Oracle’s IT Infrastructure for Optimizing SAP Environments

Run your SAP solutions efficiently with Oracle’s hardware and software solutions.
Optimize Your SAP Environment with Oracle’s IT Infrastructure
Tough economic conditions and an exponential surge in data requires that you run your business as efficiently as possible. You need fast access to information so you can adapt, grow, and quickly respond to market changes to gain a competitive edge.

One way you can get that access is by employing SAP applications running on a service-oriented architecture (SOA) to bring together business software and services to support your business needs. This includes providing access to independent SOA resources without requiring knowledge of the underlying platform. For this, you’ll need a flexible, end-to-end platform for running SAP applications efficiently, economically, and securely.

To improve business efficiency, lower costs, and act as responsible corporate citizens, organizations also need to make dramatic cuts in power consumption—savings that begin with the IT infrastructure. From the desktop to archiving and storage, power costs account for a growing slice of the IT budget.

And finally, in a global always-on economy, a collaborative environment—one that includes customers, suppliers, and employees scattered across a broad range of locations—can provide great benefits. It can also present great challenges. To meet them, and to protect against error and fraud, you must find cost-effective, efficient means of enforcing business governance, compliance, and data security—from the edge of the network to data on tape.

Oracle’s IT infrastructure for SAP can help you meet all of these challenges. Spanning the enterprise, Oracle’s solutions provide anytime/anywhere access to your SAP applications, helping you keep your business competitive, reduce costs, save power, and maximize the ROI on your SAP investment. Based on market-tested, industry-leading technology, Oracle’s end-to-end solutions provide a high-performance, robust, open, and flexible SAP architecture that leverages virtualization to reduce costs and increase agility.
Trust Oracle to Provide World-Class Solutions for Running SAP Applications

Choosing and integrating new SAP applications requires careful consideration. To deliver the right data to the right people at the right time, you need partners you can trust to help you achieve higher ROI and lower total cost of ownership (TCO).

Oracle addresses these challenges with a community of internal specialists and business partners who understand the demands of implementing, deploying, and upgrading SAP. As a result, Oracle is able to offer a world-class set of end-to-end SAP infrastructure solutions that are SAP certified and market tested and that deliver the innovation you need for meeting your most stringent requirements.

Oracle’s end-to-end IT infrastructure solutions for SAP yield outstanding value to:

- Improve the way people work by easily and quickly changing and adapting the SAP infrastructure to gain competitive advantage
- Reduce carbon footprint and administrative costs with an open, interoperable infrastructure that makes efficient use of computer resources
- Improve security, compliance, and governance with secure single sign-on and automated processes to control access and reduce errors
- Improve infrastructure flexibility by simplifying, standardizing, and automating computer resources to achieve high service levels for end users as well as to support growth and change
- Quickly obtain key business intelligence answers from data warehouses
- Adapt easily to the changing business needs of small and midsize businesses

Go Green and Save

One of the first ways you can improve efficiency and TCO by using an Oracle end-to-end SAP infrastructure solution is through reduced power consumption. Accounting for 2 percent to 4 percent of global power consumption (as much as the airline industry), IT consumes staggering amounts of power—so much so that some analysts say that the cost of IT electricity will soon exceed that of hardware.

The urgency to reduce power consumption, environmental impacts, and energy costs drives Oracle’s commitment to delivering ecologically responsible processors, computers, programs, and services. Oracle actively develops new processors with simpler cores that produce less heat and use half the power of competitive processors. In addition, Oracle works closely with AMD and Intel to design power-efficient computers using AMD Opteron and Intel Xeon processors to provide even more choice.

FACT: The electricity bill for operating all servers in the United States doubled between 2000 and 2005 to US$2.7 billion.

And the efficient Sun open storage products from Oracle combine solid-state disks (SSDs) and hard drives to improve storage performance, increase capacity, and provide fast access to data while significantly lowering power consumption. This tiered approach to storage helps ensure power-efficient archiving as well as high performance.

The solution must go beyond raw power consumption, however, to address the root cause of inefficient resource utilization: server sprawl. Even with power-efficient hardware, it’s no longer practical to add a new server in response to each new application or capacity demand. A systemic approach to power savings is needed to eliminate server sprawl, consolidate resources, and reduce costs. That solution is virtualization.

Only Oracle offers the most complete desktop-to-datacenter virtualization solutions portfolio with integrated management of the hardware and software stack from applications to disk. Using the Oracle portfolio, you will benefit from all the normal cost savings associated with resource consolidation and lower power, facility, and labor costs, but you will also enjoy the significant benefits associated with faster deployment and easier management of SAP applications.

Cut Power Costs on the Desktop

Desktop virtualization alone can dramatically lower power consumption and maintenance costs. The heart of Oracle’s desktop virtualization solution is Oracle Virtual Desktop Infrastructure, which provides access to desktop operating systems (OSs) running on virtualized servers in the datacenter. With it, users can access virtual desktops running on industry-standard OSs (including Windows, Oracle Solaris, Oracle Enterprise Linux, and other Linux) from industry-standard PCs, Macs, or thin clients. The desktop environment is centrally managed so the cost of maintaining every desktop is reduced.

Replacing desktop PCs with Oracle’s Sun Ray clients results in significant power savings. A typical PC uses about 150 to 350 watts, while a Sun Ray thin client uses as few as 6 watts. For an average scenario, by replacing PCs with thin clients (and taking into consideration power, cooling, and infrastructure needs), you can reduce power consumption by 24 percent and decrease carbon dioxide emission by 23 percent.

In a virtualized workplace, authorized users can gain secure access to their virtual desktop from nearly any client on the network. With a smart card, users can instantly display their own desktop on any Sun Ray client. Because everything is maintained in the datacenter, IT staff can quickly change, adapt, or upgrade resources.

Moving applications from fat PCs into the datacenter also reduces the costs of software applications. Instead of, or in addition to, supporting Microsoft Office applications in the datacenter, your business can leverage Oracle Open Office productivity suite at a fraction of the cost.
Sun Ray clients are also ideal for training, facilitating virtualized, energy-efficient classrooms. Teaching environments can be easily set up on the server, so there’s no need to maintain and replicate them on separate desktop computers. Students can gain secure access to their desktop environment instantly, anywhere. Those environments can then be reset immediately, ready for the next group of students.

Driving Consolidation to the Limit

As budgets tighten, IT departments are being forced to eliminate server sprawl through consolidation and better utilization. Oracle VM—which divides one server into multiple environments—can be leveraged to consolidate servers, rapidly deploy software, recover quickly from system failure, and match resource capacity to workloads. Oracle VM includes both the server and management components in one solution with no license cost—giving Oracle VM a very low TCO. In addition, Oracle VM Templates enable you to deploy a fully configured software stack by providing preinstalled and preconfigured software images. The use of Oracle VM Templates reduces the time to deploy SAP applications from days or weeks to hours.

The easiest way to virtualize servers is through OS virtualization, and Oracle Solaris Containers provide a highly flexible means of doing so. Facilitating consolidation and enabling a rapid response to business needs, Oracle Solaris Containers also make it quick and easy to test new SAP features. With no need for additional hardware, it’s easy to deploy SAP applications on the fly. And if you have legacy SAP applications, you can employ containers to host the applications on existing servers. Because the SAP Adaptive Computing Controller supports containers, you can monitor and provision applications within Oracle Solaris Containers quickly and automatically. In addition, Oracle Solaris Containers enable fast data backup and upgrades, resulting in zero downtime.

Oracle offers virtualization technologies on a variety of platforms and OSs, making it easy to fit one into your SAP environment. When you employ these technologies, you gain a flexible, secure, scalable, and reliable environment for your applications—and one that enables you to more fully utilize resources and preserve existing assets.

Virtualized Data Storage and Management

Data is the lifeblood of every SAP environment. Yet organizations must store and access more data with fewer resources than ever before—while simultaneously coping with heterogeneous storage environments that include different storage types in different geographic locations. Oracle can help. Oracle’s energy-efficient virtualization solutions reduce storage complexity; provide fast access to data; and enable IT to manage a rich mixture of systems, solutions, processes, and interfaces efficiently and cost-effectively.
The tiered storage approach yields highly efficient utilization of resources and faster access. Storage virtualization, powered by ZFS, centralizes and pools storage into a single resource that can grow or shrink with application demands—potentially yielding cost and power savings of 90 percent. This approach simplifies and streamlines the entire storage environment, applying the most-cost-effective resources for each task. For example, in Oracle’s Sun ZFS Storage Appliance, Oracle Solaris ZFS transparently manages data placement, copying frequently used data to fast SSD cache for faster access, so you can store data on slower, less expensive mechanical disks and tape without sacrificing performance.

For long-term data storage, backup, and recovery, Oracle’s tape library solutions provide an economical way to archive increasing volumes of data quickly, safely, and cost-effectively. With virtualized storage, access to archived data is orders of magnitude faster than with traditional tape storage. Oracle Solaris ZFS and Oracle’s StorageTek Virtual Storage Manager System pool resources to manage storage as a single resource, which decreases the burden of managing large tape libraries; increases system usage and efficiency; and reduces the overall cost of protecting SAP data through improved tape utilization, shared tape resources, and reduced complexity.

Oracle Solaris ZFS also provides fast, easy recovery for low-cost business continuance. When you use it with Oracle Solaris Containers, you can store a snapshot of your environment, then revert back to that snapshot rather than restore data from tape—streamlining the disaster recovery process and reducing downtime to nearly zero.

Security is essential to data archiving and retrieval. A secure archive system runs on Oracle Solaris and gives you total control over SAP archives. It provides fast, easy access to enterprise data and documents.

Oracle’s virtualized storage solutions deliver manageable, secure storage of all types, dramatically lower power costs, and provide an infrastructure that quickly adapts to future storage needs.

Securing Anywhere-Access to SAP

With highly utilized, virtualized desktops, servers, and storage, you can support more users. Opening up the SAP environment in a Web-based world leverages the value of a virtual enterprise with applications serving employees, customers, vendors, suppliers, and business partners. To enable a safe, collaborative environment, the open SAP NetWeaver application platform helps companies build and manage business services that reach beyond their business boundaries, allowing users to access SAP from any browser on a mobile device, PC, or thin client. The benefits of this open environment are immeasurable, but so are the risks, including identity theft, corporate espionage, and fraud.
FACT: Enabled by Oracle’s Sun Blade 6000 disk module, SAP Business Warehouse (BW) Accelerator delivers 10 to 100 times faster average speeds for query performance and as much as 80 percent faster data load times in comparison to nonoptimized systems.

Automate Identity Management

Keeping track of user identities in a complex organization presents a nightmare of time-consuming and risky manual tasks. With Oracle’s complementary identity and access management solutions for SAP, your company can create a secure and extended SAP enterprise where users inside and outside the company have secure, single-sign-on access to Web applications anywhere, any time. Identity management automates secure user administration and offers features such as password self-service systems, reducing help desk calls and improving productivity. These passwords are then automatically synchronized across hardware platforms, software applications, and databases.

With Oracle’s proven identity management solutions for SAP, you can easily manage identity data stored in widely distributed systems. You gain automated provisioning of new users, reprovisioning to reflect changes in user status, and deprovisioning when a relationship within the organization ends. Authentication and authorization services are provided across internal and external computing domains.

Automate Governance and Compliance

Ever-increasing legislative and global regulations mean that compliance and identity management go hand in hand. The integration between Oracle’s identity management software and SAP BusinessObjects Access Control—based on Web services and Java technology—provides automated, systemwide auditing and reporting capabilities that cover business compliance and financial or enterprise resource planning (ERP) requirements. With this integrated solution, you can streamline corporate policy, enforce segregation of duties, and prove legislative compliance for mission-critical SAP applications and other enterprise IT resources.

Oracle’s identity management solutions for SAP help ensure that access to sensitive information is secure by enforcing security policy and global standards through repeatable and sustainable processes. SAP BusinessObjects Access Control provides features such as risk analysis and remediation, compliant user provisioning, enterprise role management, and super-user privilege management capabilities. The scalable provisioning provided by Oracle’s identity management software combined with the risk analysis and remediation of SAP BusinessObjects Access Control help prevent cross-application provisioning conflicts. As your SAP environment grows, your flexible, scalable security solutions from Oracle and SAP can grow with it to take on tough security challenges.

“One of Oracle’s strengths is that it partners closely with SAP to implement the SAP NetWeaver BW Accelerator. Based on our assessment, the SAP consultants at Oracle seemed to be the most knowledgeable about BWA.”

Wayne Ground
CIO
Sony Canada
Access Business Intelligence Instantly

Now that you have an efficient, flexible, secure infrastructure, it’s time to increase query performance. When it comes to retrieving business data, the faster the better. SAP Business Warehouse (BW) Accelerator—built on SAP BW software and enabled by Oracle’s Sun Blade 6000 disk module—provides business answers fast.

For data analysis, SAP BusinessObjects provides a comprehensive set of tools, as well as planning and simulation capabilities that users can access quickly from anywhere, including mobile devices. You can leverage online analytical processing data, use predictive analysis, mine data, and analyze business segments. And by making faster, more-informed decisions, you can increase ROI and keep your business agile, competitive, and profitable.

Increase Business Agility and Maximize Datacenter Efficiency

You now have an efficient, virtualized, secure, compliant, and fast end-to-end SAP environment. The final step comes in managing this environment. Centralizing datacenter management eases this process, boosting efficiency by enabling you to better manage, update, and provision virtualized IT assets.

Oracle Enterprise Manager Ops Center is designed to provide control over all aspects of the datacenter. Oracle and SAP have joined forces to integrate the SAP NetWeaver Adaptive Computing Controller with Oracle Enterprise Manager Ops Center. As a result, you can manage heterogeneous physical and virtual environments, and integrate your hardware into a unified architecture that maximizes hardware utilization—increasing productivity and providing rapid response to business needs.

Save Big in Companies of Any Size

Small and midsize companies are under the same pressures as large enterprises to track customers, sales, delivery, and support more efficiently and keep costs down. Running on Oracle hardware and built on integrated SAP ERP software, SAP NetWeaver, and SAP Best Practices packages, the SAP Business All-in-One solution is designed with the needs of small and midsize businesses in mind.

For affordable, scalable, reliable systems, Oracle provides a wide range of choices based on the enterprise-class AMD Opteron and Intel Xeon x64 servers running Windows, Linux, and the Oracle Solaris OS. Moving to integrated software solutions running on Oracle’s energy-efficient, high-density servers reduces operating costs, supports more users, and minimizes your hardware footprint. To keep pace with rapid growth, you can easily extend and expand systems as the need arises.
Around-the-Clock SAP Service Excellence

Reducing power consumption, implementing virtualization, increasing security and compliance, and managing it all is a huge endeavor. Oracle Advanced Services can help, offering services that range from providing upgrades to managing your datacenter.

- **Oracle Solution Center for SAP.** Oracle Solution Center for SAP offers a pool of global SAP consultants and Oracle solution experts to provide help with architecture design, sizing, migrations, scalability tests, and more.

- **Oracle Joint Support Center for SAP Applications.** Oracle Joint Support Center for SAP Applications provides around-the-clock, worldwide support to resolve issues quickly and effectively. The center provides a single source of contact for SAP issues to reduce downtime risk and costs.

- **Virtualization Services.** Oracle offers a complete set of virtualization services across computer, networking, and infrastructure components. Oracle Advanced Services can help you run your datacenter more efficiently—recommending the appropriate mix of virtualization technology and IT processes to achieve your goals. Oracle estimates the TCO and ROI benefits that the IT project can achieve and helps you create business value.

- **Storage Virtualization Services.** Oracle’s storage professionals can provide best practices to virtualize, monitor, and manage storage utilization, staff resources, and system processes. With these services, you can virtualize across all tiers of disk- and tape-based storage, and maximize the availability of distributed, heterogeneous disk, backup, and archive infrastructure.

- **Global Support.** Oracle offers integrated packages of support services that deliver comprehensive Oracle hardware and software support for SAP users with mission-critical and business-critical applications. These services are designed to handle your urgent business requirements.

Optimize Your SAP Landscape, Focus on Your Business

Nobody delivers virtualization throughout the enterprise like Oracle. Based on proven technologies that dramatically reduce power costs, Oracle’s virtualization solutions facilitate global collaborative computing for businesses of any size while keeping data safe, complying with government policies, and providing fast access to business information.

Oracle and SAP continue to bring innovative solutions for SAP-run businesses, including new applications for desktop, back-office, and SAP mobile-access applications. Count on Oracle to be your partner for SAP IT infrastructure—keeping your business going around the clock, and around the world.
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