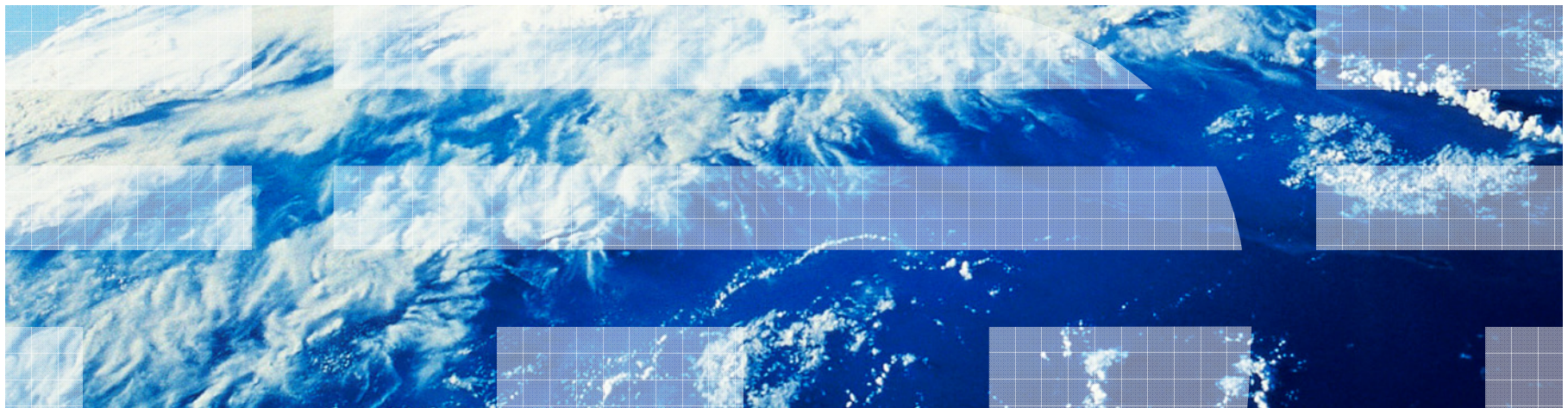
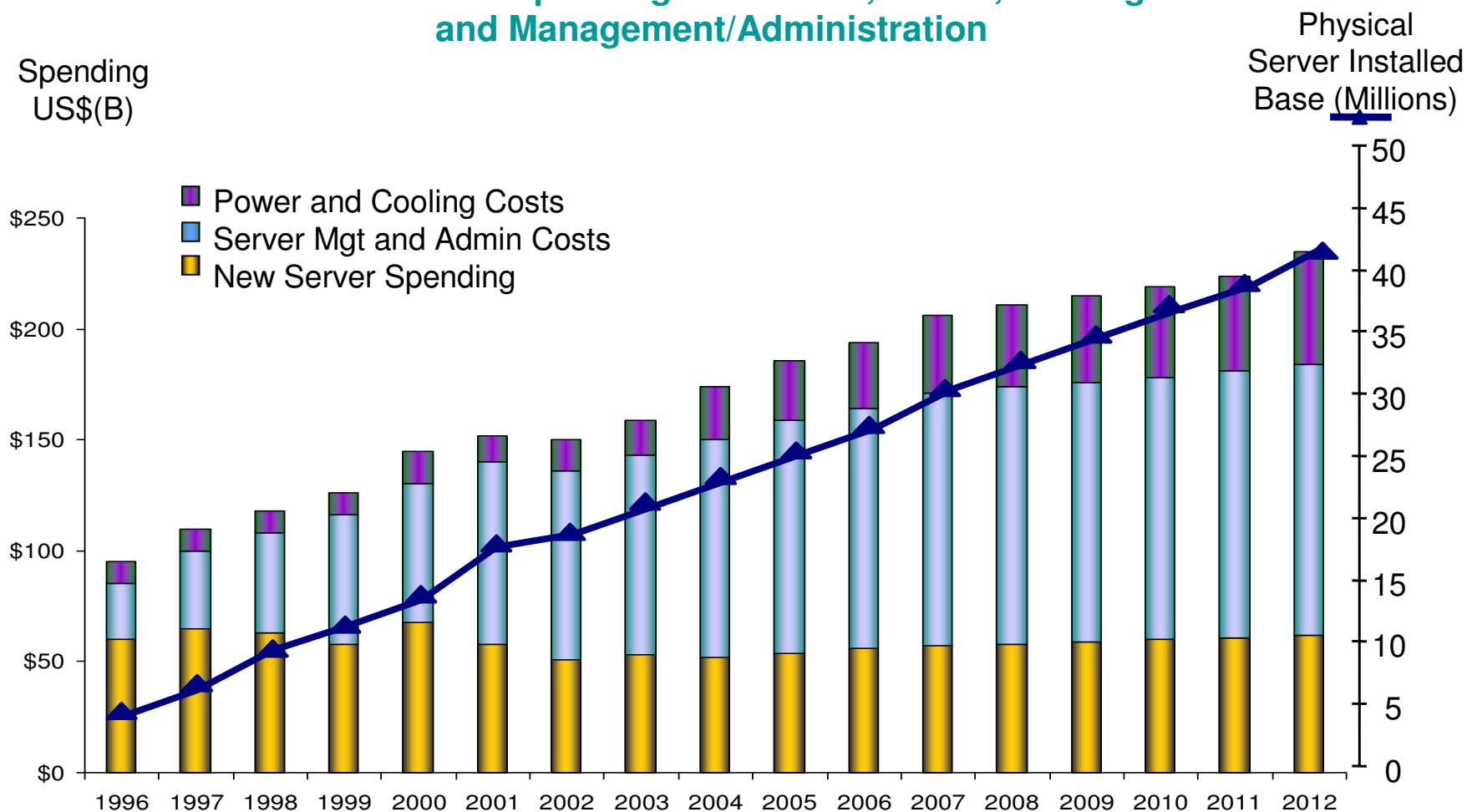


# Managing Linux on System z



# Annual Operating Costs Are Out Of Control

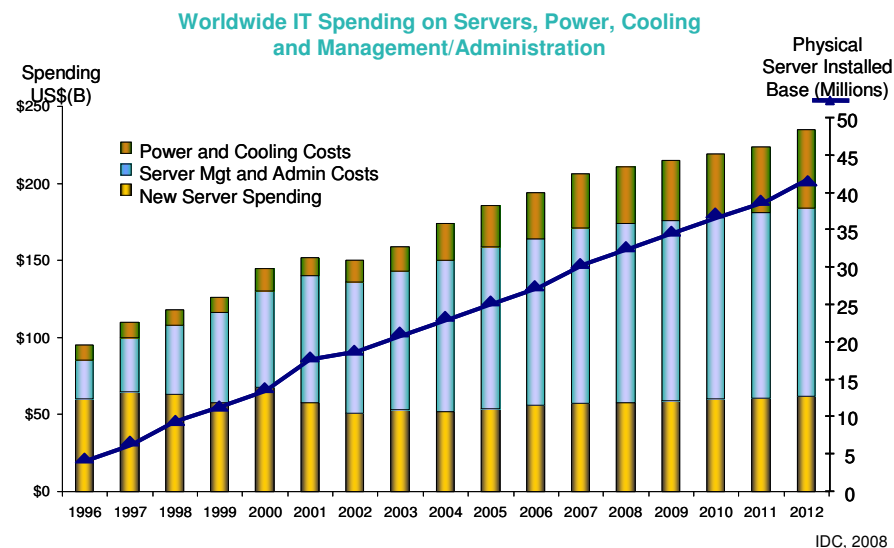
## Worldwide IT Spending on Servers, Power, Cooling and Management/Administration



IDC, 2008

## Businesses face challenges today

- Lost business opportunity because IT too slow to react. Lack of agility
- Long deployment timelines for new systems (weeks/months+)
- Many people involved in the process, high cost & complexity
- Many steps are manual and prone to error
- Huge up front investment for new infrastructure
- Server sprawl
- Low utilization
- Costly compliance, auditing, and security patching



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## What Is The Solution?

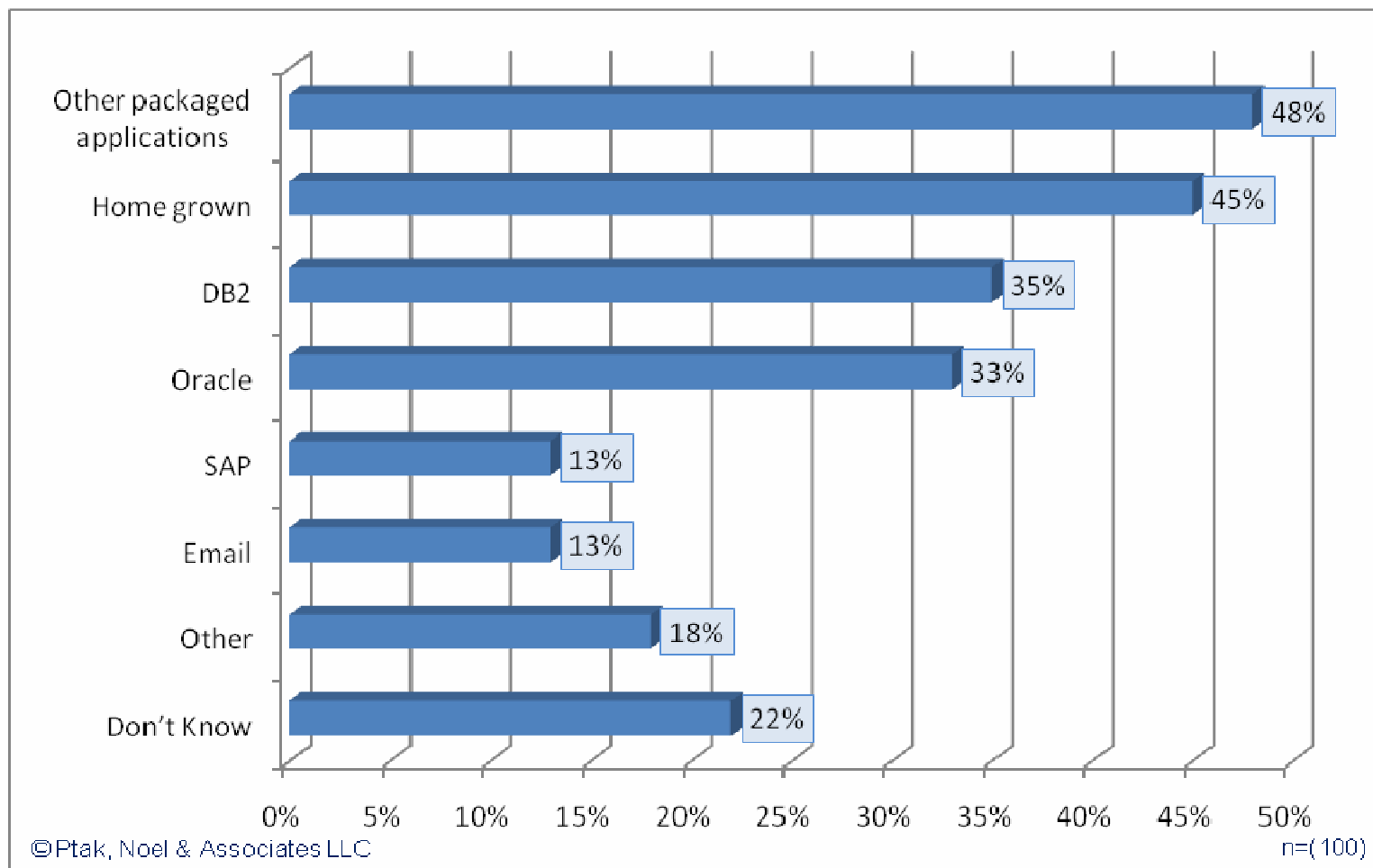
- Reinvent the data center to build a more dynamic infrastructure
  - Take Cost Out
    - Virtualization and consolidation
  - Reduce Energy Consumption
    - Green Data Center
  - Reduce Labor Costs
    - Simplified Administration

## Do more work with your System z

▪ <b>Near-linear scalability</b>	up to 900,000+ concurrent users; TBs of data
▪ <b>“Mean Time Between Failure”</b>	measured in decades versus months
▪ <b>1/4 network equipment costs</b>	virtual and physical connectivity
▪ <b>1/25th floor space</b>	400 sq. ft. versus 10,000 sq. ft
▪ <b>1/20 energy requirement</b>	\$32/day versus \$600/day
▪ <b>1/5 the administration</b>	< 5 people versus > 25 people
▪ <b>Highest average resource utilization</b>	Up to 100% versus < 15%
▪ <b>Capacity Management &amp; upgrades</b>	On demand; in hours, not weeks/months
▪ <b>Security intrusion points</b>	Reduced by z architecture and # of access pts.
▪ <b>Higher concurrent workload</b>	hundreds of applications versus few



## Workloads Moving to Linux on System z



\* Source - Ptak, Noel 2009 Mainframe Linux Workloads Survey

# BI Cost Savings on System z

## Your IT Cost may vary:

Up to 80% Saving in IT Cost

Up to 96% Less Hardware  
760 x86 Processor Cores vs 26 IFLs

Potential for dramatic reductions in software expense for processor based licenses

Potential reductions in power and cooling  
**Up to 93% Savings in KWatts and Energy Costs in this scenario**

Up to 46% Less Space

Up to 89% People savings

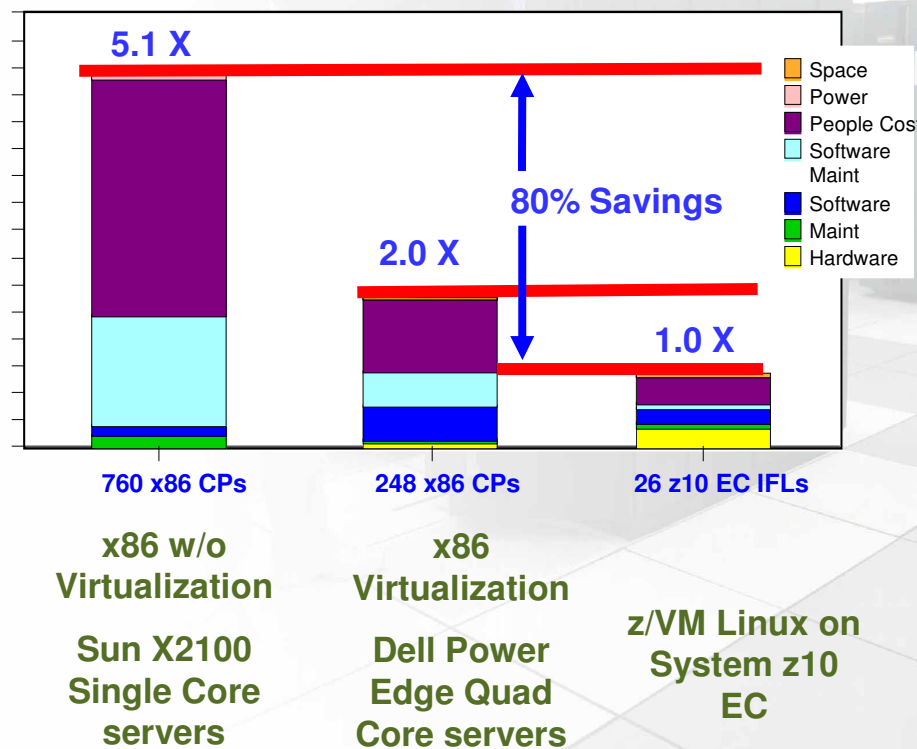
Increased processor utilization

Industry leading Security

*Energize your IT savings with z10 EC.*

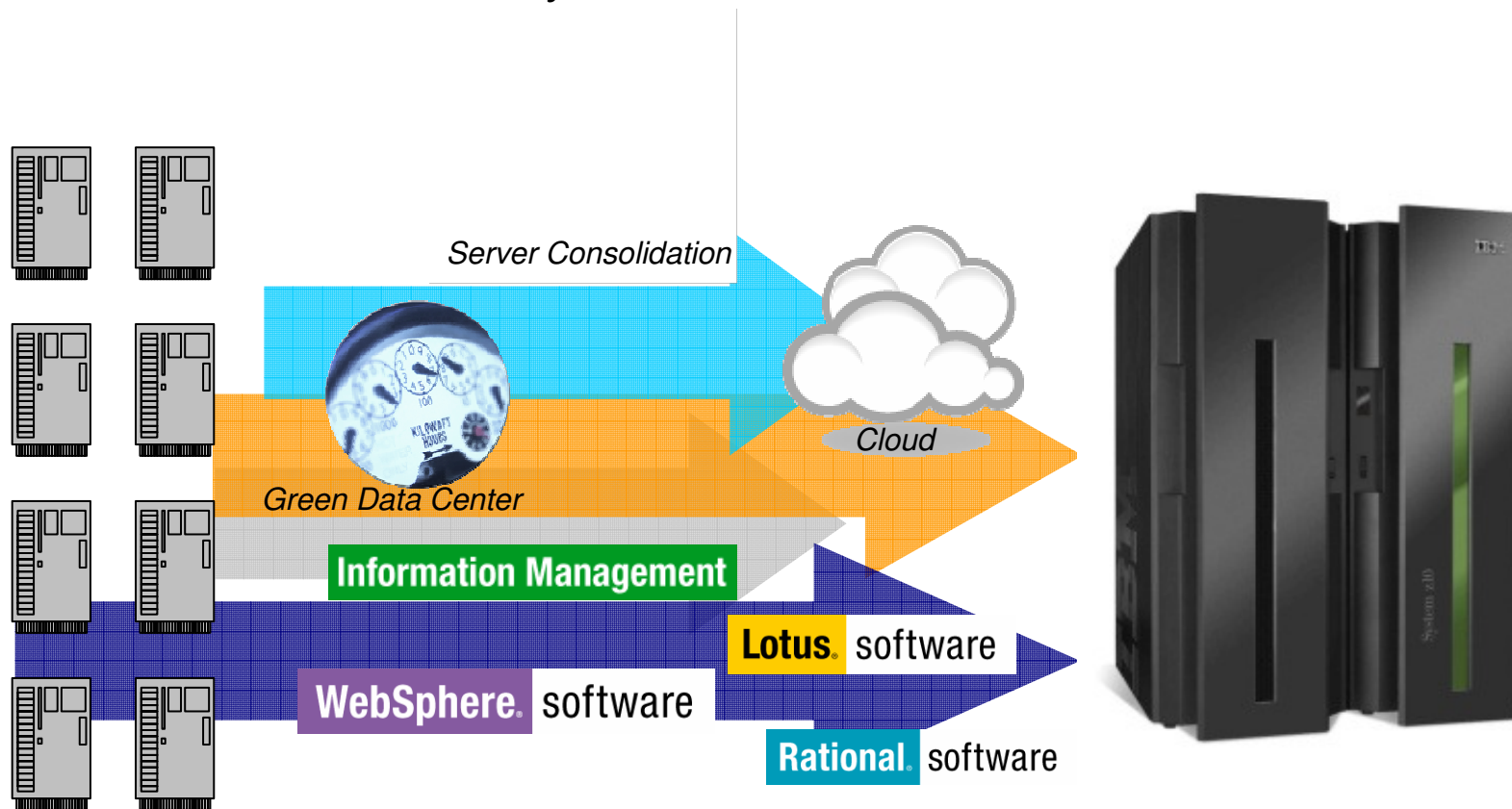
**Consolidating 760 Linux servers  
z/VM Virtualization versus x86  
Oracle DB Workload  
3-Year Total IT Cost**

**\$56 M Savings versus  
x86 without Virtualization**



## Moving Workload to System z

Why do clients move workloads to System z?

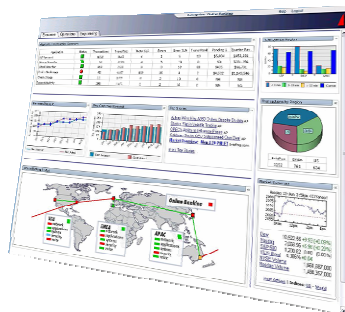


But, how do you manage this new environment? **Tivoli** software



# IBM Service Management

Enabling quality service delivery and business innovation



**Visibility:**  
*See your  
 Business*

***Respond faster and  
 make better decisions***



**Control:**  
*Manage your  
 Business*

***Manage risk and  
 compliance***



**Automation:**  
*Improve your  
 Business*

***Lower costs and  
 build agility***

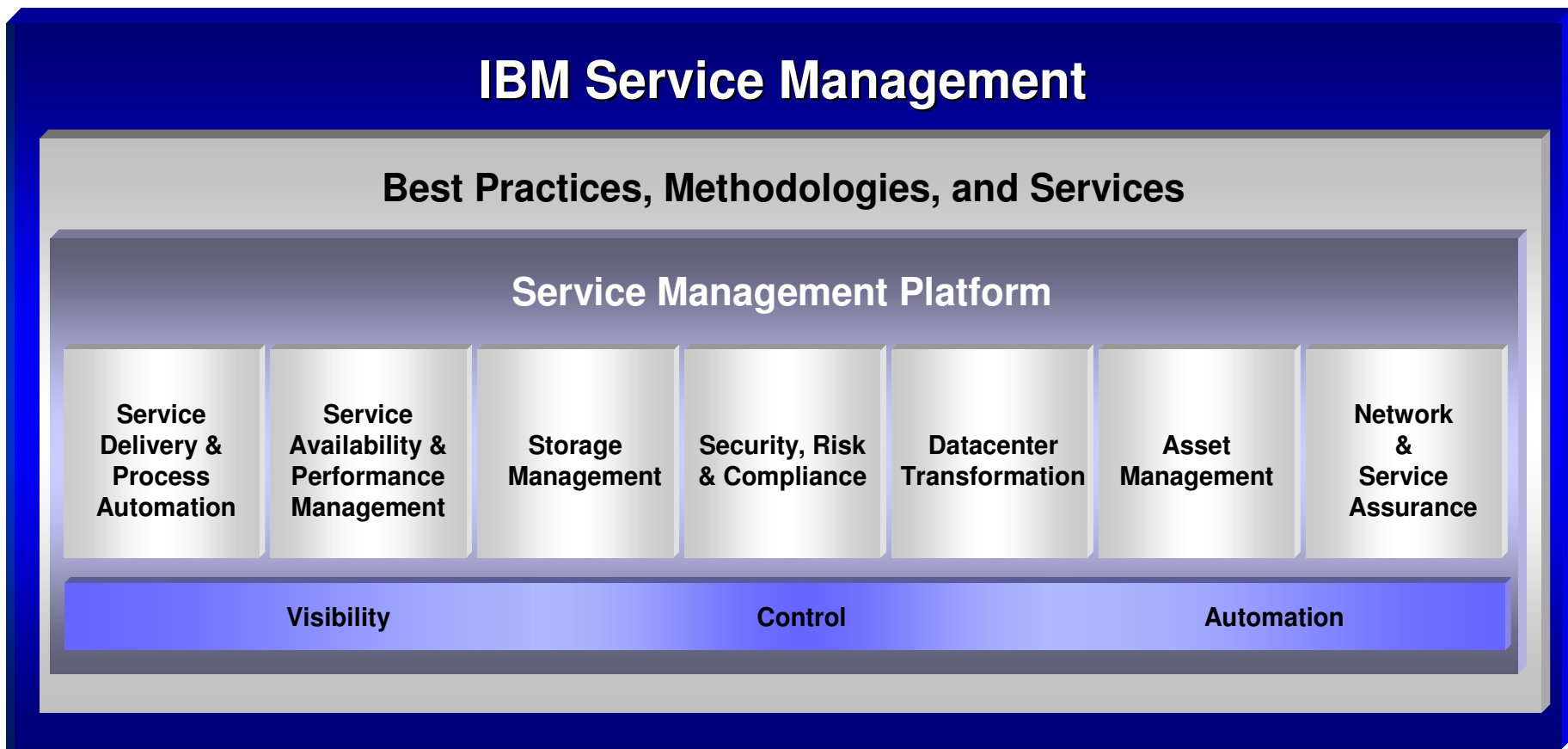
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## Simplify Service Management

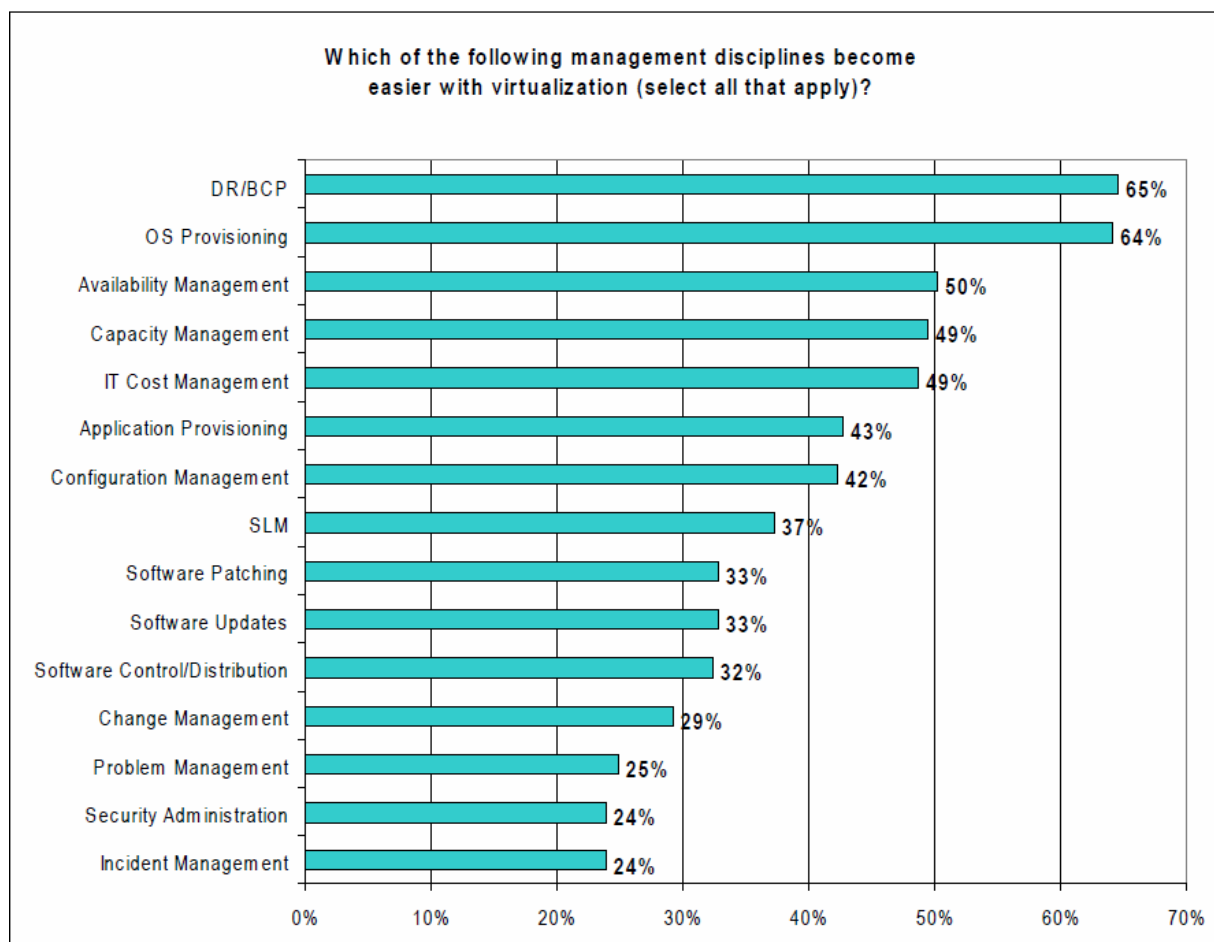
### Increase Return on Investment with Differentiating Value from IBM

- Align IT objectives with business objectives
  - Visualize service delivery and incident impact on line of business and key performance indicators
  - Automatically map application and IT infrastructure to line of business
- Enforce ITIL management processes
  - ITIL-based process automation solutions with common workflow engine and data platform
  - Standardize management processes and institutionalize best practices
- Eliminate multiplicity of service management solutions
  - Integrated, end-to-end process automation solutions that span the mainframe and distributed systems
  - Leverage best practice and standardize management processes enterprise-wide
- Break down silos
  - Integrate enterprise-wide processes, and reduce the frequency and impact of failed customer interactions

## Service Management



# Managing Virtualization



Source – Enterprise Management Associates

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## Panelists

Ray Sun  
IBM Software Group – Tivoli Software  
Product Management and Strategy – Linux on System z

Bill Reeder  
IBM Systems & Technology Group  
Linux and Virtualization Architect

Reed Mullen  
IBM Systems & Technology Group  
System z IT Optimization and Consolidation

Hans Schoone  
IBM Software Group – Tivoli Software  
Development – Security

Mike Goodman  
IBM Software Group – Tivoli Software  
Product Management and Strategy – OMEGAMON

## Sessions This Week

5140	IBM Tivoli Monitoring for Energy Management	Mon	4:30 PM	Room 617
9219	Cloud Computing with IBM System z	Tue	1:30 PM	Room 611
9152	Tips on Monitoring and Managing Your z/VM and Linux on System z	Wed	9:30 AM	Room 608
5142	Tivoli Integrating System z into End-to-End ITIL Processes	Wed	11:00 AM	Room 616
0912	Leveraging the Mainframe as Your Cost-Effective Enterprise Security Hub	Wed	11:00 AM	Room 306
9307	System z and High Performance Computing – an Innovative High Performance Consolidation and Compute Opportunity	Thu	11:00 AM	Room 210
9207	Systems Management for Linux in a z/VM Environment – Panel Discussion	Thu	4:30 PM	Room 608