

Post-Event Summary

Gartner Data Center Conference 2007

Key Takeaways

Today's data center leaders face a difficult balancing act: how to deal with the urgency of a 24/7 operation while preparing for a future that's quickly bearing down on them. Just a few years ago, they may have worried about a handful of mission-critical applications. Now their data centers support hundreds, sometimes thousands of applications under the pressure of continuous availability. The balancing act becomes even more challenging as the demands of cost, growth and process are added.

At **Gartner Data Center Conference 2007**, IT managers and execs gathered for an in-depth look at what makes their data centers run smoothly – from infrastructure and operating systems to software, storage and servers.

No doubt attendees shared similar concerns. How to ensure their data centers run at peak efficiency, not just right now but in the future? Which technologies and trends – from virtualization to going green – will have the greatest impact? What they discovered was credible advice to address here-and-now challenges and to move their data centers forward – despite the obstacles.

Take a look at some of the key takeaways (from the 60+ sessions that were offered) that attendees garnered from four days of forward-looking analysis and tactical insights:

- Now's the time to build a strategic plan for your infrastructure. Many vendors are vying for control of it. But it's up to you to ensure your vision, and not theirs, is realized.
- Virtualization isn't just about increasing the use of x86 servers. Rather virtualization will have major operational, cultural and business process implications across the IT organization.
- Organizations with extreme availability requirements should merge their availability and disaster recovery processes.
- The secret to making IT Ops organizations run better, faster and cheaper is process maturity – and that may mean increasing the process improvement skill set of your staff.
- Change is escalating, and the best way to get it under control is through the standardization of technologies and management processes.
- VM sprawl is a real threat. Have a management plan in place and an overall infrastructure vision to counter it. Otherwise, you'll face significant reductions in ROI.
- To achieve true business resiliency, Business Continuity Management (BCM) must go beyond the specialized language and worldview of IT and be made relevant to business strategies and profitability.
- Going green isn't just a fad. Various aspects of this trend will have profound effects on data centers through 2012.

Conference Highlights

A 6-track agenda – with an all new track solely dedicated to virtualization – provided the bandwidth attendees needed to explore the big issues impacting cost, growth and process in the data center. What was up for discussion? Major trends in buying and using storage services, new thinking about SLAs, virtualization's impact on IT architecture, software innovations for IT Ops, the future of Unix, new technologies in back-up and recovery and much more. What was delivered? A wealth of industry knowledge, best practices and market intelligence – all under one roof.

Here's a quick review of the opening keynote and highlights from key conference sessions. For the latter, selected results to on-site audience surveys are also included:

The Future of Infrastructure & Operations

In the opening keynote, Vice President and Distinguished Analyst Tom Bittman offered guidance to IT leaders who want to shape the future of I&O, and not just react to it. The goal of a successful data center is increased agility. But getting there makes for a tough journey – one that requires a solid understanding of newly emerging but far-reaching changes. Bittman advised attendees that in today's connected world agility is a prized business differentiator and achieving it – and ultimately a real-time infrastructure (RTI) – requires the:

- Harnessing of key trends and technologies, including virtualization, unified communications, CMDB, and dynamic multisourcing.
- Building a strategic plan that considers process, technology, people and management.
- Measuring progress as the key to delivering agility and quality of service.

Architecting for 24/7 Availability

The pressure is on for 100% availability – even through disasters. How does a data center achieve it? This was topic A for Analyst Donna Scott, whose presentation explored the business system architectures, IT best practices and strategies leading to continuous IT service availability. Up for discussion were the in's and out's of:

- Developing and formalizing an availability strategy and architecture to reduce downtime.
- Designing robust application architectures for continuous availability.
- Investing in maturing IT management processes toward service-level management.
- Increasing the rigor of end-to-end change testing across infrastructure, applications and management processes and procedures.

Table 1. Selected Polling Results for “Architecting 24/7 Availability”

What is the Recovery Time Objective (RTO) of your top-tier mission-critical applications?

1. Zero:	11%
2. Less than or equal to 1 hour:	18%
3. Less than or equal to 4 hours:	39%
4. Less than or equal to 12 hours:	6%
5. Less than or equal to 24 hours:	13%
6. More than 24 hours:	13%

For your DR strategy, what is the failover granularity?

1. All-or-nothing site failover:	16%
2. Mostly all or-or-nothing site failover (just a few applications failover independently):	33%
3. Granular failover by IT service or groups of IT services:	45%
4. Don't know:	6%

For your most critical applications, how would you rank in unplanned downtime?

1. Very Good (99.3%;< =61 downtime hours/year):	25%
2. Outstanding (99.7%;< = 26 downtime hours/year):	54%
3. Best-in-class (99.95%;< =5 downtime hours/year):	20%
4. 100 percent (zero unplanned downtime/year):	1%

Server Virtualization for x86: Trends, Best Practices and the Future

The virtualization market is moving at lightening speed. The players are changing, the value proposition shifting, and technology is evolving. New trends are roiling the marketplace. Hypervisors are getting thin and inexpensive; infrastructure virtualization management is moving to the forefront, and client virtualization is going mainstream. Tom Bittman outlined how data center executives can meet the pace of change by:

- Deploying x86 server virtualization now.
- Evaluating the benefits of virtualization beyond simple cost savings.
- Trying Microsoft's Hyper-V-beta and Systems Center VMM management tools.
- Addressing VM sprawl with a management plan and an overall infrastructure vision.
- Managing process change enabled by virtualization.

Table 2. Selected Polling Results for "Server Virtualization for x86"

Which virtual machine solution are you using for x86 servers now?

1. VMware:	69%
2. Citrix/XenSource:	2%
3. Virtual Iron:	1%
4. Oracle:	0%
5. Microsoft:	4%
6. Several:	15%
7. None:	9%

Which virtual machine solution will you be using for x86 servers in 2009?

1. VMware:	59%
2. Citrix/XenSource:	3%
3. Virtual Iron:	2%
4. Oracle:	0%
5. Microsoft:	9%
6. Sun:	4%
7. Several:	23%
8. None:	9%

Do you expect to try Microsoft's Hyper-V's beta?

1. Yes:	46%
2. No:	36%
3. Maybe:	18%

Best Practices for Organizing and Staffing IT Infrastructure Operations

Service quality. Change. The need to reduce cost. Infrastructure and operations organizations are being squeezed from all sides. With Analyst Ed Holub at the helm, this session looked at how to develop an organizational structure with well-defined roles and responsibilities, good processes and a versatile, change-responsive staff. Attendees learned the importance of:

- Tailoring the organization to match customer needs.
- Increasing formal testing rigor and developing a release management process.
- Utilizing matrix management to introduce process accountability alongside functional responsibility.
- Employing metrics to drive the right behavior.

Table 3. Selected Polling Results for “Organizing and Staffing IT Infrastructure Operations”

What does your organization primarily use to determine infrastructure/operation staffing levels?

1. Custom benchmarking:	4%
2. General industry staffing ratios:	6%
3. Workload driven metrics:	17%
4. Constrained by available budgets:	60%
5. Method other than those listed:	8%
6. Not sure:	5%

What portion of your infrastructure/operations staff is outsourced?

1. 60-100% to traditional outsourcers:	5%
2. 60-100% to traditional outsourcers & offshore:	2%
3. 21-59% to traditional outsourcers:	3%
4. 21-59% to traditional outsourcers & offshore:	3%
5. 1-20% to traditional outsourcers:	27%
6. 1-20% to traditional outsourcers & offshore:	16%
7. Totally insourced:	44%

Which of the following steps does your organization utilize?

1. Formal mentoring program:	2%
2. Encourage staff rotations:	8%
3. Offer technical career path parallel to management:	12%
4. Two of the above:	29%
5. All three of the above:	12%
6. None of the above:	37%

What People Asked About

“What should we consider when selecting x86 server virtualization technologies?”

This was one of many questions on virtualization that was raised at the conference. In general, VMware is a better solution for general enterprise roles. XenSource, Virtual Iron, Novell’s Suse and Red Hat are best for small to medium businesses, especially Linux-based applications. Oracle is primarily suited for Oracle applications. And Microsoft is a solid choice for midrange and small customers – especially into 2009.

“Which applications make the best candidates for virtualization?”

The best applications to focus on tend to be older, smaller, packaged applications, and tend to be more CPU-bound than I/O-bound.

“Why are companies investigating and pursuing “green” data centers?”

For most, it’s about self-preservation. They’re trying to reduce the rapidly growing impact of power costs. However, a true “green strategy” is more than just energy efficiency. Environmental friendliness in the data center should include waste management, asset management, support services, building construction and facilities management.

“How will real-time infrastructure technologies change the outsourcing equation?”

Real-time infrastructure (RTI) technologies enable much better economies of scale. So for services that aren’t constantly changing, for workloads that vary widely in resource requirements and for smaller IT organizations, outsourcing will become more attractive. However, RTI also automates complex management problems and processes. That means large organizations can leverage economies of scale internally, which makes outsourcing less attractive.

Things to Watch Out For

Disruptive technologies

They are bound to affect your data center and IT operations dramatically over the next 5 years. Keep an eye on these top-ten technology areas: unified communications, Web platforms, operations process automation, server fabrics, metadata, configuration management databases (CMDBs), Mashups, virtualization, social software and "Green" IT.

Servers

Server technology continues to evolve rapidly, and server vendors are undergoing significant transformations. The broad adoption of server virtualization technology is changing the way data centers and server vendors conduct business. What lies ahead? Products that aren't server-centric but are more modular. The modules in these designs will be network, storage, and processor/memory components.

Storage

Storage growth continues unabated, thanks to unstructured data such as e-mail attachments, digital media, medical imaging, and more. The surge is on. By 2011, users will install almost 6.5 times the amount of terabytes they installed in 2007.

Organization and staffing

When it comes to justifying staffing size use industry staffing ratios to validate, in general, how your organizations stacks up against others. But focus more effort on developing methods to improve staff productivity.

Vendors & Virtualization

In three years, more than half of the companies created to specifically support the server virtualization management market will fail. Be prepared to choose management vendors that go beyond simple compatibility, and opt for providers that can exploit virtualization capabilities.

Infrastructure and Operations

The days of the monolithic, general-purpose operating system – upgraded every three to four years in a massive update – will soon be over. Operating system vendors such as Microsoft are putting more investment in modularization and off-cycle function delivery.

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 **Save the date. Gartner Data Center Conference 2008 taking place December 2-5 in Las Vegas!**

For more information go to gartner.com/us/datacenter

Check out the upcoming Gartner IT Infrastructure, Operations & Management Summit, taking place June 23-25 in Orlando, FL.

This event will focus on assisting IT infrastructure and operations attendees to take the "pole position" within the industry and to lead their businesses in exploiting the strategic benefits of virtualization. The agenda is crafted to help both those new to virtualization technology get up to speed quickly, while providing greater insight into the business ramifications for those organizations already significantly down the adoption curve.

Hot Topics Covered:

- Virtualization and consolidation best practices
- Virtualization technology and provider analysis: Client, Server, Applications, Storage, Network
- Improving business alignment using virtualization
- Consolidation Trends, Directions and Technologies

For more information and to register for Gartner IT Infrastructure, Operations & Management Summit go to gartner.com/us/iom.