

Top 10 Best Practices for Oracle Databases

Avoid risk, seize reward: How to navigate rapidly changing Oracle landscapes

The data landscape is changing as never before. There's more data to process from more sources, while the business demands faster and more precise results. At the same time, cyberattacks are on the rise. Infrastructure itself is transforming, with a significant amount of data now being processed in the cloud and at the edge.

Throughout these massive changes, Oracle® remains the world's number-one relational database technology, critical to the day-to-day operations of countless organizations. But how does this evolving data frontier affect your Oracle investments, and how do you capitalize on evolving opportunities while minimizing risks? Dell Technologies Oracle Specialists recommend these top 10 best practices:



Lay a Foundation for Emerging Oracle Technologies.

Short-term: Reduce costs and complexity.

Medium-term: Connect the digital business.

Long-term: Become a data-driven business.

1. Establish short-, medium- and long-term strategies for the changing business data landscape.

As IT lays the foundation for Oracle, it's important to keep in mind application and business requirements today and in the future. Careful planning can help protect investments so that the infrastructure that underpins your application and database transformation today will support business and IT outcomes now and be ready to support emerging data-driven scenarios in the future.

2. Identify the optimal infrastructure for Oracle databases.

When it comes to deploying mission-critical Oracle databases, you have more choices than ever before. Keep in mind that a one-size-fits-all approach is seldom an ideal strategy for your digital transformation journey. Infrastructure and deployment decisions need to be based on your specific use cases, performance, application and availability requirements.

3. Understand your database infrastructure requirements.

Optimizing the value of your Oracle database investments and providing adequate service levels requires an environment built for your use cases. Understanding the CPU, RAM, storage, networking and backup requirements of your Oracle use cases — and architecting the environment to meet or exceed these requirements — will improve overall Oracle performance, stability and availability.

4. Accelerate your move to hybrid cloud infrastructure.

Hybrid cloud is a compelling option for enhancing operational efficiencies while minimizing costs and risks. Dell Technologies [APEX Cloud Services](#) give you integrated compute, storage and networking resources with support for both traditional and cloud-native applications. An as-a-Service option, APEX can quickly deliver a mature hybrid cloud infrastructure for your Oracle databases.

Allocated Versus Used Storage

201TB allocated

127TB used



The 3-2-1-1 Rule

3 copies of your data

2 different storage media

1 stored off-site

1 stored offline



Modern Threats Require Modern Solutions.

Isolation: Physically and logically separate data.

Immutability: Preserve original integrity of data.

Intelligence: Identify threats with AI and analytics.

5. Determine your allocated versus used storage capacity.

Cloud providers charge based on consumption, so you need to know how much storage Oracle is consuming compared to how much is allocated. For example, one Dell Technologies customer allocated and paid for 201TB of storage for Oracle but found that only 127TB was used by the database. This is a common problem that can have significant cost implications for a cloud deployment model.

6. Know your Oracle license entitlements and usage.

Oracle licensing requirements can be complex, and the financial risks of non-compliance are significant. At the same time, overlicensing can also be a drain on the budget. Best practice for optimizing your Oracle spend includes performing an internal audit and setting up ongoing monitoring to identify and remediate any non-compliance and/or overlicensing issues.

7. Identify the primary risks to your Oracle database assets.

Cybercriminals increasingly target backups to make it difficult to protect yourself against ransomware. Backup admins are a main target because they have trusted access that can give criminals free range inside your systems. Other points of vulnerability include the master server, any system mounted by the media server, file system backups, tape catalogs and cloud backups. These points of entry need to be protected against bad actors.

8. Follow NIST's Cybersecurity Framework and the 3-2-1-1 rule.

The [National Institute of Standards and Technology](#) (NIST) outlines a [cybersecurity framework](#) for protecting data to create a more secure organization. It includes the [3-2-1-1](#) rule, which recommends that you keep three copies of your data on two different storage media, one stored off-site and one stored offline. Any best practice for data security should start with the NIST framework as a baseline.

9. Adopt a zero-trust security model.

With today's increasingly mobile and remote workforce, network-based security alone can't keep up. [Zero-trust security](#) is a model based on the idea that intruders are already in the network, and no connection — whether internal or external — can be trusted. Under the recommended [NIST Zero Trust Architecture](#), every connection must be continuously authenticated and authorized before access to an IT resource is granted.

10. Take a strong stance against emerging threats.

Cyber recovery can be very different from disaster recovery. Cybersecurity experts recommend logically separating infrastructure as well as maintaining offline and air-gapped copies of data. [Dell EMC PowerProtect Cyber Recovery](#) protects data via physical and logical isolation from the attack surface, preserving the integrity of data and applying artificial intelligence (AI) and analytics to identify potential cyberthreats or corruption.

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