

Oracle and HP – Delivering the Next-Generation Data Center Today

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Agenda

- HP's commitment to our customers – technology for better business outcomes
- HP and Oracle integrated offerings – better together
- HP Data Center Transformation experience
- Conclusion and options for follow-up
- Questions?



Data center challenges

Rapidly respond to business and customer needs

- “We struggle to meet service level agreements..”
- “We can’t implement new projects fast enough..”

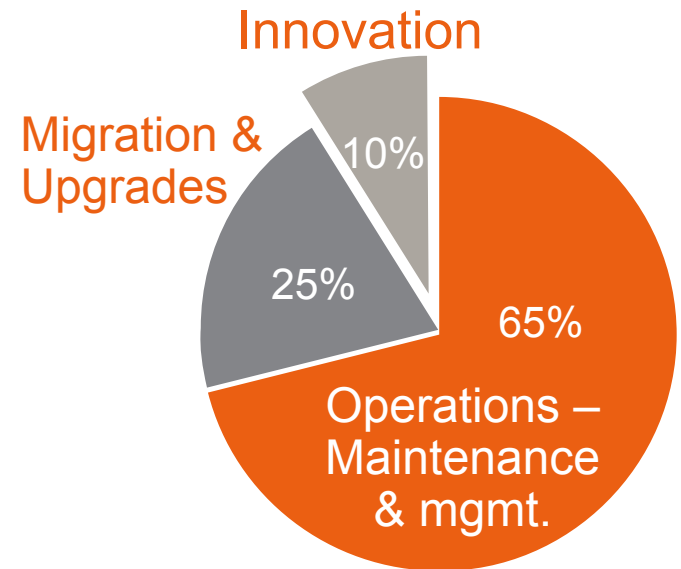
Reduce costs of operations and maintenance

- “Too many applications, too much customization...”
- “Escalating power and cooling costs...”

Enhance quality of service to enable business success

- “Ensuring business continuity...”
- “Meet Compliance requirements...”

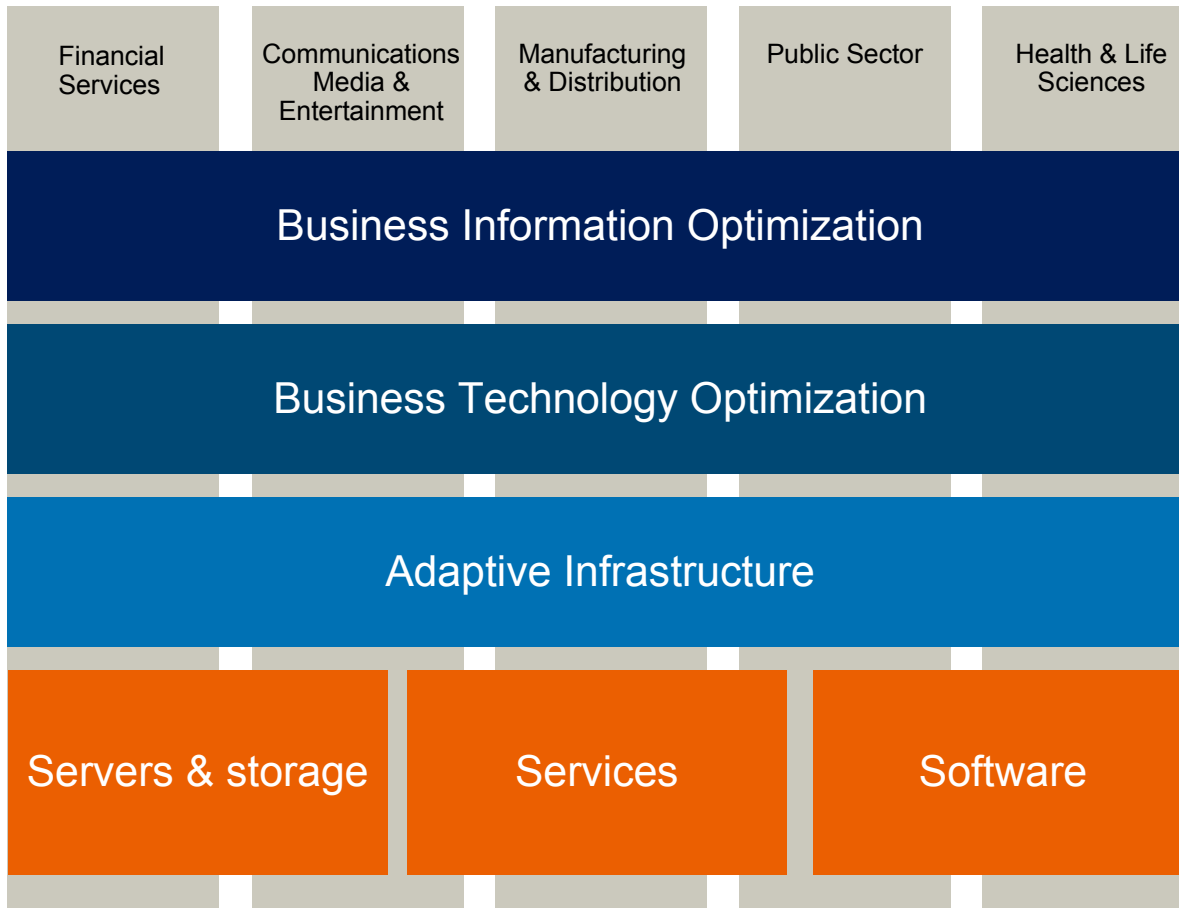
IT budget allocation



=> Shift resources from maintenance to innovation

HP Business Technology portfolio

Technology for better business outcomes



Customer needs:

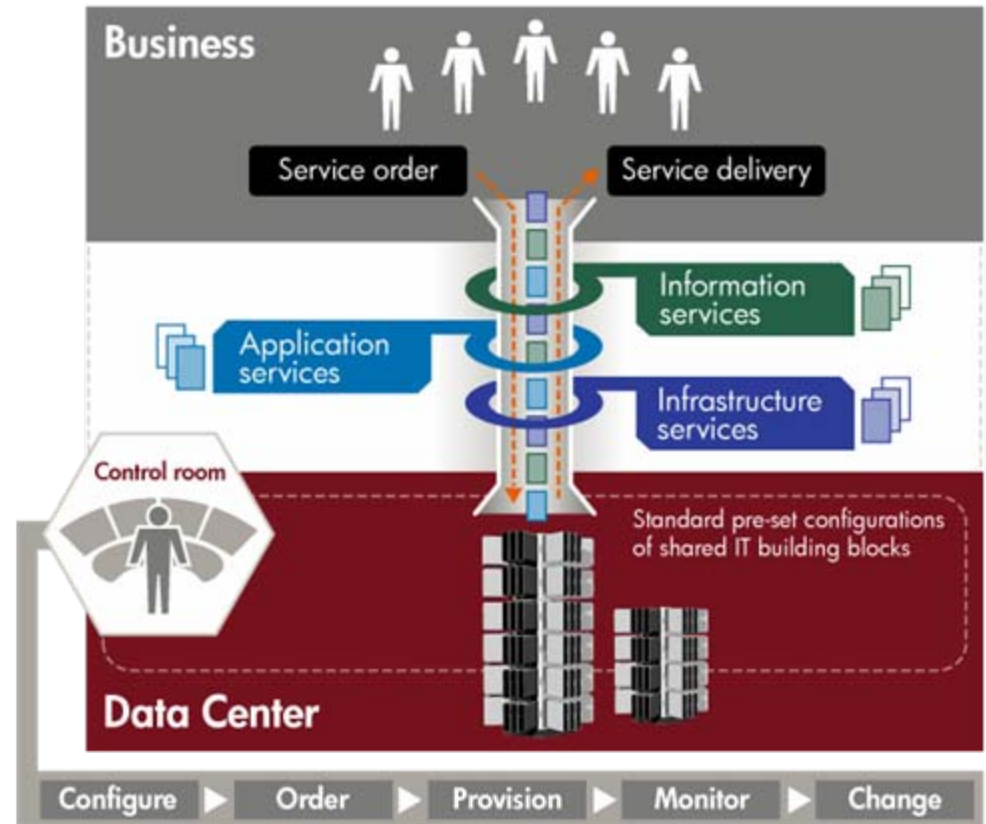
- Provide good information to enable better business decisions
- Lower risk to the enterprise with better control of the infrastructure
- Reduce the cost of technology while delivering more to the business



Adaptive Infrastructure

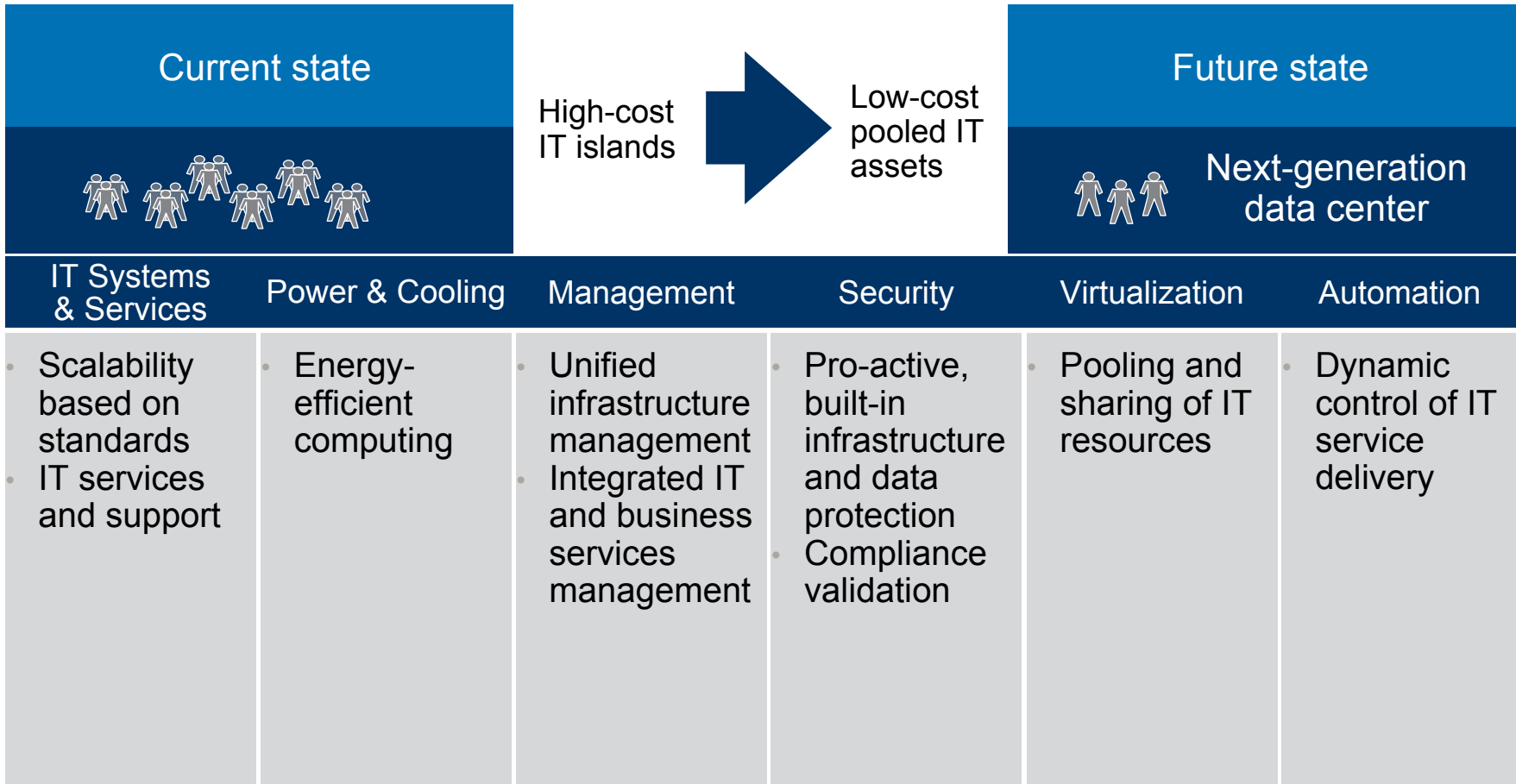
IT as an internal service provider to the business.

- Built-on standard, pre-set configurations of shared IT building blocks.
- Delivering standard IT services to the business users.
- Managed through automated IT processes.
- Built-in business continuity and availability.

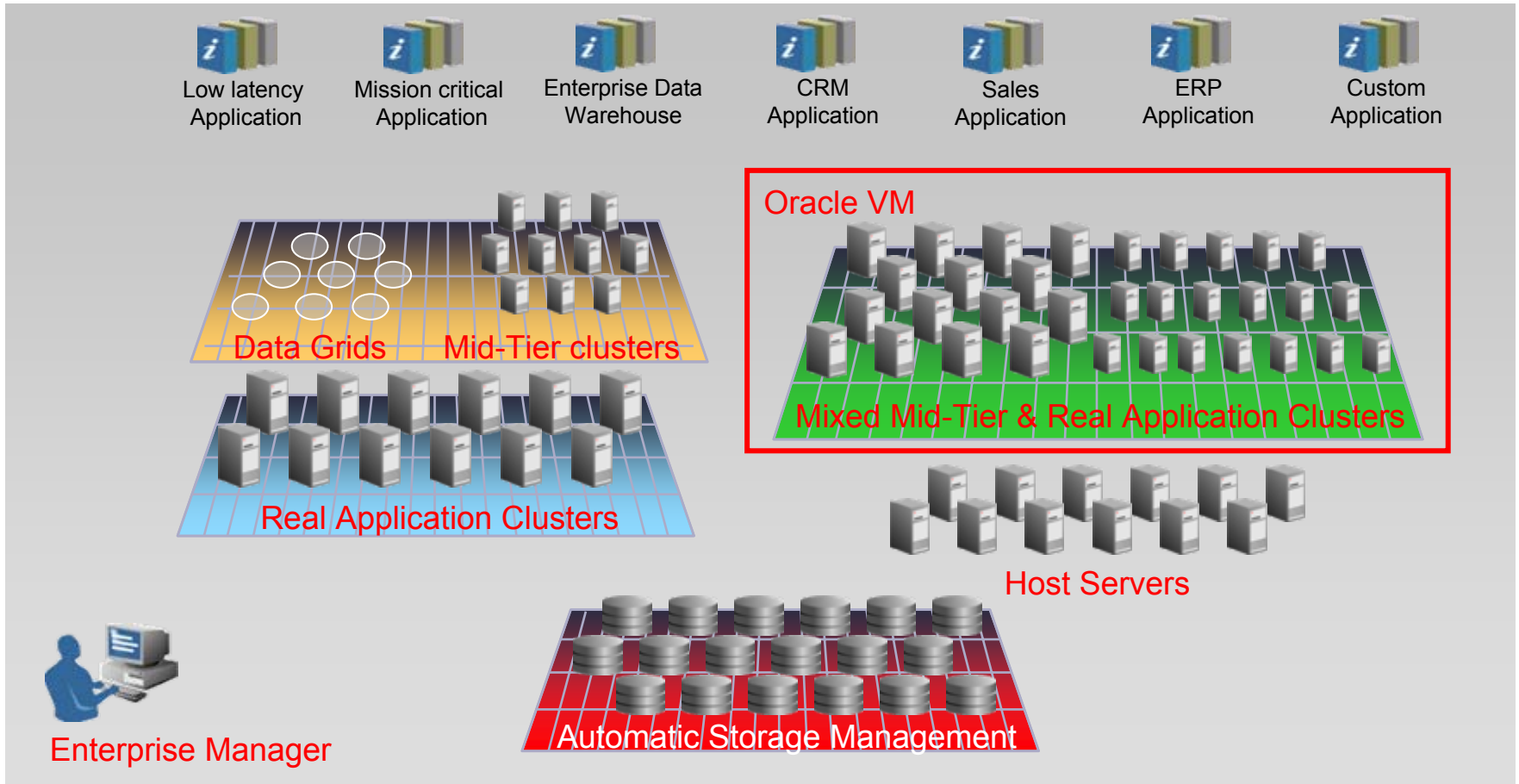


Adaptive Infrastructure

Key enablers

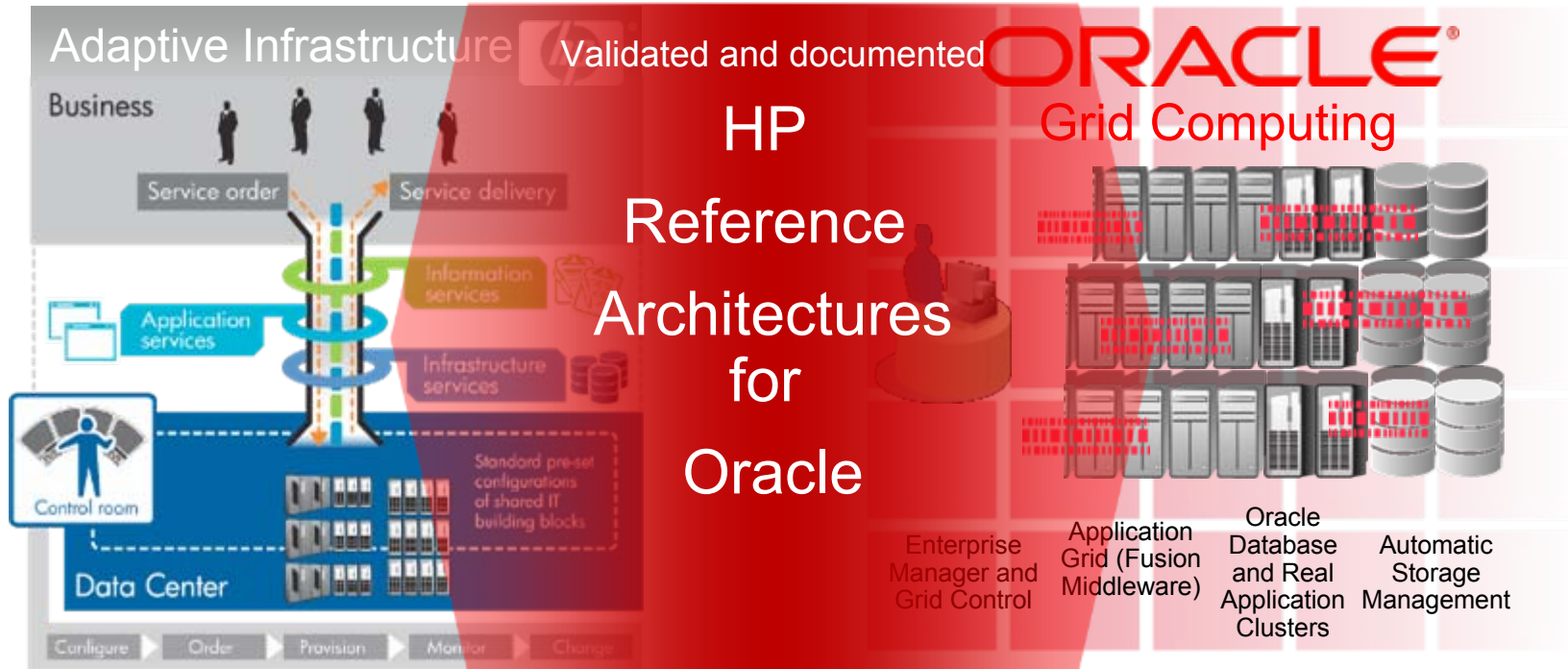


Oracle Grid Computing Infrastructure



Runs all applications and workloads

Better Together



- Reduce IT costs
- Enhance business agility
- Improve quality of IT service

Design Characteristics

HP Reference Architectures for Oracle Grid

High Availability

Agility

Efficiency

Performance

Defining the: HP Reference Architectures for Oracle

- Address the key issues facing IT today
 - Enhance business agility
 - Improve quality of IT service
 - Reduce IT costs
- By demonstrating optimized integration of HP and Oracle technologies
 - Validated hardware and software integrations
 - Best practices knowledge transfer



HP Reference Architectures for Oracle

hp
invent

ORACLE

Get started

- » HP and Oracle Alliance
- » HP and Oracle Partnership
- » Contact HP

News and Features

- » Press
- » Events
- » Customer Stories

Related links

- » Oracle Database
- » Oracle Middleware
- » Oracle Applications
- » HP Reference Architectures for Oracle
- » Business Intelligence
- » SOA/Oracle Fusion Middleware
- » HP Storage with Oracle
- » HP OpenView Solutions with Oracle
- » HP for Oracle Applications

Overview

HP reference architectures for Oracle are recommended components (hardware, software, services) for deployment of Oracle solutions. These reference architectures represent the most frequently deployed HP configurations for Oracle and are based on the real world experience of HP Competency Centers and the HP reseller community working with our valued customers and HP's Oracle engineering experts. Deploying Oracle using these reference architectures utilizes the proven experience and knowledge of HP with your solution.

Key customer benefits:

- Easier to manage, predict and control costs
- Increased reliability of data integrity and availability
- Mitigated risk
- Improved business and IT agility
- Faster implementation

Recommended architectures for:

- » Small and Medium Business
- » Medium and Large Business
- » Enterprise Business

www.hp.com/go/oracle



Value Proposition

HP Reference Architectures for Oracle Grid

Reduce costs

- Consolidation of Oracle environments into a grid of standard components optimizes server utilization
- Infrastructure virtualization dramatically lowers administrative costs
- Modular design aligns cost with growth and brings volume economics to enterprise solutions
- HP Reference Architecture knowledge transfer accelerates time to deployment

Enhance Business Agility

- Grid architecture and IT process automation dramatically simplifies re-purposing of resources
- Shared infrastructure model enables SOA for faster, more efficient, application development
- Tiered storage simplifies information management

Improve Quality of IT Service

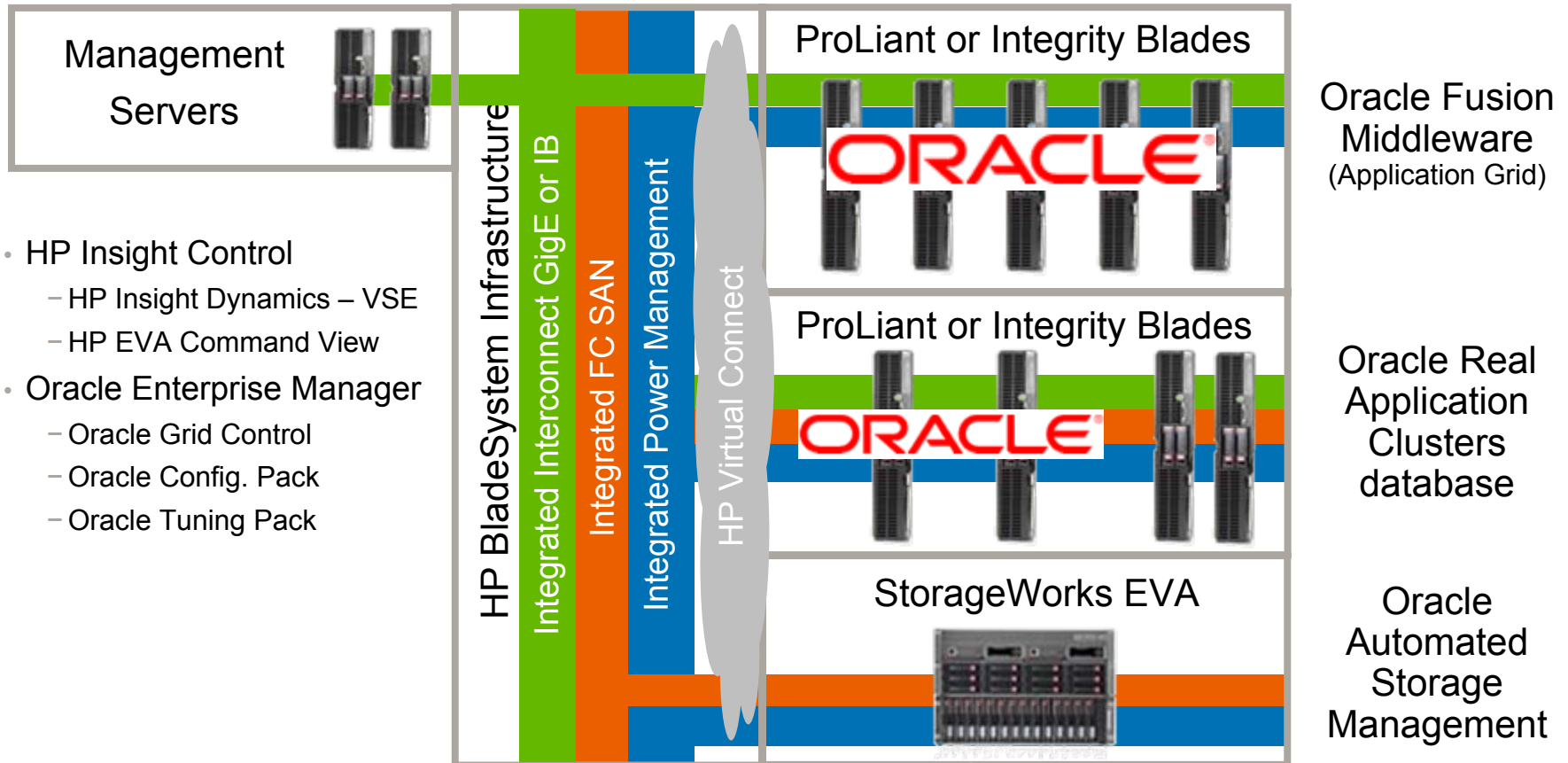
- Modular design facilitates rolling upgrades
- Dynamic resource flexing ensures high service levels
- Inherent availability of grid architecture reduces downtime
- Disaster recovery options ensure business continuity
- Modular scalability shatter performance boundaries



HP Reference Architecture for Oracle Grid on HP BladeSystem



HP Reference Architecture for Oracle Grid on HP BladeSystem



HP BladeSystem RA Functionality

Achieve the full potential of your Oracle Grid environment

Extended Functionality

- Rip and replace servers throughout the environment with no reconfiguration
- Automated server recovery
- Drag and drop dynamic db and application (de)provisioning in minutes vs. hours
- Consolidation with improved space and power efficiency
- Unified physical and virtual resource administration

Enabling technologies

- HP BladeSystem wire once design, HP Virtual Connect SAN and LAN abstraction
- HP Virtual Connect 'spares pool'
- HP StorageWorks EVA boot from SAN capabilities with HP Virtual Connect
- High density blade servers, with HP Thermal Logic
- HP Insight Dynamic – VSE Logical Server management

For details on implementing this functionality see www.hp.com/go/oracle => Reference Architectures

To see the BladeSystem RA in action www.hp.com/go/solutiondemoportal => Oracle Reference Architectures



Value Proposition

Blade System Reference Architectures for Oracle Grid

Reduce costs

- HP BladeSystem 'wire-once' simplicity dramatically reduces administrative cost
- Oracle Enterprise Manager Grid Control business process monitoring simplifies troubleshooting
- Modular design aligns cost with growth, improves server utilization and brings volume economics
- Consolidate on high density HP Blade servers and StorageWorks SAN reduces data center footprint
- Improve power and cooling efficiency with HP Thermal Logic technologies
- HP Reference Architecture knowledge transfer accelerates time to deployment

Enhance Business Agility

- Dynamic resource flexing enabled by Oracle Grid, Virtual Connect and EVA Boot from SAN allows quick response to changing business requirements
- Grid Architecture enables composite application development and SOA deployment
- StorageWorks SAN enables boot-from-SAN and Virtualization

Improve Quality of IT Service

- Dynamic server replacement/migration and automated workload balancing ensure highest service levels
- Inherent availability of grid architecture with Virtual Connect and Insight Dynamic VSE reduce downtime
- Disaster recovery options from HP and Oracle ensure business continuity
- Modular scalability of Oracle RAC and HP BladeSystem shatter performance boundaries



HP BladeSystem c-Class

HP innovations that solve the biggest cost drivers and change barriers of today's datacenters

Build IT Change-Ready

HP Virtual Connect architecture

Eliminating manual coordination across domains.

Build IT Energy-Thrifty

HP Thermal Logic technology

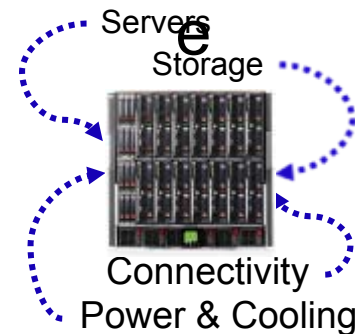
Most energy efficiency at a rack, row and datacenter level.

Build IT Time-Smart

HP Insight Control management

Best savings, greatest control and most flexibility across your infrastructure.

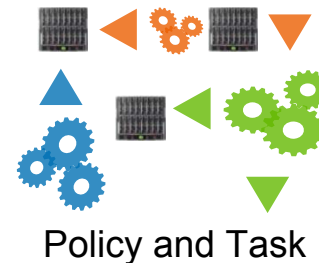
Consolidate



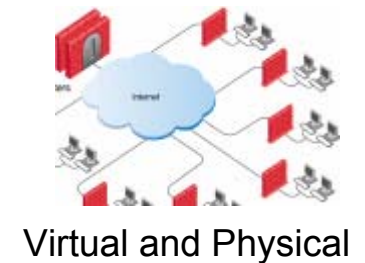
Virtualize



Automate



Control

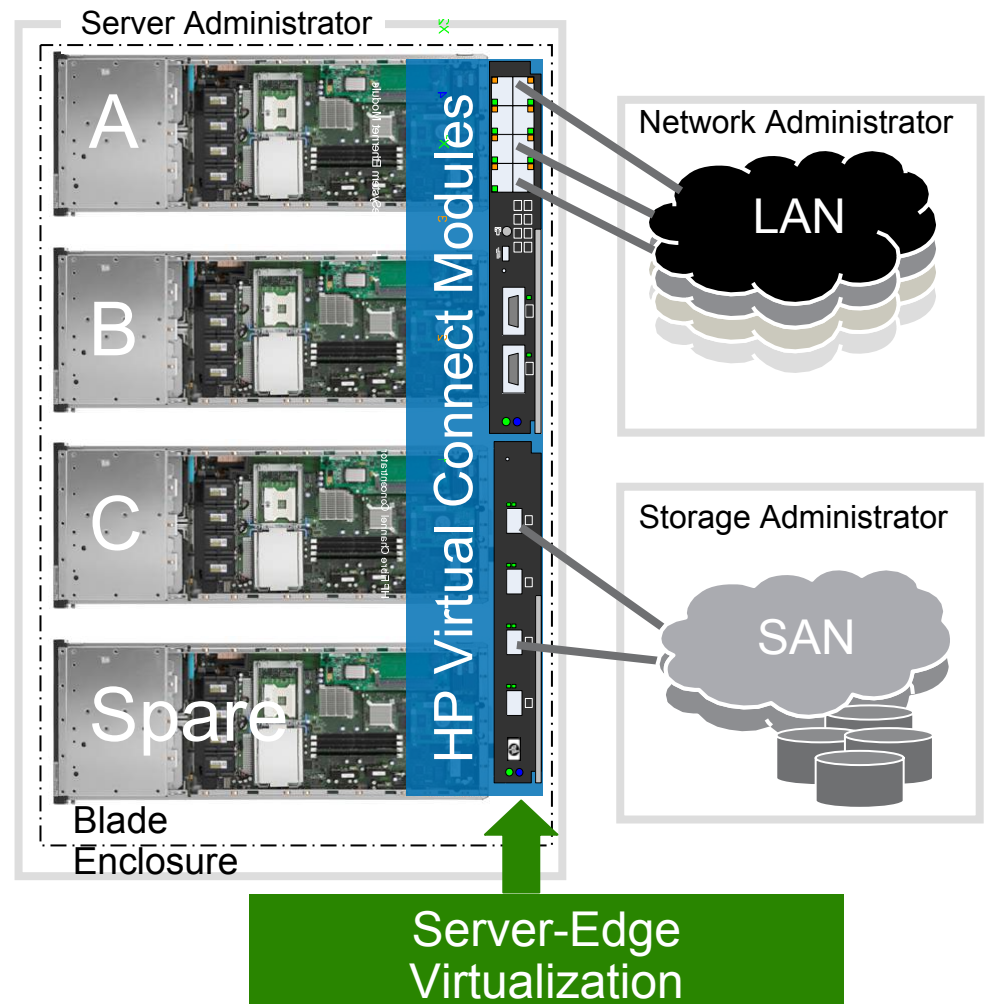


The new, modular building block of next generation data centers.

HP Virtual Connect Architecture

Boosts data center productivity with server-edge virtualization

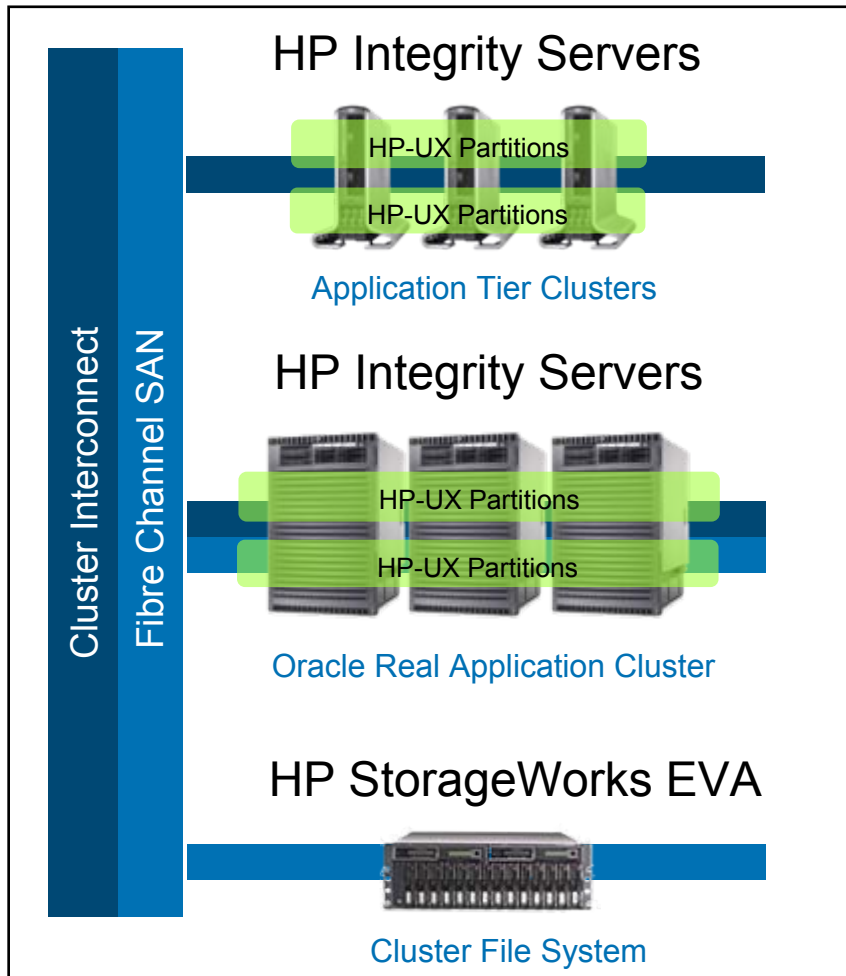
- **Simplifies networks:** Reduces cables without adding switches. No new FC domains!
- **Keeps end-to-end connections** of favorite brands (Cisco, BNT, Brocade, McData, etc.)
- **Cleanly separates** server from LAN & SAN
- **More efficient use of costly resources:** Relieves LAN & SAN admins from tedious server maintenance & frees server admins to change servers quickly by themselves
- **Maximum flexibility, easy to use:** add, move, replace, upgrade without affecting LAN or SAN



HP VSE Reference Architecture for Oracle Grid on HP-UX 11i



HP VSE Reference Architecture for Oracle Grid on HP-UX 11i



- Meeting Business Needs
 - Scale up, out and back automatically to meet mission critical SLAs
 - Dynamic resource partitions optimize server and utilization
 - Scalable architecture to meet the most demanding application requirements
- Key System Components
 - Oracle Real Application Cluster
 - Oracle Fusion Middleware
 - Oracle Enterprise Manager
 - HP Serviceguard Cluster File System
 - HP Virtual Partitions – database
 - HP Resource Partitions – apps
 - HP Systems Insight Manager

Value Proposition

HP-UX VSE Reference Architectures for Oracle Grid

Reduce costs

- HP-UX VSE server partitioning and workload management improves server utilization
- HP Integrity Servers and HP Thermal Logic technologies improve power and cooling efficiency
- Oracle Enterprise Manager Grid Control business process monitoring simplifies troubleshooting
- HP Reference Architecture knowledge transfer accelerates time to deployment

Enhance Business Agility

- Dynamic resource flexing enabled by HP Virtual Server Environment and Oracle RAC allows quick response to changing business requirements
- Grid Architecture enables composite application development and SOA deployment
- StorageWorks SAN enables boot-from-SAN and Virtualization

Improve Quality of IT Service

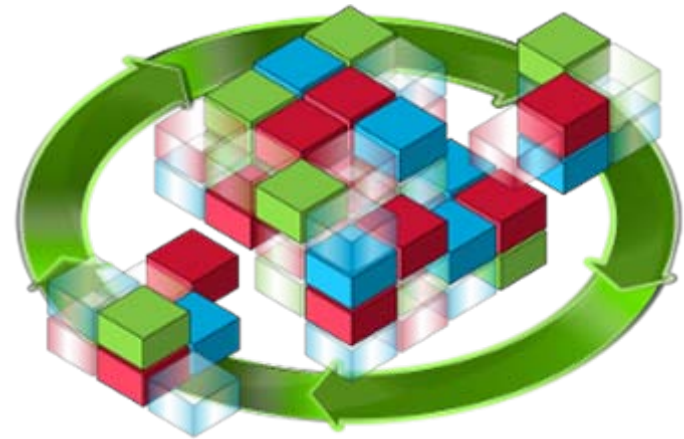
- Grid architecture and HP Service Guard ensure highest availability
- Disaster recovery options from HP and Oracle ensure business continuity
- Highly available HP-UX on Integrity Servers mean less downtime
- High performance Integrity servers meet the most demanding performance requirements



HP Insight Dynamics – VSE

Continuously analyze and optimize your infrastructure

- Bring the flexibility of virtualization to physical servers
- Real-time capacity planning for servers and power
- Control physical and virtual resources in the same way
- Builds on the value of HP Systems Insight Manager, Insight Control and Virtual Server Environment

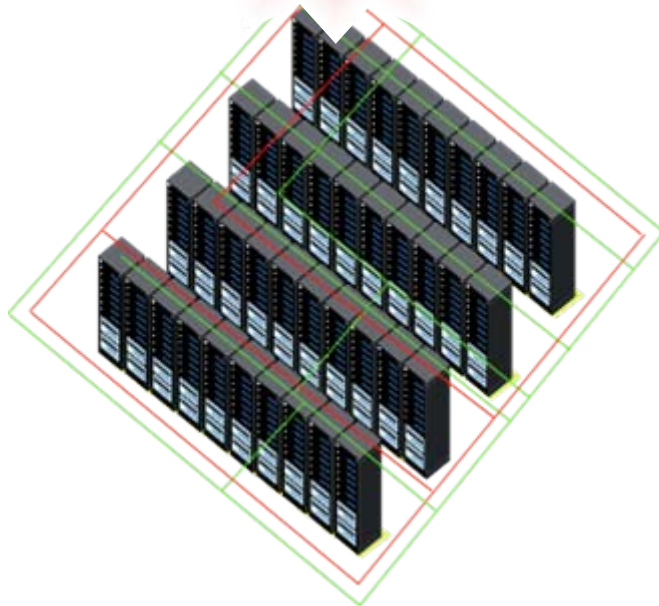


Addressing key data center issues:
cost, speed, quality and energy

HP Thermal Logic

Energy optimization and control

Up to 40%
power savings



Energy-saving solutions
from chip to chiller
and beyond

Optimize the
infrastructure
for sustainable
computing

- Dynamic smart cooling
- Data center solution building program
- Power-efficient distribution

Virtualize and
actively manage
for energy
effectiveness

- Energy-aware provisioning
- Virtualization
- Insight Power Manager

Use every watt
efficiently

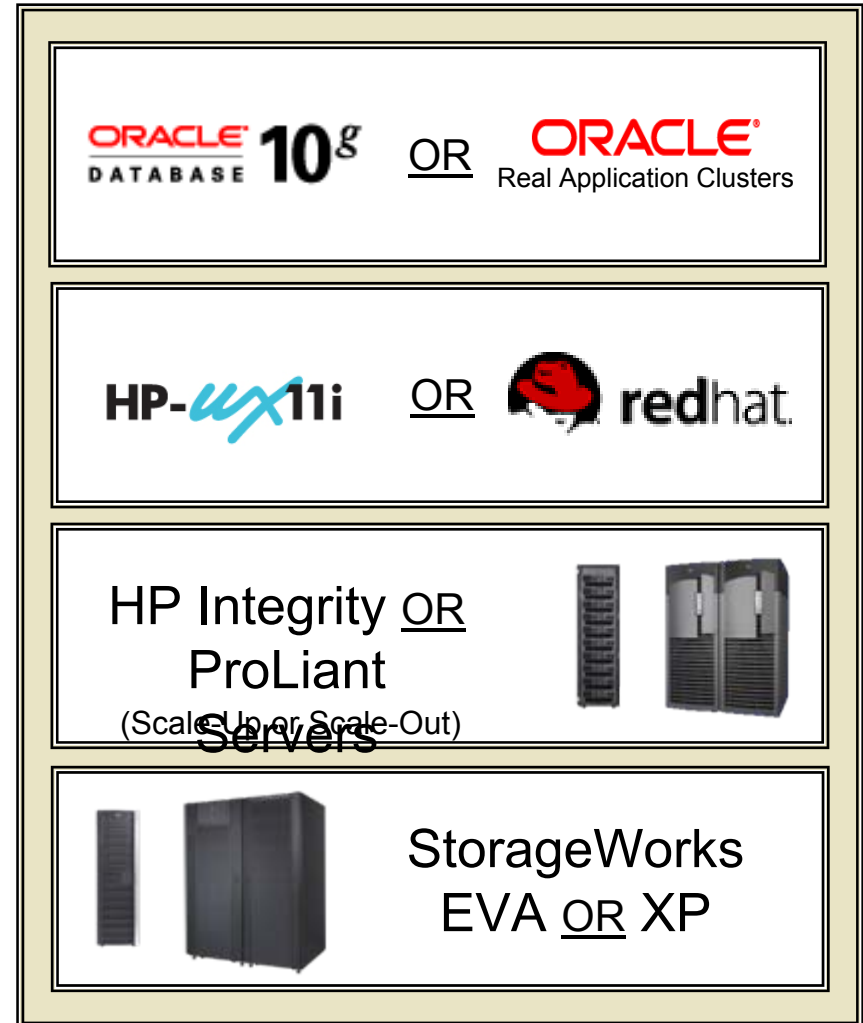
- Energy-optimized systems
- High-efficiency power supplies
- BladeSystem
- Engineered with energy-efficient component

Data Warehouse offerings



HP Reference Configurations for Oracle Data Warehousing

- Validated, balanced configurations to accelerate time-to intelligence and ensure results
 - Dedicated HP & Oracle engineering
 - Benchmarked and characterized across various DW/DM workloads for simplified, accurate planning
 - Based on benchmarks, POCs, best practices & customer implementations
 - Options based on budget, performance & architectural requirements
 - Full range of packaged service offerings or customized to fit any requirements



Data Center Transformation



The world's leading provider of enterprise applications

Hospitality and retail industries

- Problem: Provide Software as a Service (SaaS) solutions to support data center activities while managing growth at 50% per year
- Solution: Datacenter transformation with HP BladeSystem, EVA, and Insight software
- Results: Dramatic simplification of audit and compliance requirements plus redefined economics of their infrastructure



32:1 consolidation

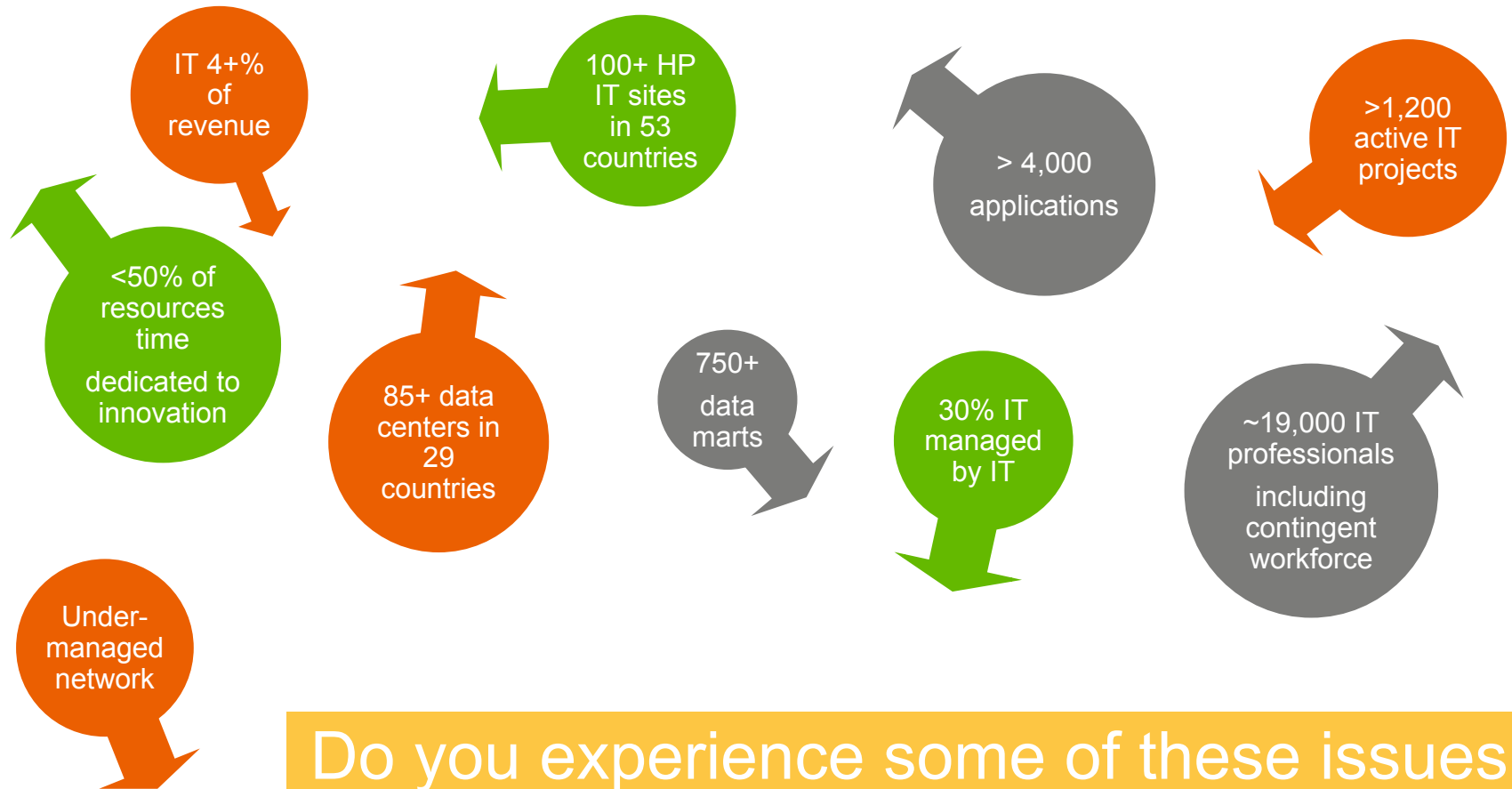
Reclaimed **28** racks

35% fewer IT staff to manage

Reduced energy use by **40%**

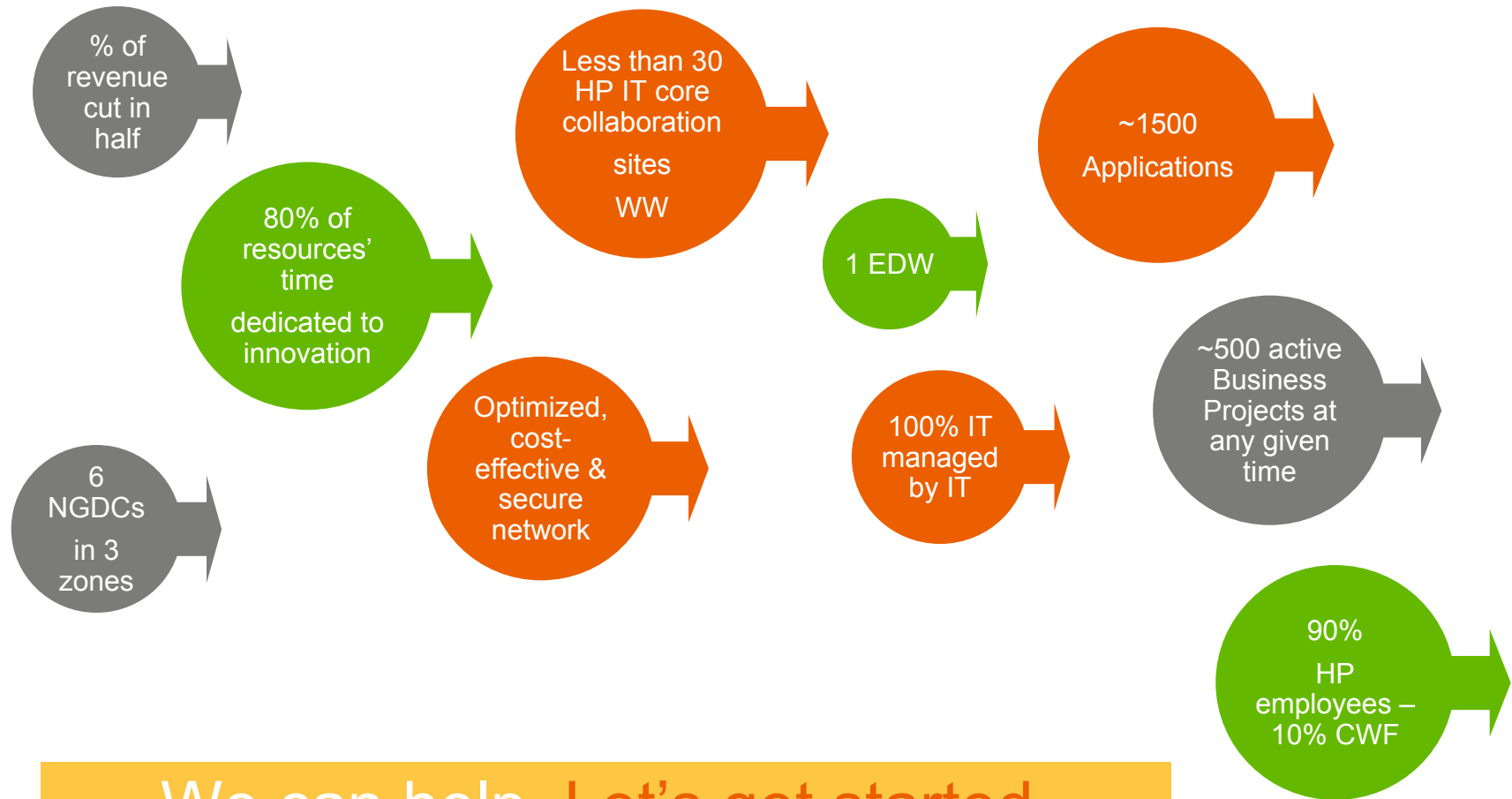
HP IT Transformation Experience

2005 Too many directions, not enough connections



2008 HP-IT NGDC

The right direction. The right connections.



We can help. Let's get started.



Conclusion



Priorities

- Align IT investment with business outcomes
- Improve IT agility
- Reduce operating costs
- Enhance quality of service



Initiatives

- Consolidation and Virtualization
- Data Center Automation
- Business Continuity and Availability
- Energy and Space Efficiency



HP can help

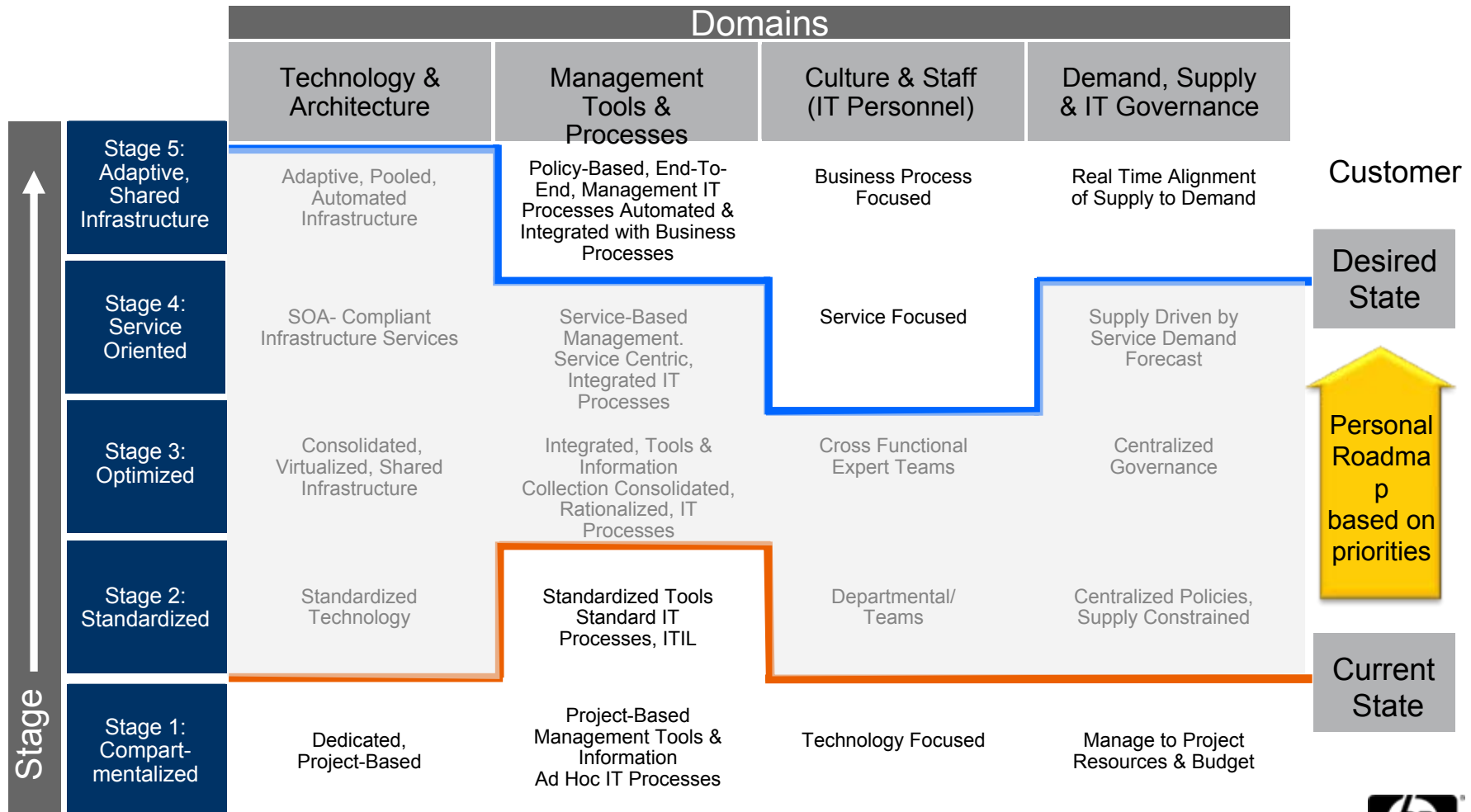
HPS Data Center Transformation Portfolio of Services at a Glance

	Data Center Strategy	Data Center Design	Data Center Transition	Data Center Operation	Data Center Continual Improvement
Management & Operations	Service Management			Outsourcing AI as a Service	
Applications & Information	Application Modernization & SOA Transformation			Application Management	
IT Infrastructure	Business Continuity and Availability				
	Data Center Consolidation		Data Center Virtualization		
				Mission Critical Support	
Facilities	Data Center Services Education Services				
	EYP MCF Critical Facilities Services				



Adaptive Infrastructure Maturity Model

Current and desired state based on standard metrics



Next steps

- Do you want to hear more about HP Reference Architectures for Oracle ?
- Do you want to assess your Data Center current state and define the desired state ?
- Do you want to simulate your Data Center Transformation at a strategic level ?
- Contact your HP Representative or HP preferred partner



Stages	Domains			
	Technology & Architecture	Management Tools & Processes	Culture & Staff (IT Personnel)	Demand, Supply & IT Governance
Stage 5: Adaptive, Shared Infrastructure	Adaptive, Pooled, Automated Infrastructure	Policy-Based, End-To-End, Management IT Processes Automated & Integrated with Business Processes	Business Process Focused	Real Time Alignment of Supply to Demand
Stage 4: Service Oriented	SOA-Compliant Infrastructure Services	Service-Based Management, Service-Centric, Integrated IT Processes	Service Focused	Supply Driven by Service Demand Forecast
Stage 3: Optimized	Consolidated, Virtualized, Shared Infrastructure	Integrated, Tools & Information Collection, Consolidated, Rationalized IT Processes	Cross-Functional Expert Teams	Centralized Governance
Stage 2: Standardized	Standardized Technology	Standardized Tools, Standard IT Processes, ITs	Departmental Teams	Centralized Policies, Supply Contracted
Stage 1: Compartmentalized	Dedicated, Project-Based	Project-Based Management, Tools & Information Ad Hoc IT Processes	Technology Focused	Manage to Priorities, Resources & Budget

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■ Current ■ Industry ■ Desired

HP logo orange on white

Technology for better business outcomes



Links to additional information

- HP Reference Architectures for Oracle Enterprise Businesses
<http://h71028.www7.hp.com/enterprise/cache/387007-0-0-0-121.html>
- HP Solutions Demo Portal for Oracle Solutions
http://h20324.www2.hp.com/hpsdp/index.jsp?auto=1&ib=5023804&category_id=&demo_id=
- Oracle Grid Computing Achieved
<http://h71028.www7.hp.com/ERC/downloads/4AA0-0094ENW.pdf>
- HP Reference Architecture for Oracle Grid on HP Blade System
<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA1-2243ENW.pdf>
- HP Data Center Transformation Services
<http://h71028.www7.hp.com/ERC/downloads/4AA1-5485ENW.pdf>
- Dynamic Provisioning Model for Oracle Grid on HP BladeSystem
<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA1-2102ENW.pdf>

