ORACLE

Oracle Database Appliance X10

Greater performance and value for small to medium Oracle Database deployments

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Cloud Architect, Oracle Latin America

Six common database deployment challenges

Budgets: Tight funding limits the number and size of resources that can be deployed

Expertise: Skill gaps hinder configuring, patching, manage, and securing systems

Integration: Multivendor solutions require additional integration and management

Performance: Demanding database workloads require high speed and continual tuning
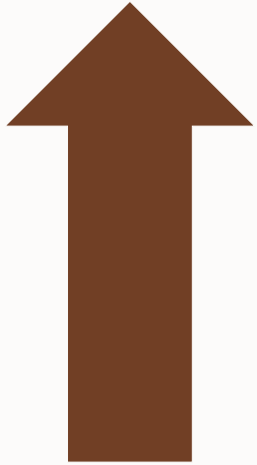
Security: Maintaining security is an ongoing cross-stack challenge

Continuity: Protecting the business against ransomware, failures, and human error requires backing up databases and providing high availability and disaster recovery
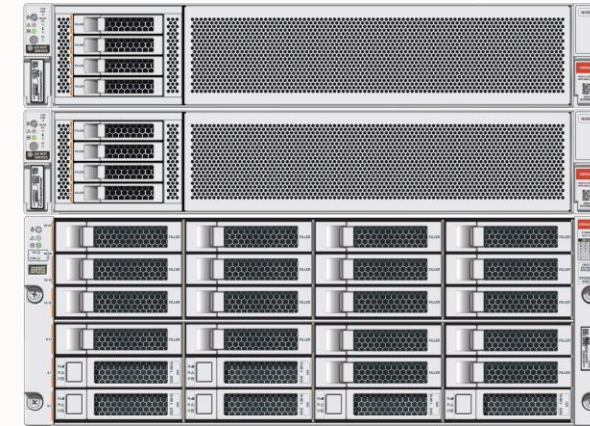
Commodity hardware vs engineered systems

Oracle Engineered

- Fully integrated SW & HW
- Purpose built appliances engineered for simplicity, optimized for database
- Single vendor
- Public cloud integration

Commodity

- Require multiple vendors and self integration
- No unified management
- No end-to-end support
- Not cloud-ready

Oracle Database Appliance integrates software, compute, storage, and network resources to deliver database services for a wide range of Oracle Database applications.

Five reasons why Oracle Database Appliance is a better choice

Simple
Pre-configured engineered solutions offer time savings, simplicity, and oracle integrated support.

Database optimized
Top-tier performance without extensive tuning, enhancing system efficiency.

Affordable
Predictable costs, reduced ownership expenses, and resource allocation for core business initiatives.
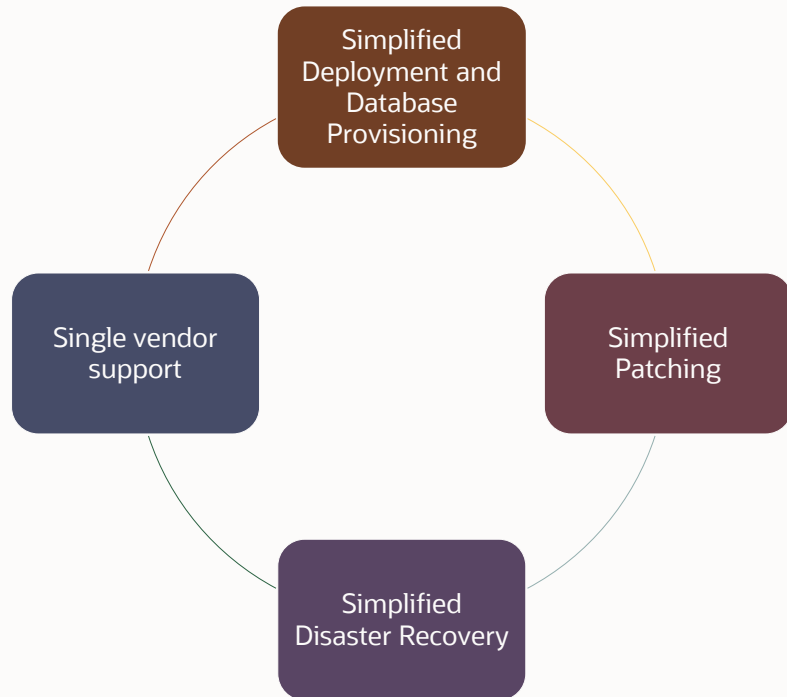
Secure
ODA prioritizes security through comprehensive appliance design, & end-to-end security enhancements.

Reliable
Engineered for high availability and built-in redundancy, ensuring rock-solid reliability.

Simple

Oracle Database Appliance offers seamless integration and automation that simplifies the deployment, management, and utilization of databases and applications.
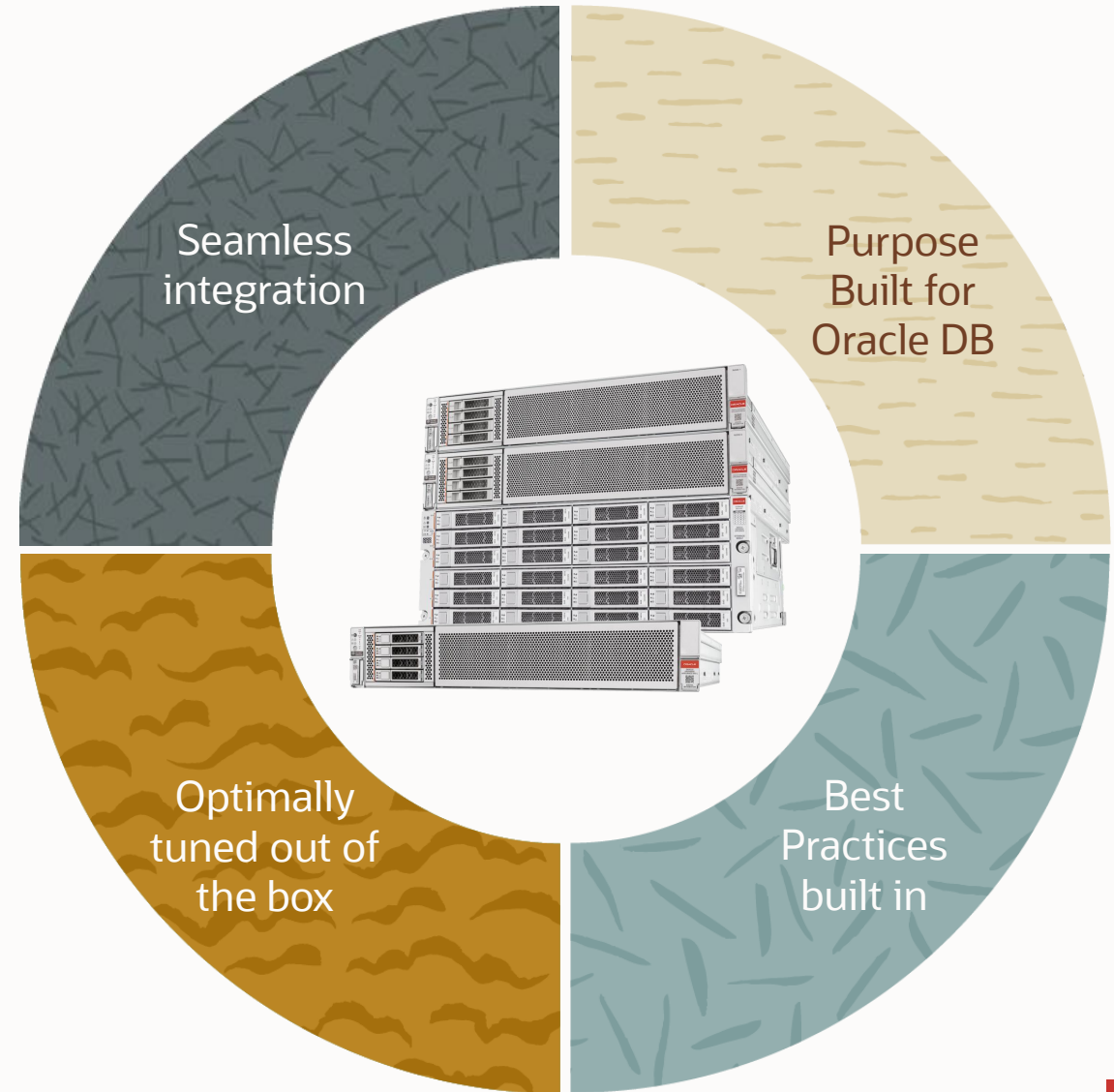
Simplified Deployment and Database Provisioning

Simplified Patching

Single vendor support

Simplified Disaster Recovery

Stand up system and begin loading data in 60 to 90 minutes

Database optimized

Oracle Database Appliance is easy to deploy and use with unique features that increase performance, efficiency, and cloud integration while simplifying data integration and management.

Seamless integration

Purpose Built for Oracle DB

Optimally tuned out of the box

Best Practices built in

Affordable

Oracle Database Appliance empowers customers to operate their businesses with fewer, highly automated, and database-optimized systems. This approach effectively reduces licensing and management expenses, resulting in a significant reduction in overall costs.

Key Benefits Compared to DIY

- **Flexible Database Licensing**

- **Rapid Deployment**

- **Streamlined Maintenance**

- **Significantly Reduced TCO**

Secure

Oracle Database Appliance provides a comprehensive and seamlessly integrated security framework, ensuring the protection of your data and infrastructure at every step of its design.

In-House Hardware Design

BIOS, Processor instruction encryption, and service processor firmware designed 100% by Oracle

Secure Out-of-the-Box

Installs only the required RPMs to run the stack

Fortified Oracle OS

Ultra secure operating system that defaults to highest levels of security

Advanced Security Features

Supports security options: Advanced Security, Audit Vault Database Firewall, and Database Vault

Timely System Updates

Full-stack patch sets and updates

Reliable

Oracle Database Appliance is purpose-built for uninterrupted operations with rock-solid reliability, providing continuous uptime and peace of mind.

- Built-in redundancy

- Engineered for high availability

- Continuous uptime

- Integrated Oracle Real Application Clusters & Data Guard support
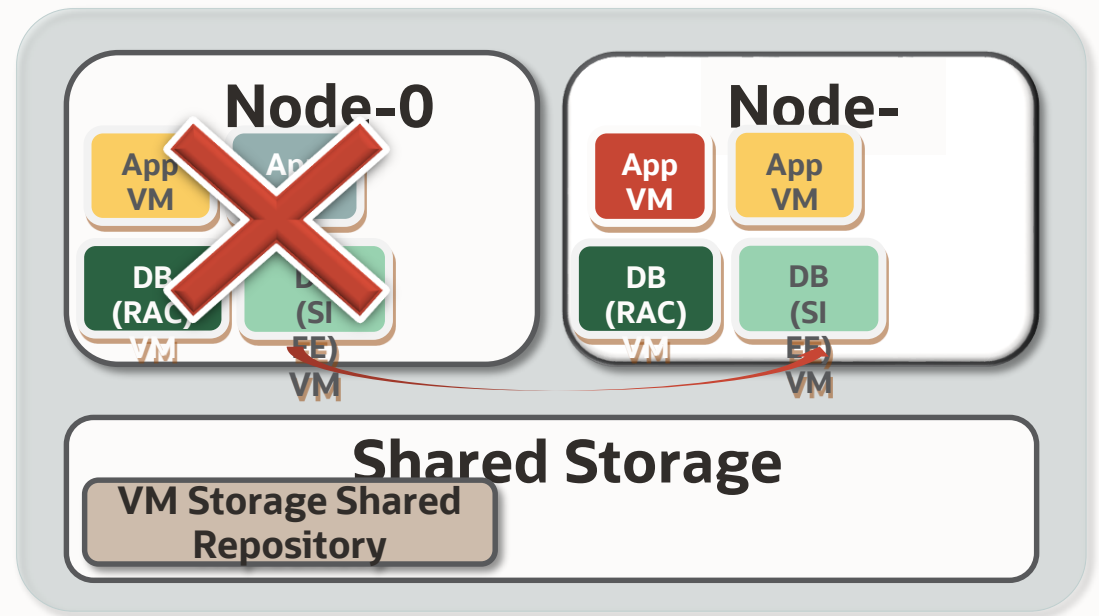
Introducing the Oracle Database Appliance X10 model family

PERFORMANCE — HIGHER

CAPACITY — HIGHER

Oracle Database Appliance X10-S
Single-instance
32 cores
256 GB memory, expandable to 768 GB
Up to 3 public network cards
13.6 TB data storage (raw)

Oracle Database Appliance X10-L
Single-instance
64 cores
512 GB memory, expandable to 1.5 TB
Up to 3 public network cards
13.6 TB data storage,
expandable up to 54.4 TB (raw)

Oracle Database Appliance X10-HA
Single-instance and RAC
128 cores
1 TB GB memory, expandable to 3 TB
Up to 6 public network cards
46 TB SSD data storage, expandable up to
368 TB SSD or up to 92 TB SSD + 792 TB HDD (raw)

Oracle Database Appliance | High-Availability Configuration
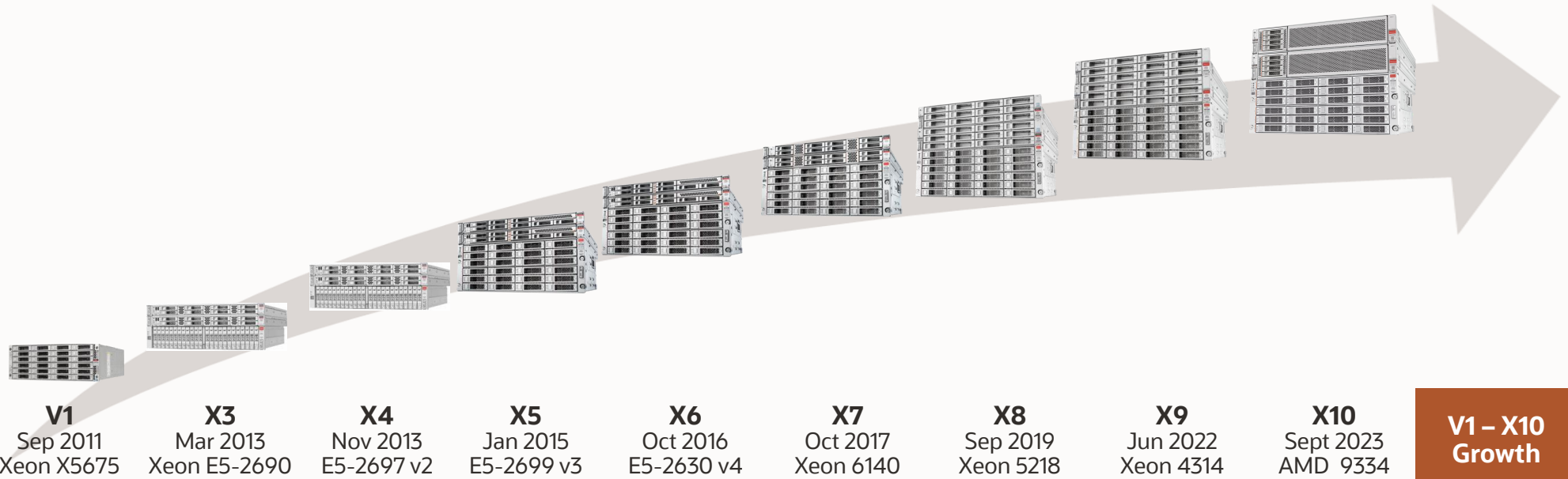
	V1 Sep 2011 Xeon X5675	X3 Mar 2013 Xeon E5-2690	X4 Nov 2013 E5-2697 v2	X5 Jan 2015 E5-2699 v3	X6 Oct 2016 E5-2630 v4	X7 Oct 2017 Xeon 6140	X8 Sep 2019 Xeon 5218	X9 Jun 2022 Xeon 4314	X10 Sept 2023 AMD 9334	V1 – X10 Growth
SSD Storage (TB, raw)	---	---	---	3.2	48	128	368	368	368	115 X
HDD Storage (TB, raw)	12	36	36	128	---	300	504	648	792	66 X
CPU (cores)	24	32	48	72	40	72	64	64	128	5.3 X
Max Memory (TB)	0.2	0.5	0.5	1.5	1.5	1.5	1.5	2.0	3.0	15 X
Ethernet (Gb/s)	48	80	80	80	80	100	300	300	300	6 X
Max Read IOPS	4,466	6,500	6,500	300,000	2,250,000	2,250,000	2,250,000	2,880,000	3,251,000	727 X
Bandwidth (GB/sec)	3.0	5.3	5.3	6.0	22.2	22.2	22.2	23.0	29.6	9.9 X

Oracle Database Appliance | Single-Node Configuration

	X6 Oct 2016 E5-2630 v4	**X7** Oct 2017 Xeon 6140	**X8** Sept 2019 Xeon 5218	**X9** Jun 2022 Xeon 4314	**X10** Sept 2023 AMD 9334	**X6 – X10** **Growth**
SSD Storage (TB, raw)	28.8	51.2	76.8	81.6	54.4	1.8 X
CPU (cores)	20	36	32	32	64	3.2 X
Max Memory (TB)	768	768	768	1,024	1,536	2.0 X
Ethernet (Gb/s)	60	50	150	150	150	2.5 X
Max Read IOPS (Million)	2.2	2.68	3.35	4.83	6.83	3.1 X
Bandwidth (GB/sec)	19.2	25.6	25.6	75.9	79.6	4.1 X

Improved Oracle Database Appliance X10 capabilities

New 4th-gen 32-core AMD EPYC™ processors
- Double the core count over X9
- Up to 50% more DDR5 memory
- 50% more memory channels

Up to 150% improved OLTP performance over X9 at the same entry prices
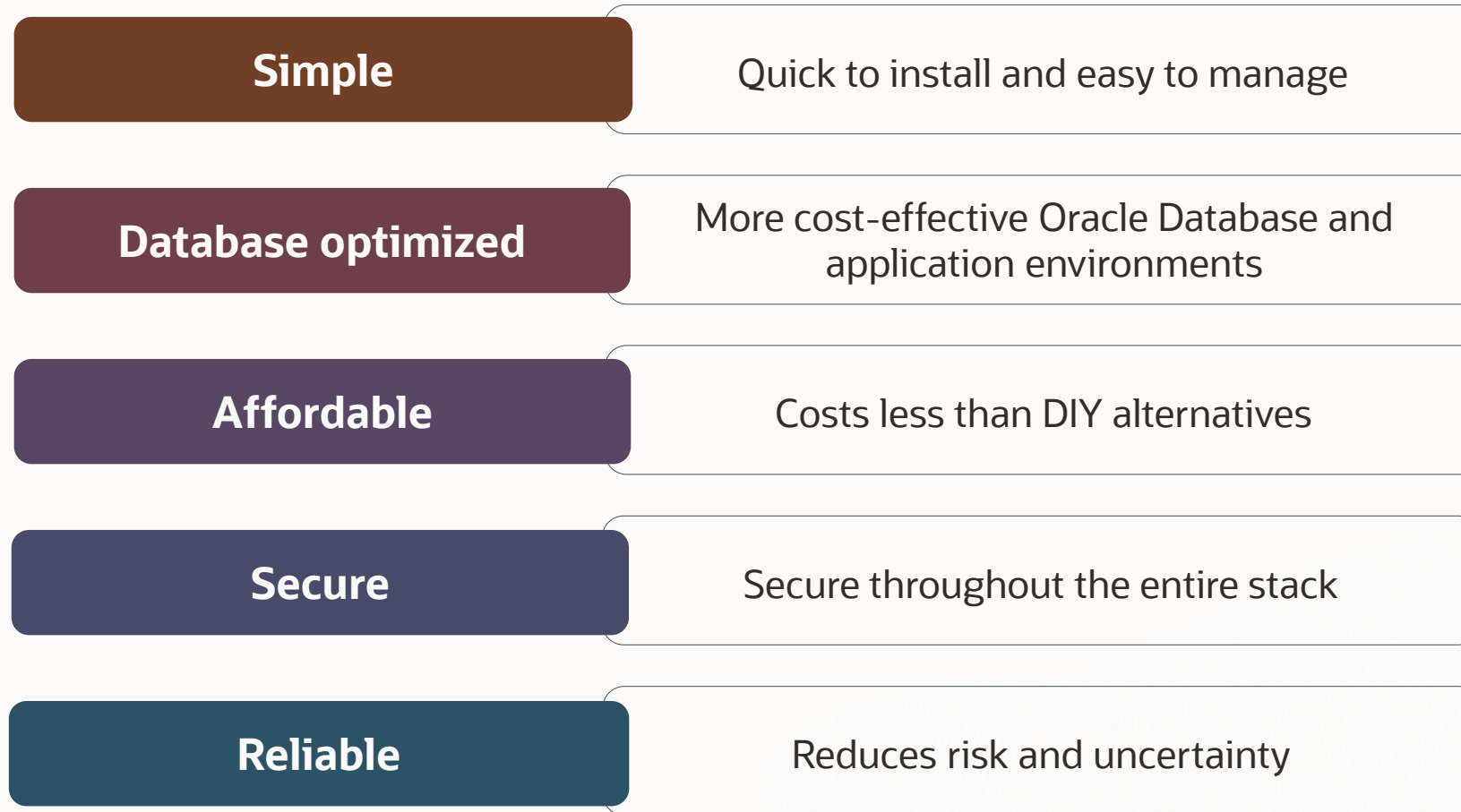
High-capacity model offers:
- 22% greater data capacity
- Larger database shapes
- Better database consolidation
- Enhanced solution-in-a-box capabilities for application and database VMs

Significantly enhanced price-performance ratio
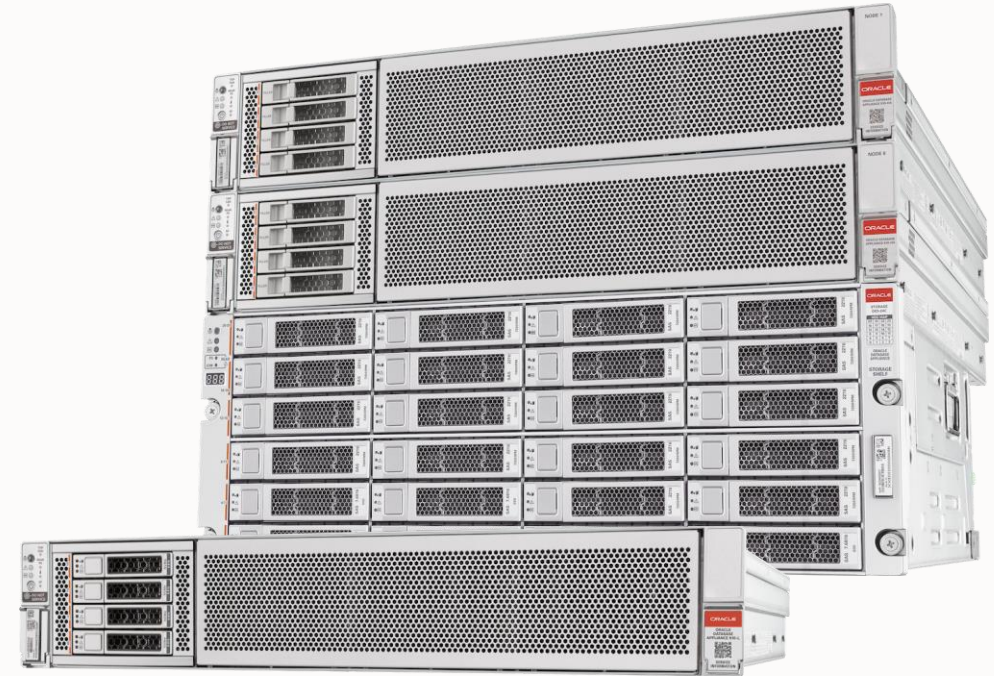
Oracle Database Appliance

The Simplest, Most Affordable Solution for Oracle Database and Applications

Simple	Quick to install and easy to manage
Database optimized	More cost-effective Oracle Database and application environments
Affordable	Costs less than DIY alternatives
Secure	Secure throughout the entire stack
Reliable	Reduces risk and uncertainty

What's Next?

Owner's Guide

Oracle Docs
ODA Initial Setup

Hands-on Simulator Lab:
About the simulator

Data Guard on ODA
ODA DR

ODA Datasheet
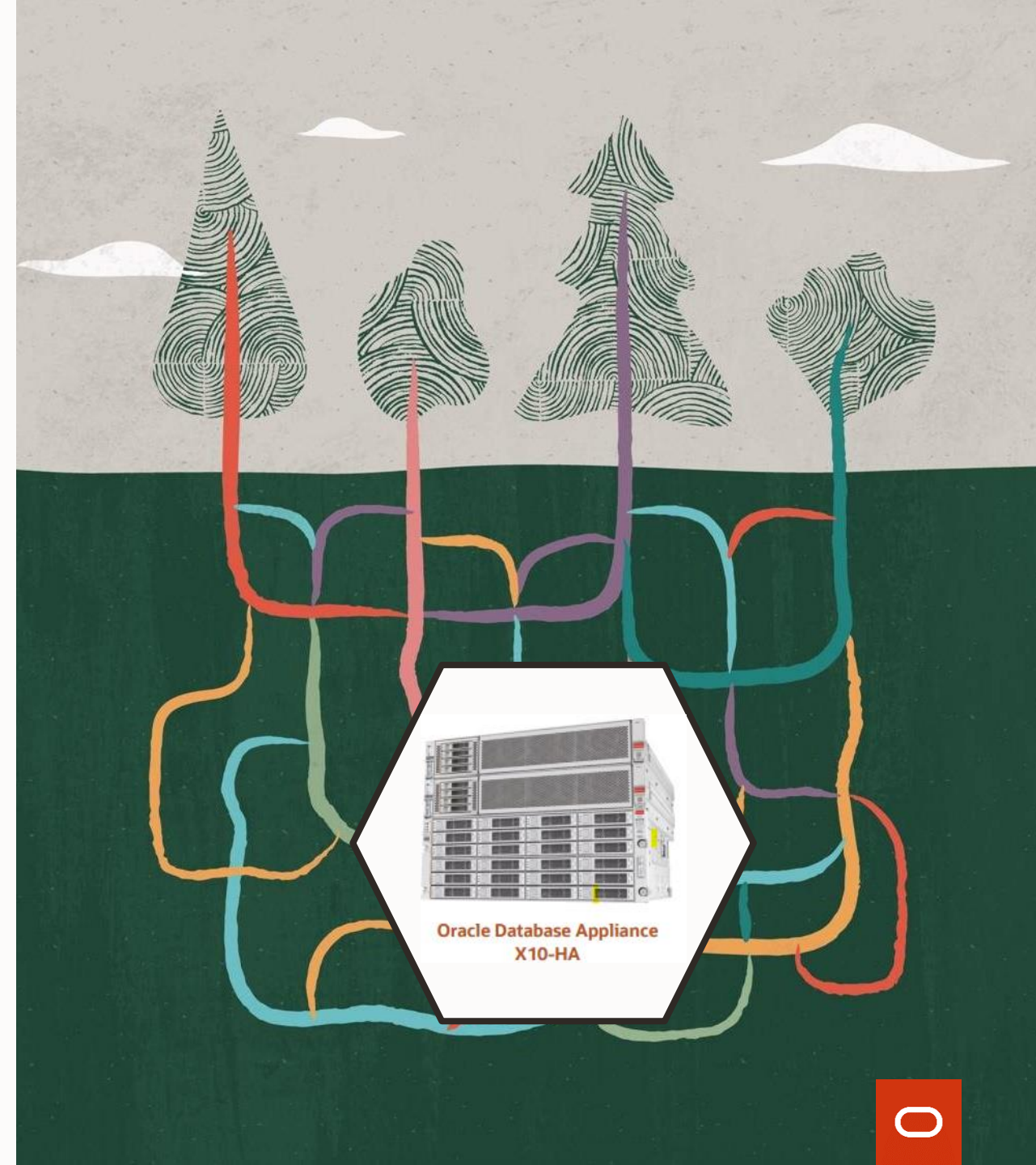X10-S & X10-L Shapes
X10 HA

Command Line Reference
odacli

Oracle Database Appliance
X10-HA

Command Line (odacli) Quick Reference

- odacli list-agentconfig-parameters
- odacli update-agentconfig-parameters
- odacli restore-archivelog
- odacli create-auto-logclean-policy
- odacli delete-auto-logclean-policy
- odacli list-auto-logclean-policy
- odacli list-availablepatches
- odacli create-backup
- odacli delete-backup
- odacli create-backupconfig
- odacli delete-backupconfig
- odacli describe-backupconfig
- odacli list-backupconfigs
- odacli update-backupconfig
- odacli describe-backupreport
- odacli describe-component
- odacli set-credential
- odacli create-database
- odacli update-schedule

- odacli register-database
- odacli configure-dataguard
- odacli deconfigure-dataguard
- odacli failover-dataguard
- odacli reinstate-dataguard
- odacli switchover-dataguard
- odacli describe-dataguardstatus
- odacli list-dataguardstatus
- odacli create-dbhome
- odacli delete-dbhome
- odacli describe-dbhome
- odacli list-dbhomes
- odacli create-dbstorage
- odacli delete-dbstorage
- odacli describe-dbstorage
- odacli list-dbstorages
- odacli describe-job
- odacli list-jobs
- odacli create-jobdata-retention-policy
- odacli restore-tdewallet

- odacli describe-network
- odacli list-networks
- odacli describe-networkinterface
- odacli list-networkinterfaces
- odacli list-nodes
- odacli create-objectstoreswift
- odacli delete-objectstoreswift
- odacli describe-objectstoreswift
- odacli list-objectstoreswifts
- odacli update-objectstoreswift
- odacli update-osconfigurations
- odacli list-pendingjobs
- odacli create-prepatchreport
- odacli describe-prepatchreport
- odacli list-prepatchreports
- odacli create-purge-jobdata-job
- odacli list-purge-jobdata-jobs
- odacli describe-schedule
- odacli list-schedules

My Oracle Support ODA-related Links

❑ ODA: How to Create a RAC One Node Database on Oracle Database Appliance (Doc ID 2136744.1)
❑ SRDC - Collecting Required ASM Troubleshooting Information in ODA (Oracle Database Appliance) (Doc ID 2368323.1)
❑ Oracle Database Appliance - 12.X Supported ODA Versions and Known Issues (See the ODA Release Notes for all Patching Information from 12.1.2.12 and higher) (Doc ID 888888.1)
❑ Alert: ODA 19.5 Requires a Deployment vs. Upgrade (Doc ID 2619256.1)
❑ Release Update Introduction and FAQ (Doc ID 2285040.1)
❑ https://docs.oracle.com/en/engineered-systems/oracle-database-appliance/index.html
❑ https://docs.oracle.com/en/engineered-systems/oracle-database-appliance/19.14/dalab/about-the-simulator-362112628.html

Customer Stories

Oracle Database Appliance customer successes

MIT

MITEC accelerates growth with Oracle Database Appliance

"Oracle Database Appliance gives us peace of mind and confidence in our operation. The security, availability, and performance elements of the database are very important in our industry; we feel we chose the right ally."

Edgar de la Luz

Director of Technology, MITEC

Business Challenge:

Mercadotecnia Ideas y Tecnología, or MITEC, has a mission to ensure fast payments for the 20,000 small- and medium-size merchants it serves. MITEC began working with Oracle more than 17 years ago. Today the company stores all its information in Oracle databases, providing high performance and scalability.

Results:

- ✓ Empowered MITEC to achieve 0.003-second transaction time
- ✓ Achieved 99.9% availability
- ✓ 6X faster replication speeds
- ✓ 90% approval rate
- ✓ That ratio of card vs. digital transactions reversed during the pandemic— 60% of transactions became digital

Products:

Oracle Database Appliance

OCI GoldenGate

Oracle Real Application Clusters (RAC)

Implementation Partner: Genap Tecnologia

Read full story here

Image courtesy of https://www.mitec.com.mx/en/payment-solutions.html

Electrohuila slashes data processing time with Oracle

"Oracle's experience, support, guidance, quality of staff, and product maturity gave us a lot of peace of mind."

Luis Ernesto Luna
Project Manager, Electrificadora del Huila

Business Challenge:

Electrificadora del Huila (Electrohuila) provides electricity in the region around Colombia's capital city, Neiva. At the end of 2020, Electrohuila had about 409,000 users. The company's computing infrastructure couldn't process that information fast enough to meet the operation's needs.

Results:

Electrohuila chose Oracle Database Appliance. The utility's market study concluded that Oracle provided the best option for hardware plus software engineered systems, and that it would help the business meet data processing needs

- ✓ Reduced the time needed to process about 2.8 billion records daily, from 12 hours down to approximately 2 hours
- ✓ The company can now meet data processing needs
- ✓ The Oracle solution provides data about both sales and collections from customers
- ✓ Helped the team improve the quality and reliability of information

Products Used:

Oracle Database Appliance

Image courtesy of https://www.electrohuila.com.co/tramites-proveedor/

Food distributor Hill Brothers cuts costs and downtime with Oracle

"We can always trust that Oracle Database Appliance won't fail us. It has been running uninterrupted since 2018."

David Piñeiro
Chief Financial and Strategic Officer, Hill Brothers

Business Challenge:

Hill Brothers is a Puerto Rico-based food-distribution company. The business's high transaction and data volume requires robust database software and hardware to keep inventories and customer transactions up to date.

Results:

Hill Brothers integrated Oracle Database Appliance and eliminated crashes and saved the cost of manual billing.

- ✓ Availability reached 99.7%
- ✓ Operating savings reached $60,000/ year
- ✓ Oracle Database Appliance runs purchases, sales, inventory, accounts receivable, and payable
- ✓ Printing purchase orders reduced to 3 sec. from 15 sec.

Products Used:

Oracle Database Appliance

Image courtesy of https://hillbrotherspr.com/#productos-1-section

Rede Bistek gains productivity with Oracle Database Appliance

"We saw an immense productivity improvement. Some jobs and routines that used to take hours to run now take just minutes."

Tatiana Mendonça
Technology Director, Rede Bistek

Business Challenge:

Brazilian supermarket chain Rede Bistek needed a new data management solution to bolster its digital business efforts. In addition, the company sought to evolve its cybersecurity strategy, including meeting the requirements of new legislation such as the Brazilian General Data Protection Law (LGPD).

Results:

- ✓ Increased its processing performance and storage capacity
- ✓ Routine tasks that used to take hours to execute are now done in a matter of minutes
- ✓ Database management has become much faster and more efficient
- ✓ Improved cybersecurity and reliability

Products Used:

Oracle Database Appliance

Our mission is to help people see data in new ways, discover insights, unlock endless possibilities.