



SOFTWARE. HARDWARE. COMPLETE.

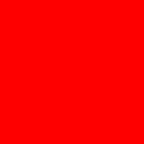


ORACLE®

Oracle Server im Rechenzentrum

Detlef Drewanz

Principal Sales Consultant/Hardware Presales



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Sun Hardware

Mission Critical Apps In Demanding Environments



Server • Storage • Network • Solaris

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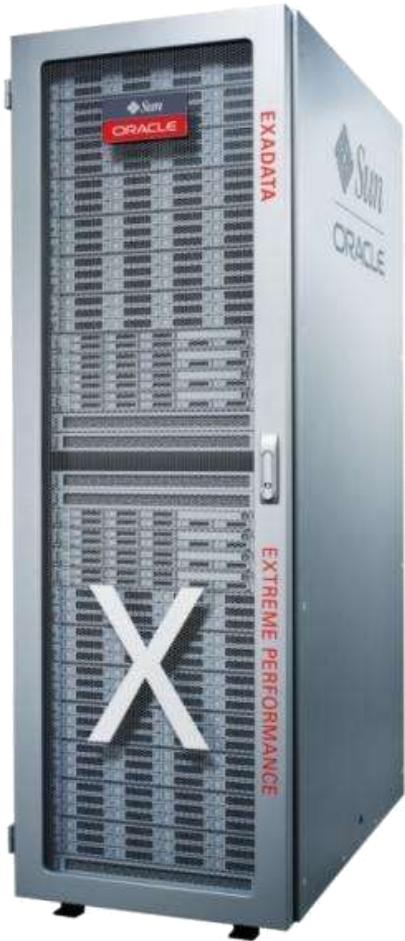
Complete, Open, Integrated



- Open and standards-based
- Optimized, integrated and extensible
- Better performance, reliability, security
- Shorter deployment times
- Easier to manage and upgrade
- Lower cost of ownership
- Reduced change management risk
- Integrated support

Sun Oracle Database Machine

The First Generation of Engineered Systems



- Best for DW
 - Run data intensive query processing in storage grid
 - **10x compressed tables**
 - Up to 50TB of data in scalable PCI Flash
- Best for OLTP
 - Only database that scales real-world applications on grid
 - **Smart flash cache for 20x IOP's or 20x fewer disks**
 - **Up to 50x compression for archival data**
 - Secure, fault tolerant
- Best for Consolidation
 - Only database machine that runs and scales all workloads
 - Predictable response times in multi-database, multi-application, multi-user environments

A closer look into Server, Virtualization and OS



Server Strategy

Deliver The Best Open Servers For Oracle Applications



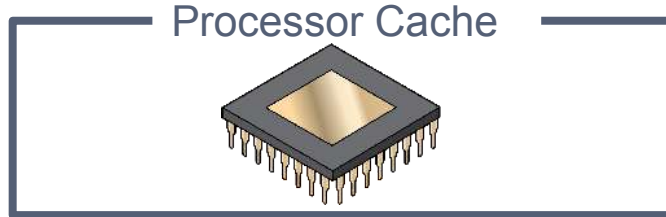
Sun SPARC Enterprise Servers

Sun Fire Servers

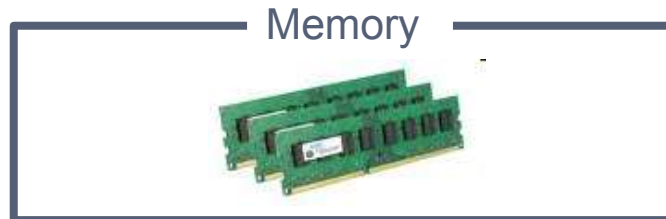
Flash Integration for Performance Acceleration

Data Access Time

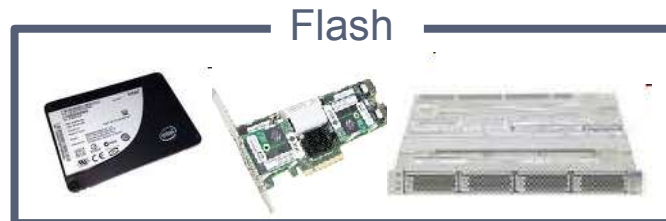
Pico Second



Nano Second



Micro Second



Milli Second



- Bridge latency gap between memory and disk
 - Up to 100x IOPS with flash vs. HDD
- Oracle-specific application performance enhancements
 - Exadata Smart Flash Cache
 - Oracle Solaris ZFS (Hybrid Storage Pool)
 - Sun Storage F5100 Flash Array
 - Sun Flash Accelerator F20 PCIe Card

Oracle is best positioned to deliver on the potential of flash technology

Premier Support

Offerings	Description
<i>Premier Support for Operating Systems</i>	8% of net hardware transaction <ul style="list-style-type: none">• Covers Solaris, Oracle Enterprise Linux, and Oracle VM on Sun hardware• 1 hour remote response 24x7
<i>Premier Support for Systems</i>	12% of net hardware transaction <ul style="list-style-type: none">• Covers a complete Sun System including hardware, Solaris, Oracle Enterprise Linux, and Oracle VM• 2 hour onsite response 24x7 for P1 issues.*

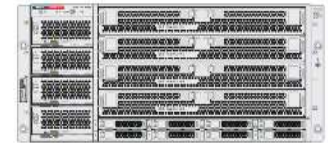
** Available for locations within 25 miles of a Systems Service Center.*

x86 Server and Blade Systems

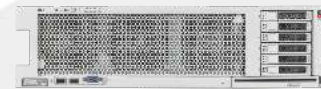


Sun x86 Rack-Mount Server Family

- Comprehensive portfolio refreshed with Intel Xeon Processor 5600 & 7500 Series
- Array of flash options to accelerate application performance and lower operating cost
- Choice of leading operating systems and virtualization platforms



Sun Fire X4800 Server



Sun Fire X4470 Server



Sun Fire X4270 M2 Server



Sun Fire X4170 M2 Server



Sun Fire X2270 M2 Server



Sun Blade Product Family



Sun Blade
Server Modules



Sun Blade
6000 Chassis



Sun Blade
Storage Module



PCIe Express Module



Sun Blade 6000
Network Express
Modules



Sun Blade 6000 Chassis
Monitoring Module



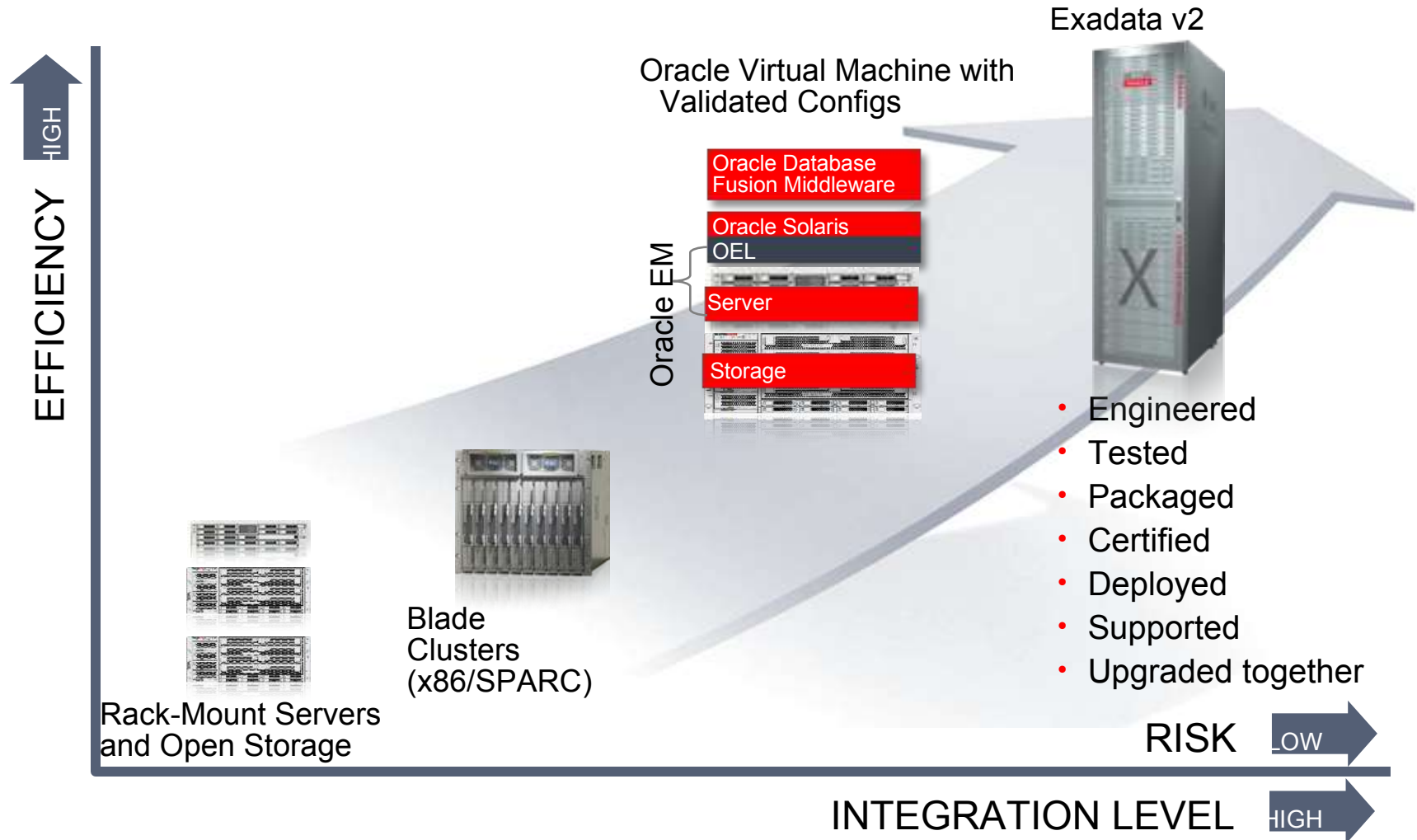
ULTRASPARC



- Oracle innovation across a full suite of industry-leading products
- Building on decades of Enterprise experience to deliver:
 - **Operational efficiencies**
 - **Reduced management complexity**
 - **Performance and scale**
- Choice of leading operating and virtualization platforms, SPARC and x86 blade server modules

Oracle x86 Clusters

Open Application-to-Disk Solutions from a Single Vendor



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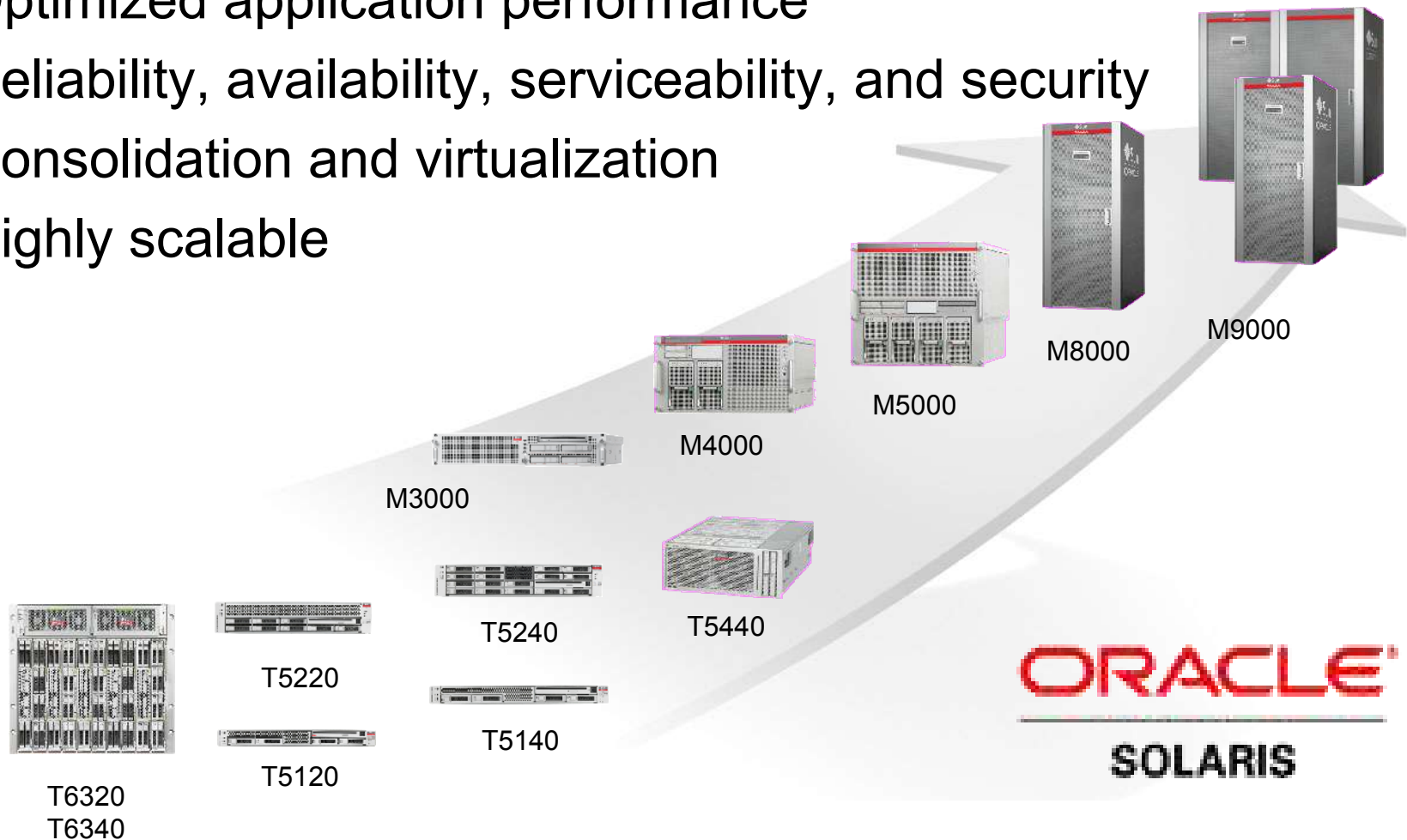
SPARC Enterprise Server



SPARC Enterprise Servers

Over 20 Years Of Mission Critical Computing

- Optimized application performance
- Reliability, availability, serviceability, and security
- Consolidation and virtualization
- Highly scalable



M-Series: Investment Protection

Delivers Longevity, Security and Scalability

- Industry leading reliability, availability and serviceability
- Extreme single threaded performance
- 3rd in-box upgrade and counting
- Seamless scalability: 1 to 64 CPUs
- Mix/Match CPUs for improved TCO
- Highest level of consolidation
- Breakthrough virtualization



T-Series: Redefining Data Center Economics

Breakthrough Performance and Eco-Efficiency

- World class performance
- Built-in, on-chip wire-speed security
- Unmatched power efficiency and density
- Breakthrough virtualization
- High reliability, availability and serviceability



Product Strategy

The Future for SPARC Server Customers

- Continue to invest in innovative SPARC technology
 - Lead the industry in RAS and security
 - Accelerate application performance
 - Lead the industry in scalability
 - Provide the best investment protection
- Increase investment in server management software
 - Enhanced Oracle Solaris OS and virtualization
 - Simplify management of IT stack
- Deliver an integrated solution for the entire server stack
 - Develop technology that optimizes application, middleware, management tools, and hardware

SPARC System Trajectory

	Today	2015	Improvement
Cores	32	128	4x
Threads	512	16,384	32x
Memory Capacity	4TB	64TB	16x
Logical Domains	128	256	2x
Operating System	Solaris 10	Solaris 11	countless
Database TPM	3M	120M	40x
Java Ops Per Second	5000	50,000	10x

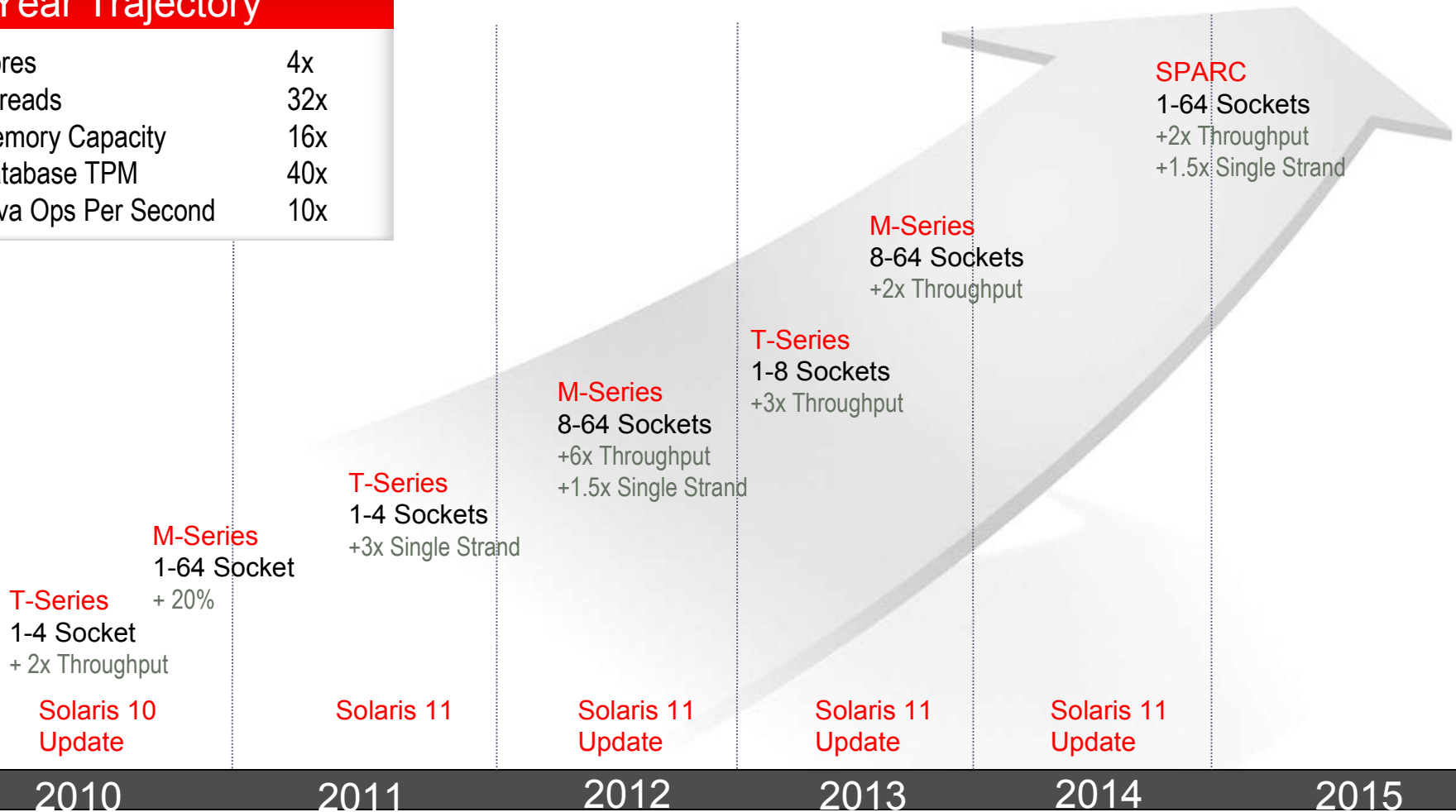
SPARC Enterprise Servers

Maximizing Results

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SOLARIS

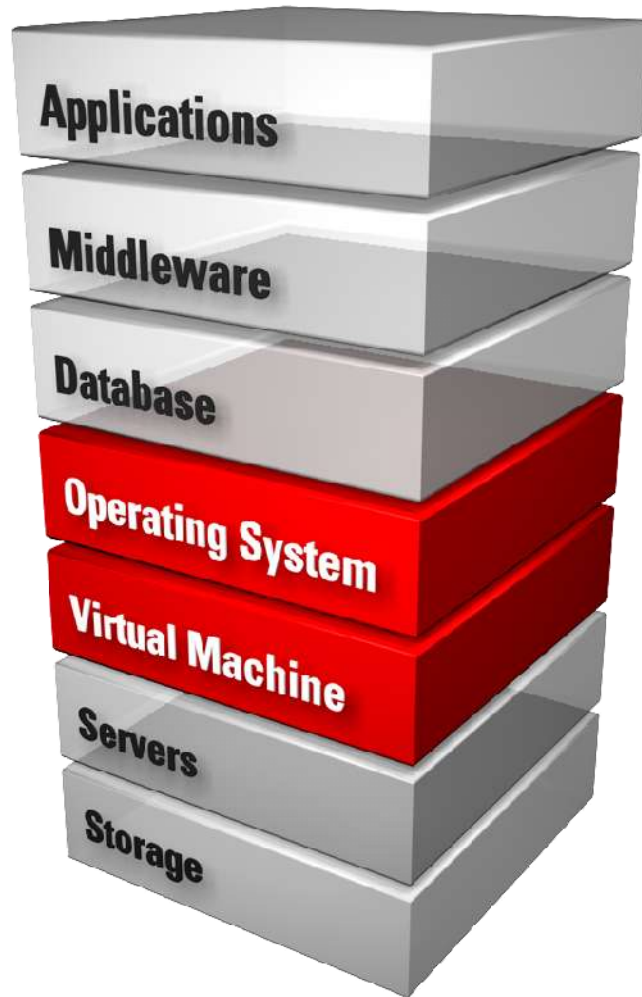
5 Year Trajectory

Cores	4x
Threads	32x
Memory Capacity	16x
Database TPM	40x
Java Ops Per Second	10x

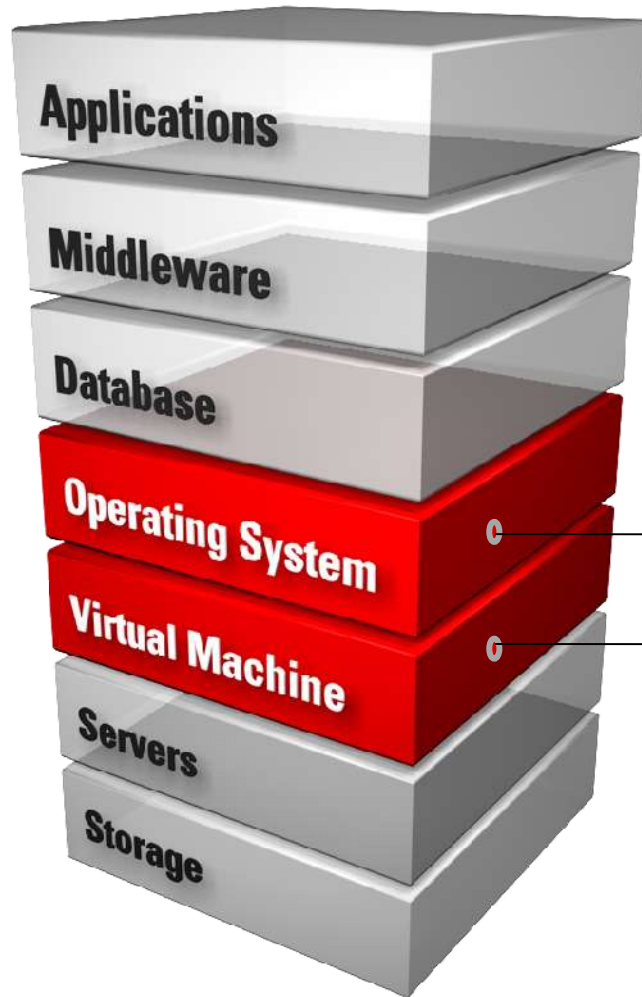


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Complete. Open. Integrated.



Complete. Open. Integrated.



- Oracle Solaris
- Oracle Unbreakable Linux

- Oracle VM Server
- Oracle Solaris Containers
- Oracle Virtual Desktop Infrastructure
- Oracle VM VirtualBox

The Power of Virtualization

Server Consolidation



Reduced Space and Power



Increased Hardware Utilization



Server Virtualization

Driving Operational Efficiency

Integrated and Optimized

- End to end virtualization solutions that are designed in, not bolted on
- Choose from hard partitions, Oracle VM Server for SPARC, and Oracle Solaris Containers to best meet business needs

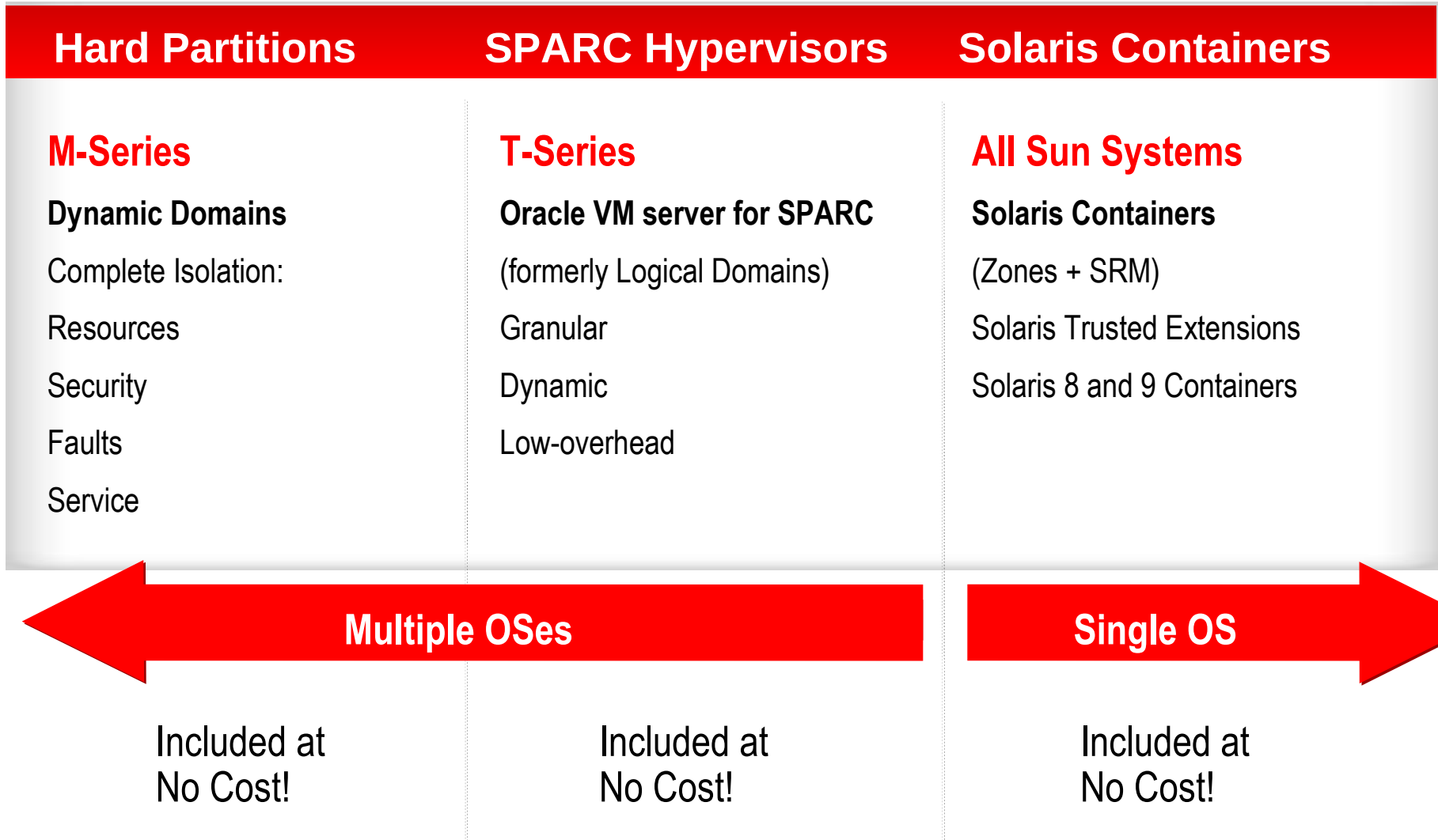
Best TCO

- Built in virtualization at no extra cost – save big vs. competitive solutions
- Oracle Enterprise Manager Ops Center drives greater operational efficiency and lower cost

Investment Protection

- Oracle Solaris binary compatibility guarantee
- Run Oracle Solaris 8 and 9 applications unchanged in Oracle Solaris 10 containers

Sun SPARC Virtualization

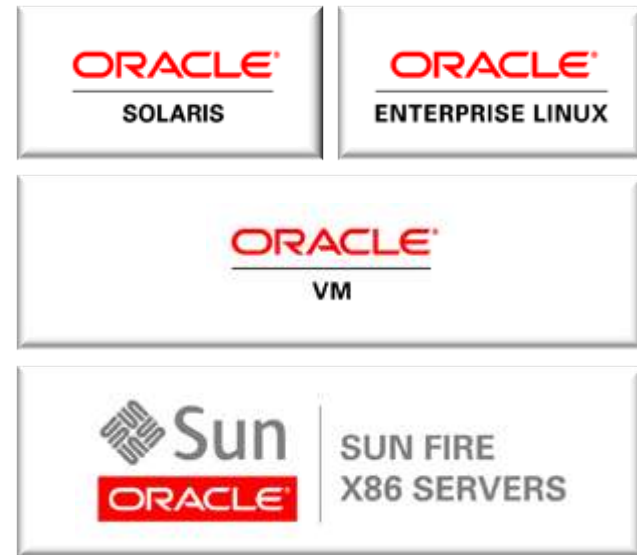
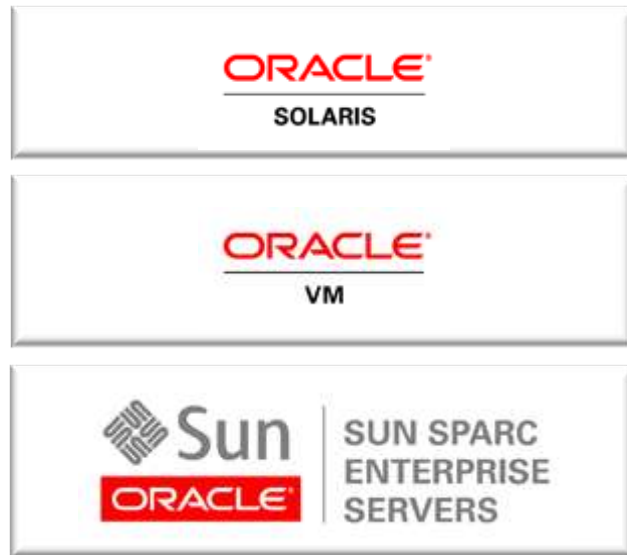


Oracle VM



- For x86
 - Host Oracle Solaris, OEL, Windows
 - Proven Oracle Clusterware high availability
- For SPARC
 - Hundreds of domains per system
 - Scale up to number of T-Series threads
 - Predictive Self Healing integration
- Single management layer –
Hardware to Application

Optimized Oracle Infrastructures



- Best symmetric multiprocessing (SMP) scalability
- Highest throughput per watt
- Best multi-operating system virtualization
- Choice of Solaris or Linux

Oracle Enterprise Linux



- Management
 - Integrated with Oracle EM
 - Hosted by OVM, native
 - Provisioned with OpsCenter
- Quality
 - Certified configurations, testing, and tuning with Oracle
 - World wide support
- Specifically enhanced for Oracle
 - Oracle Clustering
 - Infiniband



Larry Ellison
CEO, Oracle

“Solaris is *overwhelmingly*
the best open systems
operating system
on the planet.”

September 2009

“We’re not cutting Sun to
profitability. We’re *growing*
Sun to profitability.”

January 2010

The Operating System Matters

Innovation Pays



- 20+ years development
- Leading-edge innovation
- Scalability and stability
- Get the most out of systems, applications

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Most
Innovative
Server OS



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Oracle Solaris Addresses IT Challenges



- Scalability
- Performance
- Unique innovation
- Business advantages
 - Guaranteed compatibility
 - Business-oriented lifecycle
 - Oracle application / infrastructure integration
 - 3rd party application portfolio
 - Support integration

Preserving Business Investments: Solaris Application Guarantee Program

Guaranteed Compatibility

- Solaris Binary Application Guarantee Program
 - From 1997 forward
- Solaris Source Code Guarantee Program
 - Between SPARC and x86
- Lower development and support costs
- Speed time to market/deployment
- Run on SPARC64, UltraSPARC, Intel, AMD platforms

Application Compatibility Guarantee covers applications that run on Solaris 2.6 or later

Source Code Compatibility Guarantee covers applications developed on any Solaris platform

See sun.com/solaris/guarantee for terms and conditions

Oracle Solaris: The Mission Critical OS

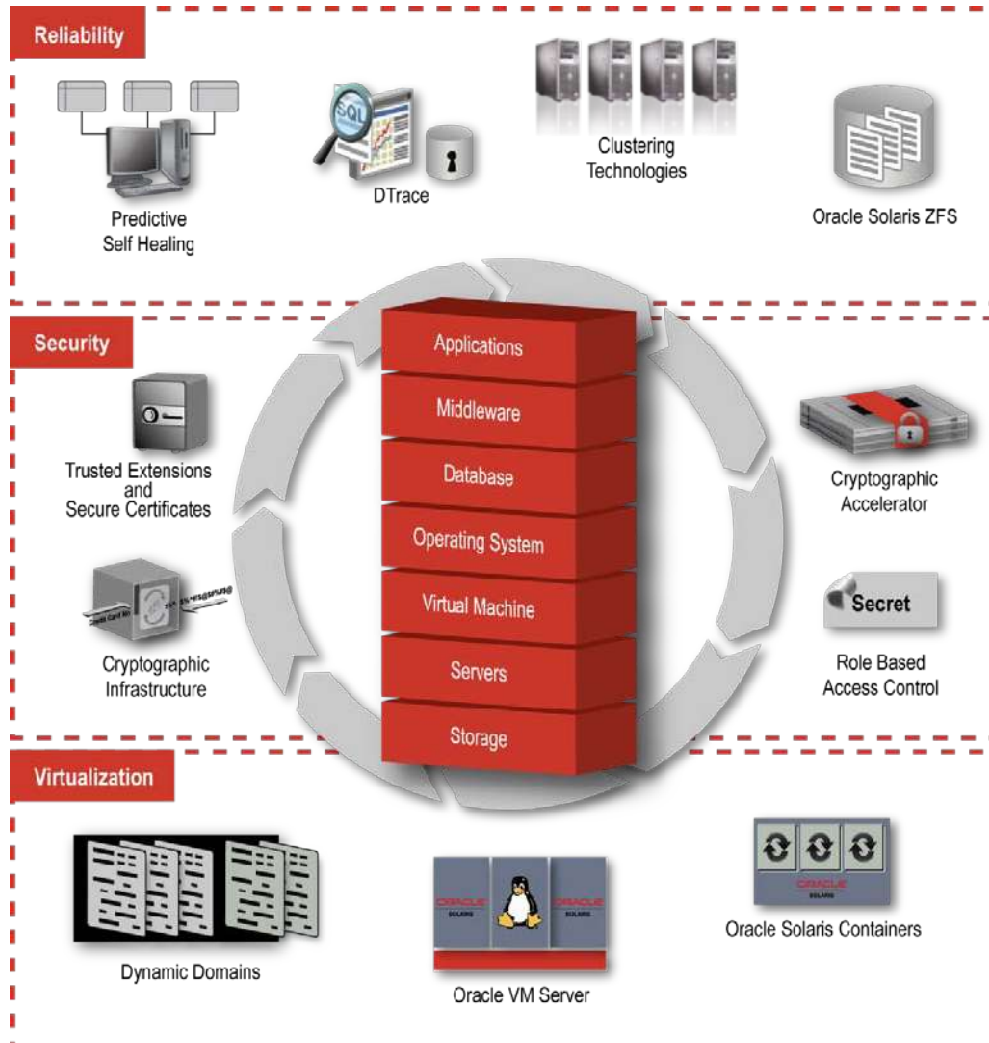
If It Must Work, It Runs on Solaris

- The #1 deployment platform for the #1 mission critical Oracle Database
- **Extreme data integrity**: ZFS
- **Military-grade** security: Solaris Trusted Extensions
- Predictive **Self Healing**: FMA, SMF
- **Designed in Virtualization** with application isolation and security: Zones
- **Production Safe** Observability: DTrace
- Scales to thousands of threads, multiple terabytes of memory



Oracle Solaris: The Mission Critical OS

If It Must Work, It Runs on Solaris

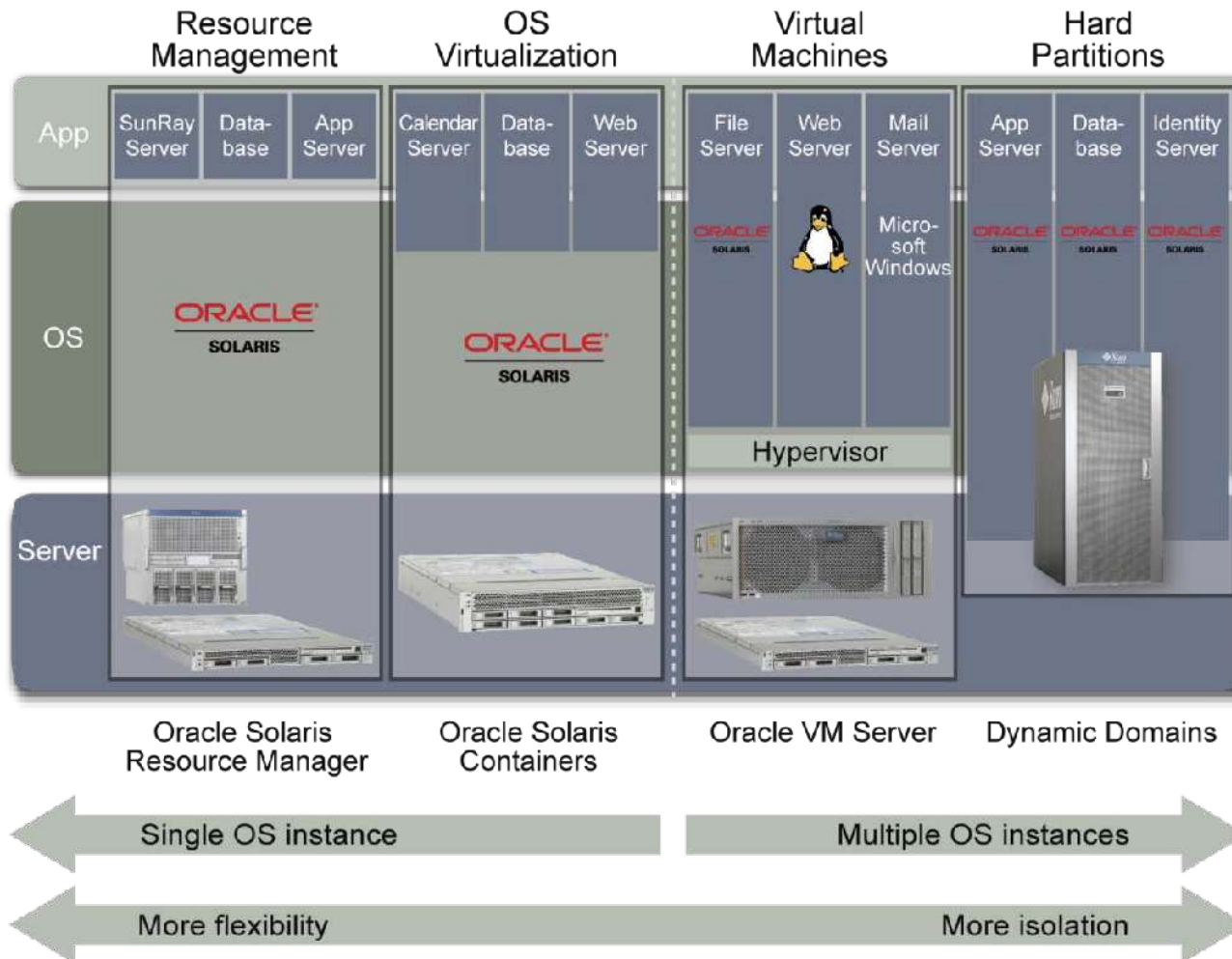


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SOLARIS

Virtualization Technologies

Available with Oracle Solaris and Oracle's Sun servers



Oracle Solaris 10 9/10

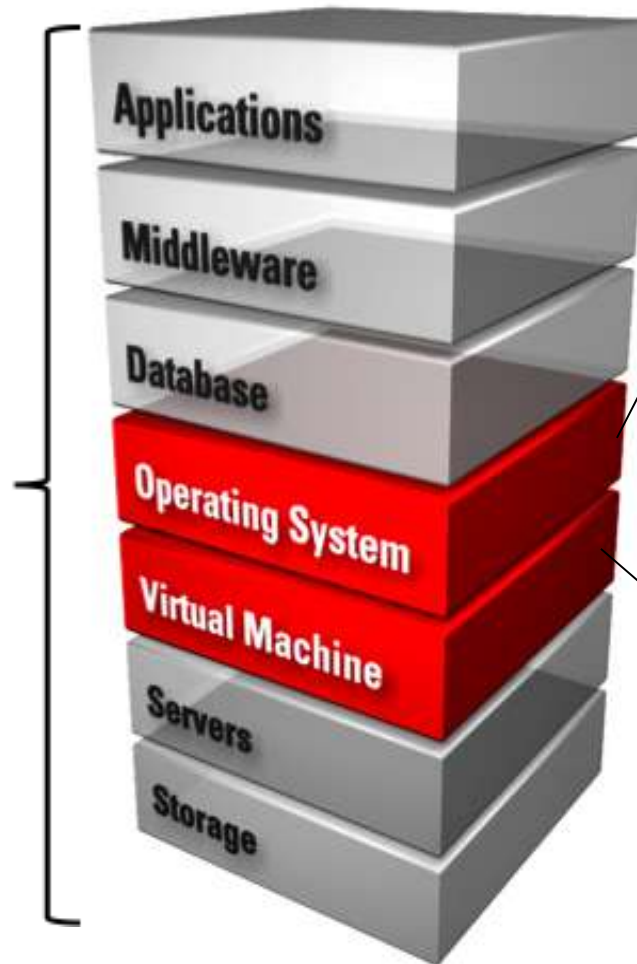
Innovative, Optimized, Tested

Nightly
validation testing

Complete
stack testing

Performance
and tuning

Every patch certified



ZFS

Dynamic LUN expansion
Triple parity RAID-Z
Split mirrored pools
Pool recovery
Synchronous write tuning

Containers

Migrate physical system
to container
Migrate host IDs

Oracle VM Server for SPARC
Various improvements



Setting a New OS Standard

Solaris 11

Next Generation Virtualized
Enterprise Operating System

New Release Coming Soon

Solaris Roadmap

Maximizing Integration

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SOLARIS

SPARC Trajectory

Cores	4x
Threads	32x
Memory Capacity	16x
Database TPM	40x
Java Ops Per Second	10x

Solaris 10
Platform Support
SW Integration

Solaris 11
Software Lifecycle
Scalability
Networking
Security

Solaris 11 Update
High-Availability
Memory Scalability
Virtualization

Solaris 11 Update
System Management
IO Scalability

Solaris 11 Update
Core Scalability

2010

2011

2012

2013

2014

2015

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Integrated Management



Managing Oracle Sun Systems with Ops Center

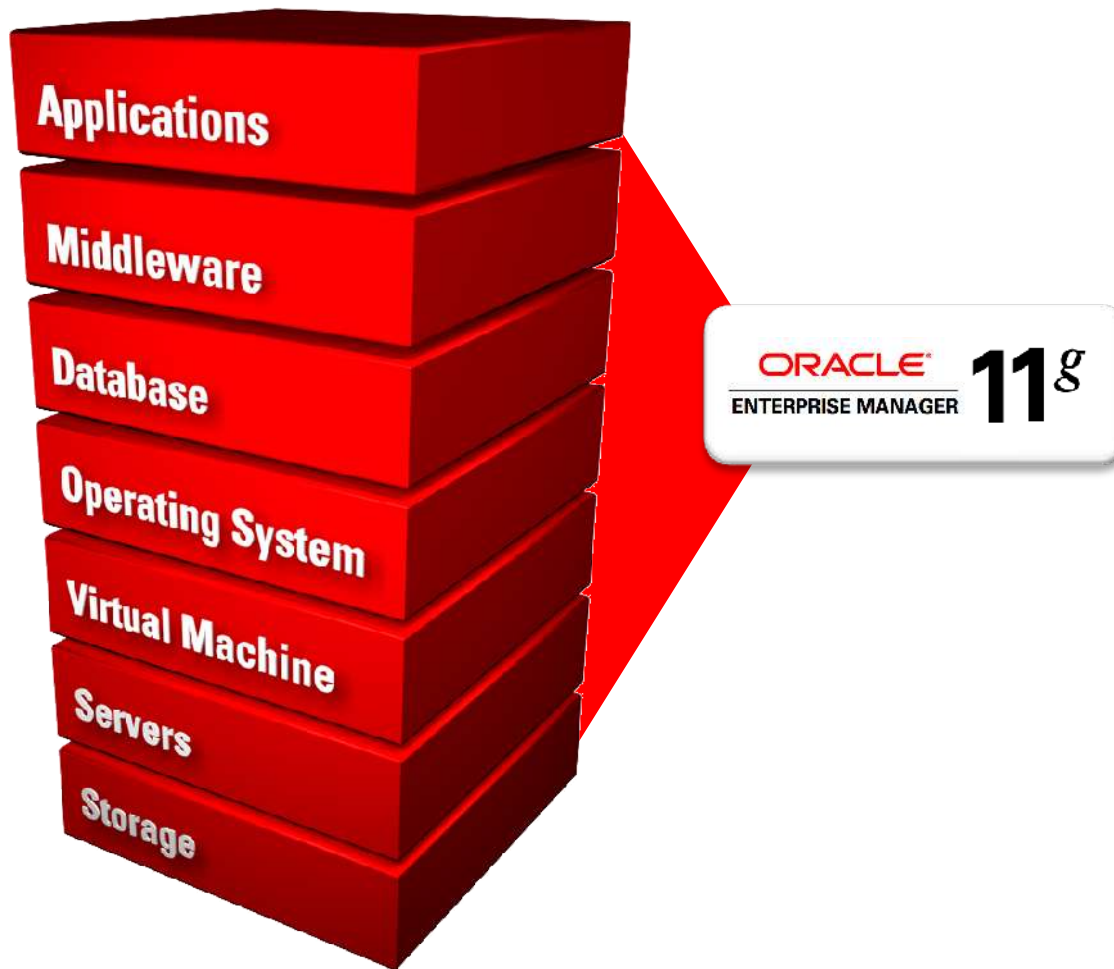
Deploy Oracle Sun Servers 90% Faster



- Unified lifecycle management
 - Discovery, provisioning, updating, monitoring & management
- Physical & virtual systems mgmt
 - SPARC & x86 servers
 - Solaris Containers
 - Oracle VM for SPARC (LDoms)
- Rich operating systems support
 - Oracle Solaris
 - Linux (Oracle Enterprise, Red Hat, SUSE)
 - Windows

Oracle Enterprise Manager

Only Oracle Can Deliver Complete Stack Management



- Integrated manageability across the entire stack
- Best of breed manageability built into each tier
- Foundation for enterprise cloud computing

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Q & A

