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ORACLE CLOUD INFRASTRUCTURE (OCI) PERFORMANCE COMPARISON AND AUTONOMOUS DATABASE

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SALES AND SOLUTION LEAD
ACCENTURE ENKITEC GROUP

October 2019, Konferencija HrOUG2019

24. hroug godišnja konferencija

Pasi Jaakkola

Accenture

Finland

- OUGF President since March 2015
- Accenture Sales and Solution Lead Accenture Enkitec Group
- www.ougf.fi, www.fsdc.fi
- What else?
  - Being a father for 3 sons and a princess and a husband for a lovely wife

@PasiJaakkola

Now Part of Accenture

WHAT IS ORACLE AUTONOMOUS DATABASE CLOUD

Compared to traditional database technology, an autonomous database cloud has greater availability greater security, and lower operating costs

Other industry terms for autonomous database are self-driving database, self-repairing and self-securing

- **Self-driving means that the database can automatically provision, or deploy databases; and monitor, back-up, recover, and troubleshoot those databases. It also means to instantly grow and shrink compute or storage without downtime.**
- **Self-securing refers to adaptive AI-enabled threat detection and remediation, along with automatic data encryption. A self-security database can also apply security patches automatically.**
- **Self-repairing databases are automatically protected from downtime. With up to 99.995 percent availability, a self-repairing database experiences less than 2.5 minutes of downtime per month, including planned maintenance.**

ORACLE AUTONOMOUS CLOUD

INNOVATION IN NEW IT

Why move to the Oracle Autonomous Cloud

01 **Ensure maximum uptime and performance of the database.** 99.995 percent uptime including maintenance, guaranteed.

02 **Reduce 90% of the labour cost.** Eliminate manual database management and human errors. No more manual routine tasks! Reduce the number of DBAs needed to manage its databases.

03 **Ensure maximum security of the database, including patches and fixes.** There is no On/Off button for security. Security in a cloud database locks out bad actors through multi-layered controls and best practices implementations.

04 **Fully automated.** Eliminate manual, error-prone management and tuning tasks with automation.

05 **Innovation.** Allow DBAs to apply their expertise to higher level functions and help the business save money by re-deploy them to a variety of tasks that are deemed more strategic.

06 **Machine Learning.** An autonomous database integrates monitoring, management, and analytics capabilities that leverage machine learning and artificial intelligence techniques.

WHAT DO WE SEE IN THE MARKET?

Most clients will move their Oracle databases and applications on top of those databases to the cloud in the next 2-5 years as a result of the following 3 key drivers:

REDUCING COST

Lowering total Cost of Ownership (TCO) by leveraging Cloud

- Lower license fees
- Optimized consumption of infrastructure through autonomous architectures
- Lower management and operation costs

RENEWING and TRANSFORMING

the Core Database Platform

- Oracle installed base as cloud entry-point
- Avoidance of extensive cloud provider comparisons

INNOVATING

faster in an agile way by leveraging the Autonomous Data Cloud Services and DevOps for a New Data Platform

REDUCING COST

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- Lower license fees
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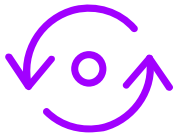


RENEWING and TRANSFORMING

the Core Database Platform

- Oracle installed base as cloud entry-point
- Avoidance of extensive cloud provider comparisons

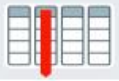
INNOVATING

faster in an agile way by leveraging the Autonomous Data Cloud Services and DevOps for a New Data Platform

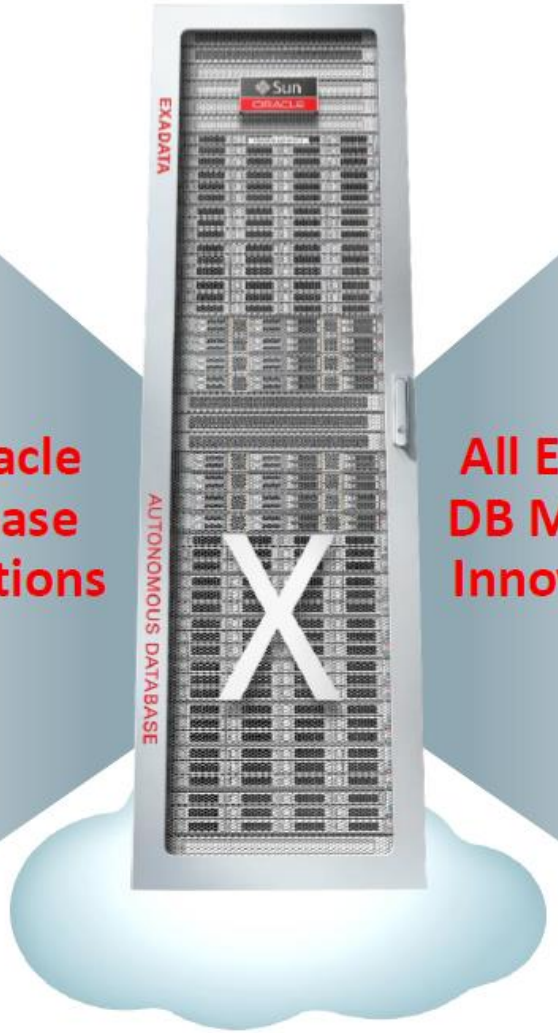
WHAT IS ORACLE RESPONSE TO DEMAND?

EXADATA INNOVATIONS

Exadata Cloud: Most Powerful Database + Platform

	Multitenant
	In-Memory DB
	Real Application Clusters
	Active Data Guard
	Partitioning
	Advanced Compression
	Advanced Security, Label Security, DB Vault
	Real Application Testing
	Advanced Analytics, Spatial and Graph
	Management Packs for Oracle Database

All Oracle Database Innovations



All Exadata DB Machine Innovations

Offload SQL to Storage	
InfiniBand Fabric	
Smart Flash Cache, Log	
Storage Indexes	
Columnar Flash Cache	
Hybrid Columnar Compression	
I/O Resource Management	
Network Resource Management	
In-Memory Fault Tolerance	
Exafusion Direct-to-Wire Protocol	

EXADATA INNOVATIONS

10 Years of Innovation. So Far Ahead there is no Second Place

- First and only smart scale-out storage
- First and only RDMA and InfiniBand for converged networking
- First and only OLTP Machine
- First ever enterprise platform to use NVMe Flash
- First and only In-Memory Performance in Storage
- First and only Mission Critical Cloud at Customer Platform
- Only Enterprise Storage to make the leap to Public Cloud
- Only Database Machine to make the leap to Public Cloud
- And now: Only Database Machine to run Autonomous Database

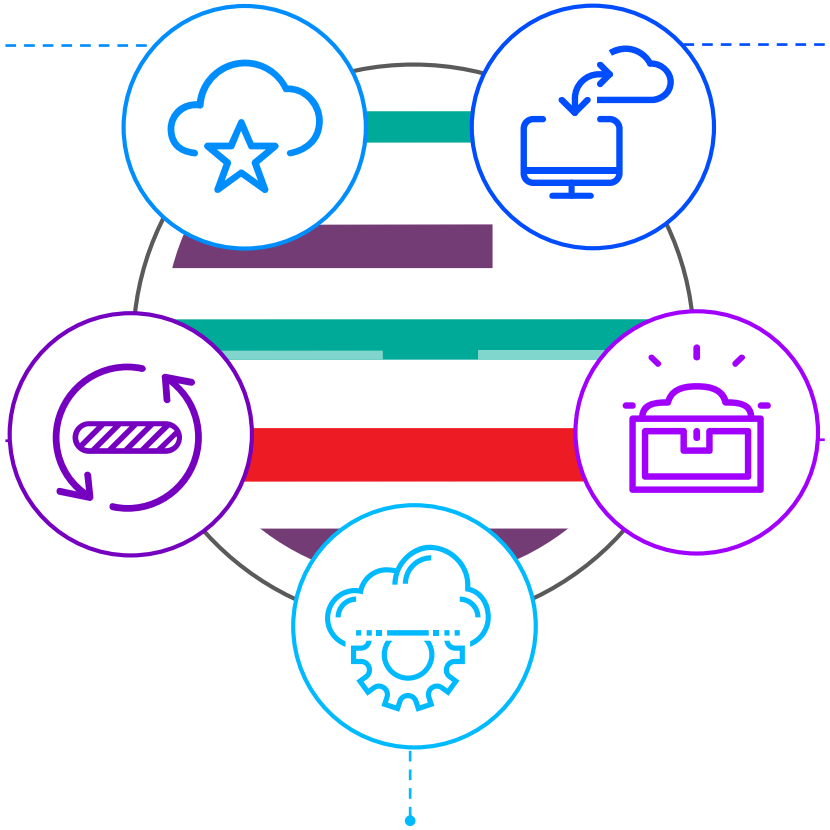
IS ORACLE REALLY FAST?

ACCENTURE TESTED ORACLE CLOUD 2016, 2017, 2018 AND 2019

ACCENTURE STUDY 2016 RESULTS

THE ENTERPRISE CLOUD IS HERE!
EXECUTIVE SUMMARY

Oracle's DBaaS solutions (DBCS and Exadata Cloud Service) have **standard tuning delivered out of the box**



Oracle's Compute Cloud showed **consistent high performance**

Exadata Cloud Service provides the same level of performance as that of the on-premises solution

The underlying storage solution for OPC appears to be a clear advantage.

Bare Metal Cloud provides a powerful, enterprise grade solution for performance hungry applications

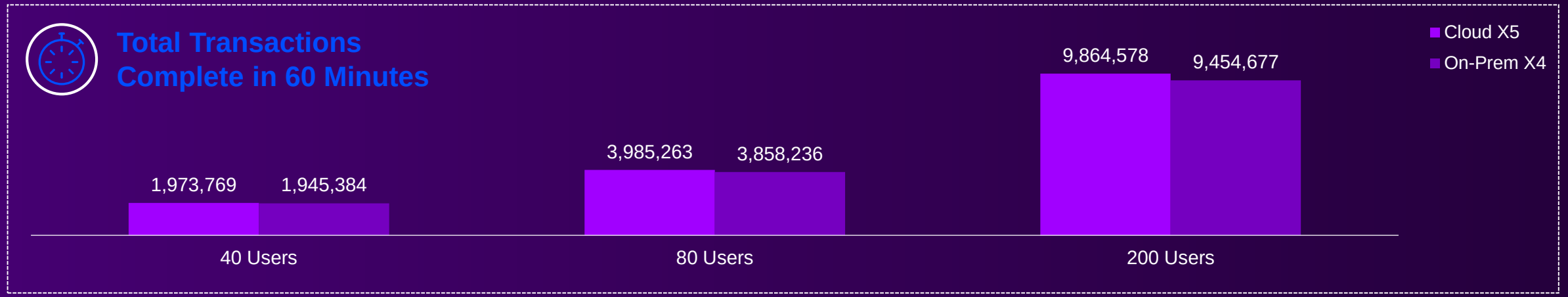
1. ORACLE'S CLOUD IS FAST (OCI-C)

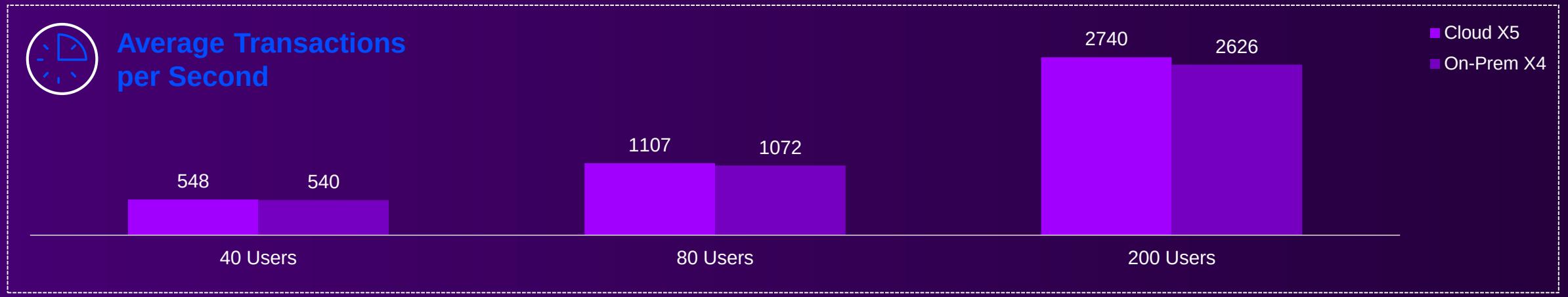
Oracle's Compute Cloud showed consistent high performance

When executing the 200 user test with the same basic database tuning across all instances, Oracle Cloud solutions completed as much as 3.4 times as many transactions during the 60 minute window

	IaaS		DBaaS	
	Oracle IaaS	Leading Cloud Provider	Oracle DBCS	Leading DBaaS Provider
vCPU	4	4	4	4
Memory	30GB	30GB	30GB	30GB
SGA	6GB	6GB	12GB AMM	12GB AMM
Disk Type	Latency Optimized	General Disk	Throughput Optimized	General Disk
Total Transactions	4,837,067.00	1,397,270.00	3,598,654.00	1,419,827.00
Transactions per Second	1,343.63	388.13	999.63	394.40
Avg Response Time (ms)	75.08	457.85	125.63	428.76

2. EXADATA IN THE CLOUD IS THE REAL DEAL





ACCENTURE ORACLE BUSINESS GROUP: 2017 ORACLE CLOUD WHITE PAPER

https://www.accenture.com/gb-en/accenture-oracle-business-group

Enterprise Workload Meets the Cloud

- Nearly half of the worlds data runs on Oracle databases
- 2.5 quintillion bytes of data being generated every day
- The performance and scalability of the database in the cloud is increasingly important
- This white paper builds on top of last years that showed Oracle's generic IaaS share was up to 8x faster for running an Oracle Database
- This focuses on Oracle Database, and associated applications and networking, in the cloud.
- Accenture was able to execute OLTP transactions up to **8 times faster,** compared to the other cloud provider.

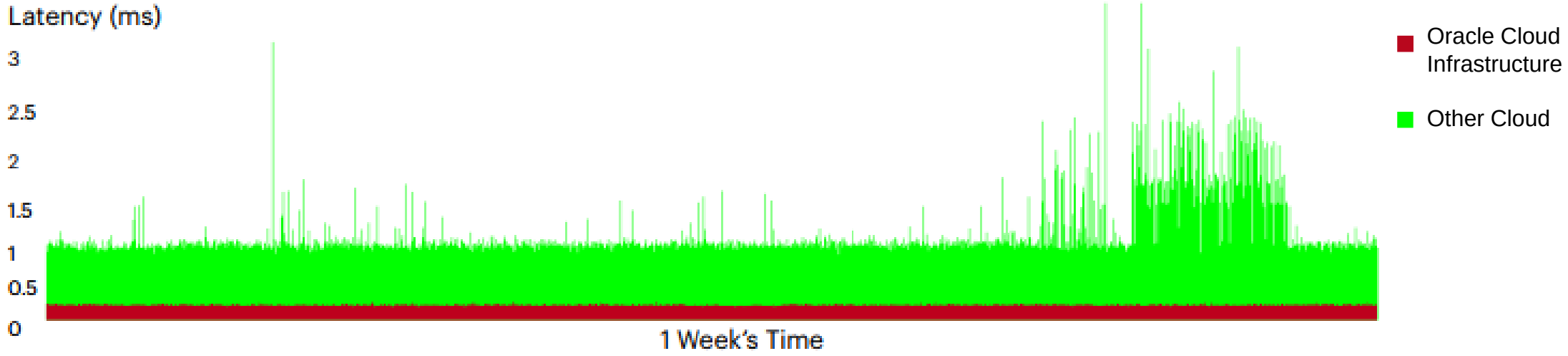
	Leading Cloud Provider	Oracle Cloud Infrastructure Classic	Oracle Cloud Infrastructure
vCPU	4	4	4
SGA	6GB	6GB	6GB
Disk Type	General Disk	Latency Optimized	NVMe Attached
Disk Size	612 GB	612 GB	612GB
Total Transactions	1,397,270	4,837,067	10,916,571
Transactions Per Second	383.13	1,343.63	3,032.38
Total List Price Per Month	$345.88	$200.00	$228.12

ACCENTURE ORACLE BUSINESS GROUP: 2017 ORACLE CLOUD WHITE PAPER

Enterprise Workload Meets the Cloud

- “The network is the computer.”
- Oracle Cloud Infrastructure provided much lower latency than the other cloud when connecting between zones or different data centres within a single region.

	Minimum	Average	Maximum
OCI	0.152ms	0.168ms	0.201ms
Other	0.722ms	0.962ms	8.779ms



THE DAWN OF THE INTELLIGENT ENTERPRISE

A team of Accenture's Oracle data specialists ran a performance test of the beta version of the **Autonomous Data Warehouse Cloud (ADWC)** on a real application, running real-world workloads.

Data was replicated on the Oracle Database Cloud Service and the ADWC to provide real-life application usage experience. The data was then extrapolated and expanded to nine years' worth of data to test the performance.

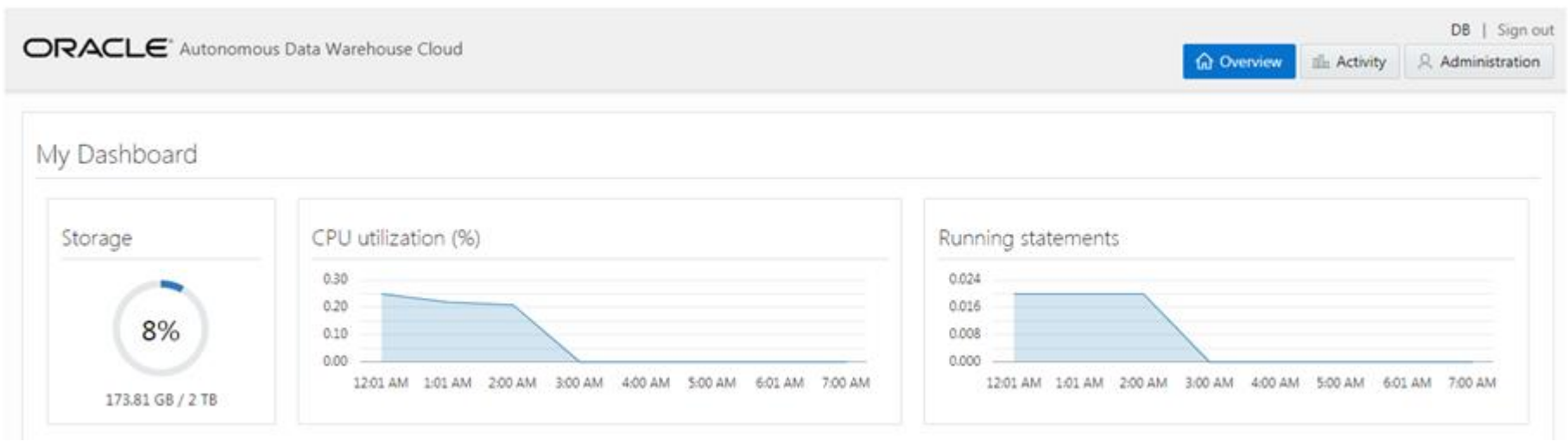
9 times performance improvement running Oracle workloads in the Oracle Cloud

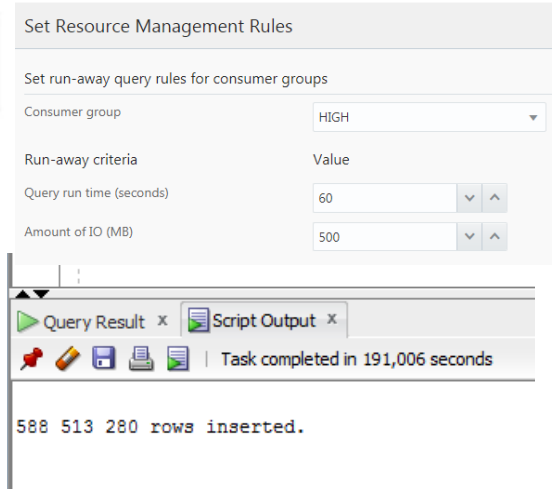
14 times performance acceleration running these workloads

500 million rows of data loaded in less than three minutes, an increase of 10 to 15 times

Stability and speed improved when 12 times more data added

ADDITIONAL OBSERVATIONS AND TESTING APPROACH OF ACCENTURE



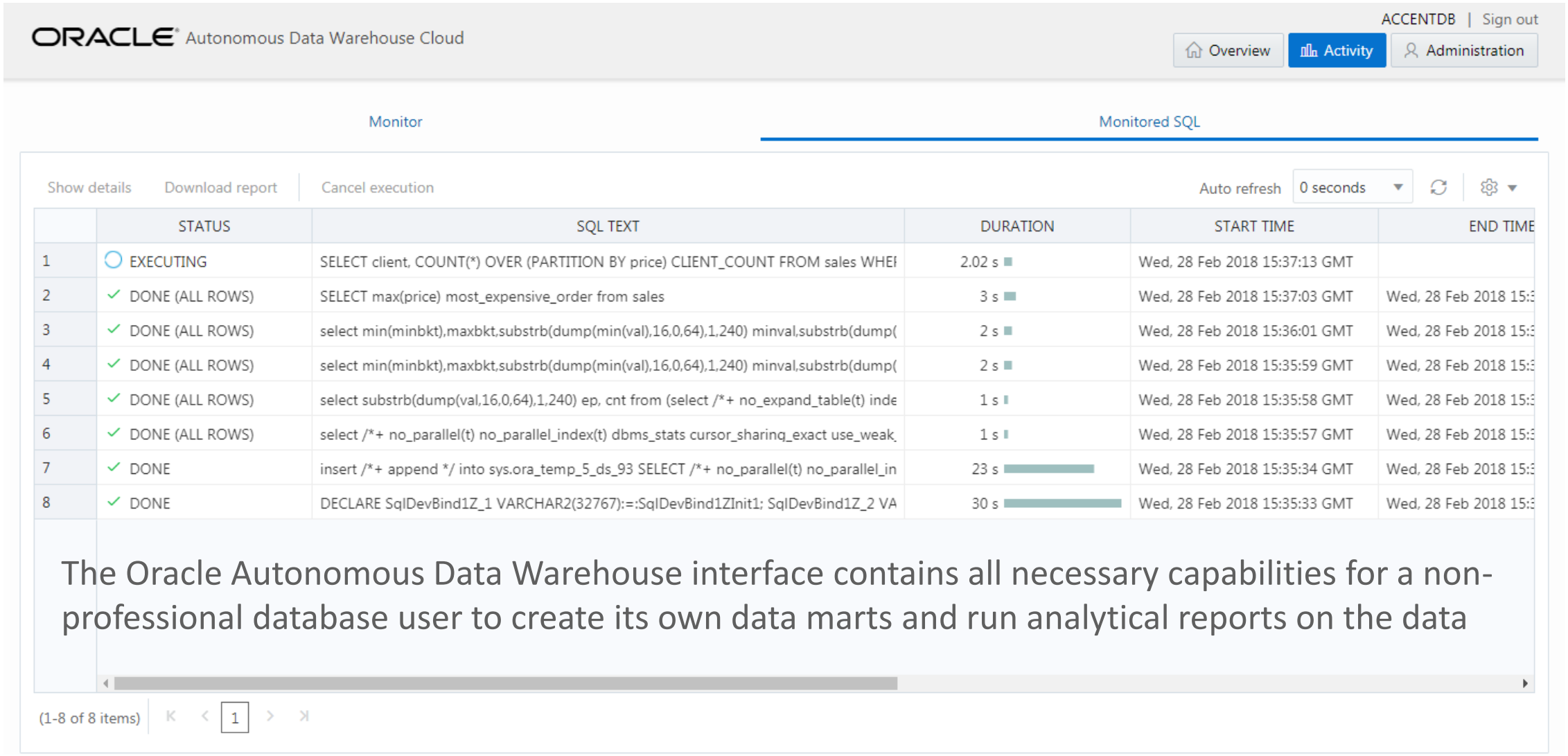


- The Oracle Autonomous Data Warehouse interface is simple and clear, inserting data takes less time than one can imagine and analytical reports run faster than in any other similar environment
- Had to perform some additional steps to connect to OACS [Oracle Analytics Cloud Service] but this is likely due to beta version of the connector
- Must be careful not to run OLTP transactions

Testing approach of Accenture:

- Utilizing an existing cloud based analytics application called PRETT running on OACS
- Data will be replicated in DBCS and ADWC to provide a real life application usage experience
- The data will then be extrapolated and expand based on that existing application to simulate ADWC functionality

ACCENTURE IS SIMPLY IMPRESSED WITH THE ORACLE AUTONOMOUS DATABASE



The Oracle Autonomous Data Warehouse interface contains all necessary capabilities for a non-professional database user to create its own data marts and run analytical reports on the data

ADVISOR RECOMMENDATIONS WITH THE ORACLE AUTONOMOUS DATABASE

Query Result

SQL | All Rows Fetched: 25 in 0,069 seconds

	OWNER	REC_ID	TASK_ID	TASK_NAME	EXECUTION_NAME	FINDING_ID	TYPE	RANK	PARENT_REC_IDS	BENEFIT_TYPE
1	SYS	21	3	AUTO_STATS_ADVISOR_TASK	EXEC_15	21	(null)	0	(null)	Enable maintenance windows using DBMS_SCHEDULER PL/SQL package or through Oracle Enterprise Manager.
2	SYS	22	3	AUTO_STATS_ADVISOR_TASK	EXEC_15	22	(null)	0	(null)	Set the CONCURRENT preference.
3	SYS	23	3	AUTO_STATS_ADVISOR_TASK	EXEC_15	23	(null)	0	(null)	Set the value of preference GRANULARITY to 'AUTO'.
4	SYS	24	3	AUTO_STATS_ADVISOR_TASK	EXEC_15	24	(null)	0	(null)	Set the value of preference NO_INVALIDATE to 'DBMS_STATS.AUTO_INVALIDATE'.
5	SYS	25	3	AUTO_STATS_ADVISOR_TASK	EXEC_15	25	(null)	0	(null)	Set the value of preference METHOD_OPT to 'FOR ALL COLUMNS SIZE AUTO'.
6	SYS	5	3	AUTO_STATS_ADVISOR_TASK	EXEC_2	5	(null)	0	(null)	Enable maintenance windows using DBMS_SCHEDULER PL/SQL package or through Oracle Enterprise Manager.
7	SYS	6	3	AUTO_STATS_ADVISOR_TASK	EXEC_2	6	(null)	0	(null)	Set the CONCURRENT preference.
8	SYS	7	3	AUTO_STATS_ADVISOR_TASK	EXEC_2	7	(null)	0	(null)	Set the value of preference NO_INVALIDATE to 'DBMS_STATS.AUTO_INVALIDATE'.
9	SYS	8	3	AUTO_STATS_ADVISOR_TASK	EXEC_2	8	(null)	0	(null)	Set the value of preference METHOD_OPT to 'FOR ALL COLUMNS SIZE AUTO'.
10	SYS	13	3	AUTO_STATS_ADVISOR_TASK	EXEC_4	13	(null)	0	(null)	Enable maintenance windows using DBMS_SCHEDULER PL/SQL package or through Oracle Enterprise Manager.
11	SYS	14	3	AUTO_STATS_ADVISOR_TASK	EXEC_4	14	(null)	0	(null)	Set the CONCURRENT preference.
12	SYS	15	3	AUTO_STATS_ADVISOR_TASK	EXEC_4	15	(null)	0	(null)	Set the value of preference NO_INVALIDATE to 'DBMS_STATS.AUTO_INVALIDATE'.
13	SYS	16	3	AUTO_STATS_ADVISOR_TASK	EXEC_4	16	(null)	0	(null)	Set the value of preference METHOD_OPT to 'FOR ALL COLUMNS SIZE AUTO'.
14	SYS	1	3	AUTO_STATS_ADVISOR_TASK	EXEC_1	1	(null)	0	(null)	Enable maintenance windows using DBMS_SCHEDULER PL/SQL package or through Oracle Enterprise Manager.
15	SYS	2	3	AUTO_STATS_ADVISOR_TASK	EXEC_1	2	(null)	0	(null)	Set the CONCURRENT preference.

STATUS	SQL TEXT	DURATION	START TIME
EXECUTING	select * from V$DIAG_OPT_TRACE_RECORDS	12.53 min	Sat, 22 Sep 2018 12:59:20 GMT

DBAs have access to DBA_ADVISOR_RECOMMENDATIONS, DBA_SCHEDULER_JOBS, V$DIAG_OPT_TRACE_RECORDS, V$DIAG_SQL_TRACE_RECORDS

There is no access to AWR views, DBA_AUTOTASK_JOB_HISTORY and no SQL Trace

FEATURE COMPARISON

DATABASE PROVISIONING

MANUAL INSTALL*

4 HOURS

DBCS

1 HOUR

ADWC

SECONDS

SCALE UP / DOWN HARDWARE

PHYSICAL HARDWARE

Not possible as the hardware is not elastic

DBCS

30 MINUTES

Database is down while scaling is happening

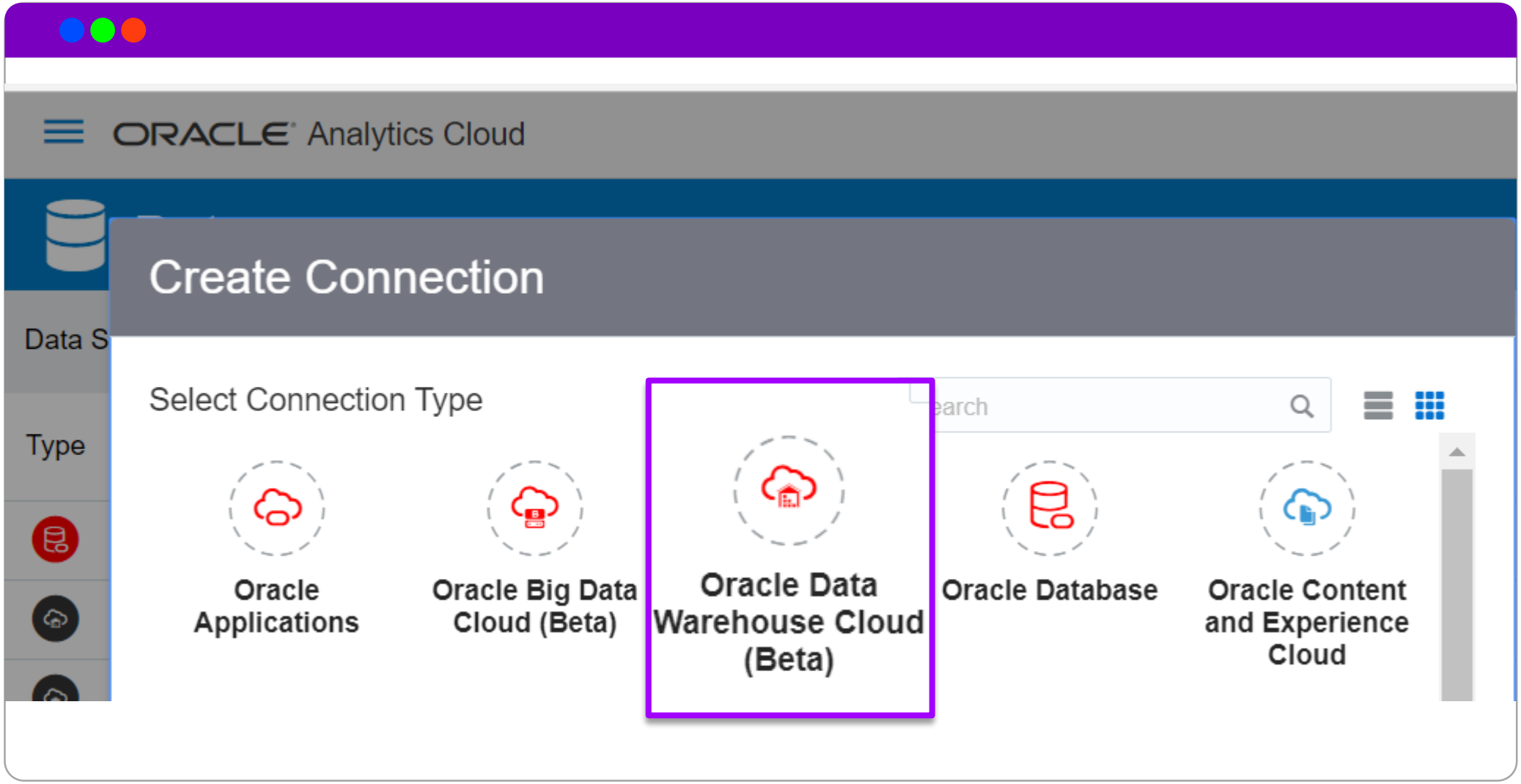
ADWC

SECONDS

Database remains active while scaling is happening

*assume hardware is already procured

COMES WITH PRE-BUILT CONNECTOR TO THE DATA WAREHOUSE CLOUD



TESTING APPROACH

Utilizing an existing cloud based analytics application called PRETT [Platform Resource Enablement Tracking Tool] running on OACS [Oracle Analytics Cloud Service]. Data will be replicated in DBCS and ADWC to provide a real life application usage experience

The data will then be extrapolated and expand based on that existing application to simulate ADWC functionality.

SPRINT 1
BASELINE

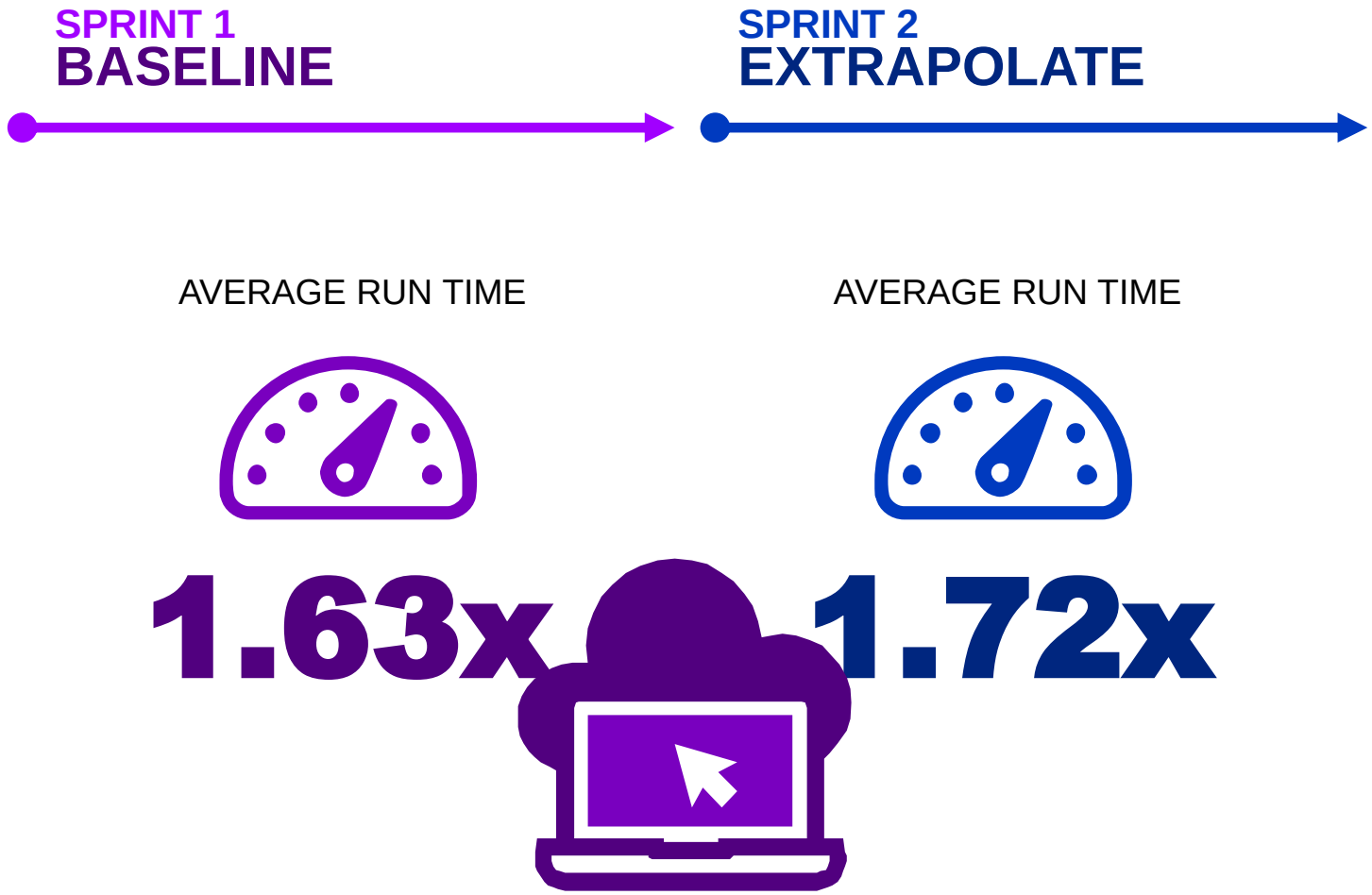
- Compare like to like data volume in OACS[DBCS] to OACS[ADWC]
- 3 Month Data volume
- Run and compare performance in OACS[ADWC] and compare with baseline OACS[DBCS] information

SPRINT 2
EXTRAPOLATE

- Create 9 years of data on ADWC based on the 3 month live data to then compare performance on high volume data.

TESTING RESULTS

ADWC IS CONSISTENTLY PERFORMING FASTER



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DESTINATION: AUTONOMOUS

ORACLE DATABASE PERFORMANCE IS COST-EFFECTIVE AND HIGH-POWERED

Table 1

	Other Cloud		OCI Servers		ADW	
Storage Type	**Standard Disk**	**SSD**	**Block Storage**	**NVME SSD**	**Exadata Storage**	**Exadata Storage**
Storage Size	1 TB	1 TB	1 TB	6.4 TB	1 TB	1 TB
CPUs	16 vCPU	16 vCPU	8 OCPU	8 OCPU	8 OCPU	2 OCPU
Memory	128 GB	128 GB	120 GB	120 GB	N/A	N/A

Table 2

	Other Cloud		OCI Servers		ADW	
	Standard Disk	**SSD**	**Block Storage**	**NVME SSD**	**Exadata Storage (8 OCPU)**	**Exadata Storage (2 OCPU)**
Queries/Hour	-	65	52	1,264	11,975	2,453

Table 3

		Other Cloud		OCI Servers		ADW	
Storage Type		**Standard Disk**	**SSD**	**Block Storage**	**NVME SSD**	**Exadata Storage**	**Exadata Storage**
Storage Size		1 TB	1 TB	1 TB	6.4 TB	1 TB	1 TB
CPUs		16 vCPU	16 vCPU	8 OCPU	8 OCPU	8 OCPU	2 OCPU
Memory		128 GB	128 GB	120 GB	120 GB	N/A	N/A
Commitment Term		36 Months	36 Months	None	None	36 Months	None
3 Yr DB Cost		$830,000.00	$830,000.00	$415,000.00	$415,000.00	-	-
Monthly Cost	**Infrastructure**	$390.64	$446.96	$232.37	$744.60	$8,465.82	$3,901.49
	Amortized DB Cost	$23,055.56	$23,055.56	$11,527.78	$11,527.78	-	-
	Amortized Total	$23,446.20	$23,502.52	$11,760.15	$12,272.38	$8,465.82	$3,901.49

Table 4

		Other Cloud		OCI Servers		ADW	
Storage Type		Standard Disk	SSD	Block Storage	NVME SSD	Exadata Storage	Exadata Storage
Storage Size		1 TB	1 TB	1 TB	6.4 TB	1 TB	1 TB
CPUs		16 vCPU	16 vCPU	8 OCPU	8 OCPU	8 OCPU	2 OCPU
Memory		128 GB	128 GB	120 GB	120 GB	N/A	N/A
Commitment Term		36 Months	36 Months	None	None	36 Months	None
3 Yr DB Cost		$330,000.00	$330,000.00	$165,000.00	$165,000.00	-	-
Monthly Cost	Infrastructure	$390.64	$446.96	$232.37	$744.60	$8,465.82	$3,901.49
	Amortized DB Cost	$9,166.67	$9,166.67	$4,583.33	$4,583.33	-	-
	Amortized Total	$9,557.31	$9,613.63	$4,815.70	$5,327.93	$8,465.82	$3,901.49

Table 5

	Other Cloud		OCI Servers		ADW	
Storage Type	Standard Disk	SSD	Block Storage	NVME SSD	Exadata Storage (8 OCPU)	Exadata Storage (2 OCPU)
With Database Purchase						
Amortized Monthly Cost	$23,446.20	$23,502.52	$11,760.15	$12,272.38	$8,465.82	$3,901.49
Queries/ Hour	-	65	52	1,264	11,975	2,453
Cost/ Hour	$32.12	$32.20	$16.11	$16.81	$11.60	$5.34
Cost/ Query	N/A	$0.4953	$0.3098	$0.0133	$0.0010	$0.0022
Without Database Purchase						
Amortized Monthly Cost	$9,557.31	$9,613.63	$4,815.70	$5,327.93	$8,465.82	$3,901.49
Queries/ hour	-	65	52	1,264	11,975	2,453
Cost/ Hour	$13.09	$13.17	$6.60	$7.30	$11.60	$5.34
Cost/ Query	N/A	$0.2026	$0.1269	$0.0058	$0.0010	$0.0022

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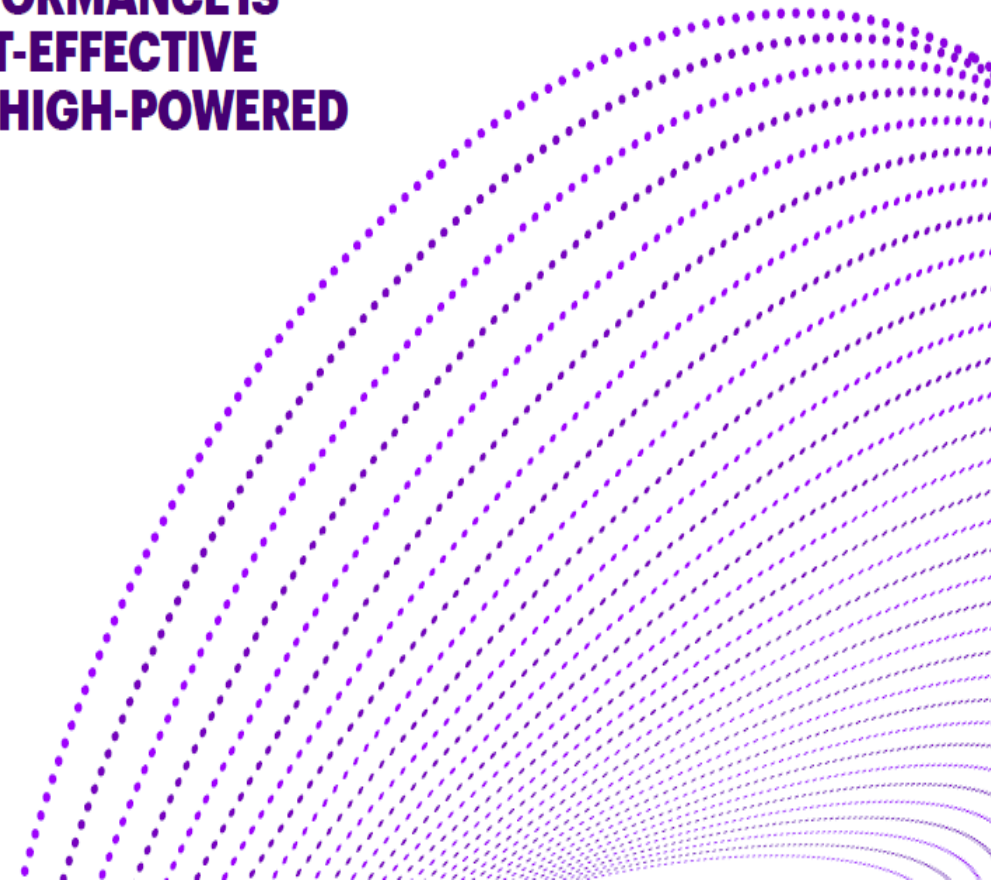
DESTINATION: AUTONOMOUS

ORACLE DATABASE PERFORMANCE IS COST-EFFECTIVE AND HIGH-POWERED



IS ORACLE REALLY FAST?

OK, IT'S *FAST* AND CHEAP BUT WHAT ELSE?

https://sqlmaria.com/

Autonomous Data Warehouse (ADW)

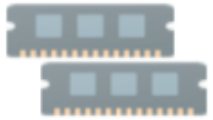
Best for all Analytic Workloads:
- Data Warehouse, Data Mart
- Data Lake, Machine Learning

Autonomous Transaction Processing (ATP)

Best for TP and Mixed Workloads:
- Transactions, Batch, Reporting, IoT
- Application Dev, Machine Learning

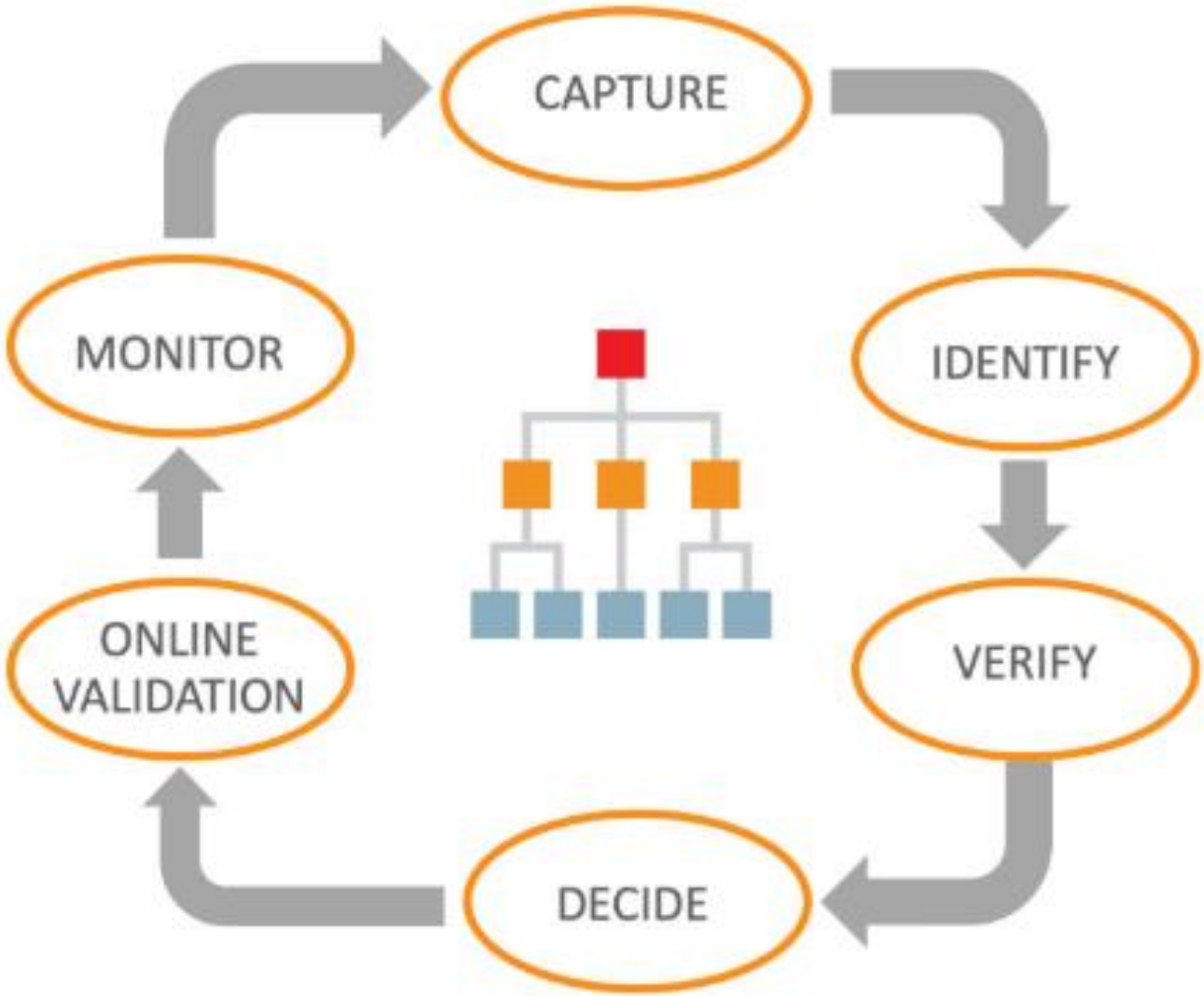
	ADW	ATP
Primary Goal	Fast Complex Analytics	Fast Transaction Processing
Data Formats	Columnar	Row
Data Access Acceleration	Creates Data Summaries	RDMA for messaging and IO
Memory Usage	Parallel Joins and Aggregations	Data Caching to Avoid IO
Statistics	Automatically manages optimizer statistics as data changes	

Autonomous Optimizations - Specialized by Workload

	ADW	ATP
	Columnar Format	Row Format
	Automatically Compressed	No Compression by Default
	Creates Data Summaries	Creates Indexes*
	Memory Speeds Joins, Aggs	Memory for Caching to Avoid IO
	Statistics updated in real-time while preventing plan regressions	

* Coming Soon in Oracle Database 19c

Automatic Indexing in Oracle DB 19c



https://juliandontcheff.wordpress.com/2019/04/23/what-else-besides-automatic-indexing-is-new-in-oracle-database-19c/

https://blogs.oracle.com/oracle-database/oracle-database-19c-now-available-on-oracle-exadata

Four Areas of Self-Securing of Autonomous Databases

Oracle encrypt customer data everywhere: in motion, at rest, and in backups. The encryption keys are managed automatically, without requiring any customer intervention. And e

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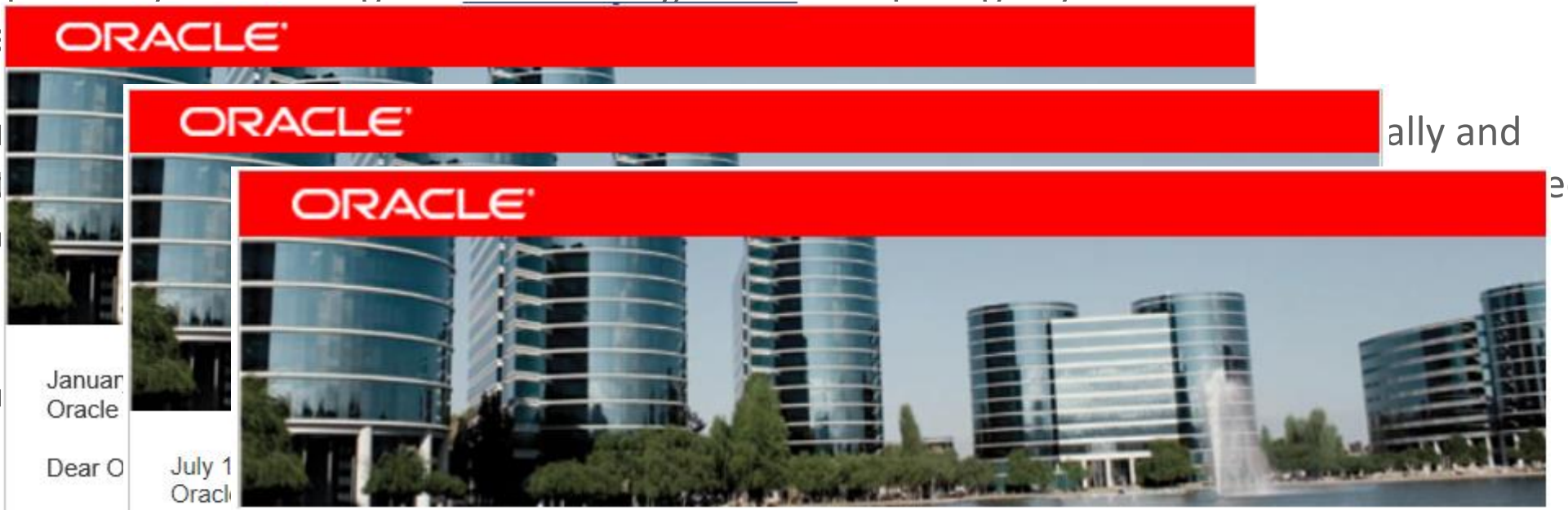
Self-s Securi pat window of v clusterware, and d



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Oracle

Dear O

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Dear

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October 15, 2019
Oracle Critical Patch Update for October 2019

Dear Oracle Customer,

The Critical Patch Update for October 2019 was released on October 15th, 2019.
Oracle strongly recommends applying the patches as soon as possible.

Four Areas of Self-Automation of Autonomous Databases

Automatic provisioning: pluggable databases
Automatic scaling: PDB resource manager

Automatic tuning: SQL Plan Management, Adaptive Plans, SQL Tuning Advisor – Automatic SQL Tuning, Storage Indexes, Automatic Storage Management, Automatic detection and correction of regressions due to plan changes, Automatically tune memory, process, sessions

Automatic Fault Tolerant Failover: RAC and Data Guard
Automatically kill run-away transactions and SQL
Automatically kill inactive session

Automatic Backup and Recovery: RMAN, Flashback

Seven Areas of Self-Repairing of Autonomous Databases

Outage	Key Feature	Potential Downtime
Server Outage (HA)	**RAC**	Near-Zero
Regional Outage, Disaster Recovery	**ADG**	Seconds
Data Corruption	**ADG**	Zero
Patches (Updates)	**RAC**	Near-Zero
Database Upgrade	**ADG**	Seconds
Table/Index Changes	**Redef**	Zero
User Error	**Flashback**	Time Since Error

WHAT IS STOPPING YOU START?

https://valuenavigator.oracle.com/

ORACLE

VALUE NAVIGATOR

Value Navigator is a set of value selling tools available to help you understand and position the value of Oracle's Solutions with our prospects.

Value Navigator is made up of Four Main areas of Tools to help you at different stages in Sales Cycle.

Account & Opportunity Research

Identify key business benefits driven by each Oracle Product , Learn in Detail about your account by generating a snapshot including detailed financial data, peer comparison , industry trends, projected spend.

Click Here →

*Oracle Internal - Need Oracle Network (VPN/Office), Oracle SSO.

Pipeline Development Tools

Series of customer facing interactive tools allowing users to easily calculate and modify benefits and instantly create customized reports for prospects.

Click Here →

*Oracle External - Need Oracle SSO.

Business Case Development Tools

Develop a compelling ROI/TCO based business case for Oracle Application Software, Systems (i.e. Engineered Systems as well as traditional Servers, Storage and Network), Tech Software and Oracle Public Cloud. It provides structured discovery process, and detailed PowerPoint and Excel outputs.

Click Here →

*Oracle Internal - Need Oracle Network (VPN/Office), Oracle SSO.

Customer Success

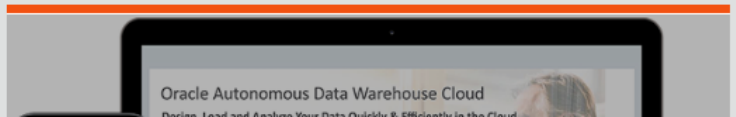
Designed for Customer Success Managers and Sales Reps to easily see and learn more about business KPIs associated with business processes and Oracle SaaS solutions

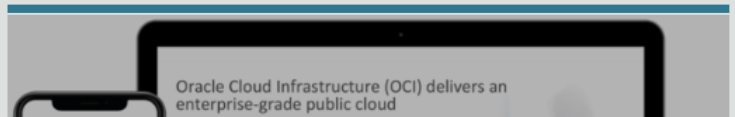
Click Here →

*Oracle External - Need Oracle SSO.

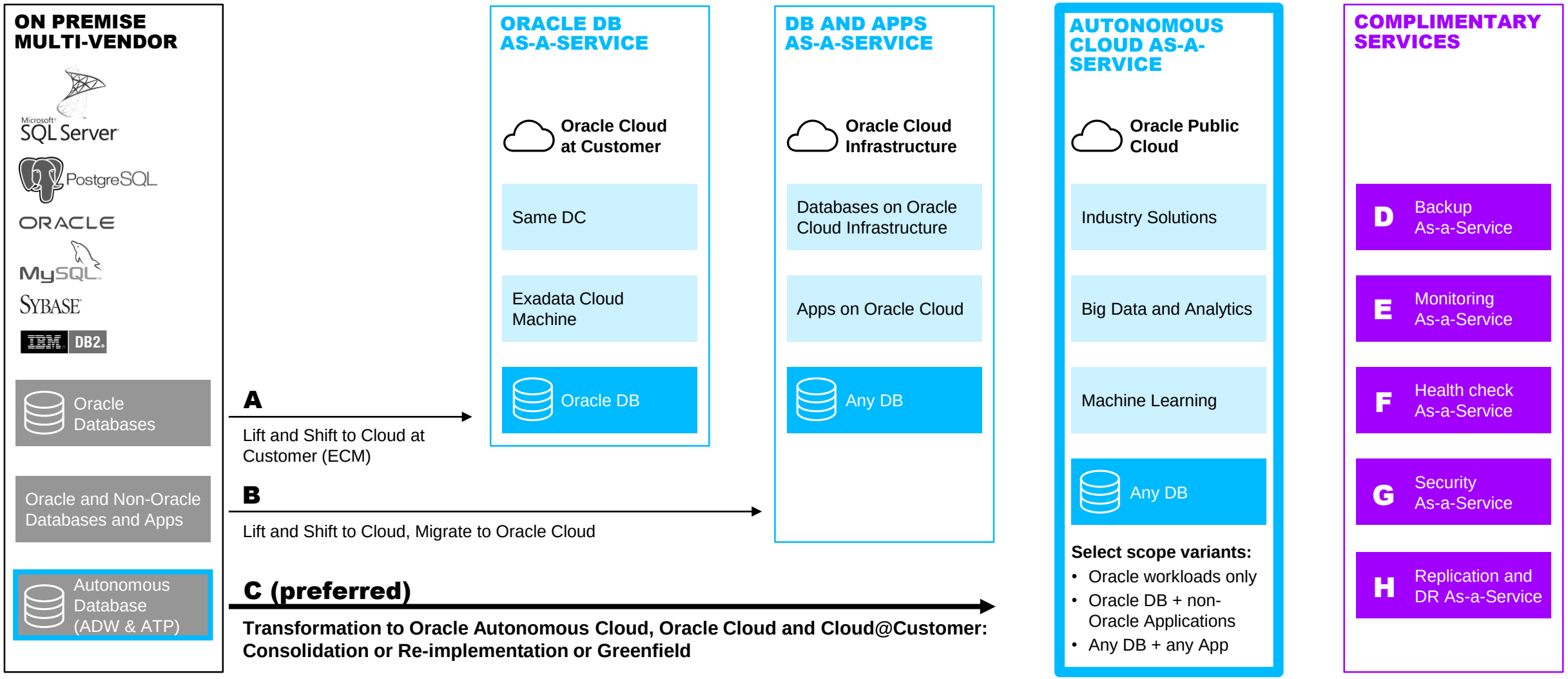
SpotLight

Benefit / TCO Calculator





WHAT IS YOUR DATABASE ROADMAP?



MOVING WORKLOADS TO THE ORACLE AUTONOMOUS CLOUD WITH ACCENTURE

Include Autonomous in our Oracle Proposals

VALUE DRIVERS	ACCENTURE DIFFERENTIATORS	IDENTIFY OPPORTUNITY
Reduced Total Cost of Ownership (TCO) Up to 90% reduction	Accenture Migration Factory (AMF) with 9,000 lift and shift professionals Ssuccess-based fees Access up to 8,000 code remediation experts	Datacenter Consolidation or Exit, Journey to Cloud, ULA, Application and Infrastructure Contract Renewals
Renew and **Transform** the Core Database Platform	Accenture Enkitec Group with 120 deep data experts Database Health-Check and Sizing Tools OCI Cloud Migration Toolkit	Digital and/or Autonomous Transformation, Oracle Database Cloud Consolidations, Database Upgrades and Migrations, M&A, DR in the Cloud
Innovate faster by leveraging the Autonomous Data Cloud Services for a New Data Platform	Liquid Studio and Innovation Center for Oracle Enkitec Cloud Workbench Accenture Autonomous Services	Enable New Digital Capabilities, Performance Issues, New EDW, DW renewal, Business Data Lake Consolidation

World's First "Self-Driving" Database

Oracle Autonomous Database

No Human Labor – Half the Cost
No Human Error – 100x More Reliable

SO LET'S GET GOING!

Listen for these cues on Autonomous

Database Migration/ Consolidation

Oracle ULA renewal

Oracle infrastructure is end-of-life, on refresh cycle

Compelling event (Oracle Greenfield/ Brownfield implementation)

New EDW/DW/Data Lakes

Complaints around how long it takes to provision environments

Evaluating new Oracle/ Autonomous Capabilities

Client mentions looking into Cloud options

HTTPS://FSDC.FI/