



Infrastructure & Operations
Symposium Community

Trip Report

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Members: 425

Key Takeaways

During 2008, IT and business professionals in infrastructure and operations (I&O) will be profoundly affected by the economic downturn and three other hot issues covered at this year's conference:

- **Virtualization.** Virtualization remains the single most powerful trend affecting I&O during the next five years.
- **Modernization.** This is no longer a back-burner issue. It has come to the forefront as both a cause and effect of virtualization in 2008 and will require top-of-mind attention. Legacy IT systems, like a beloved old car, come to a point at which they become unreliable, require too much effort to maintain, and will cost dearly to overhaul. There comes a time it makes sense to trade up to a new model.
- **Cloud Computing.** Though still in an embryonic stage, cloud computing is something that I&O leaders need to figure out — that is, how they will use it as an alternative in all the things they do. The conference addressed issues such as standardization, virtualization, automation and management of services.

Conference Highlights

The I&O Leader in a Multi-sourced, Virtualized World

Speaker: Jay Pultz

The primary mission of I&O leaders remains delivering IT services to the business. However, modernization, virtualization and automation offer I&O leaders the opportunity to become strategic partners with the business. To best harness these trends, I&O leaders need to have a systematic and prioritized road map for continual I&O improvement. The very nature of I&O services will evolve quickly, and I&O leaders will need to concentrate on modernization and prepare for the huge influence that virtualization and real-time infrastructure will exert on I&O as applications and hardware become increasingly intertwined. The more than 100 attendees at the presentation were advised to:

- Assess and benchmark I&O maturity and use those benchmarking results to reassess 2008 priorities.
- During the next year, establish an I&O maturity task force to implement high-priority I&O improvement projects.
- Consider restructuring via a matrix management model.

Virtualization Changes Virtually Everything

Speaker: Thomas Bittman

The title of this presentation says it all. Virtualization is the highest-impact trend affecting I&O for the next five years. With roughly 80% to 90% of x86 computing capacity unused at any one time, virtualization's potential to unlock that capacity is enormous. It makes cloud computing possible, cuts deployment speeds by up to a factor of 30, and helps enable a myriad of alternative delivery models. But it also presents formidable challenges and risks. In this presentation, Mr. Bittman discussed the scores of ways virtualization will change IT as we know it and explored the opportunities and threats to the primary ones — server architecture, client computing, software appliances, software as a service, and software pricing and licensing models.

Recommendations:

- Build a virtualization management plan to avoid getting caught in the virtualization sprawl.
- Evaluate key business outcomes and potential risks.
- Align your virtualization strategy to the business.

Cloud Computing Meets Data Center Realities

Speakers: Thomas Bittman and Carl Claunch

Cloud computing will be a natural outcome of next-generation data centers, which will provide greater standardization, virtualization and automation, and will become more service-oriented. For business leaders, the decision to maintain an IT investment in-house or buy it as a service via the cloud will hinge on three metrics: agility, economics and quality of service (QOS). While large companies are better able to achieve agility in-house and have fewer economic restraints than smaller companies, QOS

remains widely problematic, as early offerings have focused little on QOS, especially for consumers or commodity services. This presentation recommended that CIOs and IT managers quickly:

- (Re) build an I&O strategic plan.
- Develop metrics that will measure progress in alignment with overall business goals.
- Create a dynamic sourcing team, identify potential candidates for early cloud computing experimentation.

Infrastructure and Operations Future Technologies

Speakers: David M. Coyle and John Enck

In an examination of how the infrastructure is built, deployed and managed, this presentation examined emerging technology trends in three areas: servers and storage, client computing, and operations and management. The server operating system (OS), for example, will spark conflict between efforts on one hand to reduce its size to better accommodate virtualization, and efforts to expand it to better address manageability, auditing and reporting. OS issues will spill over into hardware platform designs as well. Issues around client computing include dealing with remote vs. in-office employees, connectivity options and — most important — virtualization, which effectively decouples hardware and software, and opens up a myriad of related issues. Virtualization is also a major concern in the operations and management area, as is the emergence of real time infrastructure (RTI).

Recommendations:

- Assess how many of the top technologies are in play in your infrastructure.
- Evaluate where these technologies can add value to your infrastructure solution.
- Maintain a road map for integrating selected technologies into your infrastructure.

Greening the Data Center

Speaker: John R. Phelps

“Greening” of data centers is presently driven more by pressure to reduce energy costs than by concern over environmental impact. However, sharpening focus on green concerns by governmental and regulatory agencies will put data center managers under pressure to demonstrate how they intend to cut down not just on power use, but on electronic equipment waste, hazardous substances and greenhouse gas emissions as well. This presentation suggested numerous assessments, technologies and metrics that data center managers should anticipate factoring into their greening efforts during the next decade. Recommendations:

- Immediately start measuring and reporting your data center's carbon footprint as well as its energy efficiency, and keep track of all actions taken or planned that demonstrate good corporate citizenship.
- Longer term: Analyze and improve cooling efficiency with air-flow analysis, use of “hot and cold aisles,” and liquid-cooling solutions

Keynotes

Welcome Address

CEOs want cost reduction, more flexibility, support for growth from the IT organization, regardless of the economy. That's why 80% of CIOs expect major changes during the next three years — 40% of CIOs expect transformational change, according to Gartner's latest CIO Survey. Expect old metrics (such as IT spending as percentage of revenue) to give way to new metrics (such as IT spending needed to gain new clients). Seventy percent of CIOs say their organizations don't have the right skills to create the needed change. Therefore:

- Focus on pivotal roles and competencies.
- Capitalize on talent globally.
- Make IT attractive to digital natives.

Analyst Keynote: Technology-Enabled Business Acceleration

Be counter-intuitive — while cutting costs, have other staff prepare for the return to growth. If you wait until the recession ends, you'll lose months of opportunity. Schedule meetings with business executives to go over the project portfolio and decide what to keep and what to cut. Web 2.0 enables amazing productivity. Plenty of Fish, a dating site, has 2.5 million users per month, generates \$10 million a year in revenue, and is run by one full-time and one half-time worker. You need to figure out how to employ IT resources for competitive advantage. For example, a context-aware network would know where you are, what you're doing and what you need. You also need to provide mass-produced, repeatable services, not technology, to the business by:

- Developing a usage measure like the kilowatt-hour.
- Changing the IT workforce from caretakers to service managers.

CIOs and other leaders need superlative communication and an ability to influence throughout the enterprise.

Keynote Panel: A Look Into the Labs

Gartner analysts interviewed four research leaders from major IT vendors:

- Rich Friedrich, HP
- David Douglas, Sun Microsystems
- Guido Jouret, Cisco Systems
- Steve Hoover, Xerox

What are you working on now?

Friedrich said consumerization is the next big thing for HP — figuring out how enterprises can integrate consumer devices and technologies for business purposes. This includes location-based and context-sensitive services.

Jouret said that Cisco is working on technology for distance collaboration that includes things like connected whiteboards that allow two engineers to work on the same drawing simultaneously. Also, Cisco is working on a “HealthPresence Pod,” a kiosk with connectors for medical equipment, such as a stethoscope or blood pressure cuff, that allow doctors to examine patients over distances. He said enterprises need to ask themselves, “Where do you collaborate?” to make the most of this kind of technology.

What technologies outside your own labs impress you?

Jouret: Advances in the automation of programming. Neural network models may help develop more sophisticated applications.

What is most important to drive innovation?

Strong enterprise leadership with vision, good communication and networking inside the enterprise. Hoover said: “Above all, know your customers.”

What People Asked About

How and where do I get started with strategic planning?

The problem is getting enough detail to start. If you go straight to the business units and ask them what they want, they will not be able to give you enough detail. Go instead to peers in the IT organization and ask them what they are working on for businesses. They can probably provide the level of detail you need to get started. From this base, develop a “strawman” proposal as a basis for business dialogue to refine your plans.

How can I best organize my I&O operation?

There is no single, best I&O organizational structure because so many dimensions and factors affect organizational design. However, matrix management is likely to be used by most enterprises to address I&O’s multiple focal points. Increasingly, “virtual” teams are established for specific projects. Some teams will exist only for the duration of a project and are then disbanded. Others are ongoing and work to integrate such critical processes as configuration management. Structuring work this way will become the prevalent mode as newer generations of IT professionals become more of the working population.

How can I access the Gartner I&O Maturity Model, and what it will do for me?

The Gartner I&O maturity model is built on the four key dimensions of process, people, technology and business management and is currently available exclusively to Gartner for IT Leaders clients. The tool is geared to the level of detail that our I&O clients tell us they need to properly assess the state of their I&O. It enables you to self-assess your maturity in all or any of the four dimensions — and by key attributes of those dimensions (for example, “skills” is one of the attributes of the People Management dimension.) Additionally, the Maturity Model returns recommended actions and suggested research customized to your self-evaluation. The I&O Maturity Model is available to Gartner clients on gartner.com.

Things to Watch For

Virtualization will gain traction throughout 2008, driven by issues such as agility, economics and QOS. I&O leaders will need to shift their own thinking — as well as the thinking of their IT colleagues and the enterprise overall — on many related issues.

Watch for cloud computing to evolve from the bottom up in the enterprise. Much like a Japanese car strategy, it will start with small, inexpensive implementations in places like branch offices and smaller businesses, and work its way back toward the enterprise as technologies, processes and mindsets evolve. I&O leaders will either control events relative to cloud computing or be controlled by those events. They need to look at cloud computing as an alternative to established systems, and develop ways to use it in more and more critical applications.

Watch for much increased adoption of Green IT. The initial driver will be economics, but this is one of the few cases in which economics and environmental concerns mutually reinforce one another. Things that should be done and must be done come together and complement each other. It makes sense economically and environmentally.

Survey Results

Nearly every attendee was interested in what would happen to IT budgets as a result of the current economic downturn. To deal with this “elephant in the room” issue, Gartner offered results from a global survey of CIOs conducted since the downturn began:

- CIOs project continued growth in IT budgets for 2008. Global IT budget growth remains unchanged at an average of +3.3% (the average is weighted based on company/budget size). More than 60% of CIOs reporting no change in their 2008 IT budgets, while 23% indicated a decline in their budget averaging 10% and 15% claimed an increase in their budget of averaging 14.75%.
- U.S. IT budget growth rates are softening. Overall U.S. IT budgets for 2008 are expected to grow, but the weighted growth rate has slowed from +3.1% in 4Q07 to an increase of +2.3%. One in four U.S. CIOs indicate that their IT budgets were reduced in the first quarter, 65% were unchanged and 10% reported budget increases.
- IT budget growth rates outside of the U.S. are accelerating. CIOs report accelerating budget growth in Europe from +3.2% in 4Q07 to +3.9% and in Asia/Pacific from +4.7% to +5.9%.

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