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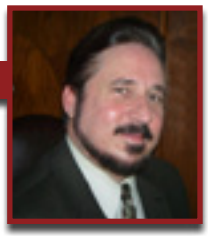
Supporting Enterprise Networks and Operating Environments

DECEMBER 2009 VOLUME 1, NUMBER 3

America First

Why Margins and Profits Just Might Trump Cost When It Comes To Offshoring

Building Relationships with Highly Specialized Recruiters - Proactively



Message from the President

Over the past few weeks Sharon and I have received in our mail what is quite possibly the largest pile of solicitations from charitable organizations that we have seen in our lives. I realize that it is the Christmas season, but the sheer volume of help requests drives home the point that the sour economy is really making it difficult for a lot of people. The present economy is not just affecting the poor either. Sometimes it is making "new" people poor – all too often people in the IT and Networking professions who find themselves out of work. Being unemployed can hurt even more during the holidays, and as the saying goes, "there but for the grace of God, go I." I hope you remember this as you read on.

Over the past months NaSPA has responded to these issues as an organization with job placement assistance, an employment web site, insurance programs for people who find themselves suddenly without coverage, and various member discounts. We should also however be trying to lift one another up, member to member. In this spirit, if you are lucky enough to be productively employed this Holiday season, please consider helping someone less fortunate. Consider purchasing a NaSPA membership for someone you know who needs one. NaSPA will do its part to make this easy for you:

1. A NaSPA membership normally costs $45.00, already one of the lowest price memberships anywhere for a comparable organization. If you know someone in need who could benefit from NaSPA benefits (job placement, insurance, resume writing, etc) you may purchase a membership for them for only $22.50. We will send them a membership card in their name - but the product of your generosity. For some, it might be the best Christmas "card" you can send. All you need do is send me an email at the address below with the title "In Need" with the name and address of the professional "in need."

2. Not yet a NaSPA member? You need to be in order to take advantage of this offer. Don't worry though, add your name to the same email and we'll sign you up for the same price – if you include the name of another person "in need."

3. Of course, if your company is doing well, and would like to give back some of its blessings this Holiday Season, a tax deductible gift of any amount to NaSPA will help us continue to help our less fortunate peers get back on their feet. 'Tis the Season to be looking for deductions!

If you are interested in either option, please feel free to email me personally at president@naspa.com. I will forward your emails personally to NaSPA staff who can take a check, credit card, or bill you later.

I hope my e-mail box is jammed with people thinking about their fellow IT and Networking Professionals who need NaSPA's help – and yours – this Holiday Season. Whatever you decide, we here at NaSPA extend our best wishes for the Holidays and for the New Year.

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technical SUPPORT
Supporting Enterprise Networks and Operating Environments
NaSPA

December 2009
Volume 1, Number 3

Published exclusively for NaSPA, Inc.
Network and Systems Professionals Association

www.NaSPA.com

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December 2009 Volume 1, Number 3

FEATURES

ARTICLES

DEPARTMENTS

From the Founder

Happy Holidays to you and yours!
Best regards,
Scott Sherer
Founder and Past President

NaSPA Mission Statement:

The mission of NaSPA, Inc., a not-for-profit organization, shall be to serve as the means to enhance the status and promote the advancement of all network and systems professionals; nurture member's technical and managerial knowledge and skills; improve member's professional careers through the sharing and dispersing of technical information; promote the profession as a whole; further the understanding of the profession and foster understanding and respect for individuals within it; develop and improve educational standards; and assist in the continuing development of ethical standards for practitioners in the industry.

NaSPA serves Information Systems technical professionals working with z/OS, OS/390, MVS, VM, VSE, Windows Operating Systems, Unix, NetWare and Linux.

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America First: Why Margins and Profits Just Might Trump Cost When It Comes To Offshoring

by Jay Battershell, Managing Director, Clearview International LLC

Dell's doing it. Bank of America's doing it. United Airlines is too. Even TaTa and Wipro are doing it. And that "IT" is moving technology and call center jobs to US soil.

When manufacturing jobs left the country in the early 1980s, it was pretty easy for computer folks who felt secure in their growing industry to be pretty smug about their manufacturing brethrens' demise. However, in the 1990s that all changed. To IT professional's dismay, the 2000s have seen at least 1.6 million service-sector jobs leaving our shores. The simple reason: Cost.

However, slowly but surely, we're seeing that trend change. The simple reason? Cost again. It's not just that American labor costs are affected in what many call this "Jobless Recovery," but it's about margins and profits. For a time, American business may have forgotten that loyalty and repeat customers are key to their margins, profits and their marquee brand image.

If customer loyalty and delight are key to your product, choosing where brand touchpoints occur and who's doing the touching becomes an issue of profit, not just cost.

Perception is Your Product's Reality

The "2009 Contact Center Satisfaction Index" noted that those who called a contact center they believed to be offshore were three times as likely to defect, while those who felt they had reached a US contact center were twice as likely to recommend the brand to others. Contact Centers of America found that an offshore center took 25% - 35% longer to handle calls and first-call resolution was 20% - 30% less.

As the old adage goes, a satisfied customer will tell one or two folks about their experience, whereas a dissatisfied one will tell 8 to 10. Losing the unhappy customer, along with several others who might have been first-time or repeat customers can equal geometric losses in potential revenues, the margins companies can demand and thereby damage their profits along with their brand reputations.

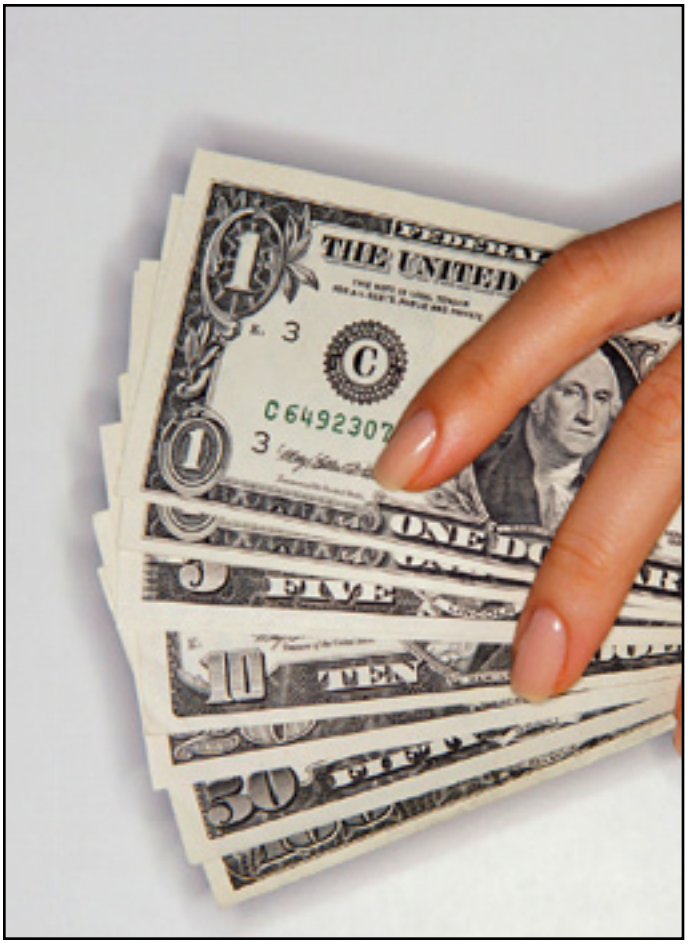
Personal case in point. Our marketing director, a long-time Apple user reaches a North American help desk when she needs help with her Microsoft products for Apple. Her issues typically resolve with one call. They understand her problem, can document the issue, and communicate to her how to fix the problem quickly in a language she can understand. Many of us wish we could say the same for our overseas Microsoft-for-PC support. It's a brand issue Apple takes seriously.

After all, that's the key. If customer loyalty and delight are key to your product, choosing where brand touchpoints occur and who's doing the touching becomes an issue of profit, not just cost. And we shouldn't forget that as IT professionals, we have both internal and external customers we need to delight as well, so functions that support those who reach the end customer are every bit as important.

America First Doesn't Mean America Only

Before you pull the plug on your offshore solutions, it's important to remember that not every aspect of your business is a brand or customer touchpoint. And some products and services can be supported very well with simple offshore and IVR systems.

ACS' vendor/accounts payable system is a prime example of effectively offshoring the set-up, invoicing and payments to vendors through an online system with an off-shore-based support center. Vendors to ACS don't hear, "The check is in the mail." Instead they can access the system online or call the support center to find out if invoices have been received, processed, and sent. It's on-time information that's easy to access and it's meaningful to vendors. Saves money, saves time, makes the vendors happy, and is a plus to their brand.



The Right Mix for your Mission

At Clearview, we're doing two things to help clients discover the right mix of onshoring and offshoring aspects of their business. First we focus on helping customers truly understand the mission of their business—the higher calling that helps determine what needs to be local and what needs to be global. It's an intricate dance that takes into consideration customer expectations, customer delight, costs, profits, margins, and even legacy—OK, your legacy systems too, but primarily, the legacy you want to build for your organization. Whereas an IT cost savings might look great on today's balance sheet, it might also be a repeat-business killer two years from now. So it's a depth and breadth of business insight supported by IT and shoring decisions that clarifies your business strategy.

Secondly, we understand the pressures for cost savings and containment even on those critical brand touchpoints. To that end, we've embarked upon a "Not-So-Remote" solution that comes close to matching offshoring pricing with American solutions.

It starts with high-quality but untapped workforces that are found in non-NFL cities. Many college and university towns have tremendous workforces, but because they are a little off the beaten path, they have extremely favorable salary and cost-of-living scenarios. As lifestyle becomes more important, we're finding that more and more qualified people would like to work in these highly livable towns at a reasonable wage rather than moving their families to big cities for higher compensation. Add to that "work from home" opportunities for certain types of shoring, and the cost comes down, the business makes sense, and the customers are delighted.

Another Dose or Two of Reality

Customer intimacy and economics, not patriotism or politics, are driving recent trends to American shores. TaTa and Wipro have made the move to the US specifically for these reasons. ABC News noted in late 2008 that "Proximity to customers was 'the paramount reason' for TaTa consultancy services to open a 1000-new person office in Cincinnati…"

CIO Magazine shined some reality on savings in early 2009, "In reality, 10 per cent to 15 per cent savings are more realistic for highly commoditized service areas…."

In the San Jose Business Journal, Accounting and Consulting firm, BDO Seidman, LLP reported in March 2009, "When asked what one location they might consider for outsourcing in the future, CFOs most frequently cite the United States (22 percent), followed by China (16 percent) and India (13 percent)."

Really? CFOs? After all, it's all about cost.

Jay Battershell has been providing Managed Services to global businesses for over 15 years. As a senior executive at Clearview, Accenture, LSG Sky Chefs and Uniden, Mr. Battershell has demonstrated successful leadership of IT organizations and IT outsourcing teams in the delivery of business results while continuing to decrease the total cost of ownership for IT. "America First" is a Clearview philosophy developed for companies who want to make better sense of shoring solutions. Clearview International LLC has been bringing clients improved IT strategy and outsourcing services since 1996. Through our multiple data centers, Clearview provides a redundant, reliable, scalable and practical suite of services that can be tailored to support clients' needs from business and IT strategy to complete computing infrastructure. Clearview is headquartered in Dallas and has facilities throughout North America, Europe and Australia. www.clearviewfocus.com

Building Relationships with Highly Specialized Recruiters - Proactively

by Jeff Snyder

You buy insurance before you have an accident. You choose a primary doctor when you initiate new health insurance coverage. You identify a dentist before you need a root canal. Isn't your career important enough to you to proactively identify and promote yourself to recruiters who specialize in recruiting in your skill discipline? Consider making a project out of identifying, approaching and building relationships with recruiters who specialize in recruiting your skill set - before your boat is taking on water and sinking. Connect with specialized recruiters before you need them. In this second part of Jeff Snyder's Technical Support Magazine series, he discusses a few more useful career development tips.

Connect with specialized recruiters before you need them.

1 Identifying specialized recruiters is not difficult.

"Headhunters" who specialize in recruiting skills such as Information Security, Business Continuity and Disaster Recovery are not difficult to find. We refer to these recruiters as "specialized" in this article because they are focused in their respective disciplines and don't generally dabble beyond their areas of specialization. Because of this fact, many different ways exist to identify them. For example, you'll find specialized recruiters through business and social networks such as LinkedIn, in directories of specialized recruiters online and through search engines. Don't forget to ask your peers who they know of who is specialized in recruiting your particular set of skills. Once you have found one, which is again the easy part, here are some ways to manage your relationship with them:

2 Understand what a specialized recruiter's Corporate clients expect from them

Specialized recruiters are hired by companies that want the industry's top talent. When a specialized recruiter takes on a search, the parameters of the search are generally very tight and the bar of expectation on the hiring manager's side of the desk sits very high. Employers who are paying a search fee to a specialized recruiter set higher expectations than employers who fill their own jobs without the help of spe-

cialized outside recruiters. You have to make yourself stand out from the crowd and, you have to be at the top of your profession for a highly specialized recruiter to be able to place you with one of their clients.

3 Approach a specialized recruiter with a well thought-out plan.

Before you reach out to a specialized recruiter to make yourself known, think through your objectives. If you're going to use email to make a first impression, take the time to write a carefully developed cover letter. Your cover letter should be written in executive summary format. It should be spell and grammar checked. A well-written cover letter will provide compelling enough information in bite-sized portions to make the recipient of the cover letter want to read your attached resume. If you choose to use the phone to make your first introduction, speak clearly, make the purpose of your call easy to understand, spell your name and repeat your phone number slowly and more than one time. Make your first impression one that will cause the specialized recruiter to want to call you back.

4 Get to know specialized recruiters before you need them.

Companies that have highly strategic positions to fill frequently call on specialized recruiters. Looked at from a different point of view, one could say that specialized recruiters often sit on some of the most sought-after and compelling positions in industry. Think of these positions as career building positions that aren't always advertised and frequently fly under the radar screen. Who lands in these highly sought-after positions? The first professionals to receive calls from specialized recruiters are professionals who have proactively built relationships with highly specialized recruiters at times when the professional isn't in need of a new job.

5 Position yourself for well-thought-out career moves.

Build relationship with recruiters who specialize in recruiting your skill set and your phone could ring unexpectedly to discuss just the right career move that you weren't looking for but you might be ready to pursue. Highly specialized recruiters can frequently be your bridge to better opportunity.

Jeff Snyder is the President of SecurityRecruiter.com, a search firm highly specialized in information security recruiting. Jeff's recruiting career started in 1990 in the general IT recruiting space. His first information security recruiting assignment landed on his desk in the 1995 - 1996 timeframe. SecurityRecruiter.com provides full-time and contract recruiting services, job placement services and professional resume writing services and is a gateway to various kinds of security education, security certifications and security training opportunities.

Architecting for Desktop Virtualization

by Martin Ingram

The conventional wisdom is that the IT industry readily adopts new terms and technologies, often well ahead of those technologies being well understood, available, and in use in the real world. Such has been the case with VDI. The term VDI was coined way back in 2005, yet we are only now approaching a stage where it can become a viable platform for broad-based implementation. That is not to say there have not been successful VDI deployments so far, there have been many, but they have been mostly implemented for only a small section of a business's employees. As we look forward to broader deployment of desktop virtualization we have the opportunity to learn from the past and look to the future to ensure that the solutions we architect today will meet our needs today and tomorrow.

Early VDI solutions were built by bringing together the technologies available at the time, but gradually a pattern emerged amongst those early implementations: Multiple virtual machines (VMs), each with a copy of Windows XP and the standard corporate applications, would be created and then allocated to users as they migrated to the system. The VM containing the image would then become the 'property' of the user and they would access this same image every time they logged on to the system. Implementations varied in the management sophistication around the solution; some using brokers, others doing without, etc., but the basic pattern was used over and over again at organizations around the world.

The reasons for deploying VDI were very similar among organizations in these early implementations. They were to address off-shore and remote workers and had two principal justifications: 1. It is cheaper and more effective to support these users centrally rather than having to provide desk-side support. 2. The use of a display protocol provided better protection for corporate data because data did not have to leave the data center. The reduction in support costs came from centralizing the PC image and avoiding the need to have a skilled person available to go desk-side with these remote users. Instead, all image maintenance could be done centrally, albeit still on a per-image/desktop scale. Users' PCs were replaced with a thin client device, which does not require maintenance beyond the ability to replace the unit on hardware failure, and which can be entrusted to less technically skilled employees. This reduction in remote desk-side support cost more than covered the increased cost associated with providing a thin client device and a share of a server in the datacenter. The security justification mentioned above is one that is frequently cited but in practice most organizations cannot justify expenditure to reduce the risk of infrequent, if expensive, events.

These two scenarios represent the vast majority of the early implementations but the crucial point to note is, the business justification in both cases is based on a premise that does not apply to the majority of users in the organization – most users work in larger groups. But we still have the problem that PCs are widely recognized to be expensive to manage. As the Gartner Group notes, it typically costs several times the initial capital cost to manage a desktop through its lifecycle. Consequently, organizations that implemented one of these early VDI implementations are now looking for ways to take VDI to a broader set of users. In order to do so, the industry is going to have to make a substantial change in the way it manages virtual desktops. In order to understand the changes that need to be made, we first need to look at what makes PCs difficult to manage, and why they frequently do not deliver the quality of service for users we want.

Essentially, the problems in managing PCs stem from the 'personal' nature of the PC. While we may deploy a gold image to new machines during hardware refresh, and seek to keep them up to date with software deployment systems, the reality is that once users start using a machine, they quickly make the machine unique. Either through changes to configuration or the introduction of applications and plug-ins, the machine strays away from the gold image. This limits IT's ability to manage the machine because, when a user reports a problem, it is difficult to know whether the cause is a real problem, a failure in application deployment or, a user-introduced fault. Consequently, much time is wasted trying to understand where the fault lies and, frequently, if a cause cannot be quickly located, the machine must often be re-imaged. This wastes IT time and disrupts users from working. Additionally most users'

machines are defective in some way but users wait for major problems before calling the help desk and hence the quality of service of typical machines is low. Early VDI deployments did not seek to challenge this basic problem with PCs – they just centralized the images. If we keep the PC image identical for all users and also keep it up to date, then the problems of 'uniqueness' go away.

This is the aim of today's generation of VDI and is the focus for Citrix XenDesktop and VMware View going forward. The key to this approach is to split the PC image into a number of separate software components that can then be standardized and managed independently. These components are then dynamically assembled each time the user logs on so that we can guarantee that users are always running the latest version of each component.

The components split into three categories: operating system, applications and user environment.

The operating system component includes the operating system plus, in most cases, a small number of widely-used applications. It is configured to a 'corporate generic' level that will be adapted for each user as he or she logs log on. Most applications are kept separate and managed as individual components to minimize conflicts and are typically delivered through application virtualization, although some are delivered from existing application servers, either terminal services or browser-based. The user environment comprises all data on the PC that is associated with a user and is unique to the user, and, hence, includes a wide range of different data types. Examples include policy settings to configure the operating system dependant on the user and their role, as well as personalization settings to ensure that the user gets a familiar experience. In this way the PC image remains completely standardized and all of the unique aspects are managed independent of the image. This gives the level of standardization needed to better manage the platform without compromising the user experience of the PC. AppSense is the leading solution for User Environment Management and is the only solution recommended by Citrix for enterprise XenDesktop deployments.

Organizations are and will continue to take differing routes to hosted desktop virtualization. Some are embracing application virtualization first while for others centralizing the desktop is the first priority. But what is clear is organizations desire to move to a better managed PC estate.

So far we have considered desktop virtualization only in terms of a hosted solution. While hosted implementations will be deployed first we also need to take account of client virtualization as we architect our desktop virtualization solutions. Client virtualization refers to the use of a hypervisor on desktop and laptop machines although most attention is being paid to laptops since they have become so popular in business, frequently overtaking desktops. Laptops have a number of distinct challenges that we do not see in either a hosted VDI implementation or in a traditional desktop in that they may be only intermittently connected to the corporate network. This means that, while we will deliver standardized components in client virtualization, as we do in hosted virtualization, we need to cache software components on the device and synchronize user environment data when the device is connected. By comparison virtualization on traditional desktop machines is an easier proposition and will easily fit into the componentized methodology. Allowing us to efficiently manage machines with high graphics requirements where the use of a display protocol to deliver a hosted solution will not be acceptable such as those used in CAD or media creation.

Ultimately we may get to the situation where we move some or all of the application delivery and desktop delivery challenges out of the business and have them provided by service providers. In this case it becomes more important than ever to have control of the user environment so that you can manage the user experience and to give you flexibility to move between service providers.

The essential take away as you look to architect for desktop virtualization is this: Increasingly, you will be delivering standardized components, a number of different ways, on a number of different platforms. The key to bringing this diversity together is have a good and flexible user environment management capability. That means that you will need a single place to manage the user across the whole business. Ultimately, you will have multiple technologies and providers each delivering standardized components where you can switch between them at will. Set in this context, what really matters is the ability to give users a productive and familiar environment in which to do their jobs efficiently and reliably. In the final analysis is the most important role of the user environment manager.

Martin Ingram, Vice President of Strategy, AppSense, provides the strategic direction for the company's products, ensuring that they meet with current and future customer requirements. He has over 15 years of experience and is recognized within the industry as a senior commentator within the application delivery space. Martin has held senior-level strategic product management and engineering positions at leading technology companies in the UK and US including: Kalypton, Clearswift, Baltimore Technologies, Content Technologies, Avid Technologies and Tektronix. He holds a BSc in electrical engineering from Sheffield University. Martin can be reached at martin.ingram@appsense.com.

Debunking the Hype About Clouds

by Mark Adams, Creative Director, iland

From increasing workforce mobility and productivity to cutting costs and improving your bottom line—even saving the planet—there seem to be few things "the cloud" can't do. So what's the truth? Has this new IT phenomenon really come to earth from planet Krypton to save the world? Or are clouds just a bunch of vapor?

In this article, iland, a cloud infrastructure company, spotlights three key areas from the list of cloud computing hype and explores three aspects of what cloud computing purportedly delivers.

- How is cloud computing good for the environment?
- Can the cloud help you reduce risk for your business?
- What benefit does the cloud bring to your workforce?

How do clouds help your business go green?

Servers running at 10 percent capacity make your data center 90 percent inefficient. That's not just wasting electricity and increasing carbon emissions—it's squandering your shrinking budget and complicating IT management.

Enterprise organizations depend on their data centers for the IT services that run the business. Even in the best economic conditions, IT budgets are under scrutiny. Which means IT staff are being asked to do more things, more rapidly than ever before—and they are deploying more and more servers to meet enterprise goals. But adding server after server to your data center increases electricity bills, creates excess heat, and adds to your bulk—without adding efficiency. This "server sprawl" also introduces greater complexity to data centers and adds to the burden of IT management.

The fixed cost of waste

As an organization adds more servers, it multiplies associated costs. It takes electricity to run each server—whether sitting idle or 100 percent utilized. And the heat generated takes additional electricity for air conditioning. With power costs rising at double-digit rates, this represents one of the largest total expenditures of a data center. In addition to power and cooling, one must factor in the cost of hardware, software, floor space, and people—all of which directly relate to the number of physical servers in production.

The costs of over-provisioning y a data center are simply too great to ignore. Most individual servers in a data center are operating at from 10 to 30 percent capacity—and that's costing companies an estimated $140 billion a year in unused server capacity.

Confidently consolidate

One option for addressing these issues is for an organization to consolidate certain applications to a cloud computing company. One advantage of a virtualized cloud infrastructure is that it can often do more with fewer physical servers. For example, let's say an organization is currently using 200 servers. Each server is presumably taking up space, generating heat, and consuming electricity. Under the right circumstances, virtualized cloud computing allows and organization to stack multiple images onto fewer boxes and reduce those 200 servers to the equivalent of 15 highly optimized physical servers, lowering cost and increasing profitability. This also pays a dividend to the planet as well in a lower carbon footprint.

A Lower Carbon Footprint

Underutilized servers waste electricity and create millions of tons of carbon emitted by coal-powered plants. Since organizations in all industries are coming under increased pressure from environmental regulations and public opinion, a greener IT infrastructure is not only good for your bottom line, it's good for the environment, and your company's reputation.

How do clouds help reduce risk in your business?

Risk to a business comes in many forms. There are natural disasters and economic downturns, as well as legal and regulatory compliance issues. And, of course, there are IT issues. While Hollywood glamorizes corporate spies dangling from ropes in the elevator shaft or the nerd bravado of a teenage hacker cracking firewalls for kicks, the most common risks for your enterprise are both boring and preventable.

What does "secure" mean?

One of the first scenarios people imagine about IT security is intrusion from the outside. And while that threat is real and requires appropriate measures, there are many other factors that create "IT insecurity". For example, many companies have mission-critical applications on servers that are in the back of a storage room or under a desk. The cleaning crew could kick the power cord or the solitary server could just fail, causing downtime for an important service that affects the business.

And if disaster does strike, what about time to recovery? Even in larger companies with disaster recovery plans, the actual recovery procedure can involve transporting physical backups and staff driving or flying to distant locations. During this arduous process, critical infor-

mation is unavailable to workers, partners, and customers—and revenue is lost.

Downtime leads to a cascade of related costs. Deadlines or SLAs (Service Level Agreements) can be missed because services were offline could lead to penalties and charges. The organization can incur significant overtime to make up for lost productivity and your customers may look to your competitors. Downtime costs more than money—it can cost customers.

Redundancy. Recovery. Reliability.

True IT security is about redundancy, recovery, and reliability. An organization needs redundancy in both infrastructure and data protection for critical files and business services. Then it needs a business continuity plan that can restore operations in minutes or hours—not days. This adds up to IT reliability that protects a business from the many unglamorous causes of downtime and lost revenue.

Protecting Desktop Data

After securing servers and the data they contain, there's another IT vulnerability that can be easily avoided. Think about the thousands of hours of work and countless documents and spreadsheets with vital content like sales reports, prospect lists, and new marketing programs your organization's workforce has created. Now think about how much of that isn't backed up to your servers and exists only a single PC or laptop hard drive. It is possible to even consolidate the desktop into the cloud. One iland application for example transplants the desktop environment into the cloud, alongside the organization's application servers. Under the right circumstances it can provide a secure and unified platform that integrates desktop data with the business continuity solution for your hosted servers, data, and services.

Advantage of cloud-based desktops

People still like to sketch things on paper or whiteboards, but the real work happens on the desktop environment. That's where people write, design, engineer, and crunch numbers. It's also where they surf, email, schedule, instant message, and collaborate remotely. Providing a flexible, secure, and productive desktop environment is one of the most important IT tasks for enabling workers to create the innovative ideas that make your business stand apart from competitors. Moreover, few things around the office are as frustrating as a PC or laptop problem that keeps an employee from working. A single incident of desktop downtime may not only affect the productivity of that person, but his or her team and department. And, or course, it increases the workload for tech support and the help desk.

In a properly deployed cloud environment, individual desktops are generated from standardized disk images that can be deployed, configured, and migrated centrally. This frees IT staff from one-at-a-time fixes and allows them to spend more time supporting strategic business priorities. It also allows the help desk to easily assist employees outside the main office.

iland™ is a provider of cloud computing infrastructure with high-availability data centers specifically designed for cloud computing in Boston, Washington D.C., Houston, Los Angeles, Dallas, and London. Technical Support thanks them for their informative and thoughtful contribution. For more information see www.iland.com

Part 2 of 2—What Technologists Should Know Before Considering Bankruptcy

by Billy D. Price, Attorney

You will recall that we opened this series last month with a few of the "basics" about bankruptcy that technologists, or anyone for that matter, should know before making life altering decisions. In this issue we conclude with an overview of specific options available for relief, including Chapter 7 and Chapter 13 bankruptcy.

What is a Chapter 7 Bankruptcy?

A Chapter 7 Bankruptcy is often referred to as a "complete bankruptcy" or "liquidation bankruptcy." This type of bankruptcy discharges all of ones unsecured debts. A Chapter 7 Bankruptcy is the type of bankruptcy that comes to mind when a non-lawyer describes bankruptcy: The bankruptcy proceeding is comparatively short, and the debtor does not have enough income to reorganize his or her debts.

Under the new laws, many people who come into our office are able to file bankruptcy. However, the new laws have made it more difficult to qualify for a Chapter 7 Bankruptcy than a Chapter 13 Bankruptcy. A Chapter 7 Debtor has little if any disposable income, and cannot afford to make the monthly payments required under a Chapter 13 plan. If a petitioner chooses our law firm to represent him or her in a bankruptcy case, we will determine whether a Chapter 7 Bankruptcy is right for them.

What are the qualifications for filing a Chapter 7 Bankruptcy?

In order to qualify for a Chapter 7 Bankruptcy, a petitioner must pass the means test. Under the new laws, conducting a means test is very difficult and he or she will need an attorney for assistance. For that reason, the following means test discussion is extremely simplistic. If one's income were less than the national average based on his or her household size, then they would qualify for a Chapter 7 Bankruptcy. If the petitioner's income is above the median income, but has less than $100 per month after expenses, they may still qualify for a Chapter 7 Bankruptcy. Determining appropriate household income and expenses is set by government standards. Because of this, the petitioner will be unable to determine whether he or she will pass the means test without an attorney's assistance.

What happens if I pass the means test and qualify for a Chapter 7 Bankruptcy?

Next, we will need to consider potential exemptions. (See Part 1 of 2 for a discussion of exemptions)

What kind of debt can be discharged in a Chapter 7 Bankruptcy?

Certain types of debts are not dischargeable in a Chapter 7 Bankruptcy. These types of debts include, but are not limited to 1) student loans 2) child support; 3) unpaid income taxes; and 4) government fines and penalties. Sometimes, there are exceptions to these non-dischargeable debts. However, a discussion of these exceptions is extremely technical and complex. If a person selects our law firm to represent them in their Chapter 7 Bankruptcy, we will evaluate their debts to determine whether they qualify for an exception.

If a petitioner's debt is secured by collateral, will he or she have to give the collateral back to the lender? Is there anything they can do to keep property secured by collateral?

If someone files a Chapter 7 Bankruptcy, they have to make a decision concerning their secured debts. Secured debts include one's mortgage, car, and any loan secured by collateral, such as furniture. They will have three choices:

1. Reaffirmation: This is the choice most commonly selected for mortgage debt and car debt. A reaffirmation means that they would like to keep the property and that they are reaffirming the original contract with all the original provisions. For instance, if you would like to reaffirm your car debt, you will continue to make your usual car payments under the same contract. In other words, you agree to abide by the terms of the original contract without the benefit of bankruptcy protection (as though you never filed bankruptcy). As an exchange, the creditor also benefits by following the terms of the original contract. If you miss your monthly payment, then your creditor may foreclose or repossess your property. However, as long as you make your monthly payments, your property is not at risk. By signing a reaffirmation agreement, you are simply agreeing to abide by the terms of the original contract; the same one you signed to purchase the property. In this situation, the bankruptcy would not dispose of the reaffirmed debt, but the bankruptcy will benefit you in other ways. Many of your debts may be discharged and your creditors will no longer be allowed to harass you for payment.
2. Redemption: This option is rarely used in a Chapter 7 scenario because it requires the petitioner to pay the entire amount owed on property that they wished to keep.
3. Surrender: This option is used if the petitioner has secured debts, which they cannot afford or when they do not wish to keep the property. For instance, what if you have 2 cars, each with a monthly payment, but you cannot afford both cars or you only want to keep one? You will surrender the car you no longer wish to keep and it will be returned to the lender.

If someone lets the lender repossess their property rather than surrender the property through a Chapter 7 Bankruptcy, the lender can sue them for the deficiency of the loan.

If someone chooses to surrender their property in a Chapter 7 Bankruptcy, how does a Chapter 7 Bankruptcy benefit them? If someone chooses to let the lender repossess his or her car without entering bankruptcy, won't the end result be the same? Plus, why should one hire a lawyer to represent them in a bankruptcy if they can give the property back on their own?

If someone lets the lender repossess their property rather than surrender the property through a Chapter 7 Bankruptcy, the lender can sue them for the deficiency of the loan. For example, imagine you have a car worth $10,000, but you owe $15,000 on your car loan. Now imagine that your lender repossesses your car and sells the vehicle for $10,000. Because your car loan was $15,000 and the lender only made $10,000 in the sale, your lender will be able to sue you for the remaining $5,000. If you are in a Chapter 7 Bankruptcy and you surrender the vehicle, the lender will be unable to sue you for the deficiency. The remaining loan balance is discharged as an unsecured debt. In addition, it is better to have a bankruptcy in your credit history as opposed to repossession.

What if an individual doesn't want to lose their home or their cars and they file a Chapter 7 Bankruptcy, may they keep this property?

If their house and their cars are completely paid off, then they will be able to keep them in most Chapter 7 cases.

What if someone does not own their house and/or their cars free of any liens. How can they keep them if they file Chapter 7 Bankruptcy?

To keep their home and their cars, their payments must be current when they file Chapter 7 Bankruptcy. If they are current on their house payment and their car payments, they must continue to make their regular monthly payments after filing Chapter 7 Bankruptcy. This is called reaffirming their debt (see above for a discussion about reaffirmation).

What is a Chapter 13 Bankruptcy?

A Chapter 13 Bankruptcy is referred to as the "Wage Earners' Reorganization." A Chapter 13 Bankruptcy prevents foreclosure, repossession, and wage garnishment. In addition, Chapter 13 Bankruptcy is an important tool for individuals who do not meet the qualifications for a Chapter 7 Bankruptcy, yet still require bankruptcy protection.

When should someone consider filing Chapter 13 Bankruptcy?

If 1) their mortgage company is threatening foreclosure; 2) their car is about to be repossessed; or 3) the IRS, Attorney General, or Guaranteed Student Loan Company is going to garnish their wages, then they may wish to consider Chapter 13 Bankruptcy.

What are the qualifications for Chapter 13 Bankruptcy?

A petitioner will need enough income for necessities and to make Chapter 13 payments.

Why must a petitioner make Chapter 13 payments?

As mentioned above, a Chapter 13 Bankruptcy is a Wage Earners' Bankruptcy and is intended to help debtors who simply need to reorganize their debts rather than enter a complete liquidation as in a Chapter 7 Bankruptcy. A Chapter 13 Debtor is someone who is normally able to pay debts, but is temporarily behind on his or her bills. For example, imagine that you have always been able to pay your debts but suddenly lose your job. After a few months, you find another job and are able to resume paying your bills. However, there is still a gap when you were unable to pay your bills. Even though you have a new job, you cannot afford to pay your creditors the entire amount you owe when you did not have a job. A Chapter 13 Bankruptcy will help him or her to repay the payments they could not make when they had no income. This is what we mean when we say their debts will be reorganized.

Why do petitioners of bankruptcy have to continue to make their house payment even though they have filed Chapter 13 Bankruptcy?

When a petitioner files Chapter 13 Bankruptcy, they will be assigned a Bankruptcy Trustee. The petitioner will make payments to the Chapter 13 Trustee and he or she will distribute the petitioner's payments to their creditors to repay their debts for the period in which they had no income. Because they have income now, the petitioner will need to make their house payments as usual and in accordance with the contract with their mortgage company.

Many petitioners are often confused about why they have to continue to make monthly house payments in addition to making a monthly Trustee payment under a Chapter 13 Bankruptcy. Remember a Chapter 13 Bankruptcy is a reorganization of one's debts rather than a complete liquidation. The Bankruptcy Plan only includes missed house payments and not future house payments. Once someone files bankruptcy, they must continue to make their monthly mortgage payment. If they do not, their case will be dismissed. The Bankruptcy Trustee will pay the missed house payments in the Bankruptcy Plan, but when their case is filed they must be able to pay their house payment themselves.

Recall our hypothetical above in which you lost your job. Even though you eventually found a new job, you still need assistance to repay your debts for the period in which you had no income. This is the purpose of a Chapter 13 Bankruptcy: To help petitioners of bankruptcy get back on their feet after losing their job. Now that they have a new job, they can make their house payments again, and the Chapter 13 Bankruptcy will help them to repay their house payments for the period when they could not pay their house payments (the missed payments only). Even though they have filed Chapter 13 Bankruptcy, they must continue making their house payment after they have filed.

Now that they have a new job, they can make their house payments again, and the Chapter 13 Bankruptcy will help them to repay their house payments for the period when they could not pay their house payments.

Please note that the loss of a job is not a requirement for filing a Chapter 13 Bankruptcy. Many times a petitioner experiences another kind of financial disaster and is still able to file a Chapter 13 Bankruptcy.

What kinds of debts are included in a Chapter 13 Bankruptcy?

This is a difficult question to answer without knowing the petitioner's particular debts and assets. Typically however, unsecured debt and the payments missed on secured debts are included in a Chapter 13 Bankruptcy. Sometimes, a car may be included in a Chapter 13 Bankruptcy even though it is a secured debt (see below).

I want to include my car in a Chapter 13 Bankruptcy Plan. Can I do this?

Yes.

What happens if a person's car is not included in their Chapter 13 Plan?

In this case, the petitioner for bankruptcy will continue to make his or her monthly car payment in addition to their trustee payment and their mortgage payment.

I have seen advertisements for companies who claim they can work with someone's creditors to prevent bankruptcy. Why should they file bankruptcy?

As mentioned above, bankruptcy is sanctioned by the Federal Government. Although these agencies may contact one's creditors and attempt to prevent foreclosure, the creditors are not required to work with these agencies and foreclosure may still occur. Because bankruptcy is a form of debt relief provided by the Federal Government, the creditors are required to follow the terms of the bankruptcy. As long as the petitioner for bankruptcy also follows the bankruptcy rules, foreclosure may be prevented.

Summary

We hope this series has answered some of your bankruptcy questions. However, the best article is not a substitute for a meeting with an attorney who will be able to determine whether a Chapter 13 or Chapter 7 Bankruptcy is the best option for you and your family, or whether you should file at all.

Billy D. Price is an attorney specializing in bankruptcy based in Dallas Texas. If you have additional questions, you may send them to Mr. Price at billy@billyprice.net. NaSPA members can also receive a free telephone consultation. Have your NaSPA member number ready if you call Mr. Price at (214) 696-9601. Any discussions will be held in strictest confidence between you and the attorney. No one at NaSPA or any other organization will be notified or aware of your call.

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News from the eBook Rumor Mill

by Bill Elder, NaSPA Board Member

Keeping up the developments in the world of electronic reading devices can be quite a challenge. The competition between Amazon's Kindle and other emerging vendors is in itself getting fierce. As the holidays approach, we will probably see price wars among the different vendors. One certainty about this industry is that there will never be any shortage of rumors.

In our prior edition of Technical Support, we had mentioned a web site called eBookRumors.com. On this site, you can find the latest rumors about various efforts of electronic reading companies attempting to win King of the Hill. For those looking to purchase one of these devices, it can be daunting to know which vendor to choose from among the competitors.

For this edition of Technical Support, we interviewed John Cypher, webmaster for eBookRumors.com. John will provide us some insights that I hope will be useful to you as we navigate through this new emerging technology.

1 Technical Support: Some of our readers are in the disaster recovery field.

Electronic Reading Devices (ERDs) could potentially be great tools for storing procedural information for first responders to have in emergency situations. Have you heard of any places using ERDs as disaster response tools? How could these devices enhance disaster planning efforts?

eBookRumors.com: I haven't heard or read about anyone using ERDs as disaster response tools, yet. But I'm sure it's coming. I can see that as a place where the technology will flourish if one can imagine a device wirelessly giving the responders access to architectural drawings, building plans and materials, health records, hazardous waste protocols and more. I'm sure we've all seen this type of machine in science fiction movies and television. It's just a matter of time.

One thing I know all developers are working on for ERDs whether for home, office or 'in the field' is durability. ERDs have to be at least as durable as an actual book or magazine. Can you drop it, sit on it or roll over on it in your sleep? This will especially influence the development of a device that first responders can depend on in a disaster setting. Actually, Bridgestone (the tire maker) is working on a flexible device, and there are several other companies designing bendable displays that roll up into protective shells.

2 Technical Support: There is quite a bit of competition between different ERD vendors.

Is it too early for managers to invest in an ERD device such as the Amazon Kindle? ERDs could be another way for companies to manage and store their process/procedure documents. Would you have any general recommendations for managers in choosing an ERD vendor to use for their companies?

eBookRumors.com: It's a big step to get on board right now, especially when it comes to adopting ERDs designed for professional or office work. Don't get me wrong, there are some fantastic machines on the market, and more coming every day. But being early in the process, there are bound to be bugs that need ironing out, and the price per unit might still be prohibitive. I guess it depends on the office and the budget. I could certainly see bringing them online in stages. Examples of ERDs designed for the business environment would be the sleek QUE proReader from Plastic Logic, while Amazon's Kindle DX, and Sony Daily Edition share the larger display and platform with great potential for fitting into the office workflow.

The best recommendation I can give about choosing an ERD vendor is for managers to shop around, and go for price and service. Many of these devices have wireless features, so a manager's got to look at how that might influence data security, storage and work flow.

I'm assuming that in an office setting you're going to need ERDs with file sharing and data storage capabilities as well as display. If that's the case, it's like adding a whole new level of 'hand held computing devices' to your network. It could get messy if your vendor does not have it all worked out.

3 Technical Support: There is an effort underway to have standardization in the ERD industry so documents can be retrieved across different devices.

What are some of the latest efforts in these standardization efforts that could impact the ERD industry and affect computer companies as a result? In addition to eBookRumors.com, where else could readers go in keeping up with the latest standardization efforts?

eBookRumors.com: Producing multiple formats of every document or eBook file is an expensive process. There is a huge effort underway by various industry leaders to use EPUB open format for eBooks and eDocuments. EPUB is a free and open eBook standard by the International Digital Publishing Forum (IDPF). These files have "re-flowable" content for optimized display on any particular device. This format can be read on everything from desk or laptop computers, eBook readers to iPhones. So far Google Books, Sony's eBook Store and Barnes and Noble etc. are switching their eBook catalogues over to the EPUB format.

Amazon's Kindle is holding out with its own proprietary .AZW format. Amazon also owns Mobipocket and can read their .PRC format among others. I think market demands will eventually force Amazon over to EPUB. Adapt or die.

I can't rule out plain text format either. This was something I doubted would be popular, but it also reads on pretty much any machine out there and there is a large tribe of very early adopters who have been using this format to read the classics on their phones for years. It's just a matter of time before there's a standard format, and EPUB is in the lead so far.

To keep track of developments in the industry it makes sense to 'Google' the news, since there are new eBook and digital publishing stories every day. To stay current on the whole ERD revolution, I use Google Alerts. Set up an account with Google and hand tailor the alerts for 'Kindle,' 'Sony Reader,' and 'eBooks' or 'digital books.' You'll be surprised how much is going on.

4 Technical Support: With this latest wave of competition between vendors, what are some of the major factors that will determine which one will be dominant in the industry?

eBookRumors.com: Eventually the machines will evolve to suit their individual uses and the prices will depend on the number of functions the ERDs can perform. Many people just want an affordable ERD for reading their eBooks. Something that's durable and that won't break the bank if you lose it.

Other adopters want ERDs that will function as eBook and document readers, movie and music players and phones. Those machines will cost more because you're getting more bang for your buck. Everyone's waiting for Apple's rumored Tablet. That machine is said to do all of the above and more.

I think that once the leaders in those separate classes of machines break out of the pack, it will come down to price. Currently, the competition is so fierce that price is already starting to play a major role. There are fairly solid rumors of a $99 eBook reader for Christmas of 2010. While that ERD might not have all the bells and whistles, the price would be enough to capture mainstream consumer interest. We've already seen a considerable reduction in the prices of the industry leaders Kindle and Sony Reader.

5 Technical Support: Some of our readers publish books and articles. With regards to electronic publishing, would it be wise to publish with just one ERD vendor or should they consider publishing with multiple vendors? Is it normally permissible to publish with more than one ERD vendor?

eBookRumors.com: The old publishing world is in disarray because they're watching all their control (and profit) slip away. Indeed, the old business model had writers and content providers line up to distribute their work through one vendor at a time. Usually, with a binding contract to that effect. While this is still happening, the shift toward independent publishing is giving control of content to the creator. Smart ERD vendors are going to make deals with as many content providers as possible, either independent or affiliated with a publishing house. That way, they can take a cut from the sale of someone else's product without taking any of the risk or doing any of the work. It doesn't cost them anything to offer titles. No printing. No shipping. And most savvy content providers do the lion's share of their own advertising anyway. It can be a win-win situation for ERD vendors and content providers.

6 Technical Support: Have you noticed any differences in the way people are doing office work as a result of ERDs?

eBookRumors.com: In my experience, ERDs are not yet prevalent enough for me to say anything conclusive, but I have a sense that ERDs will affect office work in the way smart phones, iPhones and to some extent netbooks have. People can enjoy a connection to their office work that extends out to social networks and the world. The 'hands-on' access to technology should increase the capacity to produce.

John Cypher is a freelance journalist who spent most of his career writing for various Canadian newspapers and magazines. His interest in digital publishing, the industry shift toward eBook reading and his acquaintance with many writers and journalists are among his reasons for getting involved with eBookRumors.com.

Replacing the Desktop PC in a VDI World

by Aly Orady, Chief Technology Officer

It seems like every day that the task of managing desktop computers gets harder and harder. Many IT managers still relish the days of early mainframes when things were so much simpler. The systems were centralized, and users weren't as demanding. Now we are dealing with a world of interconnected distributed systems with complexity hidden in every corner, crack, and crevice.

Many IT managers still relish the days of early mainframes when things were so much simpler.

As the majority of IT managers try to battle the complexity of the desktop by layering complex management systems on top of the desktop complexity mess, to well, try to hide the complexity, others are driving towards simpler times. Ideally, that desktop computer can just go away. Ideally you can just plug your keyboard, monitor, and mouse right into the network and have the desktop delivered right out of your data center. That is the promise behind virtual desktop infrastructure, (often called VDI) correct?

So what is all the rage about? Why are hospitals, universities, government, and businesses all over throwing out their PCs? What is hype and what is reality? The excitement is really about leveraging virtualization to get all the same benefits of server virtualization on your desktops as well.

While the driver for most server virtualization projects was "consolidation", the reality is IT managers quickly discovered that the real benefits of virtualization are around agility, flexibility, disaster recovery, security, power-savings, and availability. In other words, they could spend less time worrying and building, and more time planning, while ultimately spending less money. (Text box this part?)

These are the same benefits that VDI promises to deliver for desktops. Instead of having PCs distributed all over an environment, each of which is 90% idle while burning a full 200-300 watts of power, VDI allows those desktops to be consolidated onto a centralized server giving each user only as much horsepower as they need while taking the distributed PC environment and moving the software to a more secure, reliable, and flexible environment – the data center.

Selling VDI to the End User

From a user perspective, not too much changes. After all, they are still running the same desktop operating system they have always run, only Windows is now running a virtual machine in the data center instead of on their physical desktop. Once in the data center, users can access their desktops from anywhere, not just from where their PC used to sit. Once virtualized, the desktops become more reliable since they are running in homogeneous virtual machines, and can easily be upgraded with additional memory, disk, or CPU allocation by the turn of a virtual dial. Users no longer have to worry about their PCs breaking, or have to chase after IT to have someone physically open up their PC to give them a memory upgrade. From an IT perspective however, all the data is secure, the underlying virtual infrastructure is fundamentally more reliable than the old PC, and all the flexibility and automation of virtualization can be equally applied to the desktop.

The question is how can IT managers be most successful with VDI? It comes down to selecting the right infrastructure and the right applications to start with. The balancing act is to weigh the technical decisions against providing the end user the same or a superior level of service at equal to or less cost. If you can provide your end user either something better, cheaper, or faster they will embrace your solution. If you can provide all three however, it's a home run. VDI, properly implemented can be a home run.

What Replaces the PC in the VDI World?

When it comes to infrastructure, the question is: what actually goes on the desktop to replace that old PC? The obvious answer is nothing, or as close to nothing as you can get. While ideally you would just plug the keyboard, monitor, and mouse directly in to the network, the reality is those devices don't come with Ethernet ports. So, some kind of an I/O concentrator is needed to bridge those devices into the network, often called a VDI end-point. One thing is clear, if the point of VDI was to take all the software off the desktop and move it into the data center, then it certainly doesn't make sense to put another computer running software, big or small, on the desktop. Doing so would defeat the purpose. This is where Zero Clients come in. They are a new breed of end-points built specifically for VDI. They have no CPU of any kind, run no operating system or software of any kind, and as such don't have to be managed and use almost no power. They are for VDI what thin clients where for terminal services.

While many thin client vendors have been vigorously trying to strip down their stripped down PCs even further, the truth is that if it has a CPU in it then it has to be managed. Some vendors have even gone so far as to swap out their x86 CPUs with ARM or MIPS based ones so the

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can claim their clients are x86 free. This obviously doesn't change the fact that thin clients run software and have to be managed.

So, why put a CPU in a thin client? Thin clients were built to be lightweight PCs that can run web browsers and have applications published to them via terminal services. They had the right balance of computing for what they were originally built to do. Recently thin client have even started to become a little more chubby, thus increasing the management burden on them and now utilizing thin client management packages to ensure that the clients are secure and that the firmware is up to date.

Virtual desktops being a new breed of computing, a different answer is required – leave off the CPU and software all together, and never have to manage, configure, update, or secure the zero client end-point.

Where Do We Start?

The next critical decision is where to start with VDI. The answer is not found by focusing on the capabilities of VDI, since VDI is technically capable of replacing most corporate PCs, but is instead to take a history lesson from server virtualization. When bringing server virtualization into the data centers, IT managed carefully chose which servers to start with. They certainly didn't virtualize their exchange servers on day one. It wasn't that virtualization wasn't capable to hosting exchange, but that IT organizations were learning about this new technology by using it in the real world. As they learned more, they took on more and more ambitious server virtualization projects. The same is true with VDI. In every organization there exists a user community that represents a large amount of pain for IT, but represent low risk in terms of deploying a technology that is new to the organization. This is the perfect place to start with VDI. It is often computers on a hospital floor, a warehouse, a training room, or public access. It is usually a place where there are a large number of users with a relatively similar PC configuration, users that run basic office productivity applications, or a small number of customized applications for billing, manufacturing, or patient records. This is the perfect place to start with VDI, although it is certainly not where you will end.

As IT begins to gain a handle on this new technology, trains helpdesk personnel on the differences between virtual desktops and physical desktops, and learns how to scale their virtual infrastructure to handle hundreds or thousands of virtual machines, they can begin to roll out virtual desktops to more and more demanding users. The key to success is to start in exactly the right places, and grow from there.

The same rule applies when selecting a series of complementary technologies to be deployed with virtual desktops. There are a number of such technologies that can work with VDI to further reduce the total cost of PC ownership and improve management efficiencies. These technologies include the use of roaming profiles or third party profile management systems, application streaming & virtualization, and pooled desktops.

While it may seem tempting to roll out all of these technologies in one swoop, it is often more effective to roll them out in phases. The key to attacking the desktop problem is to move all software to the data center. This is what VDI accomplishes. Once that has been done, the next steps are to further optimize the desktop equation by layering on these additional technologies where applicable.

Determining which of these technologies are best suited for a given environment is not always obvious until after the first step of moving to VDI has been completed. For example, after a few months of running a mid-size VDI deployment, it will then become apparent if it is more important to stream applications, or instead focus on deploying profile management solution.

Summary

As desktop complexity increases, fueled by an ever more networked world and more demanding users, a move to simplicity on the desktop is necessary to manage costs and maintain sanity. Virtual desktops allow IT managers to migrate all software to the data center, while using CPU free zero clients on the desktop to eliminate all management outside the data center. Success with VDI is dependent on selecting the right infrastructure, and choosing how to phase out the roll-out both in terms of user populations and layering on the various pieces of technology that aid in management of desktops. That being said, the ultimate goal at least from a management perspective is to move all software to the data center and leave nothing behind. The soundness of your technical solution howerver, its transparency, and its ease of use to the end user will ultimately determine whether they accept and embrace your solution.

Aly Orady is co-founder and CTO of Pano Logic where he guides the current and future technical architecture for Pano Manager and the Pano System. Aly has previously held engineering leadership positions at Silicon Valley start-up Kealia, Inc. (acquired by Sun Microsystems) where he architected the world's highest capacity video-on-demand distribution platform. Aly began his career at HP designing high-performance I/O and network sub-systems. He earned an M.S.E.E. from Stanford University and a B.Eng. in computer engineering from McMaster University.

Server Virtualization Considerations

by Chris McCall

By now you have heard the steady drumbeat from vendors of how virtualization can reduce costs and improve application availability. Everyone is marketing to this tune but few vendors explain how important it is to take a complete look at your infrastructure before fully diving in and implementing a virtualization strategy. IT managers embarking on this mission must take a step back, get a full view of their infrastructure and map out how the virtualized software, servers, storage and networking solutions will fit together. Avoiding the broader picture can result in critical oversights like having the proper storage features to support virtual machine high availability or configuration issues that cause performance bottlenecks.

New bundled solutions are emerging making it easier than ever for IT managers to jump-start a virtualization project. These solutions are pre-defined, tested, and flexible enough to meet most application and capacity needs. However, some solutions billed as "simple" may actually reduce availability and limit scalability by providing low cost components without the proper feature set. This leaves IT managers to figure out how to put it all together. That's why finding a trusted vendor or partner is important when the decision to virtualize is made.

Some solutions billed as "simple" may actually reduce availability and limit scalability by providing low cost components without the proper feature set. This leaves IT managers to figure out how to put it all together.

To demonstrate how important each piece plays in the virtualization puzzle, this article will look at what I will call the "virtualization stack" which is composed of servers, virtualization software, networking, and storage.

Getting Started

There are a few key business objectives that motivate IT organizations to virtualize. Achieving the true benefits of virtualization are more complex than going out and purchasing a hypervisor.

Be careful not to spend the money you think you've saved.

The most obvious reason to virtualize is to reduce the number of servers in your infrastructure. But achieving cost reductions can be more difficult than one thinks. Many features and capabilities built into hypervisors depend on other products' features and capabilities to work. Take Vmotion from VMware or Hyper-V LiveMigration from Microsoft. Both improve application availability for virtualized server environments but both require shared storage to work. Adding the cost of a new shared storage system or upgrading an existing system can make virtualization more expensive than initially anticipated.

Taking a holistic approach to business continuance

Contrary to what many think, the number one motivation to implement server virtualization is improving business continuance. The ability to migrate an application from a physical device that's not working to one that is delivers better business continuance by simplifying the traditional approach of clustering two identical servers together. However, achieving better business continuance is about more than servers and applications -- it requires a comprehensive infrastructure approach that considers the entire virtualization stack.

Let's start with virtualization software features. You can choose from the simple ability of moving virtual servers between physical servers (like Vmotion and Hyper-V QuickMigration) to reducing planned downtime associated with maintenance windows. Improving on that capability, high availability features like (VMware HA and Hyper-V LiveMigration) automatically boot up virtual servers on a different server if a failure occurs. The highest levels of availability are delivered by VMware FT where two copies of a virtual server are made so that one takes over immediately if the other fails. Depending on which capabilities best fit with your business objective, you'll need to ensure that your storage system has similar capabilities. If it doesn't, you've just shifted your exposure to downtime from servers to storage, as not only is application data kept in the storage system but so are the virtual server images themselves.

Storage systems can meet basic requirements with redundant components. If comprehensive business continuance is needed, you'll also need replication capabilities for both high availability and disaster recovery across sites. You'll also need to understand how storage failover matches with virtual machine failover because that will dictate how complicated management will be.

And don't forget networking. Improving business continuance often means redundant switches so a networking failure doesn't bring down your applications. Best practices like implementing some level of spanning tree protocol, which allows failover between switches can often be overlooked. Delivering application business continuance means nothing if you don't take care of networking and storage in addition to servers and applications.

Avoid making management more complex

Although hypervisors provide many new powerful capabilities, it is another layer of management that didn't exist before. If end users aren't careful, they can end up achieving their business objectives at the cost of increasing management complexity and cost. Pay close attention to server management capabilities. Being able to monitor and control the environment remotely can help avoid downtime. There are new capabilities hitting the market that allow you to monitor server environments through a hypervisor management console, reducing the number of management interfaces. When choosing technologies to implement, look for a close partnership between the server and hypervisor vendors that includes deep technical integration. Ensuring these types of capabilities exist can offset the complexity of adding a virtualization layer into your infrastructure.

Having the right pieces in place are critical to achieving business objectives. Given that your virtualization strategy depends on all parts working together, let's walk through the considerations for each piece of the virtualization stack.

There are new capabilities hitting the market that allow you to monitor server environments through a hypervisor management console, reducing the number of management interfaces.

Server configuration

One of the most troubling aspects of implementing virtualization is understanding the server configuration is required to meet business objectives. Some of the variables that need to be considered, include:

- How much RAM?
- What type of processor?
- How many NICs and in what configuration?
- How many disk drives?
- Does internal bus speed matter?

Certain metrics like VMark exist to measure server performance, but they have very little relevance when it comes to real world scenarios as there are so many other aspects of an IT infrastructure that can cause a bottleneck.

End users should look for vendors that have published real world guidance on how many VM's can practically be run on a specific IT configuration. Testing things like booting up all virtual servers at the same time or migrating a certain number of virtual servers are examples of scenarios that standard performance metrics don't accommodate.

Hypervisor feature capabilities

Understand your business objectives. What you are trying to achieve will dictate what feature package you'll need from your hypervisor vendor. There are new packages that deliver cost effective high availability but leave out advanced disaster recovery and virtual machine mobility capabilities. They also may limit scalability which is perfect for smaller or first time virtualization. This type of package reduces solution cost, however, you won't be able to do things like migrating VM's to do standard server maintenance and reducing planned downtime. Be sure to verify that the features in your chosen hypervisor are supported by your hardware and storage platforms.

Networking best practices

If you've discussed implementing server virtualization with any of your peers, I'm willing to guess "performance" came up. And it's not specific to server, storage system, or switch -- it's overall technology infrastructure solution performance. The first issue that must be addressed in a virtual environment is network configuration. A virtualized environment can wreak havoc on performance because you're changing utilization characteristics of different components within the infrastructure. One of the most important things that you can do is establish a separate storage network from the LAN, and make sure to adhere to best practices for both. The recommendations here will focus exclusively on IP networking and hit on some of the major configuration issues but is not intended to be a comprehensive list.

10GbE vs 1GbE: More bandwidth can help address sequential workloads like backup jobs or large file transfers/copies. However, in a virtualized server environment, the workload is very random as multiple applications are running on a single server. Throwing 10GbE at the problem may or may not help. Upgrading the server NIC to the switch

to 10GbE addresses one of the most common performance bottlenecks. If the storage system is the issue, there are a couple of other options. 10GbE from switch to storage system will help improve performance if you have storage that has limited host interfaces. Some vendors offer scale-out or clustered storage that delivers scalable performance. You can aggregate network connections to help avoid bottlenecks and 10GbE will help with these types of implementations only if the workload is mostly sequential. Bottom line: make sure to monitor your network traffic to identify bottlenecks and determine where they are located before you run out and spend lots of money on 10GbE. Look to 10GbE to help with improving backup jobs, streaming media, and large file transfers.

NIC bonding: For most non-Windows operating systems, NIC bonding helps both performance and availability as the server can utilize multiple ports as a single pipe. On Windows servers or virtual machines, you should use Windows MPIO (Multi-path IO) for your iSCSI volumes instead of NIC bonding. MPIO will load-balance and provide for server port failover, but also accommodates vendor-specific algorithms to maximize iSCSI performance.

Flow control and jumbo frames: Implementing flow control or the ability to manage data flow rates between two network nodes is always recommended as it helps maintain consistent storage system performance across an IP network. Jumbo frames (Ethernet frames larger than 1,500 bytes of payload) can help certain workloads but is not as important as flow control functionality.

Spanning tree protocol (STP): The network Spanning Tree is a way to control loops so a network will fail over if a link fails. This capability is critical to maintaining a comprehensive highly available IT infrastructure.

As you plan for virtualization, make sure you have a managed switch for the environment that allows you to change configurations and implement best practices as most non-managed switches will not provide the capabilities that you'll need.

Shared storage is a requirement

Let's say you've just consolidated four applications onto a single physical server to reduce costs. Power and cooling costs go down but you've increased the cost of downtime because if a server failure occurs, instead of a single application going off line, all four do. To address this issue, hypervisor vendors offer new features that allow virtual servers to migrate between physical servers But there's a catch. Each of these virtualization software features require shared storage with the same high availability capabilities that exist in the virtualization software. Without the proper storage solution in place, the availability problem moves from the application side to the storage side.

Consider this: if you are now able to migrate server workloads from one physical server to another and protect against server failure, shouldn't you have the same capability in your storage? If storage goes offline during firmware upgrades or even power or air conditioning failures, you haven't achieved the full promise of business continuance.

In addition to storage that delivers high availability, consider these other elements of any storage system.

- Reduce downtime with the ability to change storage configurations "on the fly".
- Avoid performance bottlenecks with storage systems that stripe data across multiple systems and load balance across numerous network ports.
- Reduce cost with storage systems that have high capacity utilization. Features like thin provisioning improve capacity utilization and reduce up front capacity reservations which results in unused capacity.

Availability - Understand the cost of replication -- is it add on software, how much does it cost, do I require extra support? Improving business continuance is the number one business objective for new virtual server deployments. Not implementing replication and relying on redundant components for data availability will not protect against common types of data center failures. The Achilles heel of relying on redundant components approach is that the systems will take data off line when common failures like human error, power or air conditioning outages occur. All of these situations occur outside of the system meaning that no matter how many power supplies, fans, or storage controllers are in the box, your data goes offline. New scale-out architectures address this by allowing end users to distribute systems and manage multiple copies of data.

Making the right storage decision will help eliminate storage bottlenecks associated with a virtualized server environment, enable simple high availability and disaster recovery and reduce costs as you boost storage efficiencies.

End to end virtualization

To realize the full promise of server virtualization, it is necessary to look beyond the hypervisor to the server platform, networking and storage solution that will support your virtual environment. By selecting an experienced technology provider who offers virtualization bundles that have been pre-configured and tested with practical, real-world scenarios often means a smoother implementation for end-users.

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Part 2 of 2—What Defines a Next-Generation and Virtual Data Center?

by Greg Schultz

Components of a Virtual Data Center

As I stated in closing last time in Part 1 of this series, the opportunity to start from scratch with a new green data center may exist for a few companies. For most of us however, enabling a virtualized data center depends on transforming existing technology. We delve deeper into that concept in Part 2 of this series.

A green and virtual data center is more than an environment that leverages server, storage, or network virtualization to improve resource usage. IT resource consolidation has been a recurring theme over the past several decades with the shift from centralized to distributed computing. The cycle shown in Diagram 3 went from distributed resources to consolidation, followed by client-server systems, followed by reconsolidation, followed by Internet dispersion of resources to the current consolidation phase. Some reasons for the cycle of distribute and consolidate include changing business and IT models, technology trends, and financing models.

Another factor is the decades-old issue of addressing the server-to-storage I/O performance gap, where the cost of hardware continues to decrease and servers becoming faster and smaller. Meanwhile, storage capacity and availability continue to increase while physical footprint and price decrease. However, there is a gap between storage capacity, server, and storage performance (see Diagram 4). The result is that for some applications, to achieve a given level of performance, more resources (disks, controllers, adapters, and processors) are needed, resulting in a surplus of storage capacity.

In an attempt to reduce the excess storage capacity, consolidation sometimes happens without an eye on performance, looking only at the floor space, power, and cooling benefits of highly utilized storage. Then, to address storage performance bottlenecks, the storage gets reallocated across more storage systems, and the cycle starts again. Another driver for underutilized hardware is a result of servers and storage being bought by individual departments or for specific applications, with politics and financial constraints limiting their shared usage.

Another variation is the notion that hardware is inexpensive, so buy more. With higher energy prices, simply throwing more hardware at application performance or other issues is no longer an option for environments with PCFE constraints.

An opportunity enabled by virtualization transparency and abstraction is to address performance and related issues with tiered servers, storage, and networks using high-performance, energy-efficient devices balanced with high-capacity energy-efficient devices. For example, instead of using several low-cost disk drives and associated adapters for performance-intensive applications, use faster storage measured on an activity-per-watt (IOPS/ watt, bandwidth/watt, transaction or message/watt) basis instead of on a cost-per-gigabyte or energy-per-gigabyte basis.

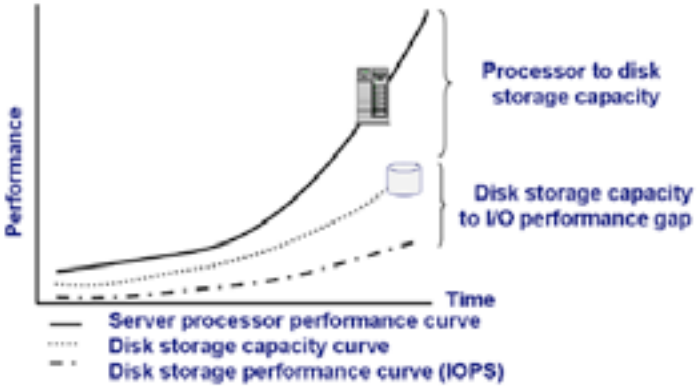

Diagram 4. Server and Storage I/O performance Cap

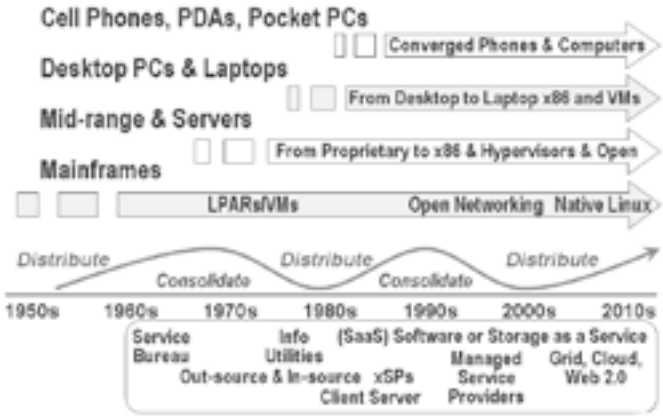

Diagram 3. IT Resource Computing and Consolidation Continuum

Infrastructure Resource Management Software Tools

Falling under the umbrella of infrastructure resource management (IRM) are various activities, tools, and processes for managing IT resources across different technology domains (servers, storage, networks, facilities, and software) with diverse interdependencies to enable IT application service delivery.

Aspects of IRM include:

- Logical and physical security, including rights management and encryption
- Asset management, including configuration management databases
- Change control and management, along with configuration validation management tools
- Data protection management, including business continuity and disaster recovery
- Performance and capacity planning and management tools
- Data search and classification tools for structured and unstructured data
- High-availability and automated self-healing infrastructures
- Data footprint reduction, including archiving, compression, and de-duplication
- Planning and analysis, event correlation, and diagnostics
- Provisioning and allocation of resources across technology domains
- Policies and procedures, including best practices and usage template models

Measurements and Management Insight

Various metrics and measurements are needed in order to provide insight into how data centers and applications are running as well as using resources. Metrics and measurements are also important for timely and proactive problem resolution and isolation, as well as event correlation to support planning and reconfiguration for improved service delivery and growth. Metrics and management insight are also needed to ensure compliance and other requirements are being met, including security or activity logs, as well as that data is being protected as it is intended and required to be.

Examples of metrics, measurements, and reporting include:

- Energy consumption and effectiveness of work being performed
- Server, storage, and network performance and capacity usage information
- Availability of IT resources, including planned and unplanned downtime
- Effectiveness of IT resources to meet application service-level objectives
- Data protection management status and activity
- Error, activity and events logs, data protection status, and alarms

Metrics for recycling, carbon disclosure, and environmental health and safety reporting

Measurements and monitoring of IT resources are key to achieving increased efficiency so that the right decisions can be made for the right reasons while addressing and fixing problems rather than simply moving them around. For example, if applications require over-allocation of server, storage, and networking resources to meet performance and application service objectives, consider options such as leveraging faster technologies that consume less power to accomplish the necessary work.

One potentially confusing aspect of next-generation data centers is the implication that they must be built from scratch, as new facilities with all new technology, IT equipment, and software.

Facilities and Habitats for Technology

One potentially confusing aspect of next-generation data centers is the implication that they must be built from scratch, as new facilities with all new technology, IT equipment, and software. For some environments, that may be the case. For most environments, however, even if a new physical facility is being built or an existing one expanded or remodeled, integration with existing technologies and management tools is required. Consequently, the road to a virtual or next-generation and green data center is an evolution from a current environment to a new and enhanced way of operating and managing IT resources in an efficient and flexible manner. This means, among other things, that existing legacy mainframes may need to coexist with current-generation blade servers or other modern servers. Similarly, magnetic tape devices may need to coexist with newer disk-based systems, and LANs may need to coexist with networks using copper, optical, and even wireless communications.

All of these IT resources need to be housed in a technology-friendly environment that is or will become more energy efficient, including in how cooling is handled as well as primary power distribution and provisions for standby power. (Chapter 6 in my book examines more closely the various options for improving the energy efficiency of facilities.)

Tiered Servers and Software

Servers have received a lot of attention as prime consumers of electrical power and producers of heat. Consequently, virtualization in the form of server consolidation to combine multiple lower-utilized servers onto a single or fewer physical servers running virtual machines is a popular topic. Having fewer servers means that less electrical power is required for both the servers and the necessary cooling.

Many servers are underutilized at various times, and some are always underutilized as a result of how or when they were acquired and deployed. Through much of the late 1990s, the notion was that hardware was inexpensive, so the easiest solution seemed to be to throw hardware at various challenges as they arose. Or, as new applications came online, it may have been faster to acquire a new server than to try and find space on another server.

Given today's rising energy costs, concerns about PCFE issues, and the need to boost IT resource efficiency, many smaller or underutilized servers are being consolidated onto either larger servers or blade servers running virtual infrastructure software and virtual machines such as those from VMware, Virtual Iron, or Microsoft, among others. Not all servers and applications, however, lend themselves to consolidation, for the reasons we

have discussed. As a result, some applications need to scale beyond the lim62 its of a single device, where virtualization, as discussed earlier, enables transparency for maintenance, upgrades, load balance, and other activities.

Tiered Storage and Storage Management

There are many different ways of implementing storage virtualization, including solutions that aggregate heterogeneous or different vendors' storage to enable pooling of resources for consolidated management. Although it is popular to talk about, storage aggregation has trailed in actual customer deployments to other forms of virtualization such as emulation. Virtual tape libraries (VTLs) or virtual tape systems (VTS) or disk libraries and de-duplication appliances that emulate the functionality of previous-generation storage solutions are the most common forms of storage virtualization in use today. The benefit of emulation is that it enables abstraction and transparency as well as interoperability between old processes, procedures, software, or hardware and newer, perhaps more energy-efficient or performance-enhancing, technologies.

The vendor who controls and manages the virtualization software, whether on a server, storage, or in the network, controls the vendor lock-in or "stickiness."

The next wave of storage virtualization looks to be in step with the next server virtualization wave-virtualization not for consolidation or emulation but to support transparent movement of data and applications over tiered storage for both routine and non-routine IRM functions. These systems will facilitate faster and less disruptive technology upgrades and expansion so that storage resources can be used more effectively and transparently. Moving forward, there should be a blurring of the lines between transparency and abstraction vs. consolidation and aggregation of resources.

Another form of virtualization is partitioning or isolation of consolidated and shared resources. For example, some storage devices enable logical unit numbers (LUNs) to be mapped into partitions or groups to abstract LUN and volume mapping for coexistence with different servers. Another variation enables a storage server to be divided up into multiple logical virtual filers to isolate data from different applications and customers.

Tiered Networks and I/O Virtualization

There are many different types of networks, and convergence may include virtual connect infrastructures inside blade center servers, top-of-rack and end-of-rack solutions, modular switches and routers, as well as core and backbone directors for traditional networks as well as converged virtual I/O and I/O virtualization networks. There are also many kinds of networks and storage interfaces for connecting physical and virtual servers and storage.

Virtual Offices, Desktops, and Workstations

Another component of a virtual data center environment is the remote and virtual or home office. Desktop and workstation virtualization is a natural extension of what is taking place with servers, storage, and networks to boost utilization and effectiveness as well as to address complexities in configuring and deploying large numbers of workstations and desktops while enabling virtual offices to access and use data when and where needed in a secure and flexible manner.

Summary

Green and next-generation virtual data centers should be highly efficient, flexible, resilient, and environmentally friendly while economical to operate. Current focus is on virtualization from a consolidation perspective, but in the future there will be even more opportunities for IT environments to adapt their processes, techniques, and technologies to sustain business growth and enhance application service delivery experience while reducing costs without compromising performance, availability, or ability to store and process more information.

There are many aspects of data storage virtualization that address routine IT management and support tasks, including data protection, maintenance, and load-balancing for seasonal and transient project-oriented application workloads.

The vendor who controls and manages the virtualization software, whether on a server, storage, or in the network, controls the vendor lock-in or "stickiness." If you are looking to virtualization to eliminate vendor lock-in, it is important to make sure you understand what lock-in is being left and what lock-in will be in its place. Vendor lock-in is not a bad thing if the capabilities, efficiency, economics, and stability offered by a solution outweigh any real or perceived risks or issues. Bad technology and tools in the wrong hands for the wrong tasks make for a bad solution, while good technology and tools in the wrong hands for the wrong tasks make for a not-so-good solution. The goal is to put good tools and techniques in the right hands for the right tasks to make an enabling solution.

The idea is to leverage virtualization technologies in the form of abstraction and transparency or emulation combined with tiered servers, tiered storage, and tiered networks to align the right technology to the task at hand at a particular time. Start to fix the problems instead of moving them around or bouncing from distributed to consolidated and moving the distributed problems back to a main site. You can get management of an increasing amount of data and resources under control, and you can do more work with less energy while supporting growth. It's worth the effort! For further information check out my book "The Virtual Data Center" or order your copy at a NaSPA discount from Auerbach. To order click To order click HERE.

Have YOU Considered Satellite Communications for Disaster Recovery?

by Leo A. Wrobel

Some time back I read a terrific science fiction series entitled "Weapons of Choice" by an author named John Birmingham. The story begins in the year 2021, with a U.S. led aircraft carrier task force that is instantly transported through time to June 1942, through a botched scientific experiment. The technological, political and social chaos that ensues in the book is riveting, for example, 60% of the 21st Century crews were female, non-white or both. You can imagine how that went over in the 1942 U.S. Navy. From a technical perspective, however, the book was even more interesting. You see, after the "transition" to 1942, everything the "uptimers" did as far as voice and data communications had to be reinvented using 1942 technology. Broadband, video links, email, weather forecasting, reconnaissance, global positioning and navigation and a host of other applications had all turned into a blue screen with "NO SIGNAL." Therefore, the best anyone could manage using "local" technology was a big, heavy Clark Kent vintage dial telephone, sitting next to a 21st Century data slate, laptop or flexipad - with no network to connect to. The former world of instantaneous communications on demand was suddenly gone; possibly for many years. Indeed a good portion of this book is devoted to how the uptimers coped with the loss of 80 years of technology, meaning everything from GPS-guided weapons and smart bombs to no longer having 600 channels of bad TV to watch.

Anyhow, as a technologist and Disaster Recovery planner the book drove home to me just how dependent we are these days on communications technology of all types. In a bad enough disaster, we could end up like the hapless time travelers in the Birmingham book; ripped from an environment where we are literally "bathed" 24 hours a day in cheap and plentiful wireless bandwidth and cast literally into the equivalent of 1942. It happens. Consider the spate of natural disasters we have seen over the last few years. Interestingly enough, one thing we can do about this in advance is to consider a technology used widely by the military in real life. That technology is satellite.

Satellite is essentially microwave radio technology aimed upward – it uses essentially the same frequencies as microwave radio. The technology has gone from elaborate teleports and 16-foot dishes in years past to pizza pan dishes that fit on the side of a building. In fact, in the case of Global Position Systems and freight tracking technologies the units literally fit in your hand.

Notwithstanding timing delays (it takes a fraction of a second for the signal to go from the earth, 22,300 miles to a geosynchronous satellite, and the same distance back), satellite is a clean, reliable and cost effective disaster recovery solution. Not only does it deploy relatively fast as a Disaster Recovery technology, it is also hard to dig up air. Since it is a wireless technology, satellite is not susceptible cable cuts, an all-too-common occurrence that plagues today's communications dependent organizations. Satellite is also independent of the terrestrial communications infrastructure. This could be significant since the communications systems in many third world countries may leave much to be desired. The path diversity or physical redundancy of this medium pays dividends during normal operation, particularly in areas prone to frequent circuit outages. In addition, the equipment is becoming increasingly compact, with truck-mounted transmitters, or "uplinks" becoming commonplace. Just as in the example above, it could be your only connection to a 21st Century communications infrastructure in the event of a widespread event.

If you are in an area prone to widespread disasters, (hurricanes, tsunamis, earthquakes, etc) satellites are worth a serious look. A couple of things to look out for include the issue of mobility. A few of my clients have learned some serious lessons in this regard. I won't name the clients but can convey the lesson. One client was a large insurance company that had to respond to a series of devastating hurricanes in Florida. I never realized until then how important physical landmarks are to human beings in being able to find one's way around. Imagine several cities completely flattened, and devoid of buildings, trees, road signs, etc. Florida does not even have many hills. In this case the topography was a veritable moonscape and it was many weeks before claims

could be processed for some of the affected populace. So what became the ideal solution for the next series of hurricanes? Global Positioning Systems (GPS) which are based on satellite technology. It's a funny thing but that "lady in the box" that navigates us in the rental car will still know where she is after a hurricane. Her directions are based on V and H (vertical and horizontal) coordinates, not physical landmarks. This means you will always be able to tell where your business used to be – even if it's not there any more. While we are talking about mobility, consider what it would be like trying to navigate downtown Los Angeles with a foot of glass and deep crevices in the streets. Or getting around the gulf coast when all the bridges are out, particularly to hundreds of miles of barrier islands. Before you buy into a satellite solution, no matter how good it is, ask the provider how he or she is going to get the equipment where it is going to be needed.

Types of Satellite Service

Satellite service comes in many sizes and shapes. The optimal configuration is determined by the dynamics of your business, and what you are backing up or recovering. Fixed to Fixed configurations can be used to include command centers and "first responder" locations, sometimes also referred to as EMT (Executive Management Team) locations. From a recovery headquarters other newly established fixed locations could be quickly provisioned and coordinated by satellite communications. These include, for example, field operation sites, damaged site recovery teams, and hot sites. Fixed to Mobile, configurations, as the name implies, are satellite communications from fixed locations like those described above, but this time to mobile units. This might involve insurance adjusters and damages appraisers, "CAT" (Catastrophe) teams, emergency medical units, and a host of other mobile resources. Mobile to Mobile configurations can be used to help nomadic users inter-operate with one another, for example, land-based terrestrial, maritime and airborne recovery assets. All of these can stay in close communication by satellite due to the vastly reduced size of equipment and antennas in recent years. When one considers that satellite units are routinely affixed to shipping containers and UPS trucks these days, it is little wonder that they have evolved into numerous mobile platforms, each of which has distinct advantages in a disaster area.

The all-too-common telephone cable cut. Satellite communications helps in situations like these by providing a completely diverse path for communications. It's hard to dig up air. Picture courtesy of Telecom Recovery Inc, www.telecomrecovery.com.

Mobile Satellite Service

Even a general discussion of satellite service is not complete without an overview of MSS, or Mobile Satellite Service. MSS allows the use of portable satellite phones and data terminals. The equipment is oftentimes so small that even handheld satellite devices are becoming commonplace. Handheld satellite phones and broadband data terminals, in theory at least, can provide virtual worldwide coverage. It does not take a whole lot of imagination to envision just how handy this technology can be for command and control after a disaster. There are, however, a few disadvantages. For instance, you generally need to be outside to use these since they require a clear line of sight to the satellite. It's a disaster, you will probably need a cigarette anyway, if not something stronger. Seriously speaking, there are already a few vendors tackling this problem by installing antennas on rooftops of enterprise customers, and crossbanding equipment that converts a satellite link to POTS service, or two wire loop or ground start trunks that can connect to an inside phone, or PBX. With regard to the data devices, unless the weather is really bad it is still possible I suppose to walk outside, download your email, and then come back in to read it in the comfort of your office. The important thing is to think these issues through in advance, be resourceful, and to mull over where these various technologies fit into your plan.

Summary

My thanks to the Global VSAT forum and Satellite Industry Association for their contributions to this article. If you are looking for a great reference and "easy read" on this topic, download or order the First Responder's Guide to Satellite Communications, published by the Satellite Industry Association (SIA). Their web site is www.sia.org. The Global VSAT Forum's is www.gvf.org. You might also want to look at a couple of other innovative satellite solutions offered by Rentsys Recovery Services Inc. www.rentsysrecovery.com and Telecom Recovery www.telecomrecovery.com. Both offer satellite solutions with an interesting twist – they can actually restore those high capacity T1 and PRI (Primary Rate Interface) likes that feed your company's PBX. The command and control implications of such a service are very interesting indeed.

Until next time, have a very Happy Holiday and good luck in your planning efforts.

NaSPA President Leo A. Wrobel has over 30 years of experience with a host of firms engaged in banking, manufacturing, telecommunications services and government. An active author and technical futurist, he has published ten books and over 400 trade articles on a wide variety of technical subjects. Leo served ten years as an elected Mayor and City Councilman (but says he is "better now"). A sought-after speaker, he has lectured throughout the United States and overseas and has appeared on several television news programs. Leo is presently CEO of Dallas-based b4Ci. Inc. http://www.b4Ci.com call (214) 888-1300 or email president@naspa.com

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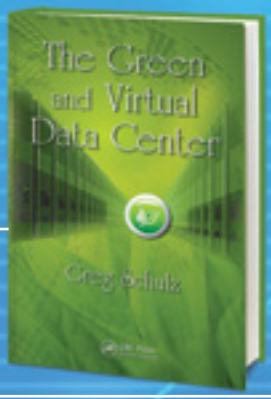

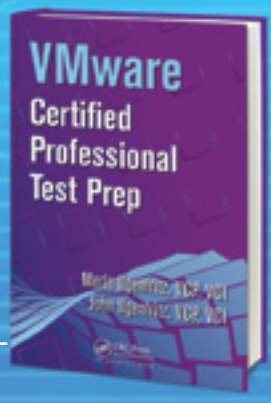

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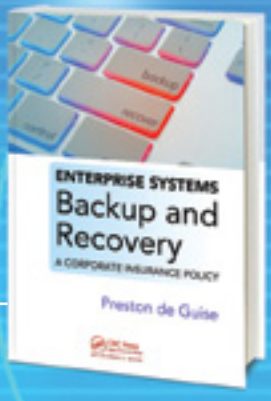

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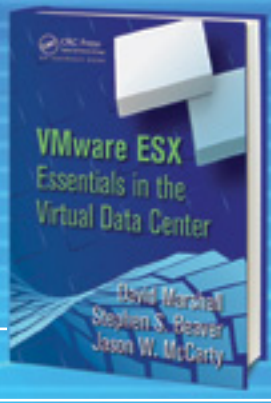

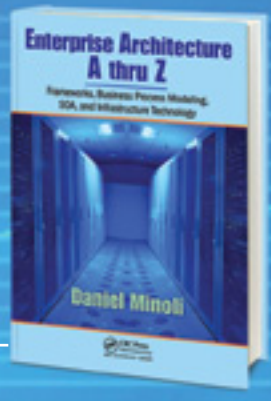

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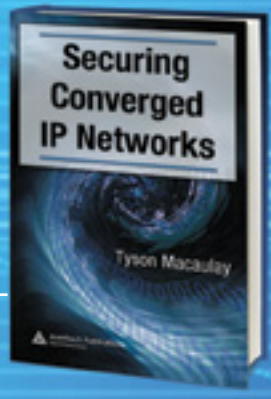
Cut costs while improving functionality



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