CIO DECISIONS
ALIGNING IT AND BUSINESS IN THE MIDMARKET ENTERPRISE
ezine

Business, Interrupted

Business disruptions cost a company money—and the CIO his credibility—if there's no functional recovery plan. Midmarket companies are embracing server virtualization and updating their disaster recovery strategies to ensure they minimize risk—affordably. P.3

plus:

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Editor's letter

Priorities, Priorities

CIOs CITE DISASTER recovery (DR) and its companywide cousin, business continuity (BC), as a top IT priority in any survey we do.

The topic tied for second place in a survey of the top IT priorities for 2008, conducted last January (business applications came in first).

It was the most-cited IT infrastructure project to be implemented in 2009, in a survey we conducted in mid-September. Chosen by 58% of respondents, it was followed closely by server virtualization at 56% (with the latter likely to be engaged as part of the former, too).

Perhaps most striking was that far more respondents rated DR/BC a high priority for 2009 (51%) than nearly any of the other 25 technology areas on the list. Only ERP and custom application development came close, scoring in the 40s.

Now, that data predates the financial meltdown by a week or two. So I was interested to learn from our advisory board members in recent calls that DR/BC plans also top their lists. Why? I asked. Or more specifically, why is that still the case?

Part of the answer, of course, is that risk doesn't go away. Managing it is thus a staple of the IT budget, in good times or bad. Another reason: With management tabling or postponing other projects, IT has a chance to catch up on things or give them the attention they deserve. Focus.

Disaster readiness varies widely in the midmarket. I've heard stories of midmarket companies where throwing a server in a pickup truck is a DR plan; I've also seen real strategies with provisions for things like mobile trailers that can be airlifted to a given location on 24 hours' notice.

We crafted our package to offer resources for all of you, no matter where you are on the adoption curve. There's a piece on what's new in this space (use of server virtualization as a DR strategy), on how some midsized companies are taking their plans to the next level ("Midmarket Firms Advance Their DR Plans") and on how to reach consensus with your business users on which applications are truly critical for fast recovery. We have tips for selling your plan to management and for avoiding legal issues, too.

This issue also includes a comprehensive look at unified communications. We offer our first FAQ on this topic, and articles on what to watch out for regarding compliance and security.

Best wishes for 2009. ■

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Business, Interrupted

How midmarket companies are using server virtualization and other techniques to update their DR strategies and ensure they minimize risk—affordably.

inside:

Virtualization Anchors This Disaster Avoidance Plan

Solving VM management issues clears a path between data centers and helps one Florida county avoid storm damage. BY ELISABETH HORWITT

It was the threat of Hurricane Charley that convinced the Charlotte County Florida Government to move to a virtualized data center.

In 2004, just before the storm hit, the county's IT department moved 10 servers and associated storage from its data center in Port Charlotte, Fla., to a hardened backup facility located inside a nearby county jail.

Fortunately, Mark Ramsey, manager of IT operations, anticipated the storm's seriousness early enough to accomplish the shift in time. Nevertheless, the county's employees suffered downtime: three hours of it after the UPS battery died, plus "about 12 hours spent breaking gear down, transporting it, putting things up."

On top of that, the jail's air conditioning system broke down, causing the servers to overheat before the UPS ran out of juice. Unfortunately, some data was corrupted. "We definitely didn't want this to happen again," Ramsey says.

The county's solution: a "disaster avoidance" strategy based on an iSCSI-based virtual networked storage platform from LeftHand Networks Inc. (since acquired by Hewlett-Packard).

As a midsized entity, Charlotte County is at the forefront of a trend that's already well established among enterprises—three-quarters of which now use virtualization for production applications, according to a recent report from Boulder, Colo.-based Enterprise Management Associates (EMA) Inc.

VMware's ESX software sets up multiple, software-defined virtual machines (VMs) on a single physical x86 computing device. Tasks and applications can then be shared and load balanced across VMs residing on one or more physical servers, including servers in different locations. VMware is based in Palo Alto, Calif.

On the storage side, Ramsey replaced the county's 5-year-old Fibre Channel storage area network with LeftHand's Virtual Storage Appliance. Unlike Fibre Channel, IP-based iSCSI "doesn't require a special skill set," he says. "It's the same type of network

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traffic we've been moving all along." Furthermore, IP-based storage, voice and video traffic can run over the same fiber optic connection, whereas with Fibre Channel, the county had to pay for two dedicated strands of dark fiber.

> "It doesn't have to be a hurricane. A UPS could go offline, or we could have a false fire alarm."
>
> —***MARK RAMSEY***
> MANAGER OF IT OPERATIONS, CHARLOTTE COUNTY, FLORIDA

Another plus, Ramsey says, was LeftHand's modular design, which enabled Charlotte County to upgrade capacity in small increments. "I used to have to estimate and pay for the storage and I/O capacity I'd need for the next three years, which is tough: Things change," he says.

Most importantly, LeftHand's storage management system is fully integrated with both data centers. During normal day-to-day operations, VMware servers at each center support a different set of users and applications. If one data center goes down, VMware's High Availability and VMotion tools recognize the problem and automatically transfer VMs and the tasks they're working on to the other facility, with no interruption to users or applications, Ramsey says. When the downed data center is back online, VMware automatically shifts the load back.

On the storage side, LeftHand's two-way replication keeps the two centers in sync. The vendor's SAN/iQ software manages storage on both centers as a single volume so if one site goes down, the VMs that get booted up on the second site obtain immediate access to all relevant data for their tasks, Ramsey says.

Virtualization has saved Charlotte County big on hardware costs, Ramsey says. The county's original server farm consisted of 80 Intel machines, which averaged 3% to 5% utilization, he adds. Now, 144 VMs running on 10 IBM LS41 blade servers do the same work. The air conditioning system was also downsized by about 50%, he says.

VIRTUAL STORAGE A MUST

Virtualized storage is a crucial adjunct to virtualized computing, because it makes data and storage capacity available to applications and processes, independent of which server they happen to be running on, notes Michael Karp, a senior analyst at EMA. Since virtual systems are highly dynamic, with processes and VMs often moved from one physical location to another, backup systems also need to be location-independent, he adds.

In the past year, major players like EMC Corp., Hewlett-Packard Co. and Brocade Communications Systems Inc. have all announced VMware ESX support for their networked storage virtualization offerings. Unfortunately,

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virtualization management tools and skills "are lagging well behind needs," Karp notes.

In a 2008 EMA survey, IT professionals rated the gamut of virtualization management disciplines—including security, performance, problem, capacity and configuration management—as significantly harder to master than they did in 2006. The reason: Enterprises have been using virtualization long enough now to "realize the real difficulties of virtualization management," the report states.

A lack of tools makes it hard to pinpoint the cause when there is a sudden slowdown, or data is suddenly not available, Karp says.

Ramsey agrees: "The only area that's been frustrating [about the LeftHand storage setup] has been no built-in tools for managing and monitoring performance areas like input/output per second, bandwidth and throughput." His team depends on VMware performance tools to identify bottlenecks.

TOOLS EASE BOTTLENECK ISSUE

One of LeftHand's recently released products may help solve the bottleneck issue. SAN/iQ 8 includes, according to the vendor, an integrated performance manager designed to identify bottlenecks associated with increased network and storage resource loads within virtualized environments by analyzing performance from the application server down to a specific volume or snapshot.

But managing backup and recovery in a virtualized environment remains a tough gig, Ramsey acknowledges. "Without virtualization, you simply point a backup system at a server, and back it up. But VMs aren't necessarily tied to a physical server, which adds a layer of complexity to the backup and recovery process."

That's why a high-availability disaster-avoidance strategy is so crucial in a virtualized data center setup like Charlotte County's. It minimizes the likelihood that data or processes will need to be recovered after a disaster.

Ramsey has a lot less to worry about, knowing that when a disaster takes out a server, or even an entire facility, critical applications will just keep on ticking. Because disasters do happen, he says. "It doesn't have to be a hurricane. A UPS could go offline, or we could have a false fire alarm." Recently, for example, dust got into the big air conditioning units at the brand-new hardened data center, abrading the belts. Under the old setup, Ramsey's team would have had to horse all the servers over to the backup facility—again.

Not this time. "We moved all the VMs off the data center and shut it down, and ran everything off the second data center while we cleaned out the gear," Ramsey says. The relocation took only 30 to 45 minutes. Most importantly, "when we fired it up [after cleaning], everything was where it was supposed to be." ■

Elisabeth Horwitt is a contributing writer based in Waban, Mass. Write to her at editor@searchcio-midmarket.com.

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Midmarket Firms Advance Their DR Plans

A full-time director and dual data centers are among the measures employed. BY MICHAEL YBARRA

FOUR YEARS AGO, OhioHealth, a Columbus-based medical care nonprofit, reconfigured its network, which cut off the emergency room at one of the organization's 17 hospitals from the data center for 45 minutes. IT had become so central to the hospital's functions that management was about to start redirecting patients to other emergency rooms when service resumed.

"That surprised a number of people," says Bob Patterson, director of business continuity and information disaster recovery at OhioHealth. He was hired shortly after the event to revamp the organization's disaster recovery (DR) and business continuity (BC) strategy. "The attitude of many people initially was that we took care of patients before computers and we can still take care of them [without computers]. That's changed."

At the time, OhioHealth was outsourcing a hot site to provide failover DR coverage. But management realized that the organization needed to invest in a state-of-the-art BC program, so Patterson was hired to put together a five-year plan to improve OhioHealth's preparedness.

"It was a massive undertaking," CIO Michael Krouse says. "We got Bob for the sole purpose to develop a high-availability business continuity plan. After three years of effort, we're in the wind-down phase."

OhioHealth found itself in the same place as many upper-midmarket companies: with disaster recovery and business continuity plans that were good but not great. And it was time to make the leap to an enterprise-class system.

> In a TechTarget survey of 386 midmarket IT executives, nearly 60% reported DR implementation plans for 2009.

Indeed, beefing up DR capability was the No. 2 priority for the more than 200 IT executives who responded to Computer Economics Inc.'s IT

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Spending, Staffing and Technology Trends poll, conducted in the first quarter of 2008. And in a TechTarget survey of 386 midmarket IT executives in September, nearly 60% reported DR implementation plans for 2009—more than any other type of technology project.

That's certainly true of Jim Honerkamp, CIO at The Hillman Group Inc., a Cincinnati-based midmarket distributor of fasteners and other hardware items. The company, which has grown through acquisitions to become a half-a-billion-dollar business, hired Honerkamp four years ago to reinvent the way it used information technology. High on his list of priorities has been creating a robust DR/BC strategy.

"We didn't have the budget for DR before," he says. "We used to outsource the data center—nothing was redundant. Now we're moving to a two-data center scenario, both active. I can't afford to have a data center sitting around, waiting for a disaster to happen."

The increasing importance of business continuity is underlined by a Gartner Inc. survey that found that the majority of executives tasked with the subject report directly to the CEO (22%), followed by those reporting to the CIO (16%).

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INVOLVE THE BUSINESS SIDE

Roberta Witty, an analyst at Stamford, Conn.-based Gartner, says that while many midmarket firms have adequate backup systems in place, not all companies involve the business as completely as necessary to ensure a truly effective strategy for continuity. She tells CIOs that they need to perform gap analysis to determine where plans need to be improved as well as expand the scenarios and outage time frames that might accompany regional disasters or even a pandemic breakout such as the SARS virus in China.

> "Now we're moving to a two-data center scenario, both active. I can't afford to have a data center sitting around, waiting for a disaster."
>
> ***—JIM HONERKAMP***
> CIO, THE HILLMAN GROUP INC.

"Getting the business to buy in is still a fairly sizeable task for many IT execs," Witty says. "In many cases, organizations have good DR plans in place. But they're not getting the support from the business for recovery. It's a lot more than technology. It's having the right staff, a key group of people. Some organizations think as long as they have data backup that's good enough. That may be good enough for data center disruptions, but do they have work-area recovery plans in the event of a regional disaster or plans on how to get in touch with people?"

That's precisely the approach OhioHealth took. Patterson started by cataloguing the hundreds of apps used by the organization, ranking them in terms of recovery time objectives (RTOs) on a scale of zero to five: the first two being mission critical, the next two less important and the last not important. (See related story, "Identifying Crucial Apps a Key Step for DR Plans.")

"Every time we intro a new app we have to go through the process again," Patterson says. "Everyone thinks their apps needs to be high-availability until you go through the cost. We do a pretty good job figuring out which ones really matter."

DECISION POINT: BUILD A NEW DATA CENTER?

One key early decision for OhioHealth was whether to upgrade the hot-site capability to high availability or build a second dedicated data center nearby.

"For medical imaging the volumes of data were too high to handle over a long-distance link," Patterson says.

So OhioHealth opted to build a new data center 10 miles away, connected with a 10 GB fiber connection, which allows the organization to fail over in five minutes for the most important applications. The center was situated perpendicular to the normal tornado track that threatens the area.

After three years the data center is live for mission-critical apps. During the next 18 months, the organization is working on setting up a quick ship program for vendors to supply equipment for less important apps, where RTOs are on the order of days or even weeks.

"The technical challenges were significant," Patterson says. "We did stuff that was not commonplace. We were ahead of our vendors. They clustered databases but not the user interfaces. That's not high availability for us. We had to lead the vendors through a lot of this stuff."

> "We do a pretty good job of figuring out which [applications] really matter."
>
> —***BOB PATTERSON***
> DIRECTOR OF BC AND INFORMATION DR, OHIOHEALTH.

Krouse adds: "We put a fair amount of pressure on our vendors. We have a definition of high availability, which means the entire system is duplicable. That definition has to be met by our vendors. That's a critical discussion item with vendors before we sign a contract."

The result, Krouse says, is the hospitals will still be running as long as they're standing.

"We plan for anything you could dream up," Krouse says. "Tornado, bombs. We're not too worried about tidal waves." ■

Michael Ybarra is a monthly columnist for SearchCIO-Midmarket.com. Write to him at editor@searchcio-midmarket.com.

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Identifying Crucial Apps A Key Step for DR Plans

Does email really drive your business? Experts weigh in on how to define what is essential and plan for recovery. BY SARAH VARNEY

WHEN DISASTER STRIKES, which applications are set to come back up first? Your mission-critical apps are a no-brainer. But what about the applications responsible for feeding data to those systems? What's the recovery time objective for those?

Of all the tasks associated with disaster recovery (DR) planning, one of the most important is the classification of a company's applications. Determining criticality is a key aspect of creating a business impact analysis (BIA)—the foundation of any DR plan. Questions such as "Which applications should be taken down first, considering underlying data dependencies?" and "How many DR dollars should we spend to keep this data safe and/or easily accessible?" must be answered as part of the planning process.

Midmarket companies often use a BIA questionnaire to get started. These are mainly "yes" and "no" checklists that specify the hardware and software in operation and also capture information on who uses which applications. They can be a good starting place, but they have limitations, says Mike Summers, managing director of the disaster recovery practice at Computer Sciences Corp.

"Using BIA questionnaires is a balancing act between art and science. Everybody thinks their application is the most important. We interview them and ask, 'The application went down a few weeks ago and what happened?' The answer is usually quite revealing in that it may not have been that big a deal," he notes.

> "Everybody thinks their application is the most important."
>
> —***MIKE SUMMERS***
> MANAGING DIRECTOR, DISASTER RECOVERY PRACTICE, COMPUTER SCIENCES CORP.

Whichever applications are tagged as critical, planning is everything, Summers stresses. "You do your planning up front. You don't want to have to think about what applications to bring down in what order. You need a

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footprint to work from," he says. At most companies, business and IT managers draw up a list of critical applications together, sometimes using a questionnaire as a starting point.

Ideally, IT and business managers have similar views on which applications are truly critical, and many do, according to a 2007 Gartner Inc. study of nearly 600 IT managers and business managers, conducted for SunGard Availability Services LP.

In the study, both groups listed email, customer service, back-office, telecommunications, websites, order entry and submission, and customer relationship management (CRM) among the top applications affecting revenue during unplanned interruptions.

In the case of email, 52% of IT department managers considered it among the top five and 48% of business managers pretty much agreed with that assessment. Forty-nine percent of business managers named customer service to the top five, while 44% of their IT peers perceived its importance similarly. The only real digression occurred with CRM applications: 29% of IT managers put it in their top five, while 40% of the busi-

> "In general, critical apps are those that have the most effect on a company's bottom line."
>
> ***—ODED HANER***
> CIO, MONSTER CABLE PRODUCTS INC.

The Most Critical Apps

Business and IT professionals largely concurred on the importance of the following applications, except for CRM.

	% CITING AS A TOP-FIVE APPLICATION IN REGARD TO IMPACT ON REVENUE	
APPLICATION	BUSINESS	IT
Email	48%	52%
Customer service	49%	44%
Back-office (ERP, DBMS)	44%	44%
Telecom	40%	40%
Web presence	35%	36%
CRM	40%	29%

N=350 I.T. DEPARTMENT MANAGERS AND 176 BUSINESS DEPARTMENT MANAGERS.
SOURCE: 2007 GARTNER INC. SURVEY SPONSORED BY SUNGARD AVAILABILITY SERVICES LP.

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ness group surveyed listed it as a top-five concern.

The alignment within the study was quite surprising, says John Morency, research director for the disaster recovery practice at Gartner, an IT consultancy based in Stamford, Conn. "Within those critical applications listed by the IT and business groups, it turns out that for 80% to 85% of those apps, the consensus is that they must be restored within 24 hours or less," Morency says.

MIDMARKET DR: EASIER OR HARDER?

Agreement between IT and business managers about which applications are truly critical is great, but there are still the underlying technical issues to consider. In general, disaster recovery planning can be particularly difficult at midmarket companies, says Gil Hecht, CEO at New York-based Continuity Software Inc., which makes DR software for enterprise-sized companies.

"It's nearly impossible for small companies to get disaster recovery right," Hecht says. They may not be equipped to discover the underlying data dependencies that can affect operations between two critical applications. For example, data coming in to a database from a business intelligence (BI) application may increase by a magnitude that necessitates configuration changes to hardware or storage. These changes might not be reflected right away in a DR plan. Even in a testing scenario, these configuration changes may lengthen restoration times for both the BI app and the database that processes the data.

Oded Haner, CIO at Monster Cable Products Inc. in Brisbane, Calif., disagrees. At most midmarket IT shops,

> "It's nearly impossible for small companies to get disaster recovery right."
>
> *—GIL HECHT*
> CEO, CONTINUITY SOFTWARE INC.

changes to critical production applications are generally communicated between IT personnel, he says—or at least, that's how it is at Monster, which has a revenue in the range of $500 million yearly. "It's not that big a deal," he says. "When you make major changes you talk about them, and you always consider disaster recovery."

People do sometimes have misguided ideas about which applications are truly critical, says Haner, echoing Computer Science's Summers. "Email is a good example. Many people go through daily problems with email, but it has no direct impact on a company's bottom line," Haner notes. "In general, critical apps are those that have the most effect on a company's bottom line."

At Monster, Haner and the company's business managers carefully weighed the costs of having applications out of commission and the direct revenue effects of an outage.

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"The first half a day, it costs hundreds of thousands of dollars to be completely without systems, but two days later, the effect is exponential and it's costing millions," Haner explains. In light of these costs, Monster's disaster recovery plan calls for system restoration ideally within 12 hours.

The most critical application at Monster is ERP. However, all of the critical applications—ERP, the warehouse management system and email—are set up with asynchronous data dependencies. This strategy nicely sidesteps any underlying data dependency problems. Haner explained the setup: The CRM system depends on customer records in the ERP system. If the CRM system stops working, the data is still pushed to the ERP system separately. When the CRM system comes up again, the ERP system updates it and the data is synchronized. "All of our systems are set up this way," he notes.

The order of restoration is ERP, the warehouse management system and then email and business intelligence. "BI is not part of my disaster recovery plan. It's really used for strategy and forward-thinking goals. It has no immediate impact on revenue," Haner says. He noted that there's too much data being fed through the app to back up anyway. "I've yet to find a good disaster recovery product for business intelligence," he says.

Which applications are considered critical in a disaster recovery context varies greatly from company to company, Summers stresses, adding it can even be seasonal. "We have a whole set of clients for whom it would depend on the time of year [for a disaster to occur]. For one giant school testing client, in September, out of hundreds of applications, they might recover one application set in a certain order. In January, they might have a plan to recover a different set with a longer recovery time," he says. Who knew that even disaster planning could depend on the school year calendar? ■

Sarah Varney is a contributing writer to SearchCIO-Midmarket.com. Write to her at editor@searchcio-midmarket.com.

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PODCAST: DR BUDGETING AND RTO

If your website is down, what's the cost to your business? How fast will the CEO come pounding on your door wanting to know when the phones, website and other basics will be up and how the downtime will affect the business?

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DR Mission: Find the Best for Less

When a hurricane rampage revealed the need for a new plan fast, a Florida school turned to partners to help craft a robust, affordable solution.

BY MICHAEL YBARRA

WHEN HURRICANE FRANCES slammed into West Palm Beach in 2004, MedVance Institute went into its disaster recovery (DR) mode: IT Director Dan Weiss packed the school's servers into his car and drove to his house, where he set up a makeshift data center for several days.

MedVance, which trains medical technicians at campuses across four Southeastern states, was hard hit by the hurricane. It took out three schools, including blowing the roof off one, and it destroyed servers housing several weeks' worth of user data that wasn't backed up.

"We didn't have a cohesive disaster recovery plan in place," Weiss says. "We took our core services for customer relationship management and email and physically relocated them. The roof was blown off a couple of campuses; servers wound up underwater. That was a big wake-up call."

MedVance is typical of many companies that have just entered the midmarket space: Growth and dependence on technology is exploding, but DR and business continuity (DR/BC) planning is lagging. The company started with a single campus seven years ago in Tennessee but has grown to 11 locations (with headquarters in West Palm Beach). There are plans to open two more schools this year and four the next.

Weiss has been at the company for five years, during which time the IT department has changed dramatically. Previously, MedVance had a director of IT, a senior network engineer and a director of information systems. The roles were combined into a single director-level position and the company outsourced its technology support to vendor partners, mainly CDW Government Inc. (CDW-G), a consulting firm based in Vernon Hills, Ill.

> "[Hurricane Frances] was a big wake-up call."
>
> —***DAN WEISS***
> IT DIRECTOR, MEDVANCE INSTITUTE

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Growing the business had been IT's mandate in the early years, but the hurricane experience impressed upon the company the importance of protecting the business as well. The old data center was a server closet, which the company had intended to augment with a colocation facility as a backup center—something that became urgent after the hurricane.

Tips for Making the DR Sell

ENSURING YOUR BUDGET is big enough to put an effective disaster recovery/business continuity in place can be a hard sale. But somebody has to broach the topic of the business failing—spectacularly—and that job typically falls to the CIO. The fact that disaster recovery doesn't make any money makes the pitch even harder.

"It isn't sexy, and nobody cares about it until something bad happens," says Larry Bonfante, CIO for the United States Tennis Association. "People don't want to talk about this stuff."

They don't want to pay for it, either, adds Charles Kramer, senior vice president and CTO at Social and Scientific Systems Inc. in Silver Spring, Md. "Typical ROI doesn't work, so you need to come up with other metrics to show why these projects have value," he notes.

Kramer advises CIOs to **cast themselves as salesmen**, albeit serious and well-intentioned ones, when pitching disaster recovery and security projects to their bosses. He urges them to prepare a detailed pitch that includes insurance company estimates of business lost in the event of a disaster. He also suggests talking to company attorneys about the costs of data breach litigation and notification (see "Avoid Legal Issues in Disaster's Wake").

Planning is crucial, but **political maneuvers also play a vital role**, Kramer says, including bringing business department heads into the fold and resorting to creative tactics. He recalls scheduling one meeting just minutes before a planned fire drill. Once outside the building, he invited executives to a diner to finish the meeting. He hypothesized to them that the fire had been real, that they couldn't go back in the building. Then he pitched his disaster recovery plan. "All that stuff changed very quickly, and I got an almost blank check," he says.

Robert Simpson, IT director at ImagePoint Inc. in Knoxville, Tenn., has pitched disaster recovery plans for years. Sometimes he gets his way. More often he doesn't, and has to pitch it again. Sometimes external events will cause executives to reassess the situation on their own, he says.

"I got a lot of traction off Katrina," Simpson says. "9/11 rose their eyebrows, but Katrina woke them up. I find the checks fly very fast when you're reacting to something," he adds. —ZACH CHURCH

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FRANCES SPEEDS BUDGET SIGNOFF

Getting management to sign off on investing in DR/BC was a no-brainer after the Hurricane Frances episode, but Weiss says it was difficult to sort through all the competing methodologies and stay on budget.

"The biggest challenge was figuring out the best solution for the cost," he says. "There are so many different options. Good or best practices but usable and affordable for a midrange company with aggressive growth targets is what we were looking for. We wanted the most cost-efficient way to get the greatest redundancy."

Weiss wound up working with CDW-G and other technology partners to research options and ensure that all components would properly configure. His recommendation was to move the data center to a remote location, which management approved. In a week, the company shipped the servers to Atlanta and had the new data center up and running. A second failover facility is being added in Dallas. Both facilities offered the ability to scale to MedVance's growth projections.

MedVance also deployed a turnkey storage area network solution from LeftHand Networks Inc. using four network cards, which eliminated the problem of running out of storage space while also continuously replicating all data. The solution also improved the institute's network performance by running its data on four networks, instead of building traffic through one band.

If the primary server fails, the network can be up and running in two minutes, Weiss says. And when facing a catastrophic failure, the network can be back up in six hours. Additionally, all key data is replicated in real time and a redundant copy is saved on the storage area network.

PROTECTING COMMUNICATIONS

Protecting information technology was one aspect of DR, but Weiss also needed a way to keep employees and students aware of what was going on in the event of a disaster. During Hurricane Frances, it was difficult to get the word out about which campuses were open or closed.

"The biggest thing for us was communication," Weiss says. "We had a hard time tracking everyone down." MedVance is deploying Microsoft's SharePoint collaboration solution so staff can check in with the company during a disaster. It's also establishing 800 numbers with information for employees and students.

It's a big change from 2004, when DR failover was counted in days, not minutes—mission-critical systems are fully protected and data recovery is robust. Weiss says the company now considers itself well prepared for whatever Mother Nature can throw at it.

"The DR plan scales well," Weiss says. "That was one of the key components. We learned through bitter experience." ■

Michael Ybarra is a monthly columnist for SearchCIO-Midmarket.com. Write to him at editor@searchcio-midmarket.com.

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Five Strategies To Avoid Legal Issues In Disaster's Wake

Good contracts and documentation top the list.

BY JEFFREY RITTER

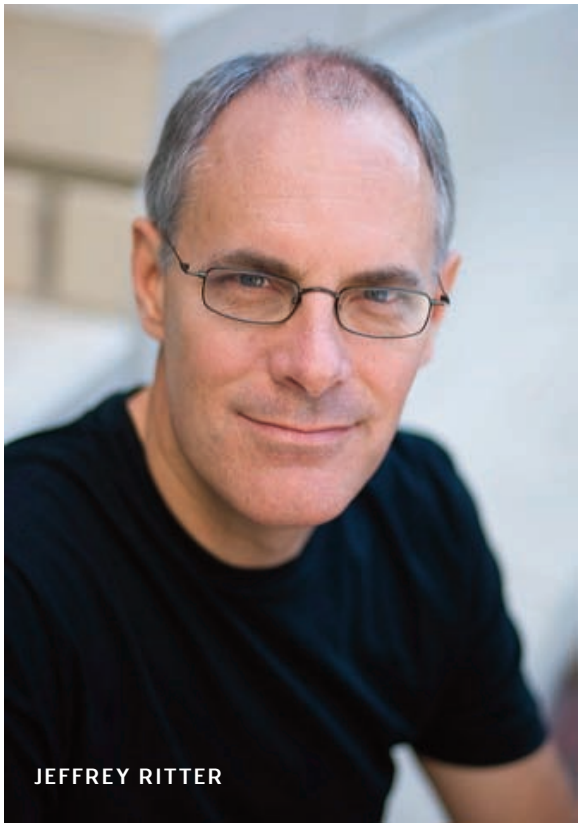
LURKING IN THE nightmares of CIOs is the insecurity that their disaster recovery/business continuity (DR/BC) plans will not protect them when a real disaster strikes.

Yet most DR/BC plans focus only on the primary events—the natural or man-made disruptions—and fail to include safeguards and defenses against the aftershocks. For many, the legal aftershocks can bury a company in litigation over broken contracts, fines, penalties and attorney fees that economically cripple the business far more than the disaster's damage.

The Sarbanes-Oxley and Health Insurance Portability and Accountability acts, as well as emerging corporate governance legal standards, all have the potential to create significant legal adversity if a disaster disrupts the availability or integrity of your business records.

Yet a 2007 Symantec Corp. international survey reports that nearly half of corporate tests of DR/BC plans result in failure. Imagine how a pack of lawyers could consume your company's reputation, brand and image if your DR/BC plan does not stand up against the disaster. Ironically, that same survey reported nearly 77% of CEOs still fail to take an active role on their DR/BC committees.

Most company CIOs have plans in place with some level of formal



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approval, but sometimes that commitment is less than total in terms of monies and attitude. Regardless of your situation, here are five key strategies for improving your plan and enabling your company to better survive the legal aftershocks.

Conduct—and document—a detailed business impact analysis. Each business faces a unique portfolio of disruptive risks, so an inquisitive and demanding analysis to identify those risks, their impact on the IT assets and operations and the criticality with which those assets and operations are restored is essential to the planning process.

But many companies overlook the legal importance of documenting and preserving the records of their analysis. Those records become vital in demonstrating the care with which the enterprise acted in designing its plan. Your records should demonstrate, among other items, the organization of your analysis, who was interviewed, industry reports, external input (auditors and lawyers), historical incident reports and the decisions taken to include or exclude specific adversities against which the plan will be developed.

Capture—and document—all external contract requirements. Regulated companies—particularly in financial services, health care and industries vulnerable to terrorist act—already face regulatory mandates for DR/BC plans.

But many companies, particularly private ones, overlook contract-based requirements that obligate the company to continue operations despite adverse events. Even more companies fail to make sure their contracts contain DR/BC-related terms and conditions that will excuse performance for all of the events for which a plan has been devised.

Smart CIOs will focus not just on physical and IT assets and their exposure to disasters. They will also insist that the business impact analysis fully account for all regulatory and contractual requirements, and make sure those requirements are documented. For example, if an embedded virus contaminates your electronic fulfillment center, how do you avoid liability for the affected shipping contracts?

All of these records should be incorporated into the core risk analysis—the contracts, the legal analysis and, of course, the importance to the company of protecting against those kind of adversities. The CIO cannot rely on others to do so. Ultimately, the CIO is responsible for the overall adequacy of the planning process.

Test, measure and validate the DR/BC plan's effectiveness. One of the most important services to incorporate into any DR/BC plan is the periodic and rigorous testing and measurement of its effectiveness. Plans have to include continuous management—scenarios have to be practiced, secondary sites have to be activated, people need to be relocated to alternative offices.

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A common DR/BC legal aftershock is the need to defend the company against claims from third parties—e.g., customers that lost sales because of the company's inability to supply them with new inventory. The adequacy of the DR/BC plan is often the focus of those claims. The CIO who can prove the DR/BC plan was responsive to identified risks can be a hero in the courtroom.

Design records availability into the DR/BC plan.

Most plans focus on restoring operations that need immediate access to operational data (the essential purpose of backup tapes). But plans sometimes overlook the continuing duties of the business to maintain the availability of business records essential to support audits, regulatory reports and contractual obligations. Disasters that destroy or disrupt the availability of those records can have significant legal aftershocks. Most experts believe there is no "safe harbor" when companies are unable to meet their duties to produce required records following a disastrous event.

A good DR/BC plan will emphasize preserving the availability of essential records, including the documents that relate directly to the plan itself. Many companies create good documentation of their plans but do not recognize the importance of those records. Within records management programs, the DR/BC plan and all related documents are vital records and should be provided suitable protection.

Amend your legal controls to reflect the DR/BC plan.

CIOs build DR/BC plans by developing controls that respond to prioritized risks. However, contracts and governance procedures are also important legal controls to be used in implementing a plan. A CIO needs to follow through by making sure the legal controls are properly amended.

Regulated businesses—including midmarket companies that service regulated businesses—should communicate the existence of their plan to the appropriate regulatory authorities.

CIOs should insist their legal teams evaluate existing contracts and pursue suitable amendments that align the company's legal obligations with the DR/BC plan.

Future contracts should routinely include attention to DR/BC issues. One useful step is to make sure, through contracts, that your suppliers have appropriate DR/BC plans in place. You want to make sure they can live up to your requirements for continuing operations in the face of natural or man-made disasters.

CIOs are on the front line when it's time to defend the company against the inevitable legal aftershocks of a disaster. Be prepared for when—not if—you have to defend your DR/BC plan after a disaster. ■

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your unified communications strategy

Do you have a UC strategy, or just various communications tools? Here's how to look at the space and decide whether to tie these capabilities together—plus address compliance and see what lies ahead.

inside:

UC Is a Wait and See For Many Midmarket Firms

Companies deploy myriad communications technologies but seek demand—and ROI—to tie them all together. BY MICHAEL YBARRA

JOHN D. HALAMKA, CIO at CareGroup Inc. in Boston as well as at Harvard Medical School, is trying to make it easier for 3,000 doctors at four hospitals and a campus to talk to one another. Halamka is in the middle of implementing a unified communications (UC) plan at both organizations.

Halamka has already deployed enterprise Wi-Fi over 2 million square feet, and supports devices such as BlackBerry and iPhone 3G via a BlackBerry Enterprise Server and ActiveSync. Next year comes phase two: going live with instant messaging (IM) using Meebo on a new intranet portal with social networking apps.

So far, however, Halamka hasn't deployed a UC solution per se, such as Microsoft's Office Communications Server, which integrates phone, voicemail and conferencing with IM, email and calendars. He says he's looked at the technology, but there's no real user demand to integrate email and telephony. "No user has ever asked for the ability to receive email in voicemail," he says.

Halamka's experience seems to be the norm for midmarket CIOs, who are moving into UC with small steps, despite hype about a communications revolution sweeping through corporate America.

David Lemelin, an analyst at In-Stat in Scottsdale, Ariz., says the technology is maturing faster than workers are embracing it.

"The large-enterprise space has established the UC deployment plans it's following," he notes, "but the mid-sized market is just not formulating these strategies and is looking for trusted vendor/communications partners. I think the efficiency gains are undeniable. Getting employees to leverage those capabilities is the key challenge. That is what will evolve more slowly but become pervasive as the younger set enters the workplace."

In September, In-Stat released a report estimating that the UC market, including products and services, will grow from $2.3 billion in 2007 to $25.9 billion by 2012. Unified messaging is the fastest-growing area, with vendors such as Avaya Inc., Nortel Networks Corp., Cisco Systems Inc.

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and Microsoft offering integrated unified messaging, conferencing, IP telephony and IM products.

"On one hand, the IT person does not always have employees looking for these capabilities, but he knows the efficiencies to be gained," Lemelin says. "Many CFOs are not as comfortable with ROIs that are not tangible. Another challenge is getting many employees to embrace the concept of presence. Not everyone wants to be reachable 24 hours per day, so presence needs to be managed.

"Employee satisfaction with their current capabilities to integrate their communications needs is fairly solid," he adds. "There's a lack of felt need."

THE NEED FOR SPEED

Steven Agnoli, CIO at the law firm K&L Gates LLP, is grappling with just those sorts of issues. He is working on a UC needs analysis and hopes to move into deployment next year.

"It's definitely a good idea for a globally diverse firm," Agnoli says. "People are on the move and mobile. There's a productivity component and over time there's probably a cost component. People are starting to request unified communications and ask what our plans are.

"We want the basic stuff that will be the biggest bang for the buck: presence, voice and email integration, dialing from Outlook. That's probably where 80 to 90% of the benefit is for us," Agnoli says.

K&L Gates, which is based in Pittsburgh but has 28 offices and 1,700 attorneys on three continents, has grown through numerous mergers, giving the organization a mix of legacy communications systems.

"We have a pretty heterogeneous voice structure and a homogenous email structure," Agnoli says. "We want to leverage our existing investment in Outlook Exchange and not replace the phone hardware. I can't see us buying another phone system. We have Siemens, Nortel, Cisco. It's becoming more feasible every day to deploy unified communications as platform agnostic and layer over PBX.

"The biggest challenge will be the cost and being comfortable that the ROI is there," he says.

While Halamka's doctors may not be asking for voice and email integration, that union has won fans at the Carlsbad Unified School District in Carlsbad, Calif. A unified messaging communications project, part of a three-year network overhaul, allows voice messages to be displayed via email, says CIO Rick Lewis. "This is a very useful thing for teachers," he says.

Lewis says the district uses Cisco Systems Inc. networking equipment, so it was natural to choose Cisco's Unified Communications Suite for the messaging integration. The district comprises 14 schools with a total of 10,700 students. ■

Michael Ybarra is a monthly columnist for SearchCIO-Midmarket.com. Contributing writer **Sarah Varney** also contributed to this story.
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FAQ: What Is UC, And Why Would I Want It?

A unified communications plan can tie together key technologies—but there's much to consider before you set your organization's strategy. BY SARAH VARNEY

WHAT IS UNIFIED COMMUNICATIONS?

Unified communications (UC) can be defined in many ways; at the highest level, it encompasses virtually any form of communication, including voice, video and text-based media. It may be best known for unified messaging capabilities, which allow users to access voice, email and other media from a single device or mailbox.

"At its most basic level, unified communications is about people being able to leave a variety of messages [types] and being able to respond to those message [types] in a variety of ways in near real time," says Neal Shact, CEO of Communi-Tech Services Inc., an Arlington Heights, Ill.-based consultancy and systems integrator focused on unified communications deployments.

WHY WOULD I WANT IT?

Analysts and research data cite speed of decision making and efficient employee communications as the biggest advantages of unified communications. Elizabeth Herrell, a vice president at Cambridge, Mass.-based Forrester Research Inc., characterizes the business value of UC as "rapid problem resolution and the ability to move farther, faster than the other guy." Irwin Lazar, principal UC analyst at The Nemertes Research Group Inc. in Mokena, Ill., advises companies to "tie new unified communications applications to a specific business process so that it lowers latency and speeds up decision making."

> UC "is about people being able to leave a variety of messages and being able to respond to those message [types] in a variety of ways in near real time."
>
> —***NEAL SHACT***
> CEO, COMMUNITECH SERVICES INC.

And a Gartner Inc. survey of 300 midmarket companies with more than 400 employees, conducted last April,

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showed efficient communications, particularly across dispersed employees, to be the most-cited advantage of UC. Specifically:

- 44% of companies cited improved speed of communications across the business;
- 39% listed better communications for distributed sites or remote workers and mobile workforce members;
- 29% mentioned collaboration improvements;
- 26% chose the competitive advantage.

WHO'S USING IT?

According to a Forrester report issued in June, 11% of the 184 respondents had deployed a UC strategy, 16% were rolling one out and 57% were either in the pilot or evaluation stage of a unified communications strategy.

The Gartner study reported that 28% of 300 midsized businesses were using calendaring/scheduling, email, voicemail and instant messaging in a unified manner.

WHAT DOES THE VENDOR LANDSCAPE LOOK LIKE?

Vendors in the UC space typically fall into one of three categories—networking, telephony or applications (such as customer relationship management software). These include Avaya Inc., Nortel Networks Corp., Cisco Systems Inc. and Microsoft, which offer integrated unified messaging, conferencing, IP telephony and IM products.

WHERE DO I START?

Unified messaging is a common place to start with UC, but the IM or "presence category" will become increasingly important, say both Gartner's Elliot and Forrester's Herrell. Instant messaging is the most rudimentary of UC tools that enable presence. "IM has elements of real time, and it's persistent," Elliot says. Building intelligence into instant messaging and integrating it with desktop call control will make it much easier to find and communicate with employees.

HOW SHOULD I LAUNCH MY PROJECT?

First, set up and lead a project team with members from various disciplines, such as telecommunications, operations, IT and the business side. Then agree on a common definition of UC. "The group has to get together and talk about the UC mission using a common picture and a common language," says Bern Elliot, a vice president and distinguished analyst in Gartner's Philadelphia office.

"The CIO's direction here is very important," he adds. "He has to make sure that the team is truly working together and that certain members aren't tuned in to one set of vendors and one set of messages."

Once your goals are set and your

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UC plan is drawn up, it's time to compare your roadmap with those of the vendors you're choosing among. "There's a lot of nonsense out there," Shact says.

See where multiple vendor roadmaps match up with each other—because there will be multiple vendors, advises Elliot, and don't get hung up on best-of-breed claims, either. "You don't have to have best of breed anymore, because the functionality is pretty much there in all the vendor offerings," Elliot says. "Making sure the vendors you've chosen can play nicely together is almost equally important."

Even so, integration problems aren't rare. In the Gartner study, 38% of the 300 companies surveyed reported problems integrating unified communications applications with existing equipment. And 43% reported nonspecific "technical problems" with their UC deployments.

WHAT'S NEXT FOR UC?

Desktop call control—the integration of telephony and computer technology—is a more advanced way to locate and communicate with employees. Currently used mostly by call centers, this capability will be extended much further in the future, Elliot says. Advanced versions will be able to track IP addresses and ring your home phone if you're using a home computer, for example. These types of products will be available in about three years, he adds.

This presence capability will be imbued with contextual features as well, Elliot says. "Contextual presence," or the capability to have communications features integrated with business applications, is another emerging area. Intuitive access to subject matter experts could help lower human resources costs or increase sales by increasing the knowledge of potential customers. For example, a contextual presence capability set up for a benefits department at a large university could quickly direct a caller to the proper benefits level. Registering the incoming phone number and linking it automatically to a caller's employee record and even to details within that record will be possible, Elliot says. ■

Sarah Varney is a contributing writer to SearchCIO-Midmarket.com. Write to her at editor@searchcio-midmarket.com.

UC MAKING INROADS

Forrester Research Inc.'s June 2008 study "Unified Communications Adoption Plans" found that out of 184 companies:

11%
had deployed a UC strategy

16%
were rolling one out

57%
were either in the pilot or evaluation stage

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For One Midsized Firm, FMC Answers the Call

This 'next big thing' in unified communications routes calls between cellular and Wi-Fi networks for better connections and savings. BY ELISABETH HORWITT

With millions of dollars of transactions conducted via cell phone, voicemail is "a real productivity killer" for Anthony Marano Co. (AMC), according to Chris Nowak, the produce distributor's chief technology officer. When a call comes in from a grower with a palette of oranges to unload, or a supermarket needing several crates of bananas in a hurry, the salesperson had better pick up—or lose the sale.

But salespeople's jobs require them to roam around AMC's huge concrete and steel building, where cellular service—and customers—couldn't reach them. "We were doing a lot of paging to find people," Nowak says.

Chicago-based AMC solved the problem with Agito Networks Inc.'s RoamAnywhere, a fixed-mobile convergence (FMC) platform that deploys cellular and Wi-Fi-enabled voice communications on a single mobile device. The two complementary modes of communication ensure that salespeople receive their phone calls, whether they're talking to a customer in the produce cooler, standing just outside on the shipping dock, or driving off to a meeting, Nowak says.

FMC shows promise of being the next big thing in unified communications, industry sources agree. The underlying concept is to integrate wireless mobile devices into a company's wired IP telephony infrastructure, says Michele Pelino, a senior analyst at Forrester Research Inc. in Cambridge, Mass.

Businesses can realize significant cost and productivity advantages by tying mobile users into IP telephony applications like unified messaging and four-digit dialing. Users can avoid costly overseas cell phone charges by dialing out through a private branch exchange (PBX) and taking advantage of corporate calling plans.

Incoming calls to the PBX can be routed simultaneously to both desk phones and mobile devices. Users can also pick up their corporate voicemail and email on their mobile devices.

Despite its promise, FMC's current installed base is quite small. A recent study by The Nemertes Research

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Group Inc. found that about 10% of enterprises are in the process of deploying the technology, according to Mike Jude, a Nemertes research analyst. "But a fairly large percentage of respondents said they were looking into potential ROI." FMC will become more attractive, he adds, when the technology has matured.

Gartner Inc. in Stamford, Conn., is less sanguine, predicting that by 2010, less than 10% of midsized and large enterprises will support dual-mode cellular Wi-Fi capabilities.

This isn't all that surprising. FMC remains a fragmented industry of mostly small vendors, with major network service providers on the sidelines, testing the waters and looking for partners, according to Phil Redman, a research vice president at Gartner. As a result, early implementers must build their own FMC platforms. Given the number of products and services involved, that's no small task, particularly for midmarket companies, Redman notes.

Indeed, it took AMC four years and two false tries to build a successful dual-mode FMC infrastructure, Nowak says.

DUAL-MODE FMC A NO-BRAINER

Dual-mode platforms, a subcategory of FMC products, merge Wi-Fi and cellular voice services onto a single mobile device.

Dual-mode FMC products like Agito's RoamAnywhere and DiVitas Networks Inc.'s unified mobile communications also tie mobile phones into the corporate telephony infrastructure. At AMC, for example, salespeople can take advantage of the PBX connection to transfer calls if "a customer wants to speak to a pear specialist or a grape specialist," Nowak says.

Dual-mode FMC is pretty much a no-brainer for health care and academic organizations (and produce distributors), whose users spend a lot of time on their mobile phones while roaming around a building or campus. By enabling users to make calls over Wi-Fi, such organizations can cut up to 80% off their mobile phone bills, according to Agito co-founder Pejman Roshan.

However, dual-mode FMC does tend to be more expensive than regular FMC, particularly for companies that have yet to install IP telephony or a wireless LAN. AMC had to buy a Session Initiation Protocol gateway server to get its Avaya Inc. Definity PBX to talk to the RoamAnywhere Mobility Router, Nowak says. And he spent $100,000 on a wireless LAN from Meru Networks Inc.

He says he has no doubt, however, that the paybacks are worth the initial cost and hassle. AMC's salespeople are definitely getting less voicemail. More importantly, business has increased while the number of salespeople has remained constant. "Agito's RoamAnywhere is definitely part of the reason," Nowak says. ■

Elisabeth Horwitt is a contributing writer based in Waban, Mass. Write to her at editor@searchcio-midmarket.com.

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Keeping Users and Their UC Devices Compliant

How to extend your policies and controls to the mobile endpoint— the personal digital assistant.

BY JEFFREY RITTER

EVERY TECHNOLOGY CONFERENCE, no matter how valuable, has its dull moments. But one of those dull spots led me to a recent epiphany about unified communications (UC) and regulatory compliance. Here's what happened: I glanced at the woman sitting next to me as she worked her personal digital assistant to "keep in touch" with her office.

First, she "read" a voicemail, and then she used her instant messaging function to give a price approval and edit a contract. Last, she took a call from her stockbroker that was routed through her office line.

What hit me like a cartoon anvil was the fact that her activities jeopardized the confidentiality, privacy and integrity of all the business data and business rules she touched.

No one doubts that unified communications solutions improve information availability; enable convergence among different networks, systems and devices; and substantially enrich the returns on investments in mobile technologies and remote computing. After all, you want your employees out visiting customers and attending conferences. You also want them to keep on top of contract approvals and pricing issues.

What you don't want is to let mobile technologies put your company at risk. So what can you do?

You have to ask yourself: "How could these solutions create compliance risks? How can we make sure those risks are controlled?"

DESIGN UC RULES WITH COMPLIANCE IN MIND

First, recognize that UC cannot avoid any of the usual regulatory compliance obligations. Most legal and regulatory requirements apply, regardless of the technologies employed by a company or other regulated entity.

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These requirements typically establish rules for retaining certain kinds of communications, and for controlling and protecting certain information categories such as personal information or health records. The legal rules are both domestic (within the U.S.) and international. For example, the U.K. has published various regulations that clarify that recordings of telephone conversations, instant messages, chats and similar communications must be retained under the Markets in Financial Instruments Directive.

The trouble is that companies often craft their corporate policies and procedures to focus on specific technologies. That means that whenever they implement a new technology like UC, they need to revise or integrate their policies—but might overlook this step. At a high level, they need to create a unified policy management system. This would involve an examination of all policies and then revisions until the policies work across all communications applications and solutions. The company would then need to create a system to centrally manage the policies. All of this is no small task, and trying to undertake such an initiative on the fly could easily sink the UC project at hand.

EVALUATE EACH UC SOLUTION FOR COMPLIANCE

In that case, what the CIO needs to do is focus on the UC project. Evaluate the solution for its impact on the compliance duties of the company. You have to ask yourself (and your design and implementation team): "How could these solutions create compliance risks? How can we make sure those risks are controlled?" Include the answers to these questions in your business case. Make sure you consider all compliance-related procedures and map any required changes into your implementation plans. Policies and procedures in the following areas should be included:

- Records and information management (especially for stored communication records).
- Electronic discovery ("e-discovery") practices.
- Security controls on personal information.
- Security controls on access to communications.
- Corporate policies on confidentiality.
- Corporate policies on appropriate business use.

Thinking back to my conference neighbor, what would have happened in that case if her company had figured unified communications into its design?

First, the company would keep a copy of either the voice recording or the text translation—not both. Second, the price approval would have

been handled through a secure Web portal that would separately preserve the contractually significant record.

Focus on building a unified policy management system, so you'll be ready the next time you have a new technology to deploy.

Third, the contract edits would be used to update the control record of the contract, eliminating any previous drafts. And, finally, the personal phone call would have been blocked as an inappropriate inbound personal communication. The end result—keeping up to date with personal and company business—would have been the same.

Taking these first design steps will help protect the ROI you already reap from empowering your mobile employees with UC solutions. They will keep the rewards of your employees' messaging efficiency but jettison any compliance, security or privacy risks that your UC solutions may be innocently enabling. And then you can focus on building a unified policy management system, so you'll be ready the next time you have a new technology to deploy. ■

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PODCAST: MOBILE UNIFIED COMMUNICATIONS OPTIONS FOR THE MIDMARKET

The mobile unified communications (UC) market is on the rise. Learn more about different mobile UC options for the midmarket, including dual-mode phones and cellular VoIP, with this expert podcast from SearchCIO-Midmarket.com.

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