

Grids, Clouds or Ultra Modular Computing for the Enterprise

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BEinGrid, Barcelona, June, 2008:

Theme

Grid computing is not being adopted as expected; Cloud Computing has today's attention; yet Ultra Modular Computing may be the Enterprise's way forward

Agenda

- Grids in the Enterprise
- Cloud Computing
- Ultra Modular Computing (UMC)
- Recommendations

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One Forrester View

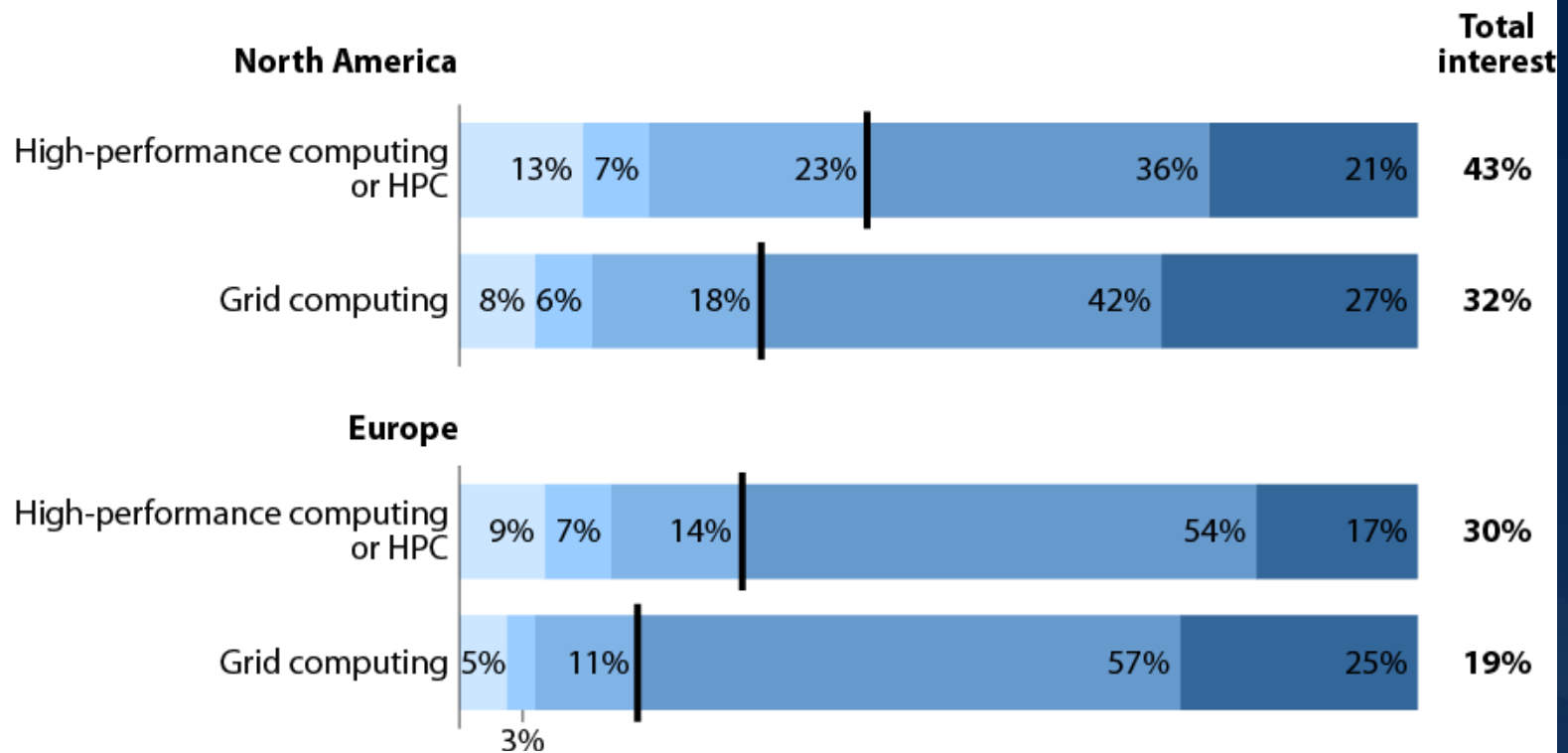
- High Performance And Grid Computing Don't Generate Broad Interest
 - » Adoption and interest in grid diverges significantly by region, and remains relatively low
 - » High Performance Computing garners more adoption and interest than grid, but not in a majority of firms

Source: High Performance And Grid Computing Don't Generate Broad Interest
Marketers Should Lead With Business Value, Not These Tech Themes
by [Frank E. Gillett](#); Forrester Research, March 11, 2008

Interest In Grid Computing Varies By Region, And Many IT Executives Remain Uninterested

"For servers and server technologies, what is your highest level of awareness or interest?"

■ Already implemented
 ■ Implementing in the next 12 months
 ■ Aware, and interested
 ■ Not interested
 ■ Unaware

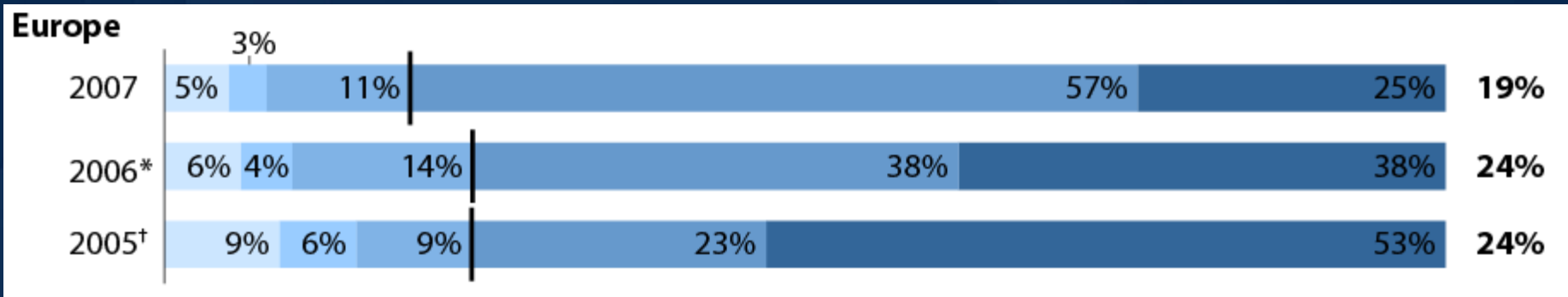
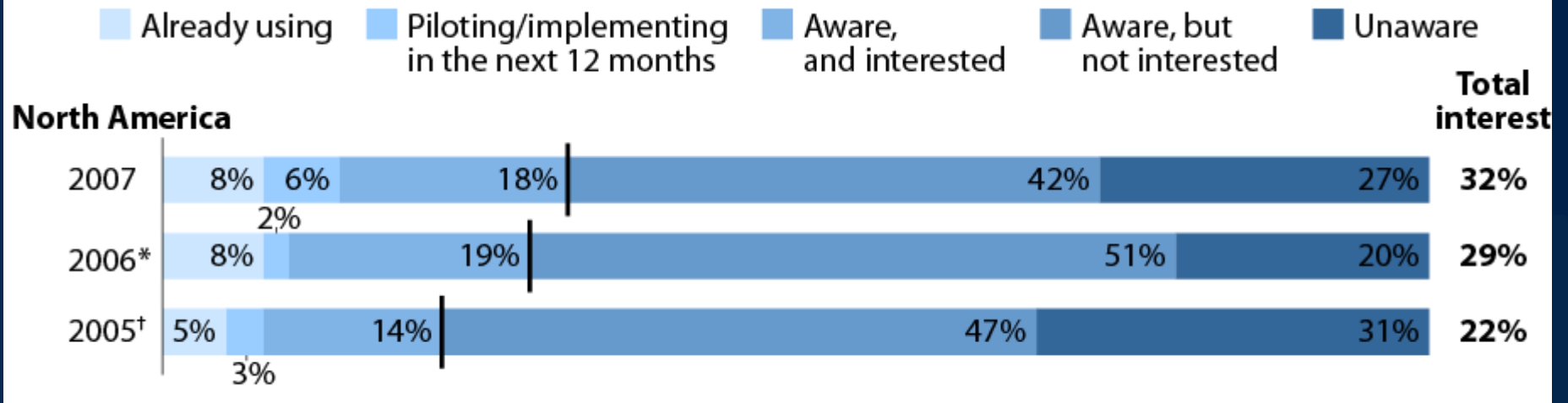


Base: Infrastructure and data center decision-makers at North American and European enterprises

*Base: IT decision-makers at AP enterprises

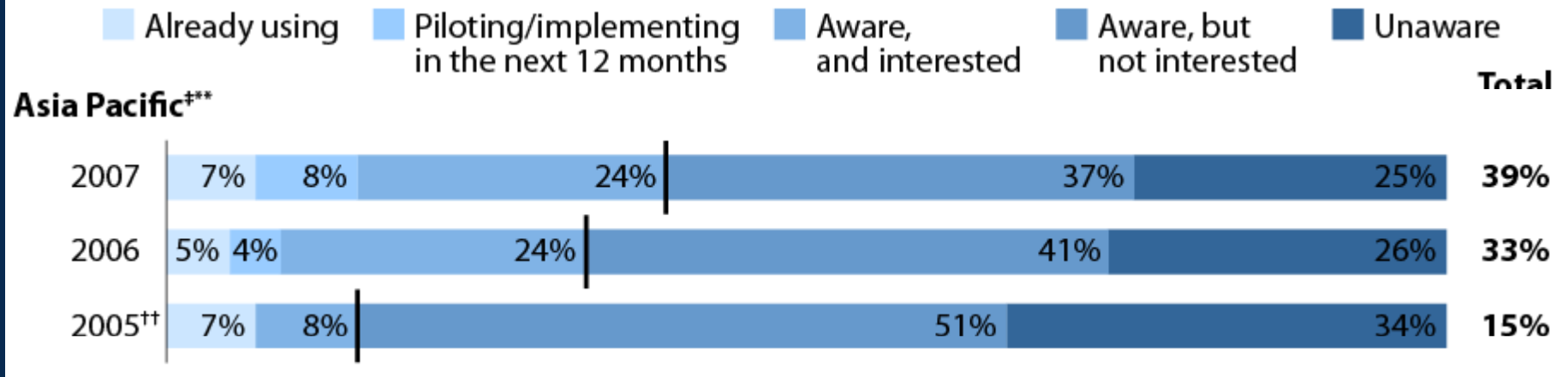
The Number Of Enterprises Interested In HPC Exceeds Those Interested In Grid Computing I

For computing grids, please indicate your level of awareness.



The Number Of Enterprises Interested In HPC Exceeds Those Interested In Grid Computing II

For computing grids, please indicate your level of awareness.



^{††}“Piloting” is encompassed in the “already using” bar

Base: Infrastructure and data center decision-makers at North American and European enterprises

§Base: IT decision-makers at AP enterprise

Source: Enterprise And SMB Hardware Survey, North America And Europe, Q3 2007

*Source: Business Technographics® May 2006 North American and European Enterprise Infrastructure And Data Center Survey

†Source: Business Technographics® July 2005 North American and European Enterprise Data Center Survey

‡Source: Enterprise Technology Adoption Survey, Asia Pacific, Q4 2007

Source: Business Technographics® August 2006 Asia Pacific Enterprise Technology Adoption And Governance Survey

Source: Business Technographics® July 2005 Asia Pacific Enterprise Spending And Governance Survey

Grids: the current position

- Utility Grid computing, despite its appeal, has not made the impact or achieved the appeal that most expected
- Grid computing does work, but still takes more effort than most organizations seem willing to make
- Grids are still heavily associated with 'scientific' rather than 'business' computing
- Modifying applications to Grid-enable them has not proved easy, and this has been a hindrance to broader acceptance

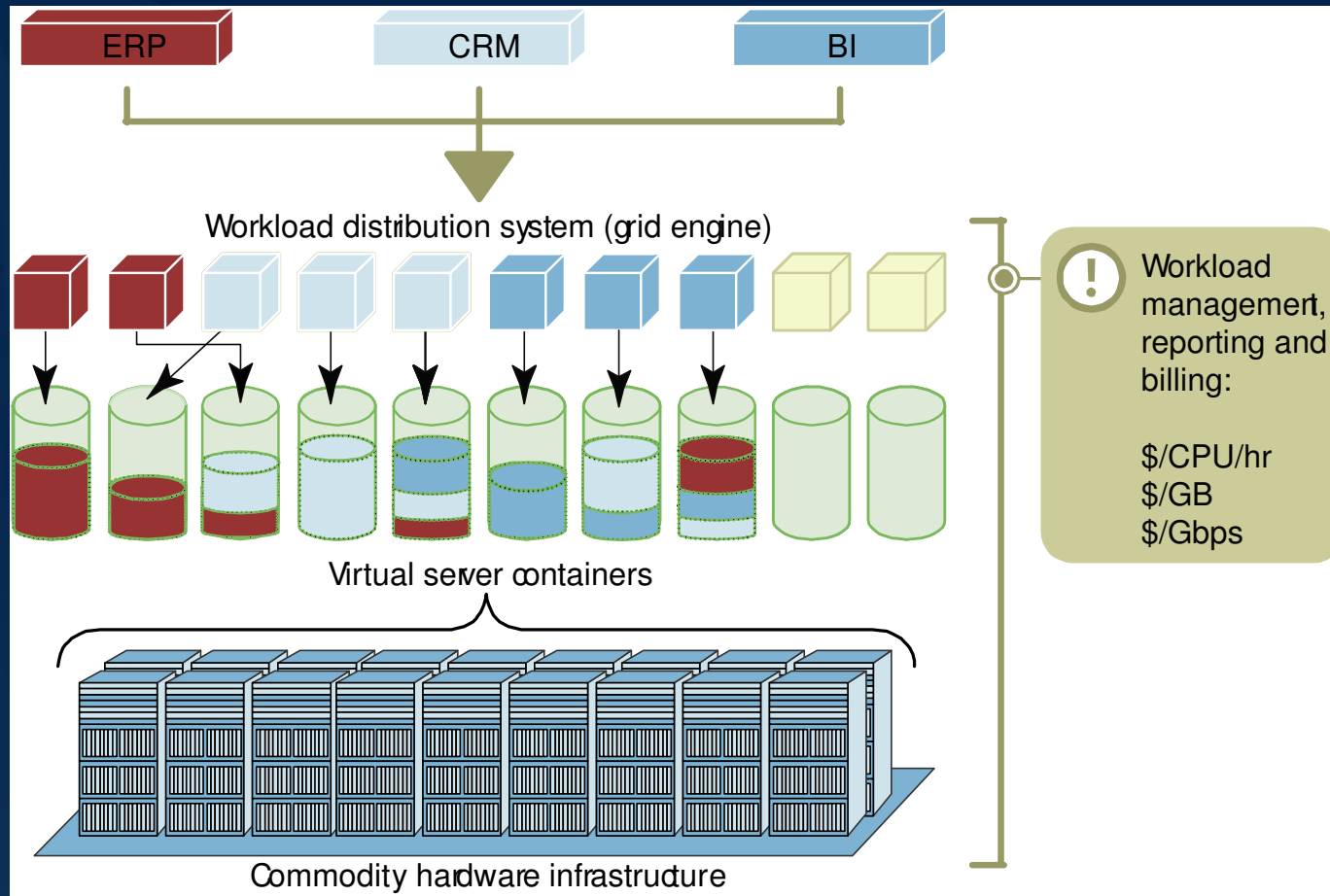
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- **Cloud Computing**
- Ultra Modular Computing (UMC)
- Recommendations

What is Cloud Computing?

- The Forrester definition:
 - » “A pool of abstracted highly scalable, and managed compute infrastructure capable of hosting end-customer applications and billed by consumption.”
- The attractions are vastly superior economics, superior handling of dynamic workloads, flexibility capacity, often low long term commitment as well as payment by consumption Cloud Computing removes some processing from traditional IT operations management

What does Cloud Computing look like?



Source: Is Cloud Computing Ready For The Enterprise?
by James Staten; Forrester Research, March 7, 2008

Why are Enterprises holding back from Adopting Cloud Computing?

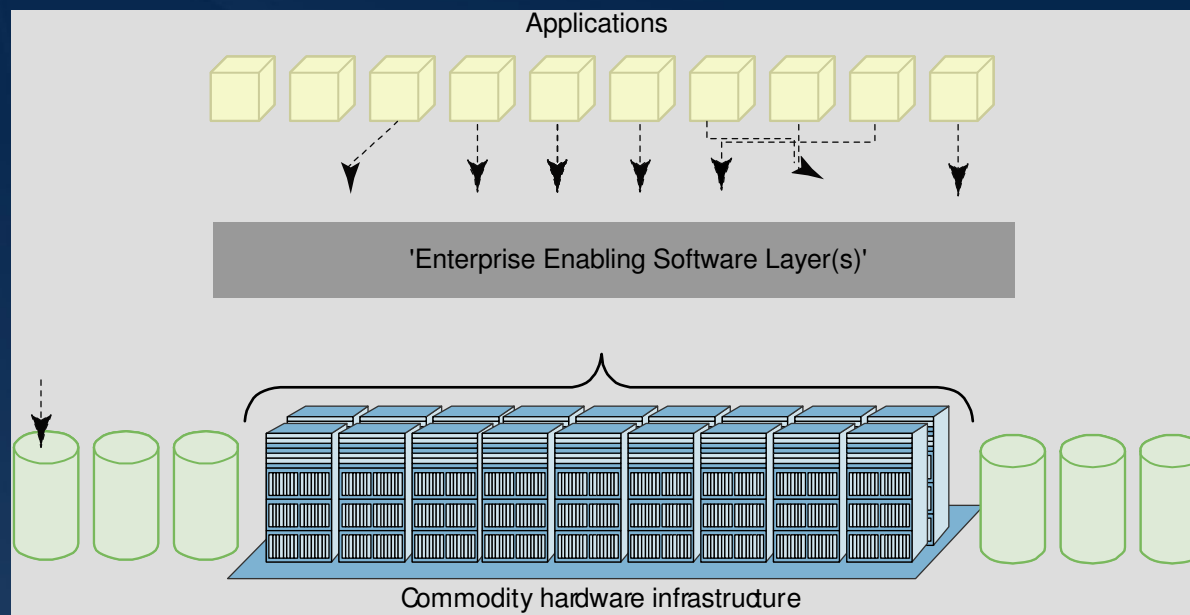
- Concerns about stability
- Few big name players offering dependable Clouds
- Few Enterprise reference accounts
- Perceived concerns about security (probably wrong)
- Lack of commercial ISP support
- Little geographic locality
- Not for the 'faint-of-tech'
- Not usually Enterprise IT friendly

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What is Ultra Modular Computing?

- Like Cloud Computing, but deployed within the Enterprise – and with some key differences



UMC has the potential to be hugely disruptive

- Possible combination of both Grid and Cloud Computing – but initially deployed within the Enterprise
- Exploits ultra low cost of commodity hardware
- Reduces cost to manage by 10x-100x
- Provides many of the business advantages of Cloud Computing, but without several of the concerns

How UMC will arrive ...

- UMC will exploit 'thin end of the wedge' adoption
- All Enterprises encounter 'core decision events' - when an opportunity appears which provides the chance to introduce major change
- Can be introduced gradually
- Main downside: most costs are up front in the initial enterprise-specific software environment – but, once done, scalability is there for the taking

Key UMC decisions

- Should the UMC software environment:
 - » only look to the future (new application and development models)
 - » enable existing application and development models, and, possibly, operating systems
 - » both*

* This is the most expensive route

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Forrester Recommendations

- Investigate Cloud Computing
- Think about what the 'Grid arena' already offers
- Understand the economics of UMC, especially the operations dimension
- Understand what software level(s) would need to be built, and by whom
- Look for those 'core decision events' and see if one can be exploited by your Enterprise to start introducing UMC

Two key Forrester research documents

- High Performance And Grid Computing Don't Generate Broad Interest; Marketers Should Lead With Business Value, Not These Tech Themes

Frank Gillett

Forrester Research, March 11, 2008

- Is Cloud Computing Ready For The Enterprise?

James Staten

Forrester Research, March 7, 2008

Thank you

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