CIOs and other C-level executives gathered at the venerable Biltmore in Santa Barbara on June 2 – 4, 2010 to discuss the most critical IT issues they are facing today. They received information and industry insights for making decisions to better manage the IT function and integrate it more closely with the overall goals of the organization. An impressive roster of experienced industry specialists and executives shared their knowledge in group presentations as well as small, intimate discussion sessions. Notes taken at these sessions are included in these proceedings.
To the reader:

These Conference Proceedings summarize much of what was said at The Future of Flexible Infrastructure, a conference sponsored by Key Information Systems for CIOs and other C-level executives. The conference was held on June 2 through 4, 2010, at the Four Seasons Resort, The Biltmore, in Santa Barbara, California.

**Why we held this CIO retreat**

The management and professional staff of Key Info were convinced that the technology industry and business community are poised at a critical juncture in the evolution of new technologies that will significantly shape the success of IT strategies in the future.

There’s much talk about a host of new developing technologies: Cloud Computing, Social Networking, Software as a Service, Virtualization, IT Security, New Servers and Storage Management. At the same time, we are emerging from one of the most challenging financial times in recent history. This has created confusion about the strategic direction IT should take, as well as which emerging technologies should be leveraged and when.

**The results**

The Future of Flexible Infrastructure provided 25 leading industry speakers delving into the most critical IT management issues in a series of 23 sessions. Small breakout sessions fostered a one-on-one atmosphere designed to maximize individual participation with the resulting dialog revealing the major concerns of leading IT executives today.

Extensive coverage of this event was provided in an article and several video interviews by Senior News Editor Chris Smith of MC Press Online. It can be seen [here](#).

* * *

To sum up our motivation for this event, we believe that the more education a client receives, the greater our potential will be in maximizing our value in contributing to their IT success.

We hope these Conference Proceedings provide you with the insights, thoughts and questions that highly experienced CIOs and C-level executives expressed during their three days at our conference.

Cordially,

Lief Morin  
President

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Key Info’s CIO conference, The Future of Flexible Infrastructures, offers an impressive roster of experienced industry specialists and executives. They came to share their knowledge in group presentations as well as small, intimate discussion groups. They provided C-level attendees information and industry insights for making decisions to better manage critical IT areas.

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The Future of Flexible Infrastructure

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The Future of Flexible Infrastructure

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The Future of Flexible Infrastructure

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Mr. West is working to raise the profile and charitable impact of the Northern Trust Open, originally the L.A. Open, one of the most storied events on the PGA TOUR. He is helping to build out the tournament’s L.A. Legends Club, a group of Los Angeles-area leaders who will serve as ambassadors, helping to educate the community about the Northern Trust Open and all that it has done, and will do, for Los Angeles. His ultimate goal is to raise the profile of the Northern Trust Open in order to greater impact its charitable beneficiary, the Los Angeles Junior Chamber of Commerce Charity Foundation.

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The Future of Flexible Infrastructure

Table of Contents

Message from Lief Morin 2

Session Discussion Leaders 3

Session A1: Changing the Desktop Virtualization Game 9
Session A2: Privileged Information Secured within Virtualized Infrastructures? 11
Session A3: Virtualization and Business Continuity: Help or Hindrance? 13
Session A4: Creating a Solid Foundation for Today’s Enterprise-wide Virtual Infrastructure 15
Session B1 – Blue Skies; Dump Your Problems on the Cloud? 18
Session B3 – Securing Applications in the Cloud: The Good, The Bad, The Ugly 19
Session B4 – The Cloud: Path to Innovation and Gaining the Competitive Edge 21
Session C1: Security in the Enterprise What’s your Strategy? 23
Session C2: Security – Addressing Internal Security Issues 27
Session C3: SECURITY - Monitoring your Network 29
Session C4 – Security: It’s Amazing What You Don’t Know 31
Session D1 – Reliability and Performance: Architecting Your Network 34
Session E1 – Virtualized Server and Storage Management 36
Session E2 – Information Life Cycle – Twists and Turns of Storage Management 38
Session E4 – HA and DR: The Great Protectors of Your Servers, Storage and Network Infrastructure 40
Session F1 – CIO Balancing Act 48
Session F2 - Social Networking: Lead, Follow or Get Out of the Way! 50
The Future of Flexible Infrastructure

Session A1: Changing the Desktop Virtualization Game

Discussion Leaders: Yasmine Kahn, Microsoft and Jim Wooldridge, IBM

Abstract
Pressure to reduce costs and improve service levels has made Desktop Virtualization a critical initiative. What are the Best Practices and how do you maximize returns?

Discussion: How virtualization solutions can empower you and dramatically simplify implementation and operations? Can your end users receive an unprecedented level of performance and personalization?

Regarding Virtual Desktop Infrastructure (VDI):
1. Flexibility is needed to handle differences in desktop computers. See: http://en.wikipedia.org/wiki/VDI
2. One attendee noticed that their 5250 connections stay up much longer than their graphic interface.
3. There was interest in supporting Video in the VDI environment. New video offerings in VDI were forecasted in 4 to 6 months (December, 2010).

You have to look at how to structure a VDI implementation. Many VDI users underestimate storage requirements. Hardware savings are minimal. Savings are:
1. Better customer experience
2. Total Cost of Ownership is better
3. Saves in people costs

Other VDI take-homes:
1. Workload reduction and faster processing of the workload
2. Asset protection
3. Software inventory
4. Disaster Recovery
5. Reduce the administrative management of systems
6. Very useful for Entertainment and Health Care industries

An attendee: We’re at a crossroads to decide what type of desktop computers for our remote locations. Our challenge is to support our remote desktops with no people. Many of our desktops in remote locations are running on older MS operating systems. VDI is being considered as a way of managing our remote desktops with no technical talent at the remote sites.

Edge cases for VDI: Mobil media, Geographic Sensitivity, user mobility

Suggestion: Don’t implement VDI without management first; imbed it as fabric in the VDI environment.
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2009 Microsoft survey of CIOs: Showed them to be resistant to VDI.

Combining Cloud Computing and VDI: Allows you to bring up your applications faster, leading to more innovation.

VDI today: Offline VDI may not be living up to the hype around it. If you have to go to a different server for personal databases, it can slow the experience.

Roaming User Profiles: Can experience degradation with VDI; Virtual Machines can help with this problem. VDI performance depends on file sizes and how you’re using them and what you are accessing. See: http://en.wikipedia.org/wiki/Roaming_user_profile

Take-away Ideas: VDI can provide an environment that supports a better customer experience, it improves Total Cost of Ownership, and most significantly, it reduces the direct labor needed to provision desktop PCs for new employees.

JA DF
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Session A2: Privileged Information Secured within Virtualized Infrastructures?

Discussion Leader: Scott Harvey, VMware

Abstract
Ensuring the security of proprietary data within a virtualized environment is more important than ever. Yet standards established to protect companies against damaging threats continue to confound many.

Discussion: How can companies build privileged access management into the virtualization implementation process to ensure that the benefits of the virtualized environment outweigh the risks?

Question: How to secure Virtual Machines?

Answer: Intrusion usually takes place though an API service. APIs that are exposed by Hypervisor are usually where the intrusions take place. If the API code set is small, then the potential for security breach is small.

Attack strategy: The attacker tries to get into one Virtual Machine, then tunneling into other VMs. If the virtual network is locked down, then it will be more difficult for an attacker to move from VM to VM.

Trend Micro (http://en.wikipedia.org/wiki/Trend_Micro) and Symantec (http://en.wikipedia.org/wiki/Semantics) are creating security antivirus appliances that run on the host. They manage the zone. The appliance will protect the entire host and all VMs in the host. Once the virus has been identified by the appliance, it will drop all network packets of the network so it can’t infect any other VM. It saves time over updating antivirus software on each VM. It was reported to be coming in August 2010.

Session attendee asked: Why don’t we take the anti-virus out of the OS level and move it to the infrastructure level?

Harvey: Security is not a big threat in the Virtualized environment yet. Security in the External Cloud is a bigger threat. To prevent the latter, IT shops need to work on developing good management practices for the Private Cloud first. See: http://en.wikipedia.org/wiki/Cloud_computing

Recommend: Install a Packet Sniffer in a Virtual Machine, then attach to VMware’s Vswitch to then do all monitoring. For more, see: http://en.wikipedia.org/wiki/Packet_analyzer and http://www.virtualizationadmin.com/articles-tutorials/vmware-esx-articles/installation-deployment/vmware-understanding-virtual-switch.html

Cost Benefit Analysis and Time Benefit Analysis are causing people to really look into Cloud Computing.

Microsoft and other software vendors: They will have to work out the licensing compliance issues having to do with applications running in a Cloud Computing environment.

Secure Environment: Putting many mission critical applications into one virtualized environment is just like putting all your eggs in one basket. While very efficient, it does create a tempting target for new security attacks as well as a single point of vulnerability. It will only be a matter of time before we see more security threats that are unique to the virtualized environment. Pooling IT resources onto virtual machines residing on a single host virtual server raises the critical nature of properly securing virtual environments.
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More on Cloud Computing and licensing:


Take-away Idea: Ensuring the security of proprietary data within a virtualized environment requires a new approach. The Hypervisor layer has been successfully breached and CIOs will have to consider how to protect against this new exposure frontier given its critical importance in the IT stack.

JL
Session A3: Virtualization and Business Continuity: Help or Hindrance?

Discussion Leader: Scott Harvey, VMware

Abstract
Virtualization improves application availability and data protection and can dramatically shorten Disaster Recovery time. Not so apparent, virtualization also improves business continuity preparedness. In fact, 67% of SMBs report notable improvements in preparedness for business continuity as a result of adopting virtualization.

Discussion: How does the management of virtualized environments impact business continuity in the enterprise?

The discussion focused on: Where are we going with VM and what is VMware, Zen and Microsoft doing to take it to the next level.

How can we make virtualization more mobile?
There is a need for information on the mobility of virtualization, like on laptops and for the road and for portability.

The ever-present question is: How can we keep users working and productive?

Attendee: I would love to be able to failover from my Physical to Virtual environment. Can it later fail back to the Physical environment?

Answer: VMware does not offer tools to allow you to go from Virtual back to Physical environment. Today, there is no way of taking a Virtual Machine under VMware and bringing it back to a Physical Machine.

Areas of interest to attendees:
1. Virtualize load balancing.
2. Security issues with Apps on public computers.
3. Virtual environment for 3D graphics.

One attendee in manufacturing reported they are 100% Intel environment virtualized. Their next step is to consolidate their storage for Disaster Recovery. They are struggling with storage backup. Want to simplify their disaster recovery. They are also consolidating Exchange and Active Directory. Having internal discussions on virtualizing applications, machines and datacenters.

It can be hard to change the way things get done in an organization.

VMware Exchange Rangers (support personnel) help customers solve issues related to virtualizing Exchange.

Advice: Keep the VM cloud up to date for everything across the WAN at a DR site.

VMWare's Fault Tolerant capability is limited to two virtual processors. It does not support WAN yet.
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The roadmap for VMware: 1TB of memory, 8-way SMP. For Fault Tolerance, multiple processors and MAN connection to be followed by WAN later.

Harvey reported that VMware is continuing to provide technology that will advance availability including Continuous Operation of applications across a broad spectrum of the global datacenter.

High Availability (HA) will allow you to restart virtual machines rather quickly.

VMware Distributed Resource Scheduler (DRS) will allow you to measure the resources and apply policies to make sure virtual machines receive the required resources. For more, see: http://searchvmware.techtarget.com/sDefinition/0,,sid179_gci1307805,00.html

VMware VMotion lets you use live migration to move virtual machines from one physical server to another with zero downtime and no end-user impact. Can move from array to array.

Harvey on VMware futures:

1. Looking to combine VMware’s VMotion (http://www.vmware.com/products/vmotion/) and Storage VMotion (http://www.vmware.com/products/storage-vmotion/) to allow everything to move at once.

2. VMware is working on data compression to improve performance and on developing more specific policies for resources.

3. VMware is also working with ATI (http://en.wikipedia.org/wiki/ATI_Technologies) and NVIDIA (www.nvidia.com) for better graphics in Virtual environments.

Take-away Idea: Virtualization improves application availability, strengthens data protection and can dramatically shorten Disaster Recovery time.

JL
Session A4: Creating a Solid Foundation for Today’s Enterprise-wide Virtual Infrastructure

Discussion Leaders: Mike Stout, Matt Barkowitz and Derek Phillips from IBM

Abstract

Virtualization helps organizations around the globe turn their IT infrastructures into true competitive assets.

Discussion: What are the challenges facing today’s organizations as they seek to implement a virtualized infrastructure foundation along with Best Practices for these implementations?

Topics discussed:

1. VMware (http://en.wikipedia.org/wiki/VMware)

Windows Hyper-V: Two attendees were converting from Hyper-V to VMware; another attendee was using VMware and looking at Hyper-V.

Virtualization status: Attendees present were only about 10% virtualized today and wanting to get to 40% - 50% within one year.

Virtualization Order: Storage Virtualization is crucial to a comprehensive virtualization strategy and should be implemented prior to Server Virtualization.

Grid based storage: Discussed IBM’s recently acquired XIV Storage Solution. See:
http://www.xivstorage.com/
http://www.eweek.com/c/a/Data-Storage/IBM-Finally-Upgrades-Its-XIV-Storage-System-730822/

SVC: Discussed highlights of IBM’s SAN Volume Controller (SVC). See:
http://www-03.ibm.com/systems/storage/software/virtualization/svc/
http://www.crn.com/storage/220601224;jsessionid=SCNXCTBOLLYDZQE1GHOSKHWATMY32JVN

Cloud Computing: This was discussed with mixed views. One attendee was against Cloud for anything but the most trivial data or applications due to security issues. Other attendees were interested to learn more and understand both the cost and technical issues around Cloud opportunities.

Take-away Idea: Assess the benefits of implementing a virtualized infrastructure foundation. Virtualization is enabling organizations around the globe turn their IT infrastructures into true competitive assets.
Abstract

Why are most organizations not achieving more with infrastructure virtualization? Answer: They just aren't ready to yet. Organizations progress from gaining through the technology, to strategically standardizing on it, through a period of chaotic VM sprawl that leads to process improvements, on to the point of pooling and policy-based automation. This last phase is akin to the processes followed by providers of cloud computing platforms. These improvements cannot be fast-tracked — enterprises must go through each stage as they gain experience. Once you identify your stage of maturity, there are clear steps you can take to move to the next stage.

Discussion: Where are you in your level of virtualization? In control? Out of Control?

Concerns voiced by Scott Rose:

1. Virtualization users need to make sure they have a formal HA and DR strategy.
2. Virtual machines/servers are more complex on starting up and stopping.

Question to ask yourself: Where should the tool set come from -- home grown or manufactured?

Virtualization delivers a high level of abstraction for server architecture, storage or desktops.

Question: When going to virtual environment, what causes the most number of problems … CPU, bandwidth or memory?

Answer: Users need to make sure they have enough memory. VM systems run out of memory before anything else.

Warning: Make sure that the user understands their environment before converting to a virtual environment.

Problems:

1. Updating multiple VM servers at the same time, causing CPUs to spike.
2. Being able to get the right technical support is crucial. That involves being able to pick up a phone and get a live person when you need them.
3. Does my processor support Intel virtualization technology:
   http://www.intel.com/support/processors/sb/CS-030729.htm

Desired VM trouble shooting tool:

1. An attendee would like a tool that shows processor, memory and CPU pools from one location.
2. Microsoft’s application virtualization troubleshooting:
**Take-away Ideas:** Virtualization delivers numerous benefits for server, storage and desktop management, but significant planning and a thorough understanding of the computing environment is required before converting to a virtual environment.
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Session B1 – Blue Skies; Dump Your Problems on the Cloud?

Discussion Leader: Biri Singh, IBM

Abstract
Management of virtual infrastructure is set to move workloads to the most cost-effective platform. Many applications today exceed the ability of Cloud Computing providers. However, the situation is far from static and IT managers should assume the role of technology leader in helping their enterprise to operate on the most efficient compute platforms.

Discussion: Is it technically realistic to pay someone else to deal with your infrastructure problems?

General discussion on Cloud Computing:

KZ: Virtualization may solve machine problems but not security or policy issues.
CJ: Do I dump my info into a Cloud. Sounds too good to be true. What about SLA? Security risks? Cost is too good?
ASV: Has HIPAA concerns. Quest example: can access from Kinko's and not second to the device.
ASV: Bluetooth pens – SaaS sends date back to host.
KZ: Provider as well as consumer of SaaS (CAD) using Cloud provider for DR protection.
CJ: Looking at DR; total storage of 100TB; main issue of manageability.
JS: Has outgrown existing email; deciding what to do; running Postfix on Linux.
SS: Over time, Cloud Computing will take over; physical network infrastructure is a concern; Internal Cloud is what we've done so far.
SA: There might be different parameters for Internal Clouds.
KZ: Internal Cloud makes sense – each business unit has a common set of resources.
CJ: Internal Cloud is just marketing. Next big malware target is Cloud host through Virtual Machines – attackers will attempt to get to the host shell as a customer. This has been done in labs – not in out in the world. Doesn't like giving up control. Cloud doesn't necessarily protect trade secrets.
CJ: Judge may decide that putting on a Cloud invalidates trade secrets; still open issue.
ASV: Asked about the distinction between your bank's history and your data vs. that of a third party.
JS: Contract should provide for safety of information.
ASV: Who puts personal health record on the Net – no one – it's a cultural issue.
SA: It is a major concern … about being locked in to a Cloud vendor.
ASV: That all depends on the application you are considering for the Cloud.
ASV: Value of your data and the risk of not having that data tomorrow are key factors to consider.
SA: Asked how are we going do integration in a Cloud environment?
KZ: The problem doesn't go away. You give up flexibility. #1 question: Is it as flexible as in-house?
JS: Opportunities exist for third/fourth party provider. Cloud is good for some things but not reliability, cost, system upgrades.
Attendee: We are still having problems with security and integration. The demand of business units for cheap services is a main driver towards Cloud Computing. It all depends on the application.

Take-away Ideas: Cloud Computing currently helps to provide targeted solutions. There may still be too many concerns for an organization to adopt Cloud Computing as its enterprise strategy.
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Session B3 – Securing Applications in the Cloud: The Good, The Bad, The Ugly

Discussion Leader: Biri Singh, IBM

Abstract
Application Software running on or being developed for the Cloud presents different security challenges depending on the delivery model of that particular platform. The first question a CIO must ask is whether it’s appropriate to migrate or design an application to run on a Cloud computing platform? The second question: What type of Cloud platform is most appropriate … a Private, Public, or Hybrid Cloud?

Discussion: What security controls must the application provide over and above the controls inherent in the Cloud platform? What type Cloud are you ready for: Private, Public or Hybrid?

General overview: From the full room of attendees, most seemed to be not sure of the value of Cloud Computing due to the unknown costs associated with the pipe vs. the provider vs. the support required.

Attendee: One voiced a desire for a way out of Cloud-based implementations if Cloud-based implementations do not prove themselves out. Wanted to understand what it would cost to get out of a decision to take an application to a Cloud Computing environment. “I’m not going there until I have an exit plan.”

Design goals for implementation of an existing application for the Cloud:
1. The user experience moving into the Cloud and once in the Cloud should be transparent.
2. Training should not be needed for users if implementation done correctly as changes are transparent.
3. Users should be empowered to be more productive.

Dave Chou, Microsoft: One way of thinking of a Cloud is as a utility. Example: Your datacenter is like a kitchen. You sometimes eat out (go to the Cloud and pay more) and have something you would not normally have in your kitchen; other times you want to eat in your kitchen (your datacenter) and be in full control of everything.

Mike Cannon, Key Info: Issues of security, reliability, availability, customization and availability all can mitigate against moving a particular application to the Cloud. Applications where these factors tend to discourage movement to the Cloud include payroll, HR, finance, medical, legal and credit cards.

Attendee: Core financial applications are not ideal applications for the cloud – you should keep your data close to its natural users. Don’t force fit financial apps to the Cloud. The Total Cost of Ownership will not be attractive for these applications. Virtualization is a good fit for financial apps.

Microsoft: They offer outsource service for email. In 2009, they had 700 customers. Now they have 10,000 customers and some are large corporations, so more companies are outsourcing email. One CIO had looked into it and said the costs didn’t justify going that way … yet.

Success Story: One example of a very large Cloud is Farmville at Amazon.com, which uses 12,000 servers. Security issues are holding back wider adoption of Cloud Computing. See: http://www.reuters.com/article/idUS125115292920100402
Recent article on moving apps to the Cloud:

Attendee dialog:

GO: Microsoft’s view of the Cloud: “power of choice.” Not everything will move to the Cloud. Some things are better left on premises of the organization. Issues include control, security and legal questions. Integration is key.

Attendee: Found that Cloud not always cheaper

Attendee: What’s ideal app to move into the Cloud? Uses Internet – facing users – have a large community. Not doing financials – not heavily used but need 24 x 7 availability.

GO: Asked, is on-premises email dying?

Pete Elliot: It turns out that outsourcing email is harder than it seems.

Attendee: Email should be off premises – but some issues include: security, cost, and control.

GO: We are seeing a big takeoff of Microsoft’s BPOS (Business Productivity Online Suite) – over 10,000 customers using it.

KE: We had difficulty justifying costs of email outsource. She is on Groupwise with 1,000 users.

GO: The ugliness of the Cloud – performance and mobile support can be a problem.

PH: Can you go with a hybrid strategy for BPOS?

GO: Yes, 2010 BPOS will facilitate a hybrid strategy.

BS: Asked if there is a DR strategy for Cloud.

DC: kbb.com used Azure for DR purposes.

DC: Another ugliness of the Cloud: network/internet traffic not what it is said to be; need to check it.

Attendee: Need to distinguish between IaaS, PaaS and SaaS. See:


PaaS: http://en.wikipedia.org/wiki/Platform_as_a_service

SaaS: http://en.wikipedia.org/wiki/Software_as_a_service

Take-away Idea: The most typical concerns with Cloud Computing that were shared by all dealt with legal, financial and security issues. Microsoft is investing significant resources to develop their products to address these concerns. CIOs need to familiarize themselves with all the pros and cons of Cloud Computing before heading into such an off-site environment.
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Session B4 – The Cloud: Path to Innovation and Gaining the Competitive Edge

Discussion Leader: Stefan Andreasen, Kapow Technologies

Abstract
Cloud computing is the buzzword. Many traditional vendors are using the term though their solutions are still rooted in legacy architectures.

Discussion: Do Internet-scale architecture and browser-based applications produce significant advantages? Does the cloud speed innovation? Does the cloud improve reliability? Where does security fit in? How does the upper limit of economies of scale impact the cloud? How does innovation go beyond what is possible with on-site technology? Do single-tenant hosted applications in the Cloud gain you a competitive edge?

The big questions for Cloud Computing:

Portability – Ask, what are my options to change vendors?

Security – It the outsourced application to a Cloud being backed up properly? Are they upgrading their software in a timely manner?

For outsourcing to a Cloud:
1. Carefully review the outsourcing contract
2. Do you have the necessary skills to manage your contact at the outsourcing agency?
3. Is your outsourcing contact local. One attendee: “You need a throat to choke with those guys!”

Contracts: A good contract is the key to success with Cloud vendors:
1. It could lead to the loss of IT people resources.
2. Tools might be more costly than realized.
3. Infinite band width in a Cloud is a myth; there will be slow days and other bad days on the Internet. And there is no one you can call if the part of the Internet you are using is down.

One attendee CIO said that she would need an exit strategy before ever porting some of her employer’s applications to the Cloud.

Microsoft has an exit strategy built into its Cloud offering so can switch to local operation if the Cloud goes down.

Attendee discussions:

Attendee: We still must justify Cloud Computing as a business decision. IT must be familiar with Cloud Computing to push the Cloud concept into business units that want to pay only for what they use.

Attendee: Is disappointed in how the term Cloud has been broadened and wants limitless supply of resources to pay for as he uses. He has concerns re: regulatory and security.

Attendee: Has concerns with integration but she is doing SaaS. Easier to buy services than hire people.
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Attendee: We are using SaaS for some apps that are browser-based.
Attendee: We are looking at application development; might need to deploy on Cloud.
Attendee: Cloud Computing will be treated in the future like FedEx, UPS … just a basic service.
Attendee: Cloud Computing is useful for Proof of Concept of new apps.
Attendee: Portability was an issue with this person.
Attendee: One key is to negotiate a good contract. Second key is to have a good manager over the outsourced work.

Take-away Idea: When getting involved with a Cloud Computing solution, be sure to understand all of the contractual issues; especially know what your options are if you ever want to leave the Cloud vendor.

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Session C1: Security in the Enterprise What’s your Strategy?

Discussion Leaders: Russ Rowe, CSO and Jim Elste, Symantec

Abstract

Information Security Components: Confidentiality, Integrity and Availability. Information Systems are composed of hardware, software and communications with the purpose to identify and apply information security industry standards as mechanisms of protection and prevention across three levels or layers.

Discussion: Focus on evolving security classification strategies, levels and components that should be addressed and planned including Compliance, External and Internal Intrusion, Identity Management, Risk Management, Threat Analysis, Asset Management, Human Resources, Vulnerability Assessment, Access Control.

Questions to ask related to Security:
1. How do you keep up with internal and external regulations?
2. How do you know you are secure?
3. Does anyone feel secure?
4. Are there any designated Security personnel in the organization and do they understand IT?
5. How many IT and security audits do you have today versus how many should you be performing?
6. What should you be protecting?
7. How do you get started and/or where do you start?
8. What is strategy for IT security?

Many of the discussions focused on these security issues:
1. Companies integrating HR with Security
2. Penetration Testing
3. Encryption of Email
4. Identity Theft
5. Legislation’s impact on security
6. PCI
7. Background checks
8. Mobility – cell phone security

Three basic types of security threats:
1. Malicious Inside
2. Malicious Outside
3. Well-Meaning Inside – this is the highest risk.

The risks are higher within the walls of your organization than outside them. Are you working with your HR group to integrate security into your policies/practices? Security should be present throughout corporate policy.

Sometimes compliance/regulations can actually reduce security because of the "minimums" that have been instituted in the regulations.

Often times, IT organizations have so much to do (compliance/quality/etc.) that they cannot get ahead of the curve; outsourcing in some fashion to 3rd parties becomes very attractive, yet it can affect security negatively.
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Jim Elste: Here is a Confidentiality Test: Google your name or documents and include “Confidential” and see if documents show up in the Google search due to being misclassified in your company. You may be surprised. Many documents classified as Confidential are floating around the Internet … your corporate assets at risk!

Session dialog about security:

Elste: “Do you have a Framework? We have WRC as a Framework. It helped us to identify holes in our processes. HIPAA guidelines were the driver for establishing our framework.”

Elste: “The agenda within government agencies is to push more policy and mandates within Health Care organizations. There are moves to have federal disclosure laws. How do you put a standard for encryption into a law? How do you legislate IT to be flexible enough to keep up with changes in technology?”

Elste: How many staff members have security built in to their job responsibilities?

Attendee A: Three in our organization are focused on day-to-day security and our challenge is to stay up on mandates around security … a huge issue to address. We do Open Testing, which will result in a dozen projects out of that effort.

Attendee B: We are putting Framework and a set of controls in place so we won’t be chasing the auditors.

Attendee A: Companies are too reactive because they don’t have a framework in place for being proactive. Mass Mutual audited and exposed someone. That’s when we got serious about security.

Attendee C: We are so overly-regulated and underfunded that we exist in a reactionary mode. To be proactive is almost impossible. Outsourcing is a possibility to help with this issue but there are quality issues with it.

Attendee B: Until you understand and know what you’re trying to protect, you’ll spend time and money trying to protect and prioritize your assets. In Texas we say, You don’t put a $10 fence around a $5 horse.

Attendee D: Credit card data is big in our company. An external scan found old code that could have caused downtime and issues in our process. The external scan found more bad code and as a result, we began doing audits on our data. Our assets are at code level now.

Attendee A: We are seeing persistent advanced threats. Google attacks using extremely sophisticated approaches such as spear phishing have introduced malware into our environment. Organized crime is huge and sophisticated and we consider it a real threat. They are even stealing armored car plans

Conclusion: Most people / organizations cannot quantify the assets that they have. It takes education, awareness and getting mindshare to build effective security to protect those assets. Many organizations are providing defensive solutions by developing or acquiring very focused defenses against specific types of malware.

Ask yourself: Who is responsible for security in my organization?

The answer is … EVERYONE! It is important to educate and make people aware that each person has their own responsibility for security.

A consultant asked:

1. How many here are doing ongoing background checks on your employees once they are hired?

2. How do we provision users to access information and data and have access to their environments? Controls must be in place and IT must be able to monitor those controls at any given point in time.

Mobil devices: These have become crucial drivers in IT. You need a policy for securing corporate data on mobile devices. Put controls in place to monitor who has the PDAs in your organization and assume there is greater risk for those users.
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Virtual Desktop Infrastructure (VDI) can help with the security around remote access to data. See:

Data Loss Prevention (DLP) is crucial for managing data securely. See:

DLP is the first tool that allows you to inspect content (inspecting PDF, Word, etc.). If confidential or sensitive, you can set policies around that information.

Social Networks: Another concern is security risks posed by social networking sites. This is requiring in-depth defensive thinking that is taking place now.

Mobility: The drive in business is toward mobility. To keep things secure, innovation is going to be crucial. If a process is built for flexibility, dynamic changes can be handled constantly.

Prioritizing: You will face conflicting priorities … the demand exists for a certain level of security, but also there is the need to provision and provide access to information to your users quickly.

Symantec: They ran into over 2 million viruses last year. They wrote more anti-virus definitions last year than in the entire history of Symantec. Their free virus scan:

Education: IT must continually educate its user population to understand the many types of security threats and the many means of breaching security through phishing, malware and other means including viruses, worms and Trojan Horses.

Links for phishing:
http://www.antiphishing.org/
http://en.wikipedia.org/wiki/Phishing

Links for Malware:
http://en.wikipedia.org/wiki/Malware
http://www.webopedia.com/TERM/M/malware.html
http://www.malware.com/
http://www.symantec.com/norton/security_response/malware.jsp

Links for Trojan Horse:
http://en.wikipedia.org/wiki/Trojan_horse_(computing)
http://www.topbits.com/trojan-virus.html
http://irchelp.org/irchelp/security/trojan.html

Links for Mobil Security:
http://www.firewallguide.com/pda.htm
Take-away Idea: Security threats are constantly evolving so a good Security program cannot remain static. Companies must invest time and resources into their security programs to ensure people, processes and tools are constantly up-to-date to maximize security and to protect corporate assets. Many companies do not have the in-house expertise or resources to maintain a quality security program. These companies should consider leveraging third party consultants who specialize in security to augment their internal security programs. Even companies with good in-house security programs should consider the occasional use of third party security consultants to get a neutral second opinion of their security programs.

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Session C2: Security – Addressing Internal Security Issues

Discussion Leader: Jerry Welsh – IBM

Abstract

Gartner Inc.: “Information security today suffers from a proliferation of unconnected point products, creating unnecessary complexity and cost. With a shift to targeted and financially motivated attacks on information, the challenges of managing risk and compliance, and the need for businesses to collaborate both internally and externally. Information security needs to move to integrated, identity-aware, adaptive security systems that support business initiatives instead of blocking them.”

Discussion: How are you integrating your internal business units to offset security threats? What are tips, techniques and solutions to consider when avoiding common internal security breaches?

Security concerns:

Constant Challenge: Identity management and changes in resources; there is not yet one good process for this.

Health Care Reform (HCR): Privacy perspective – Government involvement forces the exchange of data for quality of care. Security and privacy issues for Health Care are overwhelming.

Internal Threat: This is the biggest concern, regardless of the vertical market. Awareness of internal threats is a big part, but many companies do not see it as a big threat. The perception is that there is not much of a threat internally.

ROI: Many clients are looking at the tangible components of ROI to justify the cost of security. It's difficult to measure ROI, except for security measures such as Identify Access Management. Single Sign-On and Compliance Reporting can decrease the risk that hackers are accessing data and assets.

Challenges: Dealing with contractors, third party business partners, and needing access to specific data for a specific time period, are very challenging in managing the provisioning of assets with business partners. Data, supplier information, and raw data are all critical to our business. This huge asset to protect, and to provision access to, becomes a huge challenge.

PCI and Credit Card: E-commerce security and ensuring PCI compliance and ensuring infrastructure are set and established to meet PCI compliance and prevent hackers through web-based portals. When users access corporate data and download information, information leakage is a potential problem. However, until a security incident occurs, it’s not seen as an issue. Corporations are not enforcing policies to address data at rest, and data in motion.

Finance perspective: There is concern in the Finance Department about data integrity, provisioning, and access of corporate data and applications. As hackers become more sophisticated, this concern increases.

Legal concern: Changing laws in Massachusetts concerning PCI. The issue is: how to keep up with changing laws – Internal Security is always a threat. From the top down, security is not viewed as an issue. Policies are not being enforced due to “internal” politics. Why? Because executives can assume and mitigate the risks. For anything outside executive management, they assume risk will be a “sign off” with the auditors.

Key Questions

1. Are you auditing access of privileged users?
2. Are you checking access against corporate policies and tracking to them?
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Compliance dashboards by IBM and NetForensics: These allow you to know who has access, what they can do. They can also offer proof to an auditor in a reporting tool to help become compliant, detect actions on the back end, and reconcile them against specific regulations.

Log Continuity Issue: Attendees felt there should be a tool to allow you to see where there are missing items (such as invoices), etc. There is a need to evaluate the risk and make a decision whether or not the cost to prevent it is worth the cost of the cure.

Preventative Action: Locking down servers and Identity Management. IBM takes SSO and Identity Management and combines the two for privileged users. SSO engine policies will allow you to provision assets and set up policies around the access to information.

Convergence: The joining of physical and logical security is crucial. The cooperation between multiple business silos is becoming a necessity.

Security Warning: Data is being stored in places you do not think about: Hard drives and copiers and faxes. They contain disk drives on which all the images have been stored. These drives need to be disabled prior to liquidating this type of equipment. This applies to copiers, scanners and faxes.

Take-away Ideas: The best way to mitigate IT security threats is to conduct audits on your internal assets and resources on a regular basis. Internal threats are currently the biggest issue in corporations risk management. Having good processes in place for provisioning and monitoring your internal resources and assets is a major line of defense.

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Session C3: SECURITY - Monitoring your Network

Discussion Leader: Jerry Welsh and Sue Bardakos, IBM

Abstract

Active network security monitoring is all about catching small problems before they get big and taking proactive steps to protect your network against unnecessary risks. Businesses large and small have suffered huge financial losses. Many of these were caused by numerous small, mundane problems: worms and bots infecting PCs, user installation of unauthorized applications and equipment, hard drives maxing out, outsiders running scans and probes against your internet connections.

Discussion: How do you mitigate against the small things that lead to big problems?

Job Titles: Security job titles are very appropriate. Bad guys don’t want to know security officers are there.

Speaker remarks: How do you secure all this emerging technology? How do you spawn innovation and keep up with changes in dynamic market? With virtualization of server environment, VMware can essentially be the network. You have Hypervisor now, and if compromised, you can take hold of the entire virtual environment.

VMware has exposed an API so you can plug in through the API and provide security without having an individual footprint. It’s all about Defense in Depth.

How can security measures protect the guest host? At the Hypervisor layer, we’re able to provide intrusion detection, including protection from SQL injections and cross-site scripting and monitoring traffic between guest hosts. See: http://en.wikipedia.org/wiki/Hypervisor and http://searchservervirtualization.techtarget.com/sDefinition/0,,sid94,gt1083767,00.html

Ask yourself:

1. Why should I be concerned about threats when I have protection at the edge?

2. How are they getting into my network otherwise?

Perimeters: Think of your endpoint devices positioned at the edge as your new security perimeter. Threats are now entering the network through mobile devices: your laptop, USB, PDAs, etc. Historically, companies have spent time and resources hardening their networks with Firewalls, network intrusion detection and prevention devices. This has proved effective in keeping the bad guys out. However, with the increase in mobile devices and removable media (smart phones, USB sticks, disk drives), threats are entering corporate networks in new ways. These “endpoint” devices can be seen as the new security perimeter.

Hackers: They are going after the endpoint now using something as simple as clicking on a bad website. Networks are being compromised though ads, forms to fill out and personal Social Network sites. They can introduce a bot into your network that essentially takes over handling of your data. Hackers can then monetize by gaining access to your corporate data.

Penetration Testing: This can be effective in ascertaining a company’s security posture. See: http://en.wikipedia.org/wiki/Penetration_test

Network Scanning: How do you protect wireless networks from a rogue entry? Finding it on the network is the challenge. Network Scanning can assist in finding the exposed wireless networks or to triangulate using laptops.
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**Information Security Assessment:** This looks at scanning of internal and external IP, looking for holes and making recommendations and prioritizing fixes, as well as provide a business case for securing budget. See: [http://www.itgi.org/Template.cfm?Section=Home&CONTENTID=50631&TEMPLATE=/ContentManagement/ContentDisplay.cfm](http://www.itgi.org/Template.cfm?Section=Home&CONTENTID=50631&TEMPLATE=/ContentManagement/ContentDisplay.cfm)

**Audits:** Alternating partners with other firms to conduct audits and assessments is also a good idea. Different skills and tools are used by different vendors and can validate and revalidate your security posture year-to-year.

Hackers attempt to place a bot on a targeted user’s machine to extract specific corporate data. They use sophisticated techniques for extracting corporate information. Spear-phishing is a common way of getting information. Hackers will hone in on a specific person in the corporation who has access to confidential information about corporate assets, people, competitive conditions.

**Antidote:** User education is the best antidote for preventing successful spear-phishing. See: [http://www.microsoft.com/protect/fraud/phishing/symptoms.aspx](http://www.microsoft.com/protect/fraud/phishing/symptoms.aspx)


**Proximity Cards or Insertion Cards:** This is a way to allow users to access laptops and desktops; the device automatically locks down when the user is not within a certain proximity of the device.

**Other tools:** Distinguishing the various networks may get challenging. VLAN has been around for a long time. This may be the way to separate your network. VLAN will control the flow of information through your network. Segmentation is a primary tool for separating phone networks from the corporate network.

**Defense in Depth:**
- [https://buildsecurityin.us-cert.gov/bsi/articles/knowledge/principles/347-BSI.html](https://buildsecurityin.us-cert.gov/bsi/articles/knowledge/principles/347-BSI.html)

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**Take-away Ideas:** It gets back to trying to keep up with the technology while providing access to information for your users when they need it. Look at other ways to gain protection, other than anti-virus software. Defense in Depth is a critical concept for orchestrating all protective measures.

There is no single solution for IT security issues. The best approach comes down to layering in protection using a Defense in Depth approach.
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Session C4 – Security: It’s Amazing What You Don’t Know

Discussion Leader: Russ Rowe, Symantec

Abstract

In 2009, there was a dramatic 345 percent increase in the number of new malicious Web links discovered that year. What do you have in place to help to prevent your end users from infecting your enterprise when they browse the Web?

Discussion: How does your team maintain the knowledge needed to keep up with the changing threat landscape, such as the trends in the 2009 X-Force Trend and Risk Report?

Question: Who is responsible for the function of security?

Answer: EVERYONE. We all have a part to play.

IT Security Goal: The goal is reduce risk … how to do it?

1. Increase visibility over your environment
2. Increase ability to assert control over your environment
3. Understand that good security leads to good compliance
4. Start early with incremental improvements to #1

The nature of security problems is huge:

1. Accept the fact that major risks exist
2. Start incremental improvements
3. Enhance visibility and control
4. Address compliance
5. Some have been so laser-focused on Sarbanes Oxley that their focus on other security exposures has lessened.

Russ Rowe: The Whack-A-Mole approach to IT security doesn’t work where you wait around for a security violation to occur.

Security looks at the impact on the following:

1. Revenue
2. Brand impact
3. Operational impacts

How much of the security problem is internal vs. external?

1. INSIDER - Well-meaning insider: lost laptops and Intellectual property can create massive breach-disclosure problem
2. INSIDER - Insider with impaired sense of ethics
3. OUTSIDER - Malicious hacker & organized crime: least of the sources of your security problems

Tools to get info on your security:

1. **Risk Assessments** – Can give false sense of security if just annual; the results are now discoverable so can pose a liability
3. **Document Retention Management (DRM)** – Used to classify a document when it is created. See: http://www.cio.com/article/367164/Four_Tips_for_Crafting_a_Document_Retention_Policy
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Security Tokens and Encryptors:
1. Certificate model is effective at preventing unauthorized access.
2. Tokenization is getting the least amount of traction.
3. No official standards exist for tokens.


Percentage breakdown of source of risks:
60% – Poorly configured systems
35% – Internal users; both intentional and unintentional
5% – Outside attacker evil-genius type person

PCI security through Qualified Security Assessor (QSA)
1. Affected by regulations
2. Encryption standards are inconsistent
3. Quality of the QSA is paramount; not all are highly qualified. See: http://en.wikipedia.org/wiki/Qualified_Security_Assessor http://searchsecurity.techtarget.co.uk/news/article/0,289142,sid180_gci1513859,00.html

Compliance: More security regulations are coming:
1. Regulations are clear in the paper world but not in the electronic world.
2. Need ability to say: if it is paper do this, if it is electronic do this.
3. Data retention with medical records; highly concerned with document retention limits (some medical documents have a two-week retention period).
4. Ask yourself: When was the last time I created a document?
5. The compliance funnel widens as you begin to loose control over your documents.

What do you do with documents already out in historic files?
1. Proactive – Go through all the docs that exist and examine them one-by-one.
2. Review every document and correctly classify each.
3. Create a greenfield and start from scratch. See: http://en.wikipedia.org/wiki/Greenfield_project
4. Passive – Accept the risks associated with not going back to clean up everything. Do nothing and assume your existing documents will begin to winnow off.

eWaste – toxic IT assets – do you know your risk?
1. Implement media destruction policies ASAP.
2. Forensically recreate & recompile the data.
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Biggest vulnerability:
1. Where – It eWaste exists within your database structure.
2. Data Hoarding – Cannot get people to let go of their data; unstructured data is the hardest to remove.


To be better information managers:
1. Focus on the information, its forms and uses.
2. View security as an information asset.
3. Change the approach from risk assessments to asset evaluations.
4. Apply the appropriate controls.
5. Increase your awareness and visibility to make better decisions.
6. Be careful about workarounds, people making their own shortcuts.
7. Focus on methods of protection vs. studying the types of threats.

Access management: Much has to change – passwords have to change; go from no password changes to 180 day password changes.

New developments to identify the individual:
1. Use of Token ID badges.

Common practices to implement security:
1. Invest in training to facilitate adoption of security measures.
2. Do whatever it takes to get people to use the system.
3. Train the end-user to use a Token ID.
4. Authentication: tie to something that is commonly used, such as a cell phone.

Take-away Ideas:
1. Be proactive about security.
2. Make sure security is part of the overall business and not just an IT issue.
3. Security is always a matter of degrees … it is never absolute.
Abstract
Communications network reliability depends on the sustainability of both hardware and software. A variety of network failures is possible, lasting from a few seconds up to days depending on the failure. Such failures are primarily from hardware malfunctions; these result in downtime or the complete outage of a network element. However, if the network is not designed properly, failures in the network can take away the spare capacity because of dependencies between the logical network and the physical network.

Discussion: Is your network designed for convergence, VoIP, Wireless, pervasive connectivity and the like? Can it be a part of your strategy to innovate?

What is coming:

1. **LAN/SAN Convergence** – consolidating IP/Data traffic with Fiber-Channel/Storage traffic over Ethernet so that you have one set of wires, one set of switches, less rack space, less power, less cables resulting in reduced operating expense.

2. **10Gig Ethernet** – It is being pushed by Virtual Machine consolidation and convergence. It provides more bandwidth for carving out physical/logical channels. Policy based features built into new network switches offer new, improved services.

3. **Dynamic changes to network infrastructure** – Automatic network changes are not quite a reality yet. Right now, we still require some manual provisioning, but policy-based features are a step in the right direction.

4. **End-to-End Quality of Service (QoS)** – This is not a reality yet. IT and Business Units need to identify/prioritize some top application services for QoS. QoS allows the network to be configured to prioritize traffic over the network for specific applications. For example, giving priority to Voice/Video traffic while throttling back the performance available for other applications like email and web browsing.

**Attendee:** Cisco promotes the separation of physical and logical networks to improve performance and reliability.

**Attendee:** They identify flows to prioritize traffic and to determine what needs HA type infrastructure.

**Attendee:** Oversubscription of hardware and IT resources has been an issue, so we have to prioritize usage.

**Network Tools:** Need tools to monitor network and to be proactive and to help identify network problems – some problems may not be network, yet network management tools can help identify problems in other areas.

**To improve reliability:** IT must move beyond silo thinking. Most IT shops spend time doing Operations/Support leaving no time to innovate – this may be the time to leverage an external consultant to bring in expertise and to bring IT silos together to develop a big picture view for design, implementation, troubleshooting.

**Collaboration:** Successful solutions with high performance and reliability requires bringing IT network, storage, computing, applications groups together. Avoid having individual IT groups working in a vacuum.
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Virtual Desktop Management: VDM may be a way to resolve some desktop problems. Rollback or re-image is a fast way to resolve issues.

Attendee: Has virtualization caused us any network problems?
1. Some initial issues were due to the learning curve.
2. We’re starting to see efficiencies emerge.

Martin Skagen: Consider adding network management/monitoring tools to initial acquisition when designing a new project or when buying new infrastructure. Think about the big picture and don’t forget that you need the proper tools to manage a solution after you get it set up and running.

Skagen: Several IT industry studies have shown that when it comes to Total Cost of Ownership for a system, 2/3 of the Total Cost of Ownership is related to the on-going maintenance, support, and operation of the network. Leveraging network management tools can help you improve network performance and reliability by providing visibility into your network and applications, allowing you to identify and resolve problems more quickly. In some cases, these types of tools can even eliminate problems by providing proactive notification to prevent problems before they result in an outage.

Take-away Idea: A complete set of network management tools can help improve the performance and reliability of your network and strengthen network security.
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Session E1 – Virtualized Server and Storage Management

Discussion Leader: Vincent Hsu, IBM

Abstract

It’s no secret the business of storage management has become more complex and challenging. IT departments are being asked to store more information, longer. The current paradigm of storage management is on a collision course with exponential data growth. Are your company’s long range plans integrated with and supported by commensurate plans in IT? Server and storage virtualization go hand-in-hand for best results. Virtualization of servers and storage enables the consolidation of both servers/server farms and the reduction of endless racks of storage solutions to a more manageable number.

Discussion: How do rapid data growth, poor storage utilization, data protection, non-disruptive data migration, and disaster recovery play into your corporate server and storage virtualization strategies? Where do your IT and long-range corporate virtualized data strategies for servers and storage end up? Are your strategies reconciled?

Vincent Hsu: In the Storage environment, performance is critical; the speed of the storage with processing power and multi-tasking is critical:

1. There is a gap between processor and storage technology performance that is widening.
2. We worry a lot about storage capabilities and whether they can keep up with the processor.
3. This is particularly important in feature film development where it is all about the I/O.
4. PCI Express helps address this. See: http://www.directron.com/expressguide.html
5. There is also a need for better data compression.

Attendee in Banking:

1. We need to make our remote offices more productive.
2. We need to make our data available on demand.
3. Storage needs we are currently addressing:
   o Online updates with no downtime
   o Minimal to no maintenance windows
   o Data movement in the environment

Attendee from the Media and Entertainment industry:

1. Building a 100+ acre movie and production studio facility in Long Beach, CA.
2. I/O and security requirements are critical in this industry.
3. Cloud services are very restrictive due to security issues imposed by the studios and producers in order to prevent piracy.
4. Cloud computing may be used for some of the needs of a production facility.

**Today:** Direct Attached Storage (DAS) is lagging 5 to 10 years behind technology for a Storage Area Network (SAN). DAS is captive storage and the enterprise needs data mobility; you get that with a SAN Volume Controller (SVC). See: [http://www-03.ibm.com/systems/storage/software/virtualization/svc/](http://www-03.ibm.com/systems/storage/software/virtualization/svc/)

**New Trends in Storage:**

2. Ability to move data from frame to frame seamlessly.
3. Continued consolidation:
   - Reduce the number of boxes to manage
   - Share a common reserve for more storage efficiency
4. Data deduplication is a requirement. See: [http://searchstorage.techtarget.com/sDefinition/0,,sid5_gci1248105,00.html](http://searchstorage.techtarget.com/sDefinition/0,,sid5_gci1248105,00.html)
5. No maintenance windows due to *hot swappable* and *plug and play* storage units.
6. Intelligent storage with continuous learning trends to support moving workloads around.
7. When separating workloads, metadata travels with and is available with all versions of content.
8. Green platforms, if set up correctly, require less space, power and cooling.
9. Capture, trans-code, store it, send it.
10. Cannot tolerate any downtime.

**Take-away Idea:** When planning for virtualization, plan both Storage and Server Virtualization strategies together. In order to maximize the value of either, both must be implemented in coordination with each other.

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JGF
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Session E2 – Information Life Cycle – Twists and Turns of Storage Management

Moderator: James Elste, Symantec

Abstract

ILM includes every phase of a record from its beginning to its end. It is generally applied to information that rises to the classic definition of a record in Records Management. It can apply to any and all informational assets. During its life, information can become a record by being identified as documenting a business transaction or as satisfying a business need. In this sense, ILM is a part of the overall approach to Enterprise Content Management (ECM).

Information Lifecycle Management (ILM) refers to a wide-ranging set of strategies for administering forms and by extension, storage systems

Session Focus: Primary discussion centered on the challenges of data retention: How many years do we store it? What content do we store? How do we destroy it? … and the challenge of explaining the cost and requirements of information management to the CFO.

Concerns: Big concern -- what data is important to archive and what is not? Example: Grandma Jo’s cookie recipe email compared to an email that would be need for litigation. It is easier to backup all email than to determine this level of archiving by content.

Document management challenges:

1. Retention policies need to be established by the business, not by IT.
2. The business never wants to delete anything, so managing the full life cycle never occurs.
3. Everyone tends to push data from one tier to another to avoid the responsibility for its destruction.
4. True ILM manages data from creation to extinction.
5. There is never document extinction if we never delete anything.

Keep it forever seems to be the norm for records retention from a business perspective, while Delete everything as soon as possible seems to be what the Legal Department advocates because they don't want to extend the liability for having to produce a document in a discovery request for litigation. The policy of the Legal Department is to delete everything after 30 days, so that they are in compliance with their own internal policy …… this greatly reduces legal exposure.

Deduplication strategies: This seems to help with the explosive growth of data. However, attendees thought this was only a Band-aid approach and the business still needs to step up and figure out how and when data can be deleted. Other attendees felt data will never be deleted by the organization, so IT is just going to have to figure out to deal with it. See: http://en.wikipedia.org/wiki/Deduplication
**Toxic data:** This is data that represents more of a legal exposure to keep than it is to delete, so the company wants it deleted ASAP. Credit card information for customers that are no longer current customers is a good example. The company can't use the data so they want to get rid of it to avoid possibility of losing it and having to notify the public. Each IT shop needs a way to TAG toxic data and have policies to delete it after a given timeframe. Moderator said Semantic may have some solutions to address this issue.

**Cloud Computing:** This topic came up and seemed to be a part of many of the conference discussions. Questions on how the Cloud may further complicate or possibly simplify ILM strategies were voiced, with no consensus among the attendees other than Cloud Computing in no way eliminates the need for ILM.

See:

*What is information life cycle management*

*Information Lifecycle Management - Wikipedia*

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**Take-away Idea:** When planning for virtualization, plan both Storage and Server Virtualization strategies together. In order to maximize the value of either, both must be implemented in coordination with each other.

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Session E4 – HA and DR: The Great Protectors of Your Servers, Storage and Network Infrastructure

Discussion Leaders: Jeff O’Neal, NetApp and Scott Rose, Cisco

Abstract

High Availability and Disaster Recovery are technologies that can literally save the life of your organization. Organizations that have had their IT infrastructures wiped out are at risk of eventual collapse within several years of the disaster. Disaster Recovery Plans and Availability Planning are critical tools for protection of vital servers, storage and critical data files.

Discussion: Do you have a regularly tested DRP? Has your company implemented and tested its overall corporate DR Plan? Is High Availability technology used to protect your mission critical applications and provide acceptable recovery times?

What types of High Availability (HA) strategies are implemented?

1. Mirroring data
2. Mirroring applications
3. WAN

Critical issue: Must find out what users’ requirements are; one concern:
Recovery Time Object (RTO) vs. Recovery Point object (RPO)
Each is different; some users focus on RTO and others focus on RPO.

SLAs: Different users have different Service Level Agreements with IT. Licensing issues were a major concern.
More on SLAs: http://en.wikipedia.org/wiki/Service_level_agreement

Awareness: Some problems exist around licensing servers in different locations using VMware.

Attendee preference: Some would like to use the same VMware license for different locations for Disaster Recovery (DR) and HA.

Attendee: The applications are not as important as the data. He had Fault Tolerance for the applications but not for the data. They did SQL log shipping.
Attendee: When you have HA and DR implemented, it is very difficult/intrusive to cut back over to the original/primary processor.

Cost of DR: The majority of attendees in this session were trying to justify the cost of DR. Nobody had a perfect solution. Generally, attendees had challenges in justification of or migration to a DR Plan. They all seemed to be gathering feedback that they were not alone in this challenge.

Scott Rose: Asked what are the differences between HA and DR that constitutes the point where you are on an HA solution or a DR solution? Answer: The distinction is blurred. DR is almost a thing of the past as both sites for a business (two sites, both hot) are used in a complimentary mode.

Rose asked: Do any attendees have a firm SLA on uptime? All nodded yes. One attendee is governed by governmental contracts. No other attendees had contractual requirements, just internal agreements. See: http://en.wikipedia.org/wiki/Service_level_agreement

Rose asked: If you can have anything in IT, what would it be? Answers included unlimited WAN/LAN connectivity. One customer was looking at: “Buy one LAN, get one free.”

Known Major Problems: IT is not testing its DR or HA applications:
1. A lack of time is one reason for this.
2. Testing is too intrusive.
3. Cut-over testing is even more intrusive.

Major concern: Oracle pricing currently is per processor not based on the number of cores.

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Take-away Idea: When planning for HA and DR, plan for them both together. In order to maximize the value of each data protection strategy, both should be planned and implemented in coordination with each other.

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Session E5 - Intel Processors: Trends and Futures
Discussion Leaders: Sergio Amoni and Afshin Abadi, IBM

Abstract

High performance computing solutions from Intel® provide affordable, robust, and scalable supercomputing to handle most complex data center requirements. Intelligent new Intel processors boost productivity while decreasing time for reliable deployment, management, and maintenance.

Discussion: Investigate  Performance, Virtualization, Energy Efficiency, Front-end and Mid-tier Data Centers.

Main concerns: The two main questions in this session had to do with IBM Cloudburst and how Oracle and MS will handle licensing around the number of cores installed.

Future Intel processors: Next year’s Intel server is code named Sandy Bridge. It follows their Tick-Tock model that shrinks their normal 12 months per processor evolution to 8 months (see: http://en.wikipedia.org/wiki/Intel_Tick-Tock).

What’s coming in the next processor family at Intel:
1. Called Sandy Bridge, it will feature Dual Path.
2. Xeon efficient path.
3. Cloudburst with 32 cores (double today’s number of cores).
4. Some of the server features (Turbo Mode, more cores) depend on the applications you are running.
5. Uses a 32 Nanometer Halon platform.
6. 46% improvement = 5 times improvement running off the same power.
7. Processor prices are same as older ones they replace.
8. Going to 4 socket side where every socket has 16 threads.
9. 1G transfer rate.
10. Handles 1.2M transactions per second.

For more on Sandy Bridge see:
http://en.wikipedia.org/wiki/Intel_Sandy_Bridge_(microarchitecture) and
http://www.fudzilla.com/content/view/14524/35/ and
http://www.tomshardware.com/news/intel-idf-sandy-bridge-westmere,8724.html and
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Advice:
1. Configuration choices will be based on characteristics of the applications to be supported.
2. One technical decision that will be critical: choice of sockets vs. cores

Attendee: Wanted to know about licensing of cores in VMware shops with new Sandy Bridge servers.

Attendee: 95% Intel, Hyper-V virtualization, a SAN backend with Microsoft and VMware, Oracle licensing; had concerns about licensing.


Turbo Mode:
1. Parallel apps are ok.
2. Serial: single-core only – they turn off the rest of the cores.
3. It overclocks the core.
4. BIOS enabled.

How do you know if I have benefited from Turbo Mode in the new IBM servers? Go to MS Website and download a free version of Turbo Mode Monitor to clock the actual speed the server is running in Turbo Mode.

Next graphic card: Expect it to be 2G with 32 Intel cores running 128 threads. The Googles and Yahoos of the world will take advantage of all 128 threads to speed their searches.

Issues that kept coming up:
1. Microsoft licenses per socket. See: http://www.computerworld.com/s/article/9174665/In_multi_core_era_per_socket_pricing_faces_challenges

More on the next generation of laptops:
1. Low end processor laptops going away.
2. New laptops will be 2cm thick – very thin profile.
3. One processor card with heat dissipation.

Next cell phones: The next generation of more powerful cell phones will have full windows processing and be very efficient. See: http://www.technologyreview.com/specialreports/specialreport.aspx?id=3
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**Intel architectures:** Here is a list of all the Intel micro-architectures that includes Sandy Bridge:

**Comparison of AMD and Intel roadmaps:**

**Sergio Amoni:** IBM is planning for X86 processors (their x Series platform) to handle high volumes for business. They will be IBM Enterprise Class X86 servers.

**More on Sandy Bridge:**
http://www.bit-tech.net/hardware/cpus/2010/04/21/intel-sandy-bridge-details-of-the-next-gen/
http://en.wikipedia.org/wiki/Sandy_Bridge_(microarchitecture)
http://news.cnet.com/8301-13924_3-20002617-64.html

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**Take-away Ideas:** The next generation of Intel servers will boast a significant advance in server technology that needs to be evaluated in light of the organization’s processing needs. IBM is gearing up for the same. The server battle will create **two strategic issues:**

1. **Selection between new emerging server technologies for the future.**

2. **Leveraging the more powerful servers for future business apps that are compute intensive.**

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Session E6 – POWER7: IBM
Discussion Leaders: Dan Hebrank, IBM

Abstract

IBM’s POWER7 processors have again demonstrated leadership systems performance – they leapfrog the POWER6 systems by up to 50% in performance per core and have up to 4X the number of processor cores per socket. The new Power 750 and 780, POWER7 processor-based systems, deliver unprecedented performance and scalability for 4-socket and 8-socket systems with over 2.5X the performance per core of similar configurations of HP Itanium and Sun SPARC Enterprise systems.

Discussion: Current Trends and Futures of the POWER7 technology.

Discussion focus: Where are we going with Virtual Machines and what to VMware, Zen and IBM’s POWER 7 offer.

IBM announced POWER7 in Feb 2010:

1. Value proposition brought hardware cost down to a competitive value and new pricing structure. More priced driven (lower cost) now, compared to the past.
2. POWER6 to X86 price ratio was 10:1
3. POWER7 had 100% price/performance improvement over POWER6.
4. Three levels of service support: Enhanced, Basic, Expanded.
5. IBM made more investment on the software side.
6. IBM Director is a management program for all platforms.
7. System Director has not been a good product, IBM is working on fixing it.

Dan Hebrank: His opinion is there are two technologies: X86 and Power. IBM was the first to use virtualization (on their mainframe). IBM is now looking to automate Power VM even more.

Hebrank: IBM is now very aggressive with hardware, software, maintenance, pricing. The February release of 770 and 750 replaces 570 and 570.

IBM will announce replacement POWER7 systems for 510 & 520 in August 2010, but customers must go through the 6 series to get to the 7 series (two-step process).

Attendee: Is coming up on a refresh cycle; can POWER7 help? What are the new features of POWER7? Is there a new price point?

Attendees were looking for POWER7 on Blades, but can blades handle it?

Attendee on IBM i520: they have 70% of their jobs on iSeries and 30% on Wintel. In 2008 they consolidated all their old AS/400 and RS6000 servers into a single POWER7 system based on the new Power Chip Set.
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Hebrank: IBM has a new computer coming in the Fall called Watson. It offers high-performance computing for high-intense applications. Watson is a natural-thinking problem solving and answering system. It will be tested on the game show Jeopardy with Jeopardy champion Ken Jennings. It will not be internet attached and will be a single frame with attached storage. This is coming soon (no date given).

IBM is thinking much bigger than just what they can do today:
1. IBM working with US government to reform patent laws.
2. IBM investing over $6 billion in R&D, $1 billion of that earmarked for Power.

On training:
1. An attendee was looking for IBM to provide better training to virtualize Unix and AIX boxes. The knowledge set on virtualizing AIX and Unix is not as prevalent worldwide as it is for VMware.
2. X86 hardware is cheaper to play around with to learn virtualization than the other platforms
3. Intel boxes are much easier to virtualize and many skills are already out there.
4. IBM is asking if it helps if they provide more educational classes.
5. IBM is working with universities to teach students some of their platforms.

Announcements: Over the coming summer, IBM will announce the 795 and a new low-end model of POWER7. IBM will have 710/730 and 720/740 replacements for the 510 to 520 IBM hopes its customers will upgrade from POWER5 to 6 to 7.

Question: Why is there still a System i offered by IBM?
Answer: Like Apple, the AS/400-System i has a loyal install basis throughout the world. IBM has a System i conference for top customers, where they provide ideas to IBM for this platform. The System i server box is designed to be a set it and forget it box.

Just like the System i, IBM is hearing from customers to integrate all their solutions. In the past, customers used to like to integrate their own systems with the best parts of others; today they ask IBM to integrate everything for them. Customers are telling IBM to unbundle the software from the OS and hardware.

Games: Every one of the consoles for big computer games runs IBM's Cell Power Chip.

Hebrank: HP is more of an integration company now. They really aren't inventing a lot of new technology, except maybe printers.

IBM POWER7 servers provide:

**Twice the performance**
Power 780 32-core performance per core is over twice the Power 570 32-core.

**Twice the scaling:**
Power 770 and 780 both offer twice the number of cores as the largest Power 570.

**Twice the capacity**
Power 770 and 780 offer more than twice (~3 times) the throughput of the largest Power 570.

**Twice the memory**
- Over twice the physical memory of the Power 570.
- Active Memory Expansion™ enables up to twice the effective memory compared to what is physically installed.

**Twice the energy efficiency**
Power 770 & 780 offer over twice the performance per watt (up to 3 times) over the most efficient Power 570.
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*Twice the cores at the same cost*

Twice the cores with the Power 770 are priced at less than a comparable POWER6 based Power 570.

**Final observations:**

1. Breakdown of IBM revenue: Hardware 17%, Services 58%, Software 22%.
2. IBM POWER7 revisions come out every 18 months. Maybe in 2.5 years IBM will produce a brand new refresh taking POWER7 to POWER8.

**POWER7 Links:**

- http://blogs.computerworld.com/15562/ibm_power7_thumbs_nose_at_intel_itanium_9300_tukwila

**Take-away Idea:** By doubling the performance and halving the cost, POWER7 server technology represents an order-of-magnitude advance in a single generation that will enable IT to take on much greater processing workloads that are required by advanced analytics and other high-compute applications at less cost.

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Session F1 – CIO Balancing Act
Discussion Leader: Biri Sing, IBM

Abstract
As their companies respond to large customers, standardize to cut costs, and compete in value networks of firms, CIOs are dealing with consolidation and centralization of IT services and processes. This consolidation forces CIOs into an enterprise-local balancing act across three vectors: 1) locally relevant versus globally aligned; 2) cost-effective and standard versus fast and flexible; and 3) global process consistency versus satisfying constituents.

Discussion: How can CIOs improve their general understanding, to gain greater predictability, and increased IT transparency and at the same time maintain their enterprise-local balance?

Cloud Computing
The definition of CC can be confusing; see: www.ibm.com/cloud

Components of the definition of Cloud Computing:
1. Access to applications through a browser.
2. Done on a shared infrastructure.
4. Elastic use of the environment.
5. Applications and data rest on the next generation of APIs.

Private vs. Public Clouds:
1. Private Cloud is on the user’s premises.
2. Public Cloud is on another premises (IBM calls this Cloud the IBM Cloud)
3. Gartner Research: for Cloud budget, 75-80% goes to Private Cloud, 20-25% goes to Public Cloud.

Workloads:
1. Some are better on Private Clouds
2. Others are better on Public Clouds
3. Others are better not on any Cloud

Risks of using a Cloud:
1. Data security can be compromised; do you really know what that Cloud provider is doing to protect your data?
2. Data governance can be compromised: involves access and sharing of data files.
3. Managing rates of change can be a challenge.
4. Public Clouds scare some CFOs due to exposure to loss of data files.

Benefits of Clouds:
1. Lets you focus on the business issues rather than the IT technology.
2. 4G coming will radicalize collaboration and innovation.
Business Analytics
Business Analytics ranks just behind Cloud Computing in terms of literature interest. People want to look at their information differently and more easily.

Victor Reiner at Key Info: if you push information out to the users, it can prompt users to pull additional information from the database. For example, if we push updates from our order processing out to our sales people, it prompts them to pull billing and shipping data from our system and reach out to our customers. Invoice copies pushed out to our sales people encourages them to review A/R balances.

Tablets: One attendee reported going to small tablet PCs that are browser-based for their people; they were always able to produce the needed information but it wasn’t simple enough. With the Tablets, some features provide alerts pushing information to the right users.

SAP: Another attendee uses SAP Business Objects to provide users with control over the level of data they want to see.

Consumer computing tools: These are driving much more IT activity than they used to. Blackberry is easier to travel with than a laptop and often can get the necessary information more quickly.

Risk Management and Compliance
Compliance regulations: Regulations still arrive mostly in a pull/batch mode. Compliance is a black-and-white issue looking at a fixed set of rules and remedies.

Data growth: Data is growing in organizations exponentially, taking compliance and risk management to new levels of complexity.

Security
1. If you have users with the ability to get to the Internet, you are not secure.
2. Security is a variable condition with high and low ends.

IBM Risk and Vulnerability Assessments: IBM is seeing an exponential leap in the number of these assessments that they perform for clients. See:


Big Security Issue: An employee leaves the company and there is a delay in the changing of passwords; leaves confidential information wide open to be accessed by the departed employee.

Collaboration Between You, Your Customers & Suppliers
Topic for investigation/discussion: The issue of mixing personal and business on Social Network accounts like Facebook, LinkedIn, Plaxo, Twitter. See: http://www.techsoup.org/learningcenter/internet/page8075.cfm

Advice: It’s time to build your digital eminence. See:

http://www.eminencedigital.com/
http://wendytarr.wordpress.com/2010/02/26/digital-eminence/

Take-away Ideas: Track your current and projected data growth carefully as it will affect your ability to perform compliance and risk management. Tie data growth to Information Lifecycle Management to avoid the growth of unwanted data.
Session F2 - Social Networking: Lead, Follow or Get Out of the Way!

Discussion Leader: John Oelman, Kapow Technology and David Chou, Microsoft

Abstract

Social Computing and Social Media represent a new wave of energy sweeping through business. Social focus holds out the promise of a customer-driven business model, one in which the voice of the customer influences business strategy and where corporate marketing truly responds to customer needs. Despite all the hype around the technologies, the Social Computing revolution has barely had an impact on IT and the CIO. Yet Social Computing has the power to transform business as much as the Internet did in the 1990s. CIOs have an opportunity to take a leadership role in how social solutions will deliver competitive advantage for their organizations beyond creative marketing campaigns. Discussion serves as a primer for CIOs ready to position IT in a leadership role.

Discussion: How is the recognition of the coming wave of social focus being incorporated into your enterprise and IT planning?

John Oelman initiated this discussion with some facts about Social Networking (SN):

- **Twitter** – This has grown 1,500%, 600 blogs per minute, 400 million users on Facebook; that’s more than the total population of US.
- **Traffic Mix** – 80% of Internet traffic is video.
- **Development Cycles** – We are right in the middle of the *Hype Cycle* for Social Networking (SN). Next comes the disillusionment period, and then the improvements arrive.

Attendee discussion:

**CIO Attendee:** Our Intranet has been completely replaced with our SN vehicles.

**Oelman:** Kapow helps get feedback from customers by monitoring social media. We listen to the customer chatter and provide real-time feedback.

**Elaine Lennox from IBM:** She initially thought SN would be good for marketing. But surprisingly, support issues and hearing of customer dissatisfaction has taken off faster.

**CIO at private woman's clothing firm:** When one of our dresses was seen during the President’s inauguration, we were able to respond to incorrect information being circulated about our pricing and outlets for the dress using the SN channel.

**Comments from the estate industry:** We monitor comments on SN regarding foreclosed homes to educate potential buyers of the status of the properties.

**IBMer:** Mentioned how Direct TV corrects misinformation going on in SN.

**CIO attendee success story:** Mentioned an innovative SN technique employed by a sandwich shop in NYC. You can have a sandwich made to your specs and then they post that sandwich on the store’s website. Whenever someone else purchases your sandwich you earn credits. It gets people to Twitter their friends to buy their sandwich.

**San Francisco Giants:** They are using Twitter to notify fans of last minute ticket sales.
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**Major topic:** Restricting use of Facebook and other SN tools within the enterprise … this was a big issue discussed many times throughout the conference.

**Another CIO:** His company does not allow SN usage during working hours because it is viewed as decreasing employee productivity.

**Unanimous consent:** Everyone wants to know how to control SN, since it can easily be accessed from a smart phone. Internal tracking of web page visits will not catch the smart phone usage on SN.

**Conduct:** Discussions regarding what rules of conduct for SN should be with many indicating they have implemented some. IBM includes within their Business Conduct Guidelines that if you identify yourself as an IBM employee, your comments will impact your employment status at IBM.

**IT Authority:** Discussion took place on defining IT's involvement and authority with SN deployments.

**SN rollout problems:** Often Marketing and Sales organizations roll out their own company Facebook page or other SN deployments without coordinating with or notifying IT.

**Microsoft Attende:** A MS individual stressed that they got their IT group involved in SN and utilizing SN tools. One of the ways they rely on IT is to help them with their analytics.

**Pete Elliot of Key Info:** He said IT has to make themselves relevant with what is going on with SN, and they have an opportunity to manage the compliance issues. IT cannot control SN, but they can add value by offering Business Intelligence support.

**Healthcare CIO:** He said he uses Yammer … a Twitter-type product for the enterprise. Yammer has been very successful and diminished their reliance on email. It also reduced Support Desk calls. It is a new communications tool that flattens the organization. He said, *I use Yammer to monitor the pulse of the company.* See: [http://en.wikipedia.org/wiki/Yammer](http://en.wikipedia.org/wiki/Yammer)

**Cisco Video:** Cisco has Show and Share on You Tube for the enterprise. It enables content creation at the desktop level. See: [http://www.cisco.com/web/solutions/dms/desktop_video.html](http://www.cisco.com/web/solutions/dms/desktop_video.html)

**Crowd Sourcing:** This is the concept that there is *wisdom within the crowds* and getting them to provide feedback or input is an effective way to tap into this wisdom. See: [http://en.wikipedia.org/wiki/Crowdsourcing](http://en.wikipedia.org/wiki/Crowdsourcing)

**David Chow:** During a recent mentoring session for young girls, MS had to create a plan for applications to run on Android phones. The apps were highly dependent upon back office IT support and horsepower to function.

**Neil Callahan, IBM,** posed questions for CIOs present:
1. Do you know what is coming tomorrow? ... reminiscent of Dr. James Canton’s Keynote talk.
2. How do you filter out irrelevant communications and focus on the relevant?
3. Do you have a formalized Social Networking strategy in your organization?

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**Take-away Ideas:** Social Networking has the power to transform organizations as much as the Internet did in the 1990s. CIOs are facing an immediate opportunity to take a leadership role determining how SN solutions will deliver competitive advantage for their organizations.

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Session F3 – Where Do We Go from Here?
Discussion Leader: Neil Callahan, IBM

Agenda

IT organizations are addressing innovation in different ways during the current economic downturn. Traditional approaches to budget cuts abound — like postponing upgrades, terminating long-running projects, or reducing travel and entertainment (T&E). However, some companies are not waiting for the recession to pass. Instead, they are investing in agility to keep their options open, or they are investing in business innovation to help them accelerate out of the recession.

All Attendees: Asked if they felt they were in react mode…session attendees responded YES!
Training: IT needs to train its users on how best to use data and leverage it for business intelligence.

Staffing: The job of attracting and keeping talented IT specialists is tough. Employees are moving around … not staying put. 401K plans and employee benefits are not as important to the work force today as opportunity.

Role of the CIO: This is broadening. It includes responsibility for video surveillance, office space, security training and awareness. Roles and responsibilities of the personnel in Operations and IT are blending. In fact, today the CIO is becoming the innovator. Big question: Do you know how to innovate?

CIO Attendee: He gave responsibilities back to user departments. His departments have to build an ROI-based business case for any IT project, then secure funding, then participate.

Healthcare: One CIO built a Social Network supporting 1,000 doctors in 500 hospitals.

Attendee: This CIO is working to train a younger CFO … providing valuable mentoring to Finance.

CIO Idea: One CIO cut 20% off costs by looking at broken processes within the company and providing IT solutions. He then made sure these projects got the IT group good exposure within the organization.

Neil Callahan: IBM sees a number of CIOs not engaged with applications work. They are no longer directly involved with technology … more involved with innovation and business decisions … removed from day-to-day decisions. Some CIOs are still loaded down with worries about how to keep the lights on and other nitty-gritty.

Callahan: CIOs need to communicate the value of IT at a business level. CIOs should play the role of universal link to communicate IT services throughout the organization. CIOs continue to fight the perception within many organizations that IT does not add value.

Important question: Can IT be the enabler? The answer is YES, but the CIO and IT should not be the only deciders of what must be done. The CIO should participate in this decision with their vote.

CIO Roles: CIOs need to broaden their role … listen and engage more with department heads. Retain the power for making IT-related decisions with user departments. Get involved in their business.

Take-away Ideas: CIOs should investigate what their counterparts are doing in other industries to discover new ways of approaching their challenges. Foster a climate that engages users and IT in decisions that will affect the entire organization.

RDP
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Session G1: Keynote Dinner Address: The Techno-Future

Speaker: Dr. James Canton, Ph.D. futurist, author, visionary business advisor

Dr. Canton is a renowned global futurist, social scientist, keynote presenter, author and business consultant. For over 30 years, he has been insightfully predicting the key trends that have shaped our world. He is a leading authority on future trends in innovation. He has spoken to thousands of organizations on five continents. He runs the Institute for Global Futures (www.globalfuturist.com) in San Francisco, Calif.

The Institute for Global Futures is a think tank that forecasts innovations and trends. IGF was founded by Dr. Canton in 1990 to enable clients to anticipate future trends in business, society and the marketplace, as well as to develop and effectively deploy business strategy.

One of the things they do at IGF is to mash-up 20 different industries and ask them how does technology affect their industry and business. Technology is affecting different industries in different ways ... do you know how it is and will be affecting yours?

Dr. Canton recommends determining what your Innovation Plan is for the future (one to ten years). CIOs need this plan to know where they are going and to think like the Confuture-etti they should be.

We are heading into an era of greater complexity. The next 24 months will bring unprecedented complexity and change. Investments in innovation to build innovation and future readiness will pay off more than ever before.

Future Readiness is a concept that will require the ability to think deeply about what is coming next. What can you do to begin thinking that way?

1. Ask the question often: How does that idea affect our customers, employees, vendors, resellers?
2. Figure out the most seductive way to interest Top Management in the Future!
3. Have the courage to innovate ... he reminds, “nobody doesn’t want to be an innovator.”

Look at the edge of technology for next developments. The iPhone and Google came from the Technology Edge ... innovation comes from the Edge ... pay attention to the Edge!

Determine what is your Innovation Competitive Advantage ... most companies don’t have one that has been clearly identified.

We are heading into a world of Enhancement in many ways:

2. Neuro enhancement ... our understanding of the brain is taking off.
3. Designer genes ... to design plants or animals for specific purposes.

Solutions to the energy shortage:

Green Tech – see www.green-technology.org/ and www.greentechnolog.com/
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**Innovation**: Innovation can empower your users and your organization's customers.

**Darwinian View of Innovation**: If you are not innovating, in the future you won’t survive.

**To be able to innovate, you have to know what innovation is all about:**
1. Asking the right questions.
2. Using new tools as they become available.
3. Inventing new solutions; being willing to deviate from past paths.

**What your CIO should be doing:**
1. Investing in innovation; don’t delay this. Payback is worth it.
2. Be in alignment with users’ and customers’ needs.
3. Eventually get out in front showing the next innovation.
4. Spend a day out with your customers and sales reps.

**Your job as CIO includes:**
1. Having an Innovation Plan that goes out to your planning horizon and beyond.
2. Managing complexity. Pay attention to the velocity of complexity; don’t get blind-sided.
3. Get ready for innovation and innovators.

________________________________________________________

**Take-away Idea**: At the end of the day, it’s all about experimentation and not being afraid to innovate if you want to be a part of the bigger team that is providing high-level executive guidance to your organization.

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Session G2: Final  Keynote Address

Speaker: Jerry West, Executive Director, Northern Trust Open, NBA legend

Jerry West, Los Angeles Lakers basketball star and coach has more awards in the NBA than we have room to list here. Lakers announcer Chick Hern nicknamed him Mr. Clutch for his ability to make big plays late in the game. Also called The Logo for his silhouette on the NBA logo, Jerry West has become synonymous with hard work, dedication and mental toughness.

Today, Jerry is working to raise the profile and charitable impact of the Northern Trust Open, originally the L.A. Open, one of the most storied events on the PGA TOUR. He is leading the Northern Trust Open’s effort to generate sponsor support for all that it has done, and will do, for the youth of Los Angeles. His ultimate goal is to raise the profile of the Northern Trust Open in order to support its charitable beneficiary, the Los Angeles Junior Chamber of Commerce Charity Foundation.

Jerry started out by saying, “There are superstars in this room” and looked slowly around the large room at The Biltmore where conference attendees had gathered for breakfast on the last day. “To win, you need to build a team with a few superstars. And believe me, they are here … ” he said, acknowledging the attendees in the room.

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“There are Fighters, Floaters and Fleers.
A Fleer will bring down a Floater.
A Fleer’s worst enemy is a Fighter.
I challenge you to be a Fighter! What sets a Fighter apart? It’s a goal, a challenge, a vision.”

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Jerry reported that during his childhood in West Virginia, he played a lot of basketball by himself where he was the ref, the coach, the fan and the player.

“The bumps in the road will create new career opportunities, with each day being an opportunity to succeed or fail,” he said, urging the audience to succeed in their critical role as managers and executives of the computer industry.

Jerry’s four common threads of a leader:

1. goals and a Vision … “Nothing happens unless first a dream.” – Carl Sandberg.  JC Penney said, “Show me a stock clerk with a goal and I will show you a man who will make history. Show me a stock clerk without a goal and I will show you a stock clerk.” Goals must be flexible but you must set the bar high.

2. Communicator … Communication is by far the most important talent a leader must have.

3. Risk Taker … Prudent risk taking is important for a leader. “If I had a skill as an executive, that was mine,” confided Jerry.

4. Leadership … A true leader does not need to be the center of attention. Life can be an obstacle course. Strong leaders and clear goals can provide the wherewithal for your success.
Jerry warned, “Evaluate the evaluator! A leader by name only may not be a leader at all. When hiring the right person for the job, you must be able to see beyond the resume to choose a leader.”

Jerry went on to share a bottom line lesson from his basketball days, “I learned that when you’re an athlete, if a coach has to motivate you, you’re not worth a damn.”

Northern Trust Open

Jerry then switched gears and addressed his current passion … helping to give back to his local community: Los Angeles. He confided, “I’ve never been able to do anything for the City of Los Angeles yet this city has embraced me. The past year has been the most fun year of my life with the Northern Trust Open organization.”

The Northern Trust Open golf tourney is part of the PGA OPEN that occurs every February at the Riviera Country Club located in Pacific Palisades west of Los Angeles. The PGA has given a total of $1.5 Billion to charity Jerry noted, and he is committed to significantly increase the part of the PGA’s annual charity contribution that comes from the Northern Trust Open. Last year, with Jerry at the helm, the Northern Trust Open contributed $1.5 Million to the Los Angeles Junior Chamber Foundation to help fund youth programs in the city.

Jerry recommended these books:

*The Four Agreements* by Don Miguel Ruiz – Toltec master, author and founder of the Sixth Sun Foundation.


Jerry left the group in a thoughtful mood with these parting thoughts:

“Be committed to what you do and love the people you’re with.”

“Understand that the Work Ethic is a skill to be developed.”

“In a basketball game, never work on your strengths, concentrate on your weaknesses.”

The greatest NBA legend of all times concluded his often-touching keynote address with an impassioned plea to never forget this most important concept:

“Humility is the greatest word ever.”

**Take-away Idea:** Leadership requires hard work and risk taking. Don’t be afraid to compete. Your competitiveness will help you to carry the day when it’s most needed.

**Note:** Pete Elliot, Director of Marketing at Key Information Systems, announced the formation of a group called Team West that would support the Northern Trust Open and its charitable efforts. Contact Pete to join.

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Session G3: Conference Wrap-up

Speaker: Calvin Carr, Oak Hill Corporation

Our goals at the end of this conference:
- What can you take away from this CIO Retreat?
  - A stronger leader
  - A more strategic thinker
  - A better problem solver
  - An effective communicator
  - A thought leader/influencer
- Are CIOs and IT managers doomed to be second-class citizens among your organization’s top executives?

Leadership Skills:
- Step forward and act like a leader
- Lead discussions
- Use relevant examples and metaphors
- How do you apply what you’ve heard at this event to establish you as a leader?
- You said at this conference: “Cloud Computing isn’t just leveraging a software package – it’s a new way to organize your infrastructure.”
- You said: “IT cannot control Social Networking. But we can add value and leverage it as a business solution.”

Strategic Thinking Skills:
- What’s your company’s strategy and what’s your IT organization’s strategy?
- Short term and long term
- What can you take away from this event that will help your organization’s strategy and help it grow and succeed?
- You said: “I wouldn’t get in to cloud computing until I know my exit strategy.”
- Dr. Canton asked us: “What is your Innovation Plan for the future?”

Problem Solving Skills:
- Ask open-ended questions
- Analyze the answers
- Solve problems by assessing relevant data
- What can you synthesize from this week’s event that will help you solve problems?
- You said: “We’re at a crossroads to decide what type of desktop computers are needed for our remote locations. My challenge is supporting these desktops with no people.”
- You said: “Asking the right questions leads to innovation.”

Communication Skills:
- Ask good questions and listen
- Don’t forget, you’re selling
- Beware of technical jargon
- State your technology strategy in common business language
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- What can you communicate to your organization that you learned at this event that will help you close the deal?
- **You said:** "We need to communicate how IT provides value-add to the Social Networking phenomena."—equally true for cloud computing & virtualization.

**Thought Leadership Skills:**
- Act as an educator within your organization
- Be pragmatic and see the "big picture"
- Market yourself within your company
- What emerging technologies and trends have you learned at this event will help you educate your CEOs and fellow executives?
- **You said:** "Who is responsible for security? Everybody."
- **You said:** "In Texas, we say 'Don’t put a $10 fence around a $5 horse.'"
- **You said:** "We’re in 3 hype cycles: Virtualization, Cloud Computing & Social Networking."

**How to acquire these skills:**
- First, identify what needs improvement
- Make an effort to develop the skills you need
- Learn main corporate functions – R&D, finance, marketing, etc.
- Attend events like this one to broaden your skill sets
- Network with specialists
- What takeaways from this event will help you acquire new skills?
- **You said:** "The next 24 months will bring increasing complexity."

**It's a Wrap!**

- **As IBM’s own CIO research found and each of you knows:**
  
  ▶ **Being a CIO isn’t easy**
  
  - But you are professionals and your attendance here shows willingness to learn new skills
  - **One last conference quote:** “Skate to where the puck is going to be, not where it was.”

**Calvin Carr – Speaker Background:**
- Connecting B2B IT buyers and sellers since 1986 within the trade publishing & market research arenas.
- Helping Global 1000 companies like IBM, Microsoft, Apple, HP & Oracle with their marketing strategies and tactics.
- VP of Sales at Oak Hill Corporation responsible for developing, optimizing and delivering content for some of the most innovative and successful tech companies in the world.
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**Take-away Idea:** The next generation of CIOs will be as closely associated with overall decision making in the organization as with IT operational matters. Education in all its possible forms will be the key to lifting CIOs to that this higher of corporate involvement.
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Note: Calvin’s wrap-up talk referenced an article in the Wall Street Journal:

Why CEOs Are Last Among Equals
May 24, 2010; Wall Street Journal
Peter S. Selisi, Dennis Moberg and Ronald Danielson
http://online.wsj.com/article/SB10001424052748704320104575015430323427298.html

Another review of the article appeared in the MIT Sloan Management Review:

The article provided excellent background material for what Key Info aimed to accomplish in this CIO conference.
Key Information Systems is a leading technology firm in the western United States, specializing in solutions for corporate IT infrastructure, virtualization, server consolidation, IT security, storage management and business continuity. Key Info is also an IBM Premier Business Partner, AVNET Premier Business Partner and Microsoft Certified Partner. The company also represents brands such as VMware, IBM ISS, IBM System Storage N Series, IBM XIV Storage System, IBM Tivoli, Microsoft and Brocade. Key Info's virtualization and IT security solutions, as well as its high-availability and fault-tolerant solutions, are backed by a complete range of professional services including critical assessment, financing, systems integration, installation, training and support.

With one of the most knowledgeable and best-trained teams in the industry, the company has been listed as one of Inc. magazine's Fastest Growing Privately Held Companies in Los Angeles and has received Leadership, Beacon and Fast Track awards from IBM as well as a Top Partner Award from AVNET.

Corporate headquarters is located in Woodland Hills, CA, with additional offices in San Francisco, Newport Beach and Phoenix, AZ. An IBM-authorized Business Partner Innovation Center is maintained at the Woodland Hills location and a Business Recovery Center is installed at the Orange County office in Irvine, CA. For more information, contact Pete Elliot, Key Information Systems, 27100 Oxnard St., Suite 250, Woodland Hills, CA 91367, tel. 1.818.737.2804, pelliot@keyinfo.com, www.keyinfo.com.