



Virtualization: Data Center Directions

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Agenda

- Transition of Data Centers from Physical Locations to Services Across Locations
 - Focus Moves Away From Platform Affinity to Heterogenous Units with Well-defined Interfaces
 - Impact of Change on Costing Models
 - Over to Kevin...
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Traditional Data Center Methods

- Typically bound to physically colocated services for specific applications or services
 - Focused on physical diversity and accommodation of managed server and storage solutions within a single organizational structure
 - Typically dominated by institutional monocultures, or a small genetic diversity of platforms and configurations
 - Implications/Issues:
 - RAS impacted by physical concentration of resources
 - Institutional monoculture architecture limits time-to-market and adaptability
 - Ebb and flow of business requirements create complex demands for technology solutions involving applications and infrastructure components.
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Migration

- Transitional structures emerging in previous 5-10 years
 - Outsourced solutions
 - Cooperative processing
 - Timesharing/Utility Purchases
 - Evolutionary designs begin with capturing existing requirements in frameworks of infrastructure and applications interacting as a single service image.
 - Management infrastructure is key to service-oriented architecture
- Areas of Concentration:
 - Facilities and Operational Management
 - TTM/TTD/SLAs
 - Personnel
 - TCO
 - Elimination of Monoculture
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Evolutionary Data Center

- Focus on Service Access Points, not Physical Access
 - Services combine platforms and services to deliver tools with clear APIs and UIs
 - Breaking the Vendor Locks
 - Open source gains a place
 - Non-vendor services increasingly competitive
 - Platform-neutral technology dominating
 - C/Java/Linux/EJB
 - Messaging Architectures/Grid
 - Network and Systems Equality
 - Access points to services defined as network APIs
 - Services commonly distributed across physically diverse locations
 - Management often not colocated with services
 - Business impact as a cabinet/Cx0 responsibility
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Affinity and Convergence

- While applications may have affinities for certain vendors and OSEs, affinity is no longer a justification for strategic direction.
 - Evolution of connectivity solutions and storage solutions converge toward culture of managed common infrastructure
 - Producer/consumer interplay at demarc
 - Convergence also implies common utilization measures
 - Convergence of technologies and services APIs drive more commonality in infrastructure components
 - Heterogeneous systems bound together by common APIs and common infrastructure dominate
 - Deployment time and management of dynamic reaction to demand dominate
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Role of Outsourcing and In-sourcing

- Recent downturn folded services back into the organization, typically outsourcing specific tasks rather than full operations
 - Investment first in people and architecture, not machines and technology
 - Service point approach allows effective choice
 - Virtualization leverages existing demands and investments
 - Buy-as-you-need model adapts well to out-tasking
 - Service by unit
 - Service by locality
 - Service by function
 - “Deploy-on-Demand”
 - Larger role for corporate internal knowledge
 - Capsulizing and packaging key to virtual environment
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Costing Models Focus on Full-Cycle

- Focus is no longer on hardware/software costing alone
 - Recent shift to value/unit to compensate for lost revenue focus
 - Microsoft
 - Sun
 - Oracle
- People and Facilities dominate costing over time
- Virtualization optimizes for personnel and facilities
 - Interaction with services is identical with discrete model
 - Leverage in TTM/TTD components based on common resources
- Overall IT costing models under far more detailed scrutiny in commodity environment

Evolution: Back to the Future?

- Key topics in review:
 - Separation of physical servers from “services”
 - Overall consolidation of components and techniques to deliver clearly demarcated services
 - Single-source solutions decay; choices are key.
 - The flexible survive.

- Cost vs Agility
- SLAs
- RAS

It's back to the future
all over again....
