



Banco de Dados Oracle na AWS: RDS ou EC2?

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Arquiteto de Soluções na AWS

02 de junho de 2016



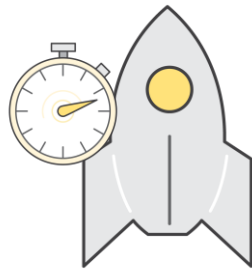
Banco de Dados Oracle na AWS: RDS ou EC2?



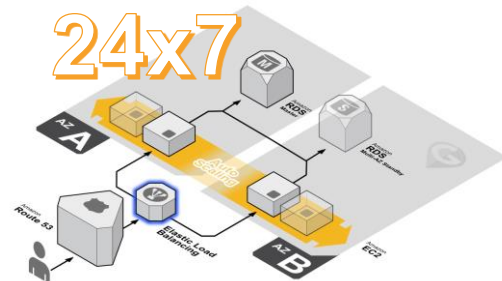
Serviços



Volume



Performance



Disponibilidade



Features



Segurança

Seu Data Center



Serviços

Otimização Apps

Escalabilidade

Alta Disponibilidade

Database backups

DB software patches

DB software installs

Patches SO

Instalação SO

Manuten. Servidor

Rack e Cabeamento

Energia,HVAC,rede



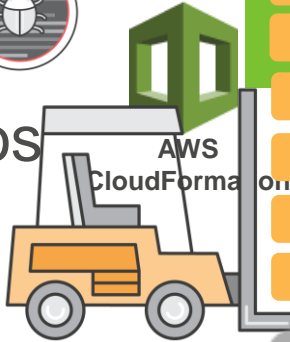
Amazon EC2 – Install or Clone



Amazon EC2



Serviços



Otimização Apps

Escalabilidade

Alta Disponibilidade

Database backups

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DB software installs

Patches SO

Instalação SO

Mon. Servidor

Rack e Cabeamento

AMI
Energia, HVAC, rede



Amazon RDS – Relational Database Services



Amazon
RDS



Serviços

Otimização Apps

Escalabilidade

Alta Disponibilidade

Backups

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Energia, HVAC

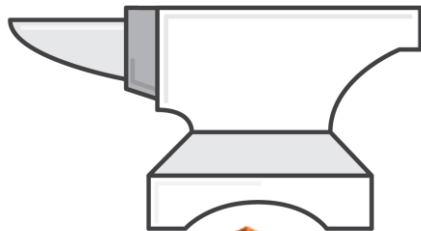
AWS

Database Size



Volume

**+20 (soft limit)
TeraBytes**



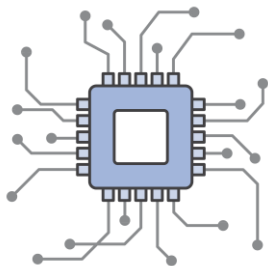
Amazon EC2

6 TeraBytes

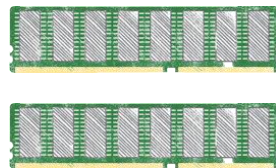


Amazon
RDS

Performance



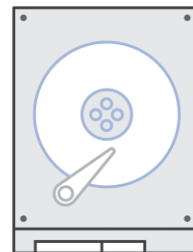
Capacidade
Computacional
1 vCPU a 44vCPUs



Memória
GB of RAM
1GB a 244 GB



Redes
MB/s (Throughput)
Low a 10Gbps



Storage
I/O Throughput
48.000 IOPS



Amazon EC2



Instance Families: T1, M1, M2, M3, M4

T2 and R3 instance support

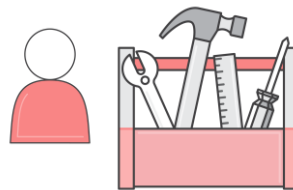
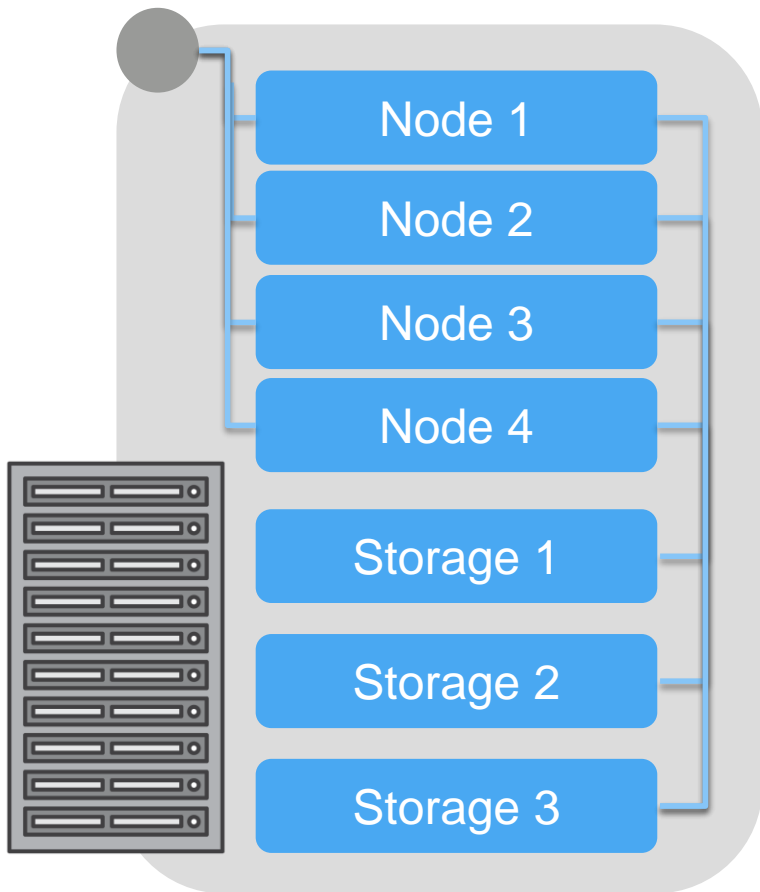
T2.large support

30.000 IOPS



Amazon
RDS

Disponibilidade

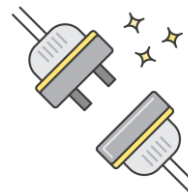


Mesmo Rack

Mesmo appliance



Mesmo Data Center

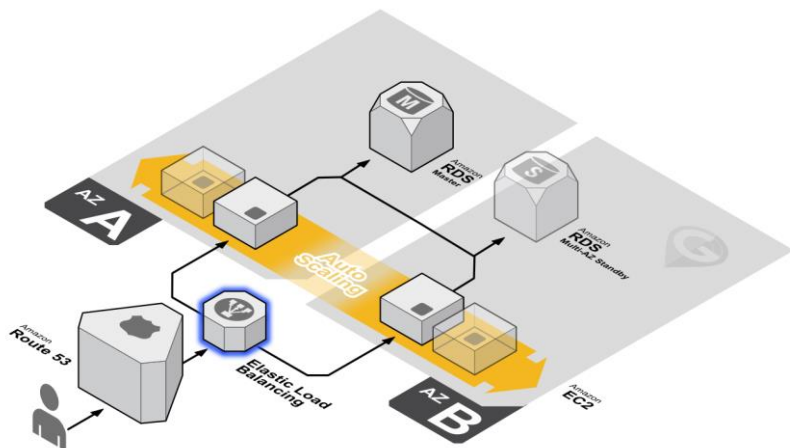


Mesma entrada de energia



Mesma localização geográfica

Disponibilidade



Production

☒ Oracle EE

Use Multi-AZ Deployment and Provisioned IOPS Storage as defaults for high availability and fast, consistent performance.

Dev/Test

☐ Oracle EE

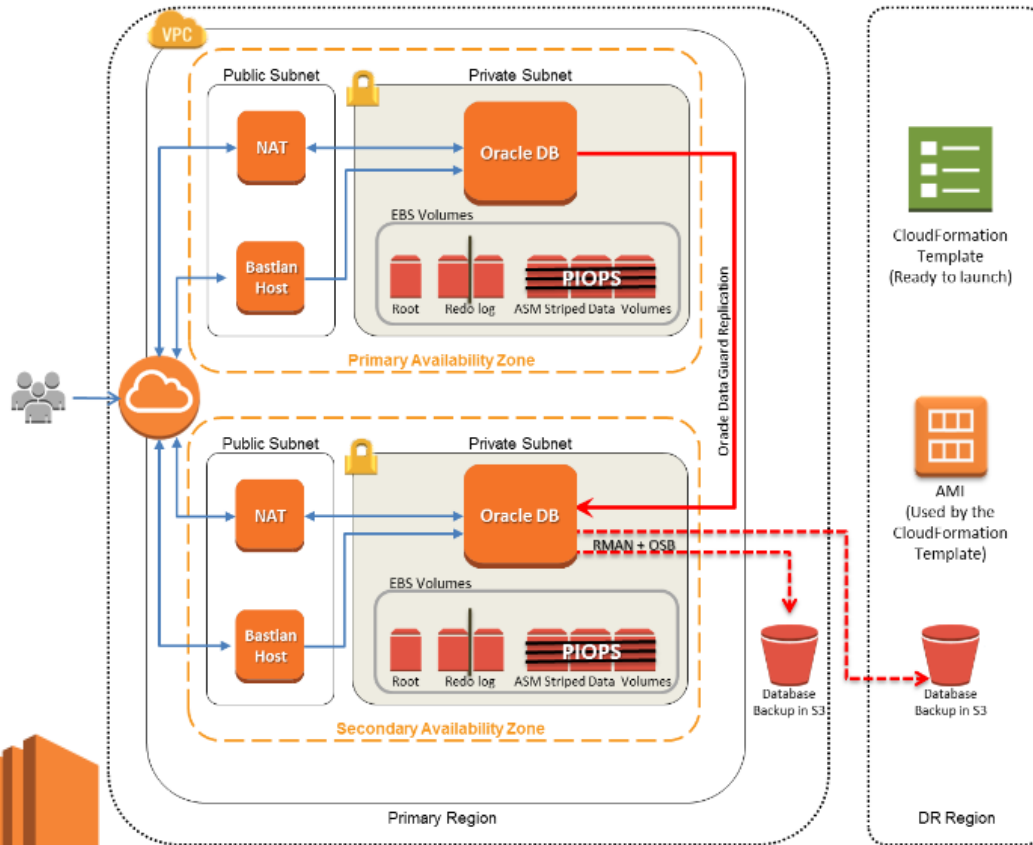
This instance is intended for use outside of production or under the RDS Free Usage Tier.



Amazon
RDS



Amazon EC2



Segurança

Users

Oracle
DB

Application

DB Access & Privileges

Security Group

Network ACL / Route Table

VPC

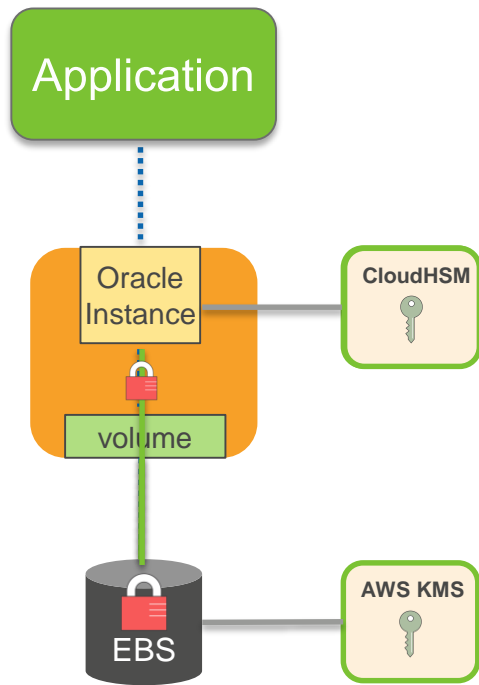
IAM



Segurança

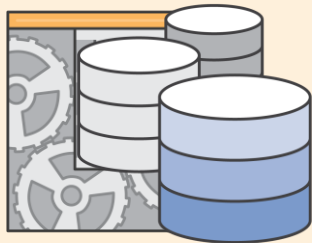
Segurança

Criptografia de Dados



Segurança

Features



Todas as
Features
da sua versão
exceto RAC



Amazon EC2

Real Application Testing
Data Guard / Active Data Guard
Oracle Enterprise Manager Grid
Control Automated Storage
Management
Database Vault
Streams
Java Support
Locator
Oracle Label Security
Spatial
Oracle XML DB Protocol Server
Network access utilities such as
utl_http, utl_tcp, utl_smtp, and
utl_mail, are not supported at this
time.

Total Recall
Flashback Table,
Query and Transaction
Query
Virtual Private
Database
Fine-Grained Auditing
Comprehensive
support for Microsoft
.NET, OLE DB, and
ODBC
Automatic Memory
Management
Automatic Undo
Management
Advanced
Compression
Partitioning
Star Query

Optimization
Summary Management
Materialized View
Query Rewrite
Oracle Data Redaction
(version 11.2.0.4 or
later) Distributed
Queries/Transactions
Text
Materialized Views
Import/Export and
sqlldr Support
Oracle Enterprise
Manager Database
Control
Oracle XML DB
(without the XML DB
Protocol Server)
Oracle Application

Express Automatic
Workload Repository
for Enterprise Edition
(AWR). For more
information, see
Working with Automatic
Workload Repository
(AWR)
Datapump (network
only)
Native network
encryption (part of the
Oracle Advanced
Security feature)
Transparent data
encryption (Oracle
TDE, part of the Oracle
Advanced Security
feature)







Amazon
RDS

Demo Session









Amazon Web Services

Compute

-  **EC2**
Virtual Servers in the Cloud
-  **EC2 Container Service**
Run and Manage Docker Containers
-  **Elastic Beanstalk**
Run and Manage Web Apps
-  **Lambda**
Run Code in Response to Events

Storage & Content Delivery

-  **S3**
Scalable Storage in the Cloud
-  **CloudFront**
Global Content Delivery Network
-  **Elastic File System** PREVIEW
Fully Managed File System for EC2
-  **Glacier**
Archive Storage in the Cloud
-  **Snowball**
Large Scale Data Transport
-  **Storage Gateway**
Hybrid Storage Integration

Database

-  **RDS**
Managed Relational Database Service






Amazon EC2










Amazon
RDS

Developer Tools

-  **CodeCommit**
Store Code in Private Git Repositories
-  **CodeDeploy**
Automate Code Deployments
-  **CodePipeline**
Release Software using Continuous Delivery

Management Tools

-  **CloudWatch**
Monitor Resources and Applications
-  **CloudFormation**
Create and Manage Resources with Templates
-  **CloudTrail**
Track User Activity and API Usage
-  **Config**
Track Resource Inventory and Changes
-  **OpsWorks**
Automate Operations with Chef
-  **Service Catalog**
Create and Use Standardized Products
-  **Trusted Advisor**
Optimize Performance and Security


Security & Identity

-  **Identity & Access Management**
Manage User Access and Encryption Keys






Internet of Things

-  **AWS IoT**
Connect Devices to the Cloud




Game Development

-  **GameLift**
Deploy and Scale Session-based Multiplayer Games

Mobile Services

-  **Mobile Hub**
Build, Test, and Monitor Mobile Apps
-  **Cognito**
User Identity and App Data Synchronization
-  **Device Farm**
Test Android, iOS, and Web Apps on Real Devices in the Cloud
-  **Mobile Analytics**
Collect, View and Export App Analytics
-  **SNS**
Push Notification Service

Application Services

-  **API Gateway**
Build, Deploy and Manage APIs
-  **AppStream**
Low Latency Application Streaming
-  **CloudSearch**
Managed Search Service

“Infraestrutura como habilitador de negócios”



“A **AWS** nos
possibilita foco
na agenda do
Negócio”
- Adriano Barbosa, IT
Manager

O Smiles é um dos maiores programas de multifidelização do Brasil, com mais de 11 milhões de participantes. Hoje, seu valor de mercado é de 4,9 bilhões e está integrado com dezenas de parceiros entre bancos, cias aéreas e varejo

Modelo de negócios baseado no desenvolvimento de uma plataforma única de acúmulo e resgate de milhas

O Desafio



Atender picos de acessos dos feirões de passagens e campanhas de marketing ('365 motivos', 'é mais fácil viajar com Smiles').

Prover plataforma ágil, flexível e robusta para atender ao constante ritmo de inovação do negócio.

Solução



- Solução com **alta disponibilidade (Multi-AZ)**;
- Canary releases / Blue-green deployments;
- **Picos** de demandas **atendidos em minutos**;
- Aprovisionamento de **infraestrutura deixou de ser caminho crítico** nos projetos de negócio. **Utilização, preferencialmente, de RDS** – rapidez, disponibilidade e robustez;
- **Flexibilidade de escopo e de custos** com o consumo de infraestrutura (AWS);
- Foco na agenda do **negócio**.
- + de 150 instâncias EC2, + de 321 volumes EBS, + de 70TB, + de 50 ELBs, **50 RDS**, etc. Portal, CMS, Middleware, Micro serviços, DW, BI...e crescendo!



Amazon
RDS
Multi-AZ



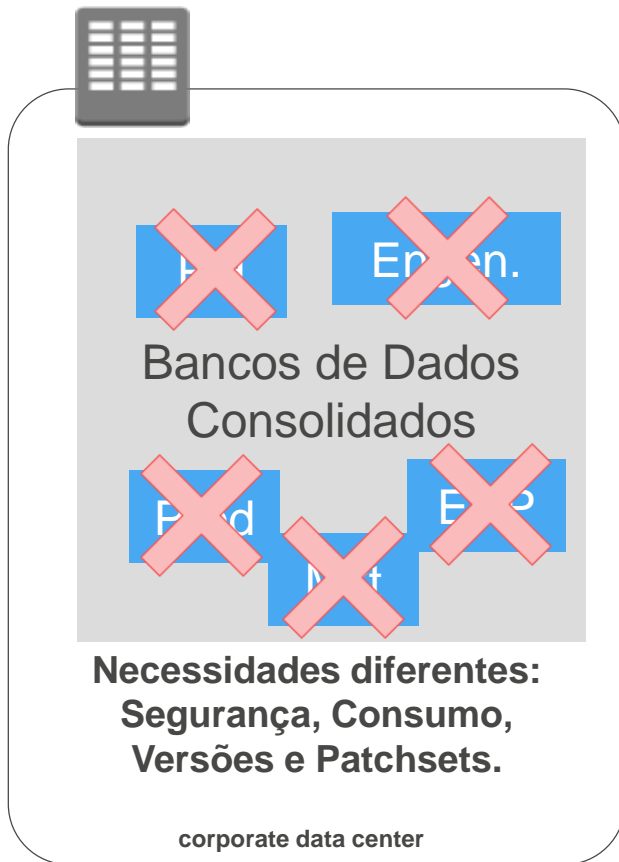
Amazon
RDS
Multi-AZ



Migrando seu Oracle para AWS



ORACLE
DATABASE



Um problema impacta todos os sistemas!!!

Migrando seu Oracle para AWS



ORACLE
DATABASE



- Isolamento do Risco;
RH Engen.
- Diferentes Patchsets;
- Bancos de Dados
Diferentes Versões;
Consolidados
- Tamanhos adequados;
Prod ERP
- Outages individuais;
MKT
- Independência;

corporate data center



Amazon EC2



AWS
Database Migration
Service



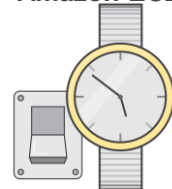
Amazon
RDS



Amazon EC2



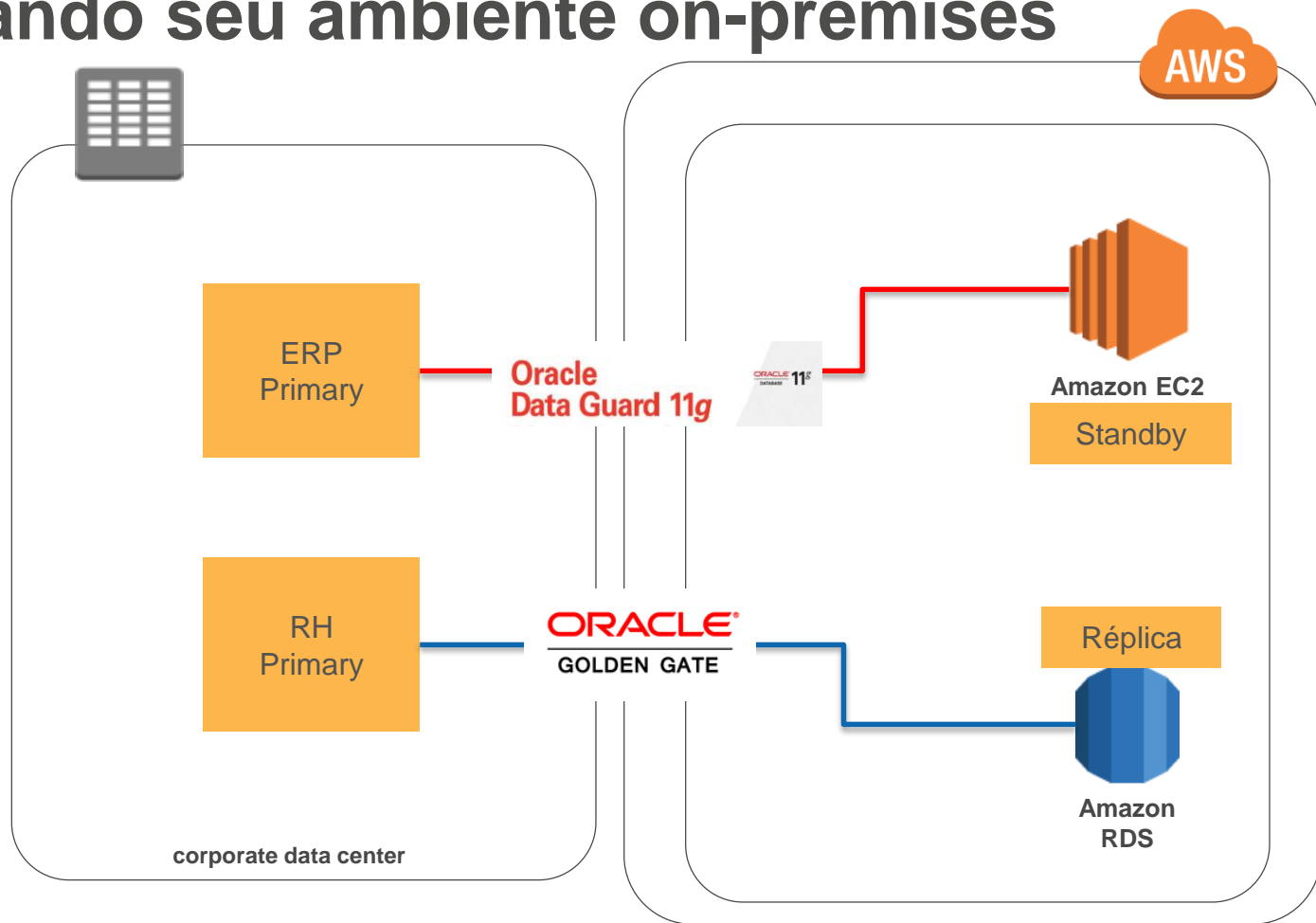
Amazon
RDS



Amazon
RDS

DR Replicando seu ambiente on-premises

ORACLE
DATABASE



Recursos

AWS RDS - Oracle

<https://aws.amazon.com/pt/rds/oracle/>

White Papers

<https://d0.awsstatic.com/whitepapers/best-practices-for-running-oracle-database-on-aws.pdf>

<https://d0.awsstatic.com/whitepapers/aws-rdbms-oracle.pdf>

Licenciamento Oracle em AWS

<http://www.oracle.com/technetwork/topics/cloud/faq-098970.html>



**Remember to complete
your evaluations!**

