

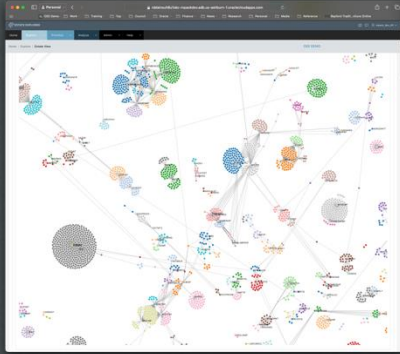
# Oracle Estate Explorer

How to discover your database estate and plan for the cloud

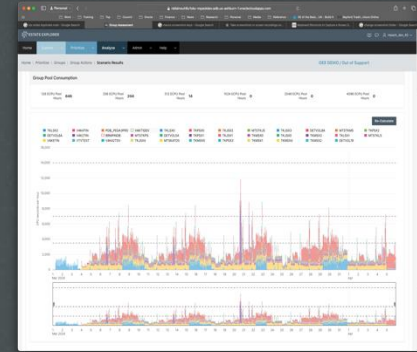
November 2024

# Oracle Estate Explorer enables you to ...

## Understand a Database Estate



## Plan a hybrid, multi-cloud migration strategy



- Build a complete database inventory
- Visualize any size database estate
- Analyze in technical & business context
- Prioritize database migrations to Oracle cloud database
- Build a Business Case from on-prem to cloud TCO
- Optimize the migration deployment

A unique insight into a database estate



# Oracle Estate Explorer – Key Steps



Explore an Estate Catalog

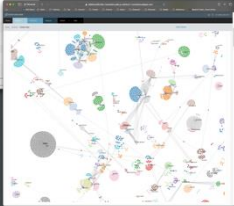


Plan Database Migrations



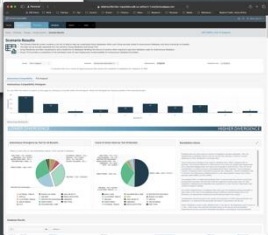
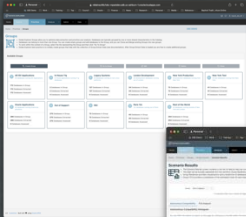
Build Technical Business Case

Database Details



Database Links

Build Groups



Assess DBs

Build Elastic Pools



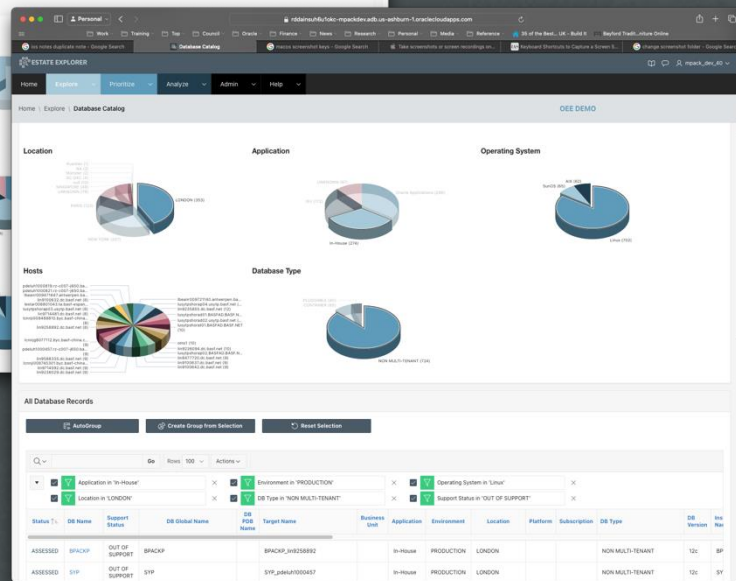
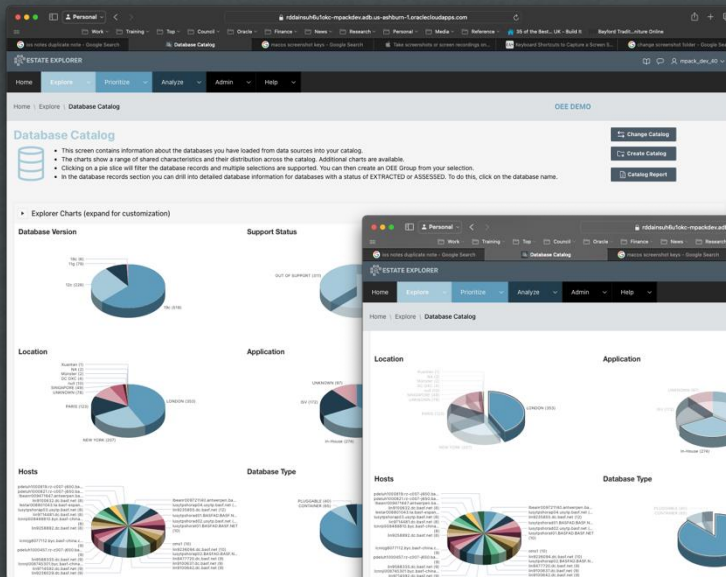
Build TCO



# Estate Summary View

View your databases by your technical and business criteria

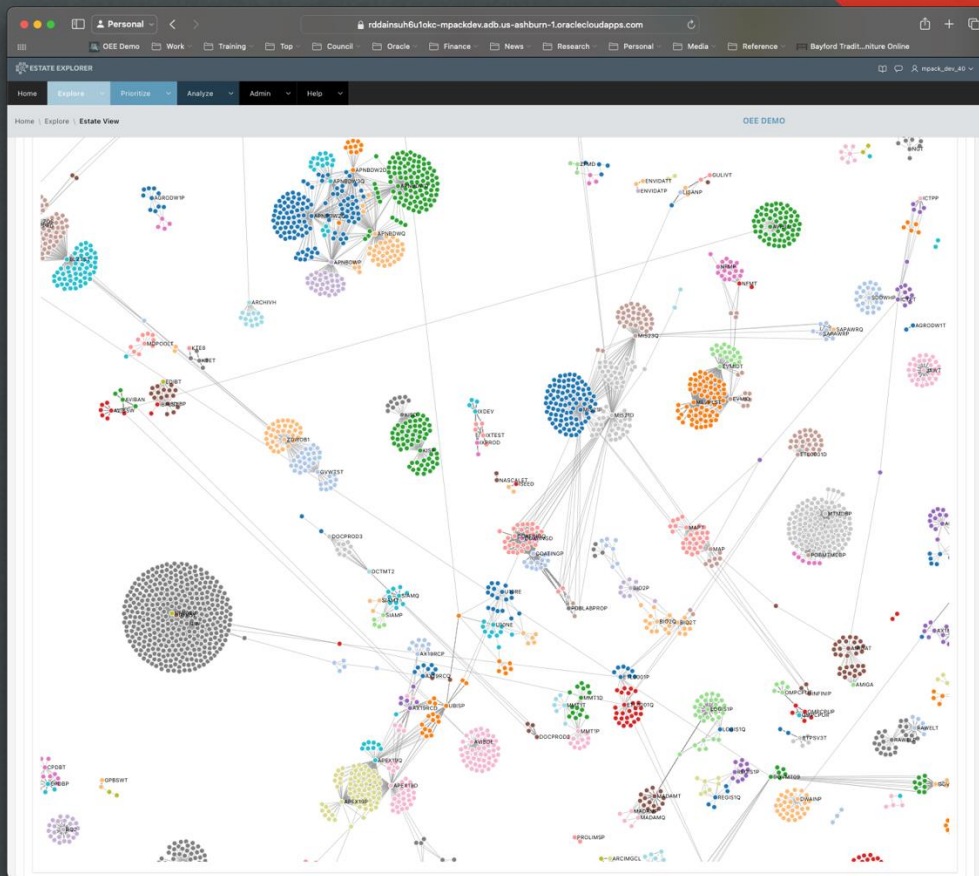
- Define criteria based on your naming standards
- By geography, business unit, platform, etc
- By database version, host OS, #cores etc
- Define new subsets of databases for analysis



# Estate Cluster View

View a group of databases by their connections

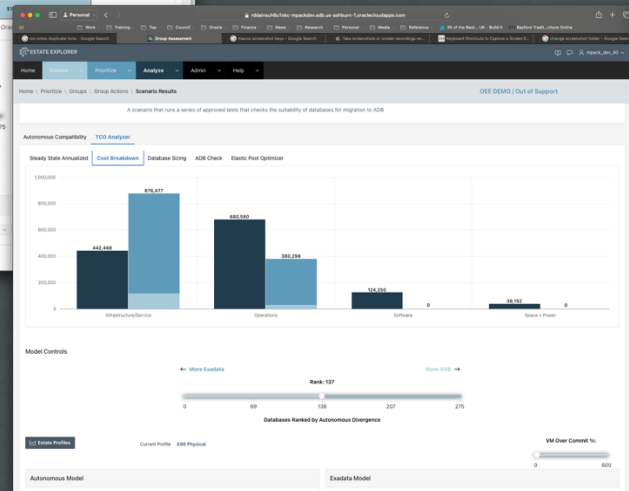
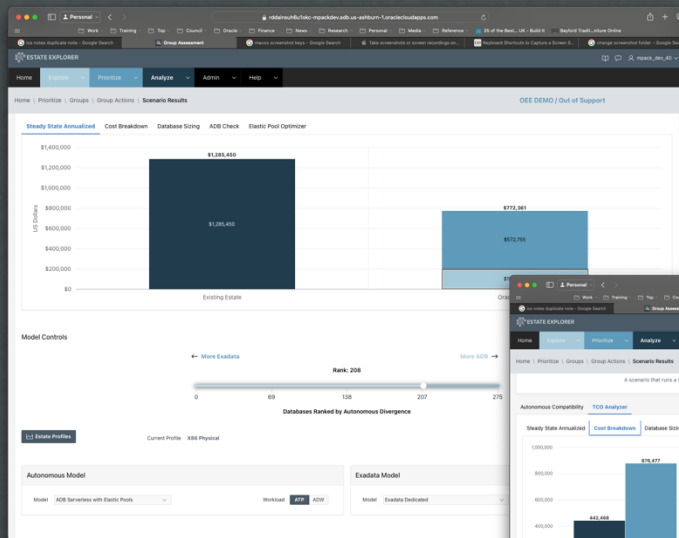
- Based on database links between databases
- Identify groups of linked databases
- Generate lists of clusters of databases
- Create linked groups for further analysis



# TCO Analyzer – Compare current with future

## Run-time TCO

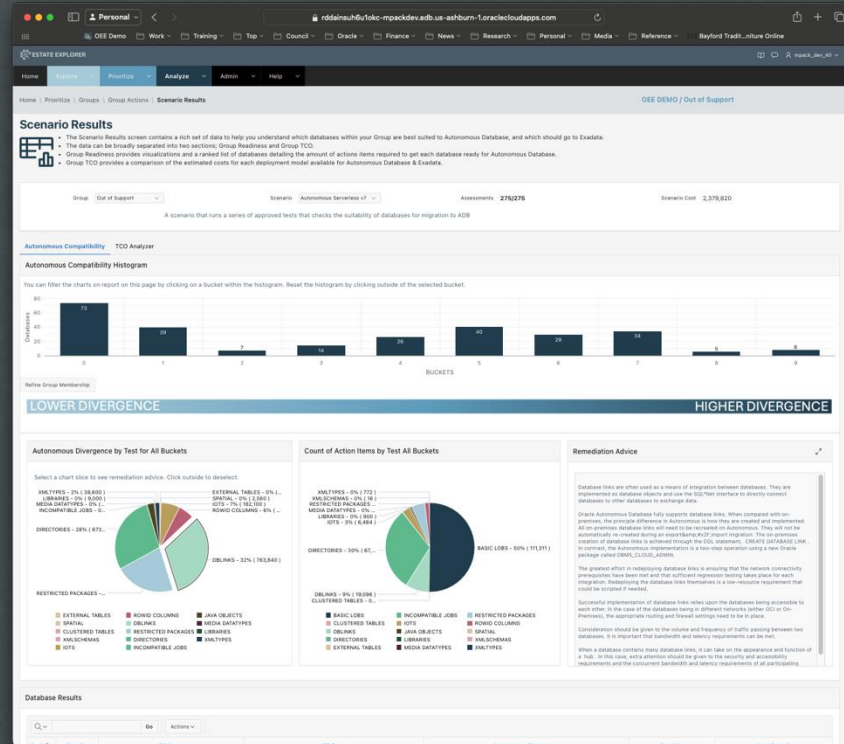
- Built from actual database information
- TCO model aligned with Business Value Team
- Compare on-prem, or other cloud with OCI
- Supports C@C and OCI as targets
- Flexibly split workloads between Exa and ADB



# Estate Assessment for ADB

## Migration preparation & effort

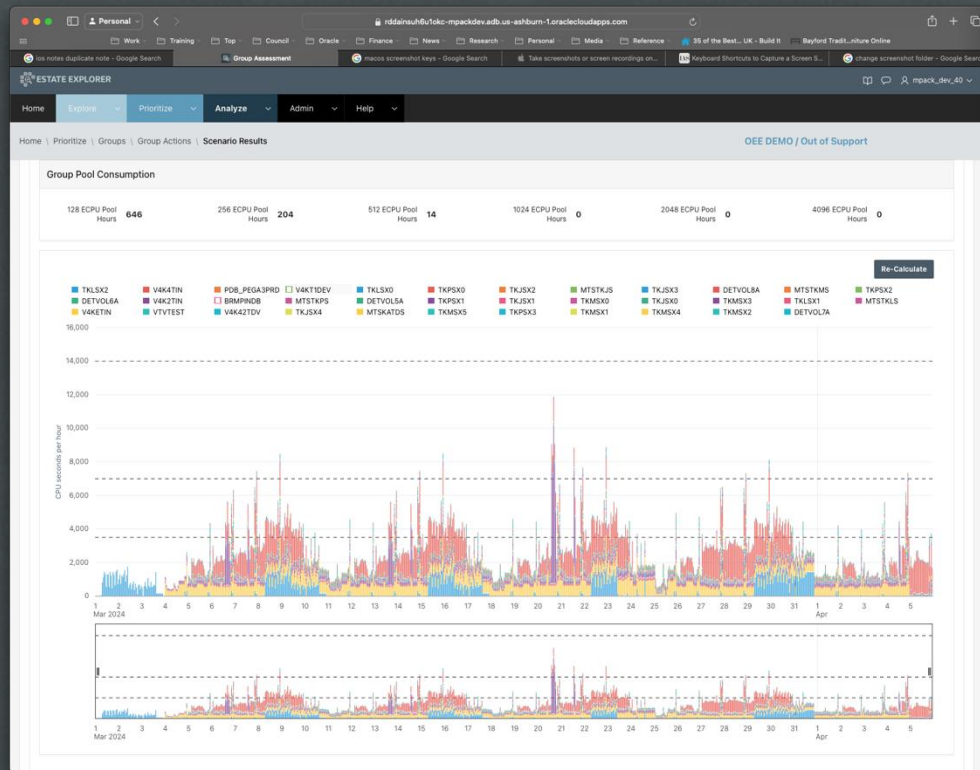
- Aggregate view
- Drill down to individual databases
- Detailed actions at an object level
- Customizable effort values
- View by count of objects or estimated effort



# Elastic Pools Simulator

Simulate a set of workloads in ADB

- Based on actual CPU usage from AWR for one month
- Missing days and time intelligently interpolated
- Maps against Elastic Pool size and auto pool size
- Manual selection of databases to include/exclude
- Zoom into any time period for fine tuning





# PDF Reports

## A complete view of your database estate

- key estate facts and findings
- a league table with ranking of every database
- recommendations on categorization & prioritization
- remediation steps for each database at object level

## Share as PDF

- generated in seconds without human intervention
- share easily across your organization in PDF

**ORACLE** Estate Explorer - Group Summary Report On-Premises Pilot

### Group Extract Results: On-Premises Pilot

Scenario: Autonomous Shared v7

This document provides KL Auto Insurance exercise which has the following objective

- Explore the Oracle Database Estate can feed into strategic decision-making
- Reveal architectural and development based applications from being future
- Prioritize databases and application benefits of this include cloud-centric

#### Executive Summary

Subject to further non-functional and open Database - with varying degrees of prepar

Oracle Estate Explorer ranked each datab Autonomous Database Cloud:

**Rank by DIs**

low  
medium  
higher

Rank 1  
low medium high

Consideration should be given to the volume and frequ bandwidth and latency requirements can be met.

When a database contains many database links, it can attention should be given to the security and accessibl requirements of all participating databases. It may be Group.

#### ROWID COLUMNS - 31% (4,480)

Group Finding

ROWID COLUMNS represent 31% of the overall effort 1 effort of 4480.

#### ROWID COLUMNS Advice

A ROWID Column has a datatype that represents the a Tables (OTs), ROWID Columns store the physical add

Physical rowids provide the fastest possible access to a access. Oracle guarantees that, for as long as the row 4 qualifies make rowids useful for applications that select some of the selected rows again, perhaps to update the

In dedicated deployments of Oracle Autonomous Datab enabled, however, they are incompatible with rolling up row. At a minimum, database activities involving ROWID columns should introduce correctness validation to mitig

In shared deployments, scale-down operations in Auto-pointing to different rows than originally intended. Auto-

If the requirements of ROWID s on Autonomous Datab the affected tables, which, in turn, may result in applic primary key values in place of ROWIDs.

#### Test Results by Action Item

DBLINKS - 34% (4,960)

Group Finding

DBLINKS represent 34% of the overall effort for the group with 14 databases affected, and a calculated remediation effort of 4960.

#### DBLINKS Advice

Database links are often used as a means of integrator use the SQL\*Net interface to directly connect database

Oracle Autonomous Database fully supports database l Autonomous is how they are created and implemented. Autonomous. They will not be automatically re-created i database links is achieved through the DDL statement, implementation is a two-step operation using a new Ora

The greatest effort in redeploying database links is ensa, that sufficient regression testing takes place for each int resource requirement that could be scripted if needed.

Successful implementation of database links relies upon databases being in different networks (either OCI or On place.

#### Databases with medium Preparation Effort

For databases with a medium preparation effort, Oracle recommends that migration to Autonomous Database occur once further consideration has been given to the impact of moving databases with a more significant number of modifications or dependencies.

The databases in this category:

P455

#### Databases with higher Preparation Effort

Databases with a higher preparation effort require a set of modifications that can impact the application or the database's functional operations. These modifications are usually a redeployment or refactoring of existing capabilities that will require regression testing.

The databases in this category:

T014, U014C, T014L, U014, U014A, U014R, P014

#### Databases by ascending effort (easiest first)

Database Name	Group Ranking	Preparation Effort	Action Items	Database Environment	Database Cores	Database Memory (Gb)	Database Size (Gb)
P439A	1	40	4	TEST	8	1	955
P439	2	40	4	PRODUCTION	12	8	955
T411A	3	40	5	TEST	8	7	640
T450J	4	75	149	TEST	8	5	1,540
P411	5	80	6	PRODUCTION	10	8	460
L450E	6	115	140	DEVELOPMENT	12	5	1,541
P450	7	305	156	PRODUCTION	10	54	1,541
P455	8	3,300	45	PRODUCTION	6	3	204
U014R	9	3,300	241	DEVELOPMENT	8	6	984
T014L	10	3,300	241	TEST	8	3	983
P014	11	3,300	242	PRODUCTION	24	40	970
T014	12	3,300	242	TEST	8	24	958
U014C	13	3,300	242	DEVELOPMENT	4	8	831
U014A	14	3,300	243	DEVELOPMENT	8	1	951
U014	15	3,300	243	DEVELOPMENT	8	13	917
<b>Totals</b>		<b>14,545</b>	<b>2,208</b>		<b>158</b>	<b>184</b>	<b>14,410</b>

#### Assessment Method

Oracle Estate Explorer conducts an assessment of a Group based on a series of tests. The tests are applied to data extracted from the target databases. The tests are designed around known features, characteristics, and requirements of the Oracle Autonomous Database. The tests focus on identifying existing target database features that might result in architectural or functional change. The tests are intended to facilitate the decision-making process for migration group and prioritisation.

Additional actions may be taken while performing a migration, but these should not be architectural or functional. Oracle Estate Explorer calculates the effort by applying weighted tests against each database. The calculation considers the resource requirements, scale, technical complexity, and associated risks of preparing each database for migration.

You can find details of the tests and weighted modification effort in the appendix of this document. The total preparation effort for a database is a function of the weighted modification effort and the count of exceptions (Action Items) encountered by the test.

A lower total preparation effort represents a closer alignment between the existing database configuration and the capabilities of Oracle Autonomous Database. Equator should prioritise these databases for migration to Oracle Autonomous Database.

Each database is given a ranking within a Group and is subject to placement within a ten-bucket histogram (a lower-numbered bucket is desirable).



# Estate Explorer – Key Features

## Key Functions



Analyze 1000's of databases in just a few hours



Visualize your current estate and simulate the future



Provide a detailed TCO to compare on-premises and cloud



Produce high quality summary and detailed reports for every database

**Database Information**

DB Name	Location	Environment	Database Version
Hypertrading_WO	Platform VIRTUAL	Operating System Linux	Database Type NON MULTI-TENANT
Database Core 8	SGA & PGA Memory (GB) 13	Used Database Size (GB) 2823	Maximum Concurrent Sessions 10
Host Name st-vdb1653.st.atalia.no	CPU/bank(Xeon(R) Platinum 8260 CPU @ 2.4GHz		

**Database Options**

OLAP	Spatial	XMLDB	Text
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Java VM	RAC	Advanced Security	DB Vault
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Action Items Analysis (Scenario: Autonomous Shared v7 run on 2022-12-06T17:06:30)**

Item	Count
BASIC CORES (2075 items, 6 effort)	1
ROWID COL LISTS (2404 items, 101500 effort)	1
CTE (254 items, 40000 effort)	1
RESTRICTED PACKAGES (2 items, 100 effort)	1
SQL (812 items, 200 effort)	1
LIBRARIES (2 items, 10 effort)	1
TOTAL (9879 items, 165786 effort)	6

**Action Summary (Group Ranking 90/90)**

Compared to other databases within the All Production group, 1 requires a higher level of preparation effort. There are 2 references to restricted packages that may need to be revised to adhere to Oracle network security policies. There are 8 database links. These will need to be rehosted in Autonomous Database. There are 2542 Index Organized Tables (IOTs) which will automatically built as standard heap tables in Autonomous. Given the number of IOTs in the database, regression testing for performance reasons may be advisable. There are 248 columns with a rowid datatype. Rowids are supported in Autonomous. However, there are some operational activities that mean there is no guarantee that rowids will not change. It may be preferable to consider moving towards using primary keys instead.

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# Estate Explorer – Key Features

## Key Principles



**Data privacy** no need to share data with Oracle



**Deploy anywhere** in public cloud, on-premises, or even a laptop



**Ultra-light footprint** minimal install requirements and a light touch on databases



**Code transparency** for customers and partners



**Customizable model** build a custom estimation model for your organization



# Database Modernization Team Services



## Kick-start

OEE Technical Support

< 1 day per customer



## Invest

+ OEE Results Analysis

1-5 days per customer



## Focus

+ Estate Transformation

named transformation architect

# We can work with you

## Independent

- Deploy Oracle Estate Explorer yourself within your own on-premises, OCI, or 3<sup>rd</sup> party cloud environment.
- Perform all aspects of data gathering and analysis independently of Oracle.

## Collaborative

- With Oracle guidance, deploy Oracle Estate Explorer within your own on-premises, OCI, or 3<sup>rd</sup> party cloud environment.
- Oracle works with you to perform data extracts, analysis and reporting.

## Service

- Oracle hosts the Oracle Estate Explorer instance.
- You run the extracts and send the output to Oracle.
- Oracle delivers back a full report and provides detailed guidance

# We can work with partners ...

## White Label

- Use your logo and branding on the application
- Easily change the pdf reports to your branding

## Customize

- Provide custom scenarios for your customers
- Extend the standard tests or add your own tests (advanced)

## What we would ask from you :

Retain an Oracle logo with “powered by Estate Explorer” on all screens and reports

# Customer Database Estates

What have customers discovered about their database estates?

*To move to Autonomous Database*

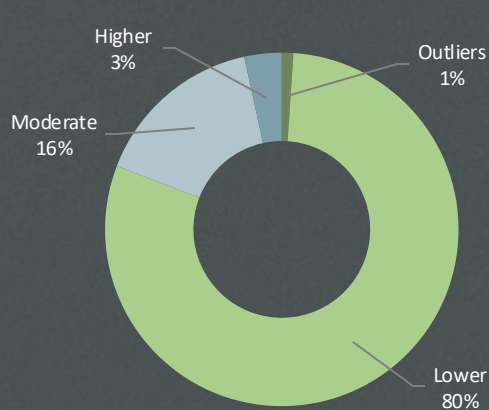
**42%**

*of databases require just 1 or 2 changes*



# Customer Examples

## Small Estate

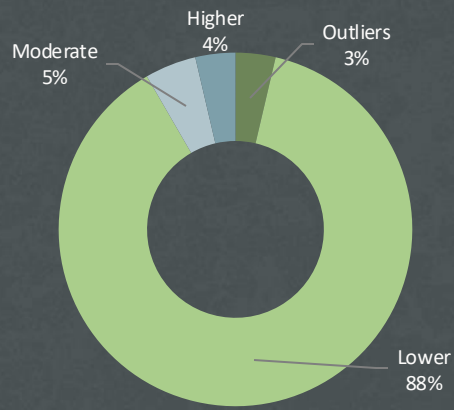


**388** on-premises databases  
(11g, 12c, 19c)

**80%** of databases in  
Lower Effort category

**26%** of databases required  
zero or just 1 change

## Multi-Cloud

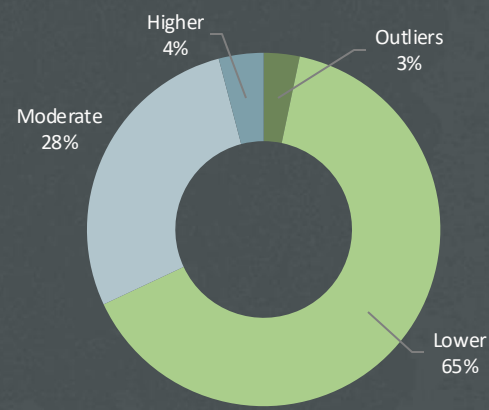


**766** databases on-premises  
and on Microsoft Azure

**88%** of databases in  
Lower Effort category

**30%** of databases required  
zero or just 1 change

## Large customer



**951** on-premises databases  
(11g, 12c, 19c)

**65%** of databases in  
Lower Effort category

**47%** of databases  
required zero changes



# Oracle Estate Explorer

Where to find out more



Oracle Estate Explorer <https://www.oracle.com/database/cloud-migration/estate-explorer/>

# Modernization First Steps

Use Estate Explorer to:



Gain knowledge of your database estate



Identify quick-wins for migration to cloud



Build a business case-financial model to prove value





# Thank you



# Technical Extras

Deployment and Architecture



# Estate Explorer : General Requirements

## Your Estate

- Best used for analysis of > 10 databases
- Target Databases can be anywhere – on-premises, already in OCI, or on a competitor cloud
- Can analyze any database from version 12 onwards

## Database Catalog

- Generate from Oracle Enterprise Manager **or**
- Provide a list of databases with connection details

## Security and Confidentiality

- Only requires access to a read-only database account for each database to be analyzed (e.g. DBSNP)
- Extract scripts are open for any security validation and checks required
- No requirement to share any data with Oracle

## Host environment

- Run the extracts in a host with a bash shell - a server, a container or even a laptop
- The host needs to be able to establish a network connection to the target databases

# Where can I deploy the OEE Application ?

## Requirements



Oracle Database 19c



APEX & ORDS

The APEX application is self-contained and ultra-lightweight with no external dependencies

## Deployment Options



In a VM



Autonomous Database



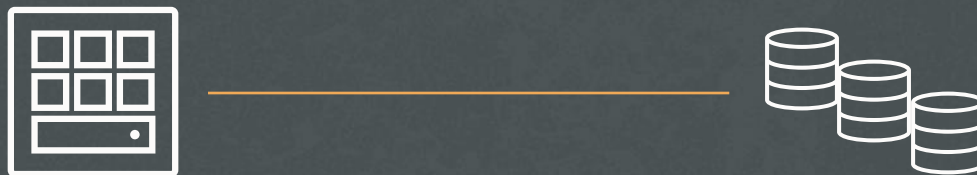
On-Premises



Any Cloud

Deploy the APEX application wherever you need it – full installation scripts are provided

# How is the information captured ?



## Host environment

- Run the extracts in a host with a bash shell - a server, a container or even a laptop
- The host needs to be able to establish a network connection to the target databases
- A Linux host is recommended

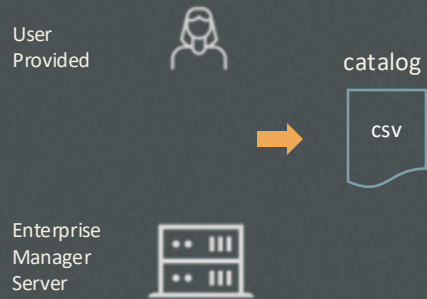
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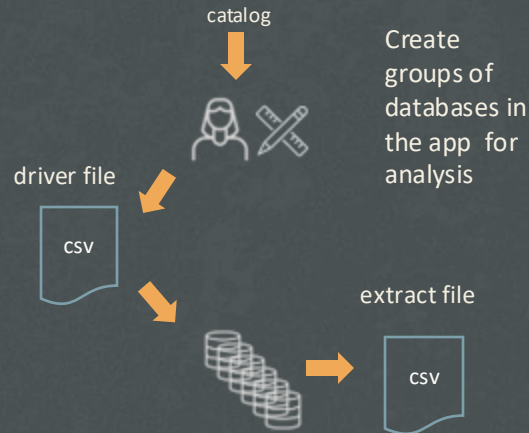
# Estate Explorer - Architecture

## 1 – Build Catalog



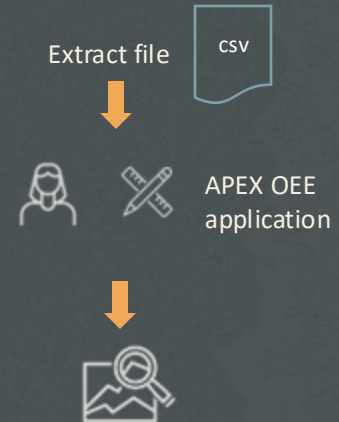
Provide a database estate catalog, or generate automatically from OEM

## 2 – Extract Information



Single extract script connects to all databases extract information to csv

## 3 – Analyze Results



Analyze estate and produce Visualizations & Reports