Oracle 10g Solution in the HP Linux Adaptive Enterprise

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Agenda

- What business problem are we trying to solve?
- What is the Adaptive Enterprise?
- What is Oracle 10g?
- Are we Competing or are we good friends?
- Summary

What business problem are we trying to solve?

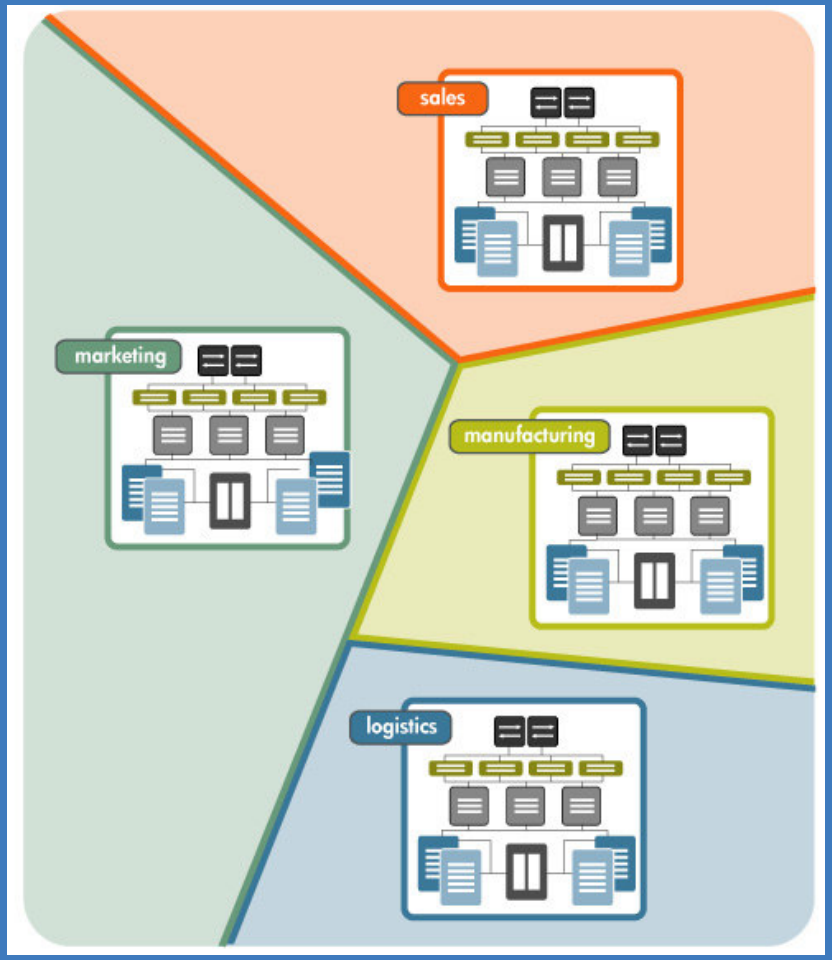
The business agility challenge

"It used to be that the efficiency of transactions was all that mattered. Now, *the capability to change quickly* is more precious than money — it's more important than having the lowest transaction cost."

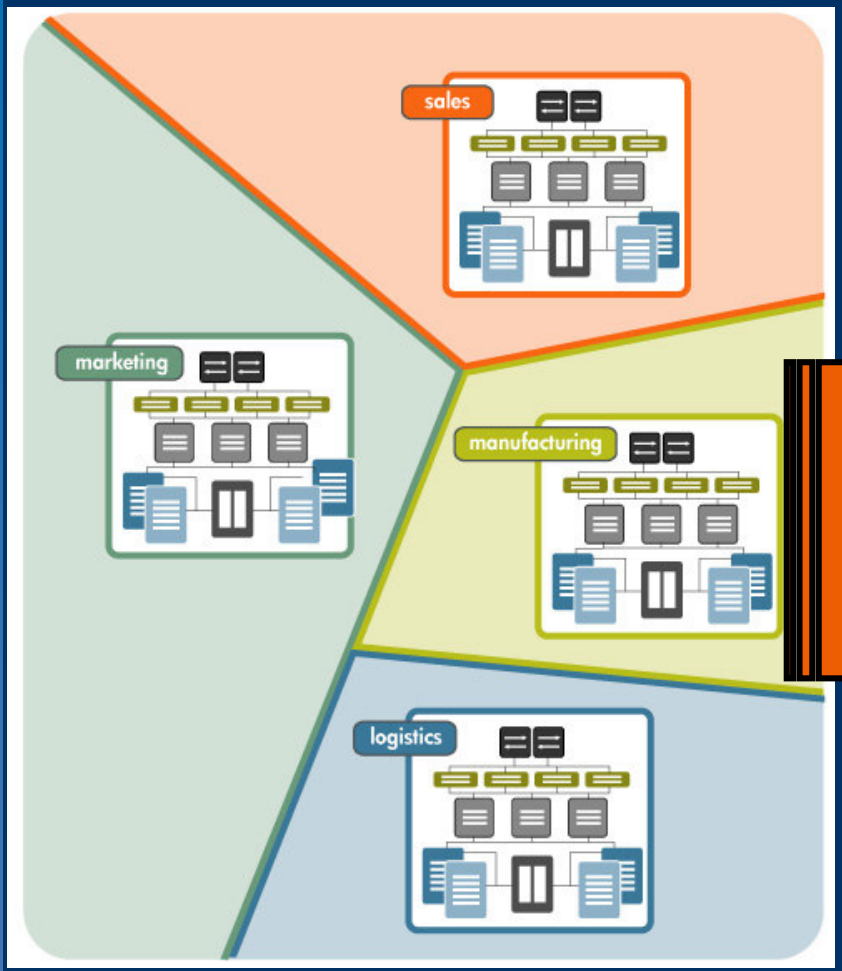
Jodie Ray, CIO of Texas Instruments

Classic IT infrastructure

- Stove-piped applications
- Focused on IT features
- Applications tied to platform
- Applications ***own*** platforms
- Dedicated test, production, and disaster recovery environments



Classic IT challenges



- Each environment sized for ***peaks*** – wasteful in IT resources
- ***Support staff*** needed for ***each server / platform***
- Leads to High operational costs
- Difficulty in delivering good service levels to all users
- Operational costs may lead to weak business continuity
- Hard to integrate data
- Limited flexibility to meet business goals

Time and cost of change are the issues

- The cost of change is the fastest growing component of infrastructure TCO
- Ongoing change after initial deployment is expensive and often can only be expensed
- Pay attention to the cost of change NOW – don't sacrifice the future for the present

What is the Adaptive Enterprise?

The HP Adaptive Enterprise approach

deployed **across** the business, applications and processes

a platform for managing the impact and cost of **change**

managed like a business: disciplined, predictable, reliable

"if you get the infrastructure right…
everything else in your business becomes possible"

The business value of our approach

Improved business performance, best return on IT

Reliable, secure environment that *adapts dynamically* to business requirements and processes

Freedom to integrate – processes, applications, information, technologies, services – in a standards based environment

Operational excellence – disciplined practices, tools and rigorous IT fundamentals, quality of service

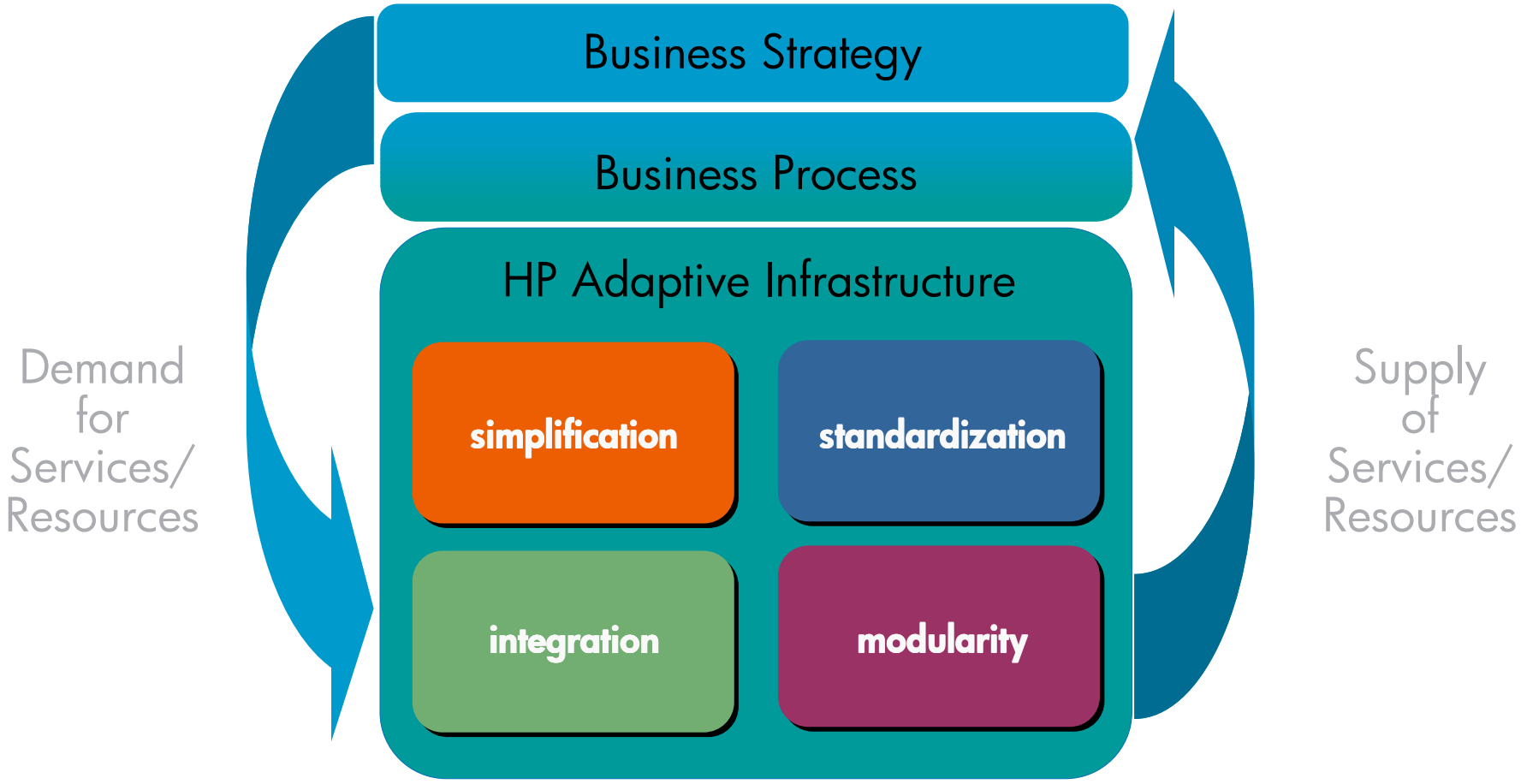
Lower operating costs – innovation that better manages the cost of change and improves utilization at all levels

Lower acquisition costs – affordable, standards based, modular products and technologies

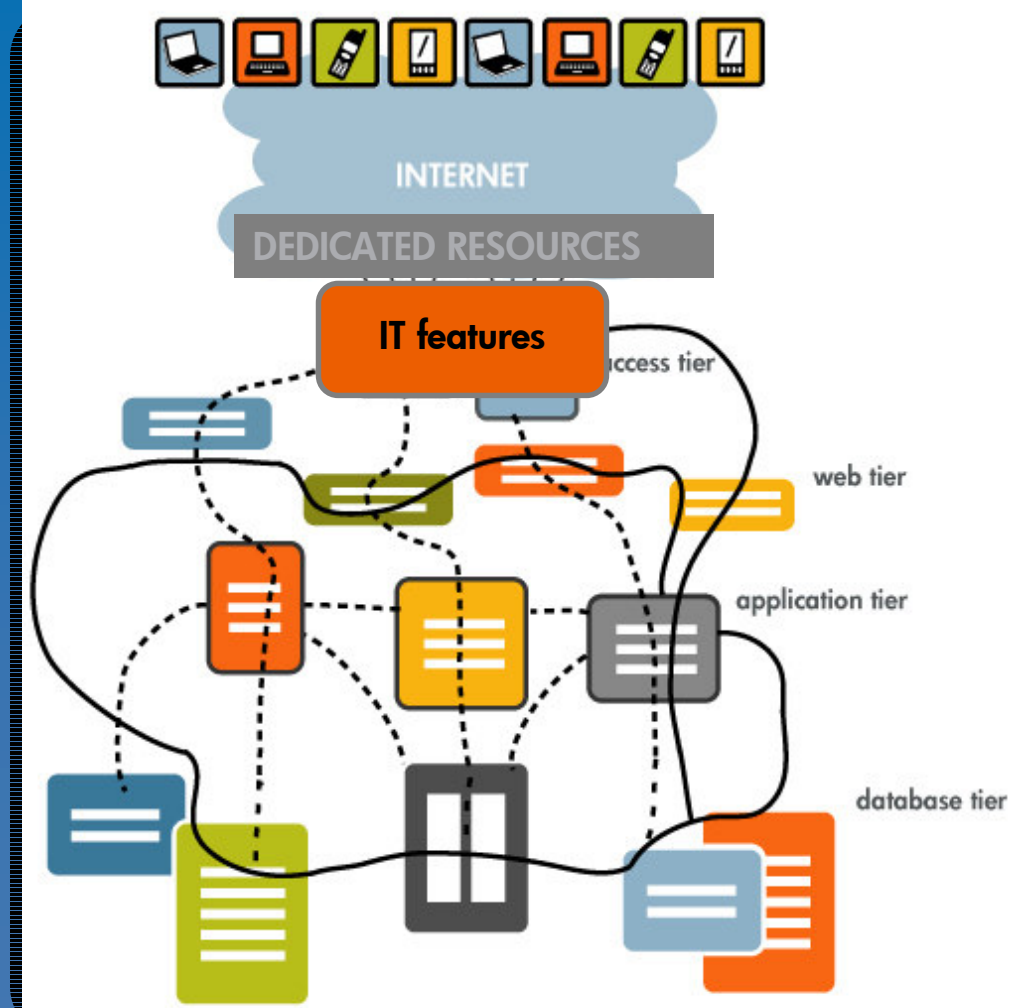
Building through real-world adaptive infrastructure solutions today

- Service, product and partner value combine to deliver differentiated adaptive infrastructure solutions in the following segments, available today
- These solutions are how our customers buy adaptive infrastructure

Unifying design principles for adaptive infrastructure deliver business agility



Adaptive infrastructure vision for best RoIT

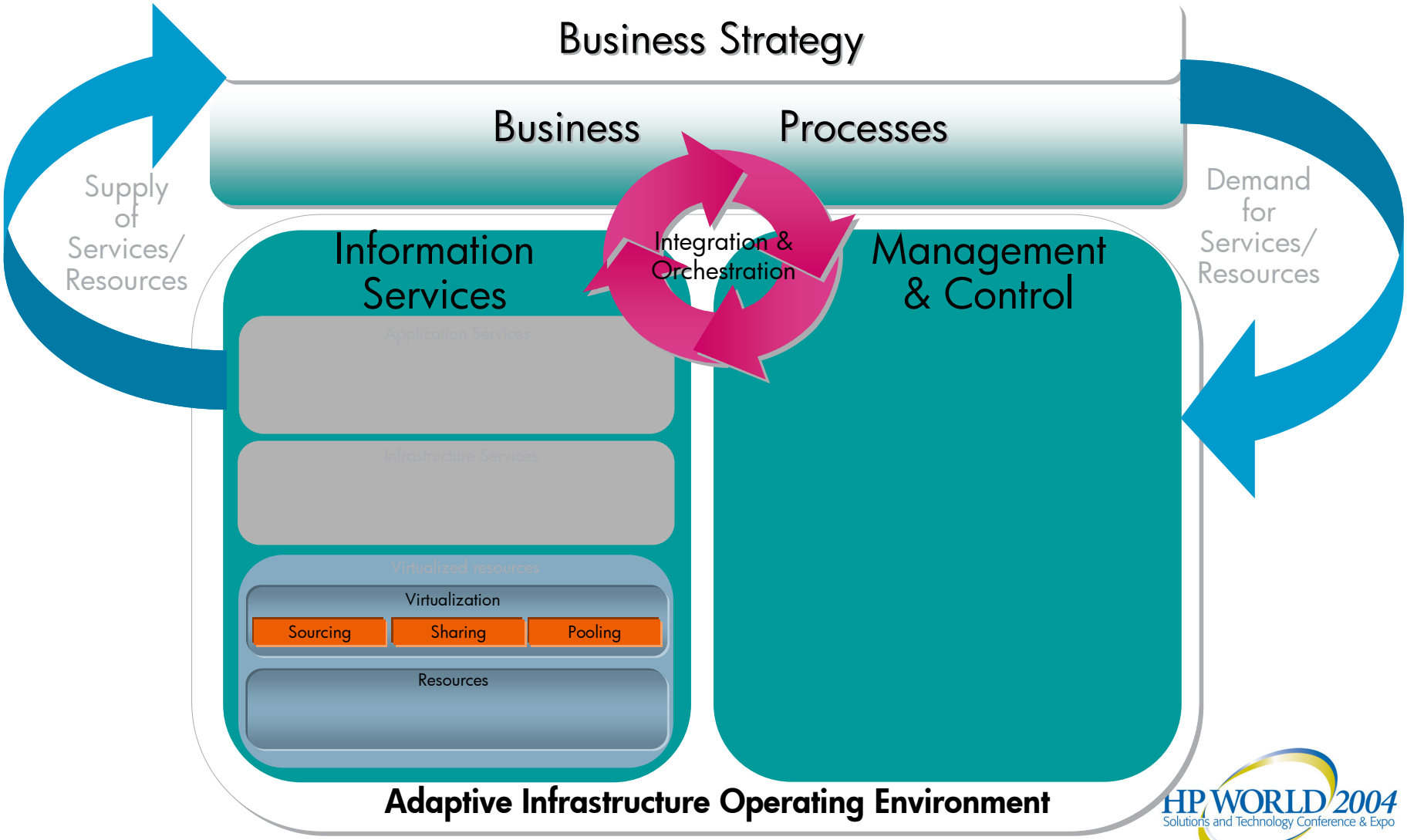


SHARED VIRTUAL RESOURCES

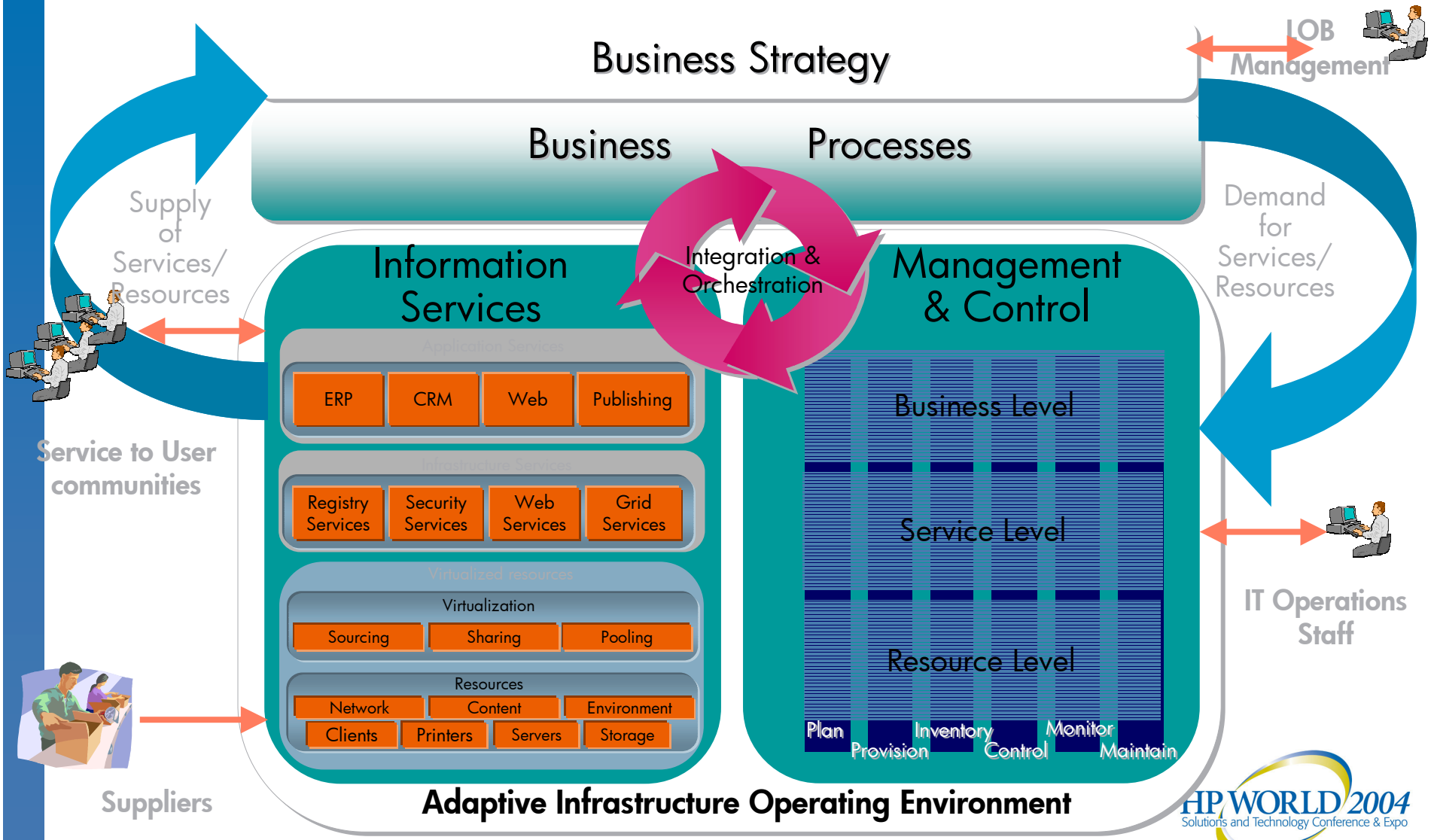
IT economics

- Reduced costs
- Improved quality
- Minimized risk
- Enhanced agility

Virtualization includes sourcing to balance own, borrow and rent portfolio



Adaptive Infrastructure Reference Architecture based on defined open standards, protocols and interfaces for cooperation & communication



Building an adaptive infrastructure - methodologies

1. Agility Snapshot to introduce vision for improvement.
2. Agility Assessment Service to prioritize infrastructure solution directions for greatest overall business impact.
   - Insead metrics, survey instrument.
   - HP Global Method for IT Strategy and Architecture AOTP technology strategy methodology.

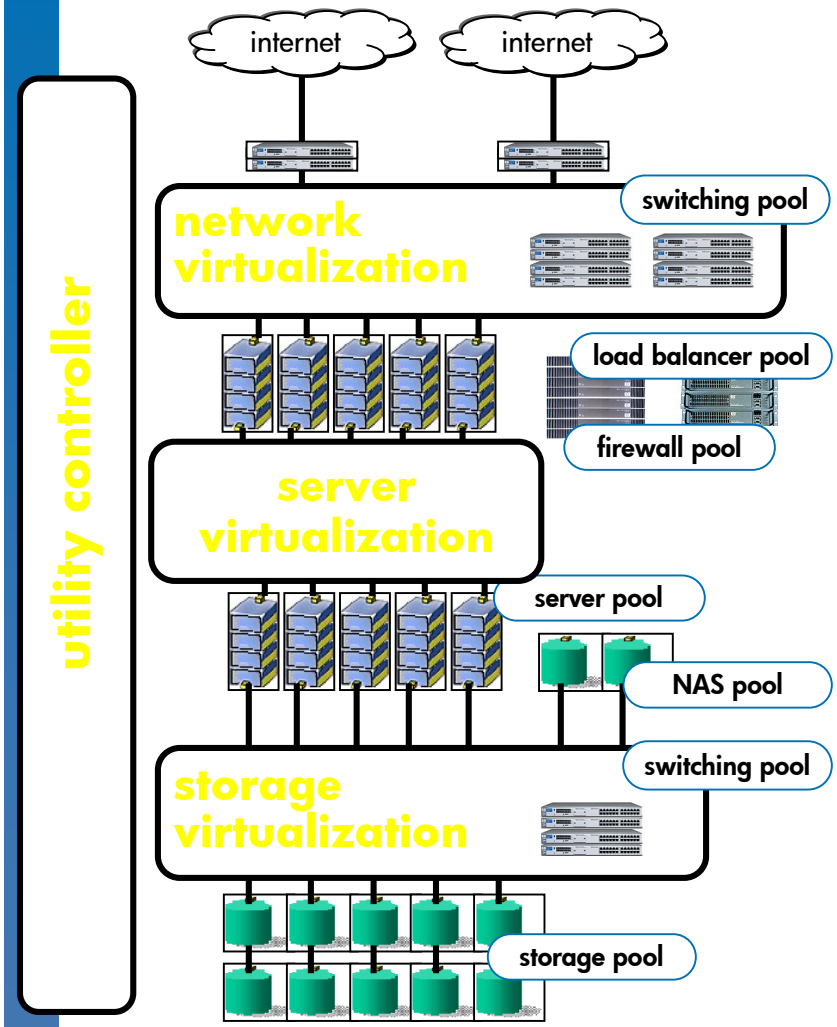
Building an adaptive infrastructure - methodologies

3. HP Global Method for IT Strategy and Architecture for enterprise and solution architecture (formerly CSAM), Concept, Assessment and Blueprint services for enterprise holistic focus.
4. Adaptive Application Architecture solution for application architecture focus.

Building an adaptive infrastructure - methodologies

5. Adaptive Network Architecture solution for network architecture focus.
6. HP Global Method for Implementation (formerly ITSM) to maximize people, process and technology for IT Services Management improvement.

What is HP's Utility Data Center?



hp utility data center

- virtualized pools of resource for instant ignition
- failover protection and data replication to protect servers, storage and network
- wire-once fabric
- utility controller software for service definition and creation

New applications and systems can be ignited within minutes

Server, storage and network utilization approaches 100%

Resources are 'virtualized' and optimize themselves to meet your service level objectives

Administrative and operational overhead is minimized

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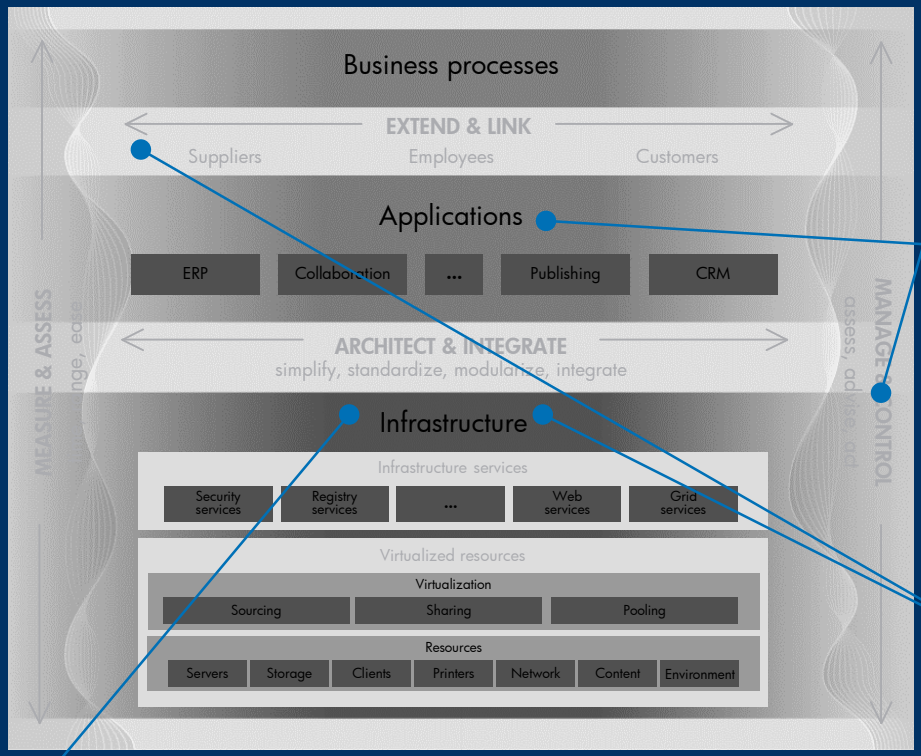
Management and execution of Grid services with Adaptive Enterprise



Web Services Management framework

Managing the Grid service, extracting business intelligence from the Grid service

SmartFrog

Programming and packaging of the Grid service, deployment of the Grid service, adaptive behavior of the Grid service

Topology Designer

Open standards provisioning of resources across multiple data centers on the Grid

UDC

Secure, fine-grained provisioning of resources from within a data center for Grid services

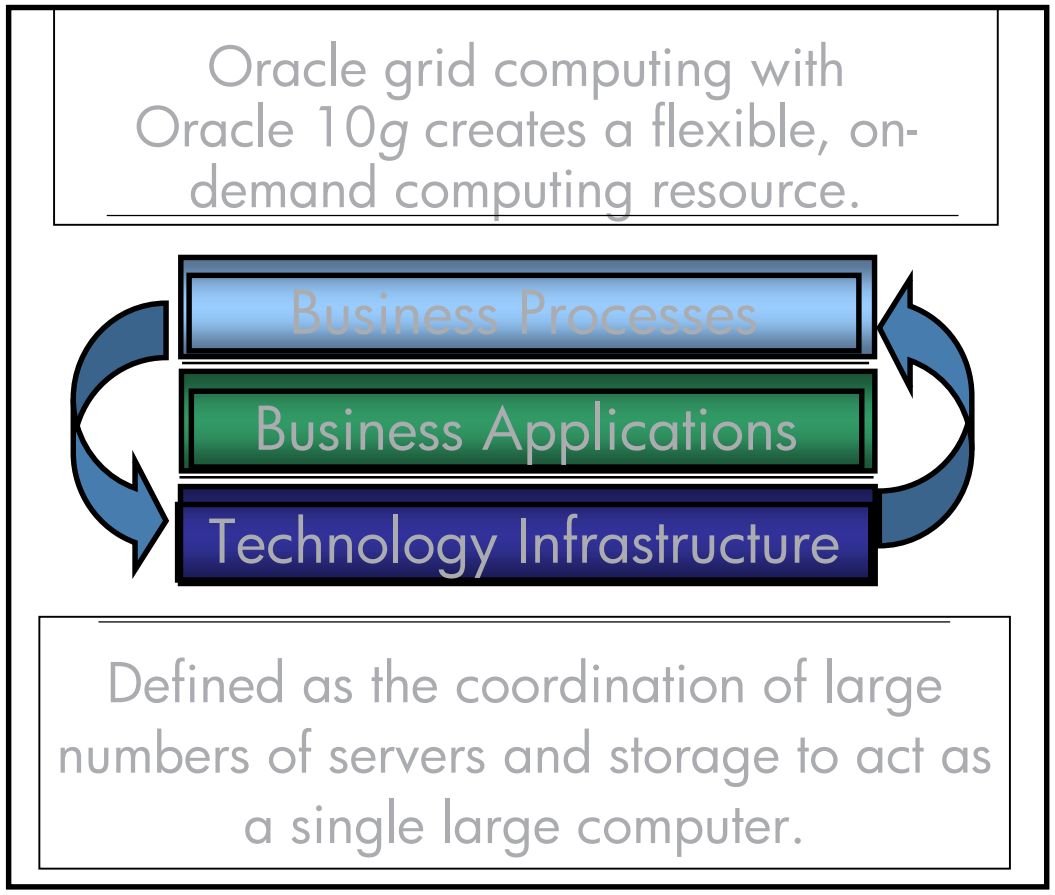
HP Solutions for the Adaptive Enterprise

- Utility Data Center
- HP Blade Servers
- Workload Manager
- Storage Area Networks
- HP iCOD – on-demand server resources
- HP PPU – pay-per-usage storage
- …

What is Oracle 10g?

What is Oracle 10*g* Oracle Grid Computing?

Oracle 10*g* is the combination of Oracle Database 10*g* and Oracle Application Server 10*g*



- New high availability features
- New security features
- Self-management
- Distributed computing

Grid Computing Power: 4 Key Areas of Change

- Grid Control and Provisioning
- Storage Management
- Workload Management and Reliability
- Grid Security and Identity Management

Oracle 10g

- Grid Control
  - Controls Databases,instances, service provisioning
  - Grid Controller incorporates map of available servers

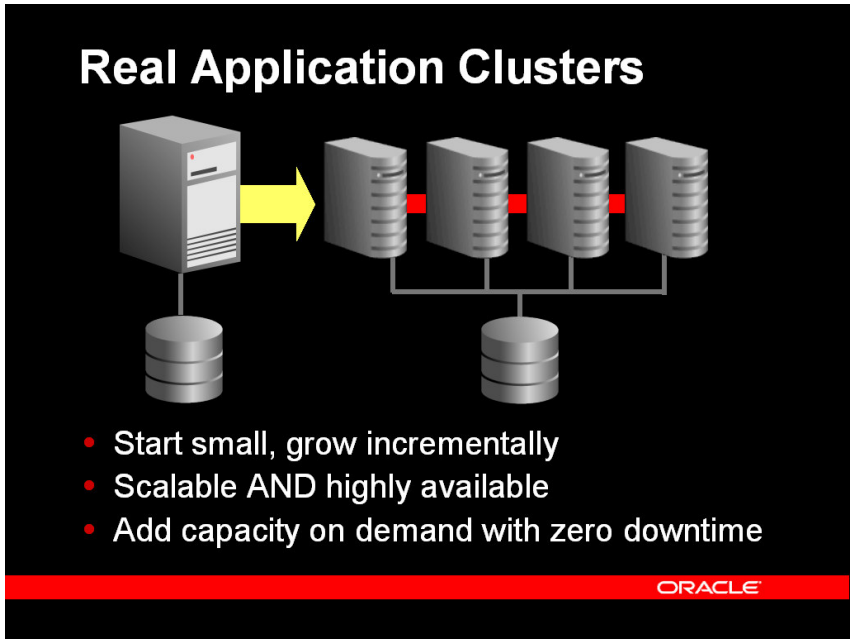
- Automated Storage Management
  - An OS-independent volume manager
  - Underlying structure for Oracle Cluster File System
  - Manages pool of mass-storage devices and RAID features
  - Allocates & stores tablespace data transparently to the administrator

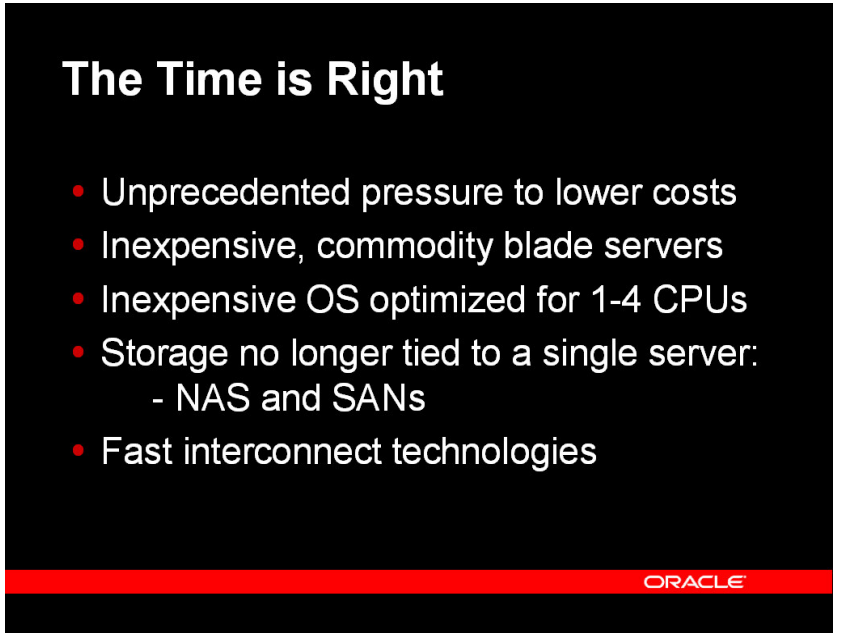
Oracle 10g

- Workload Management and reliability
  - Workload Management tool
  - Based on pool of available servers
  - Based on Service Level Agreements for each 'Service' (such as response time, cpu loading…)
  - Starts/Stops services within server pool based on SLA's
  - Better Job scheduling implementation

- Grid Security and Identity Management
  - Manages identities across a pool of servers
  - Manages security rights for these identities

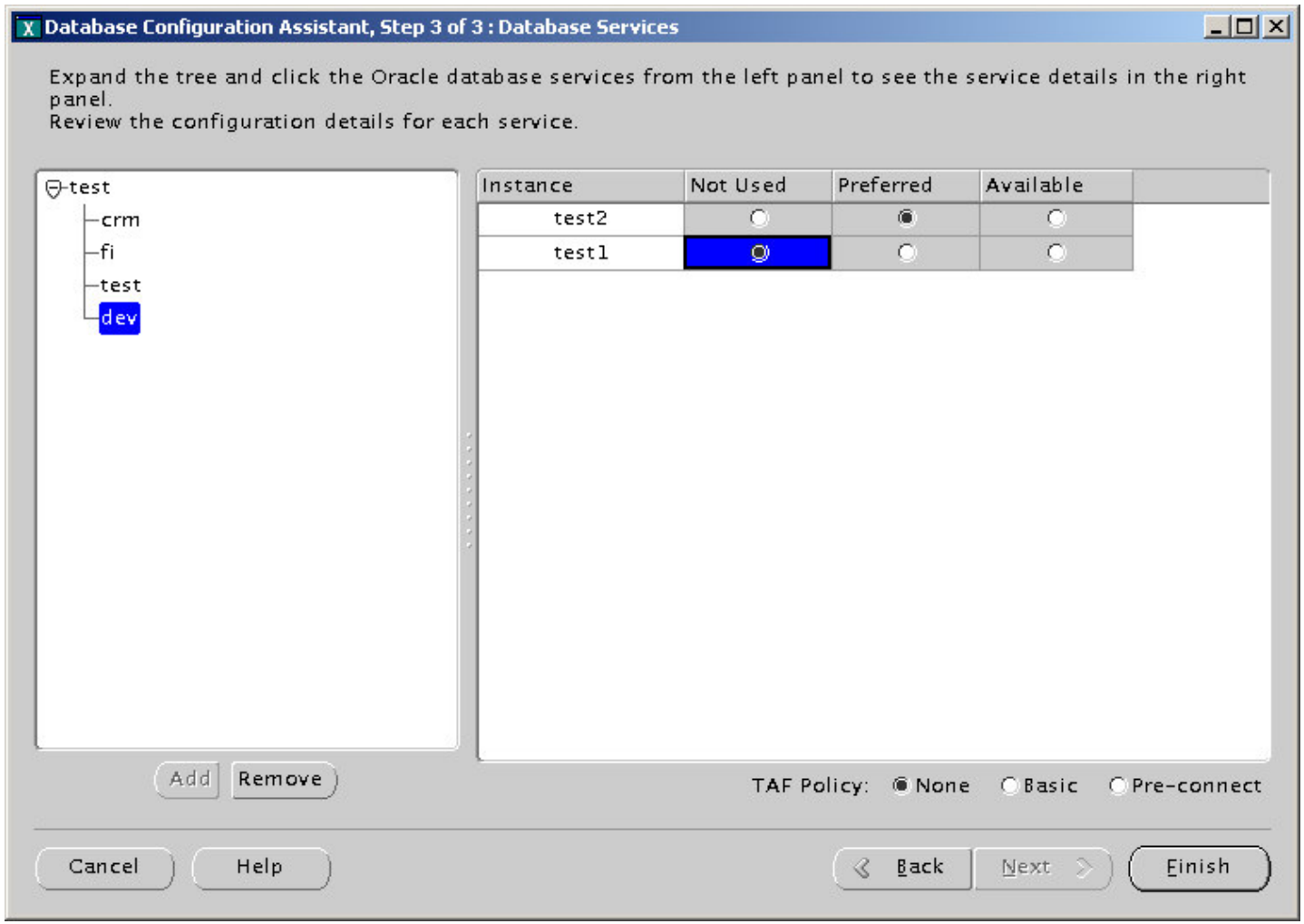
Technology Enablers for Utility / Grid Computing





- Modular industry standard building blocks
- Reduced complexity- virtualization/utilization
- Automated manageability

Technology Enablers for Utility: 10g RAC Services



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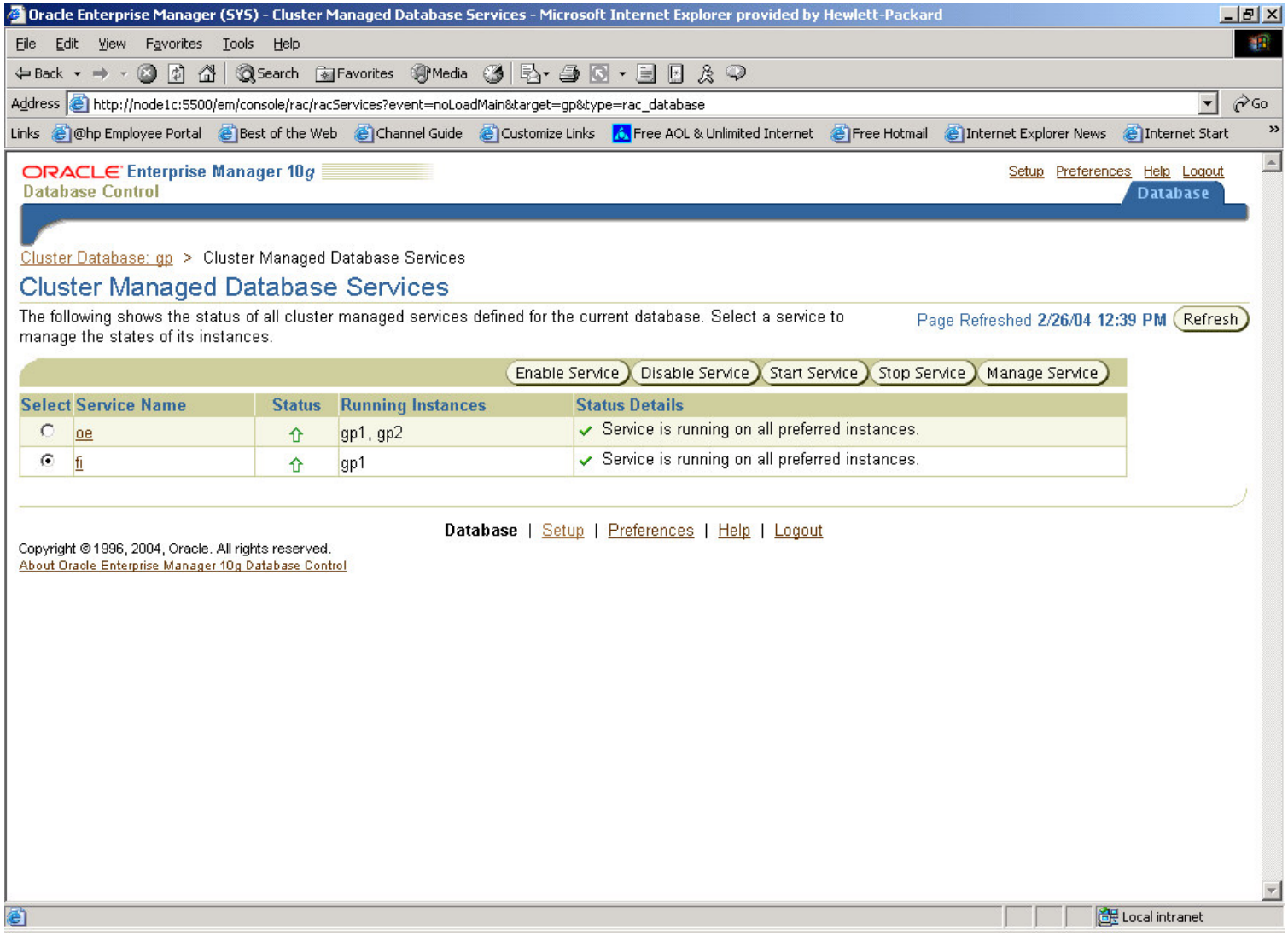
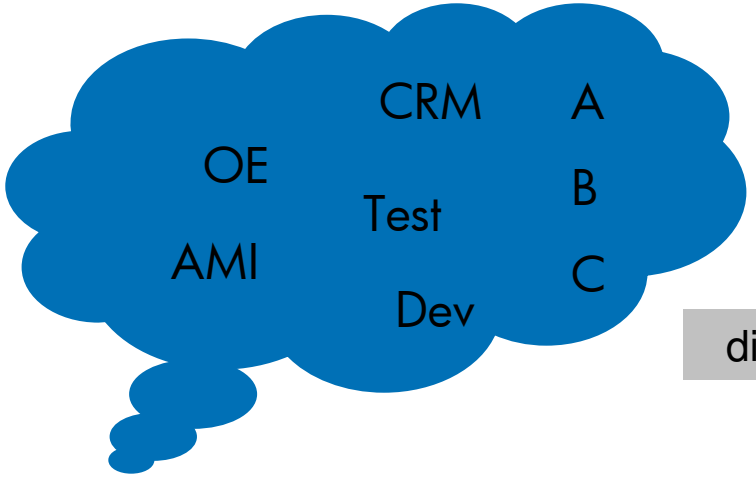


Technology Enablers for Utility: 10g RAC Services



Customer Applications

different service names

Database Server

Move services from one instance to another according to required resources

Shared Storage

6 node 10g RAC Cluster

10g Automated Storage Management

DBA Storage Challenges

10g

- Databases are rapidly growing in size
  - DBAs have to manage thousands of data files
- Decreasing windows of scheduled downtime
- Storage resources involve many organizations
  - Database Admin
  - Systems Admin
  - Storage Admin
  - Network Admin
- Management of database storage is increasing in complexity and cost

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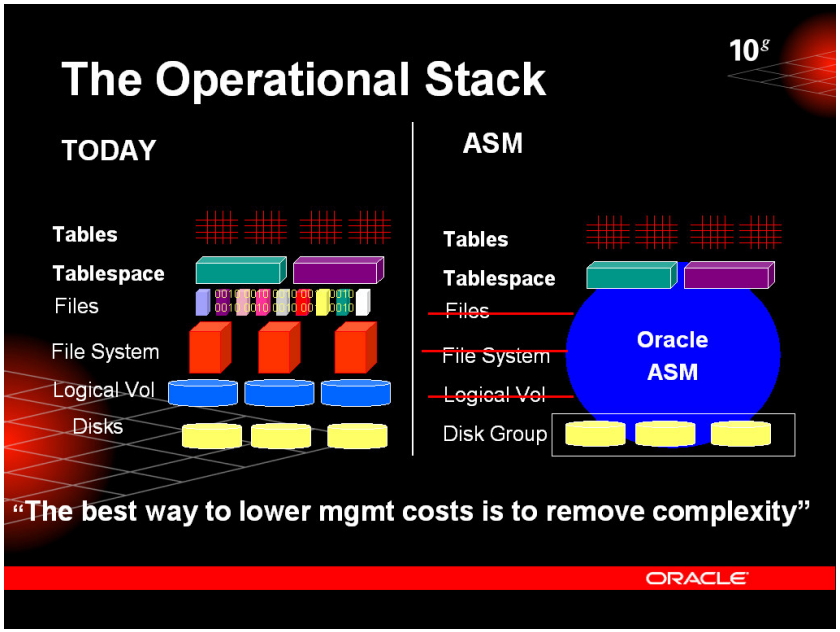
The Operational Stack

10g



"The best way to lower mgmt costs is to remove complexity"

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Are we Competing or are we good friends?

Utility Computing / Virtualization

HP and Oracle share a vision of a fully virtualized infrastructure

HP

- The HP Utility Data Center (UDC) provides a wire once, fully virtualized infrastructure
- HP is the multi-platform infrastructure, blades, and price/performance leader for Oracle environments
- HP has the most complete infrastructure solutions required for any virtualized enterprise grid environment
- HP's storage and management software is optimized for Oracle environments
- HP MC Service Guard and Cluster Extensions for Oracle

On Demand

HW / SW

Services

Tight Alignment

Clustering

Management

Oracle

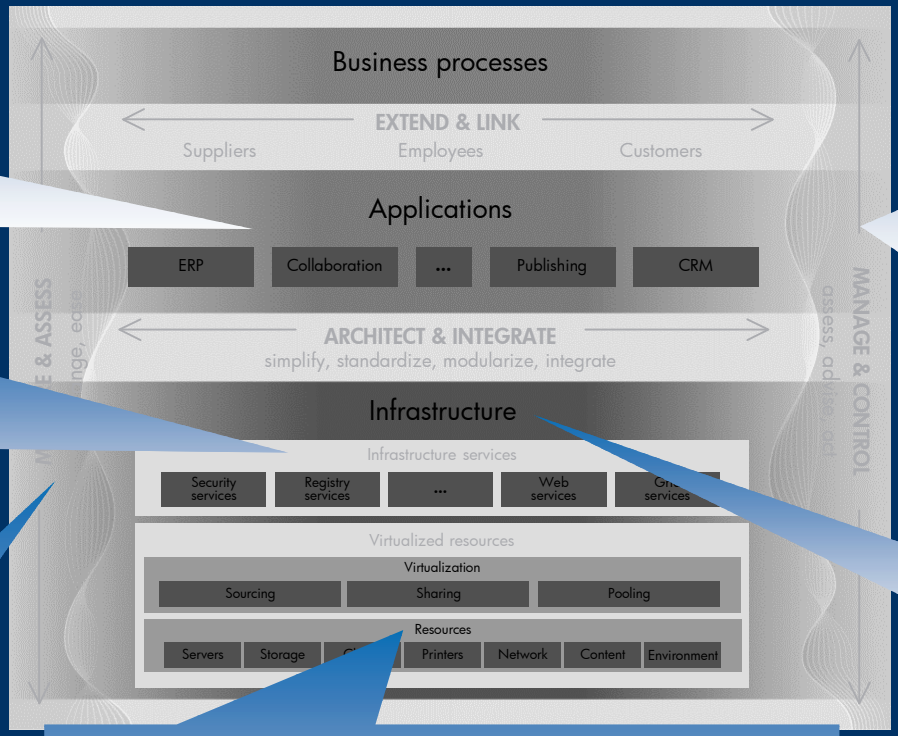
- Grid computing enables an organization to tie its business architecture, through service level agreements, to its IT architecture
- Oracle's Grid Computing strategy with Oracle 10*g* pools large numbers of servers and storage to act as a single large computer
- Oracle 10*g* provides standard services that interface with the computing infrastructure through common Web services
- Oracle Real Application Clusters is developed, optimized and tested on the HP platform

Oracle + HP
Joint customer solutions

- Oracle Application Server 10*g*
- Oracle E-Business Suite
- Oracle Collaboration Suite

- Oracle Database*
- Oracle Real Application Clusters*
- Clustering*
  - TruCluster
  - ServiceGuard e-RAC

- Enterprise services* leadership – availability, deployment, and performance services
- Joint Services



- Enterprise storage*
- Oracle Storage Compatibility Program (OSCP)
- ProLiant*
- Blades*
- Superdome*, Non-Stop
- OS*: UX, Linux, Windows, VMS
- Network components
- Itanium*

- Enterprise Management – HP OpenView*
- Oracle integration with HP OpenView
- Oracle Enterprise Mgmt Solution

- Utility Data Center*
- ProLiant Essentials
- Workload Manager
- Oracle integration into the UDC

*Industry leadership

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Enabling a new enterprise architecture TODAY

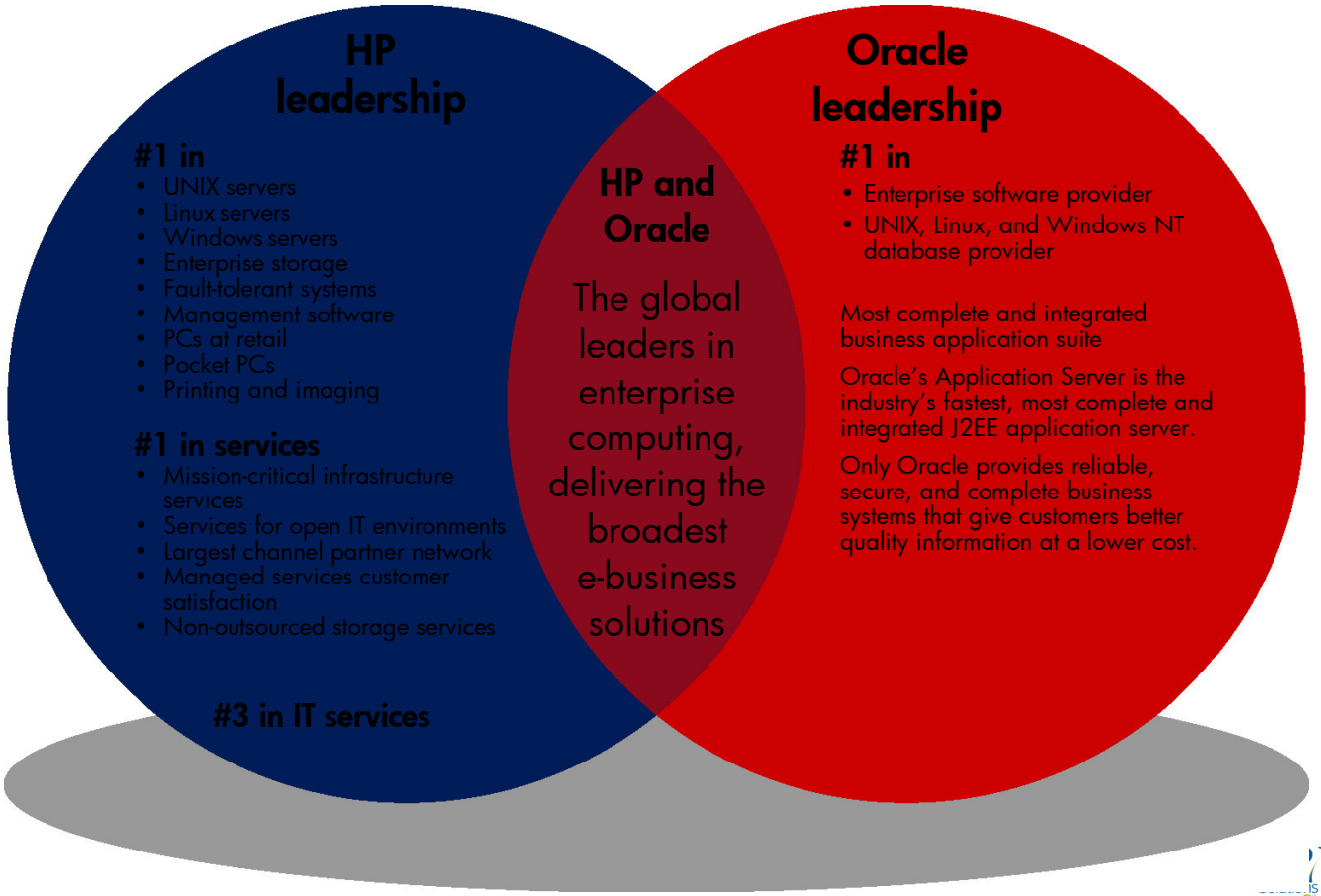
HP and Oracle : THE platform for managing change

- Eliminate vertical islands of automation
- Embrace heterogeneity and legacy IT environments
- Use automation to scale and reduce complexity
- Virtualize all your IT assets
- Bring standardization to the entire IT environment
- Convert fixed costs to variable costs

HP/Oracle industry leadership

HP/Oracle industry leadership

A 20+ year partnership aligned to deliver industry-leading, adaptive e-business enterprise computing solutions worldwide



Summary

The Adaptive Enterprise is a global approach with a goal of introducing more flexibility, better service at a lowered cost

Hp has server, network, and SAN infrastructure together with integrated software deployment and management tools to concretise the Adaptive Enterprise vision

Oracle's virtualization of application services fits perfectly into this vision. Oracle 10g meshes completely into the Adaptive Enterprise vision

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