

Intro to Oracle Analytics Cloud (OAC)

NYOUG



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ORACLE

Safe Harbor Statement

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Agenda

- About Me
- Intro to OAC
- OAC Demo
- Conclusion

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- About Me
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- OAC Demo
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About Me

- Enterprise Cloud Specialist, Analytics, Public Sector for Oracle
 - Navy & Marines
 - Army
 - Air Force
 - Veterans Administration
 - Department of Homeland Security
 - NASA
- Spent 10+ years as an EPM consultant and administrator
- Former ACE Director (BI)
- Author of Analytics/BI/EPM blog www.RealTriGeek.com

Agenda

- About Me
- Intro to OAC
 - Versions
 - Architecture
 - Data Modeling
 - Data Integration & Access
 - Migration Use Cases
 - Essbase Cloud Service
 - Data Visualization
- OAC Demo
- Conclusion

2 OAC Versions

- **Oracle Analytics Cloud Enterprise (BICS + Essbase Enterprise)**
 - Comprehensive capabilities for all enterprise visualization, analytics, business modeling, batch reporting, model scenarios, and mobile.
 - In short: Business Intelligence, Data Visualization, and Essbase Cloud Service which includes the following
 - Sandboxing
 - Partitions to sources outside of the compute
 - Drill thru capabilities in a subsequent release
- **Oracle Analytics Cloud Standard (DVCS + Essbase)**
 - Workgroups can co-develop datasets, analysis, share insights via interactive story telling, and collaborate in-place
 - In short: Data Visualization and Essbase Cloud Service

OAC Architecture

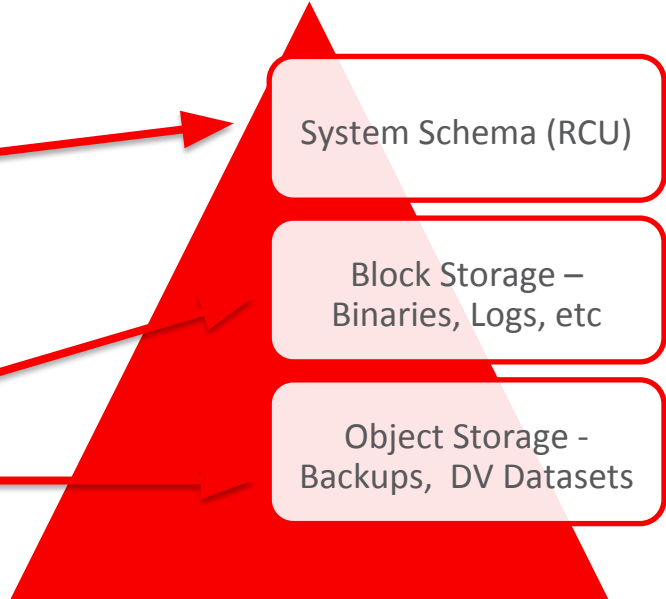
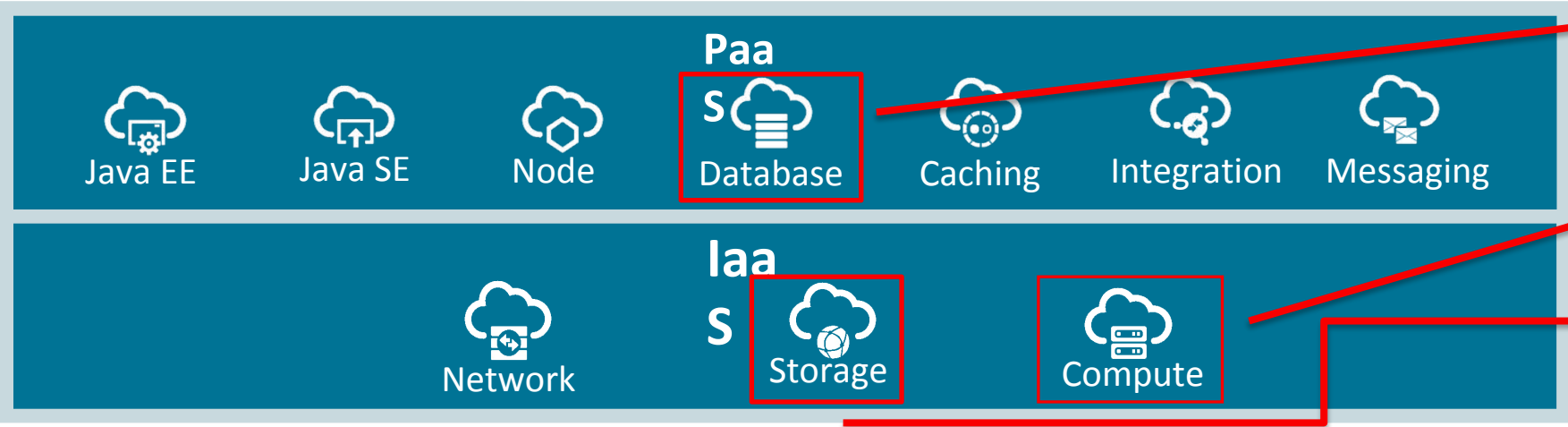
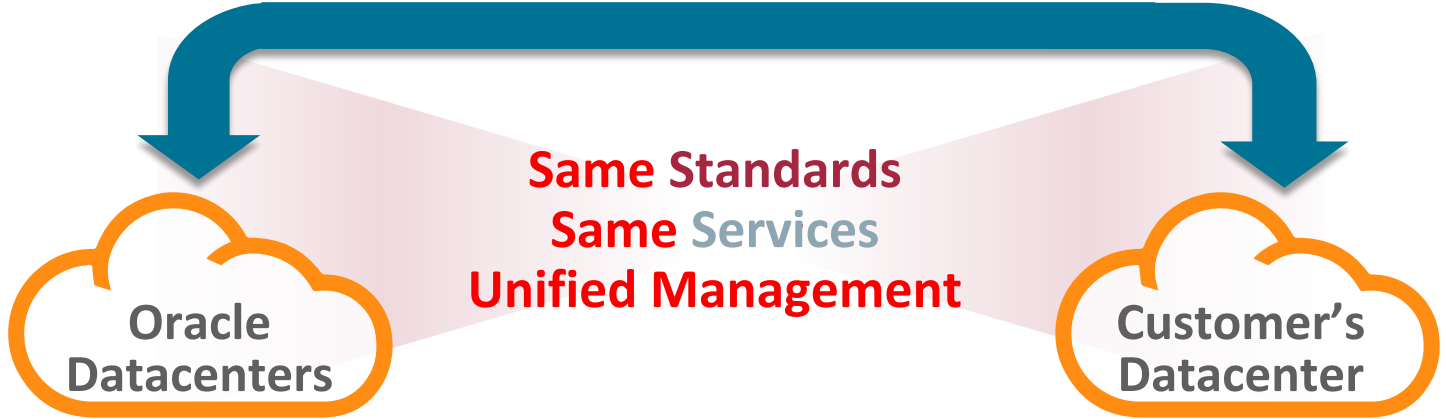
Oracle Cloud Machine

Complete deployment choice

ORACLE® Cloud

- Oracle Cloud operated and **delivered as a service** behind your firewall
- **Same** PaaS and IaaS software, same updates as Oracle Cloud
- Same cost-effective **subscription** pricing model as Oracle Cloud

Same Standards
Same Services
Unified Management



How is Analytics Cloud different from existing services

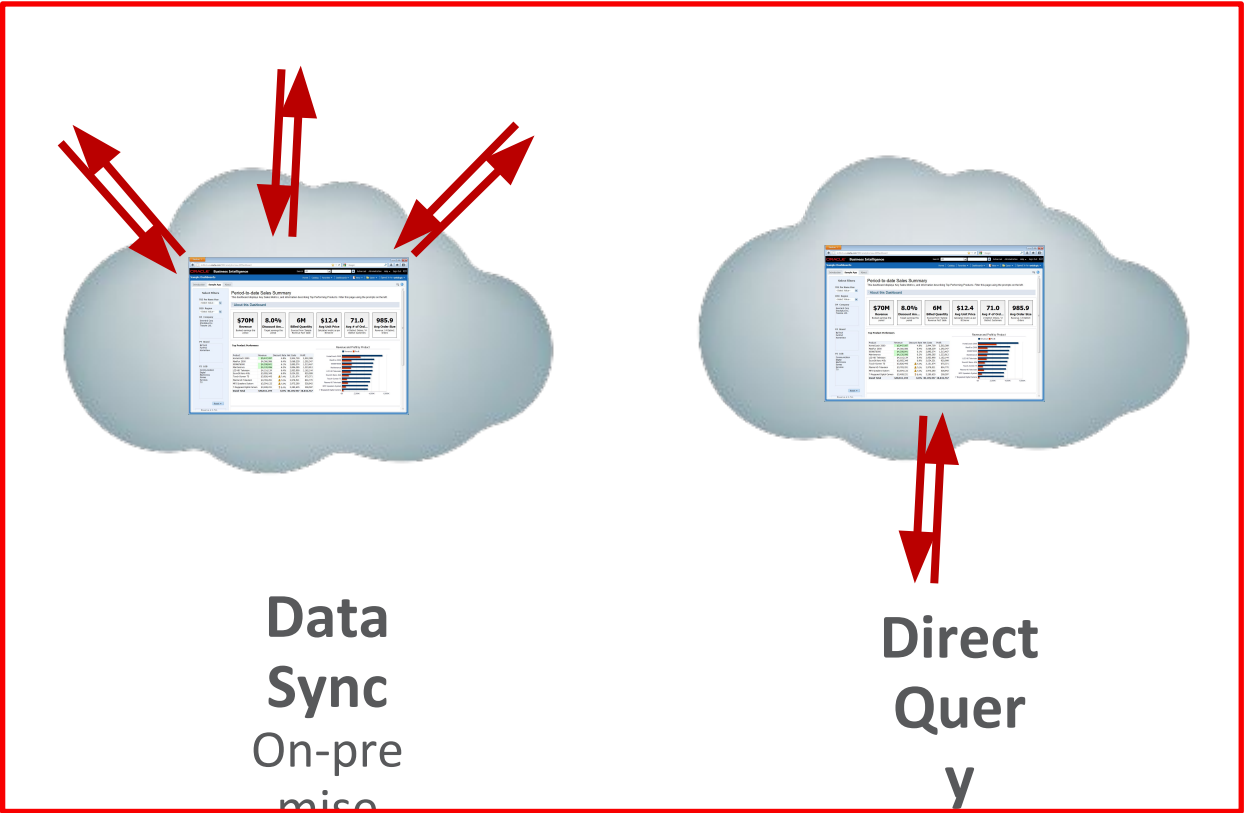
	BICS & DVCS today	Analytics Cloud
Automatic backup	Oracle	Customer
Service monitoring	Oracle	Customer
Patching/upgrade	Oracle schedules and performs patching	Customer patches at will using a single click or a command
CPU & Memory	Oracle decides resources to allocate based on usage	Customer can decide CPUs and Memory and pay for what they allocate
Server access and config.	Customer cannot access server or change config not exposed in UI	Customer can SSH into the server to change config (may complicate patching/upgrade)
Network and security config.	Limited config supported	Full control on network access including VPN configuration
Database dependence	BICS requires purchase of Schema service BIS50	Customer needs to provide at least 10CPU DBaaS Standard instance (\$300/month)
IaaS dependence	No IaaS required	Requires customers to purchase some IaaS for storage

OAC Data Integration

Data Integration and Access



ETL
SQL*N
ET



Direct Query
Via RDC or Virtual

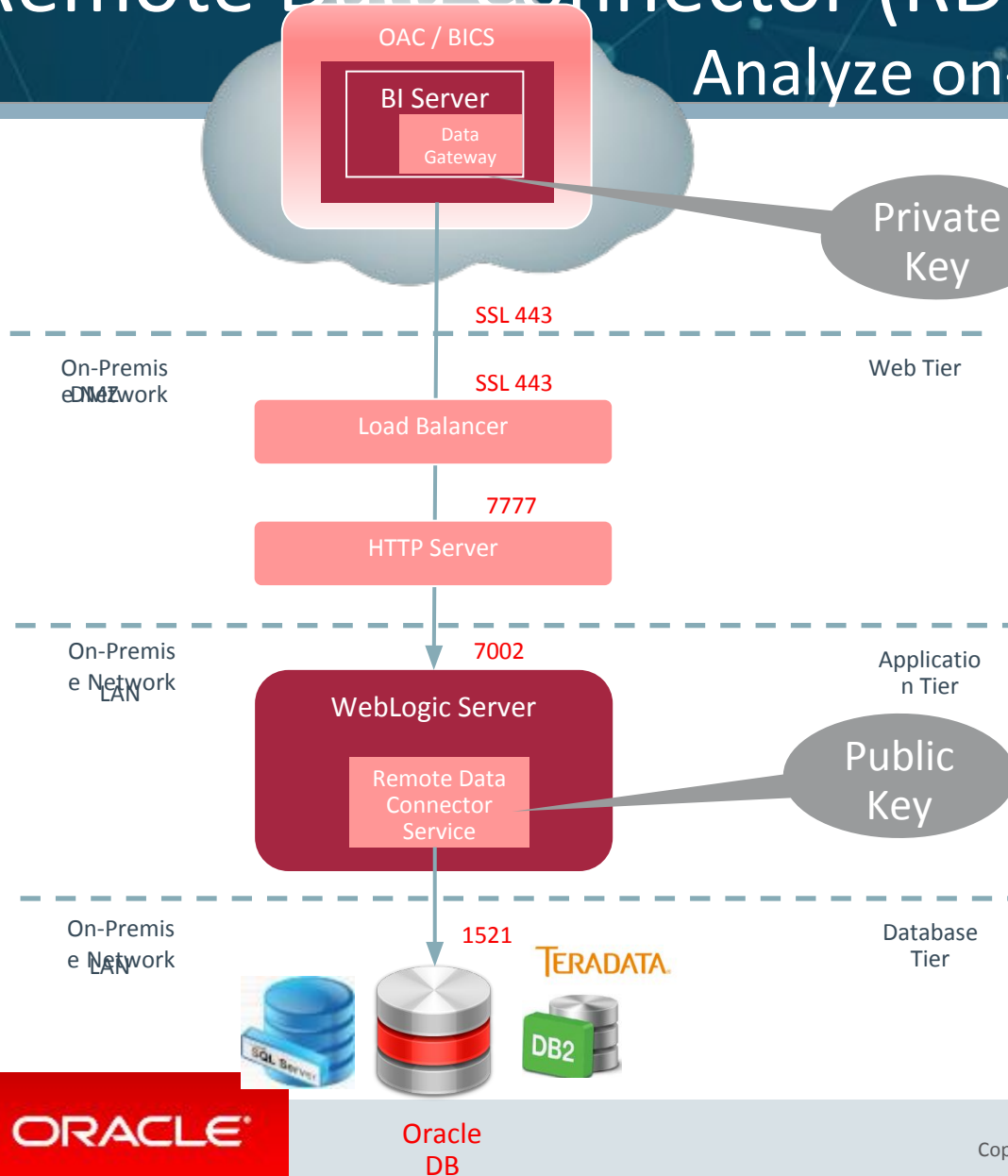


DV Connections
Cloud to



Remote Data Connector (RDC)

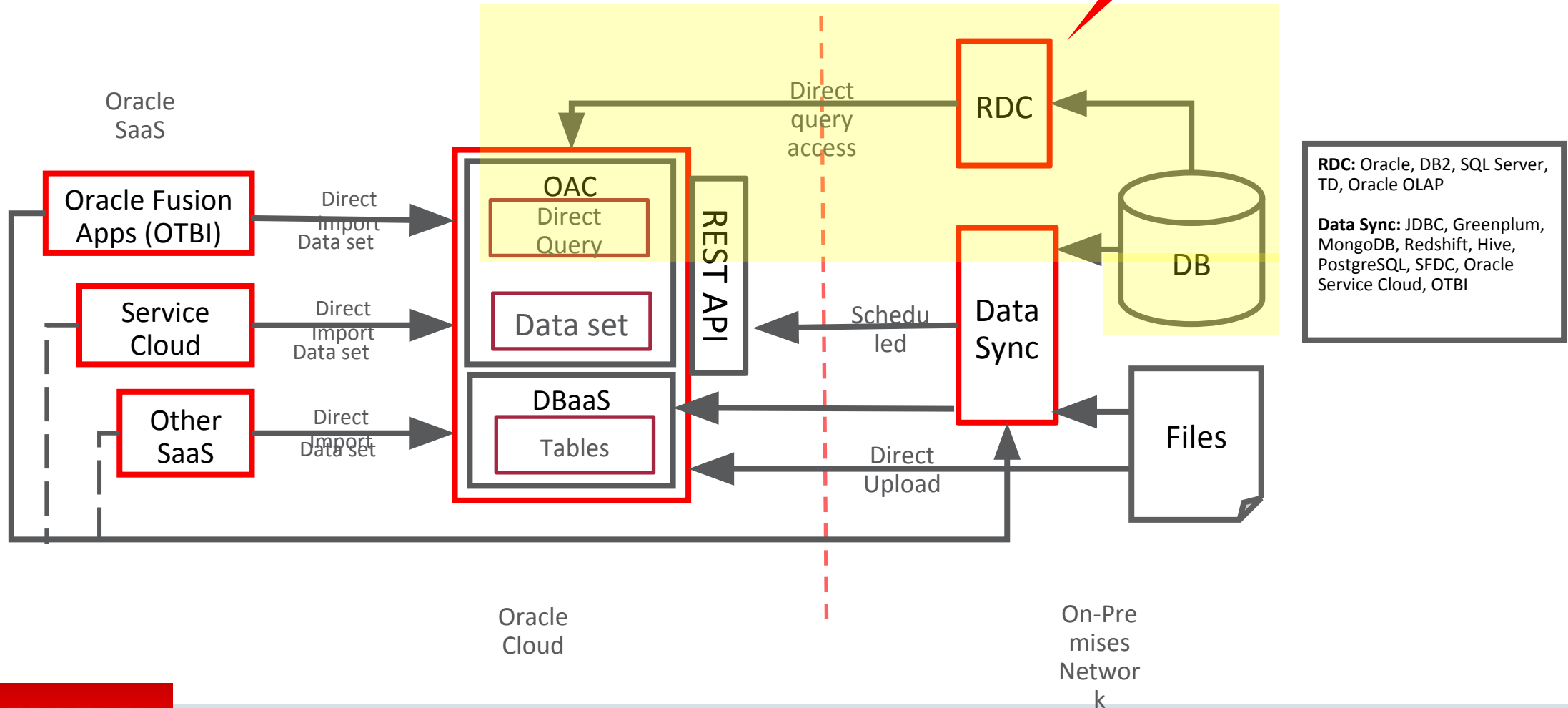
Analyze on-premise data in cloud



- Visualize and analyze data that reside in on-premise relational sources in cloud.
- Supports following relational source(s).
 - Oracle, DB2, Teradata, SQL Server, Oracle OLAP
- Remotely deployed in on-premises network.
- Communicates with BI Server Data Gateway running in Oracle Analytics Cloud.
- Authenticate query requests using Public key, private key pair and JWT signatures.
- Secure communication from BI Server to remote data sources.
- Two deployment files – For WLS & Tomcat

Remote Data Connector (RDC)

WLS or Tomcat



RDC – Internal Benchmark

- BICS in one Data Center and RDC + Data in another data center.
- Network latency between the 2 data centers is about 18ms (ping time).
- RDC query response compared to On premise BI + Data on premise.
 - 400 ms to 600 ms slower response for queries with SSL.
 - 1.4s slower response when downloading 65000 rows

Data Sync

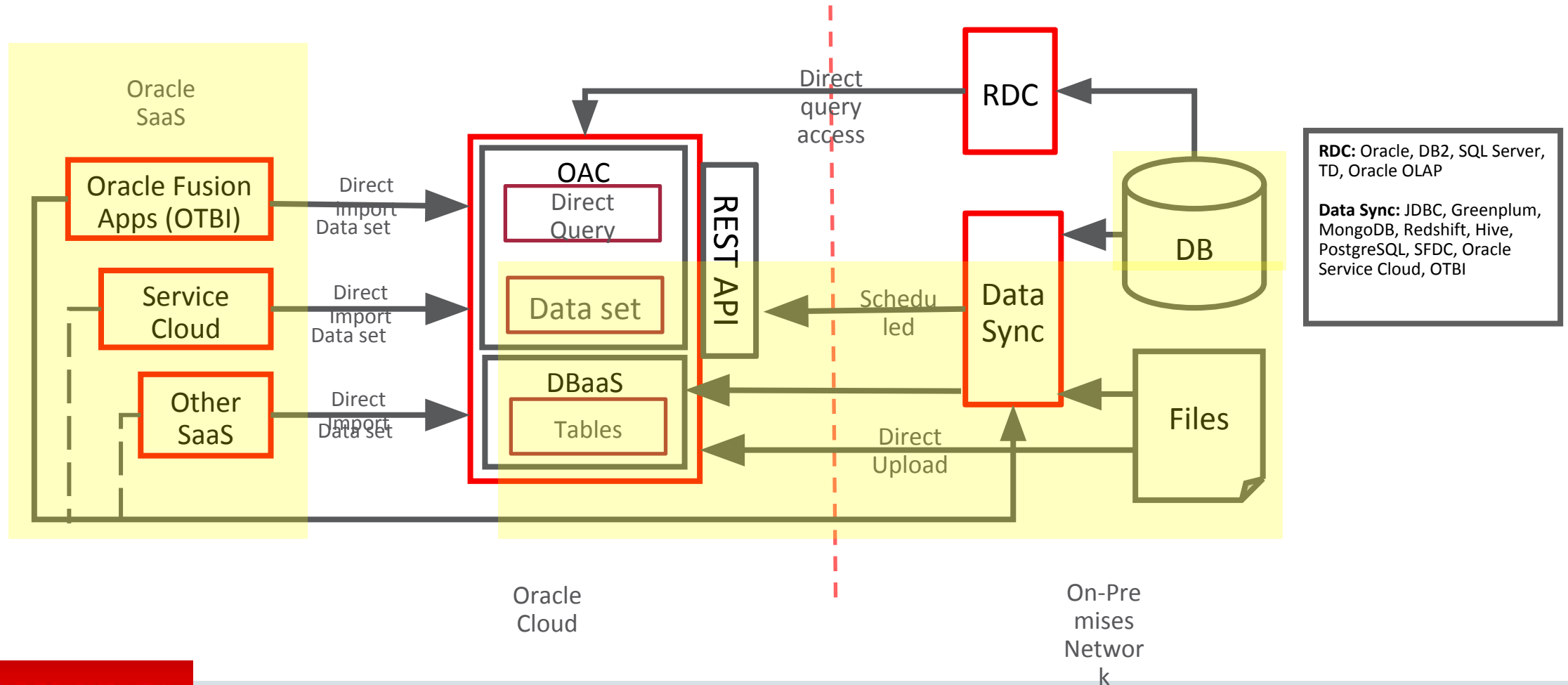
The screenshot displays the Oracle Business Intelligence Cloud Service Data Sync interface. The main window shows a mapping table with columns for Source Column Name, Source Column Type, Target Column Name, Expression, Update Rows on Match, and Inactive. A red callout box labeled "Transformation Expressions" points to the Expression column. Below the mapping table, an "Expression" dialog box is open, showing the expression: `TO_NUMBER(TO_CHAR(ORDER_DAY_DT, 'YYYYMMDD'))`. The dialog also has a "Default:" field with the value "0".

Source Column Name	Source Column Type	Target Column Name	Expression	Update Rows on Match	Inactive
DISCNT_VALUE	NUMBER	DISCNT_VALUE		<input type="checkbox"/>	<input type="checkbox"/>
EMPL_KEY	NUMBER	EMPL_KEY		<input type="checkbox"/>	<input type="checkbox"/>
OFFICE_KEY	NUMBER	OFFICE_KEY		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_DAY_DT	DATE	ORDER_DAY_DT		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_DTME1_CUSTOM_TZ	DATE	ORDER_DTME1_CUSTOM_TZ		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_DTME2_CUSTOM_TZ	DATE	ORDER_DTME2_CUSTOM_TZ		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_DTME2_TIMEZONE	VARCHAR	ORDER_DTME2_TIMEZONE		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_KEY	NUMBER	ORDER_KEY		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_NUMBER	NUMBER	ORDER_NUMBER		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_STATUS	VARCHAR	ORDER_STATUS		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_TYPE	VARCHAR	ORDER_TYPE		<input type="checkbox"/>	<input type="checkbox"/>
PROD_DAY_DT	DATE	PROD_DAY_DT		<input type="checkbox"/>	<input type="checkbox"/>
PROD_KEY	NUMBER	PROD_KEY		<input type="checkbox"/>	<input type="checkbox"/>
REVENUE	NUMBER	REVENUE		<input type="checkbox"/>	<input type="checkbox"/>
SHIP_TO_ADDR_KEY	NUMBER	SHIP_TO_ADDR_KEY		<input type="checkbox"/>	<input type="checkbox"/>
SHIP_DAY_DT	DATE	SHIP_DAY_DT		<input type="checkbox"/>	<input type="checkbox"/>
SHIP_ORDER_NUMBER	VARCHAR	SHIP_ORDER_NUMBER		<input type="checkbox"/>	<input type="checkbox"/>
UNITS	NUMBER	UNITS		<input type="checkbox"/>	<input type="checkbox"/>
XXX	VARCHAR	XXX		<input type="checkbox"/>	<input type="checkbox"/>
ORDER_DAY_DT_WID	NUMBER	ORDER_DAY_DT_WID		<input type="checkbox"/>	<input type="checkbox"/>

• Data Sync 2.3

- REST API enhancements to support multiple connections
- OAC Data Sync 8 parallel threads when using REST API connectivity
- For DBaaS, Oracle Thin Client direct connectivity
 - SSH Tunneling (Beta)
- Transformations on Target (EL-T) – All expressions supported by Oracle DB with direct connectivity
 - Expressions
 - Default value etc.
- Monitor multiple projects

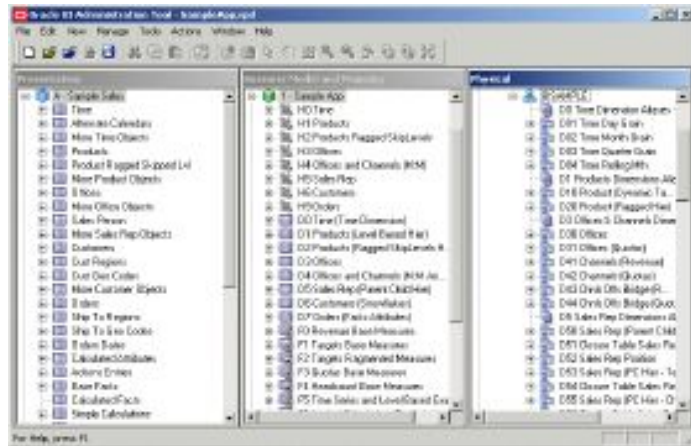
Data Sync



OAC Data Modeling & RPD Migration

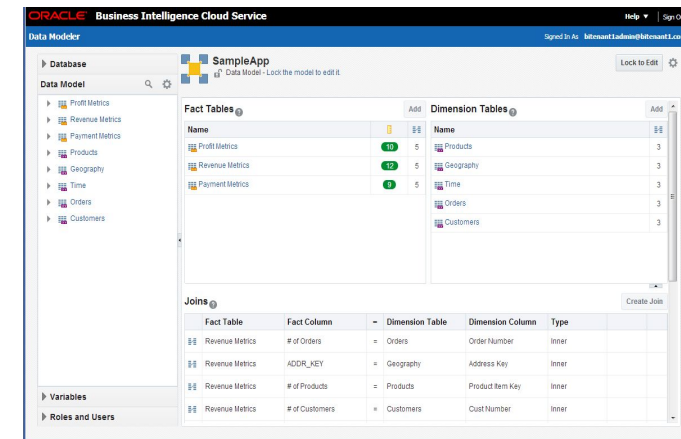
Data Modeling

OBIEE Admin Tool



Lift and Shift from
On-Prem
Access non-DBCS
Sources
Advanced Model
Development
On-line Access

Cloud Data Modeler



Power-User
Developed Models
DBCS Sources

Migration Use Cases

- On-Prem OBIEE to OAC
- OAC to On-Prem OBIEE

On-Premises OBIEE to OAC

- OBIEE 12c
 - BAR file from OBIEE 12c is compatible with OAC
 - RPD and Catalog uploaded
 - Application roles from On-prem are added to OAC application roles
 - RPD upload and Webcat archive/unarchive are also supported
- OBIEE 11g
 - RPD upload and Webcat archive/unarchive
- For RPD upload use OAC specific Admin tool to save model
- Identity store and data migration are separate tasks

Migration Approach with RPD / Webcat Lift and Shift

- Migrate the identity store to OAC
 - Export Users and Groups to CSV
 - Import to OAC embedded LDAP using available scripts

```
$ cd /bi/app/public/bin
$ ./import_users_groups_csv.py --admin-user=admin --type=users /tmp/users.csv
$ ./import_users_groups_csv.py --admin-user=admin --type=groups /tmp/groups.csv
```

- Migrate the identity store to OAC
 - Export Users and Groups to CSV
 - Import to OAC embedded LDAP using available scripts

Migration Approach with RPD / Webcat Lift and Shift

- Using OAC Admin tool open RPD
 - Change connection pools as needed
 - Validate init blocks and associated connection pools
 - Run consistency check and save
- Upload RPD to OAC
- Archive presentation folders and un-archive to OAC
 - Users will need to migrate My folders content if needed

RPD Update for Connection Pools & Init Blocks

The screenshot shows the 'Connection Pool - Oracle Primavera P6 Data Warehouse Connection Pool' dialog box. The 'General' tab is active, displaying the following configuration:

- Name: Oracle Primavera P6 Data Warehouse Connection Pool
- Call interface: Default (OCI 10g/11g)
- Maximum connections: 100
- Require fully qualified table names
- Data source name: (DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=unit64218.oracleads.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=pdbord.us.oracle.com)))
- Shared logon
 - User name: staruser
 - Password: [masked]
- Enable connection pooling
 - Timeout: 5 (minutes)
- Use multithreaded connections
- Parameters supported
- Isolation level: Dirty read
- Description: [empty text area]

At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons. On the right side, a tree view shows the RPD structure with 'Oracle Primavera P6 Data Warehouse' expanded to show 'Oracle Primavera P6 Data Warehouse Connection Pool' and 'Init Blocks'. A red box highlights these two items, and a red arrow points from the 'Init Blocks' item to the 'Data source name' field in the dialog.

Replace RPD (Data Model)

ORACLE Business Intelligence Cloud Service

Service Console

Application Role Management **Snapshots** Database Connections Deliveries

Snapshot System State ?

A Snapshot takes a copy of all system state. At any time, the system can be restored to one of these stored Snapshots. Restoration

New Snapshot

Upload Snapshot

Replace Data Model



26 Jul 2017 (12:59:45)

Description: Workshop Inclusion
Username: cloud.user



08 Jun 2017 (15:08:34)

Description: RightNow_Starter
Username: cloud.user



07 Jun 2017 (20:21:56)

Description: CXDemoContent
Username: cloud.user



06 Jun 2017 (17:05:43)



ORACLE Analytics Cloud

Catalog

User View [Icons]

Folders

- My Folders
- Shared Folders
 - Custom
 - DV Content
 - Enterprise Asset Manag
 - Financials
 - Human Resources
 - Manufacturing
 - Procurement and Spend
 - Projects
 - SampleApp
 - Workshop Files
 - Subject Area Conten
 - Dashboards
 - Admin Reports
 - BIP Workshop
 - Building Interactive C
 - Dashboard Demo**
 - OSSM Completed

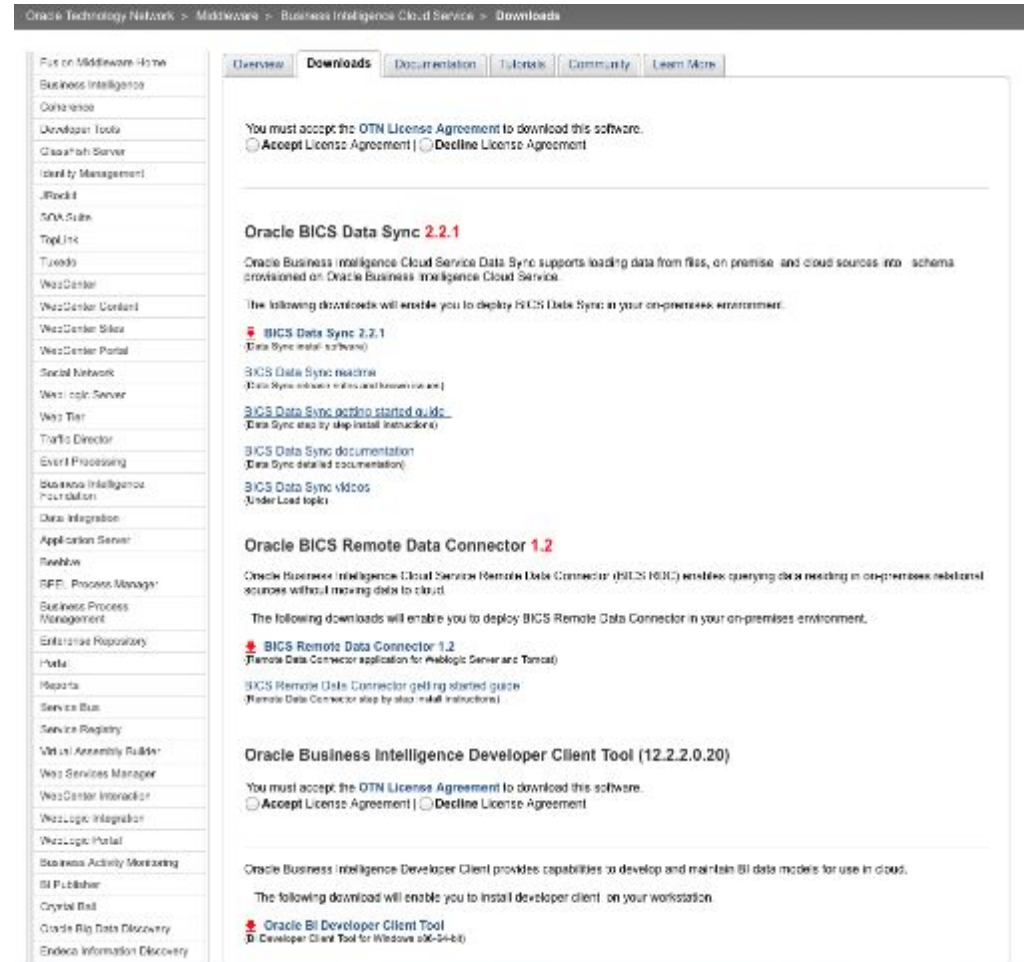
Tasks

Dashboard Demo

- Expand
- RSS
- Delete
- Copy
- Rename
- Create Shortcut
- Archive
- Unarchive
- Upload**
- Properties
- Permissions

OAC Admin Tool

- Available on OTN
- Use only for maintaining models for OAC



Oracle Technology Network > Middleware > Business Intelligence Cloud Service > Downloads

Overview Downloads Documentation Tutorials Community Learn More

You must accept the OTN License Agreement to download this software.
 Accept License Agreement | Decline License Agreement

Oracle BICS Data Sync 2.2.1

Oracle Business Intelligence Cloud Service Data Sync supports loading data from files, on-premise and cloud sources into a schema provisioned on Oracle Business Intelligence Cloud Service.

The following downloads will enable you to deploy BICS Data Sync in your on-premises environment.

- [BICS Data Sync 2.2.1](#)
(Data Sync install software)
- [BICS Data Sync installer](#)
(Data Sync installer software and license file)
- [BICS Data Sync getting started guide](#)
(Data Sync step-by-step install instructions)
- [BICS Data Sync documentation](#)
(Data Sync detailed documentation)
- [BICS Data Sync videos](#)
(Under Load topic)

Oracle BICS Remote Data Connector 1.2

Oracle Business Intelligence Cloud Service Remote Data Connector (BICS RDC) enables querying data residing in on-premises relational sources without moving data to cloud.

The following downloads will enable you to deploy BICS Remote Data Connector in your on-premises environment.

- [BICS Remote Data Connector 1.2](#)
(Remote Data Connector application for WebLogic Server and Tomcat)
- [BICS Remote Data Connector getting started guide](#)
(Remote Data Connector step-by-step install instructions)

Oracle Business Intelligence Developer Client Tool (12.2.2.0.20)

You must accept the OTN License Agreement to download this software.
 Accept License Agreement | Decline License Agreement

Oracle Business Intelligence Developer Client provides capabilities to develop and maintain BI data models for use in cloud.

The following download will enable you to install developer client on your workstation.

- [Oracle BI Developer Client Tool](#)
(Developer Client Tool for Windows (x64-bit))

OAC to On-Prem

- OAC v1 BAR will be supported in on-premises 12.2.1.3
 - 12.2.1.3 available as of 31 August 2017!!
 - Only “asterisk” is DV projects currently

OAC Essbase Cloud Service

Essbase in the Cloud

Iterative Scenario Analysis

- Modernized architecture for cloud
- Personal to enterprise business modeling
- Sandbox for scenario analysis/what-if
- Next generation Excel integration includes cube design, dimension modeling and KPI's
- Wide-range of business modeling and management reporting applications
- Integration with Data Visualization Cloud Service

The screenshot displays the Oracle Essbase Cloud Service interface. At the top, there are navigation icons for Applications, Jobs, Files, Scenarios, and Console. Below this is a 'Jobs' section with a search bar and a dropdown menu set to 'All Applications'. A table lists job details:

ID	Application	Database	User	Type	Script	Date
1000	Sample	Basic	Kumar	Data Load	data.rul	01/01/2012
1001	Demo	Basic	Victor	Dim Build	product.rul	01/01/2012
1002	DBX	Basic	Suresh	Dim Build	product.rul	01/01/2012
1003	Sample	Basic	Dipti	Dim Build	product.rul	01/01/2012
1004	Sample	Basic	Chirag	Dim Build	product.rul	01/01/2012
1005	Demo	Basic	Ankita	Dim Build	product.rul	01/01/2012
1006	DBX	Basic	Gabby	Dim Build	product.rul	01/01/2012

In the background, a Microsoft Excel spreadsheet is visible, showing a financial model with columns for Sales, COGS, Margin, Margin %, Profit %, and Profit per Ounce. The spreadsheet includes a bar chart for 'Sales Trend By Region' and a data table for regional performance.

Overview of Essbase

- What is Essbase?
 - Extended Spreadsheet Database (NOT a database held in a spreadsheet!)
 - First released 25 years ago, on May 21st, 1992
 - Arbor Software (1992) -> Merged with Hyperion (1998) -> Acquired by Oracle (2009)
- What was it created for?
 - Address constraints in spreadsheets
 - Access summarized ERP data without having to export data then import it into Excel

Overview of Essbase

- Technology

- Multidimensional OLAP database (MOLAP)
- Stores only numeric values
 - Can store dates & text values, but as numbers referenced in a lookup table or as UNIX time
- No tables, no rows, no...relational terms
 - One big matrix; data stored as vectors in index and page files
- 2 types of database storage options:
 - Block Storage Option
 - Data Blocks/Index, calc scripts, upper level data storage, load data to all levels, “data explosion” on aggregation
 - Aggregate Storage Option
 - MDX calcs & queries, aggregations/calculations only at data retrieval time, data loaded to level 0 only

Overview of Essbase

- Differences from Relational
 - Data Warehouse:
 - Transaction level
 - Row-based
 - Timely to aggregate data for reports
 - Essbase:
 - Single data source for reporting and analysis
 - Fast reporting response times
 - Rarely transaction level (not smart)
 - Business rules and multiple hierarchies options
 - Highly structured!

Essbase Reporting Options

- Smart View
 - Ad Hoc
 - Excel formatted reports
- OAC
 - Answers and Dashboards
- Data Visualization
 - OAC
 - DVD (Beta connector)

		Year Total	Actual	Final	No Function
		FY2017			
North Carolina	Population	123651000			
First District	Housing Units	4974588			
Second District	Housing Units	8040348			
Third District	Housing Units	6585336			
Fourth District	Housing Units	7545000			
Fifth District	Housing Units	5237952			
Sixth District	Housing Units	5961864			
Seventh District	Housing Units	6398712			
Eighth District	Housing Units	5757036			
Ninth District	Housing Units	8890128			
Tenth District	Housing Units	5706828			
Eleventh District	Housing Units	5615400			
Twelfth District	Housing Units	6578664			
Thirteenth District	Housing Units	9097440			
NC Congressional Districts	Housing Units	86389296			

Ability to create standard reports and refresh them periodically

Ad hoc is great for digging into the numbers

Slice and dice as you please

	Year Total	Budget	FY2018	General Government	North Carolina
	Baseline	Version 1	Version 2	Final	
Charges for Services	\$ 4,156,606,290	\$ 4,439,255,518	\$ 4,421,498,496	\$ 4,241,434,990	
Operating Grants and Contributions	\$ 5,542,141,720	\$ 5,919,007,357	\$ 5,895,331,328	\$ 5,655,246,654	
Capital Grants and Contributions	\$ 2,771,070,860	\$ 2,959,503,679	\$ 2,947,665,664	\$ 2,827,623,327	
Real Estate	\$ 6,927,677,151	\$ 7,398,759,197	\$ 7,369,164,160	\$ 7,069,058,317	
Others	\$ 3,694,761,147	\$ 3,946,004,905	\$ 3,930,220,885	\$ 3,770,164,436	
Taxes	\$ 10,622,438,298	\$ 11,344,764,102	\$ 11,299,385,045	\$ 10,839,222,753	
Grants and Contributions Not Restricted to Specific Programs	\$ 1,616,458,002	\$ 1,726,377,146	\$ 1,719,471,637	\$ 1,649,446,941	
Investment Earnings	\$ 692,767,715	\$ 739,875,920	\$ 736,916,416	\$ 706,905,832	
Miscellaneous	\$ 346,383,858	\$ 369,937,960	\$ 368,458,208	\$ 353,452,916	
Revenues	\$ 25,747,866,743	\$ 27,498,721,681	\$ 27,388,726,795	\$ 26,273,333,411	
Salaries, Wages, and Benefits	\$ 10,391,515,726	\$ 11,098,138,795	\$ 11,053,746,240	\$ 10,603,587,475	
Materials and Supplies	\$ 3,463,838,575	\$ 3,699,379,598	\$ 3,684,582,080	\$ 3,534,529,158	
Other Program Expenses	\$ 4,618,451,434	\$ 4,932,506,131	\$ 4,912,776,107	\$ 4,712,705,545	
Depreciation	\$ 1,154,612,858	\$ 1,233,126,533	\$ 1,228,194,027	\$ 1,178,176,386	
Interest on Debt	\$ 3,694,761,147	\$ 3,946,004,905	\$ 3,930,220,885	\$ 3,770,164,436	
Expenses	\$ 23,323,179,740	\$ 24,909,155,963	\$ 24,809,519,339	\$ 23,799,163,000	
Total Revenues	\$ 2,424,687,003	\$ 2,589,565,719	\$ 2,579,207,456	\$ 2,474,170,411	

OAC Data Visualization

How Analytics Can Unlock Organizational Agility



Any Question

- Casual Users Require **Guidance** to Discover the Right Questions
- Analysts Require **Richness** of Functionality to Solve the Hard Questions



Any Data

- Repeated Analysis Benefits From **Managed Data**
- **Bring Your Own Data** - Agile Analysis Demands Data Mashup Against **User Data**



Any Time

- Flexibility Through **Cloud** Architecture and Economics
- Unchain Access with **Mobile** Authoring and Consumption
- **Delivery** - Public Cloud, Private Cloud, Workgroup, Desktop

Access To All Available Information



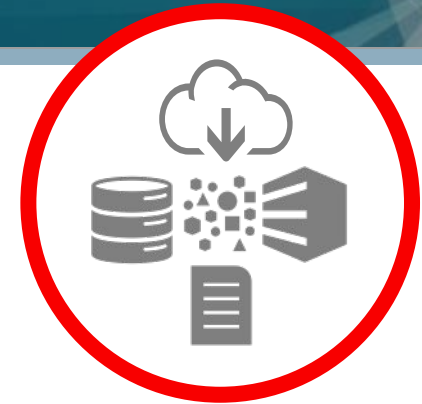
Enterprise Data

- Key business information is **managed & governed**
- **Single source of truth**
- Reuse provides **efficiency and consistency**



User Data

- Agility to **answer new questions quickly**
- Quick access to **local data**
- Combine user data with other sources **without IT involvement**



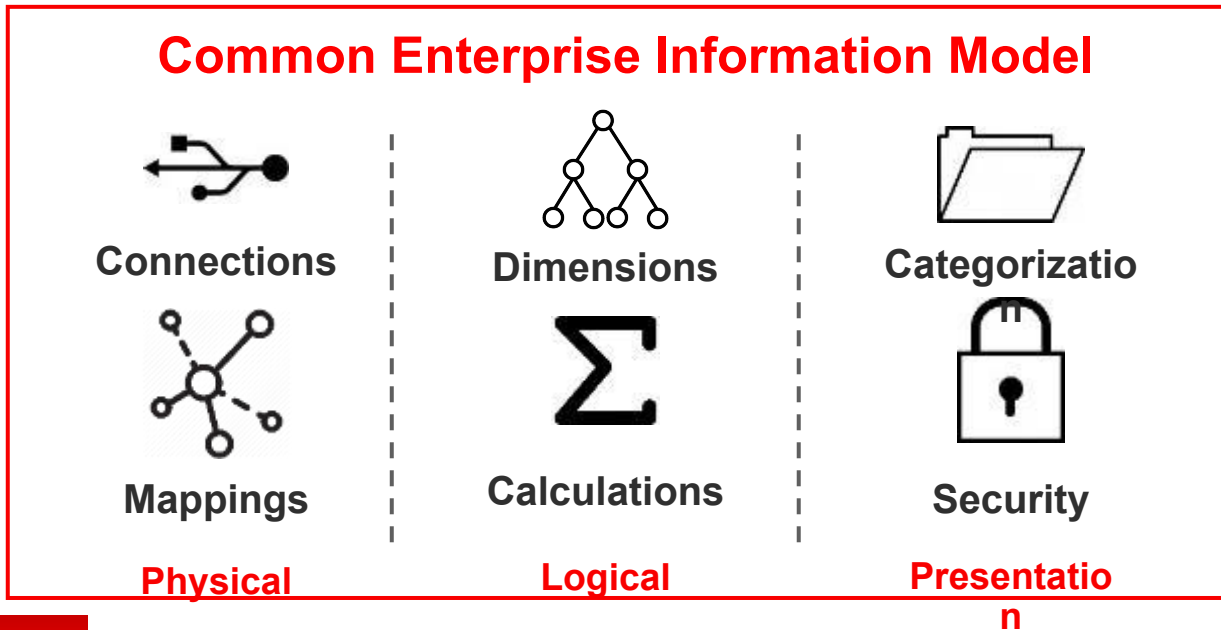
Common Data

- Common data sets **outside the scope of enterprise data**
- **Consistent creation & content**
- **Searchable and reusable**
- Incorporate into an analysis **as needed**

Oracle Business Intelligence – Robust Enterprise Platform

Oracle

Business Intelligence



Oracle Data Visualization – Business Agility + Enterprise Reliability

Oracle Business Intelligence

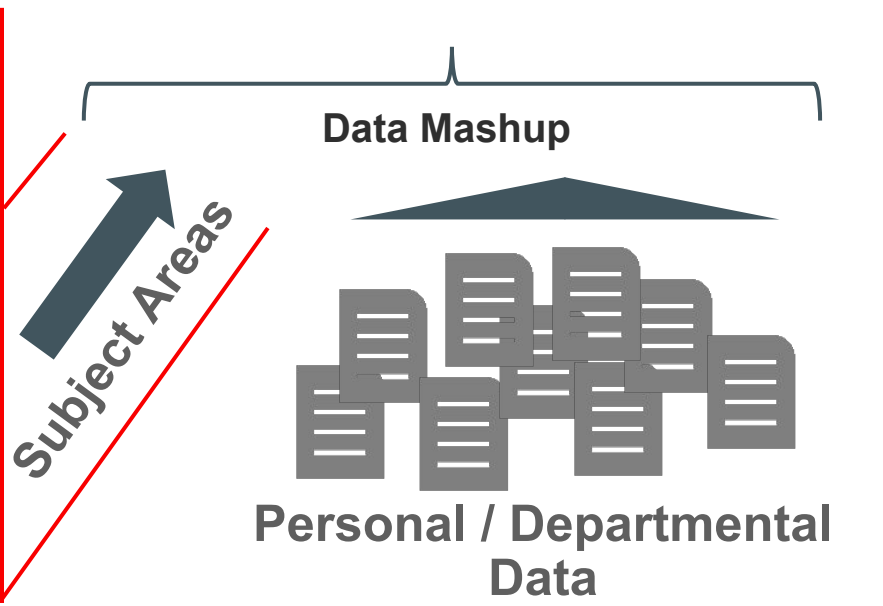
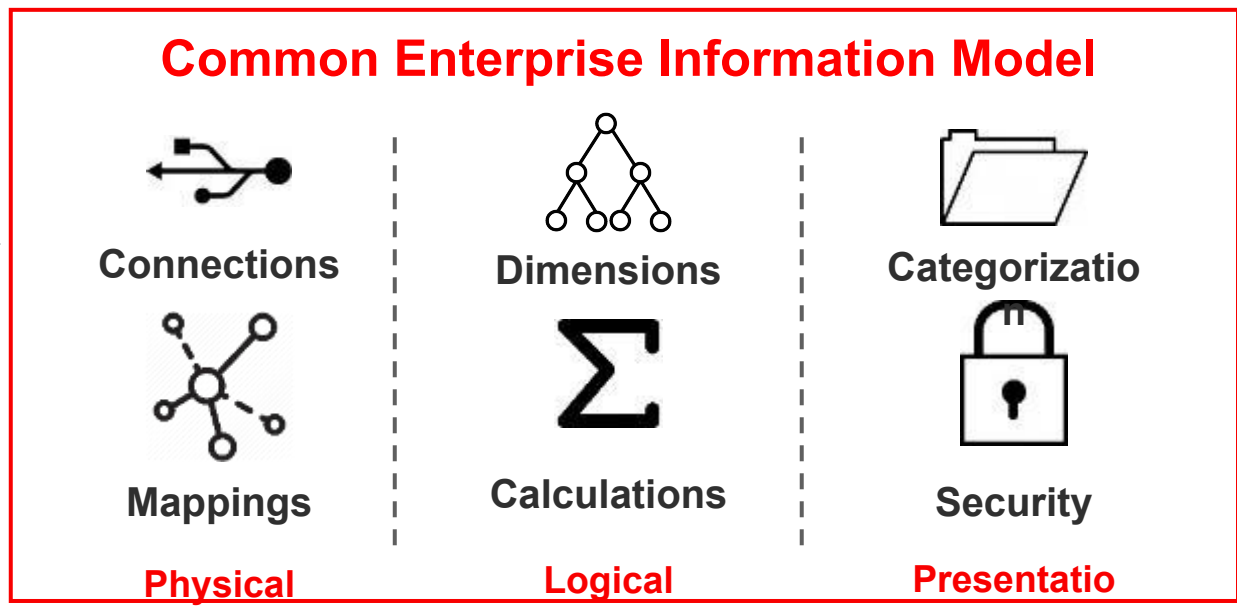
Mobile Consumption | Interactive Dashboards | Published Reporting | Ad-hoc Reporting | Office Integration

Information Delivery

Oracle Data Visualization

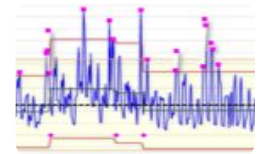
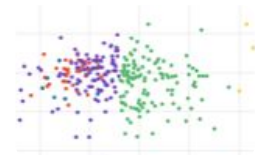
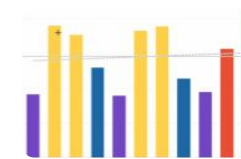
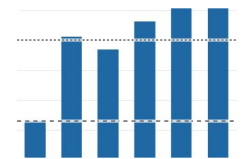
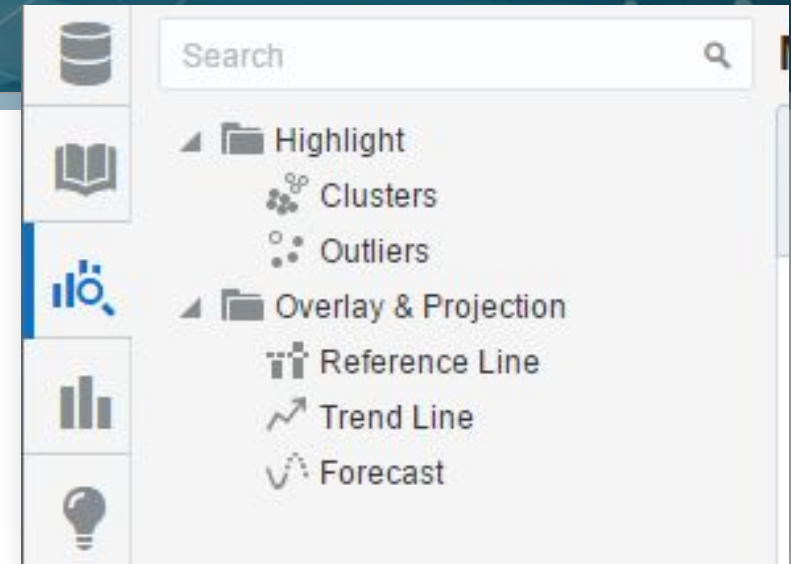
Visual Exploration | Keyword Queries | Mobile Authoring

Visual Analyzer



Advanced & Predictive Analytics

- Built-In, Extensible Advanced Analytics
 - Built-in R Functions:
 - Clusters
 - Outliers
 - Reference line or band
 - Trend line
 - Forecast
 - Easily add custom R functions from analysts or the R community (CRAN)



Deliver Self-Service Discovery without Compromise

- Visual Exploration for Everyone
- Doesn't Require Up Front Data Modeling
- Rich Data Mash-ups
- One Click Predictive Analytics
- Data Discovery on the Go



Agenda

- About Me
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- **OAC Demo**
- Conclusion

OAC Demo

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Conclusion

- Complete
 - Comprehensive capabilities
 - Self-service data discovery to powerful predictive analytics
 - Enterprise-class reporting
 - Easy what-if analysis
- Connected
 - Bring your data to every process, interaction, and decision, anytime, anywhere
- Collaborative
 - Create collective intelligence from people, places, and machines to power proactive analytics
- Choice
 - Cloud, on-premises, or both

ORACLE®