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# Firms Are Pursuing A Variety Of Grid Related Technologies

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# Theme

Firms and technology vendors are just getting started on next generation IT infrastructure

# Agenda

- What are the different ideas called grid?
- How will grid and related ideas evolve?
- What is the adoption today?
- How should firms adopt these new technologies?

# Vendors are pitching new ideas:



Adaptive Enterprise



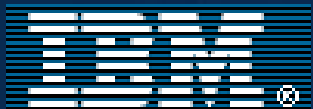
business agility requires IT to adapt quickly



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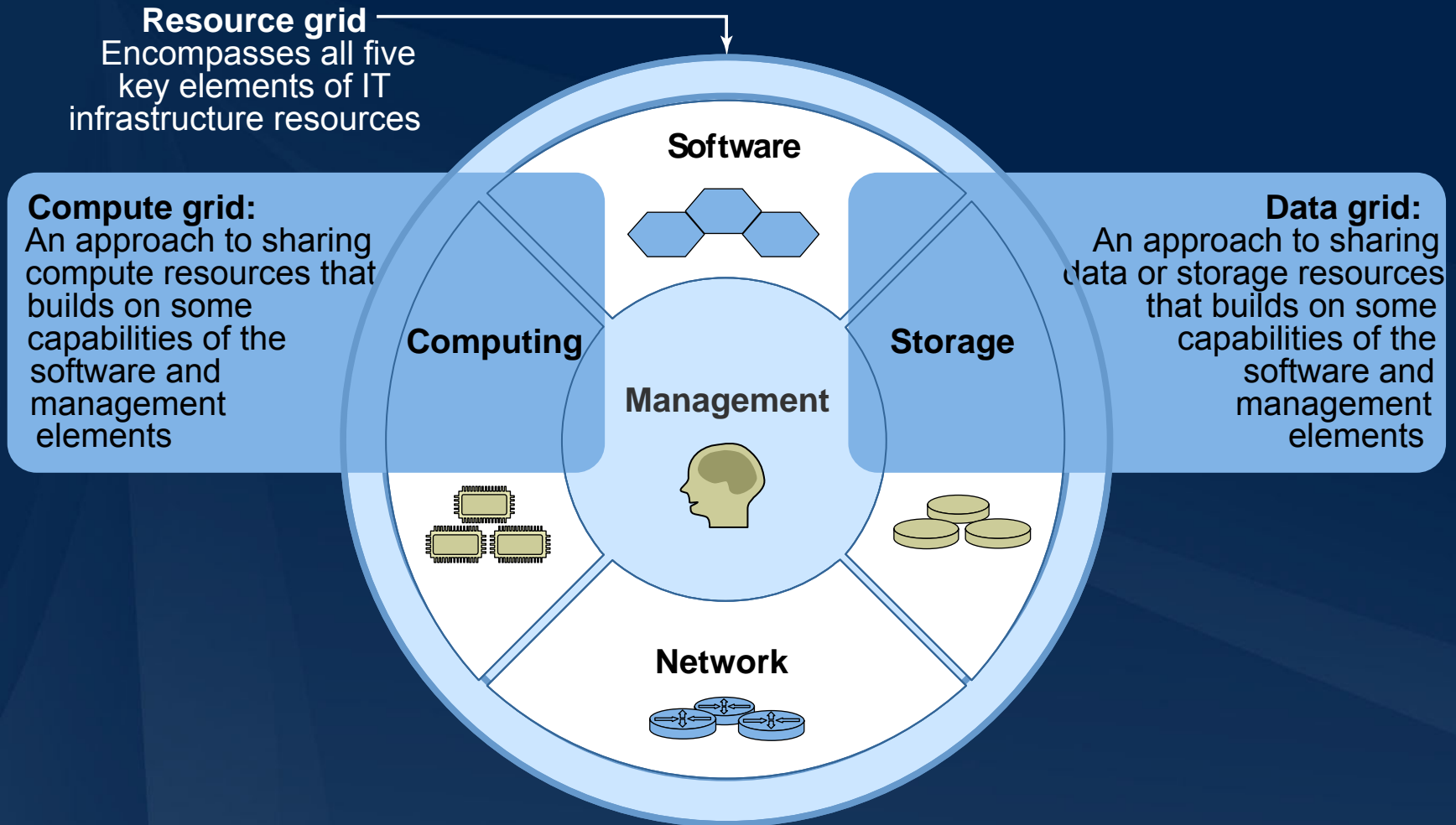
# These ideas have many names ...

- Utility computing (confusing and incomplete)
- Grid computing (has lost its specific meaning)
  - » Global Grid Forum (GGF), Globus, Enterprise Grid Alliance (EGA)
- On demand — IBM, CA, and others
- Adaptive Enterprise, Utility Data Center — HP
- N1 and Grid — Sun Microsystems
- Dynamic Systems Initiative — Microsoft
- Others
  - » Policy-based computing, service-centric computing, TRIOLE, Harmonious Computing, open mission-critical systems, Valumo, business blueprinting

# ... but are really three ideas mixed together

1. What's the right architecture?
  - » Distributed versus Organic IT
    - Choose based on ROI to firm
2. Should I outsource?
  - » Location and management
    - Choose based on skills, costs, strategic focus
3. What's the pricing scheme?
  - » Purchase, lease, or pay per use
    - Choose based on financial needs

# Grid Is Used To Refer To Five Key Elements Of IT Infrastructure Or Just One Element



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- **How will grid and related ideas evolve?**
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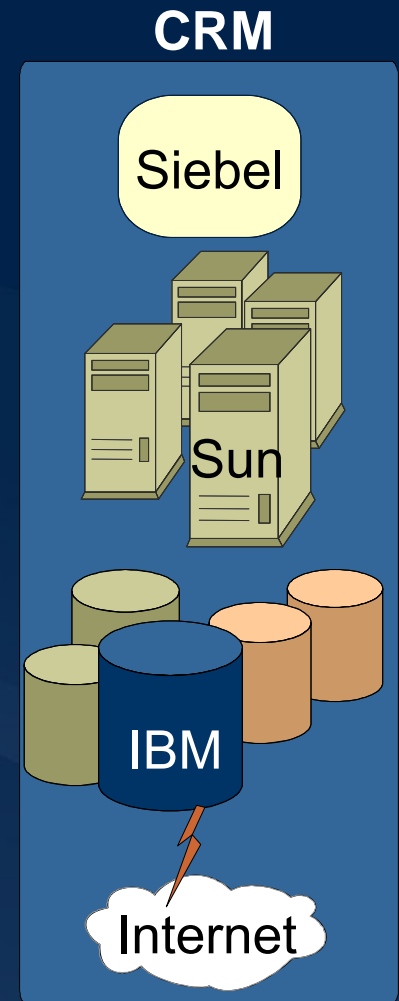
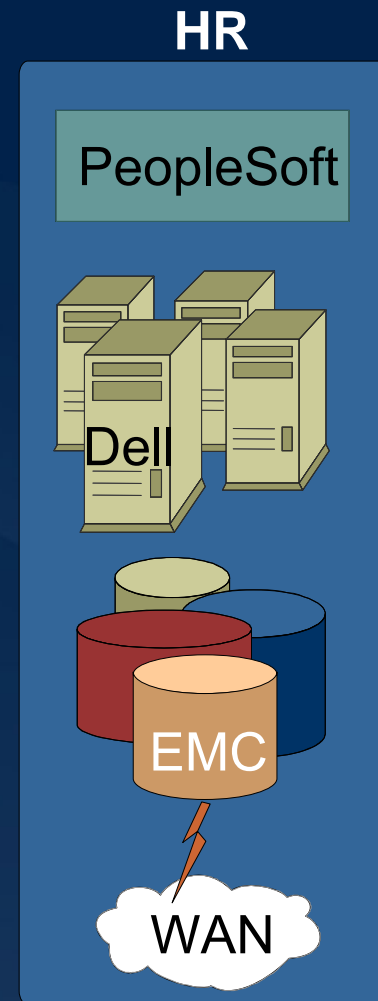
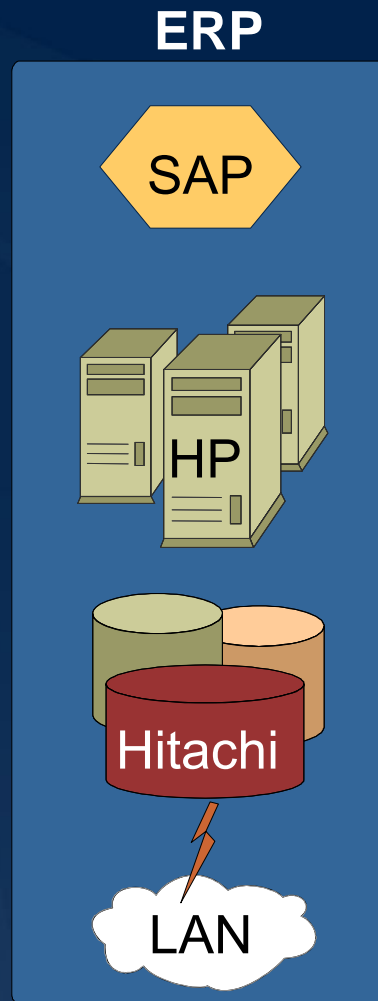
# Why is there a new architecture? Selfish assets

**Software:**  
Monolithic code

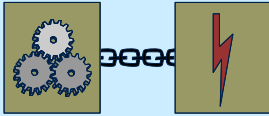
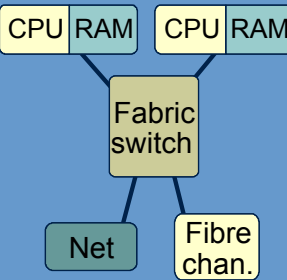
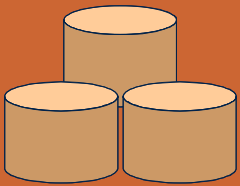
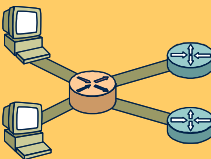
**Servers:**  
Single-purpose servers

**Storage:**  
Isolated disks

**Network:**  
Fragmented



# The solution? Four innovations lead to Organic IT - shared IT infrastructure

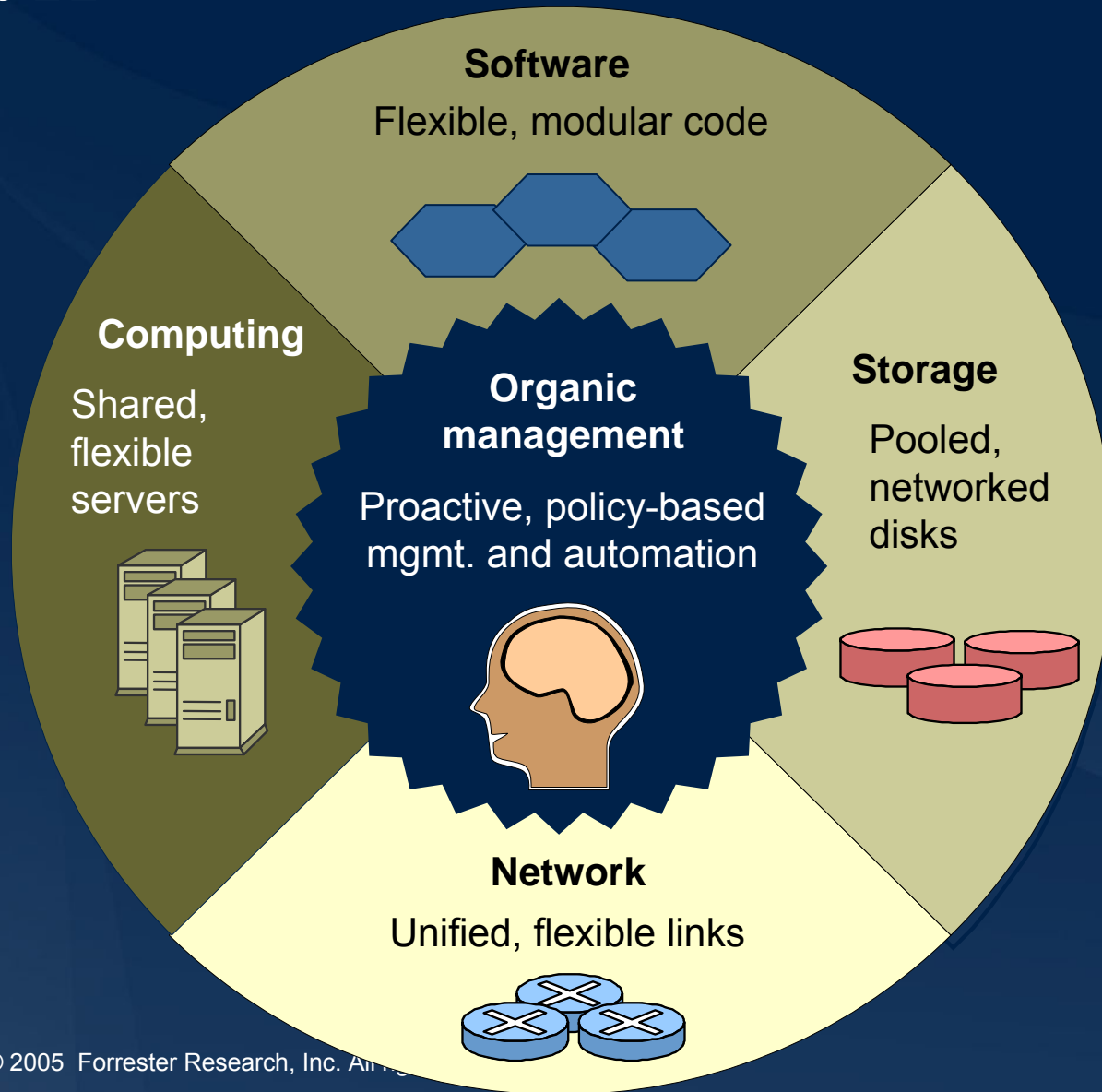
	ERP	HR	CRM
<b>Software:</b> Modular			Web services, SOA, composite apps
<b>Servers:</b> Shared			Server virtualization, compute grids.
<b>Storage:</b> Pooled			Storage virtualization, SMI-S management
<b>Network:</b> Unified			Automation and virtualization

Result? Barriers to business agility drop

# Organic IT is:

- ▶ **IT Infrastructure that automatically shares and manages** reliable virtualized software, processors, storage, and networks across all applications and business services

# Proactive management software is at the heart of Organic IT



# Crystallizing the savings from Organic IT

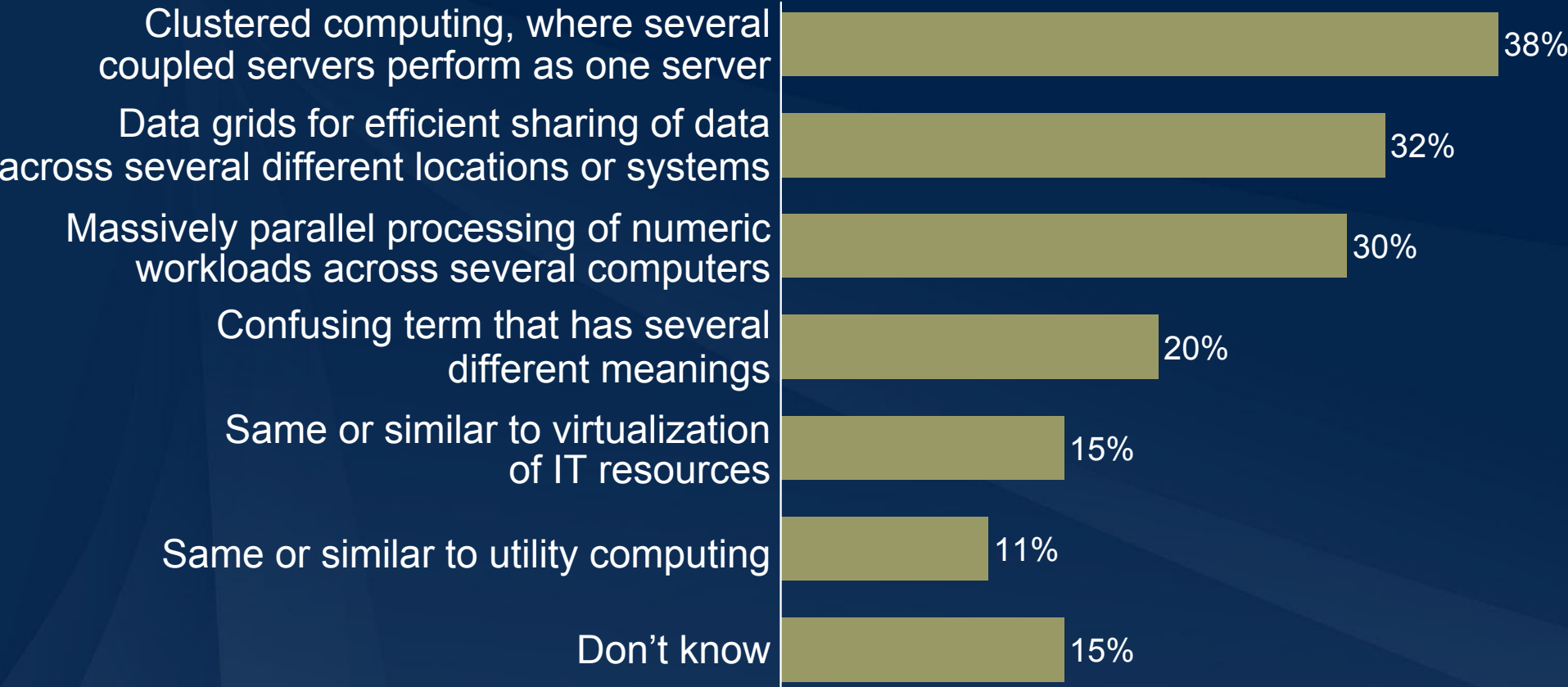
1. Massively higher utilization
  - » From today's 10%-20% to 70%-80%
  - » **Result:** Cut purchases in half
2. Dramatic increases in IT labor efficiency
  - » From today's 6TB to 600TB
  - » **Result:** Double IT staff efficiency
3. Rapid response to business needs
  - » From months to hours or days
  - » **Result:** Faster time to market

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- What are the different ideas called grid?
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# IT execs don't agree on what "grid" means

"What do you think the term 'grid' or 'grid computing' means?"



Base: 149 North American companies  
(multiple responses accepted)

# “Compute grids” score low in use and interest today

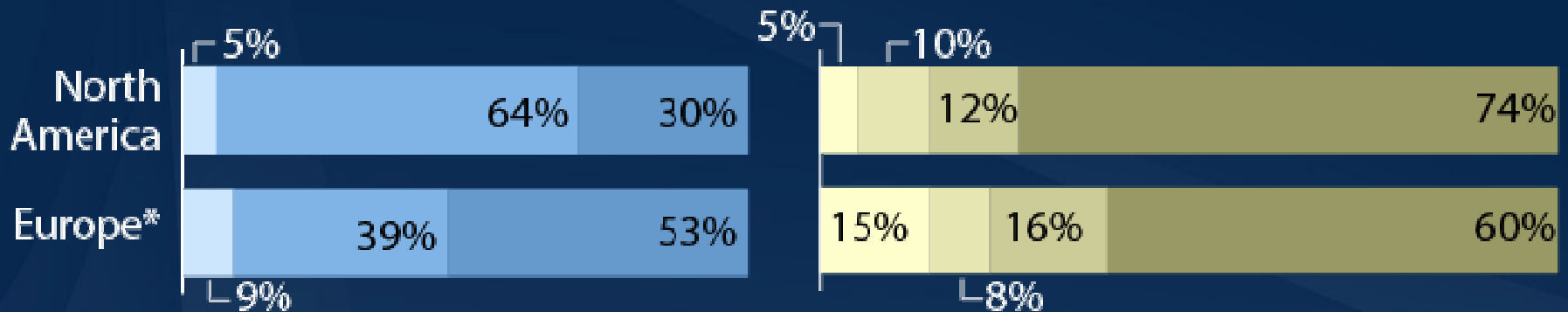
“For each of the following technologies, please indicate if you are aware of it, not aware, or already using?”

■ Already using 
 ■ Aware 
 ■ Not aware

“If aware, how interested are you in using . . .”

■ Will pilot in the next 12 months 
 ■ Very interested  
■ Somewhat interested 
 ■ Not interested

## Computing grids (not Web server farms or standard application clusters)



Base: 603 infrastructure decision-makers at North American enterprises

\*Base: 234 infrastructure decision-makers at European enterprise  
(percentages may not total 100 because of rounding)

Source: Business Technographics® July 2005 North American And European Enterprise Infrastructure And Data Center Survey

# Server virtualization is tops for usage and awareness

“For each of the following technologies, please indicate if you are aware of it, not aware, or already using?”

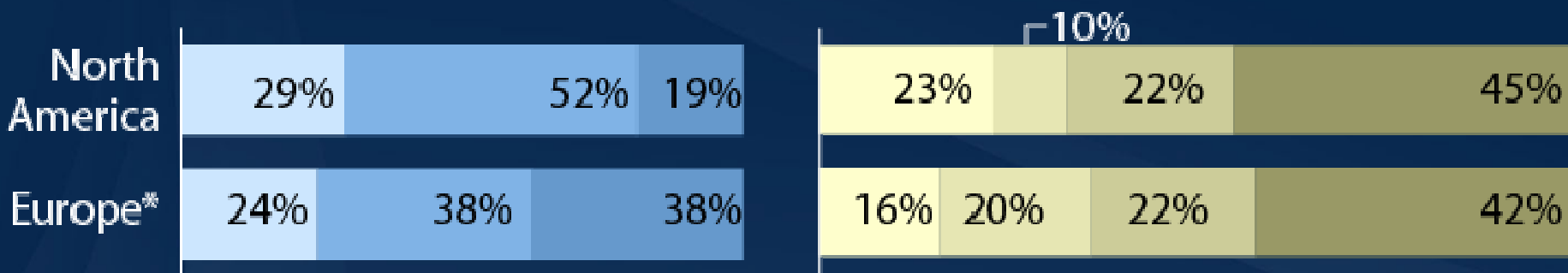
Already using
  Aware
  Not aware

“If aware, how interested are you in using ...”

Will pilot in the next 12 months
  Very interested

Somewhat interested
  Not interested

## Server virtualization



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# Consolidation is 4<sup>th</sup> in IT's major themes

“Which of the following initiatives are likely to be one of your IT organization's major themes for the next 12 months?”

	Average score on a scale of 1 to 4
Provide support for regulatory compliance like Sarbanes-Oxley or HIPPA	2.9
Significantly upgrade security environment	2.6
Upgrade business continuity capabilities	2.5
Consolidate IT infrastructure	2.5
Replace or upgrade PCs or laptops	2.5
Upgrade systems management capabilities	2.4
Adopt storage network technology	2.3

Base: 700 infrastructure and data center decision-makers at North American enterprises  
(percentages may not total 100 because of rounding)

# Grid was 12<sup>th</sup> out of 14 on this pick list

“Which of the following initiatives are likely to be one of your IT organization’s major themes for the next 12 months?”

	Average score on a scale of 1 to 4
Implement wireless network infrastructure	2.2
Upgrade Windows desktop operating system	2.1
Look seriously at adopting RFID technology	1.7
Look seriously at IT infrastructure management outsourcing	1.6
Implement grid or utility computing architectures	1.6
Move from a Unix/RISC or mainframe system to an x86-based architecture	1.5
Move IT management or maintenance activities offshore	1.4

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# Four technologies lead the way for Organic IT

- Web services and services oriented architecture
- x86 server virtualization
- Data center automation
- Compute grid

# Server virtualization and automation go together

- Virtualizing helps firms cut hardware costs - but more is needed
  - » it doesn't tackle OS management costs
  - » it doesn't provide workload management across server boxes
- Forrester advises firms to use automation to increase productivity and flexibility - of people and gear
  - » Start with automated patch and configuration management
  - » Plan a migration path to policy-based automation
- See Forrester client reports:
  - » May 18, 2004 Quick Take "Automating Server Management"
  - » September 29, 2004 Quick Take "EMC's VMware VirtualCenter Leads To A Data Center Automation Strategy — For Firms And EMC"

# Recommendations

- Validate “delay of game” words to get clarity
- Make a measured migration to Organic IT
- Start by focusing on four emerging technologies
- Focus equally on organizational and technology issues - it will take more than best practices

# Thank you

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