



Winning the War on Dedicated Environments: Battle Scars from Pushing Virtualization Technology to the Limit

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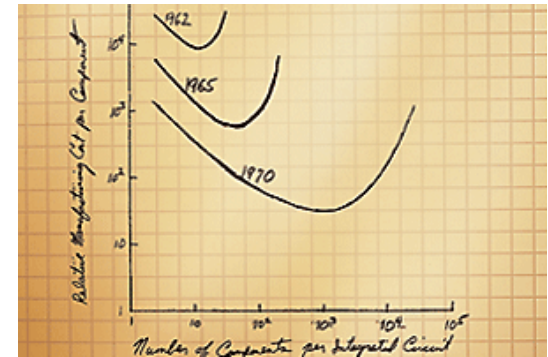
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Agenda

- Current IT Trends and Challenges
- Proposed Solutions
- The Paradigm Shift
- New Challenges

Trends in the Data Center

- Moore's Law Continues Unabated
 - Scheduled 8x increase in CPU capability in next 2 years
 - Technology capability surpasses propensity to consume



- Interrelationship between Power and Cooling
 - Required amounts increasing
 - Costs increasing
- Ongoing Desire to Reduce Labor Costs and Increase Speed to Implement

Current Use of a Server

- 5 yr. old hardware - 10% utilized
- Current hardware - 2-5% utilized
- Future Hardware - <1% utilized

Current Use of Storage

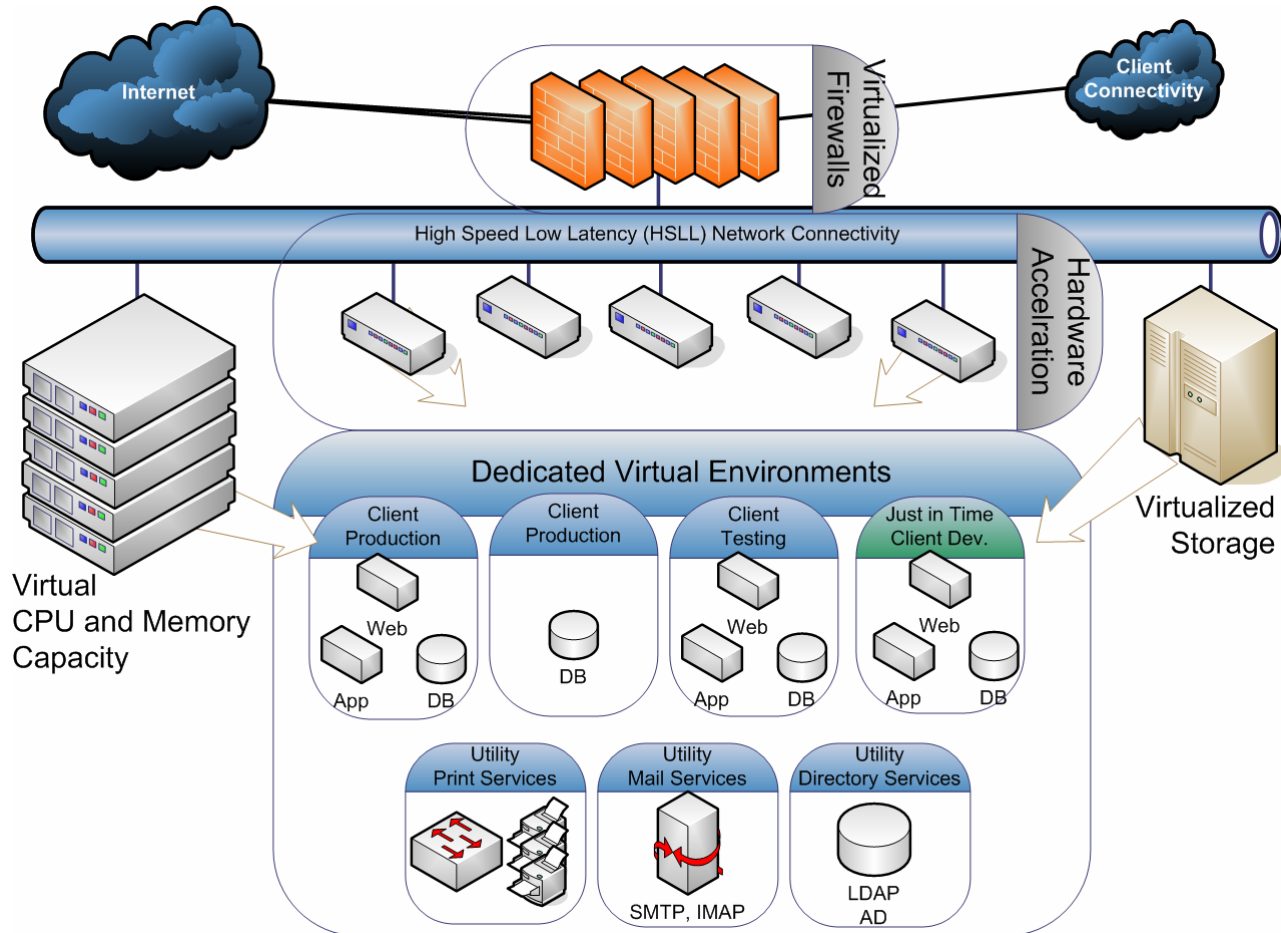
- Under 50% Utilized

Options

- Consolidation
 - Pile-on software instances from many to one server
 - Virtualize!
- Outsource



USiPinnacle Solution

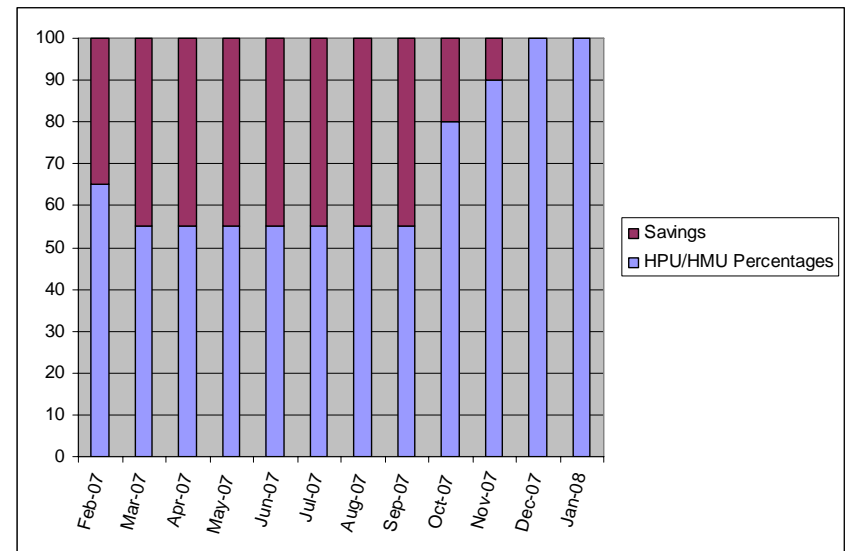


Benefits of a Virtualized Environment

- Virtualization: Abstraction for Agility and Allocation
 - Agility
 - More easily leverage homogeneous hardware
 - Speed to implement increases
 - Reduced cost and effort to maintain redundancy and availability; no more HA clusters
 - Allocation
 - High asset utilization
 - Delivers on on-demand, right-sized solution vision
 - scale up and down solutions
- Has Revolutionized our Labs, Certification of Technology, and Rollout of new services
 - Testing without the up front expense and time procuring systems

Results in Lower Price, Right-Sized solutions and Differentiated SLAs for our clients

- Reduced Price from 10% to 60% depending on solution
- Transitioning from 99.5% -> 99.9% availability SLA due to stability
- Working on
 - Performance SLAs now for processing
 - Process SLAs for on-demand delivery of solutions



Consider Virtualizing More Than Just Servers

- Known
 - Networks via VLANs
 - Servers via VMware, Xen, etc.
- Less well known with similar benefits
 - Storage
 - Firewalls

Paradigm Shift and New Challenges

- Transition to Virtual from Physical is confusing to some; others unwilling to change
- Requires
 - Capacity management
 - Performance capacity management
 - Load testing, tracking, forecasting, ...
 - Mindful of new boundaries to secure between environments

