

EMC and VMware: Virtualizing Oracle Solutions with Confidence

AT A GLANCE

Managing business-critical Oracle environments can be a resource-intensive process, with high operational costs and slow deployment timelines. VMware® vSphere™ and EMC tiered storage solutions provide uniquely simple, efficient, and powerful support for end-to-end virtualization to simplify Oracle infrastructure and dramatically improve utilization. Customers can take advantage of simple, highly automated tools to develop, deploy, and manage their Oracle solutions more efficiently and to improve and extend high availability and business continuity.

BENEFITS

- Virtualize all Oracle workloads with confidence, including your largest and most performance-sensitive databases.
- Get better performance at lower cost by automatically moving highly active data to high-performance drives and less active data to high-volume drives.
- Deploy and refresh Oracle instances faster with VMware templates and storage-assisted replication.
- Scale server and storage capacity instantly and without application downtime using VMware Distributed Resource Scheduler.
- Accelerate test and development by recreating complete Oracle environments in minutes rather than days.
- Reduce TCO through lower Oracle licensing costs and increased server and storage utilization.
- Improve DBA efficiency by up to 90 percent through improved automation, while leveraging existing Oracle skill sets.

Tough Challenges in Traditional Oracle Environments

Large enterprises worldwide face increasing pressure to scale and adapt their core business solutions faster, while simultaneously reducing their overall IT operating costs. For the majority, that means being able to provision, refresh, and manage mission-critical Oracle environments more efficiently and without the high costs and inflexibility associated with siloed server and storage infrastructure.

Certain requirements are particularly challenging in traditional environments. Oracle workloads are always changing, so databases must be continuously monitored and tuned to maintain high performance. Ensuring high availability is also complex and costly, and excessive resources are typically devoted to managing test, development, and maintenance environments.

Better Value through End-to-End Virtualization

VMware and EMC offer proven solutions and validated reference architectures for virtualizing and consolidating all Oracle workloads tiers (application, middleware, and database) to reduce costs and create a more flexible and manageable IT environment.

EMC tiered storage provides a unified platform for storing all data types, with up to 90 percent higher utilization and automated performance tuning that delivers up to 44 percent better performance. DBAs can orchestrate full backups, snapshots, and any-point-in-time recovery options to provide stronger protection with less effort.

Tight integration with VMware vSphere and VMware® vCenter™ delivers simple, powerful control over both the server and storage environment. With today's massively scalable VMware virtual machines, Oracle customers can virtualize even their largest databases with confidence. Once virtualized, they can deploy and scale server and storage resources on demand, simplify and extend their high availability solutions, and replicate entire Oracle environments in minutes to accelerate test and development.

Extreme Performance At Low Cost

Extreme performance for Oracle workloads no longer has to come with an extreme price tag, nor with excessive management overhead.

VMWARE AND EMC IN ACTION:

PeopleClick Authoria

PeopleClick Authoria, one of the world's largest talent-management vendors, is using VMware and EMC solutions to dramatically increase performance and reduce costs for Oracle solutions used to support more than 2,400 customers around the world. With a unified storage platform and automated performance tuning, the company has a better platform for growth and DBAs have more time to focus on new projects that are driving higher value into the business.

- Read the case study at:
<http://www.emc.com/collateral/customer-profiles/h8608-cp-peopleclick.pdf>

American Tire Distributors

American Tire Distributors, the largest replacement tire distributor in the U.S., implemented VMware and EMC technologies to improve performance, scalability, and resilience for Oracle solutions that serve approximately 80,000 customers per day. Hardware utilization has gone from 10 percent to 80 percent, high availability and disaster recovery are improved, and the company can now scale capacity in minutes to keep sales flowing and customers satisfied during peak periods.

- Read the full case study at:
http://www.knowledgestorm.com/sol_summary_5155279.asp?trkpg=provsummary

EMC Global IT

EMC Global IT, the fourth largest Oracle customer in the world, has virtualized more than 90 percent of its Oracle applications using VMware and its own tiered storage solutions. As just one example of the many benefits, performance for an 8 terabyte Oracle CRM solution was improved by 200 - 300 percent, while costs were reduced by more than USD 5 million.

- Read the white paper at:
<http://www.emc.com/collateral/hardware/white-papers/h8170-emc-it-on-ramp-cloud-wp.pdf>

EMC FAST = Fully Automated Storage Tiering

- EMC Fully Automated Storage Tuning for Virtual Pools (EMC FAST VP) automatically identifies highly active Oracle data and moves it to high-performing enterprise flash drives (EFDs), while moving less active data to more economical Fibre Channel or SATA drives.

Low Cost

- Since only about 5 percent of data is highly active in a typical Oracle environment, a small number of EFDs can deliver major performance gains. The higher cost of the EFDs is balanced by the lower cost of the high-volume SATA drives, which can typically support two thirds or more of enterprise data with no impact on application performance.

Better Performance, Utilization, and Efficiency

- In combination with EMC thin provisioning and VMware virtual machines, FAST VP has been shown to increase performance by as much as 44 percent and increase server and storage utilization up to 90 percent, while reducing SLA performance tuning from hours to minutes.

Better Business And IT Agility

VMware and EMC technologies help Oracle customers adapt more quickly to changing business requirements.

Massive Capacity

- VMware vSphere supports up to 32 virtual CPUs and a full terabyte of memory per virtual machine (VM), providing plenty of resources for large databases and high-volume transactional applications. Customers can grow their Oracle solutions virtually without limit by scaling up on large VMs or scaling out on smaller VMs.

On-Demand Scalability

- IT staff can add CPU, memory, I/O, and storage resources to running VMs without downtime and deploy new VMs in minutes using VMware templates and EMC replication software.

Simplified Management

- VMware vCenter Server provides granular, policy-based control, and can be used to manage up to 1,000 physical servers and up to 10,000 virtual machines from a single console.

Automated Server Optimization

- Workloads can be balanced automatically using VMware Distributed Resource Scheduler (DRS) to dynamically optimize performance, utilization, power consumption, and availability.

Fast Replication for Test and Development

- EMC and VMware have developed a process – using VMware templates, EMC replication software, and Oracle Rapid Cloning methodologies – that allows a DBA to deploy up to 10 virtual machines in 10 minutes, with no impact on applications. A complete Oracle database, middleware, and application environment can be recreated in minutes. Once changes and testing are complete, the updated solution can be rolled directly back into the production environment.

Simple High Availability

VMware and EMC provide integrated high availability solutions that are easily tailored to optimize cost versus risk across a complete Oracle environment.

Enhanced High Availability

- VMware HA provides continuous VM monitoring with automatic server failover. This simple, low-cost solution is ideal for test and development environments. It complements Oracle RAC, which provides zero-downtime server failover for production environments.

Full Recovery of Oracle Solutions

- EMC Recover Point extends high availability beyond the database servers, by providing continuous synchronous or asynchronous data replication between local or remote sites. It provides application-aware recovery to extend Oracle Data Guard (which only protects the database), and enables full protection and recovery of virtualized Oracle solutions.

Flexible Data Protection

- With EMC Replication Manager, DBAs can orchestrate full backups, periodic snapshots, and any-point-in-time recovery solutions to optimize data protection while reducing management overhead.

Fast, Low-Overhead Replication

- Data replication is offloaded to the EMC storage array, which shrinks backup windows from hours to minutes and frees server resources to deliver faster application performance. Storage-assisted replication also accelerates VM deployments, migrations, and failovers to improve flexibility and resilience throughout the server infrastructure.

Cost-Effective Disaster Recovery

- Recover Point integrates with VMware® Site Recovery Manager™ (SRM) for disaster recovery with fully automated failover and failback. SRM eliminates the risk of human error and allows disaster recovery plans to be tested without disrupting production environments.

Lower Costs, Higher Efficiency

VMware and EMC solutions offer major savings in Oracle environments, enabling customers to redirect IT budgets to support faster growth and innovation.

Server and Storage Consolidation

- By virtualizing and consolidating multiple Oracle instances per physical server, customers can typically increase utilization rates from about 20 percent to 80 percent – without slowing performance or adding risk. Comparable gains can be realized in the storage infrastructure through EMC thin provisioning and Oracle ASM space reclamation.

Reduced Oracle Licensing Costs

- Many customers fully license their servers for Oracle database software, yet run only a single Oracle instance per server. With VMware, they can run any number of instances with no increase in licensing costs.

Find Out More

Visit the EMC and VMware Alliance page to learn more:

<http://www.vmware.com/solutions/partners/global-alliances/emc/emc-solutions.html>

More Efficient Management

- EMC and VMware technologies plug in seamlessly with Oracle software capabilities, including Oracle ASM, RAC, Enterprise Manager, RMAN, and Data Guard. DBAs can leverage existing Oracle skill sets, while increasing their efficiency by as much as 90 percent.

Low Risk Implementation

EMC and VMware take the risk out of virtualizing Oracle environments.

Proven Solutions

- VMware and EMC engineers have been working together for years to deliver tightly integrated solutions, validated reference architectures, and documented best practices. Customers can deploy these solutions with confidence in their mission-critical environments.

Oracle Support

- EMC and Oracle support more than 70,000 joint customers, and Oracle supports VMware across application, middleware, and database tiers, including both single instance and RAC environments. Customers can also take advantage of 24x7 mission-critical support from EMC and Oracle Joint Escalation Centers.

Comprehensive Professional Services

- EMC Global Services offers complete, expert services and support to help enterprise customers virtualize, consolidate, and optimize their mission-critical Oracle environments. Standard services include readiness assessments, business justification, design, implementation, and data center integration. With this support, virtualization and consolidation can be implemented efficiently, incrementally, and without disruption to production environment.

¹ Oracle support statement at <http://support.oracle.com> (Metalink) Note #249212.1.

