

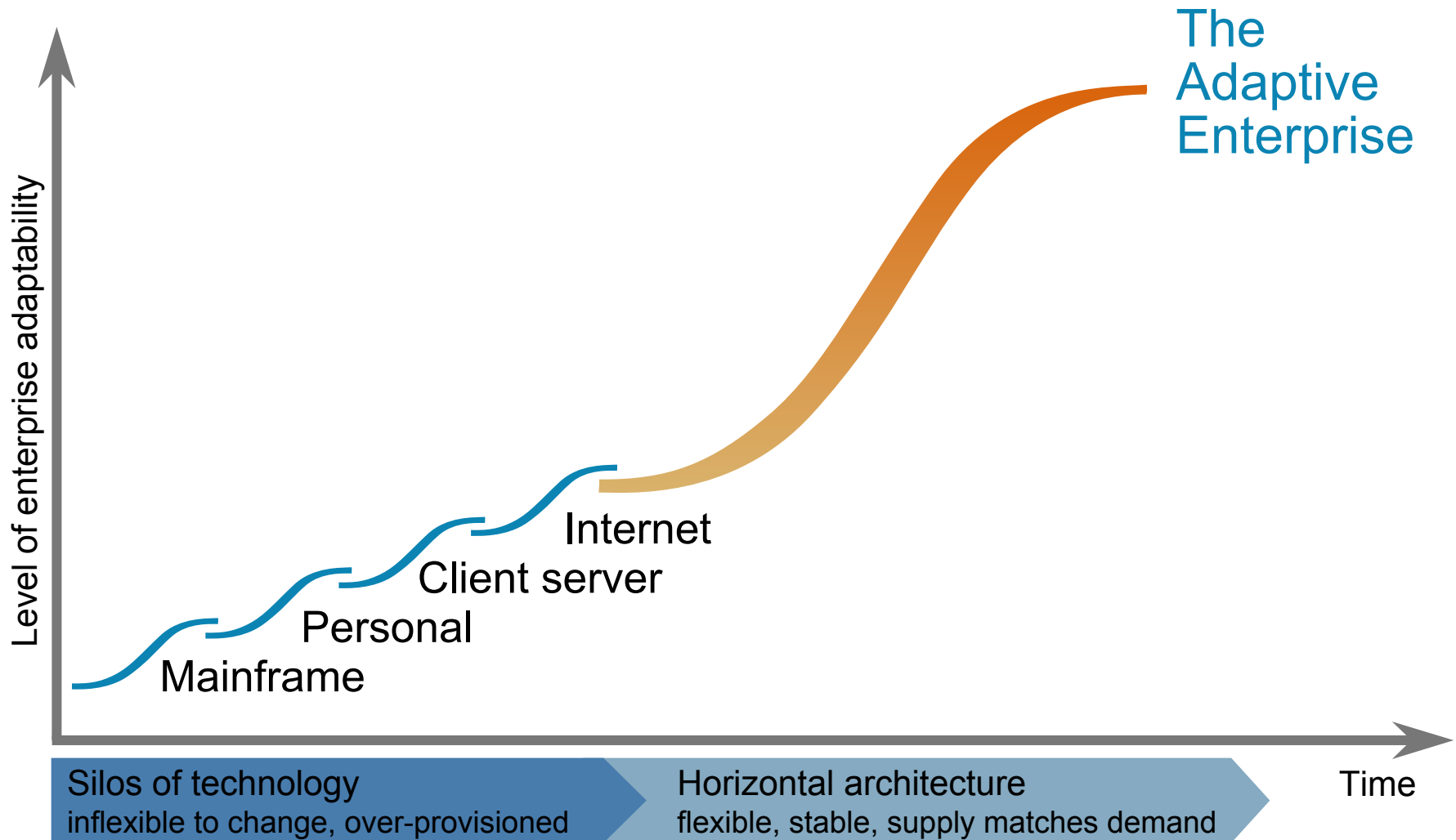
# **Virtualizing the Data Center, from Blades to UDC**

**Nick van der Zweep**

Director  
Utility Computing



# Business needs demand a new model of computing



# Virtualization enables the Adaptive Enterprise

- Pay for what you use
- Share virtual resources



**Result: IT shifts focus from boxes to services**

# HP first with On Demand solutions



*Initial offering launched in 1999*

Integrated products and services designed  
to deliver IT infrastructure resources...

when you need them  
where you need them  
with payment based on usage

## **Instant Capacity**

delivering immediate  
access to  
additional capacity

## **Metered Capacity**

paying for IT assets based  
on actual IT usage  
“dial-up and dial-down”

## **Managed Capacity**

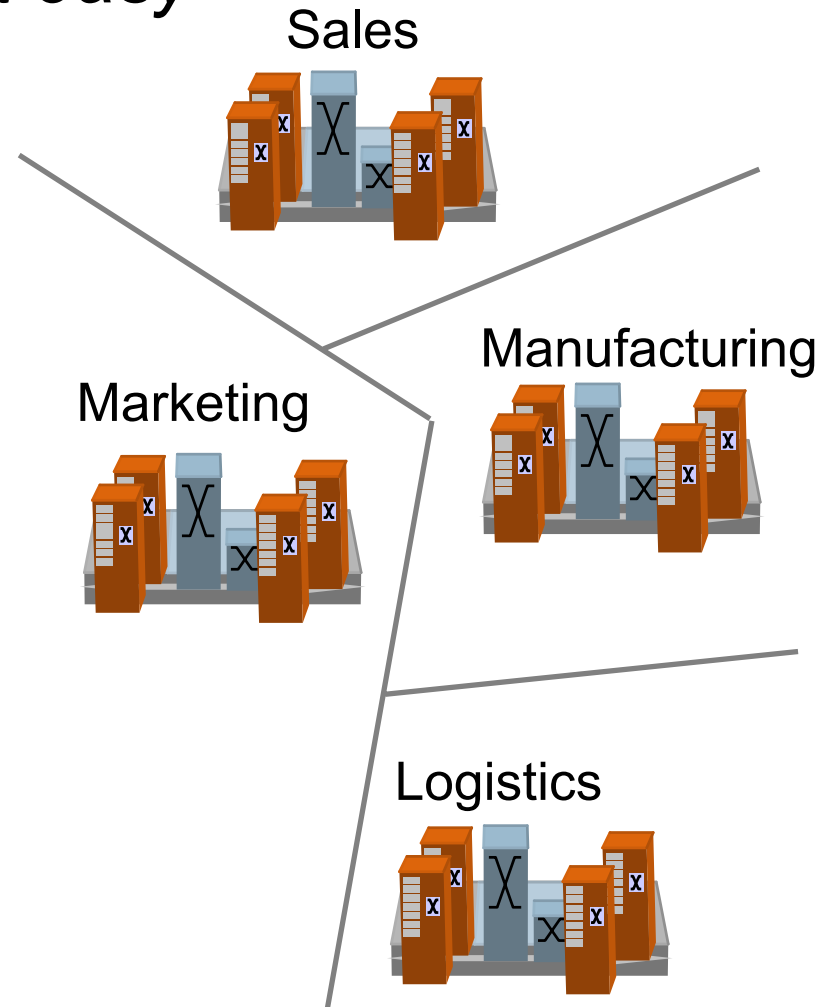
redirecting resources  
to other  
core competencies

*IT utility acquisition solutions for servers, storage,  
access devices, imaging & printing and messaging*

# "Traditional" IT infrastructure

*Complex, costly, change is not easy*

- IT features vs. IT economics
- Applications tied to platform
- Dedicated, application-specific development, test, production and disaster recovery environments
- Each environment sized for expected peak load, little or no resource sharing



# Virtualization – driving RoIT

*Solutions that enable companies to...*

Manage costs

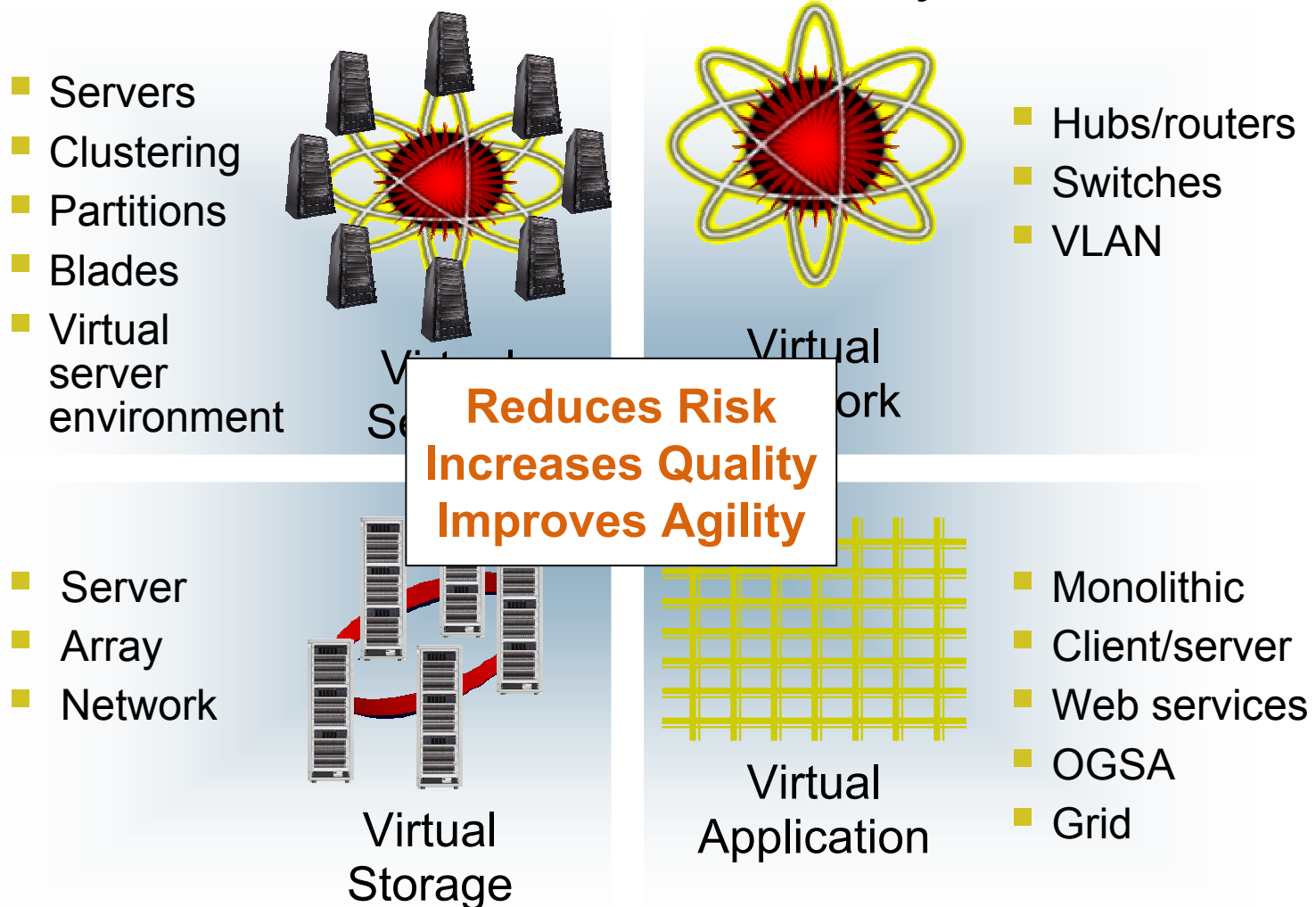
- Increase quality
- Mitigate risk
- Improve agility

Ideal  
Computing



# Virtualization leadership in the Data Center

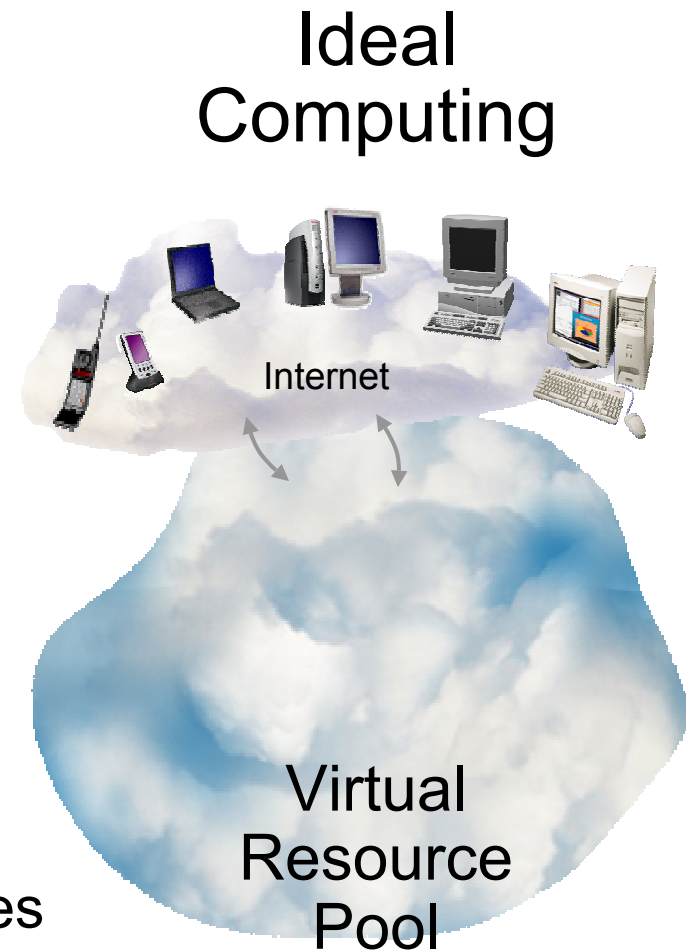
*Focus on services, share resources, Pay Per Use*





# Virtualization – HP delivers leadership solutions

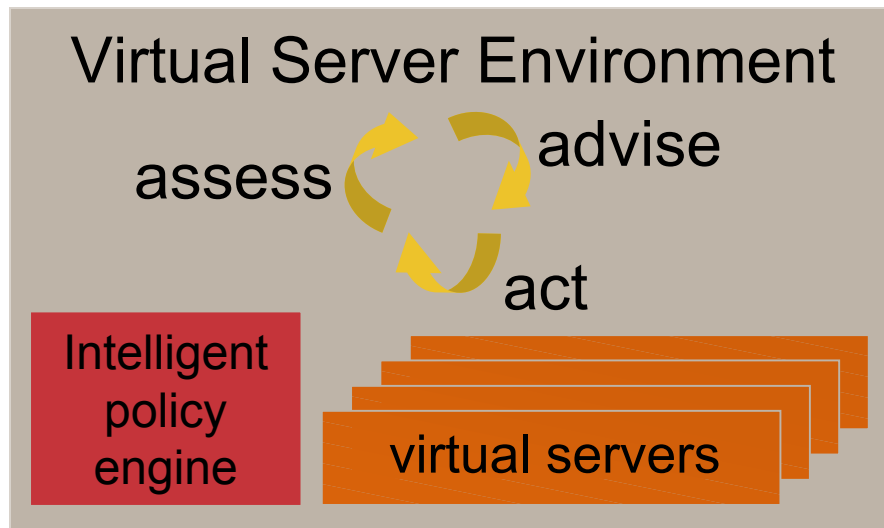
- Shipped over 10,000 Capacity On Demand solutions
- Shipped over 20,000 Blade servers
  - Shipped over 50,000 Rapid Deployment Pack licenses
- Sold over 6,000 vPar licenses
- Shipped over 8,000 storage virtualization products
- Virtual Server Environment
  - Over 65,000 Workload Management and 70,000 Serviceguard licenses
- Procurve and Cisco VLAN capabilities
- BEA, Oracle, GRID





# HP Virtual Server Environment for HP-UX

*Built on the only UNIX goal-based policy engine*



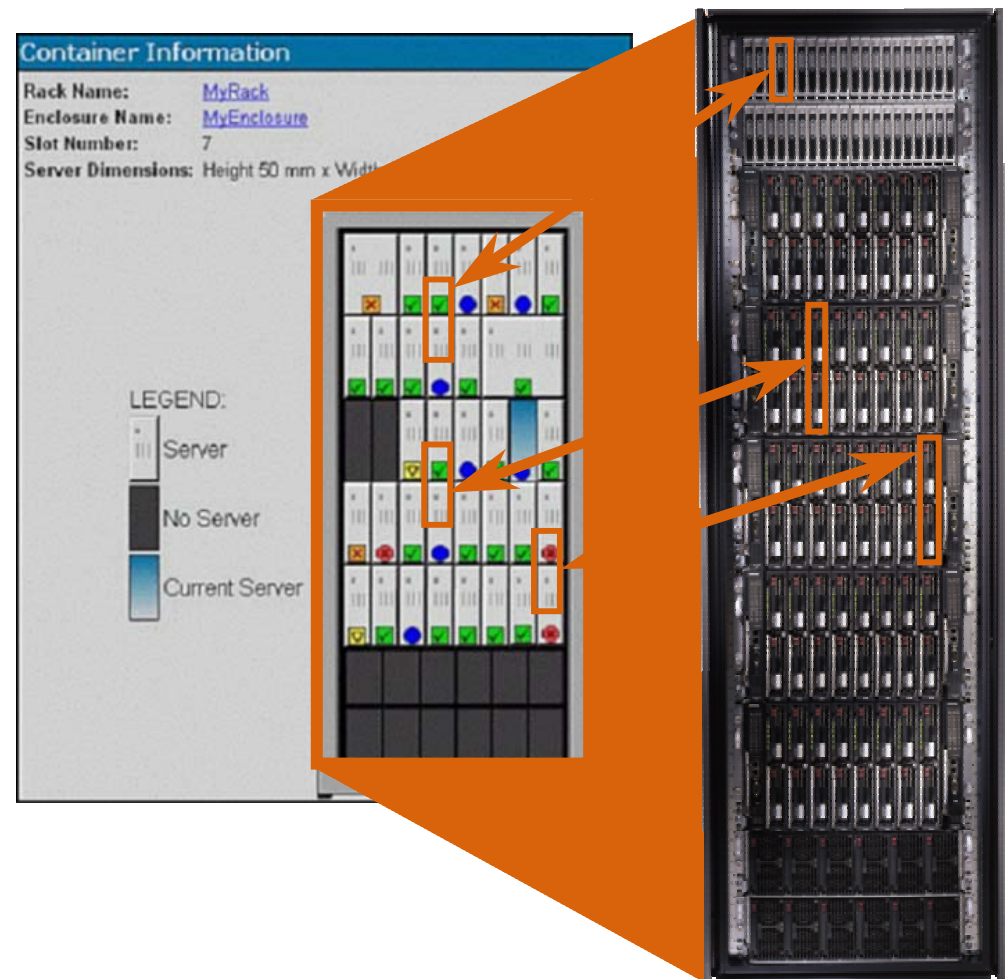
**Expands and shrinks  
virtual servers in real time  
based on business  
priorities**

- Better RoIT through optimized resource utilization
- Increased business agility through the capability to allocate resources on the fly
- Highest quality of service through continuous real time assessment, advice and action

# ProLiant BL Blade infrastructures

## *Scale-out capacity without scaling complexity*

- Deployment, provisioning, re-provisioning and re-allocation, can be achieved on-the-fly, according to business objectives
- Plug and play to add more capacity or replacements without re-cabling
- Drag and drop re-provisioning for ultimate optimization
- Integrated remote control and automated deployment cut overall costs



# HP industry-leading Virtual Storage solutions

## Server-based

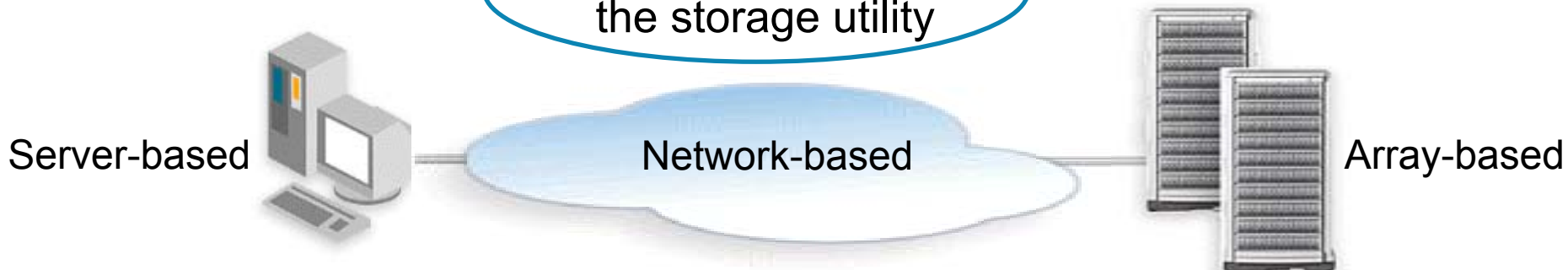
- Virtualize capacity across heterogeneous arrays, scaling to the arrays' capacity
- Benefits single server/ single cluster environments
- Intelligence resides on the host

## Network-based

- Virtualize capacity from any array, for any host on the network
- Benefits heterogeneous environments
- Intelligence resides in the network
- Prerequisite of the storage utility

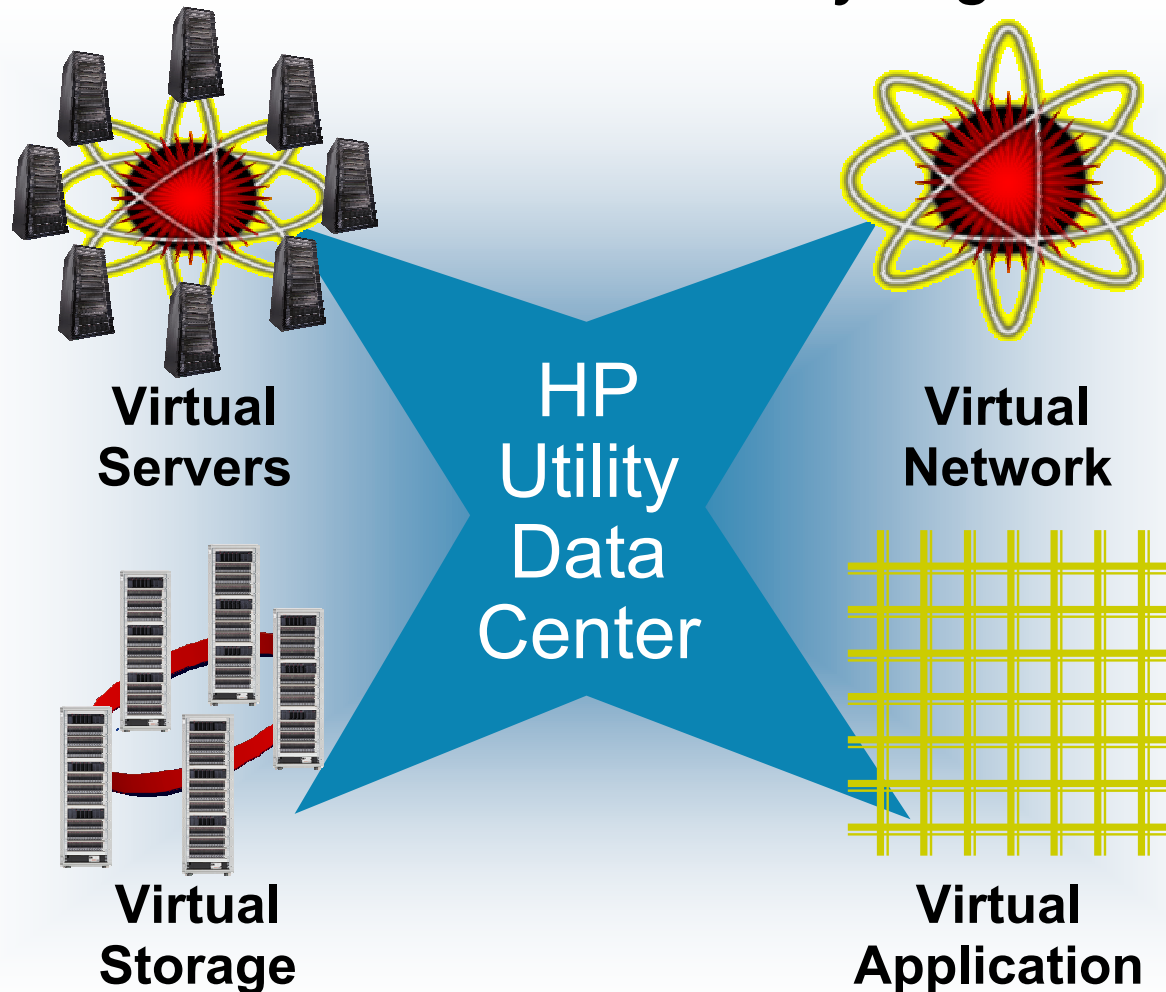
## Array-based

- Virtualize capacity in a single array, scaling to the array's capacity
- Benefits heterogeneous hosts/single array environments
- Intelligence resides in the array controller



# Virtualization leadership

*Bringing the economics of IT Utility together*



# An industry first: HP Utility Data Center

## Wire once

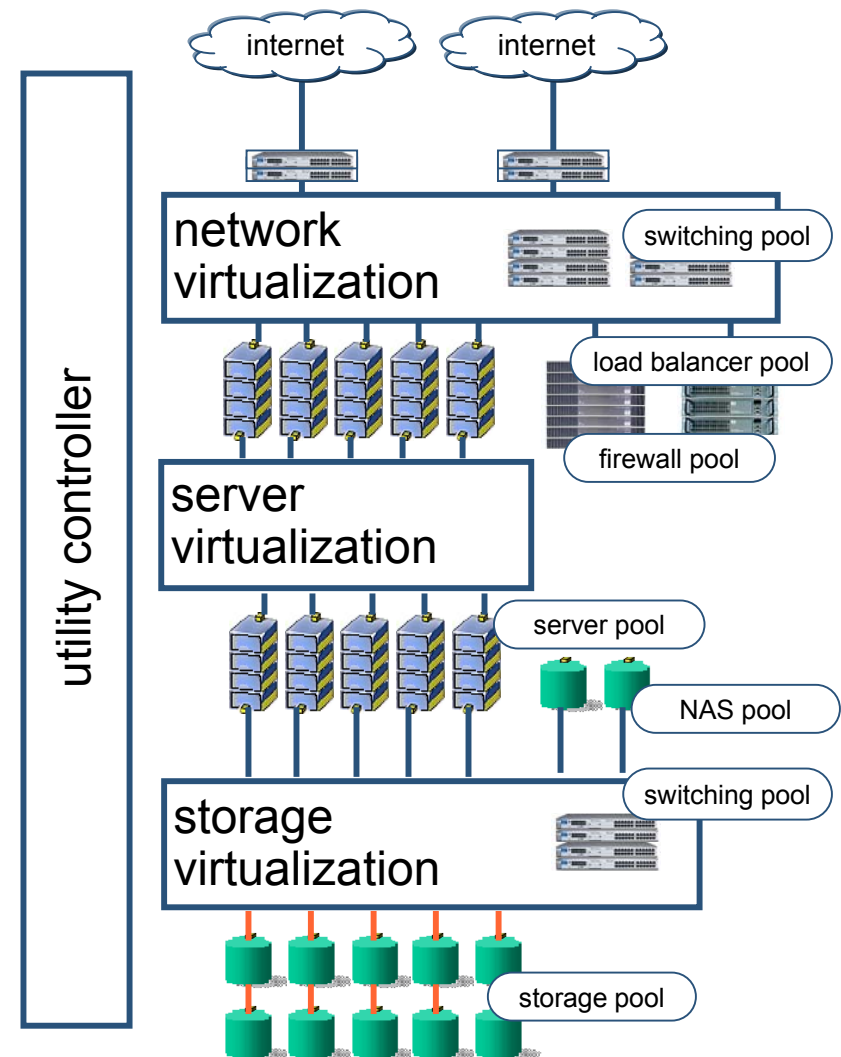
Network, storage, and server components wired once

## Virtualized asset pool

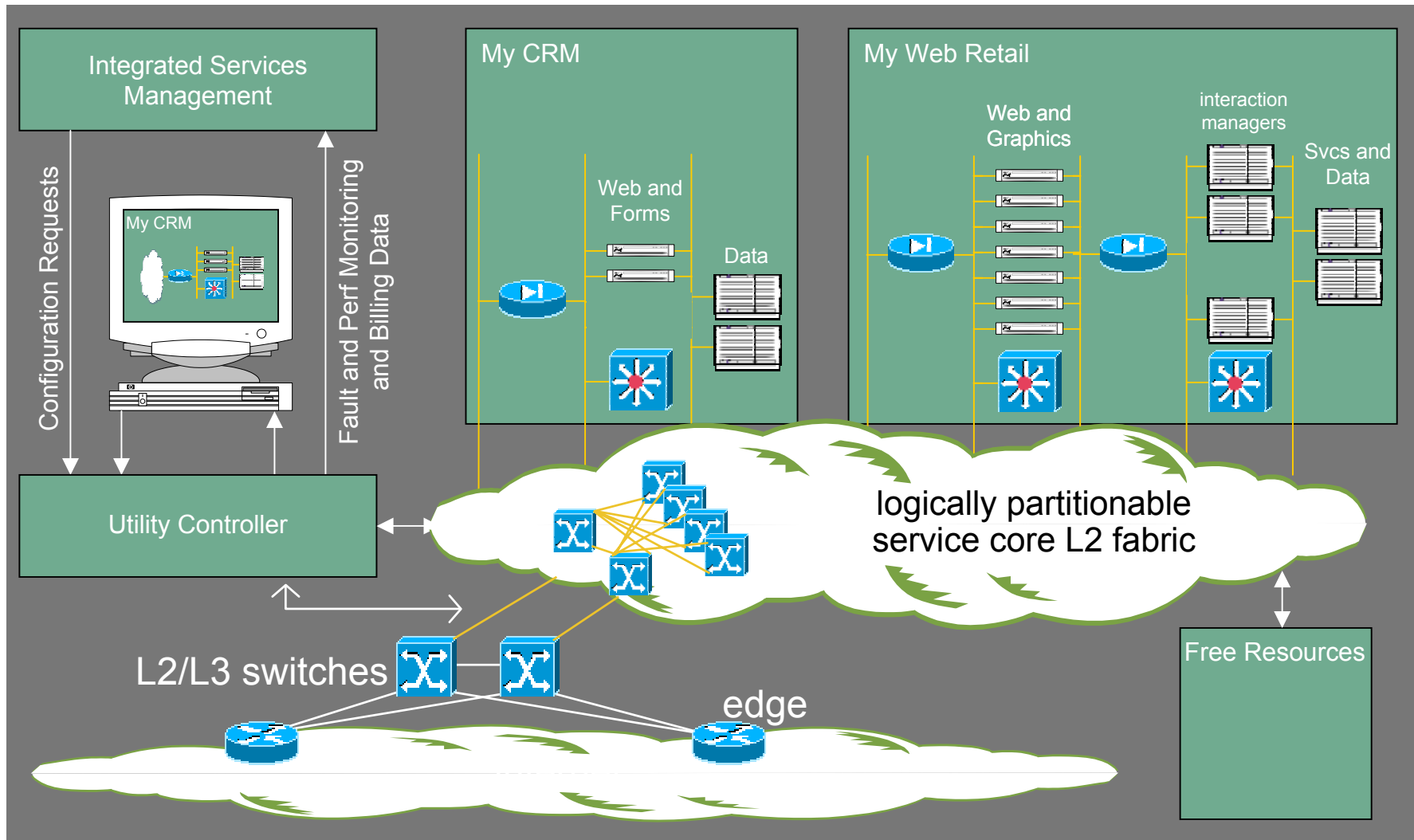
Components can be allocated and reallocated many times

## Easily reconfigure

Simple user interface allows administrators to architect and activate new systems using available resources



# HP Utility Data Center in action

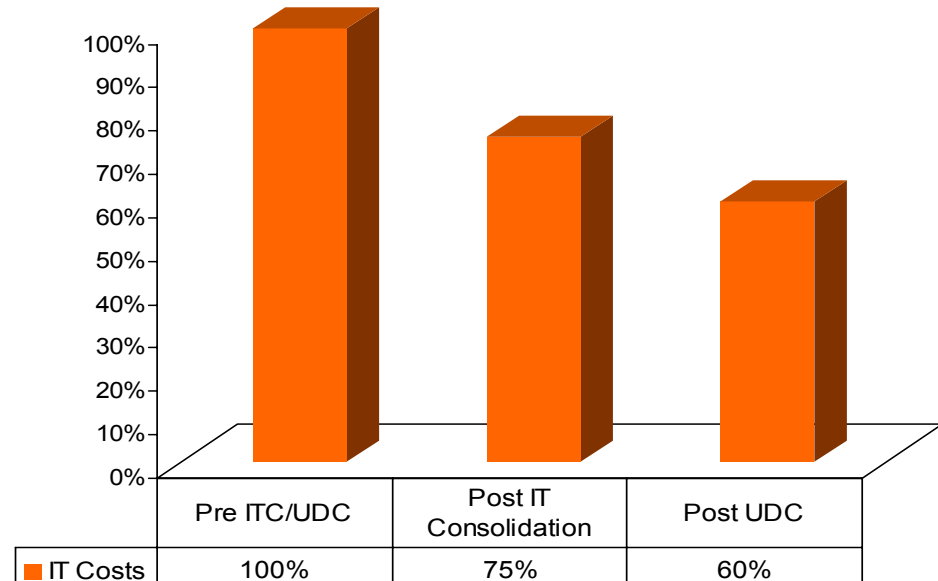




# IT Consolidation and UDC Implementation

*Saves customers 40% on average of overall IT budget*

- Bottom-line IT cost savings only
- Does not reflect agility benefits



*Cost benefits achieved through...*

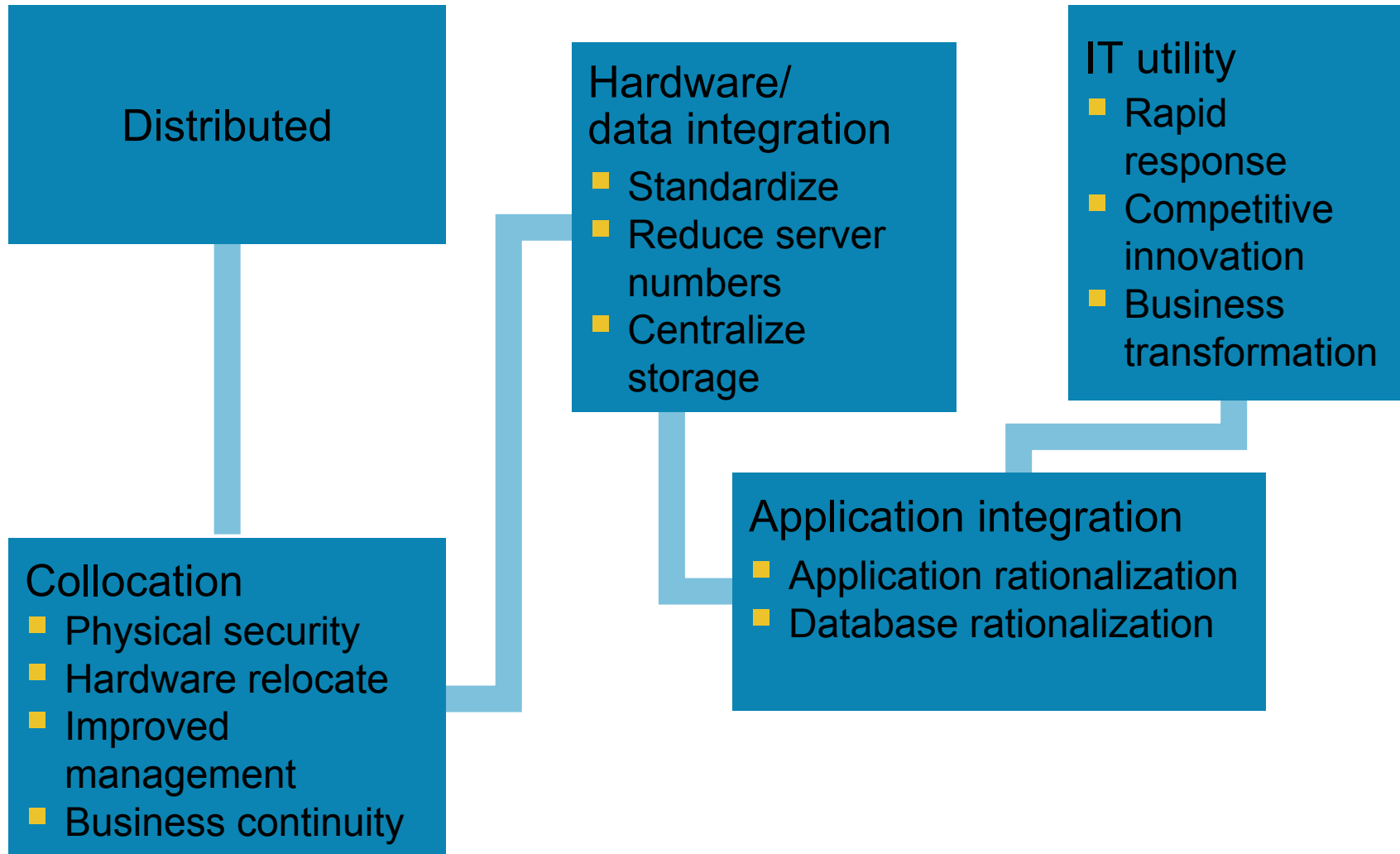
Provisioning  
and operational  
economies

Asset utilization  
economies

Upgrade  
and migration  
economies

Metering  
economies

# Readying for the IT Utility: The IT Consolidation journey



# Customer success: IT Consolidation

## Situation

- Multiple SAP instances
- Multiple data centers in multiple countries
- Strategic focus on integrated operations
- Out of date infrastructure



## Solution

- Stage 1
  - **Collocation**
  - Eastern and Western European sites
- Stage 2
  - **Hardware/data consolidation**
  - 25 HP/UX and 35 ProLiant Servers
  - 80 Terabytes of HP Storage
  - OpenView
  - HP Enterprise disaster recovery solution
  - **Application integration**
  - SAP.com and related applications
  - **IT Utility**
  - HP Managed Services

## IT economics

- Substantial cost savings
- Improved service levels
- Flexible, integrated, secure operations

# Customer success: IT Consolidation, OpenView, Services



## *Virtual server environment with the On Demand Pay Per Use model*

### Situation

- Needed to absolutely reduce cost and complexity
- Needed to maintain competitive edge
- Needed to accommodate rapid workload growth with little to no notice



### Solution

- Consolidation of 17 servers to 4 pay per use, Superdomes with partitions
- HPS' consulting and critical systems support
- HP OpenView for network management and systems management solutions

### Results

- Solution has sufficient reserve capacity to accommodate volatility spikes and is only paid for when used
- Saving \$3.3 million over three years due to simpler, adaptive environment
- 50-100% improvement in applications performance

# Customer success: Virtualization

*Relies on virtualized HP ProLiant BL blade infrastructure to extend enterprise-class services at lower costs to small and mid-size firms*

## Requirements

- Support zero-downtime Service Level Agreements
- Automate deployment, provisioning and recovery
- Enable remote control of servers to minimize on-site activity
- Improve utilization of systems and IT staff

## Results

- “Fast, reliable processors are important, but it is the system-management software that distinguishes HP ProLiant BL servers,”
- “HP Insight Manager, HP OpenView, and ProLiant Essentials software are critical tools in our management strategy.”
- “With this solution, we can deploy and configure HP ProLiant blades in 15 minutes or less to meet our customer’s demands.”



**Chief Technology Officer  
Dr. Glenn Ricart,  
CenterBeam, Inc.**

# Customer success: HP Utility Data Center

“By using the UDC (Utility Data Center), we have met all of our internal challenges and it gave us the ability to sell excess capacity to our external customers.”



***Kevin Dann***  
***European Computer Systems Manager***  
***MSX International, October 2002***



# Customer success: New HP Services win, UDC

Deal size: **\$3 billion**

Duration: **10 year term**

People transfer: **1,850 employees in 50 countries**

Scope: Global geography, **160+ countries**

Environment and services:

- Distributed, multi-vendor platform
- IT infrastructure
- Data center operations
- Desktop and end-user support
- Network management
- Applications development and maintenance (ADM)





Interex, Encompass and HP bring you a powerful new HP World.

