ORACLE

AUTONOMOUS DATABASE LEARNING LOUNGE

Migração para ADB Parte I: Visualize e avalie todo seu patrimônio de bases de dados com o Oracle Estate Explorer

Autonomous Database Learning Lounge em Português

Apresentado por Marcos Arancibia

Autonomous Database Product Management

Em Português

Agenda

Juan Mikalef **Lucas Gonçalves**

Agenda

- Identificar rapidamente as melhores bases de dados Oracle para migrar para o Autonomous Database quando se tem um grande patrimônio pode ser uma ótima oportunidade para conseguir uma redução no custo total de propriedade.
- Teremos uma introdução ao Oracle Estate Explorer, que é uma ferramenta leve que pode analisar milhas de bases de dados em apenas algumas horas e permite identificar aquelas bases de dados que oferecerão o maior retorno do investimento no menor tempo possível no caso de migrações para o banco de dados Autonomous Database.
- Explicaremos sobre Elastic Pools, que faz do Autonomous Database Serverless o destino ideal para a consolidação.

P&R

- **Gerentes de Produto responderão suas perguntas**

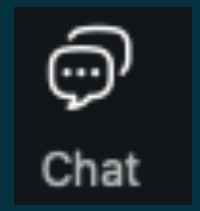
Antes de começar...

Esta sessão é para vocês !!!

Faça suas perguntas no **Q&A**

Gerentes de Produto estão monitorando as perguntas

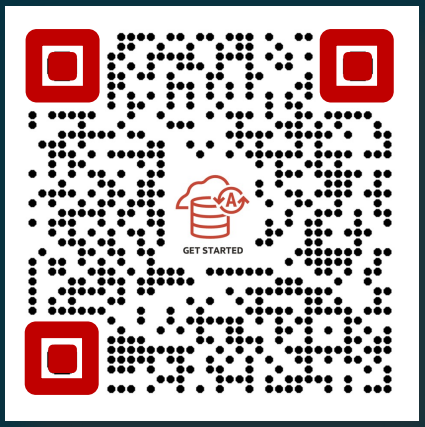
Publicaremos links via **Chat**



A gravação estará disponível em alguns dias, em
oracle.com/goto/adb-learning-lounge-pt

Links importantes para marcar

Links para você começar e se manter atualizado sobre tudo relacionado ao Autonomous Database



1 Nova página de introdução : oracle.com/autonomous-database/get-started/

2 Junte-se a nós: LinkedIn bit.ly/adb-linkedin-grp @AutonomousDW

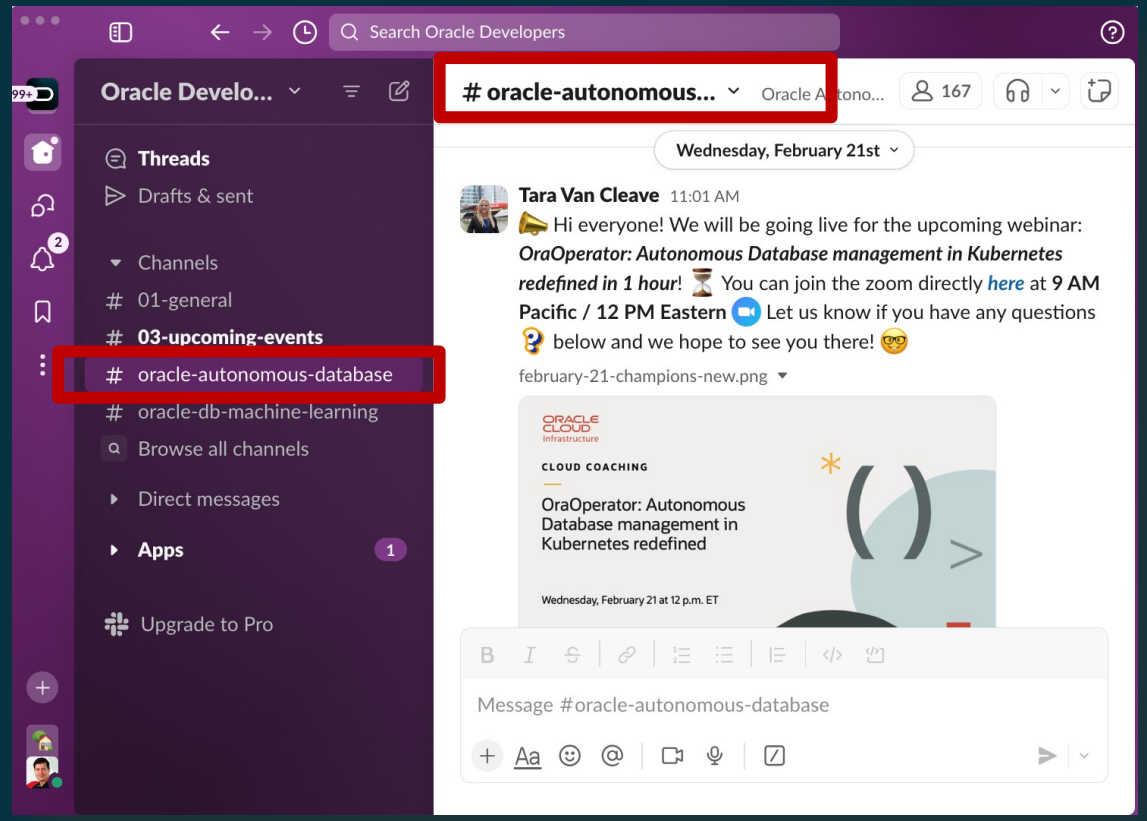
3 Tem alguma pergunta? Estamos no stackoverflow bit.ly/adb-stackoverflow

Junte-se a nós no Slack
procure #oracle-autonomous-database
bit.ly/odevrel_slack (odevrel_slack)

Junte-se a nós no Slack

PASSO 1: bit.ly/odevrel_slack (odevrel_slack)

PASSO 2: **procure por #oracle-autonomous-database na parte superior e dê um click no canal.**



Próximas sessões

Palestrantes

Juan Mikalef

Lucas Gonçalves

Oracle Estate Explorer

Autonomous Database Sizing and Elastic Pools

Juan Mikalef
Lucas Felipe Reche Gonçalves
14 November, 2024

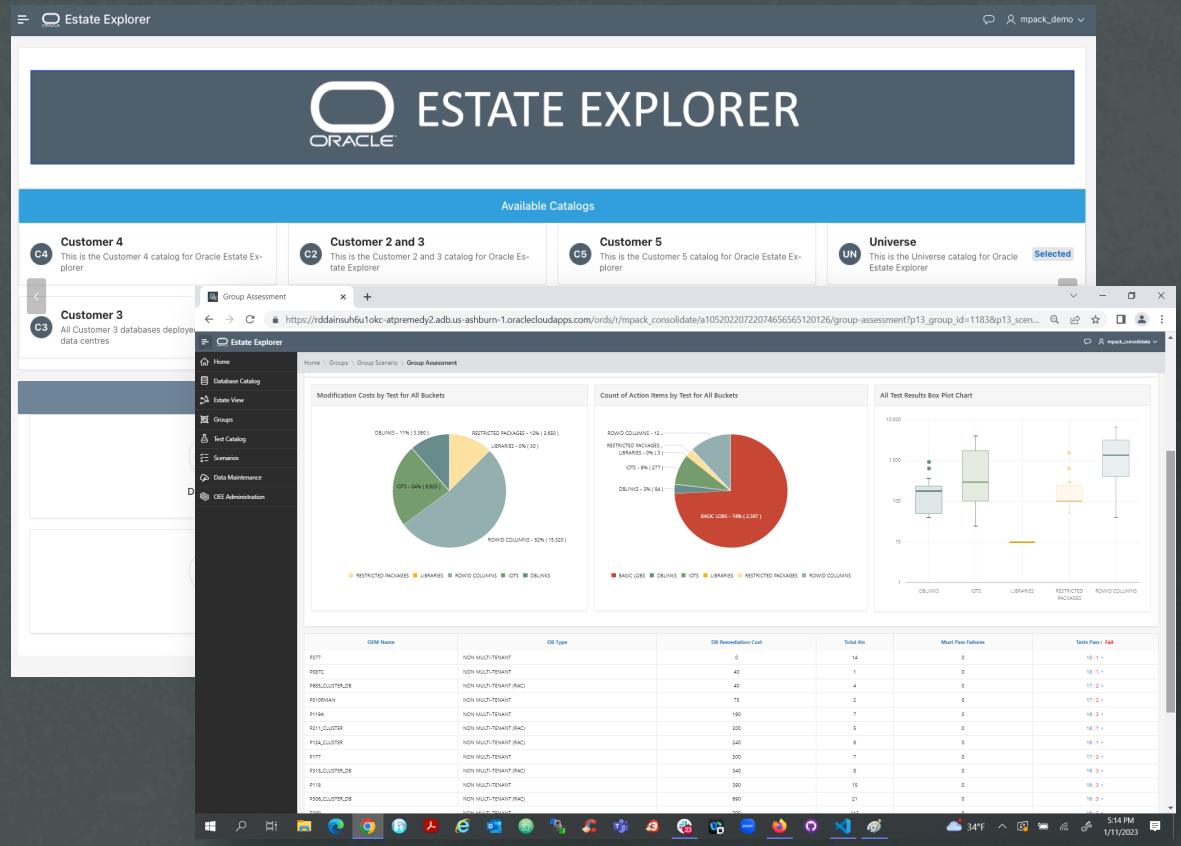
Oracle Estate Explorer

A Short Overview

Oracle Estate Explorer

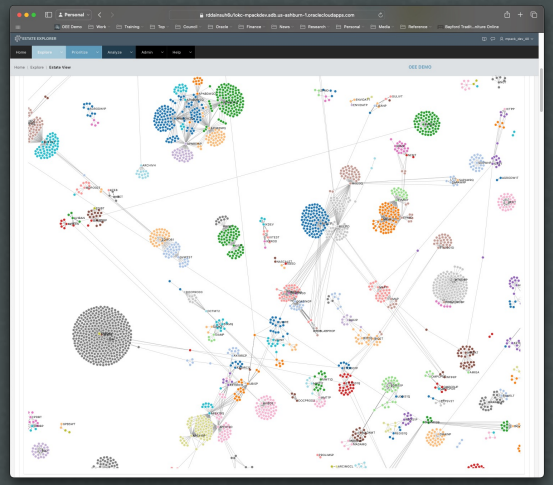
Explore an entire Oracle Database Estate quickly and identify the best ADB candidates

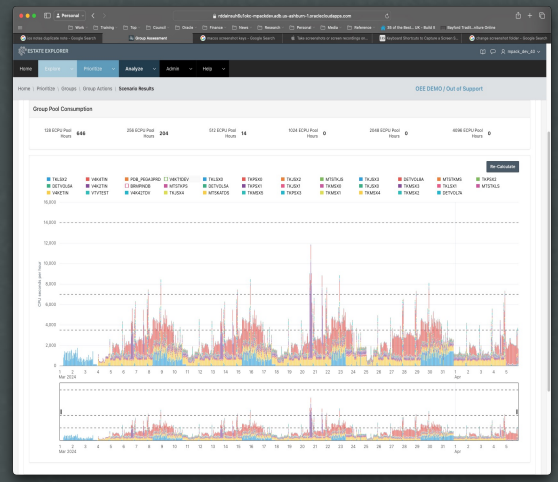
- Analyze 1000's of databases in just a few hours
- View innovative visualizations of your database estate
- List preparation actions for every database
- Share summary and detailed reports with colleagues



Oracle Estate Explorer enables a customer 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 any cloud database
- Build a Business Case with on-prem and cloud TCO
- Optimize the migration deployment

A unique insight into a database estate

Oracle Estate Explorer
Simple, open and flexible

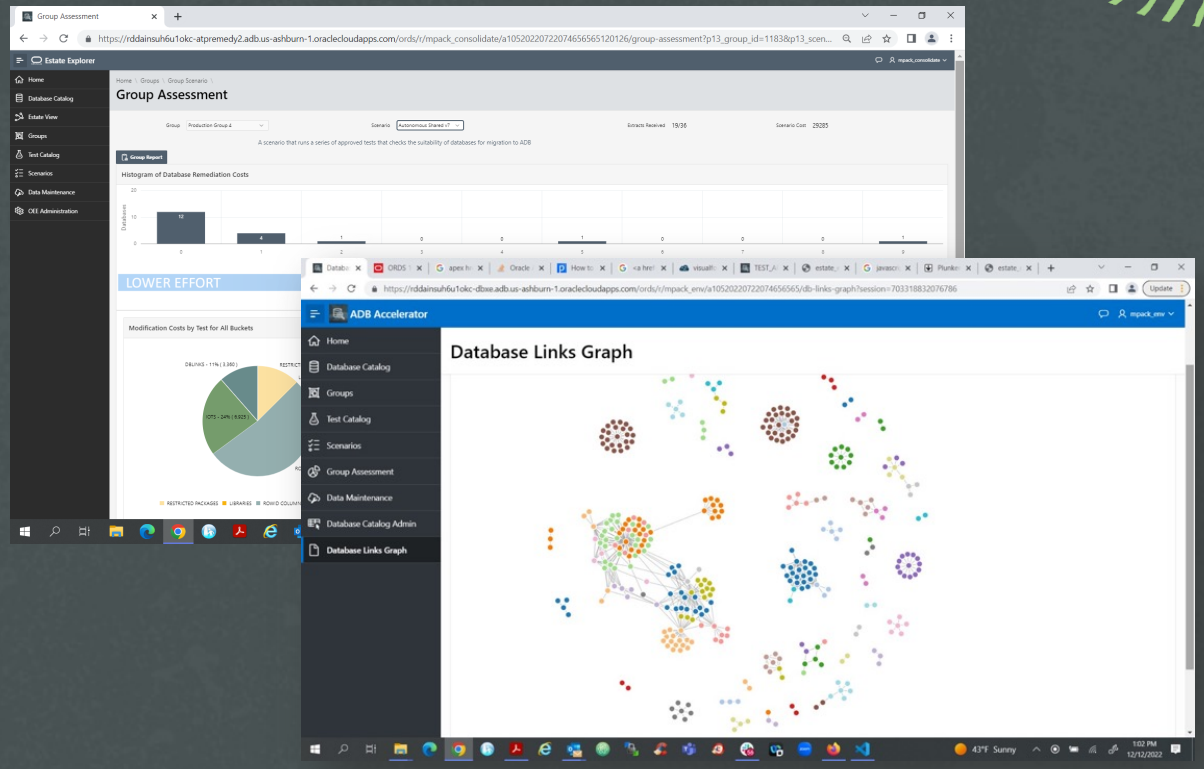
Complete data privacy
no requirement to share data with Oracle

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

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

Full code transparency
for customers and partners

Customizable
build a custom estimation model for your organization



Requirements
- Oracle Database with APEX (Autonomous DB or any 19c database)
- Oracle Enterprise Manager and EM-CLI or SQL*Plus

Oracle Estate Explorer Details

Flexible architecture enabling detailed exploration and analysis

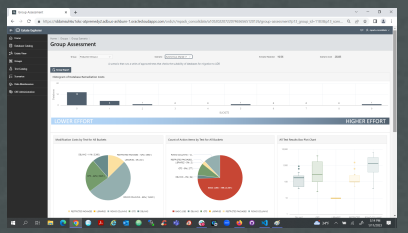
Database Estate

- On-premises or any 3rd party cloud
- Focus on entire estate or targeted groups
- No installation or footprint on any database
- Data is only collected once
- Extraction via human-readable PL/SQL
- Extract takes 20 seconds per database
- Covers every version and architecture since v11.2

Data Collection

- Simple deployment (2 scripts)
- Use Enterprise Manager or TNS
- Connect to all databases centrally
- Creates one output file per group
- Human-readable CSV format
- Typically 2MB output per database
- Deployed on-premises

OEE Application

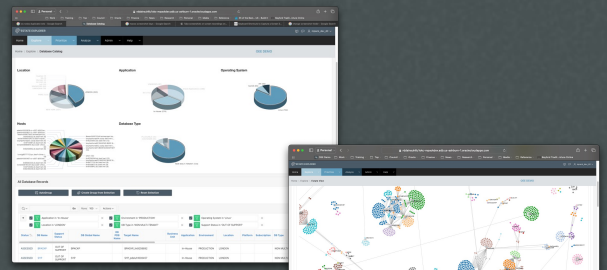


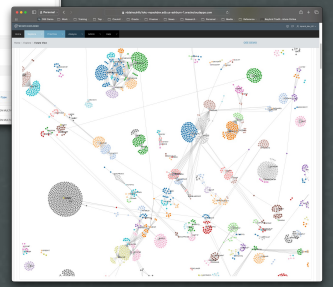
- Flexible grouping and regrouping
- Customizable test scenarios
- Drill down from Estate to Database
- Real-time analysis
- Automated reports
- Oracle APEX
- Deployed on-premises or on OCI

Oracle Estate Explorer – Key Steps

Explore an Estate Catalog

Database Details

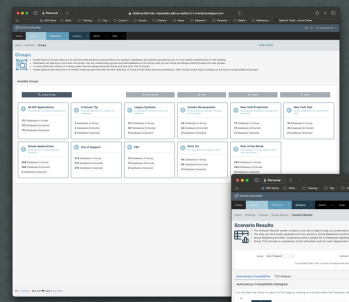


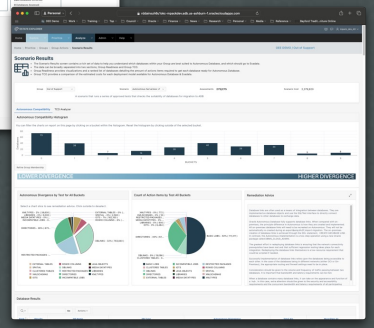


Database Links

Plan Database Migrations

Build Groups

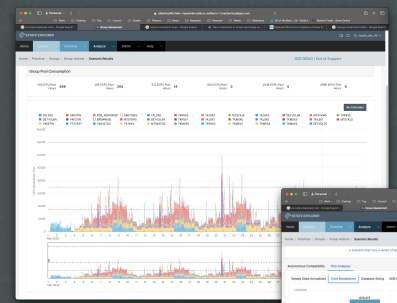


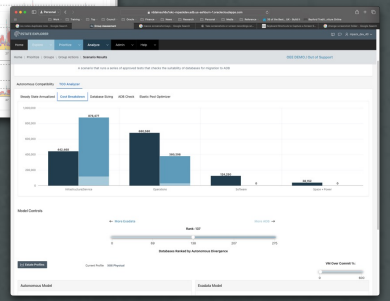


Assess DBs

Build Technical Business Case

Build Elastic Pools



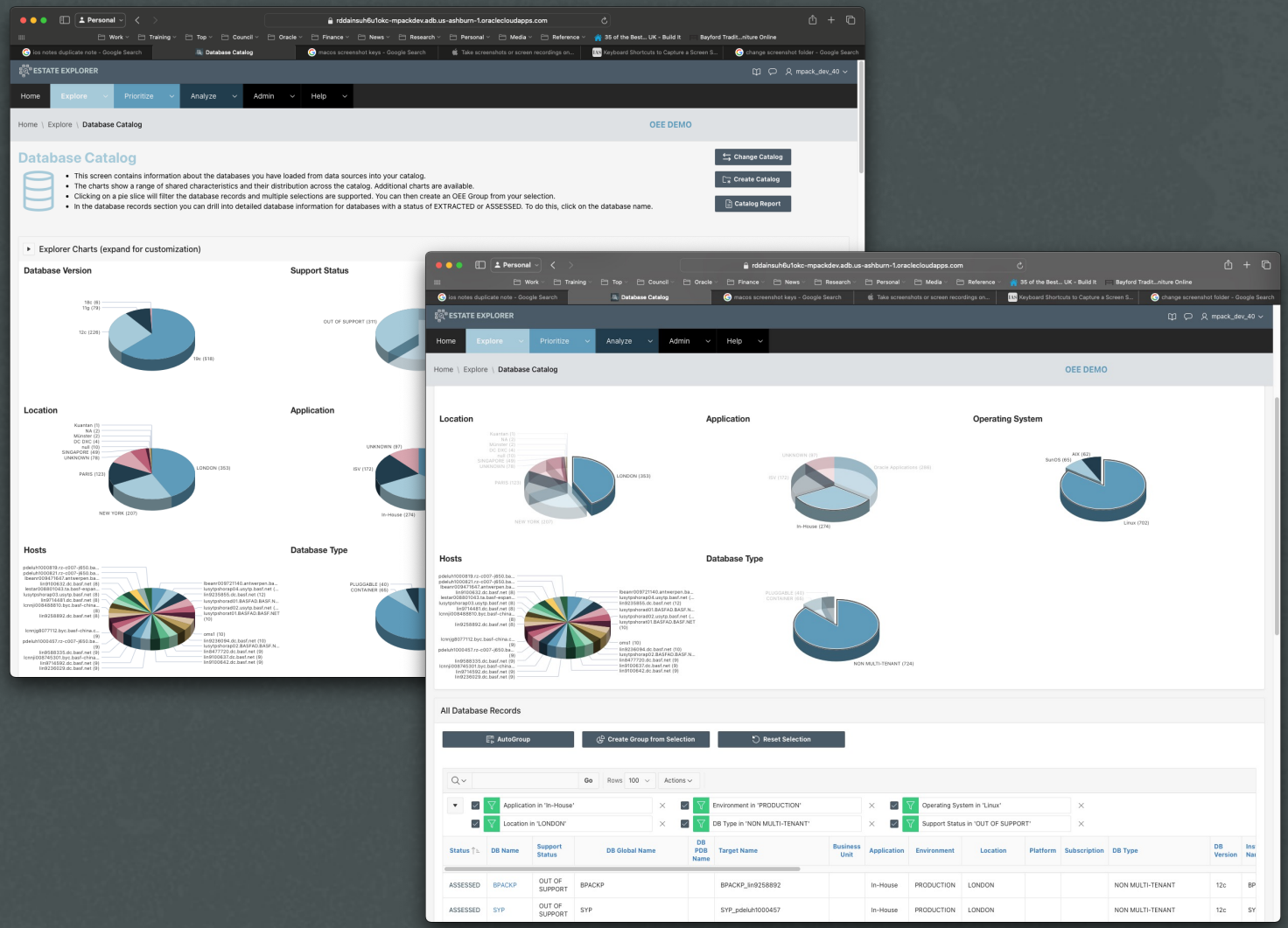


Build TCO

Estate Summary View

View your databases by your technical and business criteria

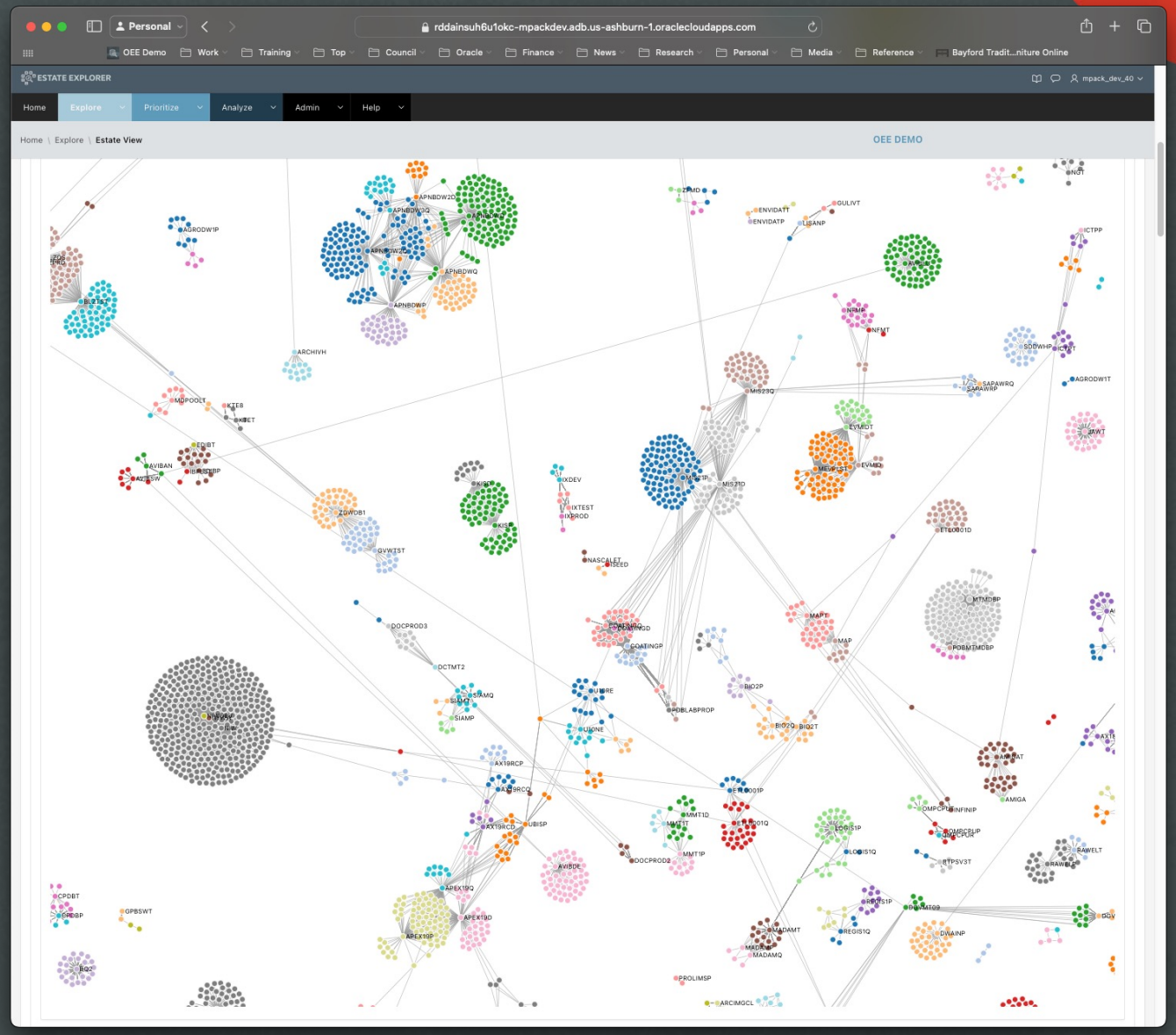
- Define criteria based on your naming standards
- By geography, business unit, platform, etc
- By database version, host OS, #cores etc
- Define new subsets of databases for analysis



Estate Cluster View

View a group of databases by their connections

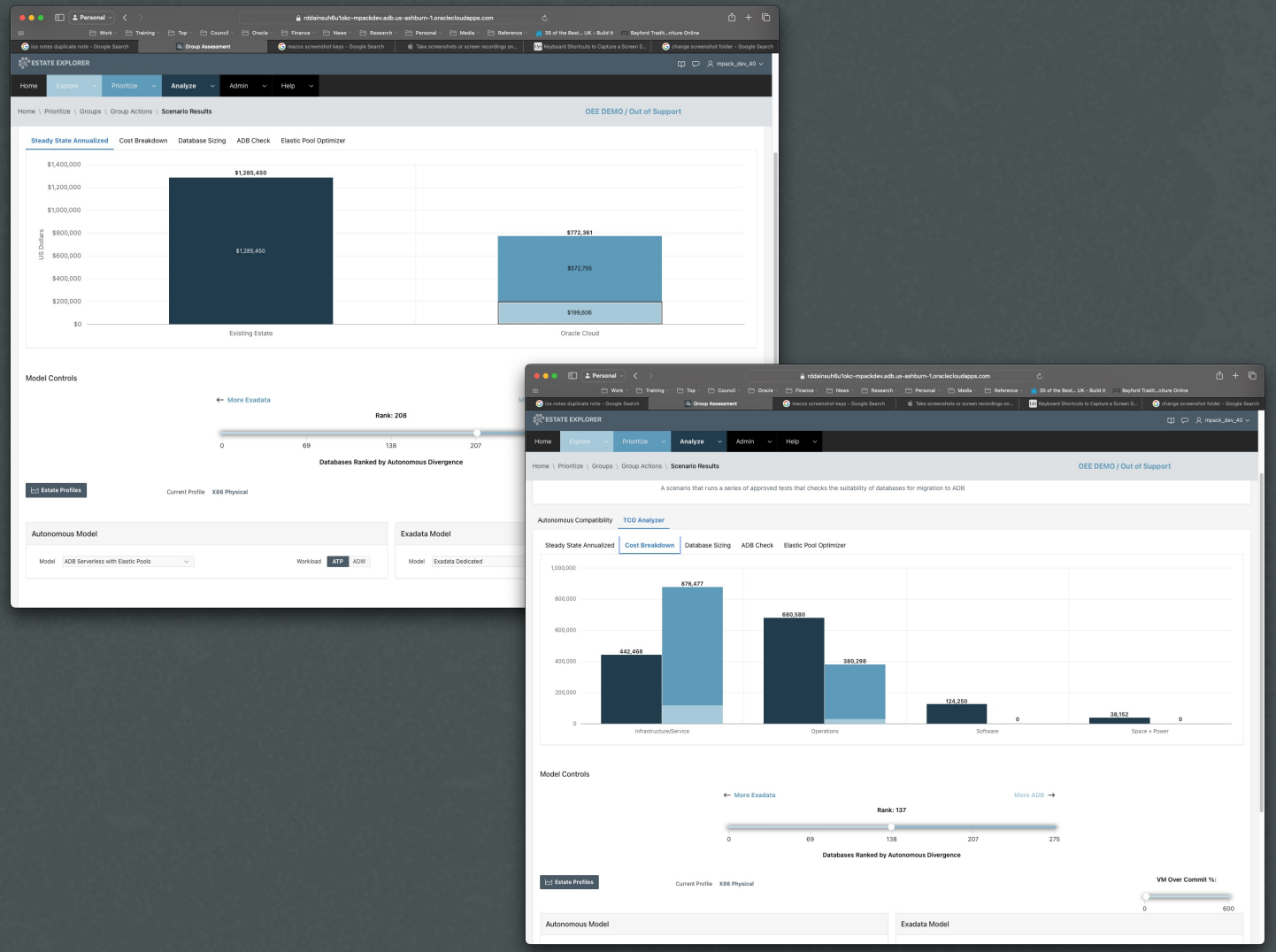
- Based on database links between databases
- Identify groups of linked databases
- Generate lists of clusters of databases
- Create linked groups for further analysis



TCO Analyzer – Compare current with future

Run-time TCO

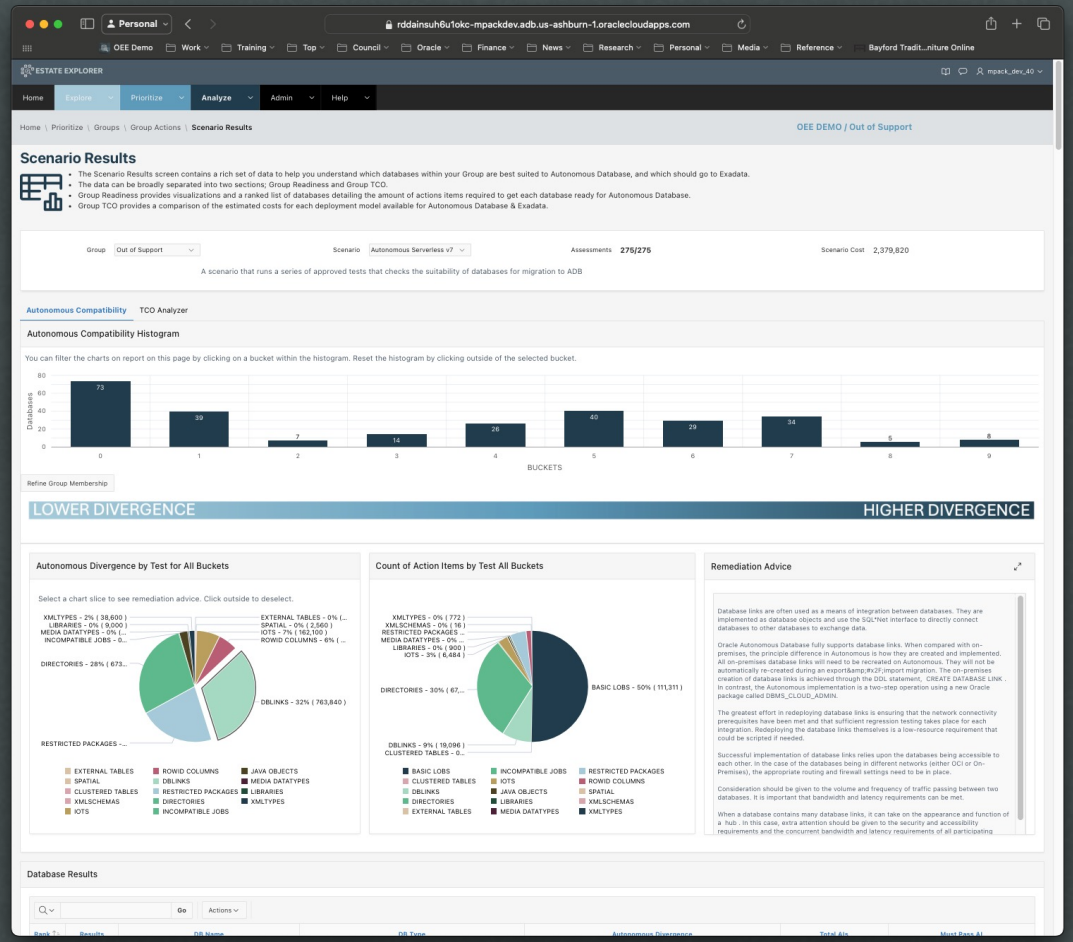
- Built from actual database information
- TCO model aligned with Business Value Team
- Compare on-prem, or other cloud with OCI
- Supports C@C and OCI as targets
- Flexibly split workloads between Exa and ADB



Estate Assessment for ADB

Migration preparation & effort

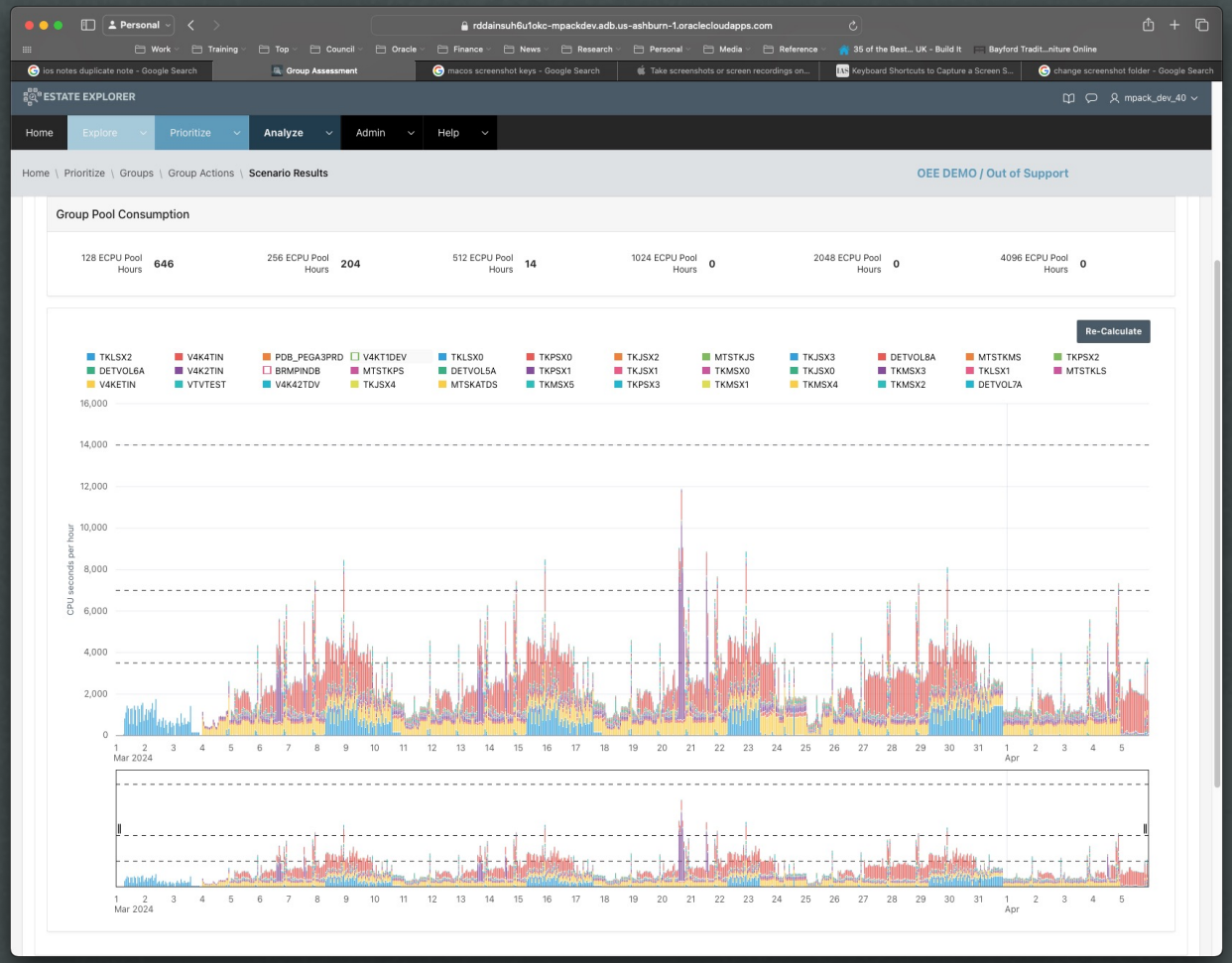
- Aggregate view
- Drill down to individual databases
- Detailed actions at an object level
- Customizable effort values
- View by count of objects or estimated effort



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


ORACLE Estate Explorer - Group Summary Report On-Premises Pilot

Group Extract Results: On-Premises Pilot

Scenario: Autonomous Shared v7

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

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

Executive Summary

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

Oracle Estate Explorer ranked each datab Autonomous Database Cloud.

Rank by DBs

lower

medium

higher

lower medium

ORACLE Estate Explorer - Test Action Items

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 integratio 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 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 ens that sufficient regression testing takes place for each in resource requirement that could be scripted if needed.

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

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 accessibili requirements of all participating databases. It may be b Group.

ROWID COLUMNS - 31% (4,480)

Group Finding

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

ROWID COLUMNS Advice

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

Physical rowids provide the fastest possible access to a access. Oracle guarantees that, for as long as the row qualities 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 ROWI columns should introduce correctness validation to miti

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 applica primary key values in place of ROWIDs.

Databases with medium Preparation Effort

For databases with a medium preparation effort, Oracle recommends that migration to Autonomous Database occurs 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)
T439A	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	18	6	468
U450E	6	115	145	DEVELOPMENT	12	5	1,541
P450	7	355	156	PRODUCTION	18	54	1,541
P455	8	1,280	45	PRODUCTION	6	3	294
U014R	9	1,780	241	DEVELOPMENT	8	6	984
T014L	10	1,780	241	TEST	8	3	963
P014	11	1,780	242	PRODUCTION	24	40	970
T014	12	1,780	242	TEST	8	24	959
U014C	13	1,780	242	DEVELOPMENT	4	8	831
U014A	14	1,820	243	DEVELOPMENT	8	1	851
U014	15	1,820	243	DEVELOPMENT	8	13	917
Totals		14,565	2,208		158	184	14,410

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 grouping 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. Equinor should prioritise these databases for migration to Oracle Autonomous Database.

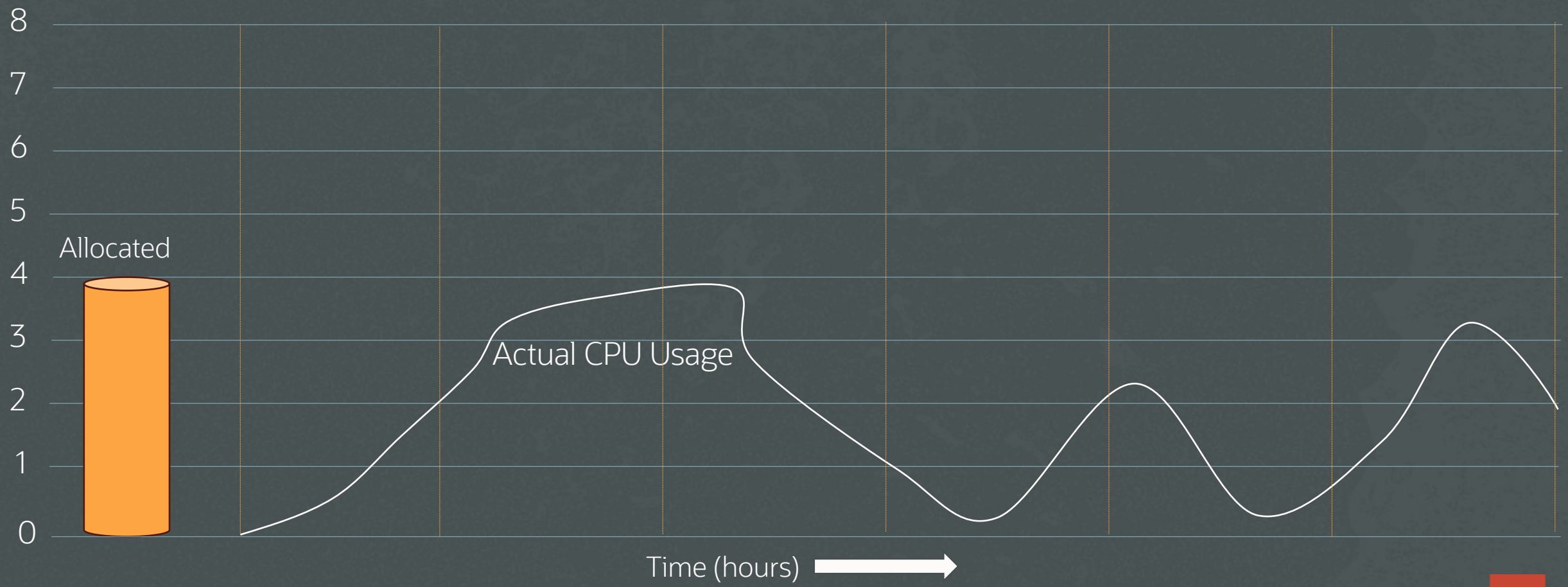
Each database is given a ranking within a Group and is subject to placement within a ten-bucket histogram (a lower-numbered bucket is desirable).

Share as PDF

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

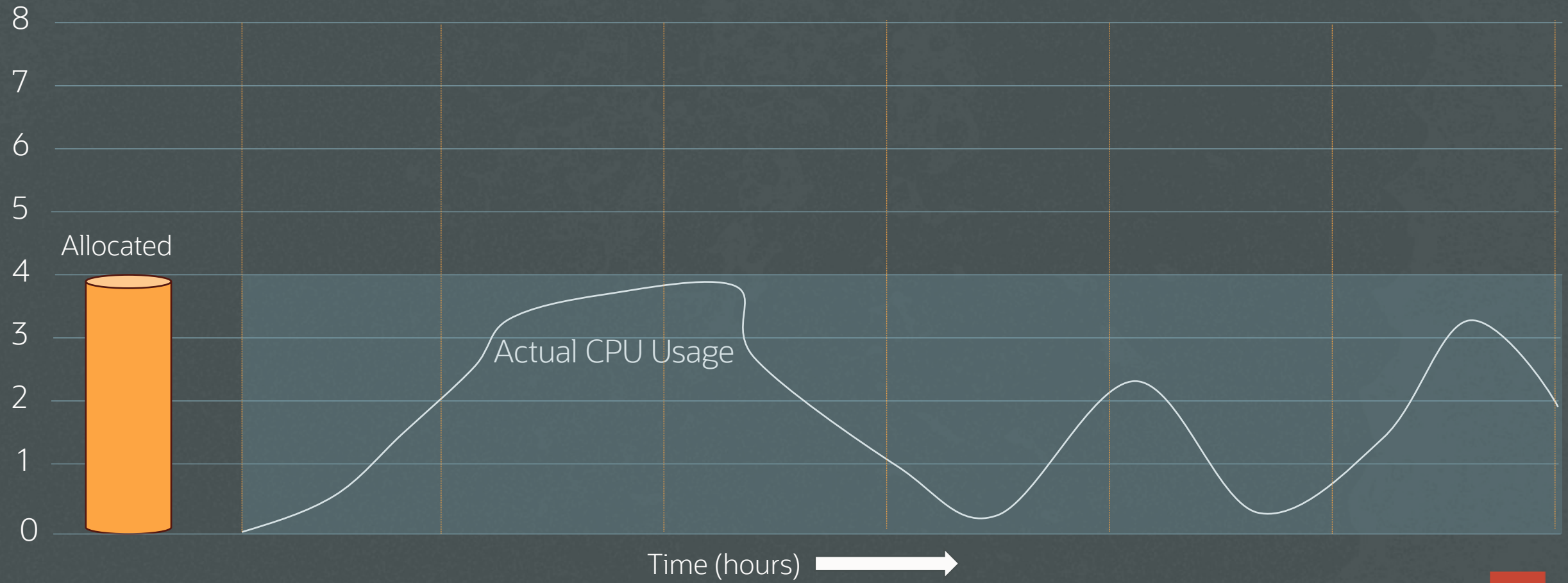
A reminder on ADB Sizing and Elastic Pools

How is Autonomous Database charged ?

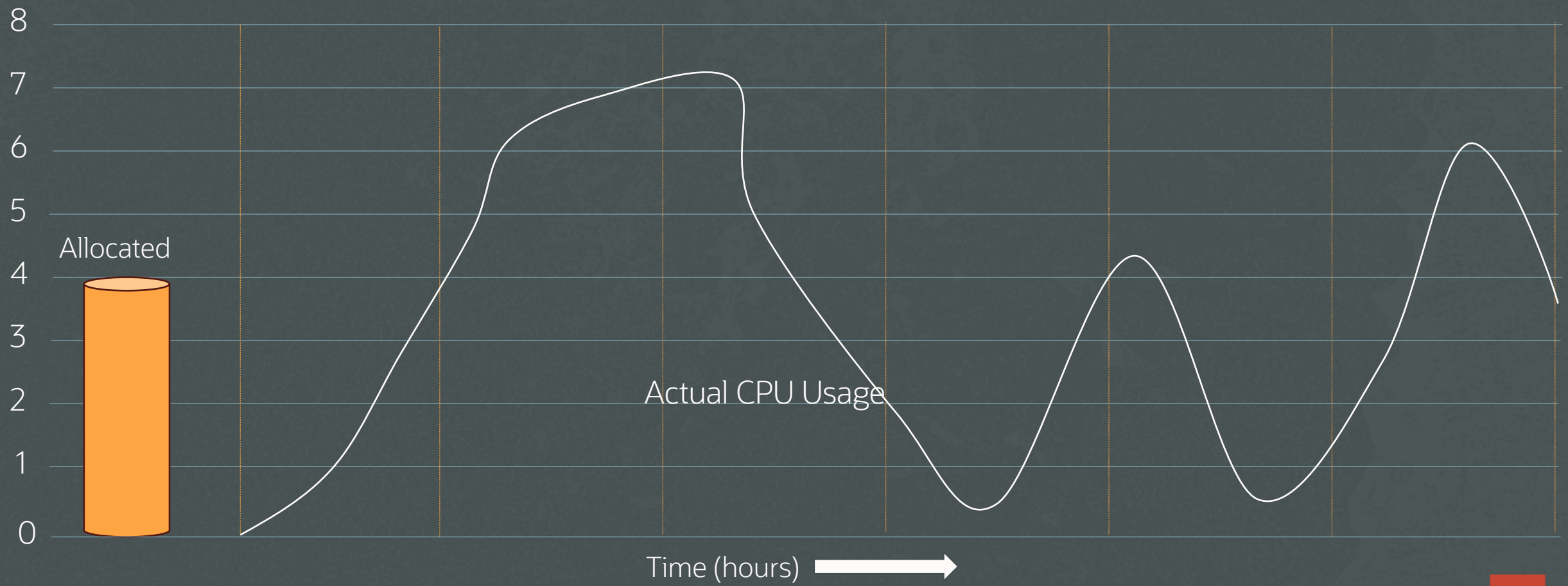


How is Autonomous Database charged ?

ADB is charged by the allocated ECPUs in each hour

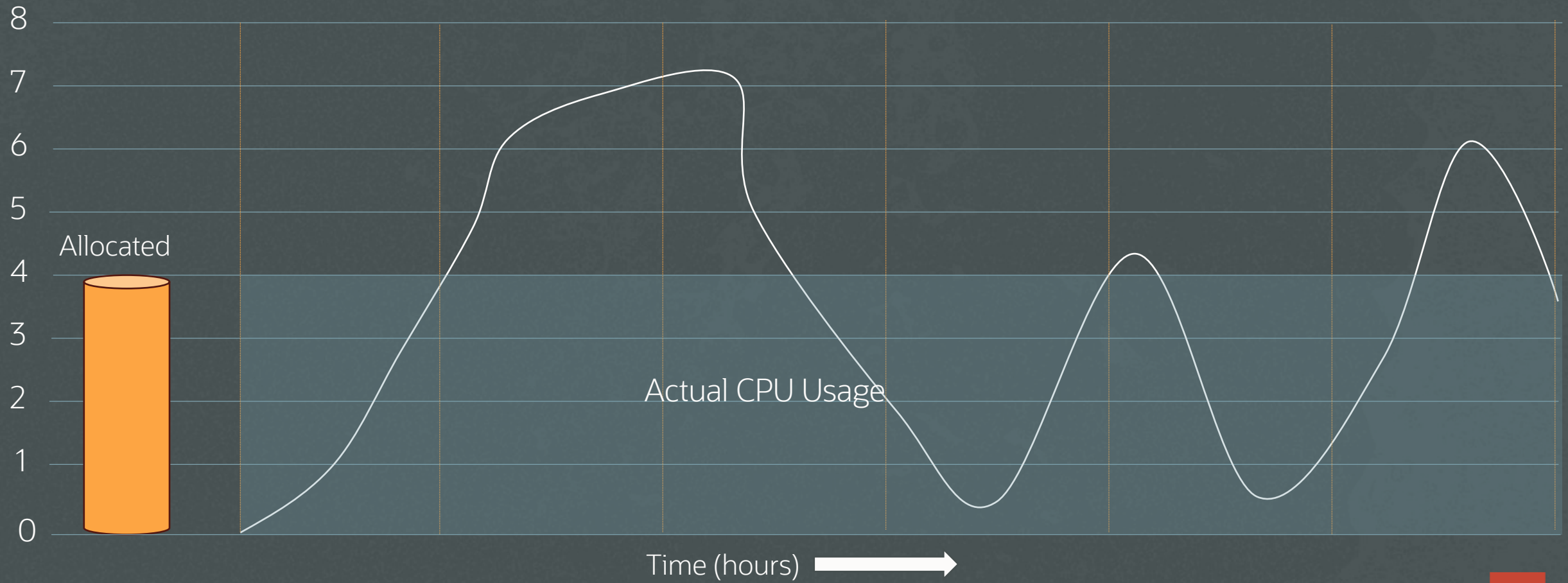


… and with auto-scaling ?



… and with auto-scaling ?

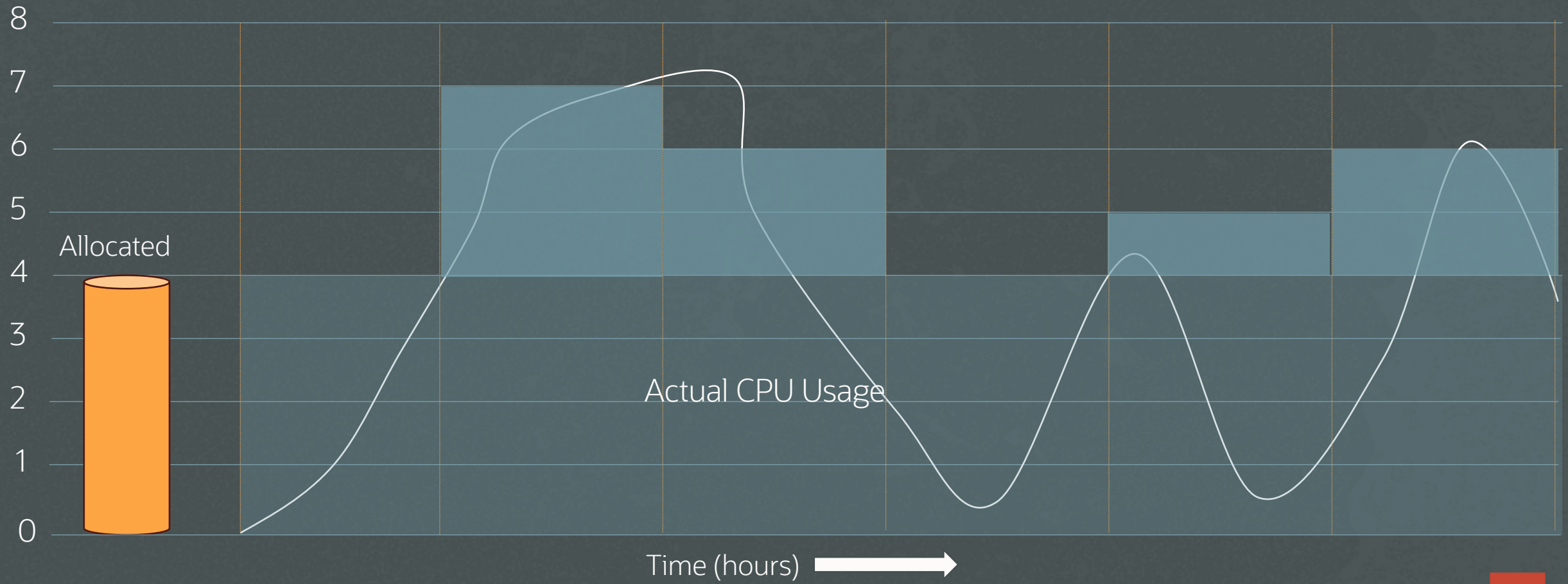
ADB is charged by the allocated ECPUs in each hour



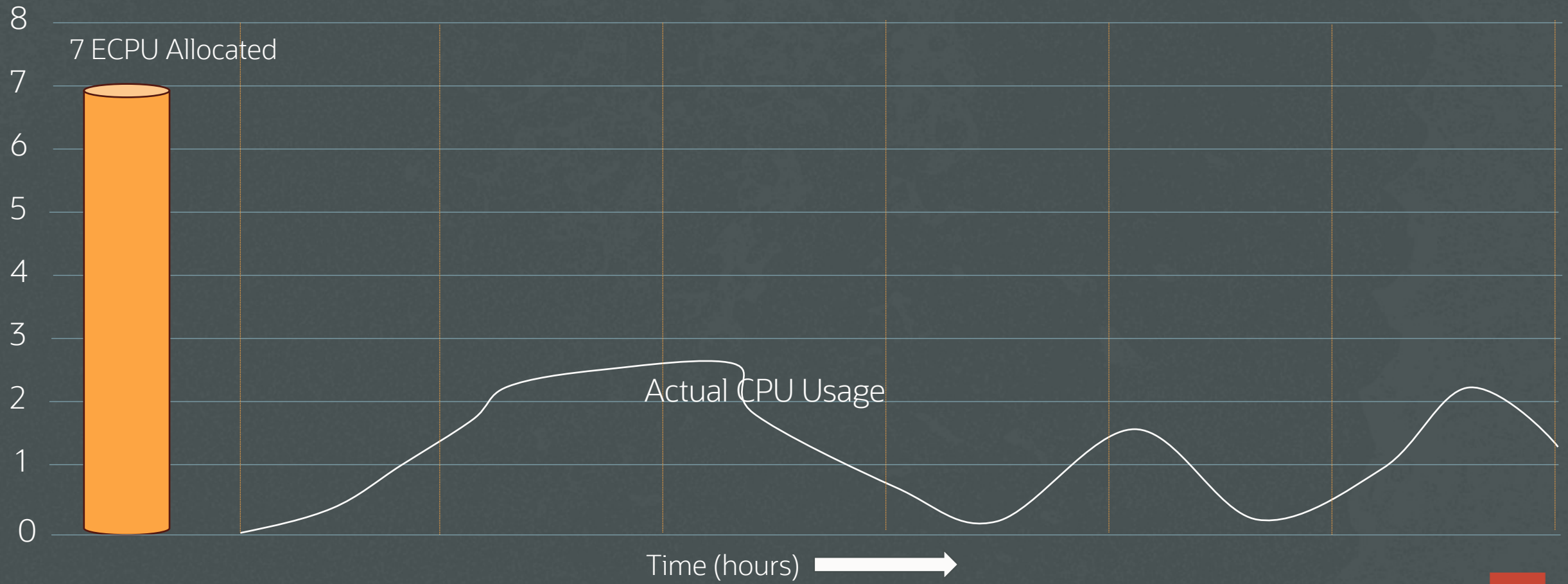
… and with ECPU auto-scaling ?

ADB is charged by the allocated ECPUs in each hour

Auto-scaled ECPU usage is measured each second, in units of whole ECPUs and averaged across an hour.

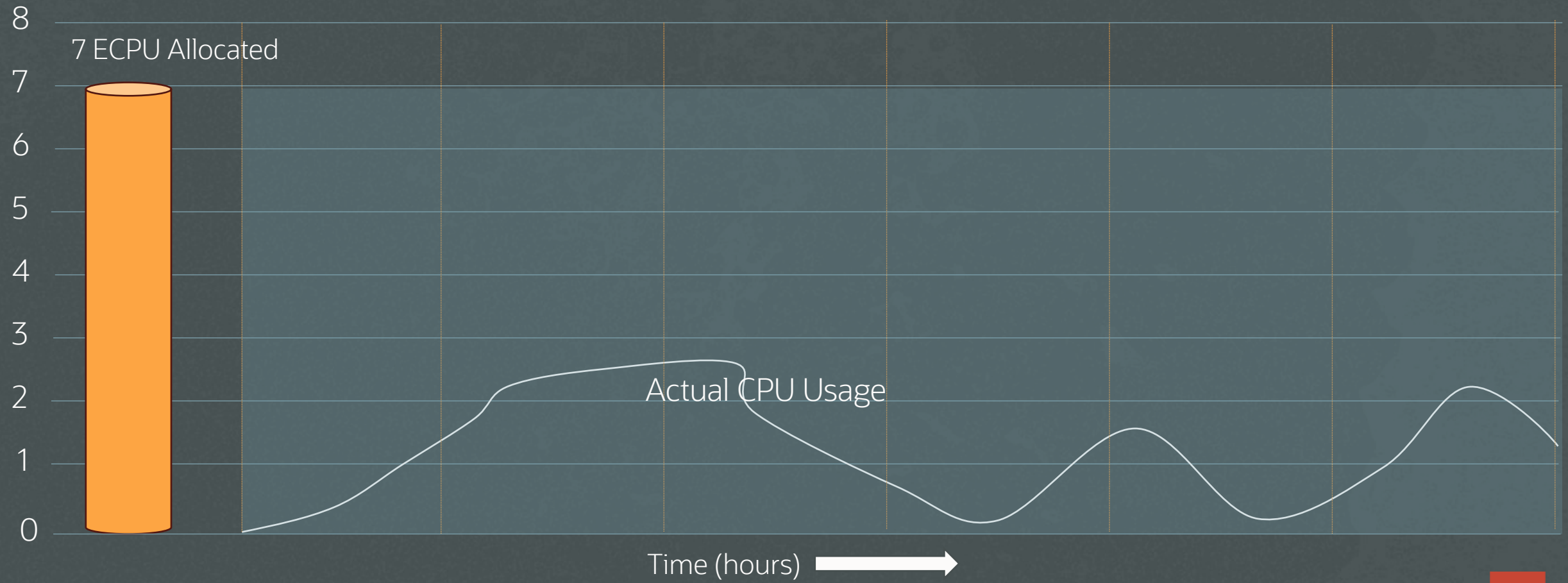


What if we need more memory/sessions ?



… we allocate ECPUs to get the extramemory/sessions

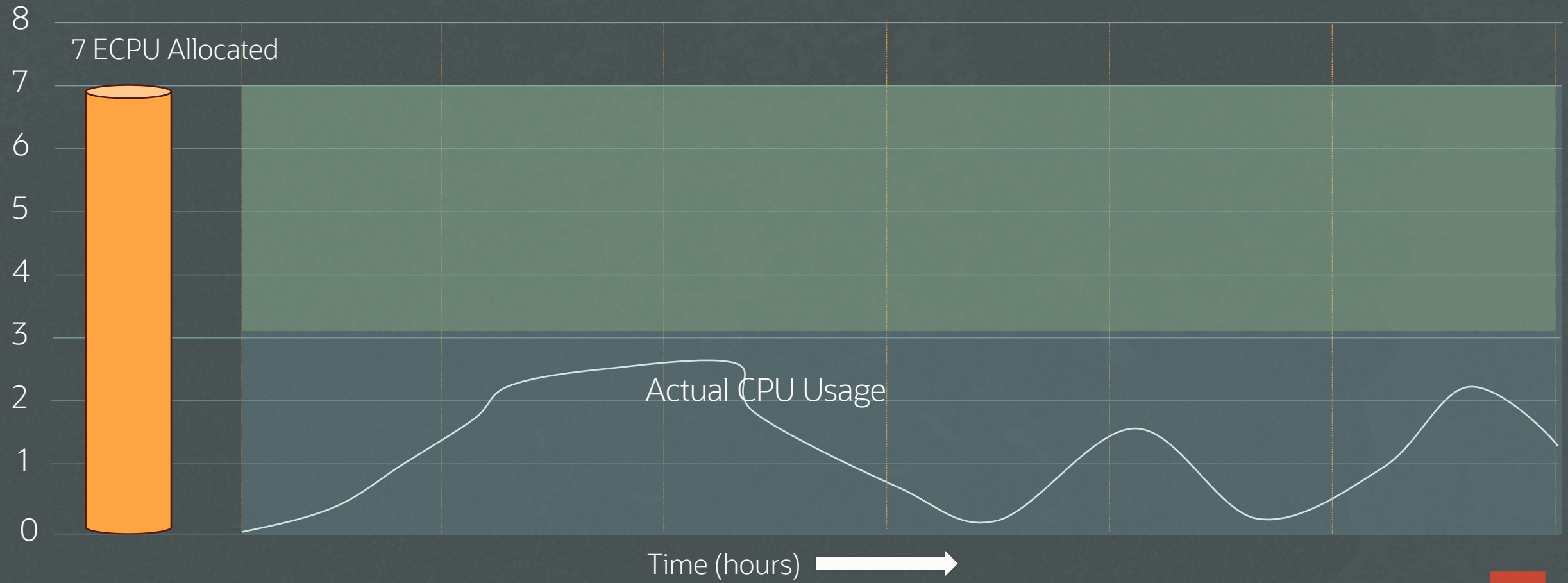
ADB is charged by the allocated ECPUs in each hour



… but if the database needs 8 ECPUs to be allocated to get sufficient memory/sessions

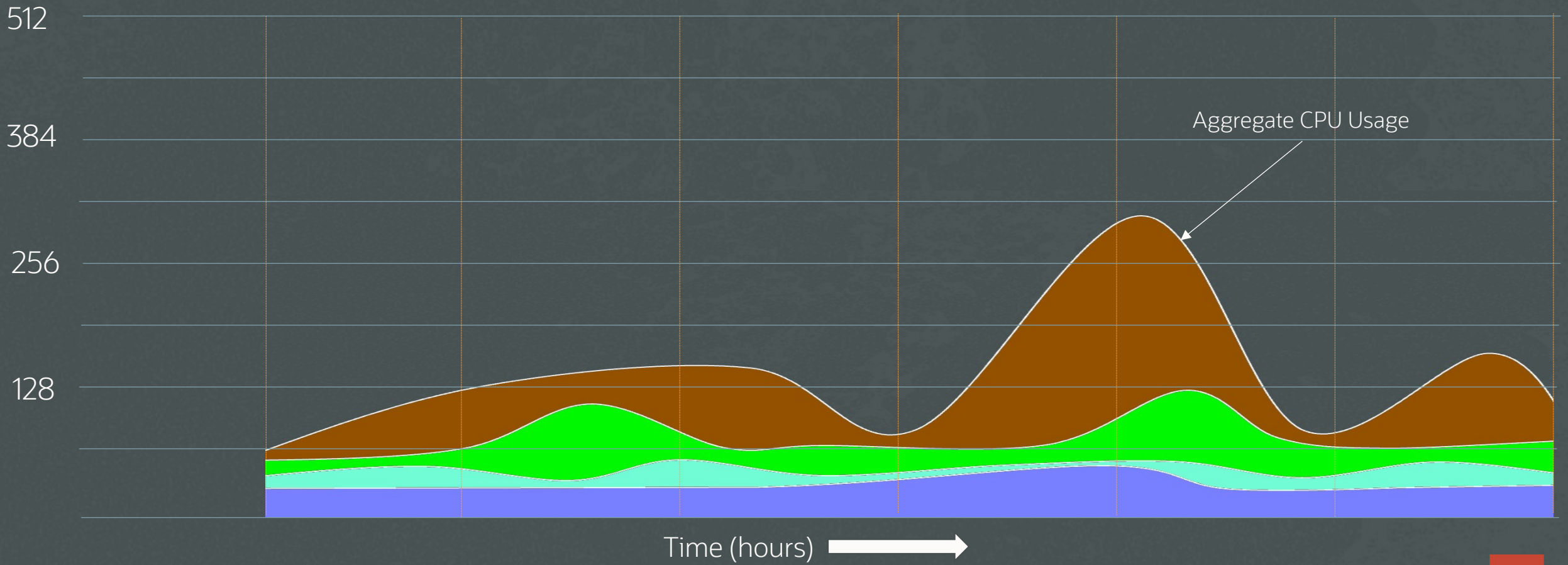
ADB is charged by the allocated ECPUs in each hour

Including “over-allocation” to get enough memory/sessions



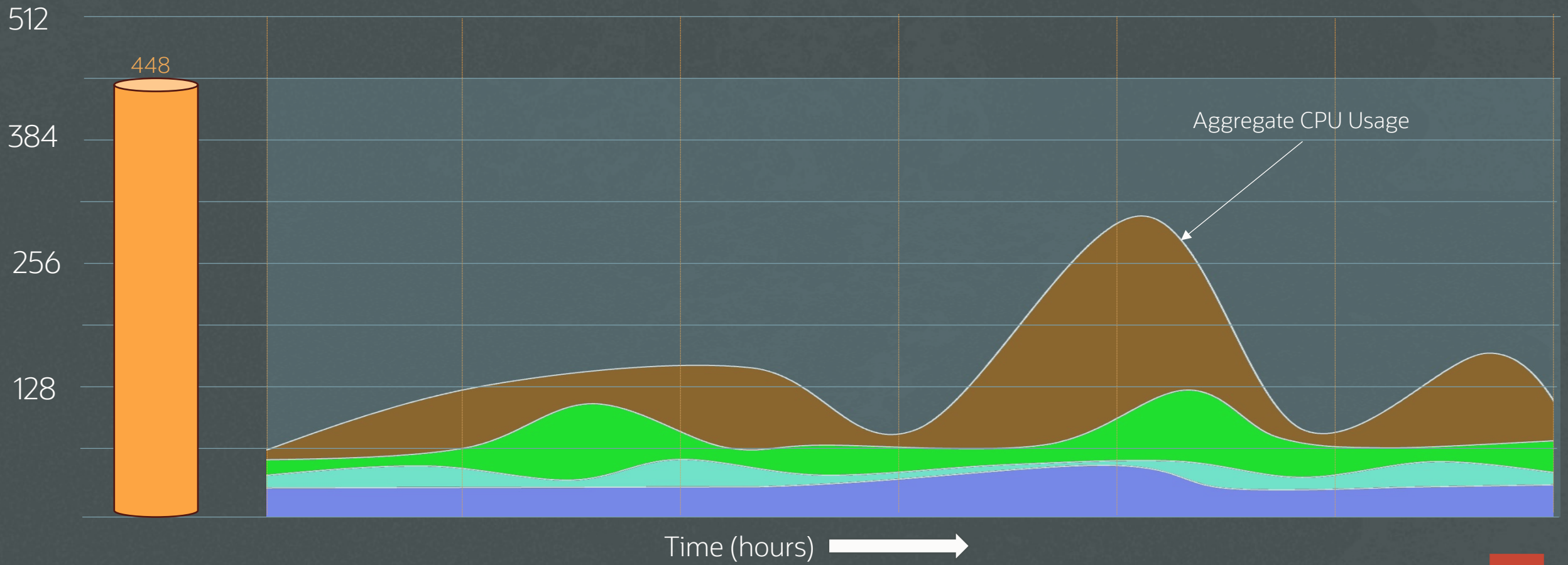
Let’s now think about a group of databases

Here's a group of databases with high mem/sessions



Without Elastic Pools …

ADB is charged by the allocated ECPUs in each hour



Reminder on Elastic Pools

Elastic Pools is only a billing construct – databases are not physically moved when joining a ”pool”

Elastic pools can be created with a pool size (aka shape) of 128, 256, 512, 1024, 2048, or 4096 ECPUs

Specific ADBs can “join” the pool – they can also be removed (one hour min)

Databases can be added to the pool up to the Pool Capacity – i.r. the aggregate ECPU limit

If the ECPU usage exceeds the current pool shape, then the pool shape is automatically doubled in size (up to the pool capacity)

Charges are incurred for the pool shape in use for each hour.

Pool Leader

Is the Autonomous Database instance that creates an elastic pool.

Pool Member

Is an Autonomous Database instance that is added to an elastic pool.

Pool Size

Is a value that you set when you create an elastic pool. The pool size must be one of the available elastic pool shapes

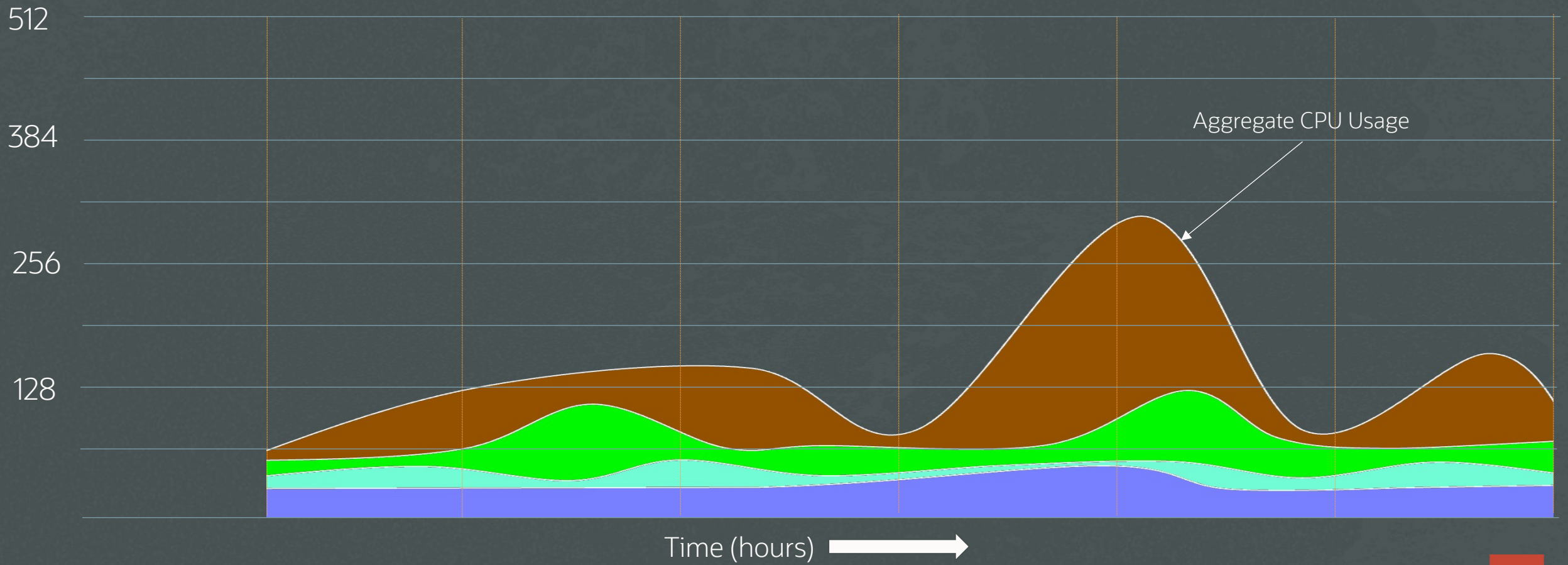
Pool Shape

A pool shape is one of the valid pool sizes that you select when you create an elastic pool

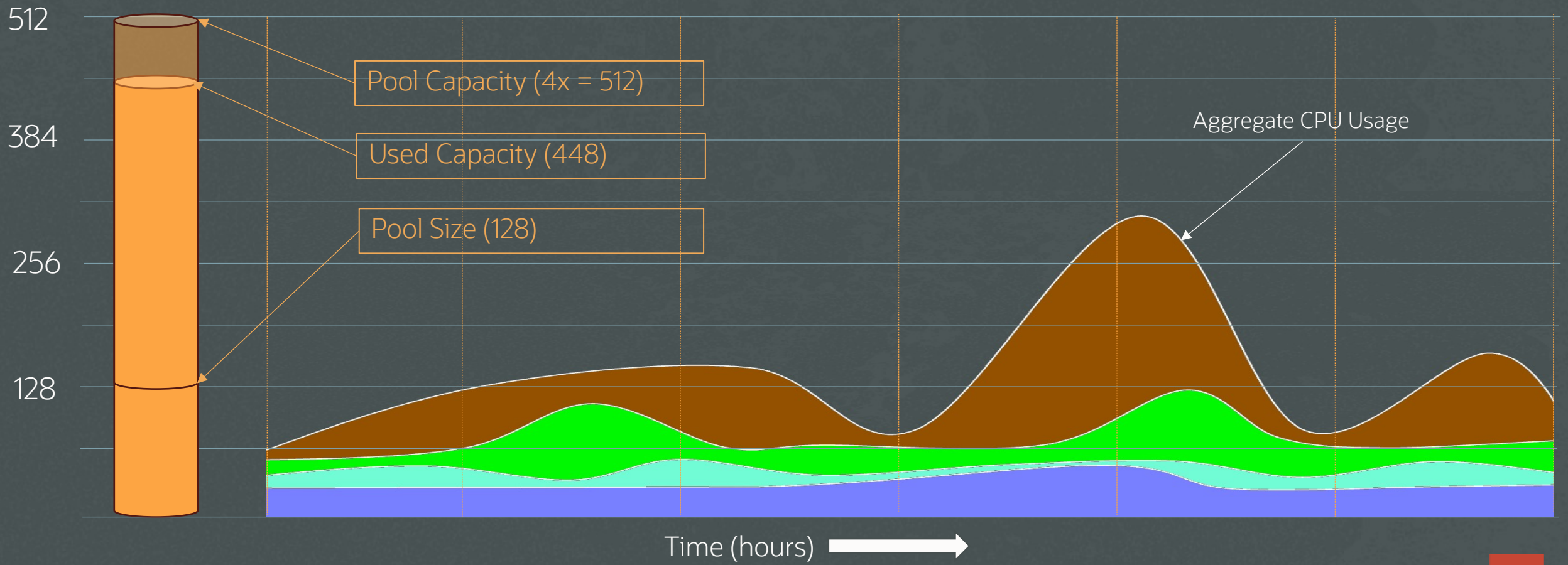
Pool Capacity

The pool capacity is the maximum number of ECPUs that an elastic pool can use, and is four times (x4) the pool size

Here's our group of databases with high mem/sessions

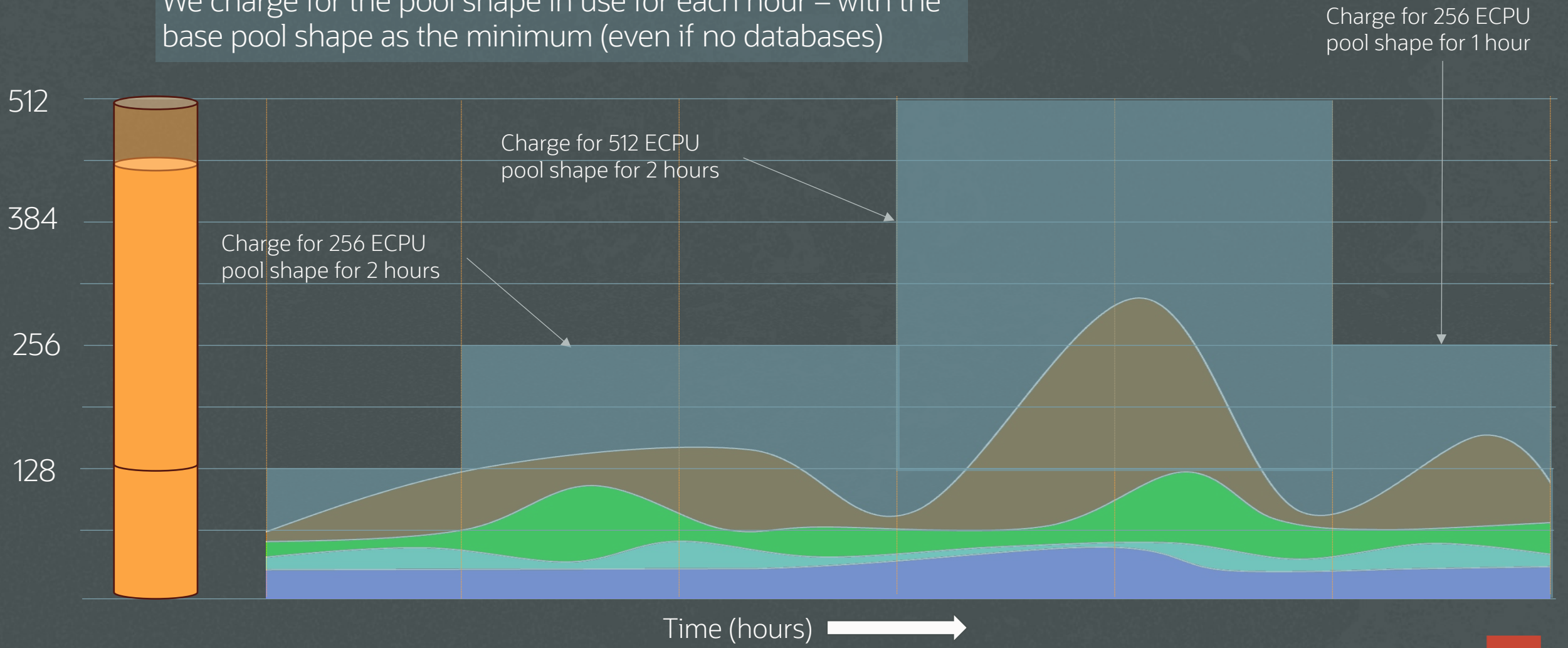


Let’s put them into an elastic pool of size 128 ECPU



Here's our group of databases – with Elastic Pools

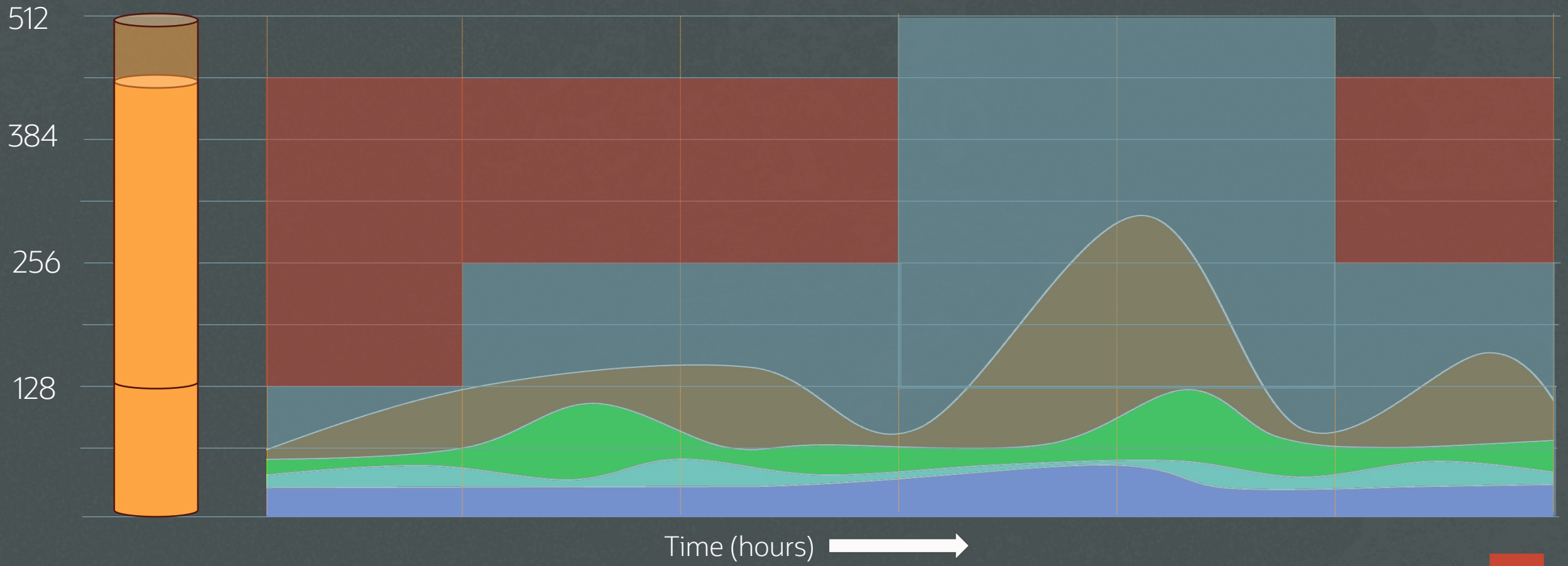
We charge for the pool shape in use for each hour – with the base pool shape as the minimum (even if no databases)



Here's our group of databases – with Elastic Pools

We charge for the pool shape in use for each hour – with the base pool shape as the minimum (even if no databases)

Elastic Pool Saving



Oracle Estate Explorer

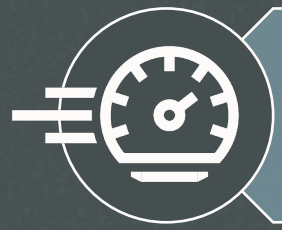
Where to find out more

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

Thanks

Links importantes para marcar

Links para você começar e se manter atualizado sobre tudo relacionado ao Autonomous Database

1 Nova página de introdução : oracle.com/autonomous-database/get-started/

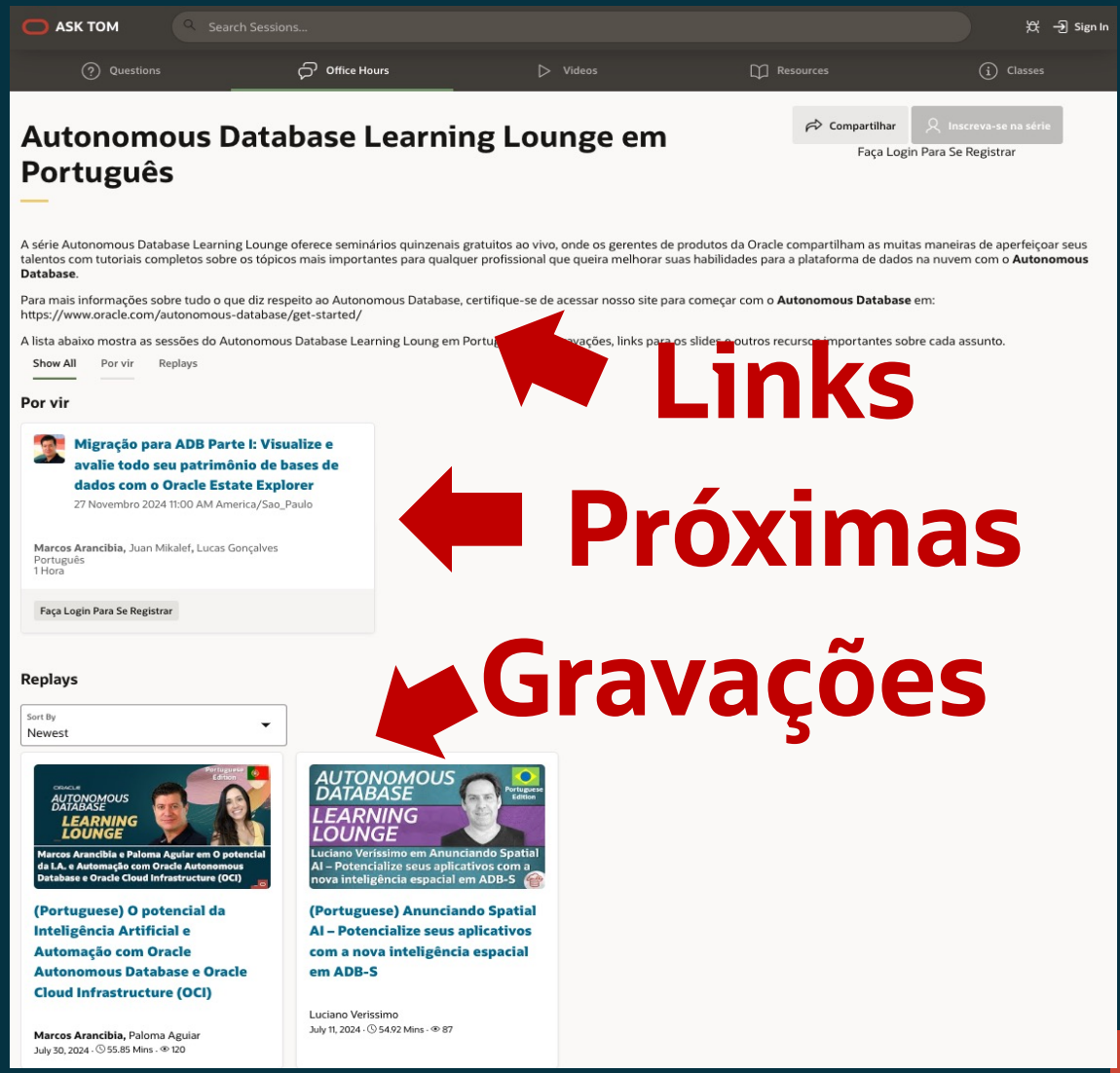
2 Junte-se a nós: LinkedIn bit.ly/adb-linkedin-grp @AutonomousDW

3 Tem alguma pergunta? Estamos no stackoverflow bit.ly/adb-stackoverflow

Junte-se a nós no Slack
procure #oracle-autonomous-database
bit.ly/odevrel_slack (odevrel_slack)

Reflexões finais

oracle.com/goto/adb-learning-lounge-pt



Links

Próximas

Gravações

AUTONOMOUS DATABASE

LEARNING LOUNGE

Em Português 

Obrigado por participar do seminário de hoje!!!

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