



myCYC Mobile



A dynamic digital user interface with full life cycle alerting and complete usability parity with portal

myCYC Portal



A consistent user experience for all account types with customizable user preferences

CYC Insights

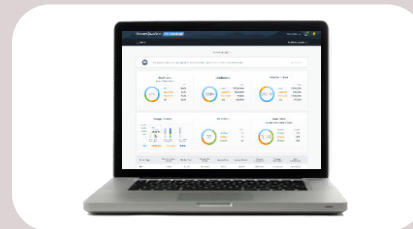


Real-time, custom queries and data analytics for CDH plan performance

COMMAND SERIES

Customized dynamic workflow and outcome-based tool for HR administrators, partners, and CYC employees

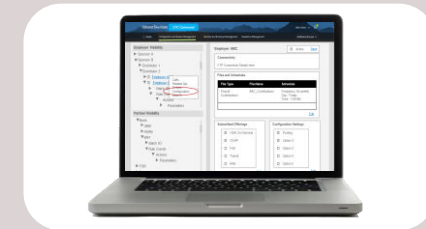
HR Command



Partner Command



CYC Command



CYC CORE

Claims Cards Investments

Banking (NBT)

CIP Accounts Statements Interest



HR Command

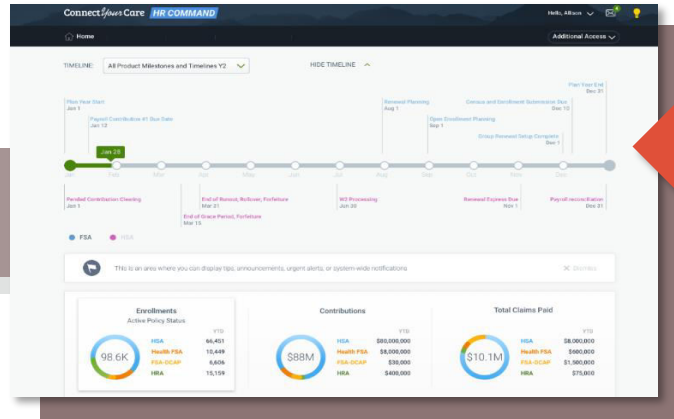
Customized, dynamic workflow console for HR administration, with a focus on usability and proactivity

Key metrics, front and center, to easily answer questions like:

- What CDH benefits are my employees enrolling in?
- Are my employees contributing as much as allowed?
- Whose cards are expiring soon?

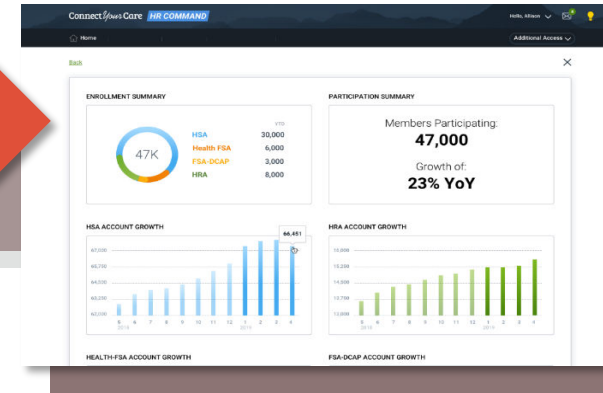


HR Command: Employer Experience

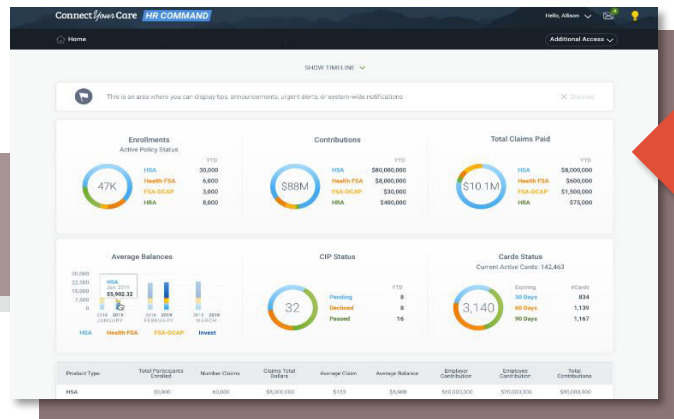


Actionable plan year timeline & alerts to stay ahead of due dates (renewals; first dollar available; deadlines to use benefit dollars)

Deep data analysis and rich report views that illustrate trending information over time

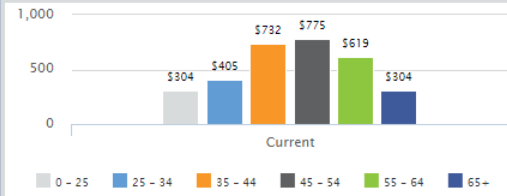


Step-by-step walkthroughs—automated and pre-designed—for enrollment and administration process ease

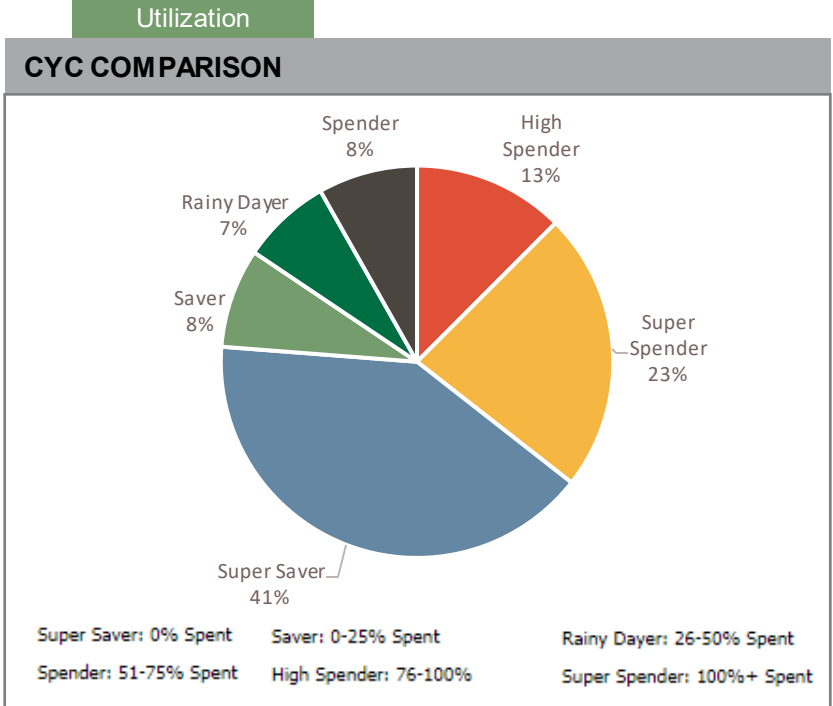
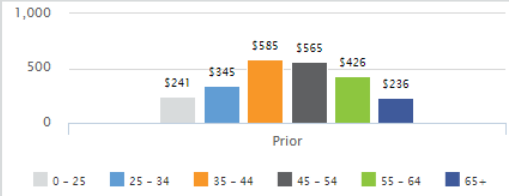


CYC Insights: HSA Examples

MARKET COMPARISON



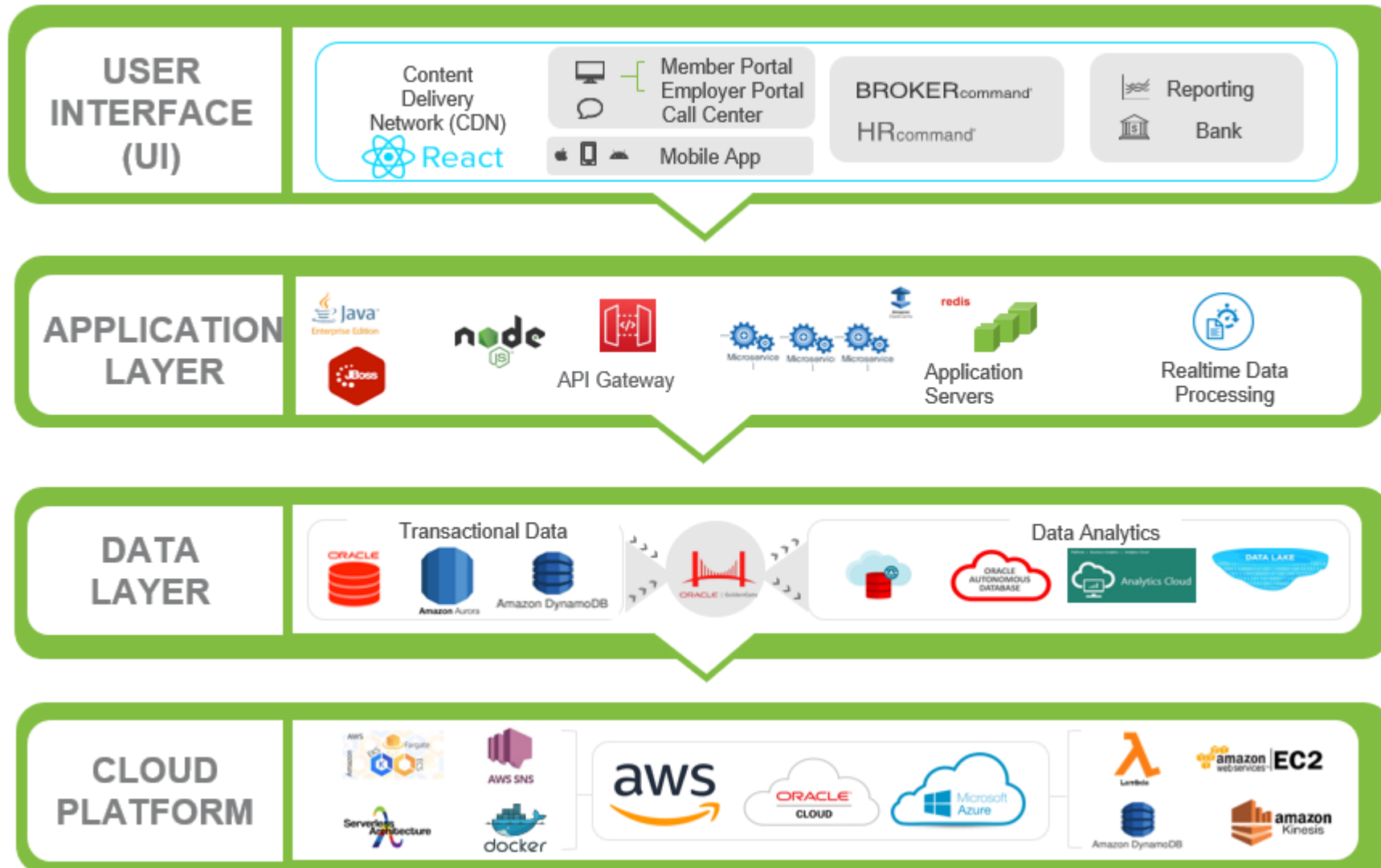
HSA GROWTH BY ACCOUNT AGE



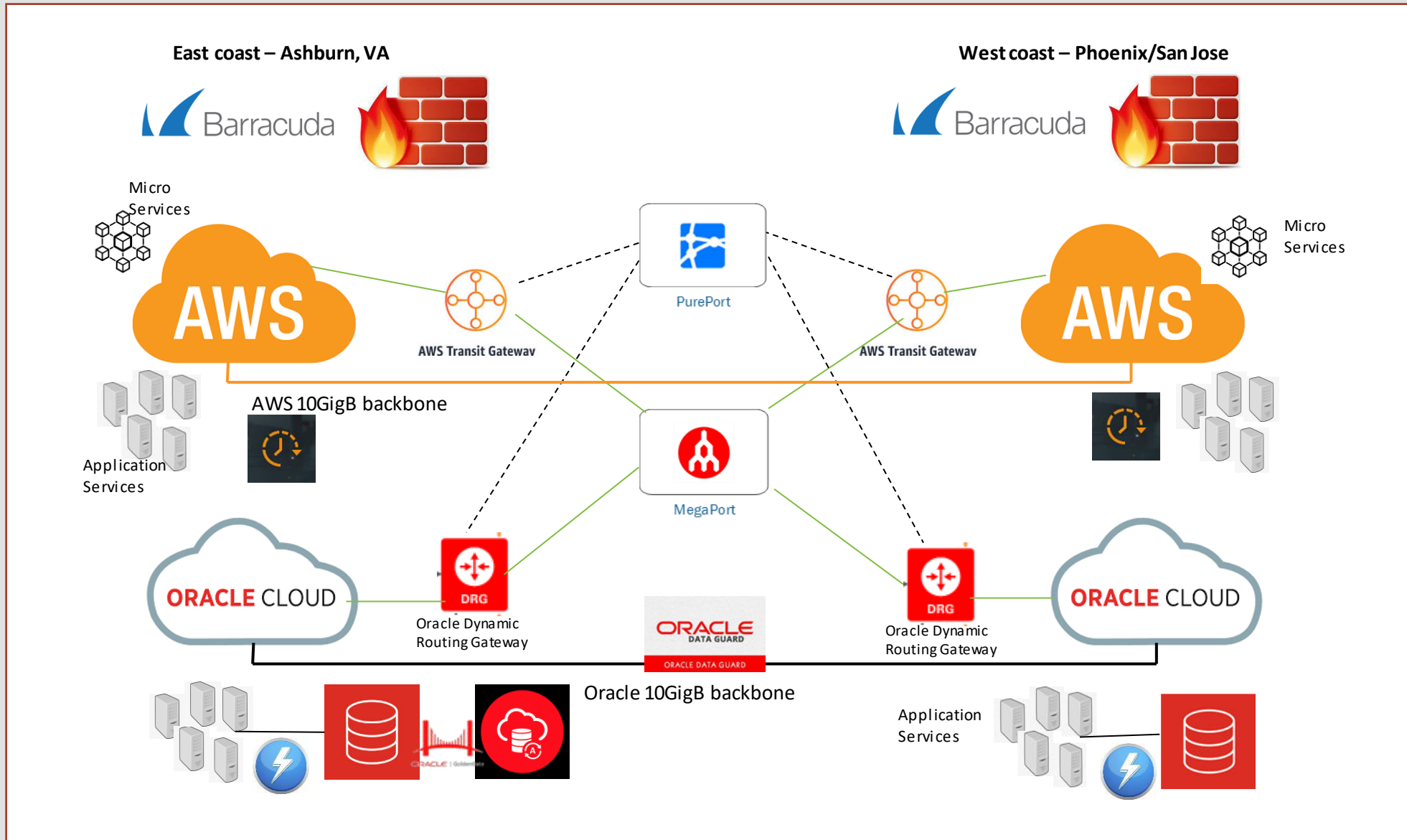
Identify trends and compare your program's performance to other "like" entities – by industry, by size or by our broad member base



CYC Technology Architecture



Optum/CYC Multi-Cloud



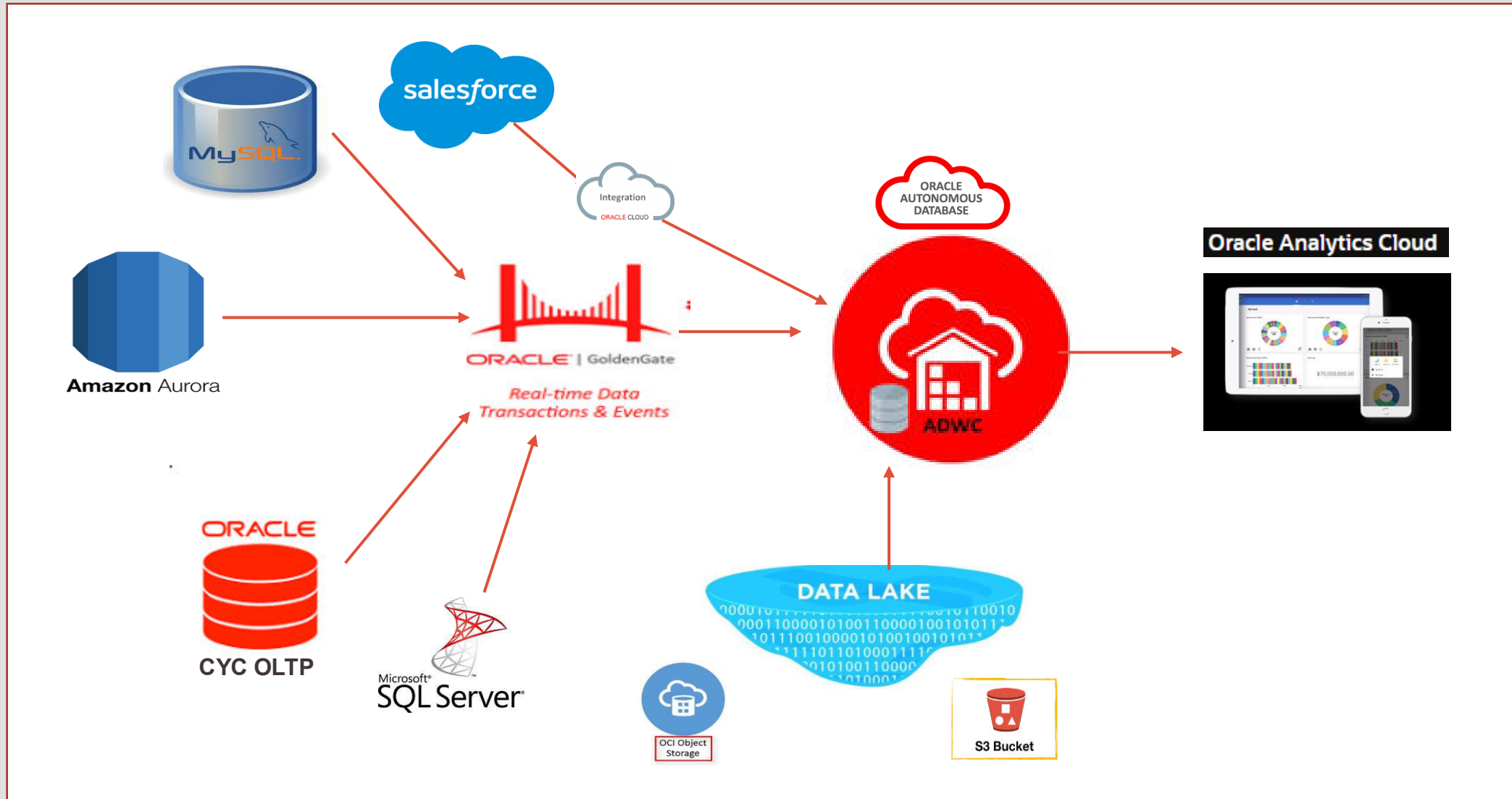
Technology challenges

- CYC's DW solution in Cloud was a high-performance solution, but had some challenges with high concurrent reporting needs
- Data ingestion process from OLTP data sources like ExaCS Oracle, MySQL and others was often delayed and did not meet the Real-time DW data requirement
- The Cloud interconnect network get busy with large data transfers between two different Cloud providers during the database sync process

Oracle Autonomous DW advantages

- Enterprise Edition DB, Massive Elastic Scale, 99.995% up-time SLA
- High Concurrency
- Rich Data Manipulation Capability with SQL, PL/SQL etc.
- Good integration with Real-time data SYNC using Golden Gate
- Self Patching and self Managed
- Easy cloning feature
- Industry standard Security Compliance with excellent security and audit features.

Oracle Autonomous Data warehouse



ConnectYourCare – ADW/OAC Project Outcomes

Business
Outcomes

Modernize CYC's data management and analytics platform to optimize business and innovate for growth

- Enable a unified analytics platform with real time data
- Immediate performance and operational benefits
- Create an elastic solution that allows for rapid scalability to support CYC's operating without having to run and maintain the underlying platform

SolutionGo
Live

Accelerate CYC digital initiatives with enterprise grade data warehouse and analytics

- Enable real time replication with GoldenGate and create new materialized views for reporting on ADW
- Automatically scale, patch and maintain with Autonomous DW
 - Highest performant infrastructure with Exadata to meet high performance requirements
- Unlock the value of data with Oracle Analytics Cloud
 - Publish visualizations to enrich user experience
 - Provide a simple to use reporting and dashboarding tool, embedded with ML, NL and AI capabilities

Success

Improve operational efficiency and eliminate human error

- Eliminate the need for "run and maintain" to refocus efforts on innovation
- Elastically scale with confidence

Oracle Autonomous DW Performance

- Tested several complex queries involving many large tables with billions of rows in joins and most of the queries ran 5 -10X faster compared to the current solution.
- 90% of the queries ran 5 -10X faster with 32 OCPU in ADW compared to 96 cores of compute on current solution.

Who We Are

TMEIC drives industry around the world through a comprehensive offering of unique systems solutions including variable frequency drives, motors, photovoltaic inverters and advanced automation systems for a wide range of industrial applications. Established in 2003, Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC) resulted from the integration of Toshiba and Mitsubishi Electric Corporation's industrial systems divisions.



TMEIC Corporation (Roanoke, VA / Houston, TX)

- Project centric business serving Americas and the world
- Utility scale photovoltaic solution – 11 GW USA, 30 GW worldwide
- Metal rolling / paper – hot mills, cold mills, process lines, paper mills
- General Industry – Oil & Gas, Mining, Water, Testing
- Crane Systems – Quay Cranes, Automatic Stacking Cranes, Gantries
- Annual revenue of \$500 M, TMEIC \$3.0 B worldwide

TMEIC and Oracle

- EBS – hosted by Oracle OMCS since 2002
 - Added TMEIC Europe in 2007, TMEIC China in 2014
- OBIEE – 'on premise' hosted by Oracle since 2015
- Cloud applications to augment EBS capability
 - Sales Cloud, Eloqua, DataFox, Global Trade Management, Taleo
- Host custom applications for pricing and engineering - integrated with EBS and Sales Cloud

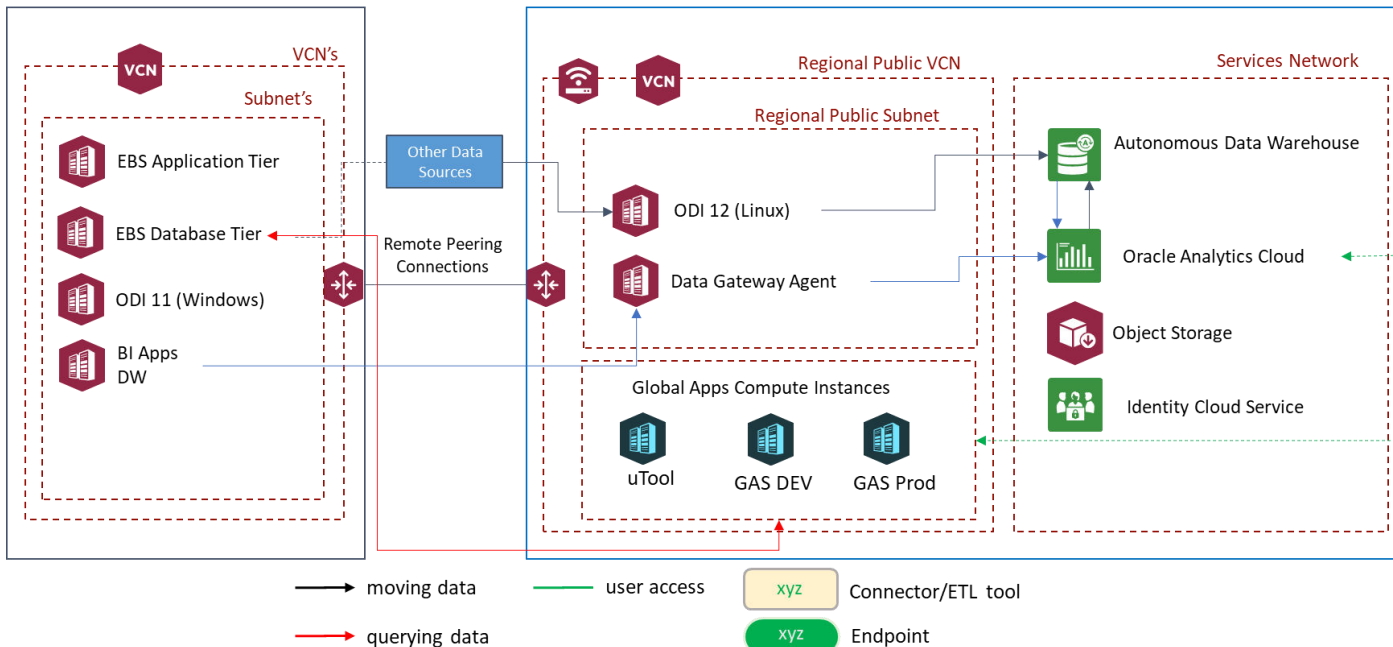
TMEIC at OCI – How we got here

- Went live at OCI-Classic in 2018, quickly realized platform limitations
- Migrated to OCI in October 2019 - EBS and OBIEE
- Analytics Cloud and ADW provisioned June 2020, in production September 2020
- Dual tenancy
 - Oracle MCS hosts EBS and OBI in one, limited admin access for TMEIC
 - TMEIC hosts custom applications, ADW and OAC in second tenancy
 - ADW integrates data from EBS, Sales Cloud and custom apps



Oracle Cloud (OMCS auctosh01)

Oracle Cloud (Customer - auctosh02)

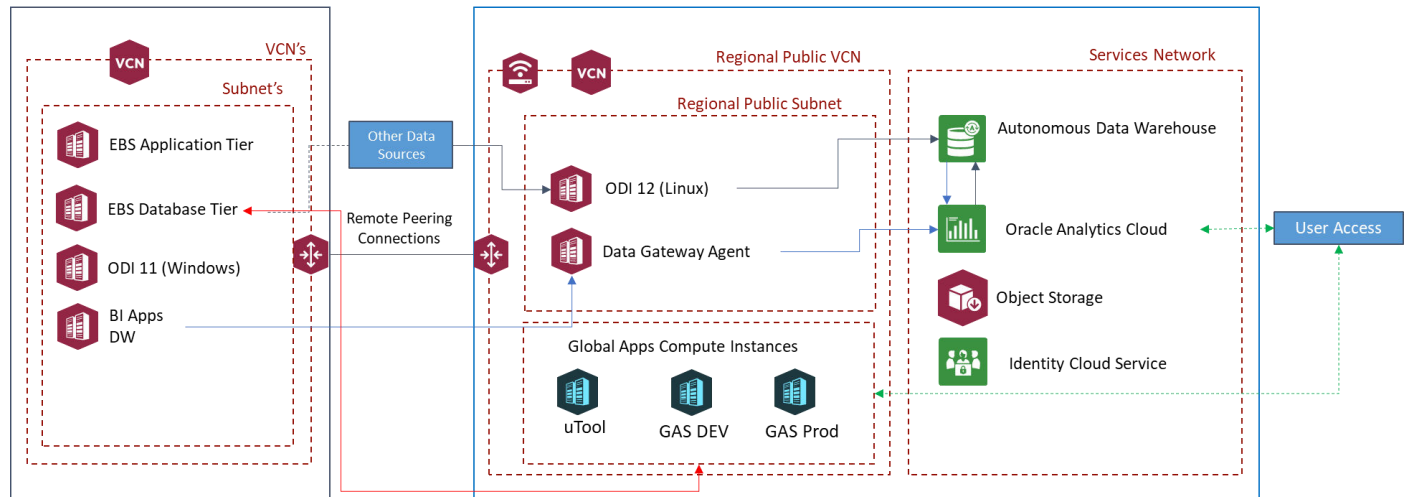


TMEIC at OCI – Current setup

- Traditional 'On premise' EBS feeds 'on premise' OBIEE utilizing ODI 11 and Oracle Analytics RPD in the Oracle managed tenancy
- BI Apps DW (OBIEE) in 01 exposed in OAC in 02 via the Data Gateway Agent
- Remote peering connection connects custom applications in Global Apps compartment in auctosh02 to EBS in auctosh01
- Production data sizing – EBS 2.6 TB, OBIEE 3.0 TB, ADW 1.0 TB

Oracle Cloud (OMCS auctosh01)

Oracle Cloud (Customer - auctosh02)



→ moving data → user access xyz Connector/ETL tool



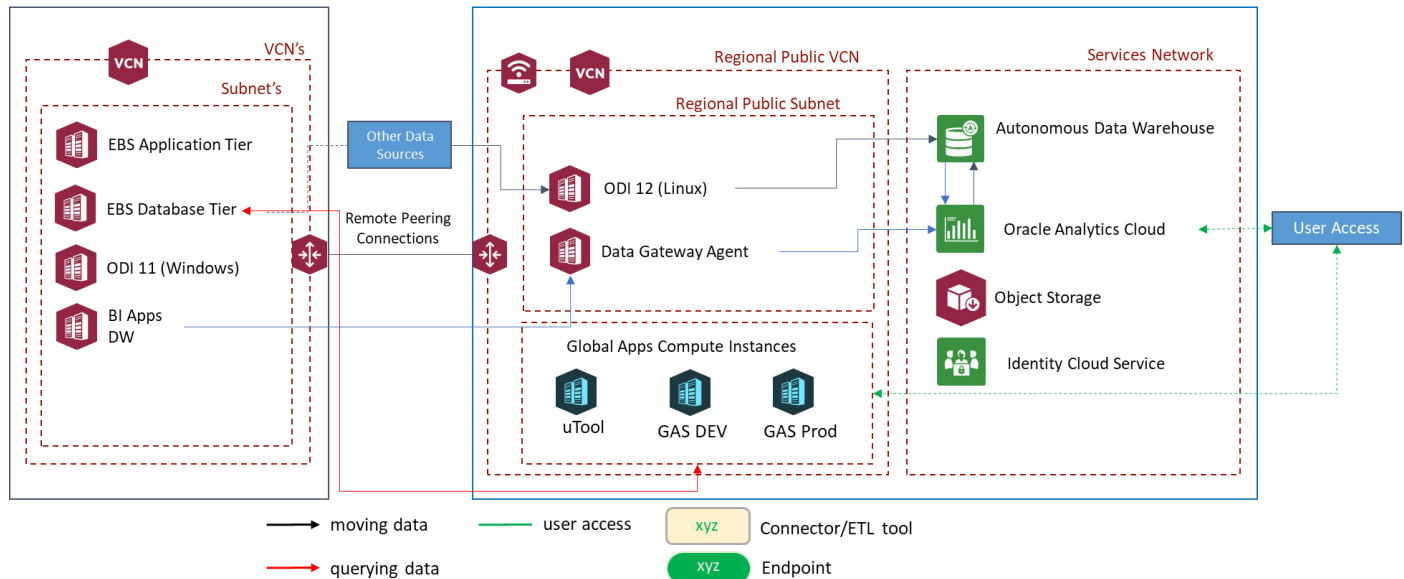
TMEIC at OCI – Current setup – tools used

- Leveraging the ADW to store data as a staging area along with a data store for our OAC DVs
- Data Flows used to extract data from on premises data and transform it and place it in the ADW
- Leveraging OAC by building datasets and using data visualizations to combine and explore our ERP, Sales Cloud and other data – giving the ability to link data from systems end to end
- BI Publisher used to generate and share reports by various methods including email, ftp, sftp
- Agents used to schedule and deliver analyses, dashboards



Oracle Cloud (OMCS auctosh01)

Oracle Cloud (Customer - auctosh02)



TMEiC at OCI – Current setup – Analytics Architecture

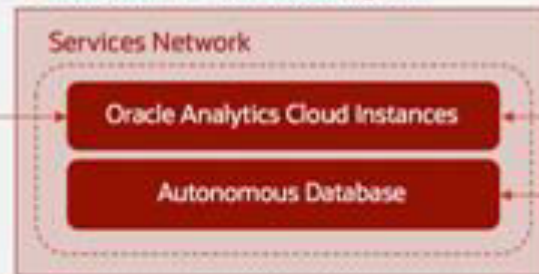
- All instances in the Ashburn region.
- We utilize the VCN to VCN connection for application integration.
- Currently, auditing of data volumes is not enabled due to configuration (the remote data gateway is read only). TMEiC will work with Oracle to change this.

TMEiC Analytics Architecture

Oracle Cloud – Ashburn Region (Managed)



Oracle Cloud – Ashburn Region



Notes:

- 1) Data Gateway uses SSL on port 443 (egress) to connect to OAC
- 2) Second Data Gateway provides high availability
- 3) Data connections with Data Gateway are READ ONLY
- 4) Migrate existing OBIEE 11 info over to OAC with bundle import
- 5) Traffic CAN move from VCN to VCN if using Local Peering Connections or Remote Peering Gateways, and Service Gateways to OAC.

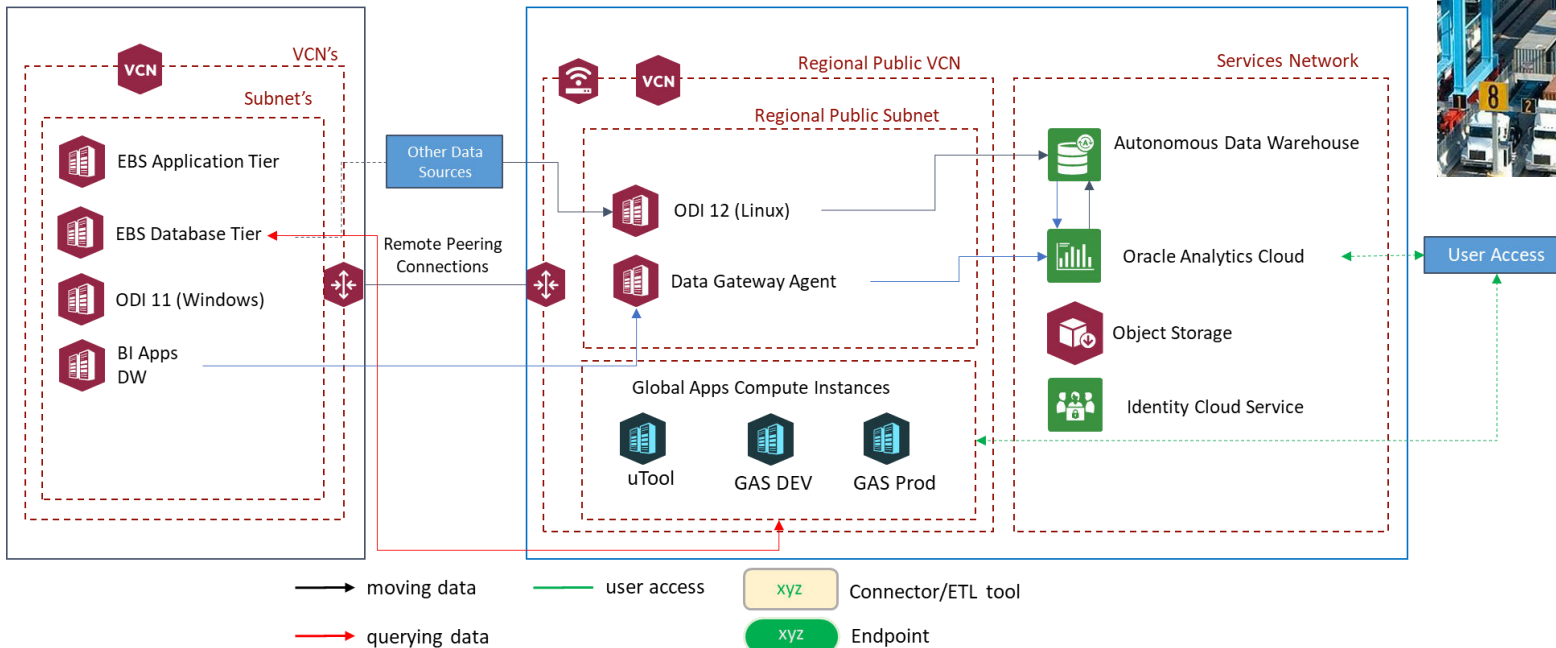
TMEIC at OCI – Near future

- We are in the infancy stage of using Oracle Analytics Cloud Infrastructure. We currently are using this platform to blend data from various data sets to help tell a better story about our organization.
- We plan on expanding the functionality by migrating our ODI instance to the cloud and exploring ways to improve our ETL processes.
- Explore additional functionality with data modeling and data visualizations.
- The ADW Machine Learning notebooks have been made available to the TMEIC R&D and Engineering groups



Oracle Cloud (OMCS auctosh01)

Oracle Cloud (Customer - auctosh02)



TMEiC at OCI – The not too distant future

- Continue to take advantage of new functionality
- Leverage the tools available to build out data models and eventually use machine learning that will improve our data decision making in real time and predictive scenarios.
- Object Storage to be used for unstructured analytics content, archived backups

Oracle Cloud (OMCS auctosh01)

Oracle Cloud (Customer - auctosh02)

