Oracle for SAP Cloud and Infrastructure Update

ORACLE

October 2025

Dear SAP Customer,

The relationship of Oracle Corporation and SAP SE has been and is based on a long history, a rich heritage of joint developments and a stable future for the benefit of our mutual customers. Both companies have had an ongoing commitment to our tens of thousands of joint customers for over 30 years.

Our longstanding reseller and support agreements provide enhanced access to Oracle Database technology, Oracle Cloud Infrastructure and world class customer support. Oracle will support SAP Business Suite and SAP BW as long as SAP will be supporting them. With every new release we will provide latest database technology and let customers make use of more and more SAP application optimizations.

Running SAP applications on **Oracle Cloud Infrastructure** has been certified for Bare Metal and Virtual Machine shapes as well as for **Exadata Cloud Service** and **Oracle Exadata Cloud@Customer**. Oracle Exadata Cloud Service is the most powerful platform to run Oracle Database in the cloud. Oracle Exadata Cloud@Customer is the Cloud version of Exadata which is located on-premises in the datacenter of the customer; both services are only available from Oracle. Both SAP Application Server ABAP/Java as well as SAP Business Objects are deployable on Oracle Cloud Infrastructure. Oracle Cloud Infrastructure combines the elasticity and utility of public cloud with the granular control, security, and predictability of on premises infrastructure to deliver high performance, high availability, and cost-effective infrastructure services. Oracle Cloud Infrastructure offers a set of core infrastructure capabilities such as compute and elastic storage to provide customers the ability to run any workload in the cloud. It offers a comprehensive set of integrated, subscription-based infrastructure services that enable businesses to run any workload in an enterprise grade cloud-managed, hosted, and supported by Oracle. The Oracle product strategy provides flexibility and choice across the IT infrastructure. There are several Cloud database migration techniques: R3LOAD (SAP), BRSPACE (SAP), RMAN, O2O, Triple O and Data Guard physical standby. For further details regarding cloud migration techniques, please see page 18.

The **Oracle Exadata Database Machine** is engineered to consolidate all of your SAP and non-SAP Databases into a private Database Cloud environment. It delivers the highest performance and most available platform for running the private Oracle Database Cloud for all types of database workloads; including both Online Transaction Processing (e.g. SAP ECC 6.0), and Data Warehousing (e.g. SAP BW 7.0 and higher). The Exadata Database Machine is ready to tackle your largest and most important database workload, often running them up to 10 times faster or more. It has already been deployed by many SAP customers.

Oracle Linux is the best Linux for supporting SAP infrastructure computing needs that is running on Oracle Database. It is fast, brings the latest innovations to customers and delivers best performance for SAP. It is reliable and it provides best security and data integrity. It is optimized for Oracle Database and improves application uptime.

Oracle Linux Virtualization Manager is a server virtualization management platform that can be easily deployed to configure, monitor, and manage an Oracle Linux Kernel-based Virtual Machine (KVM)

environment. **Oracle Linux KVM** and **Oracle Linux Virtualization Manager** provide a modern, open source, high performance alternative to proprietary server virtualization solutions with zero licensing costs.

The **Oracle development teams** on site at SAP SE in Walldorf, Germany continue to work together with SAP developers to ensure that SAP customers will always have access to the latest optimized Oracle technologies, ensuring performance, reliability and innovation.

The **Oracle for SAP Service & Support** team from Customer Success Services (CSS), which subsumed the former Advanced Customer Services, offers services that include health checks, workshops, database migrations, performance tuning, and Oracle Solaris Services for SAP environments, including Assisted Services Engagements (Analysis/ Enhancement and SAP Readiness Service for IT Infrastructure).

For more information, please visit www.oracle.com/sap.
We welcome your comments and questions. Please contact us at: frontdesk-SAPCC_mb@oracle.com

Sincerely,

Gerhard Kuppler

Vice President SAP Alliances
Oracle Corporation

ORACLE CORPORATION: US$57.4B in revenue in FY2025 • US$80B+ in R&D since FY2012 • US$110B+ spent on 150+ acquisitions • 160,000 employees • 18,000 customer support and service specialists, speaking 20+ languages • 29,000 consulting experts • 5 million registered members of Oracle's customer and developer communities • 469 independent user communities in 97 countries representing more than 1 million members.

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Designed to Address Compliance with EU Laws
Operates under a comprehensive set of policies and governance that enhance OCI's capabilities

Operated Separately
Operations and support restricted to EU residents and EU legal entities

Physically Separate
Shares no infrastructure with Oracle's commercial and government regions

Access to Same Services, Value, and Innovation as Public Cloud
Same cloud services, same pricing, same levels of support and financially backed SLAs

LATEST ORACLE CLOUD AND INFRASTRUCTURE FOR SAP CERTIFICATIONS

Oracle Exadata Database Service on Dedicated Infrastructure X11M
Certified as of May 2025 inside your data center

SAP NetWeaver® Application Server ABAP/Java with Oracle Database@Azure
Reference guide for deployment is now available.

Composable ERP Transformation

Over the past ten years there has been more than just a digital transformation in the ERP sector. A new orchestration of the entire IT landscape has given rise to new combinations in hardware, middleware, and software. Many black box systems have been replaced by hybrid architectures and composable IT. Oracle is at the forefront of this development with an extremely broad range of solutions.

By Peter M. Färbinger

In recent years, IT departments have evolved from internal service providers to key players in digital transformation. IT infrastructure must continuously adapt to current business requirements. IT must respond to two key business requirements: accelerating transformation through the development of digital innovations and enabling the process and IT landscape for cross-system and cross-company data exchange. Only a few ERP users have a technology stack that supports their business requirements. Many companies are therefore placing a high priority on application modernization. At the same time, ERP users complain that application modernization is not being given enough priority. One reason for this could be that responsibility for IT budgets lies mainly with CEOs and CFOs, even though IT is the driving force behind modernization.

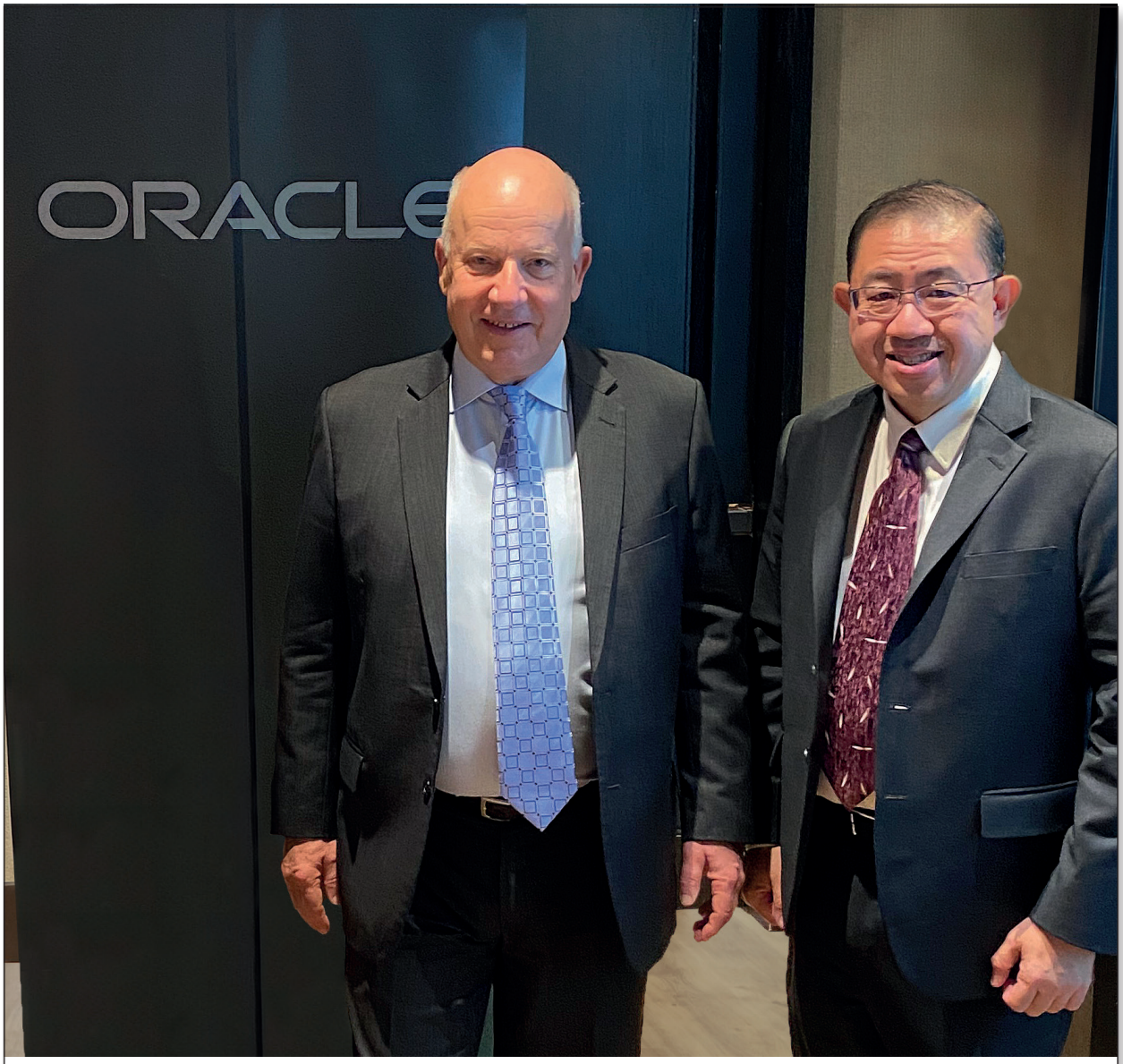
Disruption and Composability

The use of current technologies such as AI is currently only a driver for IT modernization for selected ERP users. This is because many companies are still in the early stages of introducing disruptive technologies and first need to lay the foundations for using AI effectively. However, many ERP users believe that AI and IT platforms will help their companies modernize their applications in a better and more timely manner.

It is surprising that only a few companies have already defined a precise ERP strategy for implementing application modernization. IT modernization is not just an IT issue, but also a business one. It is therefore crucial to reconcile the differrent interests and perspectives and develop a common strategy that delivers the greatest benefits for all stakeholders. It should be noted that there is no universal solution. As a rule, different modernization strategies are used depending on the application. A comprehensive analysis of the current state and IT architecture is essential for making an informed decision. It is also crucial that decision-makers within the company recognize the relevance of IT modernization as a decisive factor for future business success.

"While SAP is currently the world's leading ERP provider, there are many other providers expanding their market share in the same market," emphasizes Gerhard Kuppler, Oracle Vice President SAP Alliances. "At Oracle, we believe we offer the industry's broadest choice of deployment platforms: on-prem, in the cloud, and hybrid. We are also the leading provider of multi-cloud implementations in the market, where our Oracle Cloud Infrastructure, Oracle Database@Azure, Oracle Database@AWS, and Oracle Database@GCP enable customers to choose the deployment platform that best suits their needs. And with this multi-cloud design built into our products, customers are not locked in and have the flexibility to move from one platform to another as their needs change. In AI, we offer not only LLMs, but also the industry's leading AI infrastructure with the latest GPUs in a SuperCluster with up to 131,072 GPUs." (see graphic on page 5)

IT analyst Gartner has identified twelve emerging technical disruptions that will significantly shape the future of business systems. IT decision-makers should give these developments top priority over the next five years, as they not only offer short-term competitive advantages but will also establish themselves as the standard in companies in the long term. "Technology leaders need to act now to gain early competitive advantage from these technologies," said Bill Ray, distinguished VP analyst at Gartner. "Innovative advances such as GenAI-enabled code architectures, disinformation security, and Earth intelligence are creating the differentiation needed to secure a decisive advantage in areas such



From lefto to right: Gerhard Kuppler, Vice President SAP Alliances, Oracle and Kuen Sang Lam, Senior Director – Global SAP on Oracle Cloud Infrastructure and Technology, Oracle.

as data processing and product offerings."

The transformation of organizations is an increasingly demanding challenge. Currently, the development of AI in particular is leading to greater complexity in IT landscapes and making it more difficult to implement digital transformation projects. The development of new technologies makes it clear that company digitalization should not be viewed as a singular project. Rather, it is a process that is often slowed down by outdated system landscapes, as these do not grow with the company and thus limit agility and innovation.

"Since R/3 Release 1," explains Gerhard Kuppler in an exclusive interview with E3, "we have been working closely with SAP to simplify and streamline IT operations for SAP systems, from the early days of the SAP DBA tool to the BR tools used today to manage Oracle databases for SAP systems. Over time, we have added support for more and more features of the database product, as well as additional database options that address complex customer requirements for security, reliability, scalability, and performance."

ERP requirements

The Oracle database meets these requirements with the following options: Advanced Security for encrypting data at rest and in transit; Advanced Compression for reducing storage size and improving performance; Database Vault for role separation and control of data access rights; Active Data Guard for easy and seamless disaster recovery failover; Oracle Database In-Memory for column-based in-memory processing to improve analytical processing; and finally, Real Application Clusters for active-active high availability clustering.

Exadata technology (on-prem, in the cloud, and hybrid) can be particularly beneficial for SAP customers to create an optimal environment for running the Oracle database that underpins SAP sys-

tems. With the Zero Data Loss Recovery Appliance (on-premises or as a cloud service), SAP customers can manage SAP systems of any size quite easily and in a time-saving manner.

Many of the largest SAP customers use the above solutions (e.g., Loblaw in Canada with 180TB and Cencora (Amerisource-Bergen) in the US with more than 100TB). These are good testimonials for running SAP on Oracle Cloud. However, many ERP users are still in the early stages of identifying use cases. Companies that actively work with AI will have a competitive advantage over those that do not use AI in the future. At the same time, there are a number of challenges to consider during implementation, from shadow AI to compliance issues. This tension between risks and regulations must be resolved. In German-speaking Europe, generative AI is less of a strategic consideration and more of a practical implementation. This empowers specialist departments, but also raises complex questions regarding access rights.

"SAP has announced that it intends to discontinue extended support for SAP Business Suite at the end of 2030," points out Gerhard Kuppler, Oracle VP SAP Alliances. "Our current Oracle Database 19c has an extended maintenance end date till the end of 2032. We plan to certify Oracle Database 23ai for SAP Business Suite as soon as it is released for all platforms.

This will push the support date for Oracle Database even further. It will depend on whether SAP listens to its customers, who continue to rely on the stable SAP Business Suite for a much longer period of time." Gartner analysts have predicted that by 2030, more than 40 percent of current SAP ECC customers will still be using ERP/ECC 6.0 (SAP Business Suite 7) for key business areas.

Investment Report 2025

In 2025, the German-speaking SAP User Group (DSAG) once again surveyed companies in Germany, Austria, and Switzerland about their investment plans. Key findings: The general willingness to invest in IT solutions, including SAP solutions, is showing a steady increase. Regarding the ERP solutions SAP Business Suite 7 (ERP/ECC 6.0), S/4 Hana On-prem, and S/4 Cloud, it is clear that S/4 is becoming increasingly relevant. In addition, survey participants confirm that SAP will continue to grow in importance for their companies.

When asked about the ERP solutions they use, SAP ERP and Business Suite 7 are once again at the forefront. Forty-two percent of SAP customers plan to invest in S/4 On-prem, while 23 percent plan to invest in Business Suite. The results show a clear shift towards cloud solutions.

Many larger companies have a company-wide cloud strategy or guidelines in place for modernizing IT processes. As a rule, these companies tend to have greater investment power. Nevertheless, DSAG CEO Jens Hungershausen warns: "Some customers feel pressured by SAP to move to the cloud. The pace set by the software manufacturer is not sustainable for every company. SAP must not push its customers into making quick decisions for the sake of its own share price. Instead, SAP must ensure that companies have realistic, economically viable, and strategically sensible migration prospects. Freedom of choice, long-term planning security, and fair conditions for on-premises customers are still needed."

Another question focuses on digital transformation and the progress companies are making in this area. Given the data available, it comes as no surprise that a significant number of SAP's customers in German-speaking countries have a positive view of digital transformation.

Large companies generally have the resources and budgets to implement comprehensive digitization projects at a faster pace and integrate their IT infrastructure efficiently. In addition, digital transformation and innovation are often defined as strategic priorities in this context, and their implementation is specifically promoted. This probably leads to larger companies assessing the progress of their transformation more positively than smaller companies, which may have to work with more limited resources.

The results of the DSAG Investment Report 2025 suggest that companies are increasingly willing to invest in forward-looking technologies in the future. It should be noted that there is a significant trend toward the cloud. The growing relevance of artificial intelligence and cybersecurity illustrates the current challenges and opportunities facing companies. The increasing use of cloud services and the significantly growing relevance of artificial intelligence (AI) highlight the urgency of technological advancement in order to remain competitive. At the same time, an increasingly differentiated picture is emerging between large and small companies in terms of resource allocation for digital transformation.

SAP ERP/ECC 6.0

"You are right to point out that the current ECC systems running on Oracle Database are extremely stable and robust," says Gerhard Kuppler, Oracle Vice President SAP Alliances, when asked the following: from the perspective of SAP customers and based on the available DB, cloud, and AI technology from Oracle, the SAP NetWeaver stack with ERP/ECC 6.0 could probably continue to function operationally for many years. What are the arguments in favor of ECC/NetWeaver operation?

"As long as SAP continues to offer patches for the SAP kernels and Oracle provides patches for the Oracle compo-

nents, these Abap systems can continue to run smoothly and efficiently in the future," explains Gerhard Kuppler. "Many SAP customers would rather invest their limited IT budget in new areas such as AI and machine learning, IoT and others to deliver brand new capabilities than reimplement their ERP, which they have spent 20 years building. Reimplementing ERP will add minimal new capabilities to what they already have today.

If ECC is a house and S/4 Hana is a newer house with better amenities, switching from ECC to S/4 would be like moving from a functional house to a newer house with nicer furnishings. However, if customers decide to stay in the current ECC house, they can afford a car. This gives them a greater radius of action and more freedom, just as a car offers more opportunities to explore uncharted territory. If SAP refuses to extend the maintenance plan for ECC, some customers may switch to third-party maintenance. And that is something neither Oracle nor SAP wants. Both SAP and Oracle agree on the risks of third-party maintenance."

On-prem versus cloud

Many SAP customers are considering cloud computing. "NetWeaver customers who want to move to the cloud have more options if their database is Oracle DB," explains Kuen Sang Lam, Senior Director SAP on Oracle Cloud Infrastructure and Technology. These customers can choose to move to standard VMs from supported hyperscalers such as OCI, Azure, AWS, and GCP. With OCI, they also have the option of using the Exadata Cloud Service, which allows them to run their Oracle database on an Exadata machine in the cloud. In addition, customers can also run their SAP database on Exadata Cloud@Customer, where we deploy an Exadata in the customer's cloud. We are also working to have Oracle Database@Azure, Oracle Database@AWS, and Oracle Database@GCP certified by SAP for running SAP Business Suite."

The many options would enable SAP customers to find a solution tailored to their individual needs. In addition to complete public cloud computing, Oracle also offers a hybrid solution known as Cloud@Customer, where the entire cloud is deployed in the customer's preferred data center. "We are also working on a multi-cloud deployment model so that customers can leverage the benefits of Oracle Exadata technology with a hyperscaler of their choice," explains Kuen Sang Lam. "We recommend that our customers discuss their needs with us so that we can offer them a solution that best suits their requirements and budget."

But what aspects need to be considered when changing the IT architecture and ERP system? "Stability, reliability, and performance," says Kuen Sang Lam. "This is particularly important when migrating from one ERP to another. Customers need to ensure that their current ECC system is stable, runs reliably, and offers users good performance. This will enable them to focus on the complex migration project without having to spend too much time fixing problems in their existing system. The current ECC system should serve as a benchmark for the new system to be implemented. Optimize the new system until it is as fast or faster than the existing one. Launching a new system that is slower than the current one is a recipe for failure."

Gerhard Kuppler adds: "The most important question customers need to ask themselves is whether they want to bet the company on the outcome of an ERP project. If the answer is no—which it should be—then they need to prepare for that and ensure that the company runs smoothly and efficiently throughout the project. Before the project begins, they need to optimize the entire stack for the current ECC system, including the base platform—whether on-premises, in the cloud, or as a Cloud@Customer. They need to ensure that the current system is well covered in terms of performance, reliability, efficiency, and resilience.

"This is similar to building a new house, where the current house must continue to be maintained. You also need to factor in delays in the project so they do not negatively impact the business. Finally, you also need to plan for the possibility of project failure. The failure of an IT project should never cause a company's downfall. A plan in case a project fails ensures that the company survives the unfortunate event."

oracle.com/sap

OCI offers NVIDIA L40S GPUs for Compute Cloud at Customer and NVIDIA L4 GPUs for edge deployments.
OCI offers NVIDIA H100 and H200 Tensor Core GPUs for OCI Dedicated Region and Oracle Alloy. NVIDIA B200 Tensor Core GPUs are orderable now.

In the field of AI, Oracle offers not only LLMs, but also AI infrastructure with the latest GPUs in a SuperCluster with up to 131,072 GPUs.

Why SAP NetWeaver Runs Best on Oracle Exadata

The Gold Standard for Extreme Performance & Resilience of the Oracle Database, Supporting SAP ECC and NetWeaver Applications

In a world where business moves at digital speed, SAP ECC has been the operational core of many global enterprises. From finance and manufacturing to logistics and HR, SAP systems run mission-critical processes that demand peak performance, security, scalability, and efficiency. But SAP ECC performance is only as good as the platform it runs on.

Enter Oracle Exadata – the engineered system built to make SAP ECC runs faster, more resilient, and operationally streamlined. Whether deployed on-premises, on a cloud behind the customer's firewall, or in Oracle's public cloud, Exadata delivers unmatched performance and reliability for SAP environments. This article explores why SAP ECC and NetWeaver based applications run best on Oracle Exadata platform, not just technically but strategically.

SAP ECC and NetWeaver systems lie at the heart of modern enterprise operations – and the infrastructure they run on determines whether they become a growth accelerator or a bottleneck. Oracle Exadata redefines what SAP infrastructure should be: faster, smarter, and inherently resilient. It delivers unmatched performance, seamless scalability, and built-in high availability, wrapped in a platform that simplifies operations and accelerates business outcomes.

Engineered for the Oracle Database, Supporting SAP ECC and NetWeaver from the Ground Up

Oracle Exadata is not a general-purpose server or cloud VM. It is an Engineered System platform purpose-built for high-performance database workloads, and it is fully SAP-certified. This is critical for enterprises running large SAP landscapes, which often consist of dozens or even hundreds of interdependent database instances.

What makes Exadata platform unique?

- First is the "Integrated Compute, Storage, and Networking". Unlike traditional deployments with piecemeal architecture, Exadata delivers a fully integrated stack – optimized and tested for Oracle Database and SAP workloads.
- Second is the "Built-in Redundancy and Fault Tolerance". With redun dant components and Real Application Clusters (RAC), Exadata en sures the highest availability for SAP applications.
- Thirdly, the important "SAP Bundled Patches": SAP Bundled Patches are pre-tested and certified for Exadata, downloaded from SAP Sup port portal for simplified compliance approval and worry-free patching process.

This integration eliminates many pain points typical in multi-vendor environments: configuration complexity, patching delays, and blame games during incidents. With Exadata, SAP landscapes become easier to manage, more secure, highly performant, and more reliable.

Game-Changing Performance: Smart Scan, SQL Offloading, and Storage Index

A major performance enabler of Exadata lies in its Smart Scan, SQL Offload, and Storage Index capabilities. In a conventional setup, all SQL query processing happens on the database servers, which can quickly become bottlenecks, especially for large data scans.

With Exadata, query workloads are offloaded to intelligent storage servers, reducing network traffic and database CPU usage. Data filtering, column projection, and aggregation happen in storage, so only the results are sent back.

For SAP workloads, particularly those involving custom ABAP "Z-programs", these features make a dramatic difference. These programs are typically batch-intensive, both transactionally and analytically heavy, and hard to optimize. On Exadata, real-world customers have seen performance gains of 3x to 33x, unlocking faster reporting, shorter jobs runtime, and better decision-making. This matters in industries like retail (inventory/POS updates), finance (end-of-month batch), utilities (billing cycle runs), and manufacturing (production planning), where delay translates directly into cost or lost opportunity.

High Availability: RAC, ASM, and Built-In Resilience

High availability is not optional in an SAP environment. Whether it's SAP ECC, or Business Warehouse (BW), downtime means business disruption.

Exadata includes Real Application Clusters (RAC) out of the box, enabling active-active clustering across nodes.

Also included is Automatic Storage Management (ASM) for disk redundancy and fast recovery, and Oracle Clusterware for managing SAP SCS/ASCS high-availability configurations. Instead of cobbling together HA solutions from multiple vendors, Exadata gives you native end-to-end resilience – certified and supported by both Oracle and SAP.

Designed for Simplicity, Consolidation, and Scale

SAP landscapes are notoriously complex. It's not uncommon for enterprises to manage dozens of developments, QA, training, and production systems. Exadata helps collapse this complexity with massive scalability and consolidation power.

Key benefits include:

- High consolidation density (100+ databases per rack)
- Improved DBA productivity (125+ databases per DBA)
- Lower data center costs (power, cooling, rack space)

Thanks to technologies like Hybrid Columnar Compression (HCC), Flash Cache, and storage tiering, customers can reduce storage usage by up to 10x, all while improving performance.

Real-World Impact: What customers got after moving to Exadata technology

A global retail chain running SAP IS-Retail reduced its batch job window from 2–3 days to 8 hours and compressed its archive storage 15x using Exadata.

Flexible Deployment: One Platform, Three Models

Today's SAP customers demand choice – between cloud, on-premises, and hybrid. Oracle Exadata is the only platform that offers true architectural parity and equivalency across all deployment models:

- **Exadata On-Premises:** Full control, data sovereignty, CAPEX model and reduced real estate cost

Real-World Impact: What customers got after moving to Exadata technology

Cencora (AmerisourceBergen):

- **Exadata Cloud@Customer:** Cloud simplicity behind your firewall, OPEX model and regulatory compliance
- **Exadata Cloud Services (OCI):** Fully managed, scalable, ideal for rapid deployment and global operations

This flexibility and consistent architecture make Exadata platform ideal for regulated industries (banking, healthcare, government) where data residency, latency and control are paramount and non-negotiable.

Strategic Value Beyond the Database

Oracle Exadata is not just an infrastructure platform – it is a catalyst for enterprise transformation. In today's digital economy, where speed, risk mitigation, and operational efficiency drive competitiveness, Exadata delivers strategic advantages that go far beyond raw performance.

With fewer integration points, consistent patching cycles, and a unified management framework, Exadata drastically reduces the operational complexity and risk associated with fragmented SAP environments. Enterprises gain not only faster innovation cycles, but also greater confidence in compliance, business continuity, and audit readiness.

Exadata is also the ideal platform for landscape consolidation. It supports both SAP and non-SAP Oracle workloads on a single infrastructure, allowing CIOs to streamline data center operations, eliminate silos, and gain a single source of truth across the business. This creates a stronger foundation for AI/ML initiatives, analytics modernization, and multi-cloud integration strategies.

Put simply, Exadata is no longer just the database platform of choice – it's becoming the strategic core of enterprise IT modernization.

Conclusion: Your SAP Infrastructure, Reimagined

SAP ECC and NetWeaver systems lie at the heart of modern enterprise operations – and the infrastructure they run on determines whether they become a growth accelerator or a bottleneck. Oracle Exadata redefines what SAP infrastructure should be: faster, smarter, and inherently resilient. It delivers unmatched performance, seamless scalability, and built-in high availability, wrapped in a platform that simplifies operations and accelerates business outcomes.

Whether deployed on-premises, in the Oracle Cloud, or behind your firewall with Cloud@Customer, Exadata is the only platform that brings true architectural parity and enterprise-grade reliability across every model – on your terms.

For IT leaders who are not just maintaining systems but architecting the future – who demand acceleration, resilience, and transformation at scale – Exadata is the platform of record.

Exadata is not just infrastructure. It's your competitive advantage, not just for today, but for what's next.

"Exadata allowed us to scale SAP throughput 3x without service interruption. The platform is tremendously stable and scalable."

These real-world impact examples are not exceptions – they are testaments to what Exadata delivers for some of the world's largest and most demanding SAP ECC environments.

Backup is Easy. Recovery is Everything.

Why Oracle Zero Data Loss Recovery Appliance Sets the Gold Standard for SAP Resilience

Introduction

In enterprise IT, few systems rival the complexity, scale, and criticality of SAP applications running on Oracle databases. They are the digital backbone of global finance, manufacturing, supply chain, and human capital management. Unsurprisingly, data protection strategies for these systems are scrutinized, funded, and continuously improved.

Yet despite heavy investments in backup infrastructure, one uncomfortable truth persists:

"Backup is easy. It's recovery that counts."

Anyone can take a backup. But when disaster strikes – be it hardware failure, human error, data corruption, or ransomware – how fast and how reliably you can recover your SAP system determines whether your business survives the hour… or loses millions.

This is where Oracle's Zero Data Loss Recovery Appliance (ZDLRA) redefines what's possible.

Why SAP Database Backup Strategies are Failing

Legacy backup systems weren't designed for today's SAP workloads. While many can schedule backups and retain copies, few offer the speed, integrity assurance, and real-time protection that modern enterprises demand.

Behind the pristine dashboards and glowing system health reports, a silent crisis brews. Enterprise IT leaders managing SAP workloads know the truth – most backup strategies are just good enough until something goes wrong. And when it does, the façade shatters.

Here's what they're up against:

The illusion of a backup window

SAP systems don't sleep – with users transacting 24x7 across global regions, the idea of a "safe backup window" is a fantasy. You either back up during production hours – or you don't back up at all.

Databases too big to fail… or recover

50TB - 100TB SAP Applications Oracle databases are now common. Yet most backup systems crawl during restore, turning recovery into an agonizing marathon. In a crisis, every second of delay is revenue bleeding out.

Snapshots with blind spots

Oracle's Zero Data Loss Recovery Appliance is a purpose-built data protection solution that protects transactions in real time and enables databases to be restored in a very short time in the event of a failure or ransomware attack. Automated recovery, immutable backup copies, and a highly available architecture help you meet organizational requirements for protecting and quickly recovering critical data.

Traditional backups are static. They miss live changes, fail to capture redo logs in real-time, and can leave gaping transaction gaps.

One strategy for SAP, another for everything else?

Disjointed systems mean dual licenses, siloed storage, and chaotic recovery workflows. CIOs are forced to stitch together Frankenstein architectures that break when it matters most.

The paranoia of the unknown restore

You hit "restore"… and hold your breath. Will it work? Will it be clean? Or will you discover – too late – that your last known good backup wasn't good at all? This uncertainty haunts every IT team.

The stakes are high. SAP applications don't just support operations—they are the operations. Finance. Manufacturing. Inventory. HR. A failed restore is not just downtime – it's a full-system heart attack.

Oracle ZDLRA: Purpose-Built for Recovery at Enterprise Scale

Oracle ZDLRA can be used in SAP environments to provide industry-leading, real-time data protection for mission-critical Oracle databases.

Oracle's ZDLRA isn't just a backup appliance – it's a recovery platform, engineered from day one with the singular mission: guaranteed, high-speed, zero-data-loss recovery for Oracle databases, including SAP.

For more information about ZDLRA, see https://www.oracle.com/engineered-systems/zero-data-loss-recovery-appliance/

For more information about support in SAP environments, see SAP Note 105047

Unmatched Recovery Performance: Up to 60 TB per hour

ZDLRA delivers the fastest recovery speeds of any backup platform in the world – up to 60 terabytes per hour. This performance level is unmatched by any vendor, making it the clear choice for enterprises with massive SAP landscapes.

Need to restore a 60 TB SAP production database?

ZDLRA can do it in under 1 hour. Most traditional systems would take 10–15 hours – or more. This time difference is the difference between a brief service disruption and a full-blown operational crisis.

Why ZDLRA Recovery Works – Every Time

Block-Level Intelligence

ZDLRA doesn't back up files – it understands Oracle data blocks. This allows it to back up only the blocks that change, reducing backup windows and data movement, while ensuring recovery consistency.

Space-Efficient Encrypted Backups

Unlike other solutions, ZDLRA compresses TDE-encrypted backups – saving space, speeding recovery, and keeping data fully protected.

Real-Time Redo Transport

ZDLRA captures Oracle redo logs in near real-time. This ensures zero data loss (RPO = 0), even between backups. In the event of corruption or failure, recovery can roll forward with no transaction gaps.

End-to-End Data Validation

Every backup is automatically validated for corruption, consistency, and usability. This eliminates the uncertainty of restore attempts—you recover from a clean, trusted copy every time.

Incremental Forever + Virtual Full

ZDLRA synthesizes full backups from incremental changes – on demand – without ever re-reading terabytes of unchanged data. Restore points are quickly materialized without the burden of frequent full backups.

Cloud-Ready Deployment Platform

ZDLRA is predominantly an On-Premise deployment platform. For customers running SAP applications on Oracle Cloud Infrastructure, they can also enjoy the identical service with a peace of mind with the "Zero Data Loss Autonomous Recovery Service".

Cost Efficiencies – It's TCO, not "$/per TB Storage"

Oracle ZDLRA is engineered not just for performance but for long-term total cost efficiency. Unlike traditional backup environments that accumulate hidden costs across infrastructure sprawl, third-party toolchains and high operational overhead, ZDLRA simplifies the entire backup and recovery stack.

With native integration, built-in deduplication, automated validation and real-time protection features, it reduces complexity, minimizes administrative effort and eliminates the need for multiple vendors. Most importantly, its ability to restore up to 60 TB/hr drastically shortens downtime – converting what would be extended outages into rapid recoveries. The result is a lower Total Cost of Ownership (TCO), with higher reliability and faster time-to-resilience.

Recovery-Driven Architecture: Air Gap Resilience

Fast recovery is not just about speed – it's also about security. With ransomware and cyber threats on the rise, backup systems themselves are targets. ZDLRA supports:

Immutable Replication + Air Gap Configurations

- Backup data is replicated securely to a secondary ZDLRA or archived to Oracle Cloud.
- Configurations can support physical or logical air gaps, ensuring clean, tamper-proof restore points in the event of malware or sabotage.

A CIO's Lens: What Matters Most

Modern CIOs are measured not by how many backups they take, but by how quickly, cleanly, and confidently they can bring the business back online without any data loss. With ZDLRA, recovery is no longer a gamble – it's a guarantee.

KEY METRICS	TRADITIONAL BACKUP SYSTEMS	ORACLE ZDLRA
Recovery Speed	2-5 TB/hr (at best)	15-24 TB/hr (Base Configuration)
Data Validation	Manual or limited	Automated, end-to-end
RPO	Hours or daily backups	Real-time (zero-data-loss)
“Air Gap” Resilience	Require separate infrastructure	“AirGap” configuration & immutability are built-in
Recovery Confidence	Unpredictable	Proven, verified, fast

Final Word: Recovery is the New Backup

In today’s digital economy, data protection must be measured by time-to-recovery, not time-to-backup. Backup is no longer a checkbox – it’s a battleground.

Oracle ZDLRA makes a compelling promise – up to 60 TB per hour recovery, zero data loss, and supported for SAP environments running Oracle Database workloads. For organizations that rely on SAP to run finance, operations, manufacturing, or government services, this is not just a technical upgrade. It is an operational necessity engineered to confront the backup/recovery chaos.

When the unexpected happens, ZDLRA ensures you’re not rebuilding your business from backup tapes. You‘re recovering with confidence – at speeds the rest of the industry can only dream of.

„In a world of ransomware, backup is your insurance, but recovery is your lifeline“

Accelerate SAP NetWeaver-based Applications with Oracle Database on Oracle Linux

From on-premises to private and public clouds, Oracle helps SAP customers operate faster, more securely, and with greater flexibility while cutting costs. For decades, SAP and Oracle have collaborated to provide customers with a supported SAP/Oracle environment, with *Oracle Database* – the #1 database choice among SAP NetWeaver customers globally – enabling them to run SAP applications and meet their business needs. *Oracle Linux*, as the underlying infrastructure, powers Oracle Database, fostering high performance, scalability, and security for SAP workloads.

For more information, see https://www.oracle.com/sap/database/

For more information, see https://www.oracle.com/linux/

Better together for SAP workloads

Oracle Linux is a highly secure and optimized operating environment for developing and deploying SAP NetWeaver-based applications across on-premises hardware platforms, Oracle Engineered Systems, *Oracle Cloud Infrastructure (OCI)* and other leading hyperscalers, and multicloud environments. In addition to shipping a reliable, open-source operating system (OS), Oracle Linux provides KVM-based virtualization, infrastructure management, *Oracle Ksplice* zero-downtime patching, cloud native tools, and more.

For more information, see https://www.oracle.com/cloud/

For more information, see https://docs.oracle.com/en-us/iaas/oracle-linux/ksplice/index/

Serving as the development and runtime platform at Oracle, Oracle Linux acts as the backbone for Oracle Database, providing a resilient, scalable foundation designed for compute-intensive workloads. Oracle Linux stands apart from alternative Linux distributions by capitalizing on its deep integration with the solution stack. It includes the *Unbreakable Enterprise Kernel (UEK)*, optimized specifically for Oracle Database to maximize efficiency and deliver superior performance. Oracle Database and Oracle Linux development teams work closely to continuously advance UEK with cutting-edge innovations, performance optimizations, fine-tuned system calls, and more, ultimately boosting application performance. This tight coupling helps improve transaction speeds and query processing for a wide range of applications, including SAP workloads.

For more information, see https://docs.oracle.com/en/operating-systems/uek/

To learn more, explore the comprehensive technical brief at https://www.oracle.com/a/ocom/docs/linux/oracle-database-runs-best-on-oracle-linux.pdf

Streamline SAP deployments with Oracle Linux for the cloud

Oracle works with SAP to certify and support SAP NetWeaver-based applications on OCI, which runs on Oracle Linux, making it easier for organizations to move Oracle-based SAP applications to the cloud. OCI enables customers to run the same Oracle Database and SAP applications as they do on-premises, preserving their existing investments while reducing costs and improving agility. Significantly, Oracle and SAP have certified SAP NetWeaver-based applications using Oracle Database to run

only on Oracle Linux across OCI, Amazon Web Services (AWS), Google Cloud Platform, and Microsoft Azure. Oracle Linux is also used for the *deployment of SAP NetWeaver-based applications* with Oracle Exadata Cloud@Customer.

For more information, see https://www.oracle.com/a/ocom/docs/linux/linux-sap-cloud.pdf

Manage and monitor enterprise systems with ease

Businesses often face the difficulty of staying current with critical security patches and managing OS deployments across their application infrastructure. With *Oracle OS Management Hub*, customers can automate, streamline, and simplify the management and monitoring of updates and patches for Oracle Linux systems through a single management console in OCI. OS Management Hub fully integrates with Ksplice, allowing customers to apply-select security updates on Oracle Linux without rebooting, reducing application disruptions, and helping maintain continuous availability.

For more information, see https://www.oracle.com/cloud/compute/os-management/

OS Management Hub manages Oracle Linux systems across distributed environments – in private data centers, OCI, and *supported third-party clouds*. It allows IT teams to easily view and manage OS deployments at a glance and at scale, including those supporting critical SAP workloads, to help ensure security compliance and improve operational efficiency. With OS Management Hub, organizations, including SAP customers, can better manage systems without the overhead of maintaining the underlying infrastructure, helping administrators to stay focused on projects that contribute to the bottom line.

For more information, see https://docs.oracle.com/en-us/iaas/osmh/doc/getstarted.htm#supported-environments__third-party-cloud

Unlock greater potential with Oracle Linux

Oracle's decades of experience in supporting standards-based computing have resulted in a robust infrastructure stack that helps businesses worldwide reduce costs while helping meet mission-critical requirements for diverse workloads. For all SAP customers, leveraging Oracle Linux as the optimal platform for running Oracle Database can lower total cost of ownership while bringing increased reliability across all deployment models. It makes no difference whether Oracle Database runs on-premises, in the cloud, or in hybrid environments, Oracle Linux plays a fundamental role in helping drive operational efficiency and business continuity for SAP workloads.

SAP on Oracle Linux – List of Hardware released by Oracle

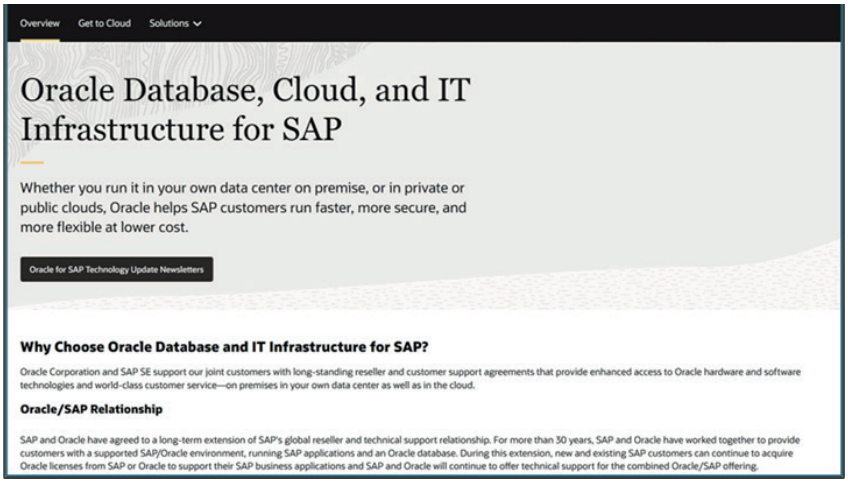
Customers can now refer to the below link or QR code to review the current lists of Oracle Cloud offerings and hardware that have been certified for deploying SAP NetWeaver-based applications.

https://www.oracle.com/a/ocom/docs/sap-list-of-linux-certified-servers.pdf

The Oracle Linux Support process has been refined and described in SAP Note: 3408032 – "Oracle Linux: operating system support process".

Oracle for SAP Information Resources

Database, Cloud, and IT Infrastructure for SAP



Link:
https://www.oracle.com/sap

Oracle helps SAP customers run faster, more securely, and more flexibly at lower cost – whether in their own data centers or in private or public clouds. SAP customers who choose Oracle Database and related options gain significant benefits from continuous innovation, all without disruption.

To help customers better understand the tools, technologies, and strategies available for running SAP on Oracle, we created the „Oracle Database, Cloud, and IT Infrastructure for SAP“ resource hub.

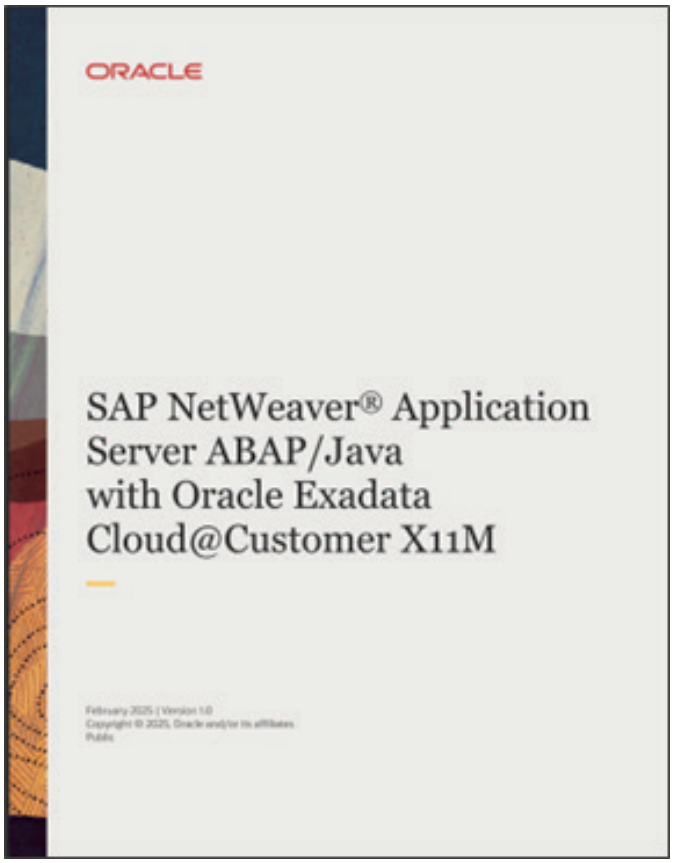
From a single location, you can now access:

- Resources to learn about Oracle options for SAP, whether on Oracle Cloud Infrastructure, using Oracle Database Options, tapping optimization support, deploying on engineered systems, or running fully on premises.
- Publications such as the Oracle for SAP Cloud & Infrastructure Update and Oracle for SAP Database Update, featuring the latest developments and insights.

These materials deliver timely insights and practical guidance to help SAP customers plan with confidence, adopt new capabilities faster, and maximize the value of their Oracle investments.

SAP NetWeaver Application Server ABAP/Java with Oracle Exadata Cloud@Customer X11M

Published: February 2025



Link:
https://www.oracle.com/a/ocom/docs/sap-netweaver-app-server-abap-java-on-exadata-cloud-at-customer-x11m.pdf

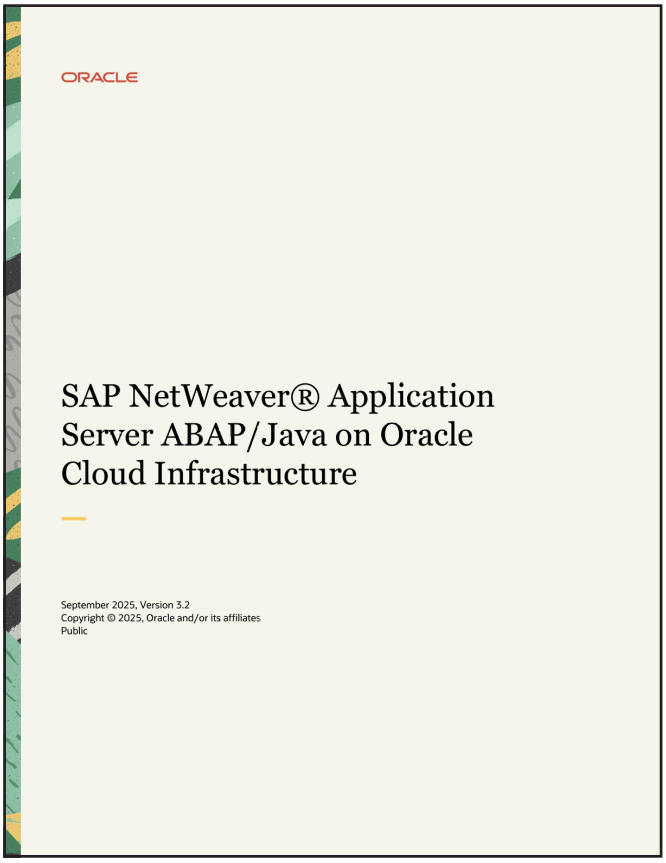
Enterprises that require high performance, on-premises control, and Oracle-based SAP environments often turn to Oracle Exadata Cloud@Customer X11M to host and optimize the database layer of their SAP NetWeaver Application Server ABAP deployments. This document outlines how to plan and implement such a deployment in the data center in a supported and verified manner. It also explains how to implement SAP HA by using Oracle Grid Infrastructure, an optional method for implementing SAP HA.

Learn more about:

- Deploying Oracle databases of the SAP NetWeaver Application Server ABAP/Java platform on Oracle Exadata Cloud@Customer X11M.
- Optional steps for implementing SAP high availability (HA) by using Oracle Grid Infrastructure with the SAPCTL add-on.
- Configuration steps for setting up a separate server running Oracle Linux as the SAP NetWeaver primary application server, connected to an Exadata Cloud@Customer X11M system.

SAP NetWeaver Application Server ABAP/Java on Oracle Cloud Infrastructure

Published: September 2025



Link:
https://docs.oracle.com/en-us/iaas/Content/Resources/Assets/whitepapers/sap-netweaver-application-server-abap-java-on-oci-v_3_2.pdf

This guide serves as a reference for planning, sizing, and implementing SAP NetWeaver Application Server ABAP/Java on Oracle Cloud Infrastructure (OCI), following best practices for the platform. It covers certified compute shapes, storage design, networking, backup, and monitoring – along with guidance on developing a robust backup and high-availability plan for SAP installations in OCI. It is designed to support confident migration and deployment of SAP systems on Oracle Cloud Infrastructure.

Learn more about:

- OCI and how its regions, availability domains, and network design support high availability and SAP system performance.
- Key considerations for planning SAP implementation on OCI, including instance modeling, licensing, support, and capacity planning.
- How to deploy SAP NetWeaver Application Server ABAP/Java on Oracle Cloud, from environment preparation to storage, compute, and data encryption.

SAP NetWeaver Application Server ABAP/Java with Oracle Exadata Database Service

Published: May 2025

Link:
https://docs.oracle.com/en-us/iaas/Content/Resources/Assets/whitepapers/exacs_x11m_sap_netweaver_app_server_abap_java_on_exadata_cloud_service.pdf

This guide serves as a reference for planning, sizing, and implementing SAP NetWeaver Application Server ABAP/Java with Oracle Exadata Database Service based on Oracle Exadata Cloud Infrastructure (ExaCI) running Oracle Linux 8. Additionally, this document describes how to configure a separate compute instance running Oracle Linux 8 as an SAP NetWeaver primary application server connected to a VM cluster running on Oracle Exadata Cloud Infrastructure X11M.

Learn more about:

- Overview of SAP Database on Oracle Exadata Database Service
- Planning on the deployment of Exadata Database Service for SAP NetWeaver Application Server
- Implementing the plan and the continuous lifecycle activities such as monitoring and patching

SAP on Oracle Development Update

Published: June 2025

Link:
https://www.oracle.com/a/ocom/docs/sap-development-update.pdf

The SAP on Oracle Development Update is a handy reference of the most important development updates for organizations running SAP on Oracle. You will find details about upcoming architecture changes to Oracle Database, information about the latest SAP Kernel, and recent optimizations in SAP NetWeaver BI.

Other references:

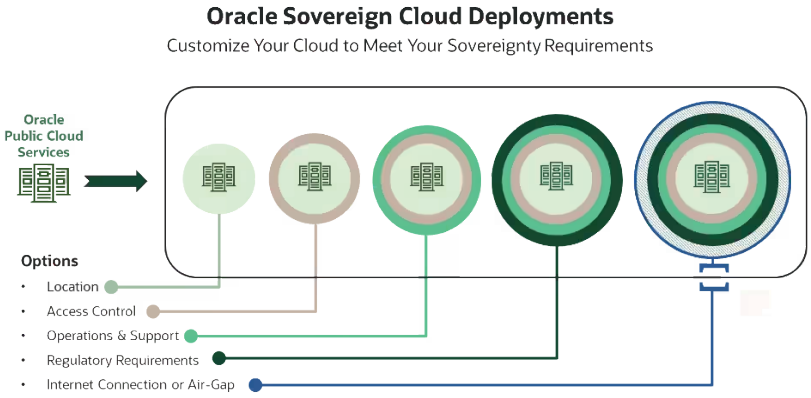
- Supported Oracle Database Options
- Oracle Database Support Timelines.
- SAP Certification Roadmap for Oracle Database.
- Oracle Infrastructure as a Service-offerings.

Support of SAP NetWeaver Applications on Oracle EU Sovereign Cloud

SAP on Oracle EU Sovereign Cloud

Oracle has worked with SAP to officially support the deployment of SAP NetWeaver applications on Oracle EU Sovereign Cloud. All certified OCI shapes, Exadata Cloud Service types, and Exadata Cloud@Customer shapes are supported for the deployment of SAP NetWeaver applications on Oracle EU Sovereign Cloud.

Customers may address their queries and any issues on running SAP NetWeaver applications on Oracle EU Sovereign Cloud via SAP OSS to the BC-DB-ORA support channel.



Introducing Oracle EU Sovereign Cloud

Oracle EU Sovereign Cloud enables both private companies and public sector organizations within the EU to host data and applications that are sensitive, regulated, or of strategic regional importance. As a general policy, OCI already does not move customer content from the regions our customers select for their workloads. Oracle EU Sovereign Cloud extends this practice by restricting operations and customer support responsibilities to EU residents. These sovereign cloud regions are also designed to further enable customers to demonstrate alignment with relevant EU regulations and guidance.

- Designed to address compliance with the laws of the EU: These sovereign cloud regions operate under a comprehensive set of policies and governance that enhance OCI's existing capabilities for data residency, security, privacy, and compliance. These additional policies establish a framework for data and operational sovereignty, including how customer data is stored and accessed, and how government requests for data access are handled.
- Located and operated within the EU: The first two sovereign cloud regions for the EU are located in Germany and Spain, with operations

and support restricted to EU residents and EU legal entities. These OCI regions are logically and physically separate from the existing commercial public cloud regions in the EU.

- Access to the same services, value, and innovation as the public cloud: Oracle EU Sovereign Cloud will offer more than 100 of the same cloud services available in OCI's existing public cloud regions. Pricing for OCI services is the same as in existing Oracle Cloud regions. Oracle Fusion Cloud Applications currently hosted in Oracle European Union Restricted Access (EURA) Cloud Service will become available in Oracle EU Sovereign Cloud in the future. EURA pricing will remain unchanged, with the same levels of support and financially backed SLAs. Customers are able to use Oracle Universal Credits to purchase services and participate in OCI programs such as Oracle Support Rewards.

More Oracle Cloud and Infrastructure for SAP News

Latest AMD based E6 Flex Compute Shapes in OCI certified by SAP

Customers can deploy SAP Business Suite on Oracle Databases on VM.Standard.E6.Flex compute shapes in Oracle Cloud Infrastructure now.

The OCI E6 shape is powered by the latest 5th Gen AMD EPYC™ Processors. E6 marks a significant leap forward in performance and value for customers, delivering up to 2X the performance of E5 at the same price.

At the core of the E6 shape is the 5th Gen AMD EPYC™ Processor, featuring:

- Base frequency of 2.7 GHz (13% higher than previous generation)
- Max Boost frequency of up to 4.1 GHz (11% higher than previous generation)
- "Zen 5" architecture delivers up to 17% higher instructions per cycle (IPC) for integer heavy workloads

E6 shape includes 33% larger L3 cache (512 MB) and memory speeds of 6400MHz, which is 45% higher memory bandwidth than E5 shape. Combined with AVX-512 full 512-bit data path for vector and floating-point operations, E6 shape delivers outstanding performance on numerically intensive, memory-bound workloads.

Please refer to SAP Note 2474949 for more information on the certification.

Oracle Exadata Database Service on Dedicated Infrastructure X11M Certified for SAP

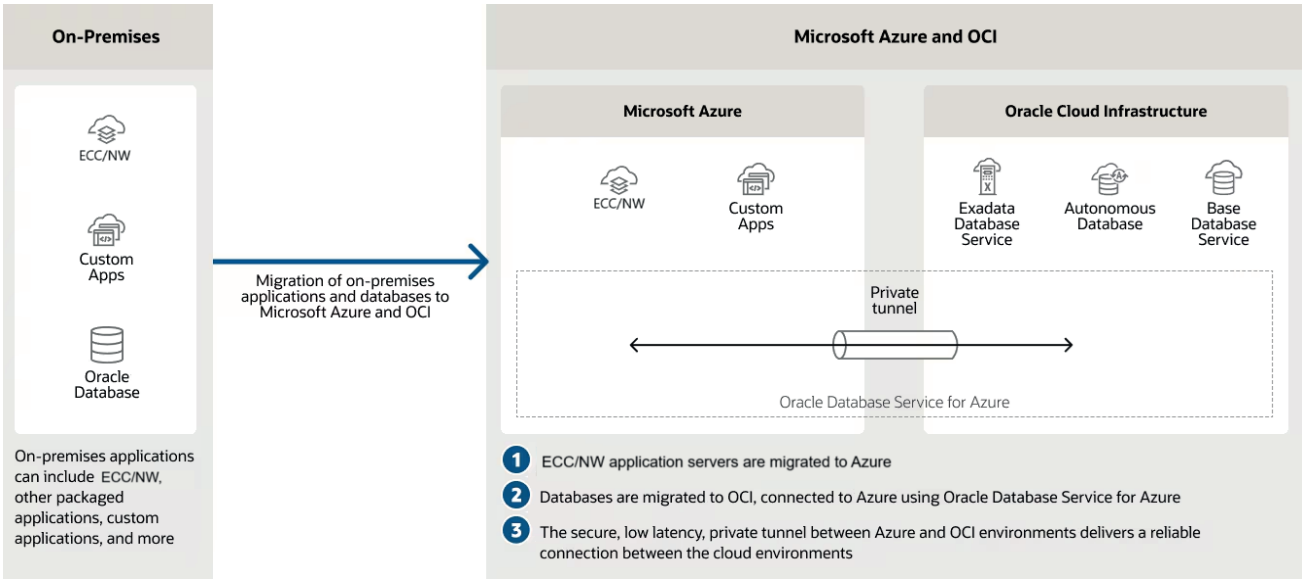
As of May 2025, customers can deploy Oracle databases of SAP Business Suite based on SAP NetWeaver 7.x technology on Oracle Exadata Cloud Infrastructure X11M platform in Oracle Cloud Infrastructure.

For more information, see SAP Note 2614028 and the whitepaper "SAP NetWeaver Application Server ABAP/Java with Oracle Exadata Database Service - Based on Oracle Exadata Cloud Infrastructure X11M" at:

https://docs.oracle.com/en-us/iaas/Content/Resources/Assets/whitepapers/exacs_x11m_sap_netweaver_app_server_abap_java_on_exadata_cloud_service.pdf

SAP NetWeaver® Application Server ABAP/Java with Oracle Database@Azure

Reference guide for deploying Oracle Databases of the SAP NetWeaver Application Server ABAP/Java platform on Oracle Database@Azure is now available. Productive use of this setup is pending SAP's final approval. Its use is currently recommended for non-production, testing, or POC purposes only. Request SAP to hasten certification of this technology by raising a support ticket to SAP via the BC-DB-ORA queue.



Please download the reference guide from:

https://www.oracle.com/a/ocom/docs/exacs-azure-x9m-sap-netweaver-app.pdf

Important update information for customers running SAP with Oracle DB on Hyperscalers

"SAP on Oracle DB" is supported running in OCI, Azure, AWS and GCP only (ALL other hyperscalers are NOT SUPPORTED) and the only supported Linux distribution on all these 4 hyperscalers is Oracle Linux (both for the DB tier and the App tier) as described in the relevant SAP notes.

Please ensure that the entire configuration is supported based on the pre-requisites as stated in the respective Hyperscalers related SAP notes so that any problems can be readily resolved by the SAP support team (with dedicated Oracle engineers support embedded within).

Oracle Cloud for SAP Customers

ORACLE CLOUD: A GREAT OPPORTUNITY

Same SAP Application, Same Oracle Database
No business disruption. Retain all your customizations.

Reduce Costs
Transform Capex to Opex. Pay only for what you use.

Improve Agility, Accelerate Innovation
Focus on SAP software deployments, not infrastructure management.

Best Price Performance and Transparent Pricing
Get 34% lower infrastructure costs for your SAP workloads vs leading cloud provider.

ORACLE CLOUD: BENEFITS

Optimized for Oracle Database
Oracle Database runs up to 7.8x faster on Oracle Cloud Infrastructure vs leading cloud provider.

High Predictable Performance
Run SAP applications and Oracle databases on bare metal and virtual machine instances. Leverage high performance resources.

Exadata Cloud Service and Exadata Cloud@Customer
Most powerful platform to run Oracle Database in the cloud, only available from Oracle.

Security and Control
Compute and network isolation help ensure data security. Compartment capabilities allow for control of SAP deployments.

ORACLE CLOUD: USE CASES

Development/Test in the Cloud
Test new customizations or new software versions.

Backup and DR in the Cloud
Independent data centers for high availability, disaster recovery. Duplicated environment in the cloud for application and database.

Extend Data Center to the Cloud
Transient workloads (training, demos). Rapid implementation for acquired subsidiary. Geographic expansion or separate LOB.

Production in the Cloud
Reduce reliance on on-premises data centers. Focus on strategic priorities and differentiation, not managing infrastructure.

Database Migration to the Oracle Cloud Made Easy

Oracle Cloud Infrastructure Services enable companies to enjoy significant benefits. Like all Oracle Cloud Services, the use of Oracle Cloud Infrastructure Services is increasing at a rapid pace.

Oracle's Cloud Infrastructure Services offer comprehensive control and the versatility to run both traditional and cloud- native workloads with predictable savings. Oracle Cloud Infrastructure, which is managed, hosted, and supported by Oracle, provides organizations with the tools needed to migrate, build, and run production, business-critical applications in the cloud.

The use of the SAP NetWeaver Application Server ABAP/ Java on Oracle Cloud Infrastructure is the start of a new chapter in the long-standing partnership between Oracle and SAP. The focus here is on operating Oracle SAP databases on the basis of powerful computing, network, and storage infra- structure workload services on a secure, stable, predictable and extendable platform.

Database migration to the Oracle Cloud lies at the heart of this collaboration. Usually, this takes place after planning, preparatory work, and various precursors, such as setting up an Oracle Infrastructure account, determining an appropriate workload sizing, choosing the appropriate bare metal shape, use of Oracle Cloud Infrastructure Object Storage, and much more.

Several options are available for SAP-Oracle user companies to reap the benefits of the Oracle Cloud Infrastructure.

RMAN and/or BR*Tools

There are also several options, procedures, and methods available to SAP-Oracle customers for migrating databases or what is also known as "Lift and Shift into the Cloud" combined with the Oracle Cloud Infrastructure when using or operating source and target platforms with Linux (Linux x86_64).

The focus here is on five methods or procedures. The tools used will be very familiar to all Oracle-SAP customers, especially when it comes to backup, restore and recovery (both on the source and target host).

- Firstly, RMAN (Oracle Recovery Manager) Oracle Backup/Recovery Toolset is used.
- Secondly, BR*Tools (previously sapdba) for administration and management of Oracle databases in the SAP environment.

Procedure 1: With the first option, the database is migrated to the Oracle Cloud using Oracle Recovery Manager via Oracle Cloud Infrastructure Object Storage. Object Storage is configured on the source host and backup/recovery is undertaken. The same procedure is followed on the target host, including recovery and restoration.

Procedure 2: With the second option, the database is migrated using BR*Tools via the brbackup tool. The procedure is the same as above but also includes integration/use of BR*Tools and the corresponding specifications of command functions on the source and target host.

More information about database migration for Oracle-SAP customers can be found in the whitepaper "SAP NetWeaver Application Server ABAP/Java on Oracle Cloud Infrastructure". Please download the whitepaper: http://www.oracle.com/us/solutions/sap/sap-netweaver-on-oracle-cloud-wp-3931430.pdf

Further information can also be found in the appropriate SAP Notes (for example 2474949 "SAP on Oracle Cloud Infrastructure" or 2520061 "SAP on Oracle Cloud Infrastructure: Support Requisites").

Procedure 3: If the source platform is a Linux X86-64 and/ or if the process involves a permitted combination from MOS Note 1079563.1, the RMAN command "duplicate database from active database" can be used to produce an exact copy of the source database on the target in the cloud. If desired, the database is made available in the cloud as a Data Guard standby database so that Data Guard can be used to apply all further changes to the source database on the target database. Migrations can therefore be almost free of interruptions. The RMAN "duplicate" process can run with an active source database to restrict the migration "downtime" for the database to a Data Guard role switch and/or failover. Release changes, upgrades or other changes to the configuration or database content are not possible with this option. One benefit of this procedure is that there is no need for a temporary buffer for backups, exports or data.

Procedure 4: If the source platform is different from the target platform in the cloud, e.g. as a result of a different endian type, and if the database is able to accept a slightly longer "downtime", migration across all platforms can be undertaken using the RMAN "cross platform transportable tablespaces" command. This procedure requires a new minimal database to be created in the cloud. The application data is then migrated by transferring the application tablespaces. This can be done on the basis of RMAN backups where incremental on- line backups can also be used to transfer subsequent changes made to the source database. Only the last backup and a meta data export have to be undertaken with the application and/or SAP stopped. With this procedure, the data (backups) have to be buffered to a filesystem that can be accessed from both the source and cloud.

Procedure 5: The most flexible procedure is called Oracle Lifecycle Migration Service (O2O), which is a service provided by Oracle ACS*. All supported platform combinations are possible here. There are two steps to the procedure. First, a set of scripts is generated. Those scripts allow for the creation of the new target database, setup of the environment and to perform the data movement. The second step is the actual execution of those scripts to perform the migration. Large tables are transferred using database links and smaller ones using export/import. A high degree of parallelism is possible if the hardware (compute and network) involved permit it. A new database is created in the cloud, which means that a database upgrade can be implemented transparently as part of the migration. Changes to tablespaces and schedule as well as activation or deactivation of features, such as com- pression, partitioning, encryption, RAC or Database Vault, are all possible as well. The only thing which cannot be done is the SAP-based Unicode conversion because this has to be done by the SAP server. A buffer, which can be accessed from both sides, is needed for the scripts and export files. The application, i.e. SAP, has to be stopped for the duration of the migration process.

If using GoldenGate, the O2O procedure becomes the OOO procedure, and the changes made since the start of the O2O migration are recorded by GoldenGate and applied to the new database in the cloud. OOO is the online variant of O2O with which SAP can remain active with the exception of a short "downtime" during the switchover.

***Note:** As of July 2023, Oracle ACS (Advanced Customer Services) became part of Oracle CSS (Customer Success Services).

Amaggi Boosts Uptime by Migrating Key Workloads to Oracle Cloud Infrastructure

The Brazilian agribusiness saves 20% in costs and reduces monthly close time 2X by moving to Oracle Cloud Infrastructure.

Business challenges

Amaggi is a Brazilian agribusiness company active in largescale soybean, corn, and cotton production with emphasis on sustainable development. The company currently has 362,000 hectares of agricultural production and sells around 16.9 million tons of grain worldwide. Amaggi is present in Argentina, Paraguay, China, the Netherlands, Switzerland, and Norway.

As a major player in the agribusiness sector, which sustains the Brazilian trade balance through exports, Amaggi invests in the development of precision agriculture-techniques that improve crop management and optimize productive areas. Every year the company wins awards and certifications for sustainable development.

With today's agribusiness driven by technology, Amaggi invests continually in integrating its systems for business efficiency. In 2022, with data center equipment and maintenance at end of life, the company decided to migrate to a more robust structure that would guarantee data security and high availability of its IT infrastructure.

"Agribusiness is on the cutting edge in Brazil. If you visit a farm, you will be amazed at the degree of technology. A soybean or cotton harvester is practically a computer on wheels. With OCI connectivity, we control the entire process from cultivation to export."

Wagner Biasi
CSC and IT Manager, Amaggi

Why Amaggi chose Oracle

Amaggi ran Oracle Exadata Database Machine and associated technologies in its data center for years. While evaluating other cloud providers, Amaggi selected Oracle as a known quantity that understood the business challenge and proposed the most responsive solution for the company's move to the cloud.

Results

By migrating to Oracle Cloud Infrastructure (OCI) with Exadata Cloud Service, Amaggi reduced costs 20% by not having to refresh its data center through the arduous cycle of negotiating the purchase and delivery of expensive imported hardware.

OCI now runs the entire Amaggi production environment of 46 terabytes, including the critical grain processing, grain origination, agricultural support, weights and measures, and credit systems. The platform also supports the company's SAP enterprise resource planning (ERP) system, which was migrated over a weekend.

Previously hampered by database unavailability due to memory or disk space overflow, Amaggi now has 99.999% uptime through OCI's high availability, monitoring service, and load balancing. Billing disruption caused by downtime has been eliminated with OCI's high availability and lower latency, which ensures greater speed in grain shipment and delivery

for Amaggi and its producers.

Efficiency gains also include 3X faster database provisioning, enabling DevOps teams to support the complex demands of crop picking, storage, loading and unloading, interconnectivity of farm machinery, logistics contractors, traceability, compliance, and cash flow.

The agricultural producer has trimmed monthly closing processes from 40 minutes to 5 minutes, positively impacting business operations that span 100 branch offices in Brazil and subsidiaries abroad.

Amaggi uses OCI FastConnect to link with its Cuiabá data center, which still runs some quality assurance, testing, and business continuity modules. Disaster recovery also sits in Cuiabá, managed by Oracle Exadata Cloud@Customer, combining the power of Exadata and Oracle Cloud. Amaggi is considering moving the environment to Oracle's São Paulo cloud region once it realizes the full benefits of OCI for its production workloads.

Oracle Cloud Governance also supports the fiscal complexity and controls Amaggi deals with in the import of farm inputs and export of grain. International Ship and Port Facility Security Codes for receiving and shipping merchandise, bills of lading, shipping manifests, toll payments, freight payments, and more all need maximum available connectivity as well as the checks and balances within OCI governance and security.

Partners

Amaggi went live with OCI in six months, assisted by Oracle Consulting and Oracle Partner Lanlink.

AMAGGI

https://www.amaggi.com.br/

"Moving from our data center onto Oracle Cloud Infrastructure has reduced costs, eliminated hardware refresh bottlenecks, and has given our producer and logistics ecosystem a tremendous boost in availability."

Wagner Biasi
CSC and IT Manager, Amaggi

Eneco Moves Applications to Oracle for Faster Performance

By completing a migration to Oracle Cloud Infrastructure in just four months, the energy provider minimized business impact and cut project costs by 50%.

Business challenges

The leader in the sustainable energy market since 2007, Eneco Group provides 2 million customers in the Netherlands with innovative energy products and services to make it easy for consumers to join in the transition to sustainable energy.

Eneco wanted to invest more in important projects, but spent too much time managing IT infrastructure. The company also faced IT lifecycle management challenges. Instead of just adopting a cloud-first strategy, like so many companies, Eneco not only embraced that strategy, but immediately began working with Capgemini, a trusted partner, to make it happen.

Three of Eneco's Oracle Exadata systems in Capgemini data centers were due for replacement. The company identified 19 mission-critical applications that make use of Oracle Database on Exadata hardware.

The energy company wanted to maintain its custom-developed billing application and associated data warehouse. Despite an established Microsoft Azure-first policy for cloud solutions, Capgemini and Eneco determined that Oracle's Exadata Cloud Service would make the best destination for these workloads.

"We wanted to achieve a better digital experience for our customers, and we did that by providing higher availability with better performance with Oracle Cloud Infrastructure."

Mark Edelbroek
Head of BTO IT Operations, Eneco

Why Eneco Chose Oracle

Eneco chose Oracle for its reliable Exadata technology and reduced risk and business impact during the migration. The company selected the Frankfurt Oracle Cloud Infrastructure region to maximize flexibility and disaster recovery options across the three availability domains there. Eneco is also using Oracle GoldenGate for data replication.

Results

The initial project was completed over a nine-month period. Moving from one Exadata platform to another made the migration easy, and the close partnership between Capgemini and Oracle ensured that any issues encountered were quickly overcome. Capgemini was able to help Eneco migrate nine of its critical applications to Oracle Cloud Infrastructure (OCI), as well. This enabled Eneco to use Exadata Cloud Service and reduce software licensing maintenance and support costs.

The success of the project resulted in expanded scope. Halfway through the migration, the company decided to shut down a data center that contained a small but important SAP on Oracle Database environment. It was deployed on two additional Exadata Cloud Service instances plus Oracle Cloud Infrastructure Compute instances for the SAP application

"In 2019, we migrated our applications to Oracle Cloud Infrastructure. The benefits are lower costs, higher availability, better performance, and a higher degree of security. We also see increased availability for our business users, especially during patching, due to the introduction of RAC and rolling upgrades."

Mark Edelbroek
Head of BTO IT Operations, Eneco

servers. The migration took just four months from idea to completion.

Products

Oracle Cloud Infrastructure

Oracle Exadata Cloud Service

Partners

Capgemini, the preferred outsourcing partner of Eneco, led the migration to Oracle Cloud Infrastructure and was vital to the successful go-live. Capgemini helped migrate the most important 32 of 54 Oracle Databases and 100 TB of data to Oracle Exadata Cloud Service.

https://www.eneco.com/

Loblaw Rings Up Oracle Cloud Infrastructure to Modernize its IT Infrastructure

Canada's largest retailer exchanges its data centers for Oracle Cloud Infrastructure to see a 35 percent performance improvement

Oracle Cloud Infrastructure rose to a challenge other infrastructure providers could not by running the largest single-instance SAP database in any cloud

Loblaw Companies Limited ("Loblaw"), Canada's leading food and pharmacy retailer, has migrated its SAP systems to Oracle Cloud Infrastructure (OCI), modernizing its IT infrastructure to efficiently scale operations. Loblaw now runs one of the world's largest single-instance SAP databases—more than 180TB—to manage nearly every piece of its business from retail price tags to financials. By moving its on-premises database footprint to OCI, Loblaw has seen an up to 35 percent improvement in performance.

With approximately two billion transactions each year in its unmatched network of 2,500 stores and national e-commerce options, Loblaw brings food, pharmacy, beauty, apparel, and financial services to customers through many of Canada's favorite and most-trusted brands. The company's loyalty program, PC Optimum™, has nearly 16 million active members and is one of Canada's largest and most loved reward programs. As Loblaw has grown and diversified its operations, it required an IT infrastructure that could efficiently scale. Earlier this year, Loblaw migrated its SAP database to Oracle Exadata Database Service on OCI.

"It was extremely important for us to minimize risk during the move to the cloud. The SAP database had to operate correctly after the migration

to safeguard the success of our businesses," said David Markwell, chief technology and analytics officer, Loblaw. "OCI had the proven experience of running databases at this scale in the cloud which made them the right choice for this work. The real validation came when our post-migration tests showed a 35 percent increase in performance in key SAP transactions. The results speak for themselves."

"Helping Loblaw move a database of that size and importance to the cloud was more than a standard cloud 'lift and shift' operation—it was a 'lift and shine.' Working closely with our partners at Accenture, we were able to provide a world-class infrastructure to serve as a foundation for Loblaw's operations now and into the future," said Karan Batta, senior vice president, Oracle Cloud Infrastructure. "OCI brings a unique ability to scale to run the biggest workloads our customers can throw at us. Our platform enables us to run massive workloads, including single-instance databases that are hundreds of terabytes in size."

Oracle Customer Success Services (CSS), which includes a team of SAP-certified engineers, played a key role in setting up the database and facilitating a successful migration to OCI in compliance with SAP's support requirements. Oracle CSS will provide continuing support services to help maintain the database's operating environment. In collaboration with Accenture, Loblaw was able to update its applications and optimize them to run in the cloud to help ensure the success of its IT operations for years to come.

Press Release—Oracle CloudWorld, Las Vegas

Additional Resources

- Learn more about Oracle Cloud Infrastructure: https://www.oracle.com/cloud/
- Learn more about Oracle Exadata Database Service: https://www.oracle.com/engineered-systems/exadata/database-service/
- Learn more about Oracle Database, Cloud, and IT Infrastructure for SAP: https://www.oracle.com/sap/

Oracle-related SAP Notes (Cloud)

Note No.	Note Title	DB Version
Cloud Platforms : General Information		
1380654	SAP Support in Public Cloud Environments	n/a
Cloud Platforms : Oracle : Cloud Infrastructure		
2474949	SAP NetWeaver on Oracle Cloud Infrastructure	12c-19c
2520061	SAP on Oracle Cloud Infrastructure – Support Prerequisites	12c-19c
2588124	How to protect against speculative execution vulnerabilities on OCI?	12c-19c
Cloud Platforms : Oracle : Exadata Cloud Solutions		
2614028	SAP NetWeaver on Oracle Database Exadata Cloud Service	12c-19c
2614080	SAP on Linux with Exadata Cloud Service: Enhanced Monitoring	n.a.
2799970	Oracle Exadata Cloud Service: Patches for 19c	19c
2884306	Managing SAPDATA_HOME and ORACLE_BASE on Engineered Systems	19c
2956661	SAP NetWeaver on Oracle Database Exadata Cloud@Customer	12c-19c
2992680	Managing shared and multiple Oracle Homes on Engineered Systems	12c-19c
Cloud Platforms : Oracle : Non-NetWeaver-Applications		
2650732	Support of SAP BusinessObjects BI Platform for Oracle Cloud	12c-19c
Cloud Platforms : Non-Oracle		
1656099	SAP Applications on AWS: Supported DB/OS and AWS EC2 Products	12c-19c
2039619	SAP Applications on Microsoft Azure Using the Oracle Database	12c-19c
2358420	Oracle Database Support for Amazon Web Services EC2	12c-19c
2650732	SAP Applications on Azure: Supported Products and VM Types	12c-19c

Oracle Exadata for SAP Customers

ORACLE EXADATA DATABASE SERVICE ON OCI

Leverage the power of Exadata in the cloud with Exadata Cloud Infrastructure.

Full access to the features and operations available with Oracle Database, but with Oracle owning and managing the Exadata infrastructure.

Move existing workloads to the cloud without having to worry about availability, scalability, or performance.

Always-on encryption allows IT teams to protect information from unauthorized access to at-rest, in-motion, or backed-up data.

ORACLE EXADATA CLOUD@CUSTOMER

Oracle Exadata Database Service inside customers' data centers

Secure deployment behind customers' data center firewalls enables enterprises to meet data residency, security, and latency requirements.

Infrastructure owned, managed, and maintained by Oracle allows customers to eliminate capital and management expenses.

Operator Access Control allows customers to address concerns by authorizing, limiting, and monitoring Oracle remote operations.

ORACLE EXADATA DATABASE MACHINE

Fastest database performance for both OLAP and OLTP workloads

Ideal platform for database consolidation

Seamlessly combined industry standard hardware with smart storage software

The foundation building block for Exadata Cloud Infrastructure and Exadata Cloud@Customer

Why Oracle Database and Engineered Systems for SAP?

For more than 30 years, Oracle and SAP have collaborated to optimize the Oracle Database for SAP customers. Renewing commitments and agreements underline the long-established relationship and partnership. Above all: SAP customers benefit from Oracle innovation. Oracle innovation provides flexible solutions which allow you to meet your business needs and requirements. On the other side, SAP customers value the great sustainability and protecting investments using Oracle Database for SAP applications.

As we look in more detail, it will be clear why Oracle Database for SAP is the leading and best RDBMS running SAP applications. In this context, let's have a closer look at the key differentiators between the Oracle Database for SAP as compared against other databases which can be used in combination with SAP applications. There are no less than 8 differentiators regarding Oracle Database.

1) Best Performance & Scalability

Oracle has leading SAP SD and BI-D (BI-Data Mart) benchmark results, with exceptional scaling and performance across SMP and Cluster environments on Unix and Linux.

Oracle Real Application Clusters (RAC) provide a flexible way to achieve near linear scalability of SAP applications. With RAC, customers have a choice to either scale up or scale out the database server layer. Since all RAC nodes are active, it helps SAP customers to meet the demands of production workload requirements. Widely adopted by customers, Oracle RAC is the only generally available active-active clustered database solution certified for all SAP products. RAC makes SAP resources highly available based on Oracle Clusterware and removes the need for 3rd party clustering software.

Oracle Automatic Storage Management (ASM) is a volume manager and a file system for Oracle Database files that supports single-instance Oracle Database and Oracle Real Application Clusters (Oracle RAC) configurations. ASM is Oracle's recommended storage management solution that provides an alternative to conventional volume managers, file systems, and raw devices.

The Oracle Database In-Memory Option accelerates Analytics, Data Warehousing, Reporting and OLTP performance. The In-Memory Option of Oracle Database is 100 percent compatible with existing applications and leverages all existing Oracle Database functionality. Every Application that runs on Oracle Database can automatically and transparently take advantage of Oracle Database In-Memory Option. Existing applications will retain full functionality while experiencing effortless speedups. New applications can be developed that were previously impractical due to performance limitations.

SAP BW Flat Cubes with Oracle Database In-Memory: The data modeling technique Flat Cubes (also called "HANA-Optimized InfoCubes" by SAP), allows customers to simplify the SAP BW data model. Benefits for SAP

on Oracle customers: Cost savings through higher performance and optimized integration of SAP BW with Oracle Database 12c and above, no indexes and aggregates required, faster query response times and faster data loads.

With Oracle Exadata Database Machine customers can scale up/out incrementally and on demand. Start with the appropriate Exadata size – eighth, quarter, half, or full rack. Exadata can be easily upgraded to the next larger size whenever more processing power or capacity is needed. No need for a forklift upgrade, simply scale up/out the existing system.

Exadata includes a unique technology to offload data intensive SQL operations into the Oracle Exadata Storage Servers and only the data matching the selection criteria are sent from the storage to the database server for final consolidation before the database server sends the results back to the requester.

2) Best Deployment Flexibility

Widest range of supported platforms; Unix – Linux – Windows – "Oracle is Oracle is Oracle". The same code base across all operating systems means, Oracle has the same features, tools and functionality on all hardware platforms and operating systems, so customers can choose the most cost effective platform for their implementations.

Should customers require a change in operating systems, Oracle offers fast and efficient *Oracle Lifecycle Migration Services (previously known as O2O and Triple-O Services)*. These services provide either offline or online migration of the customers databases depending on the downtime acceptable to the customers' business operation. *Oracle Lifecycle Migration Service* is a near zero downtime online Oracle to Oracle migration. The outage requirements are then cut from hours to minutes independent of the database size.

An option for Oracle Database, Oracle Multitenant helps customers reduce IT costs by simplifying consolidation, provisioning, upgrades, and more. It is supported by an architecture that allows a Multitenant container database to hold many pluggable databases. An existing database can be simply adopted, with no change, as a pluggable database. No changes are needed in the other tiers of the application.

Traditionally, Oracle has provided Oracle Database Server software to be installed on systems made up of third-party hardware and a third-party operating system. This approach is still possible. However, in addition, Oracle provides "Engineered Systems", where Oracle manufactures the machine, the operating system and the database. All the embedded components to run an Oracle Database are pre-configured, pre-tuned and pre-tested by Oracle experts, eliminating weeks or months of effort typically required to deploy a high-performance system.

3) Best Availability and Reliability

Real Application Clusters (RAC) for SAP removes the database server as a single point of failure. The database remains online as long as one or more database instance(s) is/are still up and running. Oracle Data Guard complements Oracle RAC, providing a disaster recovery solution that requires no SAP downtime in case of failure. Data Guard is often used in combination with Flashback (technology to rewind database changes

without any restore to dramatically minimize downtime). Online Patching allows customers to install single or bundle patches completely online, without requiring the database instance to be shut down.

SAP customers are able to use Oracle Cloud File System (ACFS), which is part of Oracle Database. It complements Oracle Automatic Storage Management (ASM) in order to store non-Database files on ACFS. This option is also available on Exadata X5 and higher. It allows administrators to store SAP-related files like `/sapmnt` and `/usr/sap/trans` and avoid using external NFS file systems.

Oracle Exadata Database Machine for SAP customers is a highly engineered and pre-validated configuration. It provides built in High Availability, 'out of the box'. With Exadata's redundant architecture, all single points of failure are eliminated. Familiar features such as mirroring, fault isolation, and protection against drive and cell failure have been incorporated into Exadata to ensure continual availability and protection of data. Exadata is prebuilt, reducing time and costs for deployment, installation, and configuration (HW, OS, DB, RAC, Clusterware etc.).

4) Best Support for Very Large Databases

The Oracle Database is well known for providing the most efficient use of disk space. This is extremely important to SAP customers as the size of their databases continues to grow dramatically.

Compression of B Tree indexes, which make up to one third of disk space allocated to databases in SAP environments, reduces I/O and improves overall performance by allowing more index information to be stored in the same amount of memory (cache).

Table compression, implemented in Oracle's Advanced Compression, uses a unique algorithm that eliminates duplicate values within a database block, even across multiple columns. This approach combines disk space reduction, performance benefits and ease of management.

Oracle Database Advanced Index Compression uses an unique algorithm to optimize space for index entries at a block level resulting in less amount of disk space needed, faster access to data and higher throughput of the SAP system.

Out-of-line LOBS (SecureFiles) Compression, Client-Server Network Compression, Data Guard Compression, Expdp Compression and RMAN Backup Compression are further enhancements to the compression features SAP customers can benefit from.

The complete unload and load of data during a Unicode migration (required by all new SAP releases) was optimized by Oracle to achieve the fastest SAP Unicode Migrations, with up to 1 terabyte/hour data transfer rates and it is fully integrated with SAP products. Even the largest multi-terabyte databases have been migrated in one weekend.

SAP customers using Oracle Databases also take advantage of a rich collection of table partitioning types to reduce I/O and improve performance. Oracle Database enriches this list with sub-partitioning and interval partitioning meant to enhance design flexibility and application performance.

In Oracle Database 12c and above, several new features have been added to the Advanced Compression Option (ACO) which enhance the storage

management capabilities of Oracle Database. Heat Map automatically tracks modification and query timestamps, providing detailed insights into how data is being accessed.

Hybrid Columnar Compression – available on Oracle Engineered Systems (Exadata platform) – enables the highest levels of data compression and provides enterprises with tremendous cost-savings and performance improvements due to reduced I/O. Average storage savings can range from 10x to 15x depending on which Hybrid Columnar Compression level is implemented.

Many environments are reaching the end of their useful life and are costly to maintain. Exadata provides a simple and easy way to manage an environment – a viable option for a private cloud.

SAP Business Warehouse:

- Huge and complex infocubes, queries or transactions with large database time
- Large daily extracts with a limited time window
- Large extracts can flood the network

5) Best Database Security

Compliance and security are more important now than ever before.

Oracle's Advanced Security Transparent Data Encryption (TDE) makes encryption of sensitive data simple by transparently encrypting data when it is written to disk. Oracle Database provides; Tablespace Encryption (encrypts all data within one tablespace), RMAN Backup encryption, Data Guard Secure Network, Expdp, and SecureFile Encryption.

With Oracle Database Vault, protective realms around SAP application database objects can be established to prevent privileged database users from accessing sensitive data and to enforce separation of duties among privileged database users.

Oracle Database Vault helps customers meet regulatory compliance requirements by enforcing separation of duties. Database Vault privilege analysis minimizes the number of granted roles.

All Oracle Security features are available for all database configurations (single instance, RAC) and all Hardware/OS platforms – including the Exadata Database Machine.

Exadata for SAP satisfies even the most stringent security and high-availability requirements. It is a complete, pre-built, balanced and secure cloud-based machine for mission critical databases with all available high security features of Oracle, like Database Vault.

6) Best Manageability and Self-Management

Oracle Enterprise Manager Grid Control (EM), SAP DBA Cockpit, and SAP BR Tools rely on Oracle Automatic Workload Repository (AWR) that automatically stores workload and performance statistics. So, administrators and support engineers can analyze and quickly resolve performance issues, whether the root cause happened hours or days before.

Real Application Testing (RAT) to evaluate and implement changes in the customer data center infrastructure e.g. operating system, hardware migrations, patches and upgrade changes. Database Replay (part of RAT) enables customers to realistically test system changes essentially recreating production workloads on the test system.

A very exciting functionality for SAP customers in Oracle is Information Lifecycle Management (ILM) and Automatic Data Optimization (ADO). These features combined along with the Heat Map can be utilized to build a robust ILM strategy. This strategy incorporates automatic tiering and compression of your data to meet the policies you define.

Bundle Patches are created and certified in conjunction with SAP and bundled for simplicity. Applying the Exadata Bundle Patches and the SAP Database Bundle Patches is all that is required. BR TOOLS have been expanded to support ASM and Exadata.

Exadata for SAP

- makes complex integration work and manual tuning (database, storage, network, and server) superfluous,
- optimally supports implementations, migrations, and consolidations for quick, inexpensive project runtimes,
- enables users to implement a highly efficient centralized data pool featuring a multitude of system databases.

7) Best Support for Database Consolidation

Oracle supported traditional database consolidation methods like virtual machines or schema consolidation for a long time. And SAP customers benefitting from saving costs and effective infrastructure optimization.

Oracle Engineered Systems such as Exadata Database Machine gave customers new opportunities for database consolidation and infrastructure cost savings with reduced complexity. More and more SAP customers are using Exadata for this stated purpose: the consolidation of their numerous “SAP databases”.

SAP can be included in enterprise-wide database consolidation plans on Oracle Exadata Database Machine. Consolidate all databases on a modernized database platform and lower overall database costs due to consolidation; there are great advantages with the opportunity to consolidate multiple dispersed Oracle Databases into one Exadata environment. Administrators can focus on managing Exadata, not on maintaining multiple unique configurations.

Oracle Database Multitenant gives database consolidation projects massive additional advantages. The Multitenant Option provides higher productivity and resource/cost savings for customers who realize database consolidation projects by significant simplification. Oracle Multitenant introduces an architecture that enables customers to easily consolidate multiple databases, without changing their applications, but allowing the management as one grouped resource with minimized memory resources. SAP customers can manage many databases as one (patching, backup, etc.). More efficient utilization of system resources/ resource management can be realized in an easy and very efficient way.

8) Best Integration of Hardware and Software

For years Oracle Database Server Software checks the ability of relevant hardware components. E.g. for using flash, encryption etc. With Oracle In-Memory, scans use super-fast “Single Instruction Multiple Data Values” (SIMD) vector instructions, when supported by the CPU. So, the get together or the integration of hardware and software is reached reached by using Oracle Database 12c and above as a new step to higher quality and effectiveness.

Exadata, being an Oracle Engineered System, is prebuilt, thus reduces the time and costs for deployment, installation, and configuration (HW, OS, DB, RAC, Clusterware etc.). Exadata enables SAP customers to have a consolidated platform for databases, and provides the best integration of hardware and software, while reducing the demand for power and cooling for the SAP system operations.

Engineered for Innovation, Efficiency and Simplicity: Oracle Engineered Systems for SAP

Companies need to optimize their IT infrastructure to achieve best performance at reasonable cost. Oracle innovates at every layer of the stack to design engineered systems that reduce the cost and complexity of IT infrastructures while increasing productivity and performance.

Oracle engineers systems that are integrated across the entire technology stack, – so you don't have to do this. Reduced IT complexity frees up time and money, leaving more to spend on innovation and new opportunities.

Oracle's Engineered Systems combine best-of-breed hardware and software components with game-changing technical innovations that simplify operations and lower total cost of ownership (TCO). With Oracle Engineered Systems for SAP, that extreme performance is optimized for SAP applications.

Where competitors stop with "ultra" or "highly" converged systems, Oracle does not stop there, but moves one step ahead by really engineering all layers and integration of all layers into one solution which is designed, tested, built and delivered based on own IP and industry standards.

Oracle starts with the world's most complete, open, and integrated technology stack – including database technology, management software, operating systems, servers, and storage.

Oracle Engineered Systems

While each of the IT infrastructure layers provide leading-edge technology in itself, Oracle went one step further and designed engineered systems that are pre-integrated to reduce the cost and complexity of IT infrastructures while increasing productivity and performance.

Only Oracle can innovate and optimize at every layer of the stack to simplify data center operations, drive down costs, and accelerate business innovation.

Each system integrates Oracle's applications-to-disk technology stack – servers and storage, operating systems, database software, middleware, networking, and built-in virtualization features – to reduce the time and cost associated with purchasing, provisioning, deploying, and maintaining SAP infrastructure.

Oracle and SAP have jointly tested and certified Oracle's Engineered Systems for SAP, making them available as a family of engineered systems that are pre-integrated, pre-tested, and pre-configured to simplify data center operations, ensure fast and easy SAP infrastructure deployment, and accelerate business innovation.

Optimized for Oracle Database and SAP applications, Oracle's Engineered Systems for SAP reduce the time needed to get SAP landscapes up and running.

Oracle Engineered Systems in the Datacenter

Once deployed, consolidating SAP landscapes on Oracle's Engineered Systems reduces data center management complexity.

Administrators can use SAP's BR*Tools and Oracle Enterprise Manager Ops Center to manage SAP landscapes and SAP infrastructure. Built-in automation features simplify administration tasks and reduce day-to-day management demands.

Oracle Exadata Database Machine is designed to achieve enterprise performance levels that are unmatched in the industry.

Designed to deliver extreme performance to data warehousing, online transaction processing (OLTP), and mixed-load database applications, the Oracle Exadata Database Machine is tailor-made to improve SAP performance and manageability.

A "data center in a box", the Exadata Database Machine is an easy-to-deploy system that includes all the hardware needed for running the Oracle Database. From there, it adds Oracle Real Application Clusters (RAC), Oracle Grid Infrastructure, storage management tools, and administration software – and optimizes the entire system for extreme performance, mission-critical availability, and reliability.

Using Exadata in SAP Environments

Oracle Exadata Database Machine is the perfect choice for SAP environments on several levels:

- It delivers outstanding I/O and SQL processing performance for online transaction processing, (SAP ERP), business warehouse (SAP BW), and consolidation of mixed workloads.
- A massively parallel grid architecture using RAC and Exadata storage delivers extreme performance with linear I/O scalability, dramatically increasing data bandwidth between the database server and storage. Intensive query processing and data mining scoring are offloaded to storage servers, bringing processing closer to SAP data to improve query performance and concurrency.
- All servers, storage, and networking components are pre-cabled in racks, and the complete package is pre-integrated and pre-tested, cutting weeks or months from deployment schedules.
  It cuts management and maintenance chores by simplifying tasks such as patching with single vendor bundled patches.
- SAP customers can easily migrate their database to Exadata, which runs SAP applications unchanged. Depending on the source platform, the migration could be as smooth as an operating system platform upgrade.

Engineered for Extreme Performance

Extreme performance means everything you're doing now gets kicked up a notch or two – or more. Oracle describes its engineered systems with words such as faster, better, lower and fewer. Put them together and you start to understand the benefits of extreme performance:

- Faster processing
- Lower costs
- Less risk
- Faster deployments
- Higher throughput
- More storage capacity
- Smaller footprints
- More transactions
- Better analytics
- Faster data loading
- Better data compression
- Higher availability

A Clear Path to Higher SAP Performance

Overview

The Oracle Exadata Brazil team performed a very successful proof of concept (PoC) with a large local textile and retail clothing company running their SAP workloads on Exadata X8M. The company is extremely pleased with the results: an over 50% reduction in execution time and over 60% improvement in SD (Sales and Distribution) transactions while running on 30% less infrastructure.

Oracle Exadata X8M-2 demonstrates significant performance improvements in proof of concept.

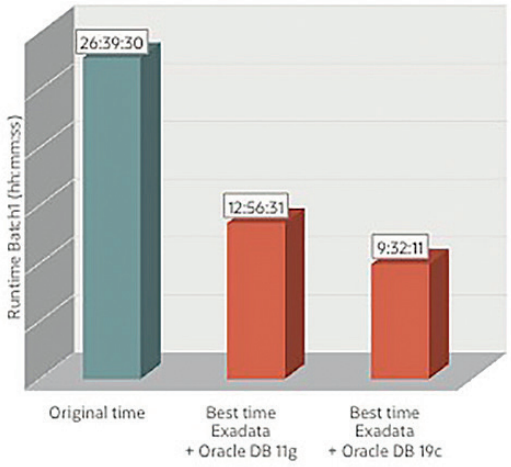


Figure NN: Runtime comparison for Batch Job 1: Existing hardware vs. Oracle Exadata Database Machine with Oracle Database 11g or Oracle Database 19c

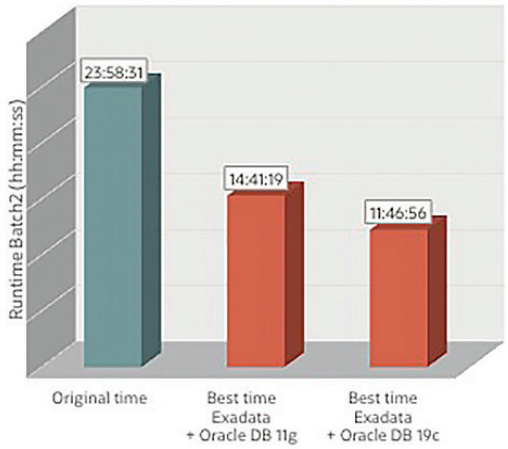


Figure NN: Runtime comparison for Batch Job 2: Existing hardware vs. Oracle Exadata Database Machine with Oracle Database 11g or Oracle Database 19c

Follow the Performance Leader

Customers have grown accustomed to performance leaps with every new generation of Oracle Exadata Database Machine due to improved processor speeds, architectural enhancements, and specialized algorithms in system software. With the introduction of the Exadata Database Machine X8M, performance gains are now orders-of-magnitude better than the previous generation largely due to the unique use of Intel® Optane™ Persistent Memory and a 100Gb RDMA over Converged Ethernet (RoCE) internal fabric. The result is, indeed, a leap in performance: 16 million OLTP read IOPS, <19 microseconds OLTP IO latency, and 560GB/sec analytic scan throughput.

The SAP Customer Journey with Exadata

How can this new Exadata generation help SAP customers? SAP ERP Central Component (ECC) systems often run mixed workloads of varying types. These differing workloads are where the Exadata X8M architecture leveraging persistent memory excels. This innovation is essential to keep batch chain jobs executing at consistently high performance, while maintaining user transactions at satisfactory response times for the business.

Let's see how SAP workloads are handled by a typical do-it-yourself (DIY) system and Exadata. In the DIY system, there are application, database servers, and external storage all connected via an Ethernet LAN. None of these components are optimized for Oracle Database and the LAN introduces delays. In contrast, Exadata is a full-stack, engineered system whose technology, including persistent memory and RoCE in the latest generation, are optimized and finely tuned to maximize Oracle Database performance.

How this works to enhance performance of SAP workloads: Exadata Storage servers transparently add persistent memory accelerators in front of flash memory. The Exadata Database servers use Remote Direct Memory Access (RDMA) instead of I/O to read remote PMEM, which is automatically tiered and shared across databases using a cache for the hottest data.

With the use of Oracle Database 19c on Exadata X8M-2 (used in this PoC) we have the use of a third tier of information storage, in front of flash and behind the Database Nodes' memory. This is based on the new technology of Persistent Memory Data & Commit Accelerator that make use of Intel® Optane™ modules, associated with RDMA over Converged Ethernet (RoCE) 100GbE.

This technology also allows for lower log write latency, which is critical to OLTP performance, such as SAP applications. Faster log writes give way to faster transaction commit times and minimize any log write slowdown that may cause a commit backlog. The Automatic Commit Accelerator allows databases to perform "one-way" RDMA writes to PMEM on multiple Storage Servers, bypassing network and I/O software, interrupts and context switches. The performance benefits of the Exadata X8M are clearly demonstrated in the proof of concept (PoC) results.

Clear Path with a PoC

Customers upgrading from legacy systems to an Exadata X8M often like

The complete test scenario and results of the PoC are documented in a White Paper "SAP on Exadata X8M-2 - SAP ECC with Oracle Database on Exadata X8M-2 POC Results." You can download this white paper here: https://www.oracle.com/a/ocom/docs/sap-on-exadata-x8m-2-white-paper.pdf

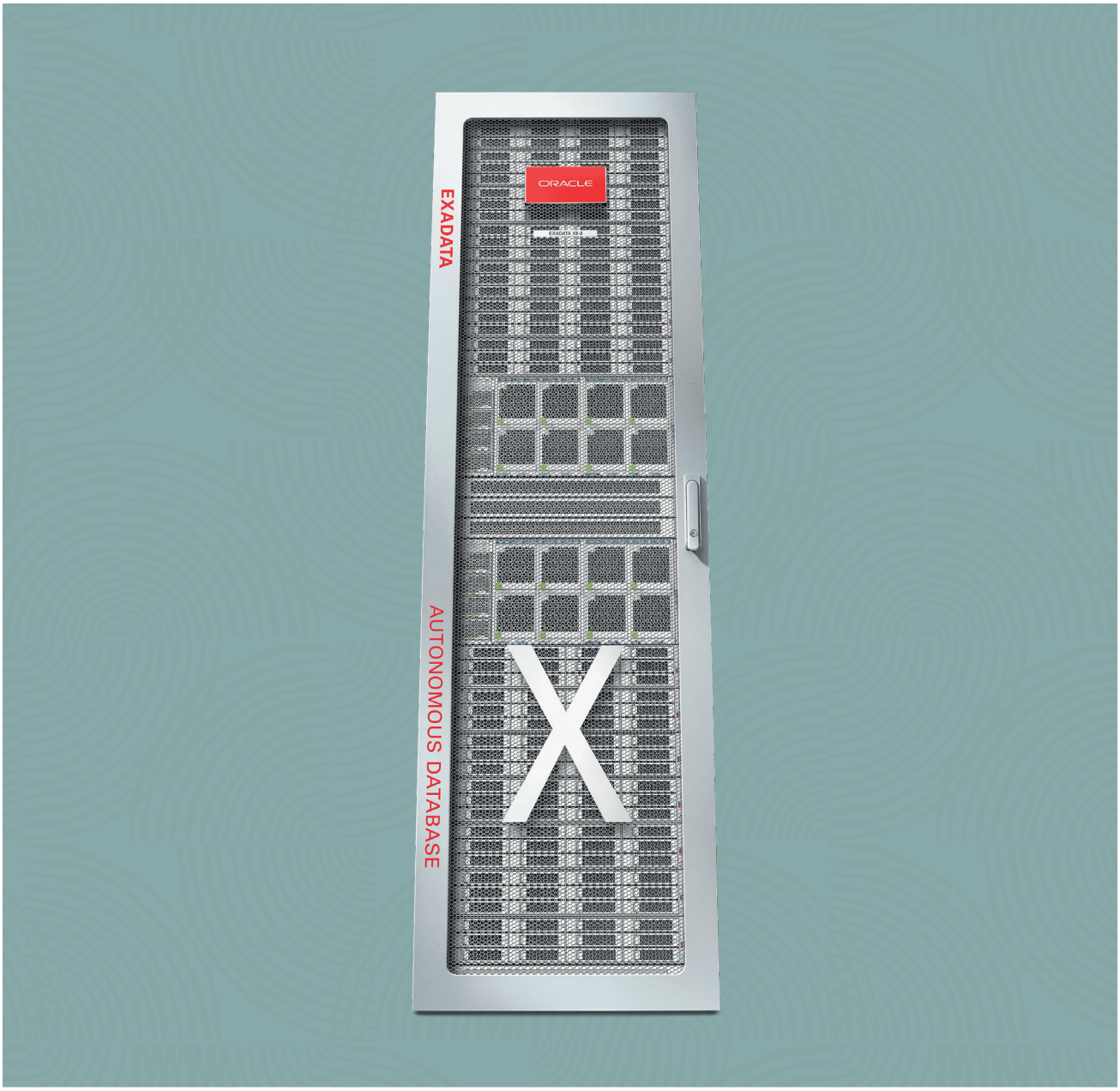
Note: When using Exadata X8M for SAP applications, it is extremely important that all SAP Bundle-Patches (SBP) and upgrade procedures cascading from SAP Note 2799900 for Oracle Database 19c local to

to know in advance what performance gain they can expect. To address this need, the Oracle for SAP development team has run a series of benchmarks and published the results, in SAP Application Performance Standards (SAPS) values, in Oracle documentation and in SAP notes. There are also special cases where a customer may request a PoC to help make the decision on which model and size of an Exadata they should invest in. In these cases, Oracle collaborates with the customer to design a test scenario involving a workload and real data to match the customer's specific requirements.

the Exadata are also applied accordingly – which was the case for this PoC.

For more information on SAP on Oracle, please visit https://www.oracle.com/solutions/sap/

For more Exadata-specific information visit https://www.oracle.com/engineered-systems/exadata/ or simply ask your Oracle Representative.



Oracle Exadata Machine Helps Cencora Run its Business at Peak Levels with SAP

Cencora is a global pharmaceutical sourcing and distribution-service company that helps healthcare providers, pharmaceutical companies, and biotech manufacturers to improve patient access to products and enhance patient care. Services range from drug distribution and niche premium logistics to reimbursement and pharmaceutical consulting services. Cencora delivers innovative programs and solutions across the pharmaceutical supply channel. The company is ranked no. 12 on the Fortune 500 list.

Challenges/Requirements

- A consistently stable database infrastructure platform capable of supporting an extremely high-volume and mission-critical SAP architecture: The SAP ECC application currently processes 1.7 million line items daily to their existing, incrementally growing, 70TB database.
- A reliable and high availability IT environment that can be scaled as needed with near zero downtime: Ideally the environment is easily extendible, flexible, and supports their ambitious future business requirements. Near term growth analysis estimates processing a significant increase in line items by the end of 2017.
- Achievement of performance gains taking into account end-to-end processing
- Successful and sustainable total cost of ownership requirements

Solutions

Cencora chose to deploy the Oracle Exadata Database Machine Platform as the critical infrastructure foundation for the company's core SAP architecture. The reason for this was for significant scalability & stability improvements in the mission-critical SAP ERP ECC application and other core SAP modules.

Oracle Exadata Database Machine is a highly optimized engineered system capable of handling the most intense I/O workloads. It also serves as a great consolidation platform. Cencora has replaced over 50 classical database servers into a small number of Exadata machines. A much higher density of database per server was achieved. Cencora has improved system stability for all mission-critical SAP applications: especially SAP ECC. Their business volume increase from processing 1 million to 1.7 million line items per day was a non-event. The system performed as expected without scalability issues. Unplanned downtimes were eliminated for their business- critical SAP ECC environment. Both local and remote high availability (near zero downtime) are applied for disaster recovery coverage with faster backup time. Optimized IT

"In three and a half years of productive use, we have benefited from Oracle Exadata Database Machine in numerous ways. The Oracle Exadata Machine ideally supports stability, high availability, and performance in high-volume SAP use and facilitates our ever more ambitious business plans. We have been able to drastically simplify and consolidate our database environment as well as minimizing the TCO – with a greatly optimized support model. The Oracle services ACS and AM&R allow us to effectively focus on core tasks and help us to make optimum use of our own resources."

Milt Simonds
Vice President Enterprise Platform Delivery, Cencora Corporation

management ensured high performance with proactive monitoring and accelerated issue identification and resolution. This spans the entire Oracle technology solution (e.g. database, RAC, operating system, server, and storage) thanks to Oracle Advanced Customer Service (ACS) and Oracle Advanced Monitoring and Resolution Services (AM&R).

Note: As of July 2023, Oracle ACS (Advanced Customer Services) became part of Oracle CSS (Customer Success Services).

Why Oracle?

Oracle Exadata Database Machine is a unique and comprehensive database tier solution: engineered and optimized for SAP and non-SAP database workloads. The ability to scale up to meet future needs is outstanding. Oracle AM&R and Oracle ACS have provided excellent support and great value for the mission-critical IT operation.

Implementation process

Cencora first went live with Oracle Exadata Database Machine for SAP in September, 2013. The transition to Oracle Exadata was done in two phases. The first phase focused on the core SAP ECC system. SAP ECC went live in the first 12 weeks of the project. The remainder of the SAP applications including CRM, PI or Portal followed in early 2014.

The 70TB SAP ECC database environment has been running successfully for three and a half years on a dual-rack X3-8 Oracle Exadata Database Machine. The remaining SAP applications on approximately 20 databases run on a separate X3-2 Exadata machine. Recent expansions of the SAP architecture will introduce Oracle Database In-Memory.

Cencora is in the process of consolidating their existing 20 datacenters down to two locations. This process will be finalized in 2018. The company also plans to upgrade the existing X3 Oracle Exadata Database Machine to X6 Oracle Exadata Database Machines this year.

“Oracle proactively assists with infrastructure monitoring to recognize any concerns from a performance perspective. With the North America Oracle SAP team, Oracle Advanced Customer Service (ACS) and Oracle’s AM&R we can proactively look at what we need to do specifically to the SAP ECC environment to keep up with the high volumes,” says Milt Simonds, Vice President Enterprise Platform Delivery, Cencora Corporation.

Oracle Customer:
Cencora Corporation

www.cencora.com

Location: Chesterbrook, Pennsylvania, United States

Employees: over 19,000

Annual Revenue: $146.8 billion (FY16)

Oracle Products & Services:

- Oracle 19c Database
- Oracle 19c Database In-Memory
- Oracle 19c Database Tuning & Diagnostics
- Oracle 19c Real Application Clusters (RAC)
- Oracle Exadata Database Machine
- Oracle Advanced Compression
- Oracle Data Guard
- Oracle Advanced Customer Support Services (ACS)
- Oracle Advanced Monitoring and Resolution (AM&R)

Oracle Database and Exadata – The Problem Solvers for BW Issues

A Successful MSSQL Migration to Oracle Database on Exadata

The company, an SAP customer for many years, engaged the global Oracle Advanced Customer Services (ACS) team to migrate and transition to the new Exadata environment. Compared with the previous MS SQL Server and standard hardware setup, the new SAP Oracle 12c database (including RAC) and the high-performance Oracle Exadata for SAP engineered system have tripled BW reporting performance and doubled the extraction speed of critical data. At the same time, scalability, capacity and high availability (HA) of the system was increased. All without a single change to the existing BW applications.

Rock-solid reasons for Oracle Database and Exadata

It is a well-known fact that, in order to work efficiently, be future-proof and provide flexible scalability, SAP BW/BI NetWeaver greatly depends on its infrastructure components, i.e. the underlying database and hardware environment. However, while the use of BW almost continually increases over time, the existing infrastructure environment quickly can outlive it's ability to support the increase in utilization as required. Emerging BW application requirements, such as the use of new BW reports driven by business needs, sometimes cannot be implemented at reasonable cost – or at all. Performance limitations of the existing SAP infrastructure may even prevent the addition of smaller new reports of high business value.

This was also the case with the above-mentioned company that encountered several performance issues preventing them from using BW for normal system operation. At the same time, the existing SAP BW environment was unable to keep up with the increasing BW application requirements and provide the business with new BW functionality. Therefore, it was concluded that "optimizing BW was inevitable".

Various options were developed and evaluated in detail. Eventually, two options for implementing the planned BW optimization emerged from the evaluation process: either switch to SAP HANA or migrate the existing BW landscape based on SAP NetWeaver from the MS SQL Server database and its standard hardware environment to Oracle Database and Oracle Exadata. According to a company spokesperson, the scales eventually turned away from the SAP HANA option due to the impact of the expected amount and diversity of changes that would have been required to make their existing applications work in the new environment. The SAP NetWeaver BW/BI with Oracle Database and Exadata optimization option was the simpler path and had been thoroughly checked and verified multiple times before the final decision was made.

By replacing the database server of their SAP system running MS SQL Server on standard hardware with Oracle Exadata running Oracle Database, a global provider of infrastructure supply managed to resolve multiple issues on their SAP NetWeaver BW/BI that had been affecting their business operations. The move also fixed their previous inability to fulfill business-relevant BW application extension requirements.

Qualified support by the Oracle ACS team

The migration project was backed by a dedicated Oracle Advanced Customer Services team, giving advice as well as providing hands-on assistance. The team was not only involved in the design and planning but also in all relevant project steps such as system sizing, installation of the Oracle database including RAC implementation, Exadata installation, database migration and transition, fine tuning, testing, training and go-live. According to the customer, "Oracle ACS supported us with its vast experience and in-depth know-how at all times and played a crucial part in the timely realization and successful outcome of the project."

Note: As of July 2023, Oracle ACS (Advanced Customer Services) became part of Oracle CSS (Customer Success Services).

Migrating from the MS SQL Server database and a standard hardware environment to Oracle 12c database and an engineered system based on an integrated hardware / software / storage / network system was a huge success for the customer. "The manifold performance issues we had with SAP NetWeaver BW/BI have simply vanished into thin air – without a single change to the SAP BW application logic. The use of BW with the new environment enables us to further enhance our business and focus on our goals," the customer explained.

The combination of Oracle 12c and Exadata for SAP has tripled reporting performance, and the speed of data extractions has doubled. The new environment is also future-proof as it provides sufficient scalability and capacity resources to implement future change requests or new BW application features (such as the use of big data features) – something that would not have been possible before the introduction of Oracle 12c and Exadata. What's more, the use of Oracle Real Application Clusters has led to significant high availability improvements.

Future expansion of the current Exadata system for extended uses of SAP NetWeaver BW/BI is now possible at any time without problems.

Results / improvements achieved through Oracle 12c and Exadata for SAP
Reporting performance 3x
Extract criticals 2x
Scalability / capacity 2x

Oracle-related SAP Notes (Infrastructure)

Note No.	Note Title	DB Version
Engineered Systems : Exadata		
1590515	SAP Software and Oracle Exadata	19c
1619343	SAPinst for Oracle Exadata on Oracle Linux and Solaris X86	12c-19c
1677978	Mixed GI/RDBMS Versions or Mixed SAP/Non-SAP Environments	12c-19c
1996481	Using Correct Hostnames for Oracle Exadata Database Nodes	12c-19c
2007980	SAP Installation with Oracle Single Instance on Exadata and ODA	12c-19c
2799940	Exadata / Supercluster: Patches for 19c	19c
2846518	Exadata X8M - Virtualization DBs for SAP NetWeaver Products with KVM	12c-19c
2847437	Older Versions: SAP Software and Oracle Exadata	12c-19c
2848997	Additional Patches Required for Using Exadata Software 19.3.0	12c-19c
2884306	Managing SAPDATA_HOME and ORACLE_BASE on Engineered Systems	19c
2992680	Managing shared and multiple Oracle Homes on Engineered Systems	12c-19c
Engineered Systems : Database Appliance (ODA)		
2007980	SAP Installation with Oracle Single Instance on Exadata and ODA	12c-19c
2345633	Oracle Database Appliance: Mixed SAP and Non-SAP ORACLE_HOMEs	12c-19c
Engineered Systems : Private Cloud Appliance (PCA)		
2052912	SAP Software and Oracle Private Cloud Appliance (PCA)	n/a
Engineered Systems : Services		
1983678	Platinum Services for Exadata and SuperCluster running SAP	12c-19c
Infrastructure: Operating Systems		
1332026	Entitlement Process for Oracle Sun Server and Oracle Solaris OS Support	n/a
3408032	Oracle Linux: Support Process for Installations of SAP Products	n/a

Oracle Support and Services for SAP Customers

CONFIGURATION SERVICES

- Performance Analysis and Optimization
- High Availability Architectures
- Security and Compliance
- Data Model And Disk Space Optimization

MIGRATION SERVICES

- Non-Oracle to Oracle
- Oracle to Oracle
- Oracle to Oracle close to Zero Downtime
- On-Premise to Cloud

TECHNICAL SKILL WORKSHOPS

- Oracle Database Fundamentals
- Oracle Database Tuning
- ABAP® Tuning with Oracle Database
- Database Security

Mission-Critical Support Services for SAP Customers

For organizations using SAP for critical operations, seamless data availability, optimal performance, and reduced IT risk are essential for business success. Oracle Customer Success Services delivers mission-critical support to help you maintain and maximize the performance of your Oracle systems. With a unique service approach focused on building a long-term relationship with your IT team and collaborative support within Oracle's support and engineering teams, Oracle Customer Success Services provides a highly integrated, end-to-end service offering. A single contact for all Oracle and SAP issues and access to Oracle and SAP experts allow problems to be resolved faster and more efficiently. Proactive, preventative support services use diagnostic tools to help you increase system availability, optimize performance, reduce risk, and accelerate return on investment (ROI) across the Oracle and SAP stack. Planning, migration, configuration, and installation services enable you to take advantage of advanced features and new technologies faster and more effectively. Customized workshops train you with best practices on how to operate and maintain your SAP environment for the maximum performance and availability. All of this adds up to services that allow you to focus on delivering business value, not on day-to-day IT support.

Oracle has the deep SAP expertise you need to get the most out of your SAP environment. With over 30 years of collaboration with SAP, Oracle is the top database provider for SAP deployments and has the longest experience with SAP R/3 and SAP NetWeaver of any database provider. Dedicated engineering and support resources from both companies work together on end-to-end development, integration, and optimization, and ensure fast customer issue resolution, so you can operate your SAP and Oracle environment with confidence. Highest availability for your SAP landscape with Oracle high availability (HA) and disaster recovery (DR) development, integration, and optimization, ensures fast customer issue resolution.

Oracle Customer Success Services Systems Optimization and Transition Solutions for Oracle Databases

Whether you need to migrate your database to stay up to date with the latest technologies, consolidate legacy systems onto modern hardware, or improve the performance of your SAP workloads, Oracle Systems Optimization and Transition solutions delivered by Customer Success Services helps you optimize your Oracle Database for SAP.

Oracle Customer Success Services' Systems Optimization and Transition solutions enable faster database transitions, reduce transition and consolidation risk and costs, and help you optimize database performance and availability.

Oracle Transition Service for SAP Database Migration

Through automation, advanced support tools, and more than 14 years of Oracle Database transition experience, Oracle Transition Service delivers transition planning, validation, and execution services that allow you to

transition your SAP database faster, with lower costs and less downtime. Oracle experts assess your SAP environment, guide you in choosing from multiple transition approaches, resolve potential issues, perform test runs to reduce risk, and move your database through a secure online gateway. Oracle's efficient process, based on the latest industry best practices, allows you to transition your SAP database in a matter of days, not the weeks or months typically required.

Oracle Consolidation Planning Service

Consolidating legacy systems onto modern hardware can reduce costs, improve performance, and simplify operations. The Oracle Consolidation Planning Service helps you quickly identify the most optimal consolidation and migration scenarios for consolidation onto Oracle's hardware platforms and engineered systems. Oracle experts assess the current configuration, workloads, patch levels, and security requirements of your SAP environment to develop a comprehensive consolidation plan, including detailed projections and actionable recommendations to lower transition and operational risks.

Oracle Performance Tuning and Benchmarking Service

Through ongoing monitoring and quarterly assessments, the Oracle Performance Tuning and Benchmarking Service helps you maintain consistent, optimal performance for critical SAP databases. Key performance metrics are monitored to proactively identify issues before they impact operations. Quarterly performance assessments include recommendations based on industry standards, Oracle best practices, and ongoing experience with customers that have similar SAP database configurations and usage scenarios.

Adding the Oracle Load Testing and Analysis Service further increases uptime, lowers costs, and reduces risk through comprehensive database testing. Oracle Database load testing experts evaluate the performance impact of planned technology changes, recommend configurations to optimize performance, and identify and address issues before go-live.

Oracle Customer Success Services for Oracle Servers and Engineering Systems

For SAP environments based on Oracle hardware, Oracle Customer Success Services provides planning, deployment, optimization, and support services based on deep expertise for servers, storage, and engineered systems. These services improve the performance and availability and reduce new hardware implementation times for your SAP environment.

Oracle Customer Success Services for Servers

Oracle Customer Success Services offers several services to help you improve the performance and availability of your Oracle servers and reduce deployment time for new systems. Installation and configuration assistance includes preproduction readiness reviews to speed deployment of new Oracle systems and ensure your resulting SAP environment is stable and supportable. Tailored services for server performance tuning and availability configuration optimize your SAP environment. Additionally, customized workshops provide best

practices and knowledge transfers to help you operate your servers with confidence.

Oracle Customer Success Services for Engineered Systems

Through a complete lifecycle approach, Oracle Customer Success Services delivers mission-critical support for Oracle engineered systems that help you maximize the return on your engineered systems investment.

Advisory and planning, design and build, and deployment services ensure a smooth transition to Oracle engineered systems and operational readiness within your SAP environment. Ongoing production support reduces risk and gives you a single point of contact for both Oracle and SAP issue resolution.

Oracle Platinum Services for SAP Environments

Through Oracle Premier Support program, Oracle Platinum Services offer the customers additional enhanced support features for their SAP environments. Using the secure Oracle Advanced Support Gateway, continuous, remote fault monitoring of your entire Oracle and SAP environment–hardware, database, operating system, and networking–enables accelerated response times. Notification of faults is delivered within 5 minutes of occurrence, with restoration or escalation to development within 15 minutes. Joint debugging of escalated faults starts within 30 minutes of occurrence. The result is a decreased downtime through the prevention of critical issues and faster issue resolution. On average, Oracle Platinum Services customers experience 50% fewer high-severity issues and 31% faster response times, and reduced support-related workloads within their organization. Additionally, quarterly patch deployment services, including both Oracle and SAP patches, ensure your SAP environment is always up to date.

Oracle Platinum Services are included in Oracle Premier Support contracts for Platinum-certified configurations of Oracle Exadata.

For more information about Oracle Platinum Services for SAP environments, visit: https://www.oracle.com/support/premier/engineered-systems/platinum-services.html

Oracle Workshops for SAP Customers

Oracle provides customized workshops for SAP customers to help you better maintain and operate your Oracle and SAP environment. These onsite workshops are tailored to your business needs and delivered by Oracle professionals with deep expertise in optimizing Oracle Database deployments for SAP. Live, hands-on demonstrations and practitioner-oriented documentation cover a variety of topics to help you get the most out of your Oracle and SAP environment.

Contact Oracle Customer Success Services

For more information: https://www.oracle.com/customer-success/

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