



Architecting your success

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Hybrid Oracle Enterprise Cloud Architecture

Your roadmap to the enterprise cloud success



Cintra enterprise hybrid cloud expertise

Driving World Class Oracle Cloud Architecture Solutions, Services and Support

Oracle Architecture Expertise



Oracle Cloud Architecture Solutions



Expert 24x7 Oracle Cloud Support



Oracle Cloud Commercial Expertise



- Oracle Architecture assessments and designs driving modern cloud solutions
- Oracle Architecture services driving the Oracle on Oracle cloud solutions
- Oracle Cloud roadmaps, designs, implementation and cloud managed services
- Oracle Cloud commercial Licensing expertise driving greater value

We are trusted by our clients globally



Established in 1996, 20 year track record
Strategic Oracle partner recognized by Oracle as experts
Major industry brands in partnership with Cintra

Our mission : helping customers get on with business



BEST USER EXPERIENCE



COMPLETE DATA PROTECTION



ASSURED SERVICE LEVELS



GREATEST AGILITY



LOWEST OPERATIONAL RISK



OPTIMAL COST EFFICIENCY



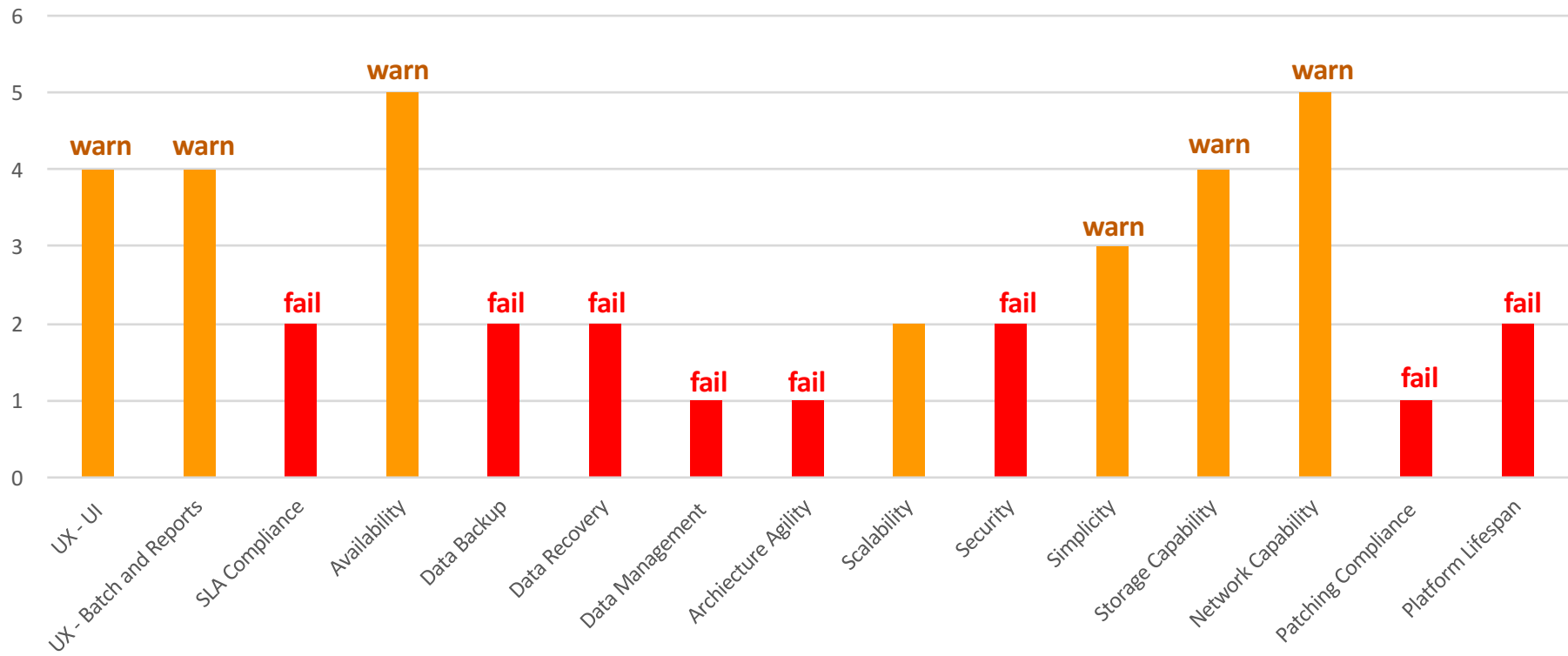
BLUEPRINT - BEST PRACTICES



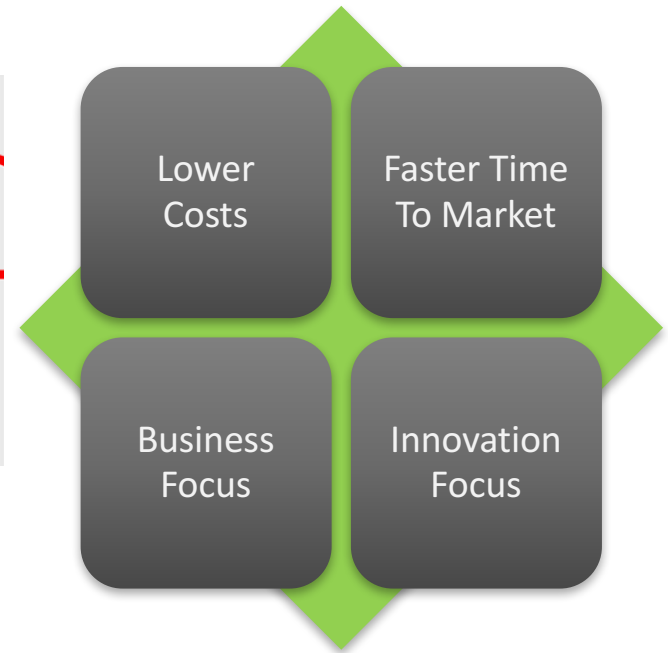
CLOUD READY

Architecture assessments are providing clarity to CIOs

Current Oracle legacy architecture scorecard



At OOW 2015, We Described The Cloud Journey



Building an optimal platform that will allow us to modernize and adopt a Cloud model

What has changed since then?



Far greater adoption of Private and Hybrid cloud models



Oracle Cloud adds key new capabilities



Microsoft expires Oracle ULA for Azure customers



New player Digital Ocean holds same market share as Google IaaS



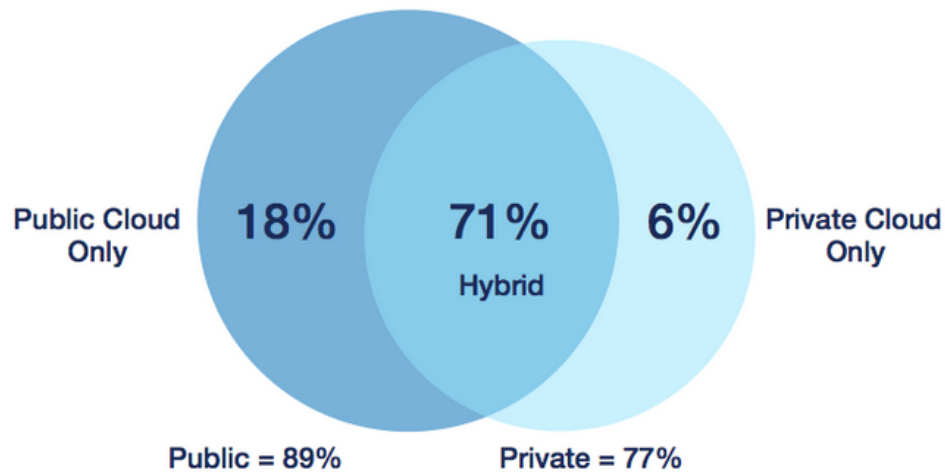
Emergence of Cloud Service Brokers, often supporting multiple clouds



Oracle has the capability to move your VMs to the cloud – with no change necessary

Cloud Adoption: The Real Figures

95% of Respondents Are Using Cloud



Source: RightScale 2016 State of the Cloud Report

Interesting figures from 2016:

- Private Cloud adoption grew from 63% to **77%**, driving Hybrid Cloud adoption
- Cloud users leverage on average **6** cloud providers
- **17%** of enterprises have > 1,000 VMs in the public cloud (up from 13%)
- Security is no longer the top challenge with Cloud adoption (**resource / expertise** is)
- Cloud **cost management** presents significant scope for optimization, but few companies do so
- DevOps adoption increases to **74%**, and **81%** in enterprises

Cintra's Customers: Public Cloud Focus Areas in 2016

Primary Public Cloud use cases across Cintra's customer base:

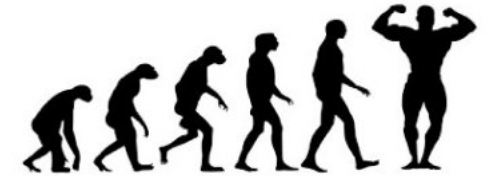


Cloud Architecture Strategies: Getting Your House In Order



How Evolved is our Database Architecture ?

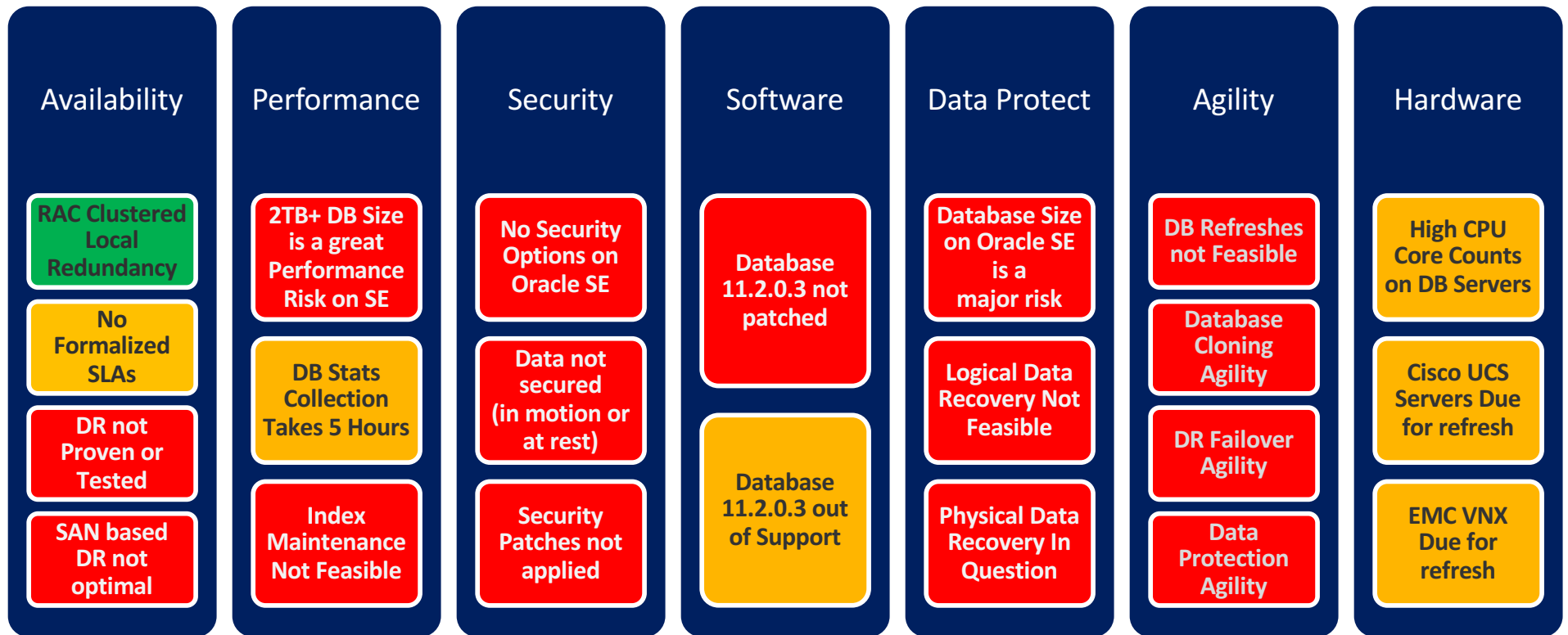
We perform honest assessments of legacy architectures



Architecture	Legacy	Modern	ORACLE								OPTIMIZE
	Capability	Capability	HA	CONSOLIDATE	APPLIANCE	VERSIONS	MANAGE	REPORT	SECURE	CLONE	LICENSE
User Experience	4	8			✓	✓	✓	✓			
Job Performance	4	9			✓	✓	✓	✓			
Availability	4	9	✓	✓	✓	✓	✓	✓	✓	✓	
Data Protection	2	8	✓	✓	✓	✓	✓	✓	✓	✓	
Time to Recover	4	8	✓	✓	✓	✓	✓	✓	✓	✓	
Agility	2	9		✓	✓	✓	✓	✓		✓	✓
Scalability	3	7	✓	✓	✓	✓	✓	✓			✓
Security	2	8		✓		✓			✓		
Simplicity	4	8	✓	✓	✓	✓		✓		✓	
Data Management	1	6			✓	✓	✓	✓	✓		
Productivity	3	7	✓	✓	✓	✓	✓	✓		✓	
SW Compliance	3	8	✓	✓	✓	✓					✓
Business Value	3	8	✓	✓	✓	✓	✓	✓	✓	✓	✓

Does our current architecture fill us with confidence to meet our future business requirements?

Today's legacy architecture challenges



The Demands on Modern IT are addressed by Cloud

IT Development, Operations And Line of Business Want ...



Developers Agility & Quality

- Latest Technology
- Instant Access
- Better Code
- Frequent Releases
- Build Once Deploy Anywhere



IT Operations Performance & Costs

- Faster Response
- Higher QoS
- Lower Risk
- Lower Costs
- Do More with Less



Line of Business Innovation & Speed

- New Markets
- New Products
- Richer Insights
- Ubiquitous Access
- Ease of Use

Private Cloud Architecture Strategies: Considerations for Private Cloud Design

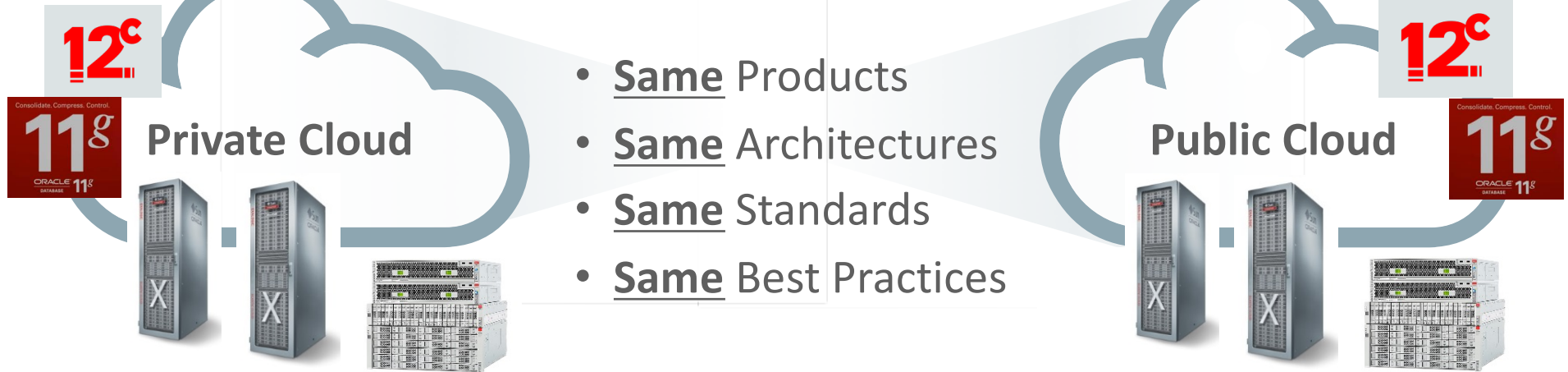


Optimal Cloud Strategy – Public Cloud and Private Cloud

HYBRID ENTERPRISE CLOUD

YOUR CLOUD

ORACLE CLOUD



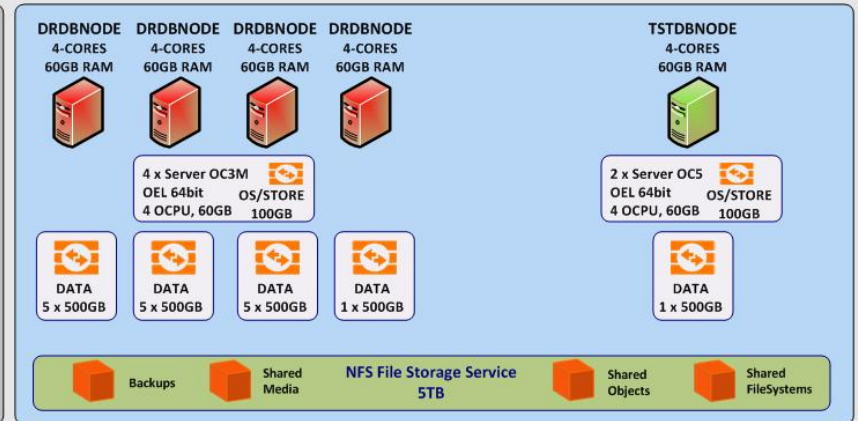
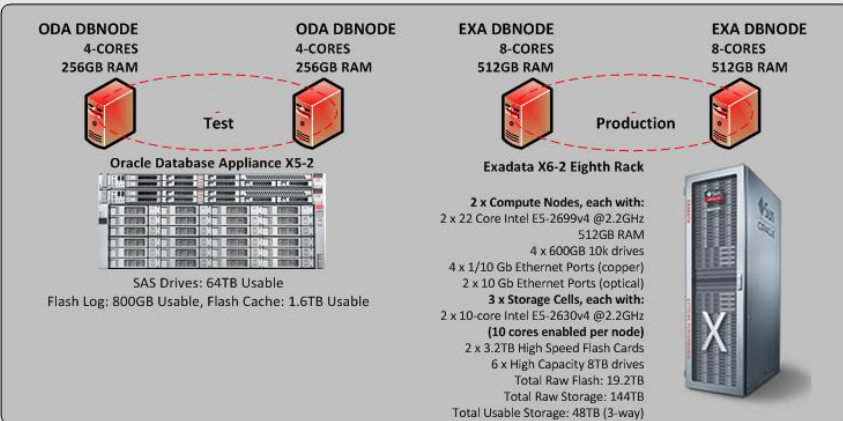
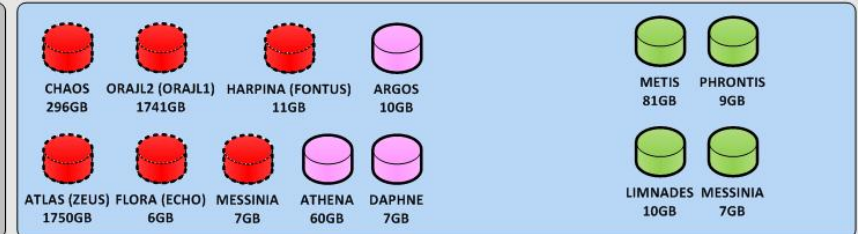
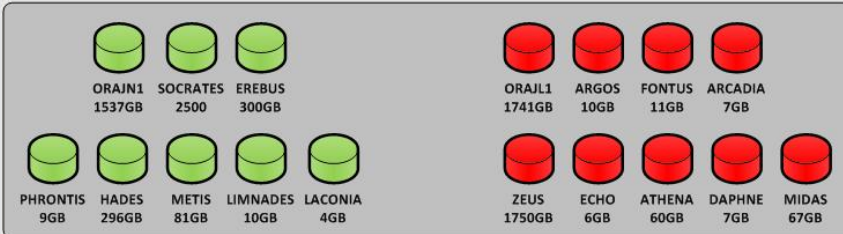
Portability and Agility from On-Premises to Cloud and Back!



Oracle Hybrid Cloud Platform Oracle on Oracle Optimised Architecture Solution

LONDON

CLOUD



Cloud Archive Offsite Backups
Oracle Backups to the Oracle Cloud



50TB Archive Storage



Cloud Archive Offsite Backups
Oracle Backups to the Oracle Cloud



Cloud Architecture Strategies:

Now that you have your house in order...

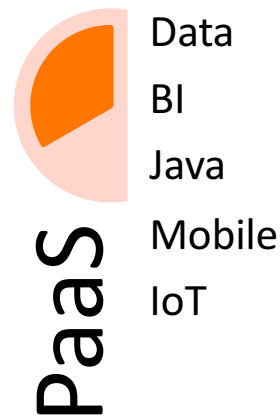
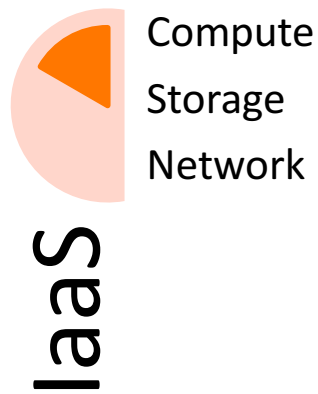
Let's talk Public Cloud!



CINTRA

What is the cloud

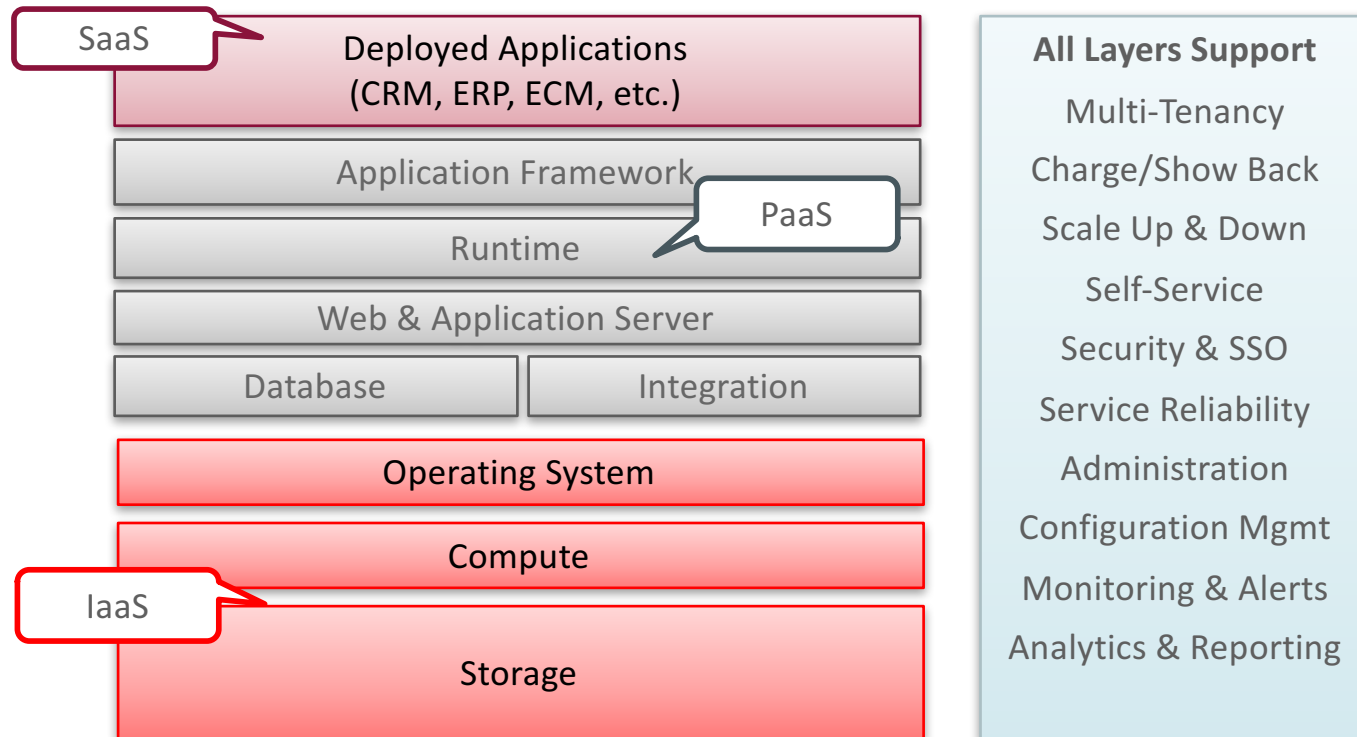
Defined "as a Service"



Cloud is here and now

New businesses and enterprises are adopting the cloud

Cloud Offerings: An Overview



Cloud Offerings: Picking the Right Provider For Your Business

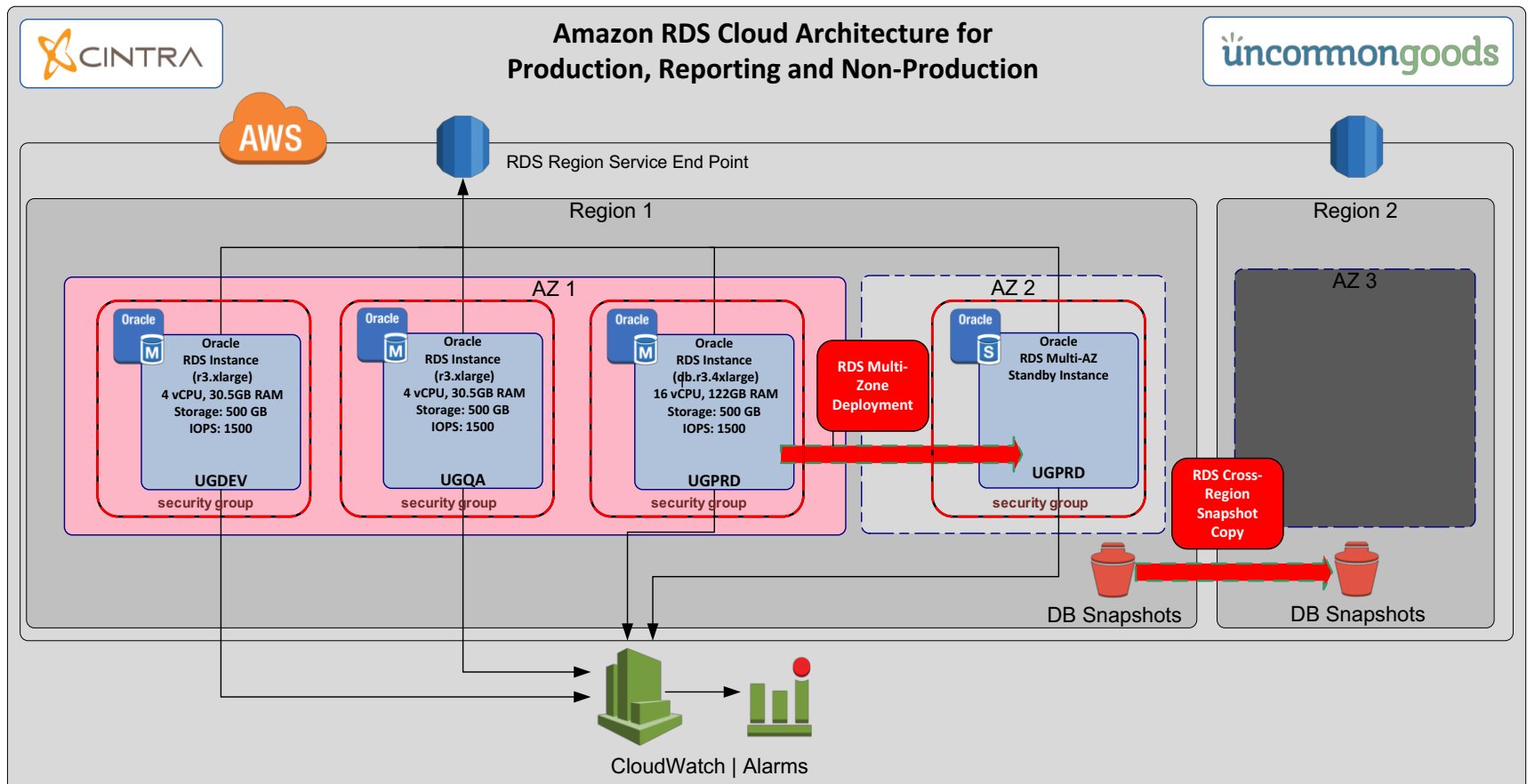


Google Cloud Platform

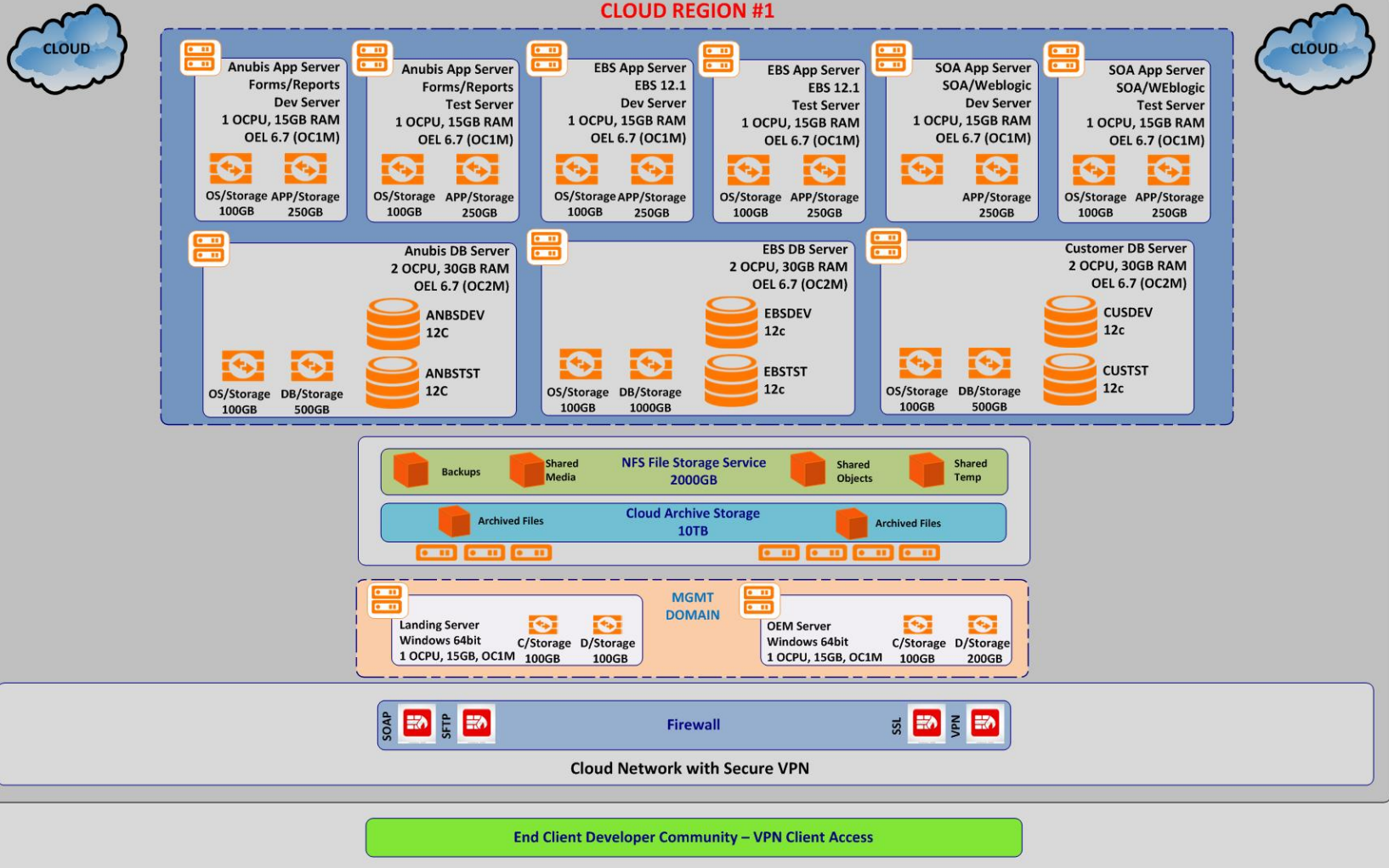




Amazon RDS Cloud Architecture for Production, Reporting and Non-Production



CLOUD REGION #1



The screenshot shows the Oracle Ravello Cloud user interface. On the left is a dark sidebar with navigation options: Applications, 2 Recent Apps, Library, Admin, and Learn. The main content area displays a slide with the following text:

Introducing Oracle Ravello Cloud

Introducing Oracle Ravello Cloud

Ravello is committed to increasing the choice in the underlying cloud infrastructure, as well as maintaining our existing support in AWS and GCE.

We are happy to announce that we have added support for Oracle Public Cloud as a deployment target.

Aligned with Ravello's core vision, and in order to provide a better and more streamlined user experience, we are abstracting the underlying cloud name and regions, and consolidating them under Oracle Ravello Cloud region names.

Starting Sep 1st, when publishing applications with performance optimization you will see only Oracle Ravello Cloud new regions/locations names and not the underlying cloud names.
Applications already published will not be affected.

Read more about Oracle Ravello Cloud and regions support [here](#).

The slide includes the Ravello Systems logo and a 'Skip' button. The background of the slide features a grid pattern with a blue border. On the right side of the interface, there are panels for 'Network' and 'Database'.

Oracle Cloud Reference Architecture

User Interactions



Mobile



Web



Email



Text



Social



Chat



B2B

Public Cloud

On Premise

Enterprise & Cloud Service Management

Applications



Enterprise Resource Planning

Human Capital Mgmt

Customer Experience

Enterprise Perf Mgmt

Social

Supply Chain Mgmt



Java

Process

Mobile

BI

Big Data Discovery



Exadata Cloud Service

Database Cloud Service



Big Data Cloud Service

Big Data Appliance Cloud Service

Infrastructure Services

Compute

Storage

Network

Messaging Cloud Service



Integration Services

Integration Cloud Service



Applications

Middleware

Databases

Infrastructure

Identity and Security Services

Oracle Database Cloud Service

Rich DBaaS Tools and Web User Interfaces

ORACLE Database as a Service

Identity Domain: My Identity Domain
Subscription: Paid

RUNNING INSTANCES 2 OF 3

OCPUs 6

MEMORY 24 GB

STORAGE 40 GB

INSTANCES

- MyDatabase1: VM Status: UP, Version: 11.2.0.4
- MyDatabase2: VM Status: DOWN, Version: 11.2.0.4
- MyDatabase3: VM Status: UP, Version: 11.2.0.4

Create Instance

ORACLE Database as a Service

Provision New Database as a Service

Release Edition Instance Details Confirmation

Service Details

Please provide details for your Java as a Service

Database as a Service

* Service Name: MyDatabase4
Description:

Database Configuration

* Usable Database Storage: 50 GB
Total Data File Storage: 75 GB
* SYS Password: *****
* SYSTEM Password: *****
* DB Container Name (SID): ORCL
* PDB Name: PDB1
Failover Database: No-Do not setup Data Guard
Enabling Failover will start 3 database instance preconfigured with Data Guard

Backup and Recovery Configuration

* Backup Destination: Both DB Backup & Block Storage
* Username: dbbackup
* Password: *****
* Storage Service URL: /storage/account@backup/

Total Estimated Monthly Storage: 425 GB
Includes data files and backup storage

ORACLE Database as a Service

Instances > MyDatabase1

MyDatabase1 (Oracle Database as a Service)

Description: Add description
Identity Domain: My Identity Domain
Subscription: Paid
Compute Service: My Compute1

OVERVIEW

UP service status
1 running node

SERVICE STATUS UP

NODES 1

OCPUs 2

MEMORY 6 GB

STORAGE 15 GB

ADMINISTRATION

3 patches
03/06/2014 last backup

Node

Admin and Managed Server
VM Status: Running
Type: Database Virtual Image
SQL *Net Port: 1521
OCPUs: 2
Memory: 6 GB
Storage: 15 GB

ADDITIONAL INFORMATION

Created on: 01/19/2014
Created by: John Dunbar

ORCL Database

Database Status

Current Load: 57.901

Storage Used

1.6
1.61 GB out of 2 GB

Active Sessions

30
30 out of 472

NodeJS Sockets

1

Database as a Service

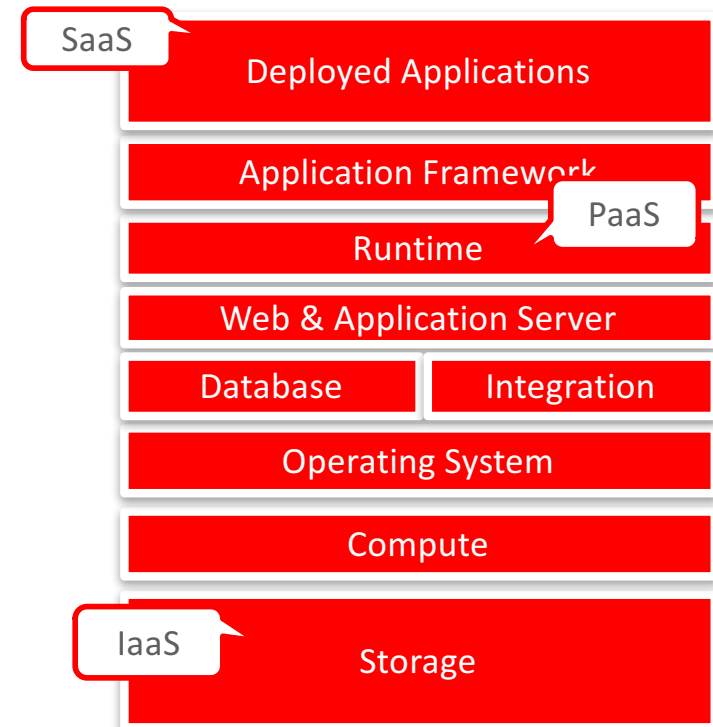
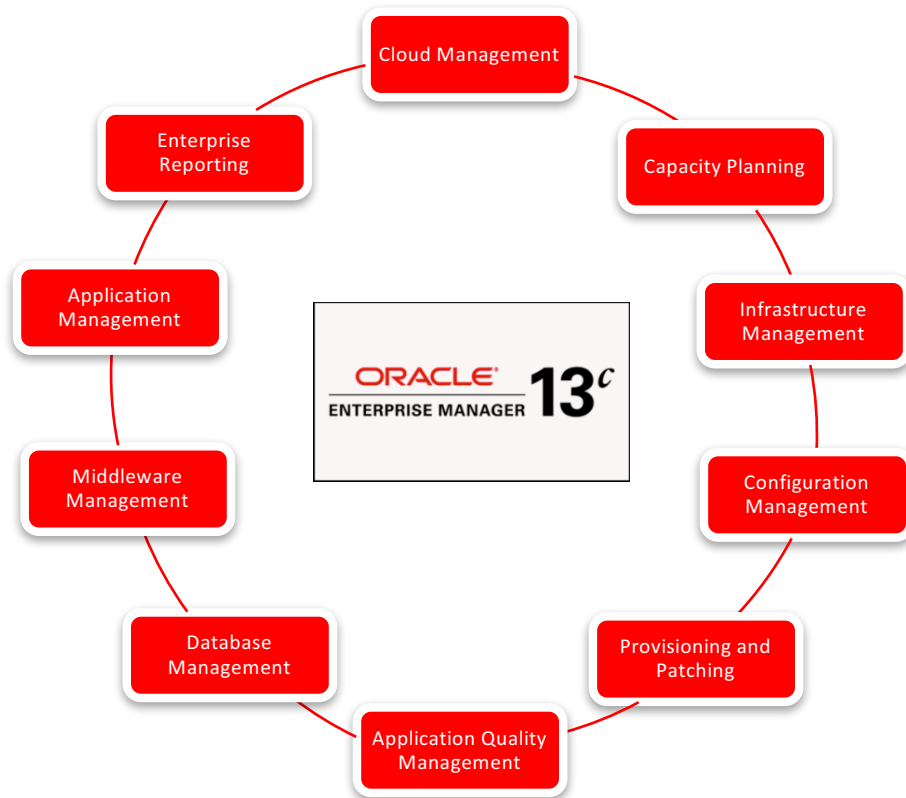
RDBMS: Running
Features, configuration, backup, recovery

Networking: Running
TNS Listener, Wallet, SSL, Firewall

Glassfish: Running
Configure Glassfish Application Server

REST Listener: Running
Configure REST and PL/SQL toolkit listener

OEM 13c: A Single Pane of Glass Over Your Estate



Hot off the press!

Cloud 2016 IaaS: Gen2 Lower Cost and Faster than AWS

Metric	Oracle Cloud Dense IO Shape	Amazon Cloud I2 8X Large	Oracle Advantage
Cores	36	16	2.25X
D-RAM	512 GB	244 GB	2X
SSD Storage	28.8 TB	6.4 TB	4.5X Capacity 11.5X IOPs
Price	\$5.40 Per Hour	\$6.82 Per Hour	1.2X

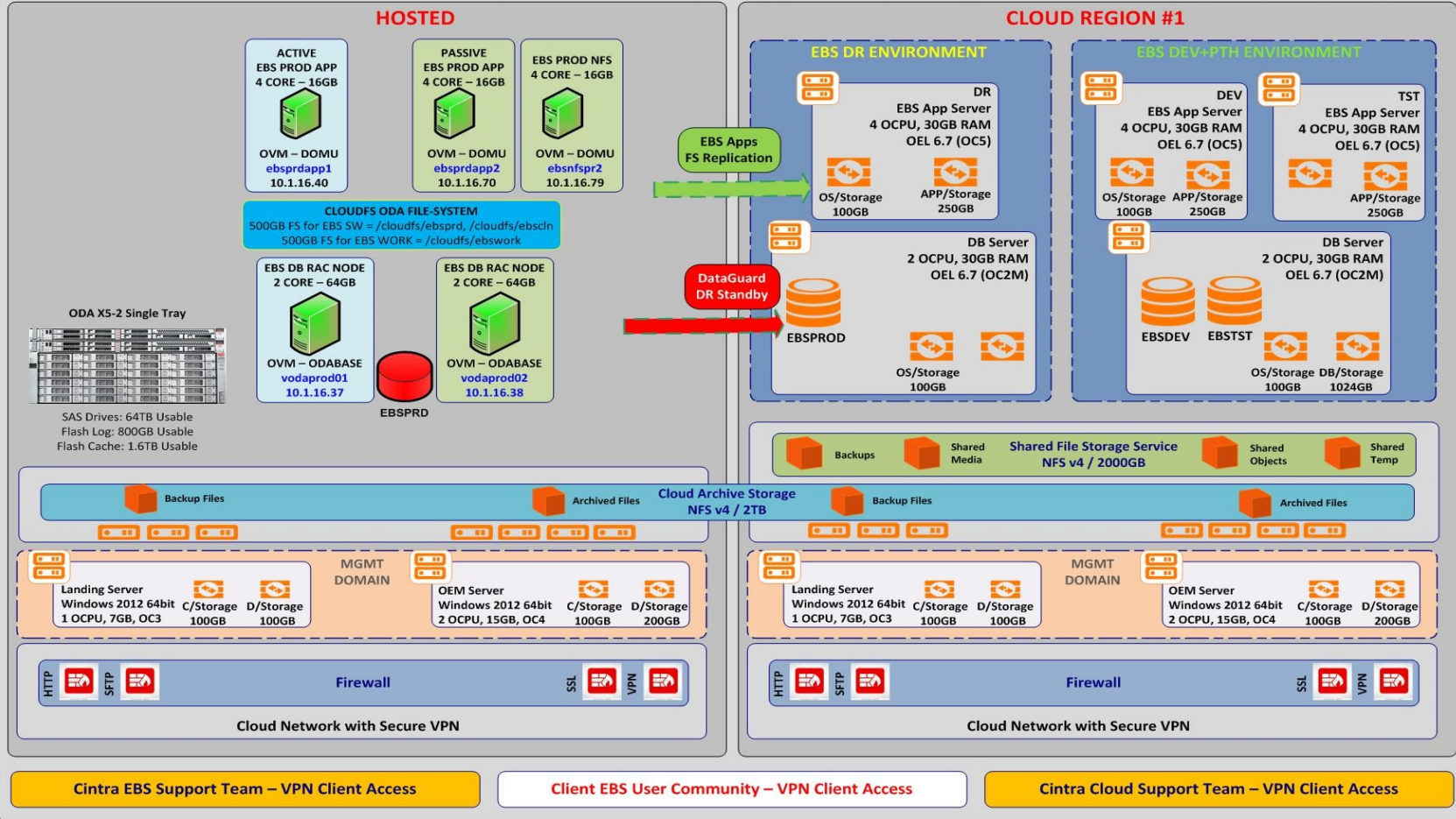
Pay 20% Less – 11.5 Times Faster than Amazon's Fastest

Hybrid Cloud: Bringing It All Together (and what does it **really** cost?)





Oracle EBS Architecture Refresh Oracle ODA and Cloud Hybrid Architecture



Public Cloud: Estimation and Sizing (Compute)

Provisioned Compute Instances

Description	Shape	Quantity	OCPU	RAM (GB)	Target Utilization	Available Hours per Month	Total OCPUs Per Month	OCPU Hours per Month
Metered								
Dev - App Server	OC5	0	4	30	50%	720		-
Dev - Database Server	OC5	0	4	30	50%	720		-
Non-Metered								
Management Servers	OC4	4	2	15	100%		8	
App Servers	OC5	4	4	30	100%		16	
Database Servers	OC5	4	4	30	100%		16	
							32	

Public Cloud: Estimation and Sizing (Block / Archive Storage)

Attached Block Storage Volumes

Description	Quantity	Size (GB)	Avg IOPS per Volume	Total (GB)	Total (TB)	Target Utilization (for IOPS)	Total IOPS per Month (Mil)
Metered							
OS Data Volumes	0	100	120	0		50%	0
App Server D Volumes	0	250	360	0		50%	0
DB Data Volumes	0	2750	4000	0		50%	0
				0			0
Non-Metered							
OS Data Volumes	8	100			0.781		
App Server D Volumes	4	250			0.977		
DB Data Volumes	4	1024			4.000		
					6		

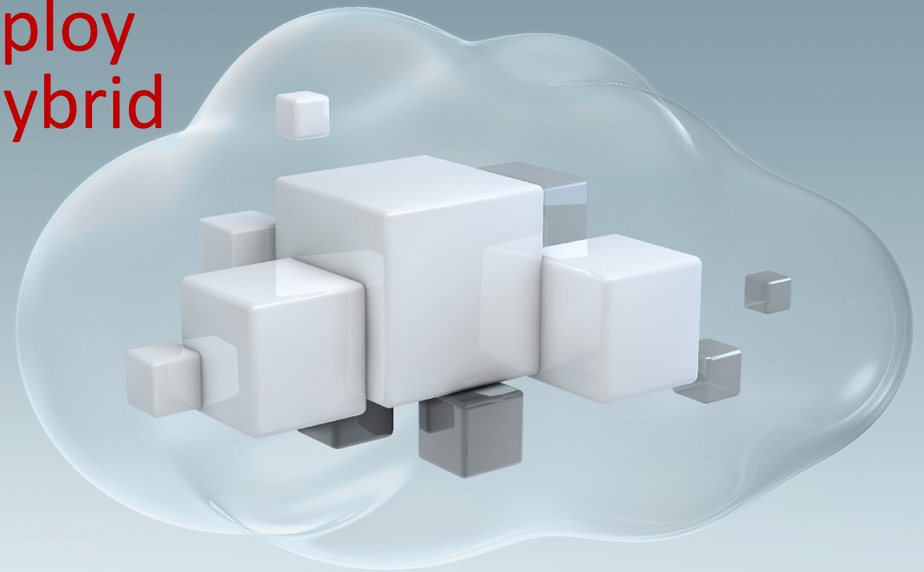
Cloud Storage Services

Description	Size (GB)
Oracle Cloud Storage	4000
Oracle Cloud Storage Archive	10000







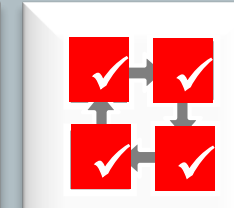
Public Cloud: Costs Based on Agreed Design

Oracle Cloud IaaS Service	Metric	Monthly Qty	Annual Qty	Unit Cost	Extended Cost	Discount	Net Cost
Oracle Compute Cloud Service - Non-Metered							
Compute Capacity	OCPU Per Month	14	168	\$75.00	\$12,600.00	35%	\$8,190.00
Block Storage Capacity	Terabyte Storage Capacity per Month	51	612	\$50.00	\$30,600.00	35%	\$19,890.00
Oracle Compute Cloud Service - Metered							
Compute Capacity	OCPU Per Hour	3600	43200	\$0.100	\$4,320.00	15%	\$3,672.00
Block Storage Capacity	Gigabyte Storage Capacity per Month	5500	66000	\$0.050	\$3,300.00	15%	\$2,805.00
Block Storage IO Requests	1 Million IO Requests Per Month	273197	3278361.6	\$0.005	\$16,391.81	15%	\$13,933.04
Additional Static IP Per Hour	Static IP Per Hour	8	96	\$0.005	\$0.48	15%	\$0.41
Oracle Storage Cloud Service - Non-Metered							
Storage Capacity - 1,000,000 PUT & 1,000,000 GET per month	Terabyte Storage Capacity per Month	2	24	\$30.00	\$720.00	35%	\$468.00
Oracle Storage Cloud Service - Metered							
Archive Storage							
Archive Storage Capacity	Gigabyte Storage Capacity per Month	50000	600000	\$0.024	\$14,400.00	15%	\$12,240.00
Archive Storage Data Retrieval	Gigabyte Storage Capacity per Month	5120	61440	\$0.005	\$307.20	15%	\$261.12
Archive Storage - Deleting objects earlier than 90 days	Gigabyte Storage Capacity per Month	1024	12288	\$0.003	\$36.86	15%	\$31.33
Archive Storage - Small reads & writes (objects < 10 MB)	1000 Requests per Month	1	12	\$0.050	\$0.60	15%	\$0.51
Storage							
Storage Capacity - First 1024 GB per month	Gigabyte Storage Capacity per Month	1024	12288	\$0.0240	\$294.91	15%	\$250.68
Storage Capacity - 1024 to 51200 GB per month	Gigabyte Storage Capacity per Month	1024	12288	\$0.0236	\$290.00	15%	\$246.50
Data Transfer							
GET and all other Requests	10000 Requests Per Month	0	0	\$0.004	\$0.00	15%	\$0.00
PUT, COPY, POST or LIST Requests	10000 Requests Per Month	0	0	\$0.005	\$0.00	15%	\$0.00
Outbound Data Transfer - First 1 GB per month - FREE	Gigabyte Outbound Data Transfer Per Month	1	12	\$0.000	\$0.00	15%	\$0.00
Outbound Data Transfer - 1 to 10,240 GB per month	Gigabyte Outbound Data Transfer Per Month	3071	36852	\$0.1200	\$4,422.24	15%	\$3,758.90
Outbound Data Transfer - 10,240 to 51,200 GB per month	Gigabyte Outbound Data Transfer Per Month	0	0	\$0.0900	\$0.00	15%	\$0.00
Intra-region Data Transfer	Gigabyte Outbound Data Transfer per Month	4096	49152	\$0.020	\$983.04	15%	\$835.58
Network Cloud Service - Non-Metered							
FastConnect Partner Edition - Equinix - Port Speed 1G	Hosted Environment Per Month	1	12	\$4,600.000	\$55,200.000	15.00%	\$46,920.00
Data Migration Services							
One-time Data Load Services		1	1	\$10,000.000	\$10,000.000		\$10,000.00
Totals					Total		\$123,503.07

Cintra can help you design, deploy
and manage your enterprise hybrid
cloud architecture



Cintra Oracle Cloud Solutions and Service Catalog

						
Oracle DevOps In Cloud	Business (bics) Intelligence	Cloud Backups Archive	E.S. Refresh Hybrid Cloud	EBS to the Cloud	Java Apps to IaaS/PaaS	Migrations & Data Integration

Architect	Configure	Migrate	Integrate	Secure	Manage	Monitor
Cloud Architecture Workshop	IaaS Provisioning and Configuration	Compute Migration to IaaS	Cloud Network Integration	Cloud Security Planning	Cloud IaaS Managed Services	Cloud Consumption Reporting
90 Day Cloud Journey	PaaS Provisioning and Configuration	File Data Migration to the IaaS	ODI Data Integration	Cloud Security Lockdown	Cloud PaaS Database Managed Services	SLA Assurance Monitoring
DevOps Cloud Roadmap	Enterprise Management Configuration	Oracle Database Migration to Cloud	GoldenGate Data Integration	Data Masking for Dev/Test in OC	Cloud EBS Managed Services	Oracle Licenses Usage Monitoring
Apps Roadmap to the Cloud	Backup Archive Configuration	EBS Apps Migration to the Cloud	OC to Azure Cloud Integration	Data Encryption in Oracle Cloud	Cloud Data Integration Managed Services	Cloud Service Scorecard
Cloud BI Reporting Design	Cloud BICS Configuration	SaaS Apps Migration	OC to Amazon Cloud Integration	Cloud Security Audit	Cloud Backups Managed Services	Cloud Service Renewal

Work with the thought leaders ...

ORACLE Platinum Partner

Specialized
Oracle Exadata
Database Machine

ORACLE Platinum Partner

Specialized
Oracle Database

ORACLE Platinum Partner

Specialized
Oracle Database 11g
Performance Tuning

ORACLE Platinum Partner

Specialized
Oracle VM 3.0

ORACLE Platinum Partner

Specialized
Oracle Enterprise Manager 12c

ORACLE Platinum Partner

Specialized
Oracle Real Application
Clusters

ORACLE Platinum Partner

Specialized
Oracle GoldenGate

ORACLE Platinum Partner

Specialized
Oracle Database Appliance

ORACLE Platinum Partner

Specialized
Oracle Linux

ORACLE Platinum Partner

Specialized
Exadata

ORACLE Platinum Partner

Specialized
Oracle Business Intelligence
Foundation

ORACLE Platinum Partner

Specialized
Data Warehousing

ORACLE Platinum Partner

Specialized
Oracle ZFS Storage ZS3

ORACLE Platinum Partner

Specialized
Oracle Enterprise Manager 11g



FY16 Oracle North America Partner

Outstanding Achievement in Engineered Systems Growth



Do You Have a Roadmap To Your Cloud Architecture?

Let's have a discussion...

Architecture	Legacy	Modern	ORACLE								OPTIMIZE
	Capability	Capability	HA	CONSOLIDATE	APPLIANCE	VERSIONS	MANAGE	REPORT	SECURE	CLONE	LICENSE
User Experience	4	8			✓	✓	✓	✓			
Job Performance	4	9			✓	✓	✓	✓			
Availability	4	9	✓	✓	✓	✓	✓	✓	✓	✓	
Data Protection	2	8	✓	✓	✓	✓	✓	✓	✓	✓	
Time to Recover	4	8	✓	✓	✓	✓	✓	✓	✓	✓	
Agility	2	9		✓	✓	✓	✓	✓		✓	✓
Scalability	3	7	✓	✓	✓	✓	✓	✓			✓
Security	2	8		✓		✓			✓		
Simplicity	4	8	✓	✓	✓	✓		✓		✓	
Data Management	1	6			✓	✓	✓	✓	✓		
Productivity	3	7	✓	✓	✓	✓	✓	✓		✓	
SW Compliance	3	8	✓	✓	✓	✓					✓
Business Value	3	8	✓	✓	✓	✓	✓	✓	✓	✓	✓

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