

Aug 2005



EDS Data Center Services

Virtual Server Services

Today's IT Challenges

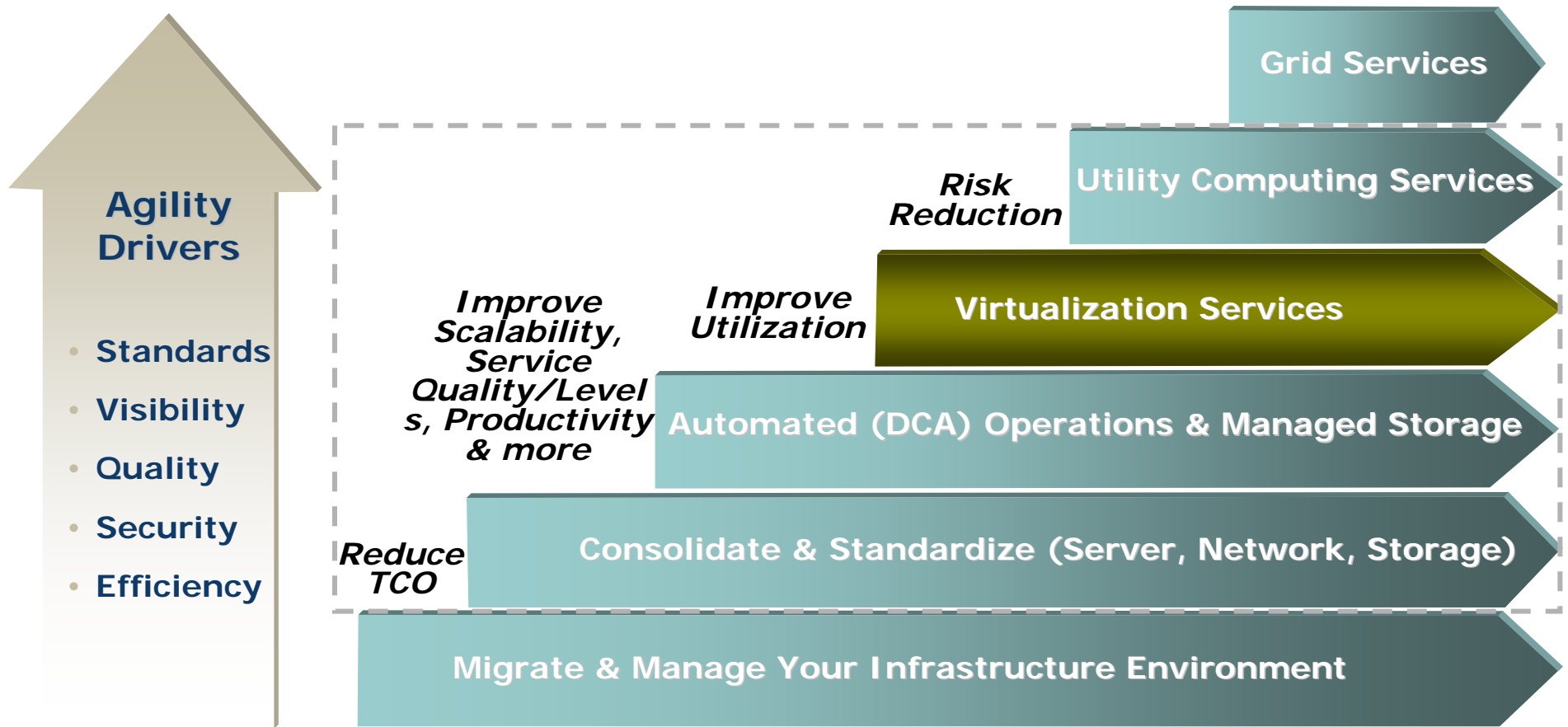
A Few of Today's IT Challenges...



- Multiple management systems – rather than one integrated system
- Poor linkage between IT costs and their business drivers
- Lack standardization and consistency in implementation, configuration and ongoing management of systems
- Servers are grossly over-provisioned and under-utilized – due to “worst-case” workload planning
- Provisioning new servers, storage and networking takes too long
- System changes are typically handled manually (increasing likelihood of human error) and resulting in outages
- Long delays between change request initiation and actual operational change
- Downtime windows are too narrow and over-subscribed with maintenance activities
- Ineffective patch rollout methods hinder application functionality and performance.

Meeting Clients' Business Needs

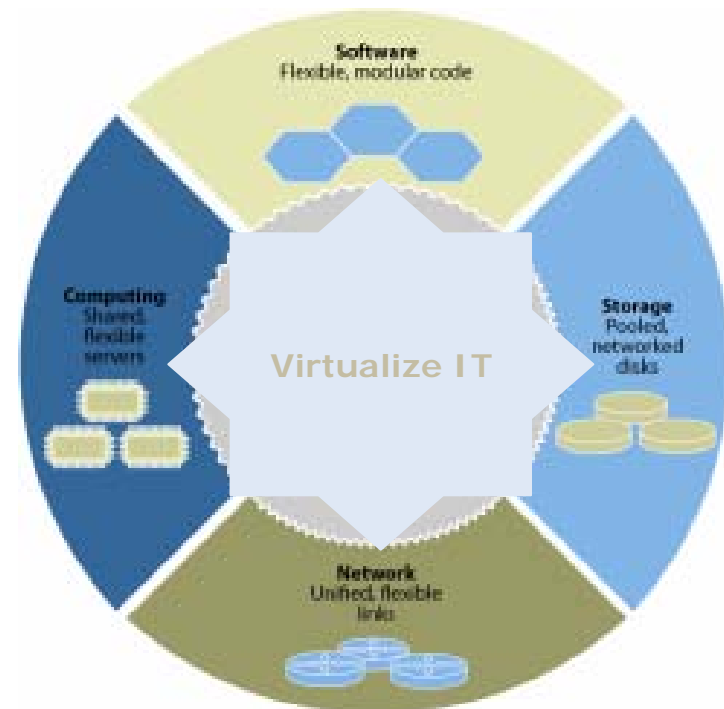
Various service delivery models are available to clients...



What Is Virtualization?

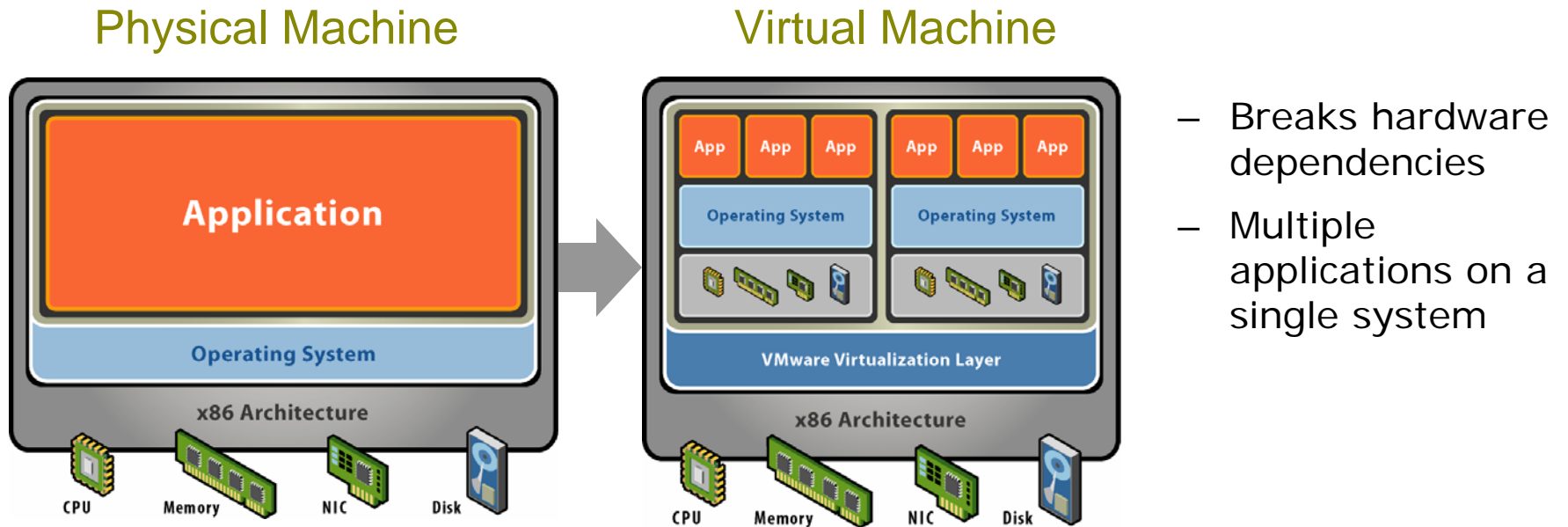
It's meaning throughout the industry...

- Defined as...*divisions of IT infrastructure into multiple, logical environments that are abstracted from the physical resources.*
- Virtualization can occur at different layers...
 - Storage virtualization
 - Network virtualization
 - Server/OS virtualization
 - Application virtualization
- Different layers require different virtualization technologies and approaches
 - Sun, EMC, Cisco, Microsoft, Dell, Candra, Internap, HP, Intel, Inkra, IBM, Proficient Networks and others.



The Foundation of Virtualization

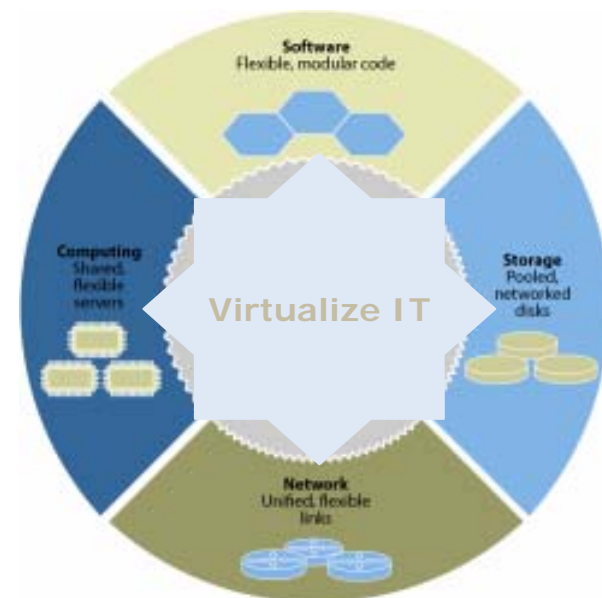
Virtualization takes an application and its operating system and wraps them into a transportable virtual machine



Virtualization as Solution

It's meaning throughout the industry...

- Many meanings
- Discussed frequently, dropped in most presentations on utility computing
- Still emerging – client perceptions and expectations evolving
- Defined as...*divisions of IT infrastructure into multiple, logical environments that are abstracted from the physical resources.*
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Opportunities - What Customers Are Deploying

How enterprises are using virtualization...

- Server consolidation
- Legacy application migration
- Improved application and data security
- Improved disaster recovery
- Streamlined development, testing and migration issues
- Clustering for high availability
- Fault tolerance
- Application scale-out and consolidation
- Reduction of server/OS maintenance downtime
- Rapid provisioning and deployment of new services
- Composed workloads



Virtualization at EDS - Virtual Server Services (VSS)

What it means to us

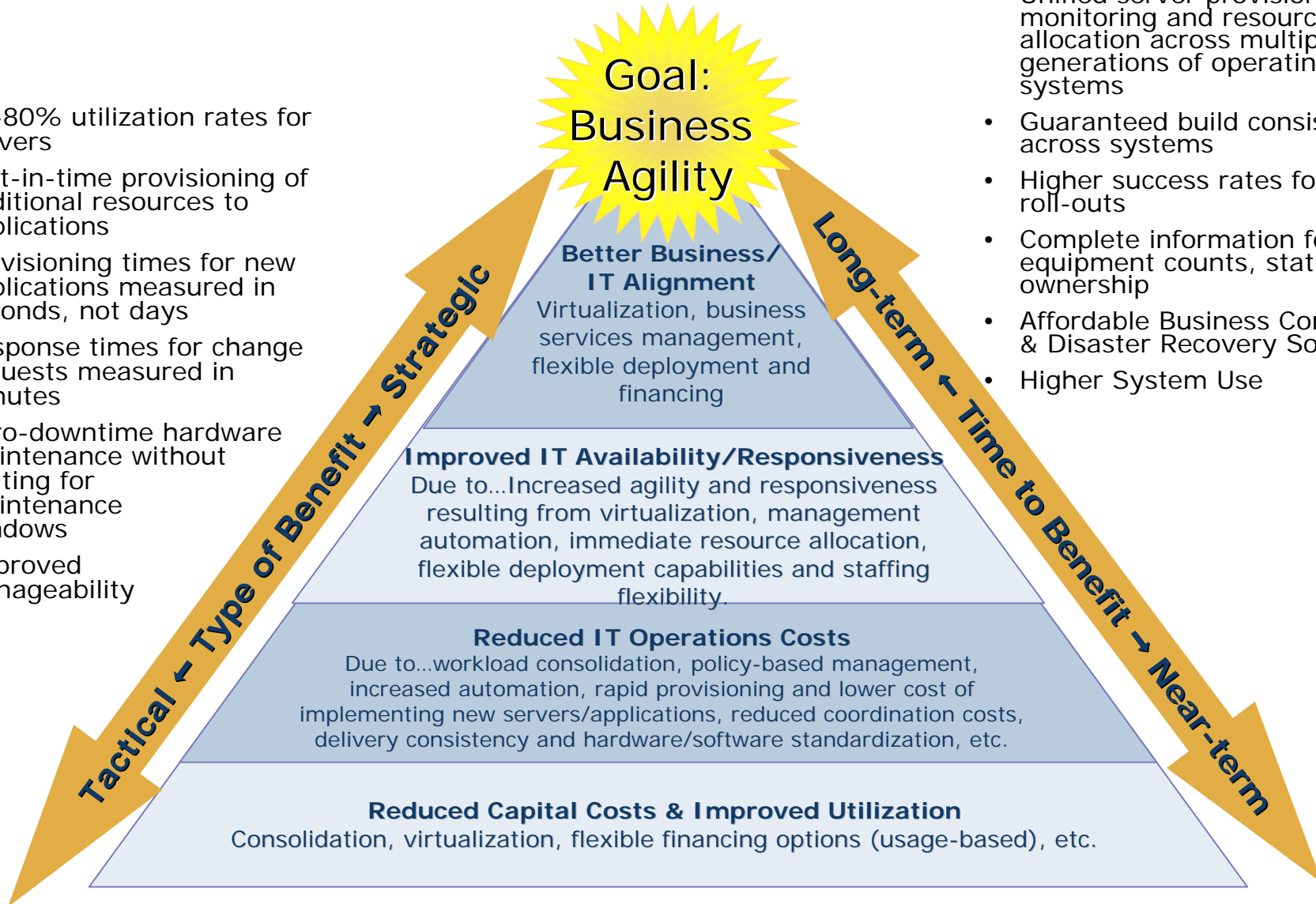
- VSS is a “**services-based solution**”
- Virtualization can be thought of as “*the dynamic pooling of heterogeneous compute, storage and network resources*”
- **A cornerstone capability in the delivery of utility computing**, data center automation and grid services
- **Delivered** in conjunction **with Agility Alliance Partners**
- Current release **focused on “Private Managed Utilities”**
- Future releases focus on “Shared Managed Utility” and “Public Managed Utility” models



What This Mean For Clients...

- 60-80% utilization rates for servers
- Just-in-time provisioning of additional resources to applications
- Provisioning times for new applications measured in seconds, not days
- Response times for change requests measured in minutes
- Zero-downtime hardware maintenance without waiting for maintenance windows
- Improved Manageability

- Unified server provisioning, monitoring and resource allocation across multiple generations of operating systems
- Guaranteed build consistency across systems
- Higher success rates for patch roll-outs
- Complete information for equipment counts, status and ownership
- Affordable Business Continuity & Disaster Recovery Solutions
- Higher System Use



Virtual Server Services - Delivering Client Value

An Innovative Mix of Technology and Services

- Positions the server environments for a smooth transition into a full on-demand shared infrastructure for managed utility services
- Supports business growth by scaling charges for resources up or down as the demand of business applications fluctuate
- Enables reductions to traditional IT server procurement process time frames when business grows or expands into new markets
- Delivers a solution with a flexible secure foundation of resource-sharing capabilities while eliminating cost-of-capital concerns using a capacity on-demand model
- Enables diversion of hardware capital expenses to operating budget, which converts fixed costs to variable costs
- Expands ability to map IT costs equitably across departmental budgets when sharing IT resources across departments
- Streamlines, and in some cases eliminates, time-consuming traditional IT procurement processes. This will improve time-to-market.

Reduced TCO

- Improved asset utilization through server virtualization
- Reduced server support cost through accompanying standardization and automation
- Reduced component costs

Improved Quality and Velocity

- Increased levels of scalability and availability
- Improved flexibility in server resource allocation
- Better visibility and linkage of IT and business resources usage through metering and chargeback

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