

Exadata CAIXA 2021 5051

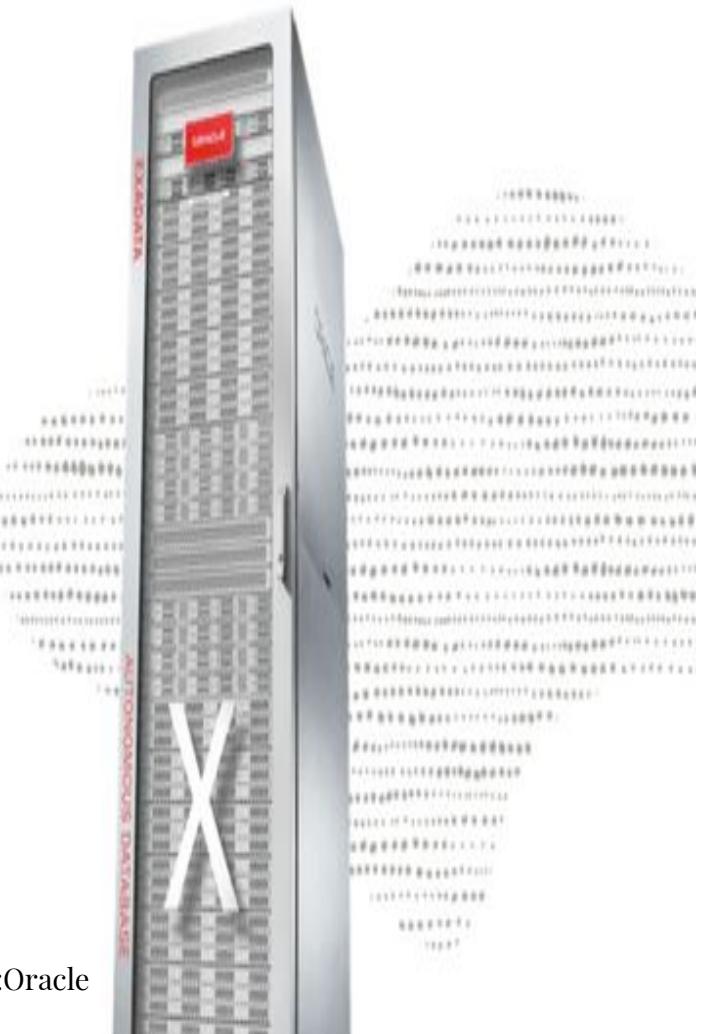
Felix Garcia • Mar2021

Apresentação

- Glossário
- Aquisição
- Ambiente
- Infra
- Instalação



Fig.:Oracle

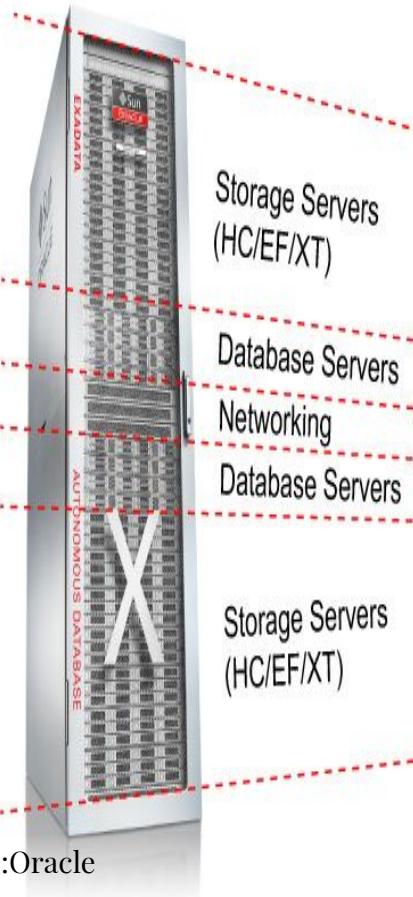


Glossário

Termos utilizados no ambiente

- DB - Banco de Dados
- V.M. Máquina Virtual
- ZDLRA - Zero Data Loss Recovery Appliance
- Server Node - Servidor físico que administra as VMs
- Storage Node - Servidor físico que administra os discos
- O. S. - Sistema Operacional
- OVM - Oracle Virtual Machine
- PRD - Produção
- NRPD - Não produção
- ILOM - Integrated Lights Out Manager

Aquisição



Equipamento adquirido:

Oracle Server X8-2

- 3 Exadatas
 - 2 full
 - 1 half
- 3 ZDLRA
- 2 Platinum



Aquisição



Cada equipamento possui:

- Exadata full
 - 10 Server Node
 - 11 Storage Node
- ZDLRA full
 - 2 Server Node
 - 12 Storage Node
- Exadata half
 - 5 Server Node
 - 4 Storage Node
- ZDLRA half
 - 2 Server Node
 - 4 Storage Node
- Switches
 - 2 Infiniband
 - 1 Ethernet SW Gerência

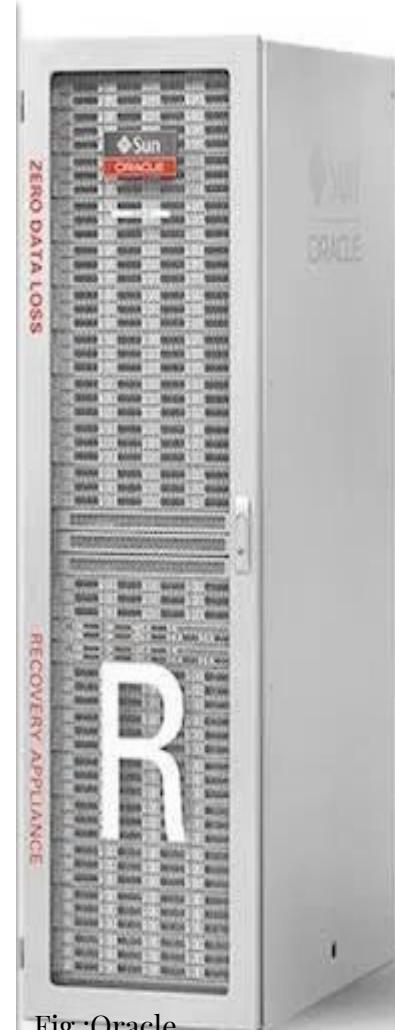


Fig.:Oracle

Fig.:Oracle

Aquisição

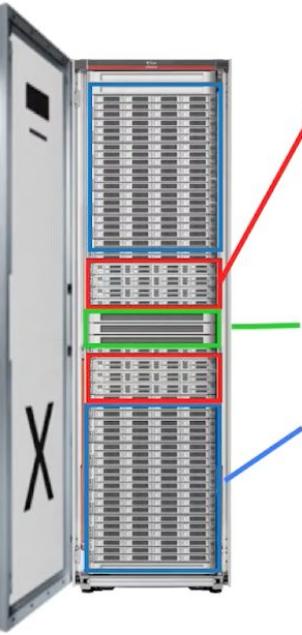


Fig.:Oracle

Exadata X8 Hardware

Cada equipamento possui:

- Processador
 - Xeon Platinum 8260 2.4 Gh
- Server Nodes
 - 3.5 Teras de disco S.O
 - 1.5 T de RAM
 - 96 vCPU
- Processador
 - Xeon Gold 5218 2.30 Gh
- Storage Nodes
 - 3.5 Teras de disco S.O
 - 12 discos de 14 Teras
 - 187 G RAM
 - 64 vCPU



Database Server



High-Capacity (HC) Storage

OR

Extreme Flash (EF) Storage



Ambientes

CTC - PRD

Oracle Server X8-2

- Exadata full
 - 10 Server Node
 - 11 Server Storage
- ZDLRA
 - 2 Server Node
 - 12 Server Storage
- Exadata full
 - 2 Infiniband
 - 1 Ethernet SW

DTC - PRD

Oracle Server X8-2

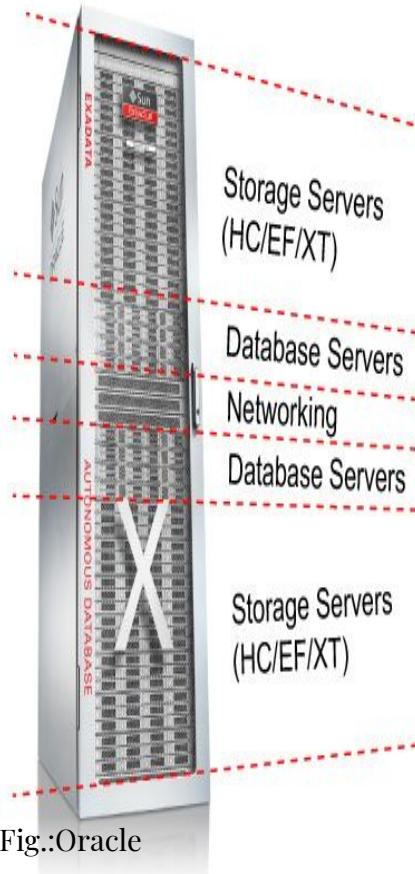
- Exadata full
 - 10 Server Node
 - 11 Server Storage
- ZDLRA
 - 2 Server Node
 - 12 Server Storage
- Exadata full
 - 2 Infiniband
 - 1 Ethernet SW

CTC - Nprd

Oracle Server X8-2

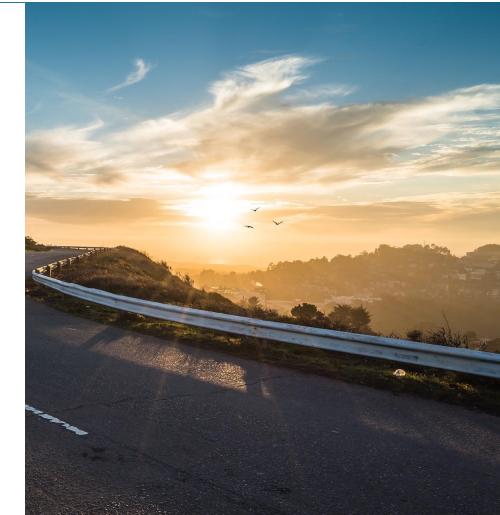
- Exadata half
 - 5 Server Node
 - 4 Server Storage
- ZDLRA
 - 2 Server Node
 - 4 Server Storage
- Exadata full
 - 2 Infiniband
 - 1 Ethernet SW

Infra-estrutura



O Exadata está conectado à CAIXA por três redes:

- Gerencia
- PCN
- Backup

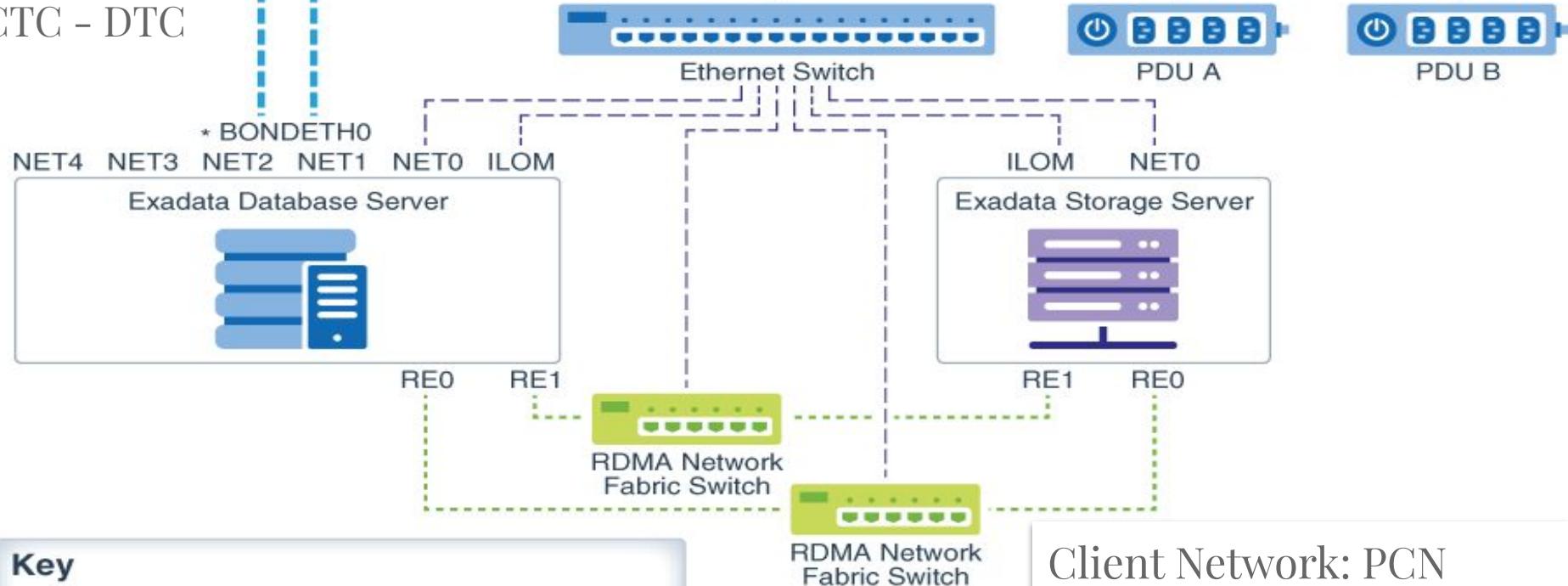


O Exadata Nprd está conectado à por outras redes:

- Gerência
- TQS/HM/DES
- Backup

Exadata Networks at a Glance

CTC - DTC



Key

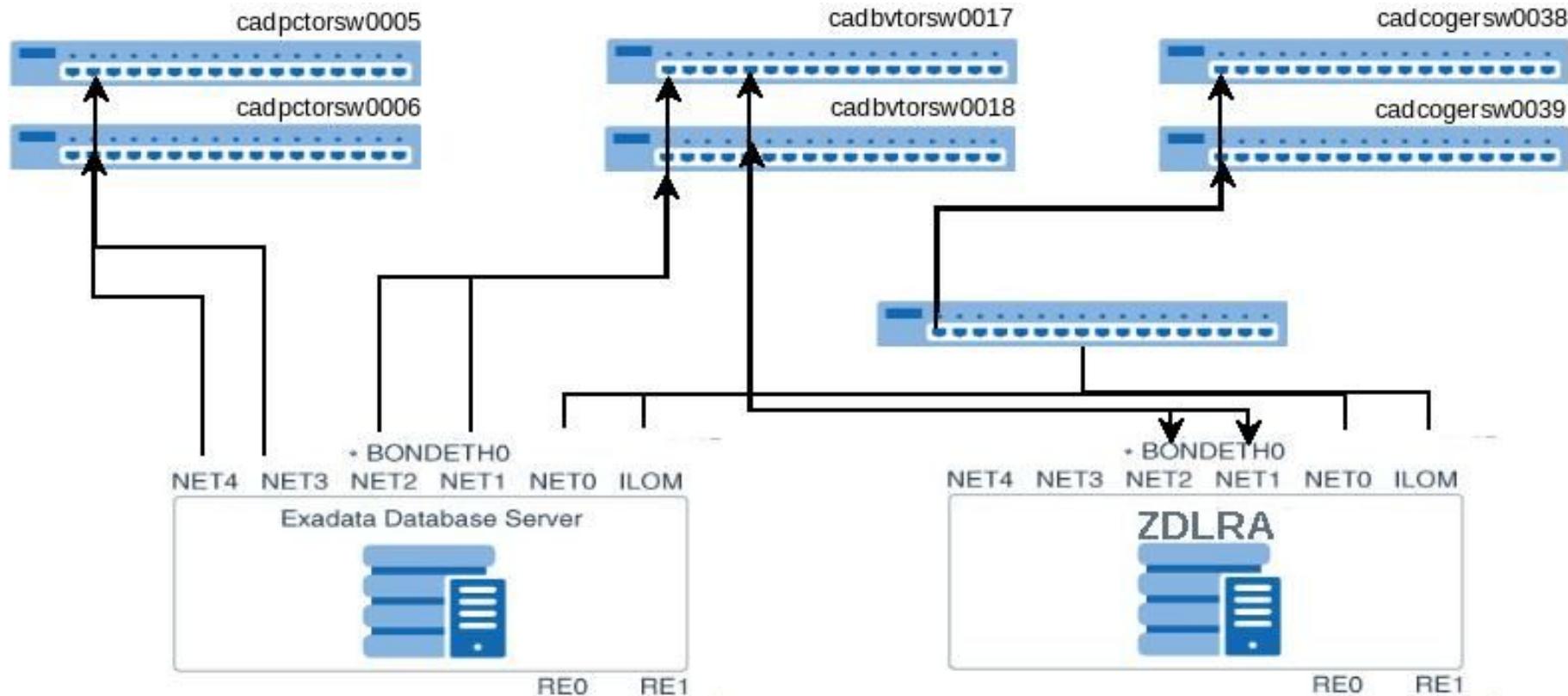
- Management Network
- Client Network
- RDMA Network Fabric based on RoCE
- * BONDETH0 can be either copper or optical links

Fig.:Oracle

Client Network: PCN

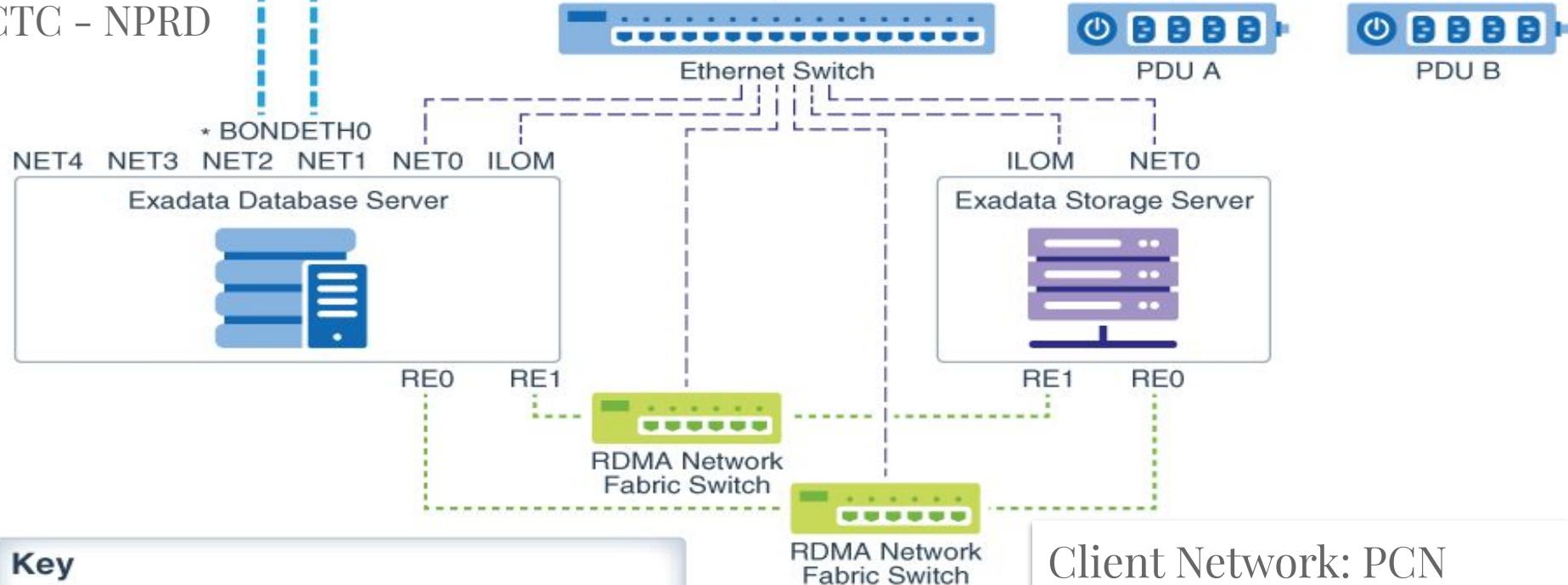
- Gerência
- PCN
- Backup

Exadata Network PRD PCN



Exadata Networks at a Glance

CTC - NPRD



Key

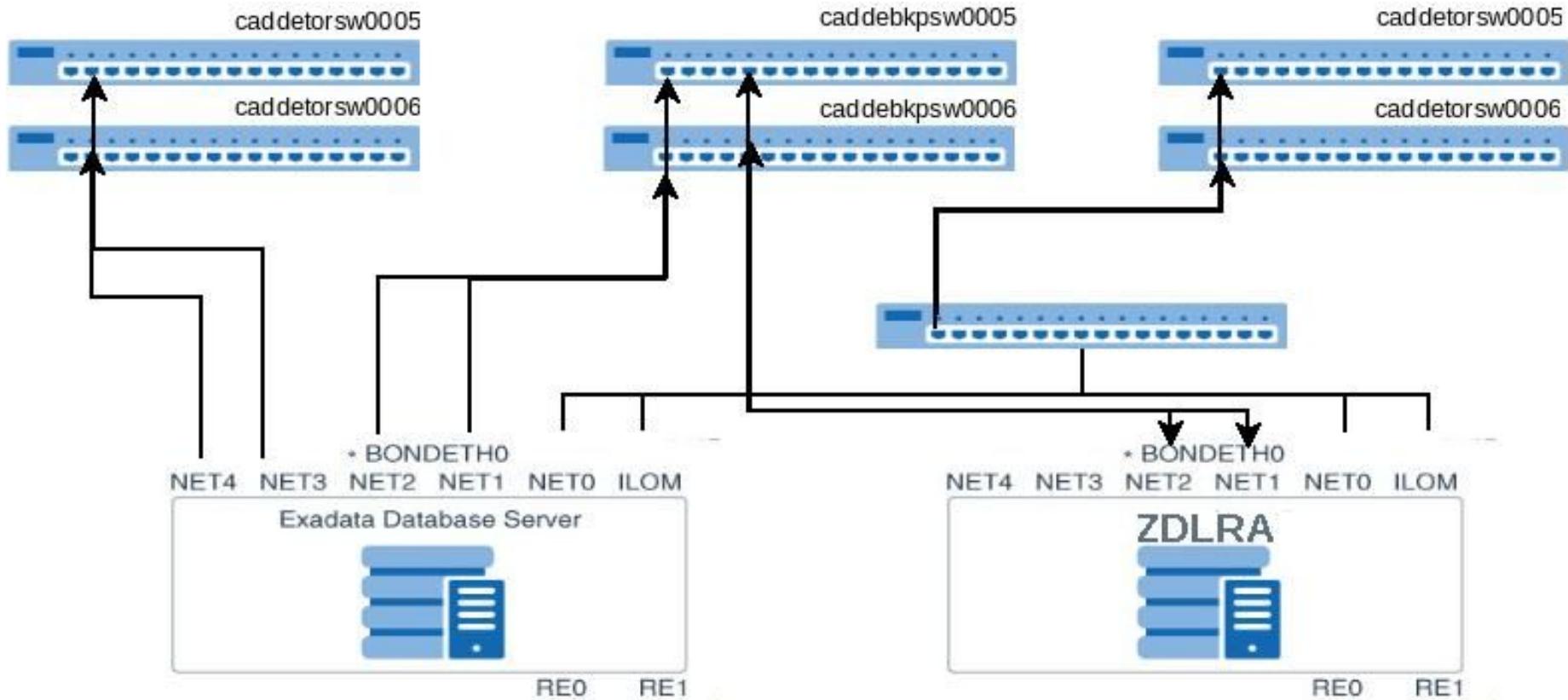
- Management Network
- Client Network
- - - RDMA Network Fabric based on RoCE
- * BONDETH0 can be either copper or optical links

Fig.:Oracle

Client Network: PCN

- Gerência
- TQS/HM/DES
- Backup

Exadata Network Nprd



Infra-estrutura de disco

Arquitetura de armazenamento Exadata

- Disco físico
- LUN – Logical Unit Number
- Cell Disk – Servidor de disco
- Grid Disk – Agrupamento lógico de cell disk

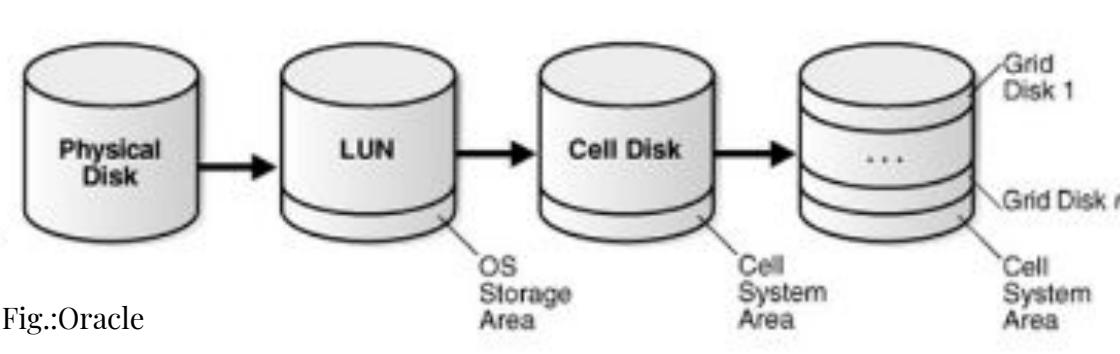


Fig.:Oracle

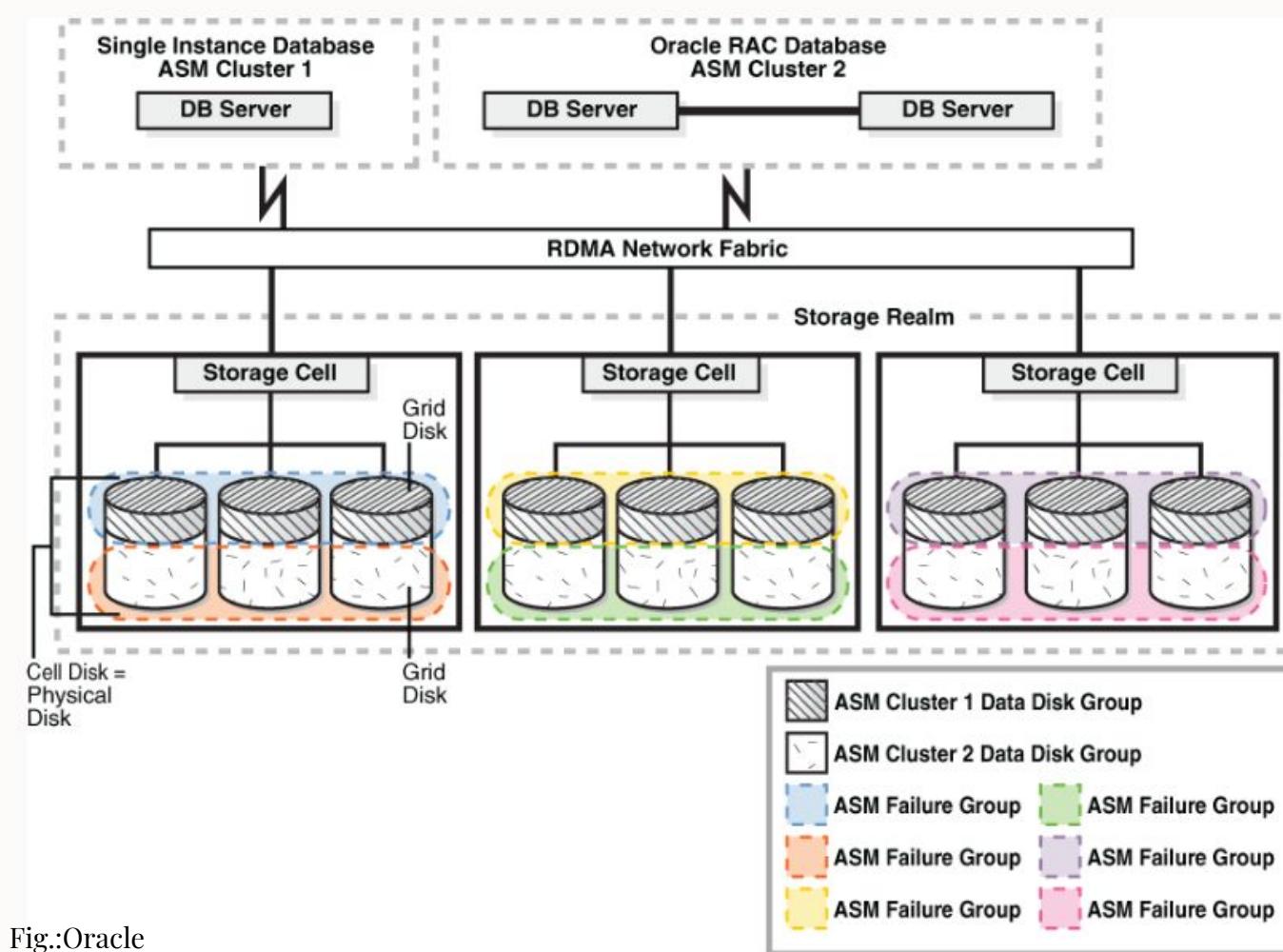


Fig.:Oracle

Instalação



Instalação

Oracle Database Info

Todos os exadatas possuem a mesma configuração para os itens:

- Database Server - Oracle Grid Infra ver.: 19.9.0.0.201020
- Database Server - Oracle Grid Infra ver.: 19.9.0.0.201020
- Exadata Software - Active Image Ver.: 20.1.4..0.0.201118
- Operating System - Linux 4.14.35
- OVM deployment - Linux 4.14.35

Instalação

Oracle Database Info

Todos os ZDLRA possuem a mesma configuração para os itens:

- Database Server - Oracle Grid Infra ver.: 19.7.0.0.200414
- Database Server - Oracle Grid Infra ver.: 19.7.0.0.200414
- Exadata Software - Active Image Ver.: 20.1.4..0.0.201118
- Operating System - Linux 4.14.35
- OVM deployment - Não há OVM no zdlra.

Instalação - CTC

Oracle Server Node

- cadexdaddbadmo1
- cadexdaddbadmo2
- cadexdaddbadmo3
- Cadexdaddbadmo4
- Cadexdaddbadmo5
- Cadexdaddbadmo6
- Cadexdaddbadmo7
- Cadexdaddbadmo8
- Cadexdaddbadmo9
- cadexdaddbadmo10

Oracle Storage Node

- cadexdadceladmo1
- cadexdadceladmo2
- cadexdadceladmo3
- cadexdadceladmo4
- cadexdadceladmo5
- cadexdadceladmo6
- cadexdadceladmo7
- cadexdadceladmo8
- cadexdadceladmo9
- cadexdadceladm10
- cadexdadceladm11

Oracle Server Node

- cadexdaddbadmo1-vm01
- cadexdaddbadmo2-vm01
- cadexdaddbadmo3-vm01
- cadexdaddbadmo4-vm01
- cadexdaddbadmo5-vm01
- cdexdaddbadmo6-vm01
- cadexdaddbadmo7-vm01
- cadexdaddbadmo8-vm01
- cadexdaddbadmo9-vm01
- cadexdaddbadmo10-vm01

Instalação

Oracle Database Info

- Database name - cdb1db1
- PDB - pdb1
- Disk Group - DATA^C1 RECOC^C1
- Table Space - system, sysaux, temp, users,
UNDOTBS₁,UNDOTBS₂,UNDOTBS₃,UNDOTBS₄
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/grid/diag
- Listener Name - LISTENER, 1521
- Scan - cadexdadvm01-scan1

Instalação - ZDL

Oracle Server Node

- cadzddaddbadmo1
- cadzddaddbadmo2

Oracle Storage Node

- cadzddadceladmo1
- cadzddadceladmo2
- cadzddadceladmo3
- cadzddadceladmo4
- cadzddadceladmo5
- cadzddadceladmo6
- cadzddadceladmo7
- cadzddadceladmo8
- cadzddadceladmo9
- cadzddadceladm10
- cadzddadceladm11
- cadzddadceladm12

Instalação

Oracle Database Info

- Database Name - orarmno5
- Disk Group - CATALOG , DELTA
- Table Space - system, sysaux, temp, users, UNDOTBS1,UNDOTBS2,UNDOTBS3,UNDOTBS4
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/oracle/diag
- Listener Name - LISTENER, 1521
- Scan - cadzddad-scan1

Instalação - DTC

Oracle Server Node

- dadexdaddbadmo1
- dadexdaddbadmo2
- dadexdaddbadmo3
- dadexdaddbadmo4
- dadexdaddbadmo5
- dadexdaddbadmo6
- dadexdaddbadmo7
- dadexdaddbadmo8
- dadexdaddbadmo9
- dadexdaddbadmo10

Oracle Storage Node

- dadexdadceladmo1
- dadexdadceladmo2
- dadexdadceladmo3
- dadexdadceladmo4
- dadexdadceladmo5
- dadexdadceladmo6
- dadexdadceladmo7
- dadexdadceladmo8
- dadexdadceladmo9
- dadexdadceladm10
- dadexdadceladm11

Oracle Server Node

- dadexdaddbadmo1-vmo1
 - dadexdaddbadmo2-vmo1
 - dadexdaddbadmo3-vmo1
 - dadexdaddbadmo4-vmo1
 - dadexdaddbadmo5-vmo1
 - dadexdaddbadmo6-vmo1
 - dadexdaddbadmo7-vmo1
 - dadexdaddbadmo8-vmo1
 - dadexdaddbadmo9-vmo1
 - dadexdaddbadmo10-vmo1
- 1

Instalação

Oracle Database Info

- Database Name - cdb1db1
- PDB - pdb1
- Disk Group - DATA_C1 RECOC_C1
- Table Space - system, sysaux, temp, users,
UNDOTBS₁,UNDOTBS₂,UNDOTBS₃,UNDOTBS₄
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/grid/diag
- Listener Name - LISTENER, 1521
- Scan - dadexdadvm01-scan1

Instalação - ZDL

Oracle Server Node

- dadzddaddbadmo1
- dadzddaddbadmo2

Oracle Storage Node

- dadzddadceladmo1
- dadzddadceladmo2
- dadzddadceladmo3
- dadzddadceladmo4
- dadzddadceladmo5
- dadzddadceladmo6
- dadzddadceladmo7
- dadzddadceladmo8
- dadzddadceladmo9
- dadzddadceladm10
- dadzddadceladm11
- dadzddadceladm12

Instalação

Oracle Database Info

- Database Name - orarmno6
- Disk Group - CATALOG , DELTA
- Table Space - system, sysaux, temp, users, UNDOTBS1,UNDOTBS2,UNDOTBS3,UNDOTBS4
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/oracle/diag
- Listener Name - LISTENER, 1521
- Scan - dadzddad-scan1

Instalação - NRPD

Oracle Server Node

- cnpexdaddbadmo1
- cadexdaddbadmo2
- cadexdaddbadmo3
- cadexdaddbadmo4
- cadexdaddbadmo5

Oracle Storage Node

- cnpexdadceladmo1
- cnpexdadceladmo2
- cnpexdadceladmo3
- cnpexdadceladmo4

Oracle Server Node

- cnpexdaddbadmo1-vm01
- cnpexdaddbadmo2-vm01
- cnpexdaddbadmo3-vm01
- cnpexdaddbadmo4-vm01
- Cnpexdaddbadmo5-vm01
- cnpexdaddbadmo1-vm02
- cnpexdaddbadmo2-vm02
- cnpexdaddbadmo3-vm02
- cnpexdaddbadmo4-vm02
- cnpexdaddbadmo5-vm02
- cnpexdaddbadmo1-vm03
- cnpexdaddbadmo2-vm03
- cnpexdaddbadmo3-vm03
- cnpexdaddbadmo4-vm03
- cnpexdaddbadmo5-vm03

Instalação

Oracle Database Info

- Database name - db1ctd11
- PDB - pdb1
- Disk Group - DATA^C1 RECOC^C1
- Table Space - system, sysaux, temp, users,
UNDOTBS₁,UNDOTBS₂,UNDOTBS₃,UNDOTBS₄
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/grid/diag
- Listener Name - LISTENER, 1521
- Scan - cnpexdadvmo1-scan1

Instalação - ZDL

Oracle Server Node

- cnpzddaddbadmo1
- cnpzddaddbadmo2

Oracle Storage Node

- cnpzddadceladmo1
- cnpzddadceladmo2
- cnpzddadceladmo3
- cnpzddadceladmo4

Instalação

Oracle Database Info

- Database Name - orarmno7
- Disk Group - CATALOG , DELTA
- Table Space - system, sysaux, temp, users, UNDOTBS1,UNDOTBS2,UNDOTBS3,UNDOTBS4
- Database Options - Enterprise Edition
- Infra Home location - /u01/app/19.0.0.0/grid
- RDBMS - /u01/app/oracle/product/19.0.0.0/dbhome_1
- Location - /u01/app/oracle/diag
- Listener Name - LISTENER, 1521
- Scan - cnpzddad-scan1

Instalação

Links úteis

- [Understanding the Network](#)
- [Exadata Database Machine](#)



Envolvidos no processo:

Danilo e equipe Hitss de redes.

Gilberto e Equipe Hitss de serviços.

Equipe Hitss de Instalações

Kelson e R. Gamarra Hitss

Jesse Hitss e R. Soares G&P.

