ORACLE SUPERCLUSTER

Oracle SuperCluster M7:

The Ideal Platform for SAP

ORACLE WHITE PAPER | JANUARY 2016

ORACLE

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Introduction

Today's SAP landscapes can be described as some of the most complex data center landscapes requiring applications, databases, operating systems, cluster software, servers, networking, and storage to be integrated, expertly managed, and able to ensure business-critical high availability.

Oracle SuperCluster M7 is the only architecture for SAP that uniquely provides Oracle's secure private cloud infrastructure optimized for database and applications with integrated compute, storage, and networking resources as well as virtualization, OS, and management—making it the ideal infrastructure for SAP landscapes. Oracle SuperCluster M7 Software In Silicon, Oracle Database In-Memory, Oracle Database 12*c* Advanced Compression, Hybrid Columnar Compression, Oracle Database Vault 12*c*, and SAP Profiles for the Solaris Compliance Tool are unique only available with this SAP and Oracle SuperCluster M7.

Oracle SuperCluster M7 is the best platform for running all tiers of SAP. With new Oracle SuperCluster M7 engineered optimizations—including the performance of Oracle's SPARC M7 processor, the industry's strongest security, end-to-end integration with Oracle Solaris Cluster for high availability, and optimizations for Oracle Solaris—there is no other comparable solution on the market.

Validated and supported by SAP, Oracle provides an innovative way to accelerate deployment and reduce operational costs throughout the SAP architecture lifecycle. Oracle and SAP's joint development for decades has led to tighter engineering and integrations of Oracle SuperCluster and Oracle Database for SAP. Oracle SuperCluster M7 integrates SAP security compliance extensions as part of the SAP compliance framework.

Oracle SuperCluster has been successfully implemented and deployed for the consolidation of the complete SAP landscape, simplifying and accelerating deployments, consolidating infrastructure, accelerating performance, and providing a high-availability mission-critical Oracle cloud platform. Oracle SuperCluster customer use cases running SAP demonstrate the breadth of the scope of this solution.

This paper provides a high-level introduction to the key features and benefits of Oracle SuperCluster M7 for the SAP landscape including security, performance, and efficiencies. Links to white papers that provide more in-depth technical information are included in the "Additional References" section.

"In today's competitive marketplace for IT outsourcing services, customer expectations are always increasing. Oracle SuperCluster gives us the extreme performance we need to stay competitive while reducing our total cost of ownership and time to market. Oracle ensures we are successful at helping our customers to be successful."

EDUARD KOWARSCH

COO, MANAGED SERVICES

ATOS IT SOLUTIONS AND SERVICES GMBH

Key Benefits of Oracle SuperCluster M7 for SAP

Oracle SuperCluster M7 has been engineered as Oracle's secure cloud infrastructure with the industry's most advanced security, extreme performance, and a complete suite of efficiency enhancements, tools, and automation that work together to dramatically lower cost and complexity. In the areas of security, performance, and efficiencies specific technologies are integrated and optimized in Oracle SuperCluster M7, including the SPARC M7 processor, Oracle Solaris, Oracle Solaris Cluster, Oracle Database, and SAP.

SAP landscapes are complex, with many layers of infrastructure benefiting from consolidation to reduce total cost of ownership and improve SAP application performance, manageability and availability. Traditional SAP landscapes evolve to complex, segregated infrastructures for production, development, and quality assurance.

Oracle SuperCluster provides a simplified, consolidated cloud infrastructure for SAP landscapes as an architectural foundation. Oracle SuperCluster combines compute, networking, and storage hardware with virtualization, operating system and management software in a complete, high-performance infrastructure that is extremely secure and easy to deploy, manage, and maintain.

Oracle SuperCluster M7 is engineered for performance and optimized across all layers of the Oracle and SAP stack (Figure 1). Joint development and co-engineering with SAP is part of Oracle's product strategy and performance optimization process.

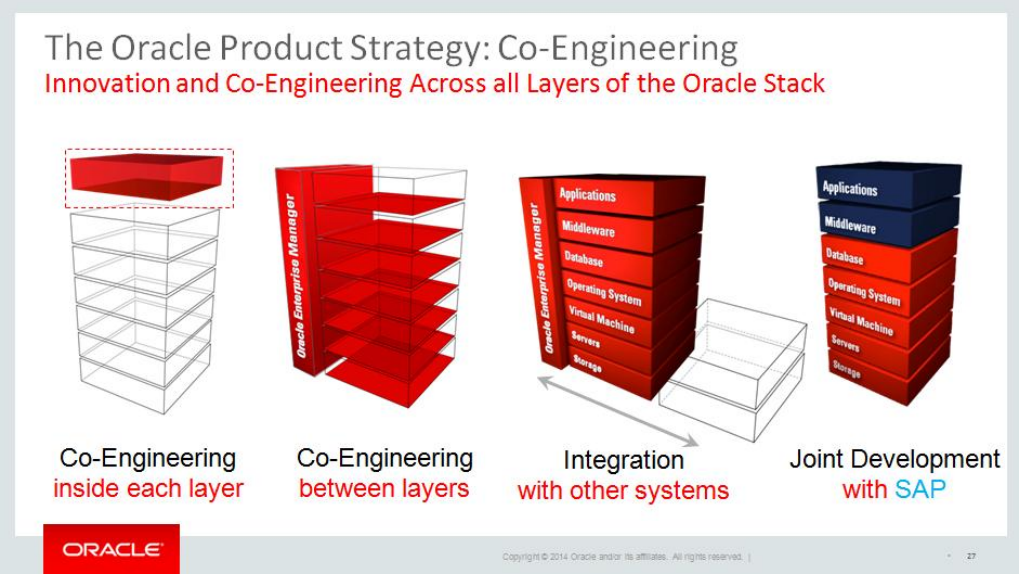


Figure 1. Co-engineering across the entire Oracle and SAP stack

Oracle SuperCluster was implemented as a transformational architecture for IaaS running Oracle Database and SAP. Applications and databases from five lines of business were consolidated to Oracle SuperCluster. Business results are projected to provide US$2.8M OpEx savings over five years, and capacity to support 20 percent year-over-year business growth.

OIL AND GAS DISTRIBUTOR

NORTH AMERICA

Oracle's secure private cloud services platform, Oracle SuperCluster M7, is a transformational architecture. Financial considerations for SAP data center modernizations include operational cost reduction, future capacity for growth, reduction in software licensing costs, and the net payback period for initial hardware investment as components of total cost of ownership. Operational and administrative cost reductions are most significant with Oracle SuperCluster. OpEx represents the majority of total cost of ownership reduction, typically 80 percent[1], due to the convergence of infrastructure, administration, and services.

Oracle SuperCluster SAP customer use cases based on actual implementations have demonstrated the huge scale of performance increases and efficiencies, representing a broad range of industries and scale of implementations. The projected outcome of each customer's Oracle SuperCluster implementation is most effectively evaluated through an Oracle Solution Center technical engagement.

Oracle SuperCluster M7 features the industry's most advanced security, incorporating a number of unique run time security technologies, addressing the highest levels of security architecture requirements. SAP integrates and unifies a multitude of business functions and core processes, aggregating business-critical data requiring some of the highest levels of security compliance in the industry. By design, the engineering of Oracle SuperCluster M7 has advanced to uniquely anticipate and meet SAP customer requirements.

Oracle Solaris includes a security compliance framework and benchmark specifically for SAP applications on Oracle Solaris as extensions of the base compliance framework. The Oracle Solaris Compliance Tool provides a report framework based on the Open Security Content Automation Protocol (OpenSCAP) to increase security on Oracle Solaris and SAP applications.

Overview of Oracle SuperCluster M7 Technology

Oracle SuperCluster combines highly available and scalable technologies, such as Oracle Database 12*c*, Oracle Database 11*g*, and Oracle Real Application Clusters (Oracle RAC) with industry-standard hardware. All the integrated and optimized hardware—including Oracle's SPARC M7 servers, Oracle Exadata Storage Servers, and the Oracle ZFS Storage ZS3 appliance—are integrated through the QDR InfiniBand unified network. All components are preconfigured, tested, integrated, tuned, and performance optimized, and they are designed with no single point of hardware failure (Figure 2).

Figure 2. Hardware architecture of Oracle SuperCluster M7

Oracle SuperCluster M7 Features:

The following list describes some of the most prominent feature of Oracle SuperCluster M7:

- **Unmatched Performance:** Oracle SuperCluster M7 features the world's fastest processor for general-purpose computing: SPARC M7. Enhancements for cryptographic acceleration and Oracle Database 12*c* query acceleration are integrated directly into the processor's design. SPARC M7 In-Line Decompression combined with SPARC M7 SQL acceleration for Oracle Database In-Memory 12*c* increase performance of resource-intensive SAP applications.
- **Advanced Security:** Oracle SuperCluster M7 features the industry's most advanced security, incorporating a number of unique runtime security technologies, documented and tested system-wide security controls and best practices, and integrated automated compliance verification tools. Unique technologies include SPARC M7 Silicon Secured Memory, SPARC M7 cryptographic acceleration, read-only virtual machines, and end-to-end audit trails.
- **Scalability:** Oracle SuperCluster M7 also offers unmatched scalability for SAP environments. Designed for highly efficient and secure multitenancy, Oracle SuperCluster integrates scale-up virtualization and a scale-out InfiniBand fabric to provide maximum flexibility in provisioning system resources to tenant databases and applications. This is done while maintaining maximum isolation from other tenants' workloads, with optimal performance and no wasted compute, memory, or software resources.
- **Secure Multitenancy:** Secure multitenancy allows a high degree of isolation between multiple concurrent entities that are permitted to operate and manage their own services on a single, physical Oracle SuperCluster. Applications may have varied security, reliability, and performance requirements. Workloads are isolated in Oracle Solaris Zones, and resource management and user account management are centrally managed. Oracle SuperCluster provides centralized management of hardware isolation between groupings of CPU, memory, and I/O for higher availability within the node (Figure 3).

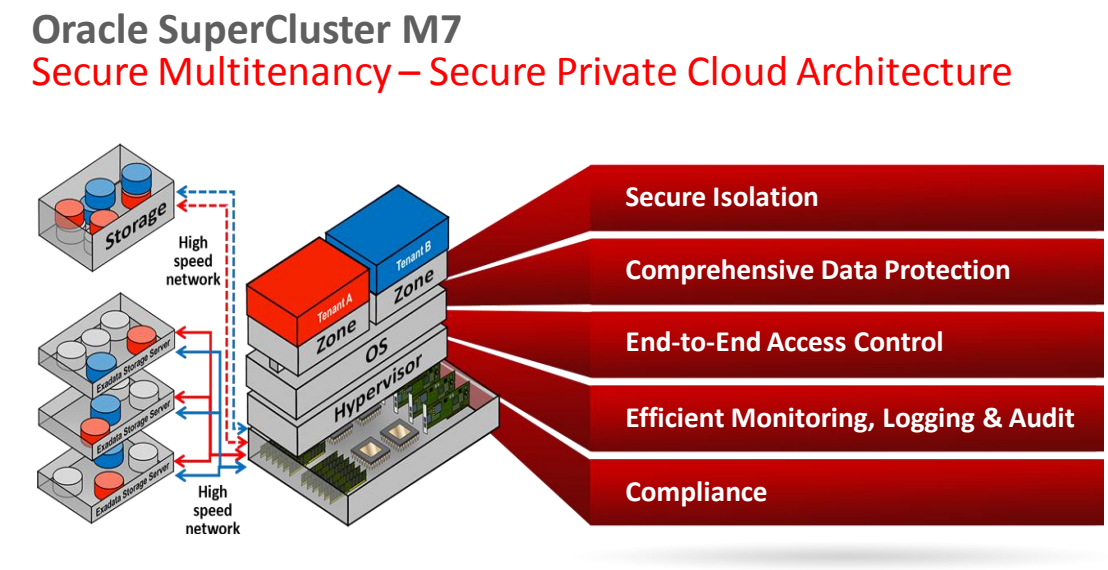


Figure 3. Oracle SuperCluster secure multitenancy

The Oracle SuperCluster multitenant architecture supports global zone audit management, which enables network administration management of audit and compliance. Audit management subsystems collect, store, and process audit event information. Each tenant-specific non-global zone will generate audit records that are stored locally to each Oracle SuperCluster global zone. This approach ensures that individual tenants are not able to alter their auditing policies, configurations, or recorded data because that responsibility belongs to the service provider.

"The major problem customers face is to allow dropping prices per core and to elastically grow when they need to through multitenancy. What we mean is to isolate at an Oracle Solaris level, with a global perspective. The advantage of Oracle SuperCluster is allowing very high-performance processing, which is revolutionary to the market. Our clients are expanding. We are revolutionizing the market to give customers benefits no one has looked at until now."

IAN LEWIN
HEAD OF ENGINEERING
SOLUTIONS FOR DIMENSION DATA

Oracle SuperCluster M7 Security and SAP

Oracle SuperCluster M7 delivers the industry's most advanced security with automated, end-to-end, ready-to-use security controls. The technology and security features designed for Oracle SuperCluster M7 and SAP are inherent to the processor hardware and through the comprehensive Oracle integrated security compliance controls.

The SPARC M7 processor's security technology includes cryptographic acceleration, which provides zero-overhead end-to-end data encryption with no performance penalty. The SPARC M7 processor itself protects in-memory data from corruption and security intrusion. Predesigned and preconfigured "out-of-the-box" security controls ensure security protections are in place and compliance requirements are met. Compliance reporting, automated patching, read-only virtual machines, and end-to-end audit trails are all automated. Key features are described below.

TABLE 1. ORACLE SUPERCLUSTER M7 SECURITY FEATURES

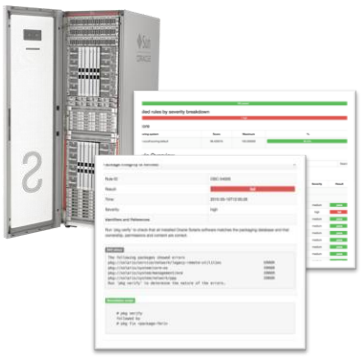
Feature	Description
SPARC M7 Silicon Secured Memory	Prevents physical system memory from unintended or unauthorized access by software programs
SPARC M7 Cryptographic Acceleration	Provides near-zero overhead and end-to-end data encryption with no performance compromise
Read-only Virtual Machines	Prevents administrators and compromised applications from accidently or deliberately altering the configuration of virtual machines in ways that would expose systems to attack and enables SAP applications to run in "immutable zones"
End-to-End Audit Trails	Enables the responsibility for potentially dangerous administrative actions to be configures and allows changes to be quickly determined
Compliance Reporting Automation	Enables security experts and system administrators to quickly and easily verify that IT systems are secure and compliant with mandated standards and best practices
Administrative Access Controls	Provides fine-grained control over the rights and activities available to individual system administrators
Out-of-the-box Security Controls	Provides detailed best-practice guidance, which is easily adapted to the particular deployment environment with minimal complexity

SAP landscapes integrate and unify an increasingly large number of business functions and core processes. This single location for business-critical and confidential data becomes a target for internal and external security breaches and compliance issues. Through functional security guidelines and best practices, Oracle SuperCluster M7 helps protect confidential information, preserve data integrity, and enforce user accountability.

Oracle SuperCluster M7 provides simplified security through extensive automated compliance tools. Directly integrated security controls and compliance are made available at installation for Oracle Solaris, SAP, and security standards including CIS, STIG, and PCI-DSS. Customers may tailor policies for additional security benchmarks or profiles (Figure 4).

For SAP, tier isolation using a combination of Oracle VM Server, Oracle Solaris Zones, and network partitioning allows enforcement of strict, role-based administration rights across an SAP environment. Oracle SuperCluster M7 offers high-performance cryptographic capabilities from the ground up for delivering data protection for application deployment architectures with inherent hardware, Oracle Solaris, and Oracle Database security.

Oracle SuperCluster M7
Simplified Security and Compliance



- Out-of-the-box Security Controls
  - Disable remote KVMS service, set CLI session time out, Encrypted *rPool*, and *swap,* configure Secure Shell, disable dynamic routing
- Step-by-Step Security Cookbook
- Extensible Automated Compliance Verification
  - Oracle Solaris Baseline
  - Oracle Solaris Recommended
  - Payment Card Industry Standard (PCI-DSS)
  - SAP Baseline

Figure 4. Oracle SuperCluster M7 security and compliance

Oracle SuperCluster, Oracle VM Server, and Oracle Solaris virtualization provided the scalable, transformational, private cloud platform for migrating JDA Manugistics running on SAP, in addition to Oracle's Siebel applications. With an Oracle engineered system, rapid time to deployment provided immediate access to capacity. Two SuperCluster systems were immediately deployed for production, and one for disaster recovery using Oracle Active Data Guard and Oracle's disaster recovery best practices for Oracle SuperCluster.

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Oracle SuperCluster M7 Performance and SAP

The most significant Oracle technology enhancements are the performance of the SPARC M7 processor and Oracle Database 12*c*, which transform SAP to real-time enterprise analytics and business management. Oracle Database 12*c* cryptographic acceleration and SQL acceleration and SPARC M7 In-Line Decompression running SAP yield incomparable performance. Business processes and management are transformed to enterprise processing and analytics for immediate business decision making.

Oracle SuperCluster M7 is the world's fastest engineered system due to the SPARC M7 processor's built-in performance acceleration, making it the ultimate platform for enterprise applications. SQL acceleration for Oracle Database In-Memory 12*c* enables analytics and transaction processing performance that is up to 9x better than on x86 systems. Below is an overview of Oracle SuperCluster M7 performance features.

TABLE 2. ORACLE SUPERCLUSTER M7 PERFORMANCE FEATURES

Feature	Description
SPARC M7 processor	World's fastest processor, which provides Silicon Secured memory and near-zero overhead cryptographic acceleration, enabling Oracle SuperCluster M7 to be 2.6x faster than the previous-generation Oracle SuperCluster T5-8
SPARC M7 In-Line Decompression	Accelerates SQL queries and frees memory resources
Cryptographic and SQL acceleration for Oracle Database In-Memory 12c	Enable simultaneous real-time analytics and transaction processing
Oracle Exadata Storage Servers' Exadata Hybrid Columnar Compression and Exadata Smart Flash Cache	Dramatically improve the performance of data warehousing queries improves I/O response 30x
InfiniBand fabric	Provides exceptionally low database and storage response times and data throughput

SAP processes, such as on-the-fly security encryption and decryption run simultaneously and are transactionally consistent. The SPARC M7 processor's In-Line Decompression feature enables real-time analytics on transaction processing workloads with dramatically faster responses times to users. The data stream is decompressed and processed at memory speeds, freeing memory resources (Figure 5).

The SPARC M7 processor offers high security using cryptographic accelerators that are directly integrated into the processor cores. By providing wire-speed security capabilities, Oracle SuperCluster M7 systems eliminate the performance and cost penalties typically associated with real-time, secure computing.

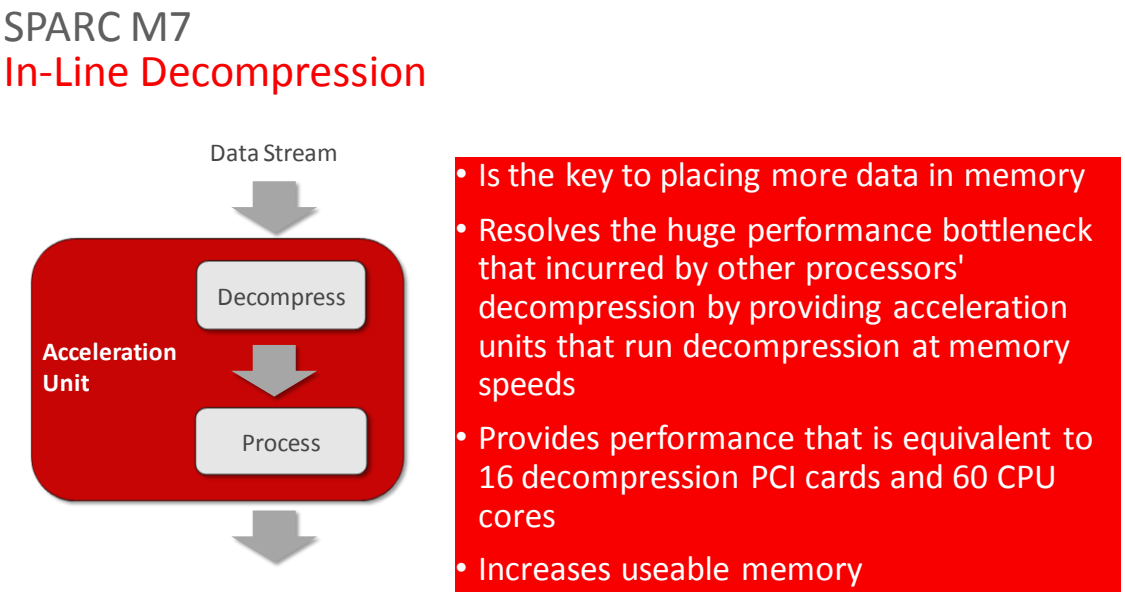

Figure 5. Advantages of the SPARC M7 processor's In-Line Decompression feature

Oracle SuperCluster has been demonstrated to provide superior performance for SAP. SPARC M7 In-Line Decompression enables SQL query acceleration to support business-critical decision-making and perform data loads. The SPARC M7 chip provides a 4-fold increase in cache per core, the doubling of memory bandwidth, and the tripling in IO bandwidth. Results have proven up to 83-times performance improvement for Oracle Database 12*c* In-Memory running SQL through the DAX engines on SPARC M7-based systems. [1]

The SAP Standard Application SD Benchmark is an ERP business test that is indicative of full business workloads of complete order and invoice processing. The benchmark demonstrates the ability to run both application and database software on a single system. The SAP Standard Application SD Benchmark represents the critical tasks performed in real-world ERP business environments.

Oracle SPARC with SAP have unparalleled features and performance. Oracle's SPARC T7-2 Server produced a world record two-tier result for two processors on the SAP Standard Application Sales and Distribution (SD) Benchmark using SAP enhancement package 5 for SAP ERP 6.0, beating out the two-tier results of two-socket x86 systems by almost two times. (1,2,3,4).[2] Performance results for Oracle SuperCluster and SAP from Oracle customers iQor and ATOS are included in the "Oracle Customer Implementations of Oracle SuperCluster and SAP" section.

1https://www.oracle.com/servers/sparc/openworld-hardware-software-together.html

2http://www.oracle.com/us/solutions/performance-scalability/sparct7-2-two-chip-sap-2745288.html

"Complete disaster recovery with primary and secondary sites was implemented with Oracle SuperCluster greatly simplifying data center operations to provide high availability. Disparate x86 and Hitachi hardware running Red Hat, IBM DB2, and SAP were replaced and consolidated with Oracle SuperCluster to run SAP, Oracle Solaris, Oracle RAC, Oracle Solaris Cluster, and Oracle Active Data Guard. Network bandwidth was 40x higher, Oracle Exadata Storage performed 10x more IOPS, and Oracle SuperCluster provided 2x the future application processing scalability."

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Oracle SuperCluster M7 Efficiency and SAP

Oracle SuperCluster M7, as an Oracle engineered system engineered for SAP through a joint development partnership for decades, has led to significant Oracle platform enhancements for SAP. Specific technology in the areas of security, virtualization, high availability, support and certifications, Oracle Solaris tools, and Oracle and SAP services continue to advance with Oracle SuperCluster M7. For example, enhanced virtualization technology has been developed for Oracle SuperCluster M7 with Oracle VM Server for SPARC, Oracle Solaris virtualization management templates, and the Oracle SuperCluster I/O domain creation tool.

Oracle SuperCluster M7 provides flexible and elastic virtualization technologies for private cloud deployments. Best practices for Oracle SuperCluster M7 virtualization with SAP include using Oracle VM Server and Oracle Solaris Zones to isolate applications for multitenancy. SAP deployments on Oracle SuperCluster M7 have the following management and virtualization options: SR-IOV, I/O domains, Oracle Solaris Cluster, and Oracle RAC running in database zones.

The SPARC M7 processor's efficiency technologies include Silicon Secured Memory, which enables efficiencies that protect data integrity, prevent silent data corruption, and support faster and higher quality code development.

1 https://www.oracle.com/servers/sparc/openworld-hardware-software-together.html

TABLE 3. ORACLE SUPERCLUSTER M7 EFFICIENCY HIGHLIGHTS

Feature	Description
Extreme Performance	Reduces costs by requiring less hardware, space, power, software, and administration effort than other infrastructures
Highly Efficient Secure Multitenancy	Provides maximum flexibility for provisioning system resources to tenant databases and applications while maintaining maximum isolation from other tenants
Elastic Configuration	Seamlessly adds compute, memory, network, and storage capacity in increments as business requires
Subcapacity Software Licensing	Allows software to be licensed for only the specific processors used, significantly reducing costs
Infrastructure as a Service (IaaS) and Database as a Service (DBaaS) Self-Provisioning	Enables administrators to provision and manage their databases and tenant authority, with minimal operational complexity, reducing risks

High availability is inherent to the efficient design of Oracle SuperCluster M7 with no single component as a point of failure. Beyond this, Oracle has designed comprehensive best practices for Oracle SuperCluster M7 high availability with SAP. Performance test cases under load proved end-to-end failure detection and recovery occurred in under three minutes. Test cases used zone clusters running Oracle Solaris Cluster.

SAP applications can be easily deployed on Oracle SuperCluster using the standard SAP tools. Data is deployed directly into Oracle Automatic Storage Management on the Oracle Exadata Storage Servers, and optional Oracle RAC nodes will be created by the SAP installer. Options available for making the SAP system highly available are Oracle Solaris Cluster or SAPCTL.

Oracle Solaris Cluster is fully integrated with SAP NetWeaver, and a NetWeaver cluster agent is available. SAP Central Services and application servers can be set up as a clustered infrastructure. Oracle Solaris Cluster may also be configured in the general-purpose domains. SAPCTL runs on top of Oracle Clusterware and makes the SAP central services highly available. Both Oracle Solaris Cluster and SAPCTL are certified for SAP applications.

Oracle and SAP have published best practices for high availability. For example, with the SAP Business Planning and Consolidation application, resources can be freed for value-added activities through faster planning, consolidation, and reporting. This supports planning, budgeting, and forecasting with management and legal consolidation functionality in a single application. Plans and forecast can be quickly adjusted, shortening budget cycles to close books faster, facilitate compliance with regulatory and financial standards, and support decision making with reliable data.

Oracle customer tests have shown SAP Budget Strategy reports running up to 9 times faster on Oracle SuperCluster. With much faster reports and fewer resources used to run reports, customers can perform planning and financial consolidation in one application and significantly reduce efforts for planning and consolidation.

Faster reports also mean more cycles with timely data and increased accuracy of plans, budgets, and forecasts with collaboration and accountability. Customers reduce risks through better preparation on a faster platform that is optimized for massive data manipulation and analysis, with accurate and timely close.

"With Oracle, we can run all application tiers on one set of hardware. We can also run related applications on the same hardware by taking advantage of the InfiniBand connection and excellent hardware performance. It's a one-stop shop for running our database and application-optimized environments, and for general-purpose nodes."

ERIK CARLSON

VICE PRESIDENT, IT

IQOR

Oracle Customer Implementations of Oracle SuperCluster and SAP

The following sections provide summaries of Oracle SuperCluster customer implementations with SAP including a description of the business solution and performance results. These summaries focus on the security, performance, and scalability advantages achieved with Oracle SuperCluster for SAP.

iQor is a global provider of business-process outsourcing and product-support services, with 32,000 employees in 17 countries. The company's technology, logistics, and analytics platforms enable it to measure, monitor, and analyze brand interactions, improve business processes, and find operational efficiencies that lead to superior outcomes for its customers. Technical challenges for this project were to improve customer application performance for reporting, analytics, and core services in a secure multitenant infrastructure with elasticity for growth.

The existing environment consisted of HP Itanium systems in two separate data centers running Oracle Database, SAP, and additional third-party applications. iQor selected Oracle SuperCluster for its virtualization and scalability capabilities, as well as its optimized, multitiered storage and InfiniBand interconnect to an existing Oracle ZFS Storage Appliance. Due to the performance and licensing model of Oracle SuperCluster, Oracle Database licensing was reduced significantly by 1.7x. Managed services costs were reduced by 20 percent, directly resulting in higher profitability.

High availability is business-critical to iQor with the equivalent cost of US$200,000 in lost revenue for each hour of system downtime. From the time of Oracle SuperCluster system installation, iQor has continued to experience 100 percent uptime with the complete fault-tolerant design and Oracle Advanced Monitoring and Resolution services.

While servicing over 6,000 customers, secure and efficient multitenancy was achieved to enable SAP real-time analytics of after-market data to support multiple concurrent users. Scalability requirements were achieved as Oracle SuperCluster was benchmarked to manage over 1.5x the required projected volume increase in transactions through high performance and virtualization.

mission-critical systems on Oracle SuperCluster, improving performance, scalability, and uptime, while managing to reduce operating cost."

ERIK CARLSON

VICE PRESIDENT, IT

IQOR

Atos IT Solutions and Services GmbH provides information technology solutions and services. Atos operates one of Europe's major data centers, managing the IT infrastructure for over 100 companies in sectors that include manufacturing, retail, financial services, telecommunications, and utilities. Atos provides IT outsourcing, business process management, systems integration, and consulting for BI, CRM, ERP, HRM, and SCM customer environments. Atos has been working for decades with virtually all relevant SAP infrastructures and Oracle's SPARC platforms, consistently staying ahead of the market with the latest data center technology.

Business requirements for this large-scale modernization project included future scalability, the highest performance, high availability, and centralized administration. Performance requirements for SAP and SAS applications included rapid provisioning of SAS billing and Oracle services for hosted customers. Atos was working to provide the highest level of advanced customer service-level agreement (SLA) management with a holistic view over the entirety of all infrastructure components and software.

By deploying Oracle SuperCluster, Atos achieved the high availability multitenant architecture with centralized management for SAP and additional applications. The number of IT administrators required to service the data center was reduced by half. The total number of servers was consolidated at a ratio of 4:1. Power, cooling, and floor space were reduced by 75 percent. All contributed to reducing OpEx and directly increasing Atos' profitability.

Application performance increases were most prominent, with I/O-intensive query response times increasing 1.8x. Oracle Database metrics, including Index Rebuild, showed a 50x improvement. All increases in performance resulted in increased advanced SLAs for business-critical services provided to customers.

Due to the scalability of Oracle SuperCluster and its virtualization efficiencies, Atos licensed fewer cores for Oracle Database, reducing software licensing costs by 50 percent. Atos managed licensing for hosted customers such as bauMax, in turn reducing their costs, and providing increased end-user performance with accelerated batch processing of SAP applications by 40 percent.

"By creating a multitenancy, private cloud environment on Oracle SuperCluster, we can now put many customers on a single machine. It means we can operate fewer servers and use less floor space and energy in our data center. We can easily do that with Oracle SuperCluster because everything is in one box. Also, all system components are tested up front, so the machine is easy to use and easy to upgrade."

EDUARD KOWARSCH

COO, MANAGED SERVICES, CENTRAL EASTERN EUROPE

ATOS IT SOLUTIONS AND SERVICES GMBH

Conclusion

Oracle SuperCluster M7 is the only architecture for SAP that uniquely provides Oracle's secure private cloud infrastructure optimized for database and applications with integrated compute, storage, networking resources as well as virtualization, OS, and management—making it the ideal infrastructure for SAP landscapes.

With new Oracle SuperCluster M7 engineered optimizations, including the performance of Oracle's SPARC M7 processor, the industry's strongest security, end-to-end integration with Oracle Solaris Clusters for high availability, and optimizations for Oracle Solaris, there is no other comparable combined platform on the market.

Oracle provides the extensive comprehensive technology and services uniquely able to provide a high-availability mission-critical Oracle cloud platform for SAP. This paper provided a high-level introduction to the Oracle SuperCluster M7 technology as it relates to SAP.

Additional References

- "A Technical Overview of Oracle SuperCluster" white paper
- Oracle Engineered Systems for SAP web page
- "Consolidate and Simplify SAP Environments" brief
- "How to Improve the Efficiency and Performance of an SAP Environment" white paper
- "Oracle Multitenant Scalability Advantages: An Audit of Performance in the Consolidation Context" paper

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Integrated Cloud Applications & Platform Services

Oracle SuperCluster M7:The Ideal Platform for SAP
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