

# Virtualization 2.0: The Next Phase in Customer Adoption



John Humphreys  
Program Vice President  
Enterprise Platforms, IDC

## State of Virtualization

- Server virtualization is now considered a **mainstream technology** among IT buyers
- IT professionals are **very bullish** on future use
  - 22% servers virtualized today with 45% in 12 months
- Core infrastructure and data center strategies are being turned **upside down!**
- Customer satisfaction is **very high**...but expectations are climbing as customers use the technology to support **business critical applications**
- Virtualization **changes everything** advanced planning is a critical key for success



## State of Infrastructure Today

### Server Sprawl

- > **41 m** physical servers by 2010 - **700% increase** in 15 years
- > **Ave UT <10% = \$140 bn** in excess server capacity - a 3-year supply

### Power & Cooling

- > **50c** for every \$1 spent on servers
- > **\$29 bn** in power and cooling industry wide

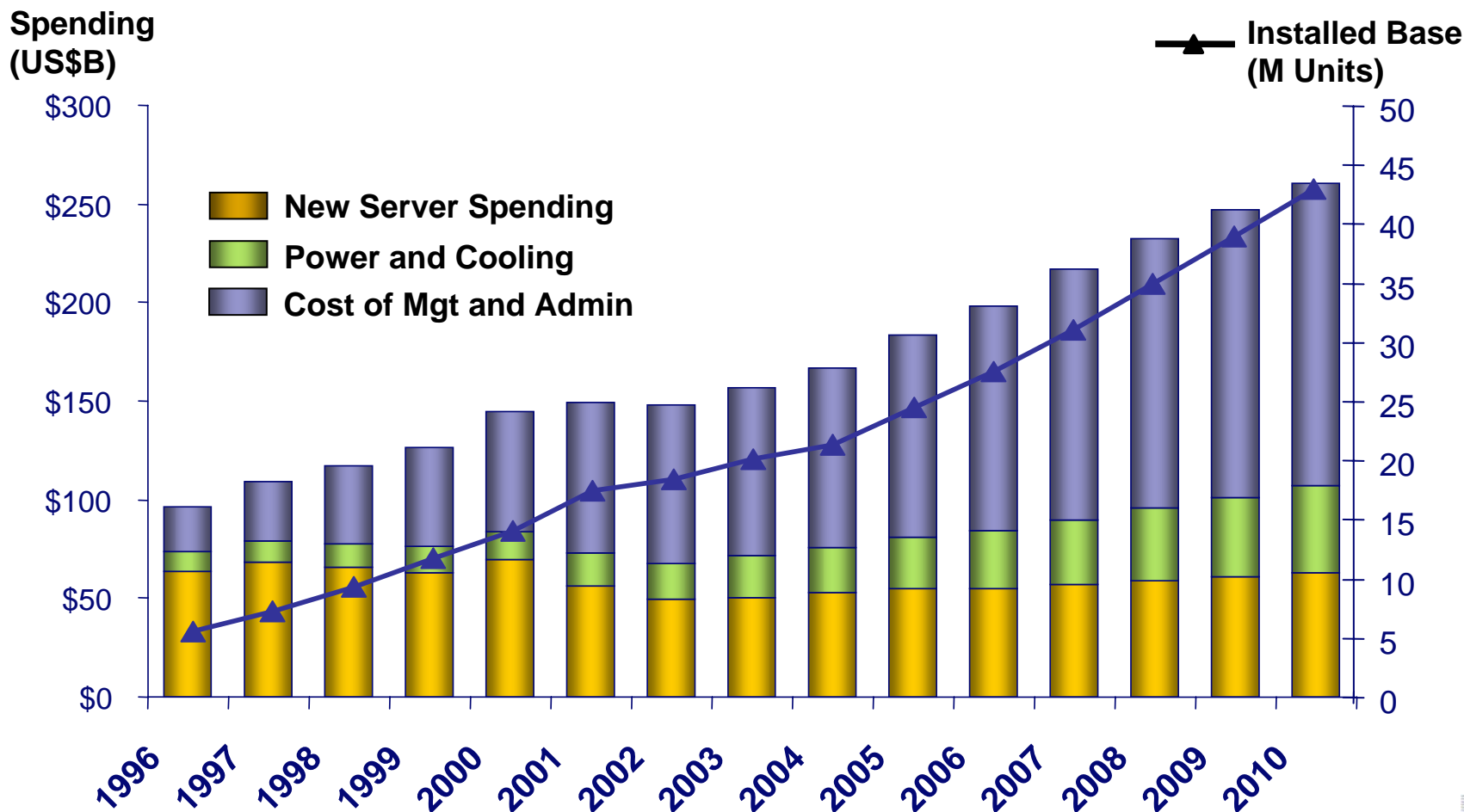
### Space Crunch

- > **\$1,000** /sqft
- > **\$2,400** / server
- > **\$40,000** / rack

### Operating Cost

- > **\$8** in maintenance for every \$1 spent on new infrastructure
- > **20-30 : 1** server-to-admin ratio

## Worldwide Server Market: Cost of Management



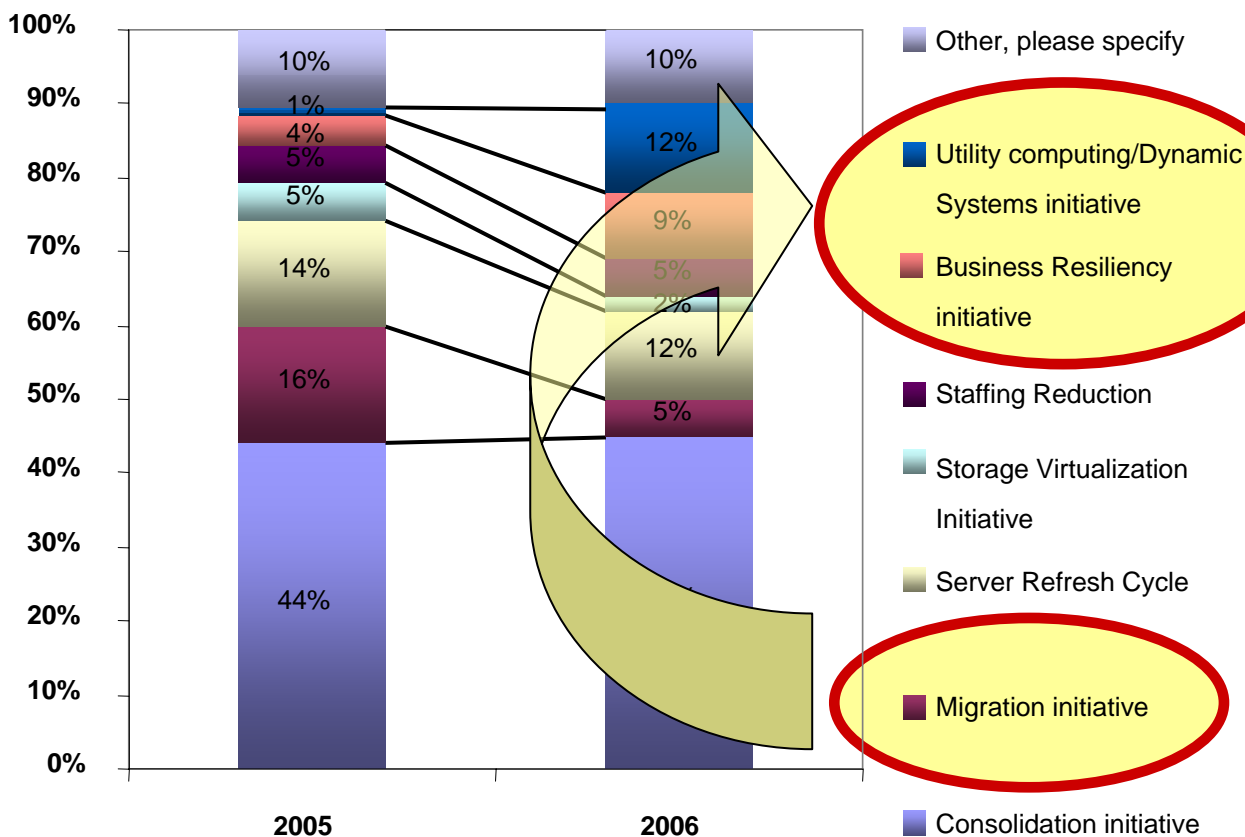
## Business Case Development

- Today, half of the customer report creating a formal business case to justify their virtualization investments
  - Most believe virtualization reduced hardware by 20% of their installed base
- Most of the respondents believe they have saved upwards of 23% over the last 12 months by implementing virtualization
  - Hardware Savings, Real Estate, Power and Cooling
- IT savings are almost as likely to be returned to the business rather than funding other IT investments.
- Cost of downtime was rarely considered...even through more than 50% of today's virtual servers support critical production workload
  - Net effect is virtualization is to create more mission critical servers

## Virtualization: Changing Motivations

- Consolidation remains strong driver for virtual server use
- Users quickly consuming legacy re-host
- Business Continuity and Utility Computing are new growth engines
- These new areas account for 1/4 of spending today!

Type of Project Associated with Virtual Server Purchase

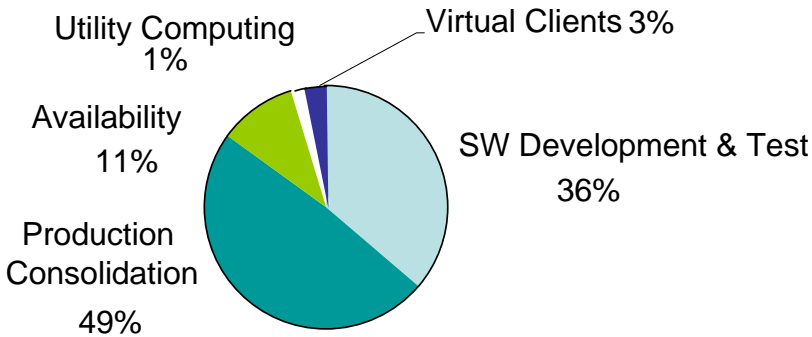


Source: IDC Virtualization Study, 2006



# The Next Virtualization Milestones

**2006**



**\$1,044M Opportunity**

## Virtualization 1.0

- Encapsulation
- Resource sharing
- Dynamic consolidation

**CAPEX**

## Virtualization 2.0

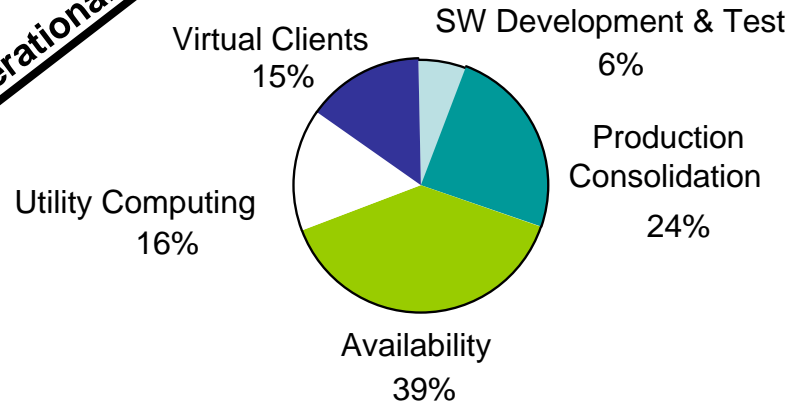
- Mobility
- Planned downtime
- Virtual Clients

## Virtualization 2.5

- Unplanned
- HA/DR/back-up
- Workload balancing
- Virtual Clients

**Operational Cost Reduction**

**2011**



**\$3,200M Opportunity**



## Emerging Challenges *Server Virtualization Hurdles*

- Increasing User Expectations
- Virtual Machine Sprawl
- Image /Change Management
- Coordinated Data Replication
- Application Awareness
- Appliances – where when and how?
- Security at the VM
- Network Configuration
- Usage Metering and Chargeback



Source: IDC Virtualization Study, 2006

N=405

## Key Takeaways

- Virtualization: A great vehicle to improve capital **and operational** efficiencies
- Great tool for a **variety of business issues**
  - Server Consolidation
  - Business Continuity
  - Virtual Clients
  - Creating Resource Pools
- The dynamic data center requires **integration**
  - Coordination of virtualization, failover, data replication, applications, and process automation tools is key



## Top 10 Virtualization Questions

- What is it you are trying to accomplish? Client/server consolidation, application isolation, increased business agility, protect more IT assets, or simply reduce hardware costs/improve utilization?
- Have you done a virtualization skills assessment? Is there a tiger team in place that draws from server, storage and network infrastructure teams?
- How are you planning to change your IT process both to account for virtualization and to fully capture the benefits?
- What applications do you want to virtualize? How is performance in a virtual environment?
- Have you garnered support across the organization – executive, business unit as well as IT teams?

## Top 10 Virtualization Questions

- Have you considered your business continuity plans? Virtualization acts to concentrate risk and create more mission critical servers.
- What applications should be consolidated together? Today this is more art than science – but quality assessment tools are emerging
- Have you looked at application support and licensing implications? Some apps do not support virtualization or it does not make economic sense to virtualize
- Do you need live migration? It's a great peace of mind tool but it does have network implications
- Is your infrastructure ready?

## Essential Guidance

- **Make sure to do a ROI analysis**
  - **Emphasis hard costs** first; factor in future server growth projections
  - **Server, Power and Cooling** benefits are all well documented
- **Factor in process improvements to reduce soft costs**
  - Don't overlook **cost of downtime**
  - Look to change **server to admin** ratios
  - Agility, provisioning time, **IT responsiveness** can all be improved with virtualization
- **Start small – and look at IT processes from the start**
  - **Implement lifecycle management** practices that include archival otherwise virtual machine sprawl can overwhelm
  - **Test and refine** – both in terms of technology implementation and business case
- **Invest in virtualization skills** – create a **virtualization team**

