CIO
DECISIONS

The New BPM

It's no longer enough for business process management to simply save money or increase efficiencies—it's got to improve outcomes and propel the business forward.

teamwork

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social media

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BPM Beyond Banishing Bottlenecks

THE CLASSIC DEFINITION of *business process management (BPM)* is a systematic approach to improving workflow and efficiency, often with the end goal of cutting costs. And that's all well and good, but today's CEOs—and, by extension, the CIOs reporting up to them—are looking for BPM to deliver more than cost savings. These executives are focusing on business processes that help the enterprise *grow*, with desired outcomes ranging from revenue generation to competitive differentiation.

That's the thrust of the cover story in this year-end issue of *CIO Decisions*. SearchCIO Editorial Director Christina Torode spoke to practitioners and experts for their takes on the facets of BPM that modern organizations not only crave, but are

coming to expect.

"To me, BPM tools should be a platform on which I can build apps that drive value for my organization by gathering the data we need to do that—not just as a means to find bottlenecks in the process flow and trying to refine them," said Matt Richard, CIO of the Laborers' International Union of North America, an advocate for 500,000 skilled construction professionals. His organization is pursuing a BPM strategy that would give members insight into in-demand skills in specific geographic areas and help construction contractors locate skilled workers based on real-time data.

John Dixon, a managing vice president in the BPM practice at Gartner Inc., said that CIOs looking to impress business execs

should take a far more strategic—and forward-looking—approach to BPM. "We are at the forefront of this, but what's happening is senior executives want to now focus on how BPM is relevant to the business and how it can make the business more effective," he said.

As if BPM's star turn isn't news enough, in this issue we also highlight the data center-free future that MetroPCS is forging thanks to the cloud, sit down with analyst and author Tina Nunno to talk about tapping your inner Machiavellian CIO and share some thoughts on the need to level the digital playing field. ▪

Please e-mail me at rlebeaux@techtarget.com.

ON THE JOB

Ten Companies Upping the Big Data Ante

YOU HAVEN'T SEEN big data in action until you've seen Gartner analyst Doug Laney present 55 examples of big data case studies in 55 minutes. It's kind of like *The Complete Works of Shakespeare*, Laney joked at the recent Gartner Symposium, though "less entertaining and hopefully more informative."

The presentation was, without question, a master class on the *three-Vs* definition of big data: data characterized by increasing variety, velocity and volume. It's a description, by the way, that Laney—who also coined the term *infonomics*—floated way back in 2001.

The 55 examples are not intended to in-timidate, but instruct. Laney told the audience not to feel overwhelmed, but to home in on the big data case studies that might improve business performance at their own companies: "Yes, I know you're in industry *x*, but there are tremendous ideas that come from other industries that you need to consider adapting and adopting for your own industry," he said.

Here are 10 of them:

1 **Macy's Inc. and real-time pricing.** The retailer adjusts pricing in near-real time for 73 million (!) items, based on demand and inventory, using technology from SAS Institute.

2 **Tipp24 AG, a platform for placing bets on European lotteries, and prediction.** The company uses KXEN software to analyze billions of transactions and hundreds of customer attributes, and to develop predictive models that target customers and personalize marketing messages *on the fly*. That led to a 90% decrease in the time it took to build predictive models. SAP is in the process of acquiring KXEN. "That's probably a great move by SAP to fill a predictive analytics gap they've long had," Laney said.

3 **Wal-Mart Stores Inc. and search.** The mega-retailer's latest search engine for Walmart.com includes semantic data. Polaris, a platform that was designed in-house, relies on text analysis, machine learning and even synonym mining to produce relevant search results. Wal-Mart says adding semantic search has improved online shoppers completing a purchase by

ON THE AGENDA

Sci-Fi Seeps In

According to experts, the rise of 3-D printing and smart machines will affect enterprises in ways CIOs might not yet have considered. When anyone can make—or copy—anything, how will patent laws be adjusted? How will you authenticate your own products? What about government intervention when it comes to copying things like tissue and organs? As far as smart machines, we're already starting to see the move toward computers that learn instead of process.

10%
OF COMPUTERS
WILL BE
"LEARNERS"
BY 2017.
GARTNER INC.
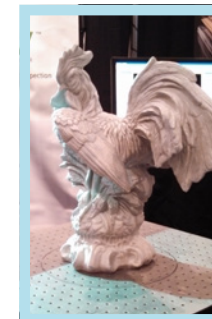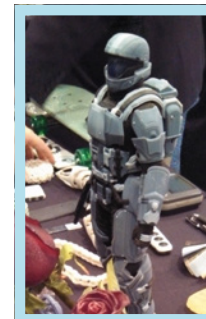
Examples of 3-D printed samples

CREDIT: BRENDA COLE/TECHTARGET

10% to 15%. "In Wal-Mart terms, that is billions of dollars," Laney said.

4 **Fast food and video.** This company (Laney wasn't giving up who) is training cameras on drive-through lanes to determine what to display on its digital menu board. When the lines are longer, the menu features products that can be served up quickly; when the lines are shorter, the menu features higher-margin items that take longer to prepare.

5 **Morton's The Steakhouse and brand recognition.** When a customer jokingly tweeted at the Chicago-based steakhouse chain and requested that dinner be sent to the Newark airport, where he would be getting in late after a long day of work, Morton's became a player in a social media stunt heard 'round the Interwebs. The steakhouse saw the tweet, discovered he was

TO THE POLLS

The Future of IT

Last month's *CIO Decisions* included a column by SearchCIO Executive Editor Linda Tucci on futurist Ray Kurzweil and how to plan for the next stage of IT. On SearchCIO, we asked readers, "How far in the future can you plan out IT, given how fast technology changes?" Their take:

15% you can't plan

20% six months

20% five years

45% one year
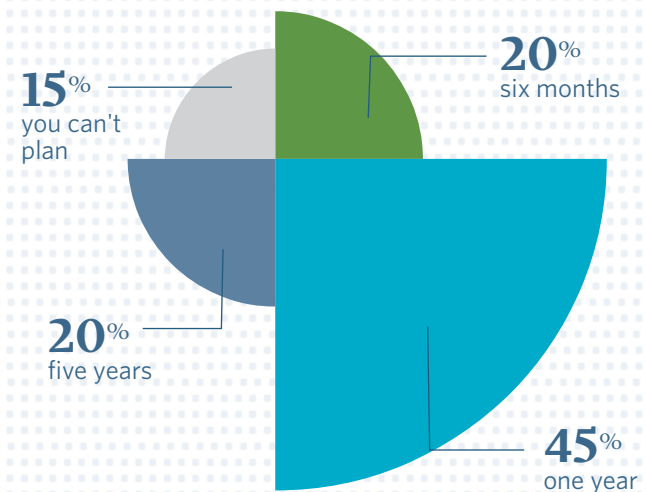
Source: SearchCIO online survey, fall 2013

a frequent customer (and frequent tweeter), pulled data on what he typically ordered, figured out which flight he was on, and then sent a tuxedo-clad delivery person to serve him his dinner. Sure, the whole thing was a publicity stunt (that went viral), but that's not the point. The question businesses should be asking themselves: "Is your company even capable of something like this?" Laney said.

6 **PredPol Inc. and repurposing.** The Los Angeles and Santa Cruz police departments, a team of educators and a company called PredPol have taken an algorithm used to predict earthquakes, tweaked it and started feeding it crime data. The software can predict where crimes are likely to occur down to 500 square feet. In LA, there's been a 33% reduction in burglaries and 21% reduction in violent crimes in areas where the software is being used.

7 **Tesco PLC and performance efficiency.** The supermarket chain collected 70 million refrigerator-related data points coming off its units and fed them into a dedicated data warehouse. Those data points were analyzed to keep better tabs on performance, gauge when the machines might need to be serviced and perform more proactive maintenance to cut down on energy costs.

8 **American Express Co. and business intelligence.** Hindsight reporting and trailing indicators can only take a business so far, AmEx realized. "Traditional BI [business intelligence] hindsight-oriented reporting and trailing indicators aren't moving the needle on the business," Laney said. So AmEx started looking for indicators that could really predict loyalty and developed sophisticated predictive models to analyze historical transactions and 115 variables to forecast potential churn. The company believes it can

now identify 24% of Australian accounts that will close within the next four months.

9 **Express Scripts Holding Co. and product generation.** Express Scripts, which processes pharmaceutical claims, realized that those who most need to take their medications were also those most likely to forget to take their medications. So they created a new product: Beeping medicine caps and automated phone calls reminding patients it's time to take the next dose.

10 **Infinity Property & Casualty Corp. and dark data.** Laney defines *dark data* as underutilized information assets that have been collected for a single purpose and then archived. But given the right circumstances, that data can be mined for other reasons. Infinity, for example, realized it had years of adjusters' reports that could be analyzed and correlated

to instances of fraud. It built an algorithm out of that project and used the data to reap $12 million in subrogation recoveries.

—*Nicole Laskowski*

WHAT'S THIS?

Bug Bounty Program

A BUG BOUNTY PROGRAM is a crowdsourcing initiative that rewards individuals for finding a software bug and reporting it to the organization offering a monetary reward. Many software vendors and websites run bug bounty programs, often paying out cash rewards to software security researchers for discovering and reporting software vulnerabilities that could be exploited. Bug bounty programs are often initiated to supplement internal code audits and penetration tests as part of a vulnerability management strategy. Source: WhatIs.com

ONE ON ONE

Securing the Unsecurable

IT'S THE QUESTION on everyone's mind: With computer privacy so highly valued, how do we secure the unsecurable? Robert Bigman, a former chief information security officer at the Central Intelligence Agency and current president of 2BSecure LLC, suggests that the biggest technology challenge for CISOs isn't a new one. During the past few decades, IT professionals have struggled to find tools that can secure computers completely, instead of implementing the "next big thing" from security vendors and layering one product on top of another. Here, Bigman looks at some of today's most challenging technology trends for IT executives.

What technology trend is presenting itself as the biggest challenge in corporations?

Robert Bigman
title: FORMER CISO *organization:* CENTRAL INTELLIGENCE AGENCY

▶ WATCH THE FULL INTERVIEW

It's not new; it's the same one they've been having for 25 years now. The technology trend is [this]: How do we secure unsecurable computers? And the technology trend is [this]: What new tool is out on the market to help address the problem? For 25 years, they haven't found one. That's why every time you come to a show, there's a new vendor selling a new thing.

[At a security conference], when you

walk across the floor and look at the different stalls, it's all about cloud and big data. None of these products are really bad, and I'm sure they provide some performances that do some things, but frankly they're not solving the problem. The problem is that computers are inherently unsecure. Unless you do it from an architectural perspective and get it right, there's really no amount of products you can buy.

The technology trend is how to secure unsecure computers. Putting them in a cloud doesn't make them any more secure than they were before the cloud. Spreading them out between mobile endpoints doesn't make them any more secure than they were before they were all sticking in the computer data center.

These are not solutions to the problem—they're fixing the symptoms. It's what we call the NyQuil effect: You haven't cured the cold, but you certainly feel a lot bet-

ter about it. You didn't solve the computer security problem, but you feel like you've done something. Trust me: The hackers in Russia and China care very little about what products you put on your network. It really doesn't provide a roadblock for them.

What is, or seems to be, a top-of-mind concern for CISOs?

No. 1, every year, they run to the seventh floor or go to the CIO and tell them, "We need to [implement] this bell-and-whistle, shiny toy that just came out from RSA." I'm not necessarily picking on RSA; [they're] just an example, but same for McAfee or any one of the vendors. These are expensive toys. Enterprise licenses in a large corporation cost big, big dollars. It's hard to buy that toy, install it, get it working, then come back a year later and say, "Well, I need another one to do data loss protection." Then next year, "I need another one to do digital

rights management." Then, "I need another one to do cloud security." Eventually, the CEOs are going to wise up to this, and say, "Wait a second: Why are we not fixing this problem?"

A lot of the CISOs are coming to the realization that, unlike things like storage where you just buy more, unlike compute where you just buy more compute, unlike network where you buy bigger, thicker pipes, you can't buy your way out of the computer security problem. I think a lot of the CISOs are now coming to realize that.
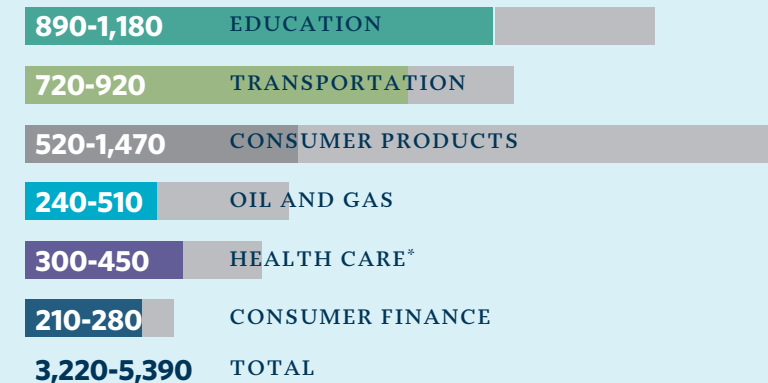
—Emily McLaughlin

BY THE NUMBERS

The Economic Value of Open Data

Researchers at the McKinsey Global Institute say that open data—machine-readable information, particularly government data, that's made available to others—has not only generated a great deal of excitement for its potential to empower citizens and improvement public services. It also may generate significant economic value—to the tune of $3 trillion to $5 trillion across seven sectors.

Source: "Open data: Unlocking innovation and performance with liquid information," a report by the McKinsey Global Institute, October 2013.

Potential value in open data
$ billion *Includes U.S. values only

Value	Sector
890-1,180	EDUCATION
720-920	TRANSPORTATION
520-1,470	CONSUMER PRODUCTS
240-510	OIL AND GAS
300-450	HEALTH CARE*
210-280	CONSUMER FINANCE
3,220-5,390	TOTAL

The New BPM: A Focus on Data-Driven Business Outcomes

CIOs are pushing the boundaries of traditional business process management beyond battling bottlenecks. **BY CHRISTINA TORODE**

EFFICIENCY AND COST savings are the predominant, go-to goals of enterprise-wide business process management (BPM) initiatives. As CEOs shift into enterprise-growth mode rather than focus on cost savings through consolidations—as several experts say they are—these executives are expecting CIOs to help them achieve and maintain this growth momentum with BPM initiatives.

Hence, business results and business outcomes are shaping up to take precedence over cost savings and efficiency gains in terms of the BPM strategy goals, with these expected outcomes ranging from revenue generation to competitive differentiation.

"The efficiencies are just an end result of giving people an easier way to do their jobs rapidly," said Matt Richard, CIO of the Laborers' International Union of North America (LIUNA), which represents and acts as an advocate for 500,000 skilled construction professionals.

Richard's approach to delivering business outcomes is through the consolidation of membership management processes gathered in disparate systems across nine regions

in the U.S. and Canada. This centralized system would give members insight into in-demand skills in specific geographic areas and provide construction contractors the ability to find skilled workers based on real-time data.

The centralized system, scheduled to roll out in the first quarter of 2014, is being built on Appian Corp.'s cloud-based BPM software. Once in place, it would give local and regional union offices data on which certifications individual members hold, where the job demand exists and how members may need to be trained to fit the needs of contractors seeking skilled laborers.

The customer service process optimization—finding jobs for members—may be more obvious in terms of business gains. Less obvious, but just important, is the competitive advantage that would result. The data would show LIUNA executives trends in contractors hiring their members

versus hiring nonunion members and, in turn, where they need to train members. Contractors, who would also have access to the system, would gain access to member information as new contracts crop up.

"The whole point really is to get members jobs and better-paying jobs, and for contractors to easily find the skills they are looking for in our members," Richard said. By having one system, we can ensure integrity of the data. With real-time, accurate data, not only will members advocate for us, but contractors will as well because they can get a better product from us and interact with us more

MATT RICHARD, *CIO of the Laborers' International Union of North America, sees BPM as a customer service tool.*
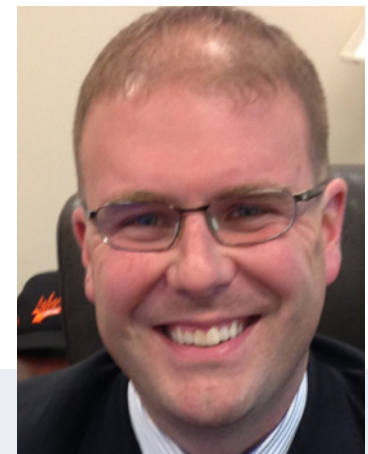
effectively and efficiently to get the resources they need."

BPM LED BY DATA ANALYTICS

LIUNA's use of Appian primarily as a business intelligence and data management platform is a sign that vendors in this space need to shift their thinking in how their products can be used toward business process optimization. As Richard put it, "To me, BPM tools should be a platform on which I can build apps that drive value for my organization by gathering the data we need to do that—not just as a means to find bottlenecks in the process flow and trying to refine them."

Still, the majority (59%) of the 90 enterprise architect professionals surveyed in a recent BPM adoption study by Forrester Research Inc. said just that: They are using BPM to find bottlenecks and, from there,

refine processes and reduce operating costs. Yet, in the same study, 41% of respondents said they adopted BPM tools to improve customer experience and engagement. This percentage "continues to increase as BPM programs shift to center on designing processes and building business cases around the customer to drive greater revenue," said Clay Richardson, a principal analyst at Forrester.

The thrust of the conversations that John Dixon, a managing vice president in the BPM practice at Gartner Inc., is having with several clients is "effectiveness over efficiency." The successful CIOs "are focusing BPM on what's right for the business, what's the strategic plan 12 months or five years from now," he said.

"What's happening is BPM programs are cannibalizing their environment," Dixon continued. "The amount of savings from BPM is getting smaller and smaller to the

point where companies start to cut genuine resources. We are at the forefront of this, but what's happening is senior executives want to now focus on how BPM is relevant to the business and how it can make the business more effective."

An example of this is a large airport client using BPM to control the flow of passengers in the terminal areas. The airport is using BPM, or workflow data, to see how many passengers are waiting to get into the terminals to then increase or decrease the number of security professionals screening passengers. "By controlling this, the airport can control the number of passengers in the terminal and how much time they spend shopping in the terminal," Dixon said.

This workflow tweak, intended to control terminal wait times to around 40 minutes, increases terminal retail shop revenue by about $70 million. "They linked together the flow of passengers/customers to how people

"Senior executives want to now focus on how BPM is relevant to the business and how it can make the business more effective."

—Clay Richardson, principal analyst, Forrester Research Inc.

reacted when crowds were bigger or smaller and found that people buy more if it is less crowded," he said.

Another example of data driving BPM is Richardson's large cable company client. The company is collecting data on revenue per customer service agent to measure the impact of changes made to the processes used by these agents. "[The company] uses analytics tools to gather data on what the best rep is doing, how they are delivering service, what questions they are asking, and [then] modeling that data as tasks," Richard-

CIOs need to consider how technology trends such as cloud, mobile and big data are changing their business processes and the mindset behind how BPM is transforming their business.

son said. "They find patterns to design the [reps'] tasks in a way so the average rep can become awesome by giving them real-time information they normally wouldn't get."

CIOs also need to consider how technology trends such as cloud, mobile and big data—or, to lump it together, *the digital age*—are changing their business processes and the mindset behind how BPM is transforming their business.

"When the CIO and CEO of a furniture maker who uses chisels asked me, 'How can we expand our digital footprint and break out of our current business process model?' you know that technology is changing the

business model landscape," Dixon said. A few ideas that the furniture maker is bouncing around in the digital age? Using the cloud to offer furniture rental services or employing RFID chips to send data to the furniture maker, such as when a chair breaks and must be replaced. ∎

Plot a Data Center-Free Course

MetroPCS's Kevin Broadway stumbled onto the cloud seven years ago. Now he's nearly rid of the data center and acts as a strategic partner to the business. BY KAREN GOULART

SOME IT LEADERS are plagued by the question of what, if anything, they should put in the cloud.

Kevin Broadway of wireless giant MetroPCS Communications Inc. is not one of them. He has a simple answer to the quandary: all of it.

"Across the board, that's just how we are," said Broadway, senior staff vice president of application delivery and support at the Dallas-based company. "As we look for solutions for the business, we don't prefer cloud; we require cloud unless you've got a real good reason not to."

The approach may be second nature now for the $5 billion business, but the move to an all-cloud future—seven years in the making—has been an arduous journey, requiring almost daily consultation with cloud providers and re-envisioning of the company's IT organization. The impact of the all-cloud strategy extends well beyond the IT department.

Broadway's data center-free approach has allowed MetroPCS—now the fourth largest wireless U.S. carrier since its merger in

April with T-Mobile USA Inc.—to adapt more quickly to the demands of its 9 million wireless customers. Keeping the IT headcount at a slim 86, he's held the organization at a reliable 2% of the company's budget while helping quadruple market penetration, expanding from a regional network to a national network.

AN ACCIDENTAL FIRST FORAY INTO THE CLOUD

Broadway's cloud strategy, like many breakthroughs, began almost accidentally. When he came to MetroPCS seven years ago from the electronic pager industry, his first order of business was replacing the company's mission-critical but antiquated billing system, Broadway explained. The application is the lifeblood of a telecommunications provider, covering nearly 95% of daily company operations, from account services and

point-of-sale services to handset logistics.

The search for a product that could be rolled out quickly brought Broadway to then-Israel-based company Amdocs Inc., and without really realizing it, MetroPCS signed up for a cloud-based solution.

"We didn't really know we were in the cloud; it was a managed service, it was essentially a private cloud," Broadway said. Not fully cognizant the product represented a new way of computing, "we implemented it and we were managing it with 16 people internally," he said, still marveling at the feat. "It was pretty incredible in terms of what we're doing from an operational standpoint."

Indeed, rather than "slinging code," the small crew did a bit of front-end work and assisted Amdocs with some acceptance testing. Other than that, the vendor took care of the heavy lifting: getting the system up and running. When it was time to deploy, the two sides worked together. Since then, those

16 team members have become partners in managing the system. In seven years, there's never been an issue with it. The experience proved an amicable, strong working relationship with a cloud provider was possible and cost-effective.

If MetroPCS's most mission-critical application could be successfully co-managed as a cloud service, it made sense to make cloud the center of MetroPCS's IT strategy.

Choosing to go all-in on cloud-based solutions doesn't equate with a transfer of responsibility for IT services, Broadway said. Quite the opposite. At MetroPCS, every cloud vendor has a partner on the internal IT side whose job it is to ensure the service is being delivered as promised. The vendor relationship goes well beyond the demands of a service-level agreement.

"We're with them all the time—us helping them and them helping us," Broadway said, adding that he spends a lot of time in the Amdocs data center in Champagne, Ill. "Which I tell you is not that much fun in the winter."

A CLOUD STRATEGY DEVELOPS

With the success of working with Amdocs well established by 2010, Broadway's next cloud-based project—from Software as a Service provider Workday Inc.—took much less time to implement.

"In terms of time to market, we were in at five months for payroll, benefits, HR … and I support that application end to end with three people," Broadway said. "No data center, all service."

With Amdocs and Workday in place, IT services improved, but there was still a major disconnect in IT and business alignment. While MetroPCS IT was now a good technical shop on the way to becoming a good service-oriented provider, its ability to ef-

fectively communicate with the business was lacking.

"[The business] couldn't deal with us because they didn't understand our terminologies and didn't understand our organization," Broadway said. "They had to know what IT was and how it was organized in order to deal with us—and that was a problem."

Internal customers frustrated with obtaining IT services would walk to the IT department and tap random people on the shoulder seeking help. Not only was it inefficient, the slapdash approach weighed on morale all around.

CLOUD-BASED, BUSINESS-VETTED ITSM TO THE RESCUE

So how does an IT team learn how to talk to the business? Once again, Kevin Broadway looked to the cloud, this time seeking

Frustrated internal customers would walk to the IT department and tap random people on the shoulder seeking help. Not only was it inefficient, the slapdash approach weighed on morale.

a comprehensive IT service management approach. But he didn't do it with IT alone. For this project, internal customers were invited to all the vendor demonstrations. MetroPCS's IT team evaluated the back-end technology while customers weighed in on things like user interface and usability. The unanimous decision went to Service-Now.

"We started with incident management, service requests and service catalog, and that took all of four months to put in," Broadway said. Getting the new approach up to speed took a bit longer. "It took about

eight to 12 months for the IT organization to absorb it all and be more productive using it because it was something new."

But once it was up and running, everyone wanted a part of it.

"As soon we got that in, our doors were knocked down by that steering committee—we did HR, we did product management, we did marketing, we did engineering," Broadway said. The communication barrier came down and both sides met in the middle. "We all actually got on the same terminology, they actually started understanding what an incident was versus a service request."

The cloud strategy has continued to be an efficient use of IT resources. During the setup and for the first nine months with ServiceNow, Broadway had one person managing the provider. In the year or so since, as they've continued to integrate the provider's full IT suite, another team member has been added on the MetroPCS side.

FROM IT TECHS TO SERVICE MANAGERS

In a data center-free environment, Broadway explained, IT people, from an organizational and skill set standpoint, become service managers. The need for technology skills is quite limited compared to a traditional IT organization.

"They have to be able to negotiate, they have to be able to create a roadmap, they have financial responsibility end-to-end for operating and [capital expenses] for development," Broadway said.

In addition, his internal team of 86 is lean to the bone by big-company standards. (Keeping the IT headcount at that number has been no small feat, considering the MetroPCS customer base has jumped from 2 million to 9 million during Broadway's tenure.)

"We have a very limited set of staff, so we have to go through a third party for more complex development. That means we

manage the vendor and assist the vendor," he said, citing the example that the internal team co-managing the services provided by Workday takes responsibility for carrying out regression testing three times per year.

DATA CENTER-FREE, THE WAY TO BE?

When it comes to the all-cloud, data center-free strategy, Broadway can think of no exceptions to his preference for cloud solutions. Currently, a few custom data management applications reside in the engineering department's data center, but even that won't go on forever.

"I think over time, those will 'go cloud' as well," he said. "Those implementations were done that way only because of timing; they are a little older."

For IT leaders who have an interest in going all-cloud, Broadway's first piece of ad-

vice is to consider your long-term IT service strategy: What will your business people be demanding, and how will these demands be fulfilled? And don't be cowed by cries for "customized" solutions. Experience has shown him that, in many cases, the business might want to rethink what its real requirements are. The total cost of ownership, time to market and other benefits that cloud provides are hard to beat.

"Even if the organization believes they have some sort of 'secret sauce' in their solution, there's nothing to say that someone else can't recreate it," he said.

As for his peers

KEVIN BROADWAY, *senior VP of app delivery and support at MetroPCS Communications Inc., has embraced the cloud.*
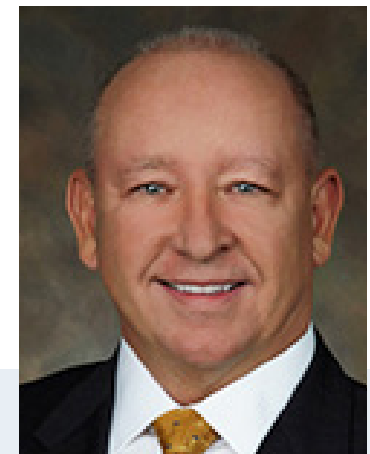
and the people he reports to, they may not be attuned to the nitty-gritty details of cloud computing, but they can appreciate the results.

"They know we're extremely cloudy—we're totally overcast—but they don't have to know what that means to an IT function," Broadway said. "I explain it to them in terms of our efficiency: We have 86 people in IT, here's how we do that; we're less than 2% of total budget, here's how we do that. The costs are predictable and the service levels are predictable."

But is going data center-free advisable for other businesses? Broadway believes it's the future but acknowledges the road is not an easy one. MetroPCS's much larger new relative, T-Mobile, with 75% of the merged companies' total subscribers, has 1,100 peo-

"Even if the organization believes they have some sort of 'secret sauce' in their solution, there's nothing to say that someone else can't recreate it."

—Kevin Broadway, MetroPCS Communications Inc.

ple in IT and 4,400 total contractors. That's a lot of folks to rejigger, he conceded. It takes time and money to get to an all-cloud model.

"To move an organization that size to what our model is, that's a multi-year journey, and it's a very difficult thing to do," he said.

But the journey, he firmly believes, needs to commence now. ■

The Machiavellian CIO

Is it time for a Machiavellian CIO? Author Tina Nunno explains why CIOs have a lot to learn when it comes to competitive advantage. **BY NICOLE LASKOWSKI**

THE MODERN WORKPLACE can be a pretty wild and treacherous place, according to Tina Nunno, especially for CIOs. An analyst at Gartner Inc., Nunno works with IT leaders who are under enormous pressure to use technology to gain competitive advantage. The problem is, so is everyone else at their companies. To navigate this dangerous terrain, Nunno argues that CIOs need to throw out the old for something even older—the tenets of 15th-century Italian historian and politician Niccolo Machiavelli.

To learn more about the idea of Machiavellianism, CIO-style, SearchCIO interviewed Nunno on her recently published e-book *The Wolf in CIO's Clothing: A Machiavellian Strategy for Successful IT Leadership.*

TINA NUNNO, *an analyst at Gartner Inc., discusses the "Machiavellian CIO" in her new e-book.*

Why Machiavelli?

Whenever I encountered a particularly strong CIO, I would ask them what inspires them. And a surprising number said they were inspired by Machiavelli. They had read Machiavelli and were applying his principles! But as you might imagine, reading Machiavelli isn't necessarily standard education for most CIOs who get a computer science or an engineering degree. So, I thought it would be interesting to do some research to help CIOs, who didn't necessarily have an awareness of Machiavelli, apply his principles to difficult situations they encounter every day.

Why are his principles relevant for CIOs today?

Machiavelli is particularly relevant today because the demand on IT is putting many CIOs under great pressure and tremendous threat. The basic premise of Machiavelli is

to always be prepared to be under attack. The reality is many CIOs are feeling rather threatened today. There's more pressure for them to deliver innovative, agile, interesting IT, which helps the business be competitive and helps the business grow. These are not easy demands to meet. For CIOs today, they basically have to become a competitive animal in the organization and fight their way through difficult situations in order to be successful.

There's that Machiavellian theme: think like an animal. In your book, you suggest CIOs channel the gray wolf. What are the characteristics of the wolf that make for the ideal CIO?

When you consider the types of initiatives that CIOs are currently executing, they oftentimes have to engage many diverse stakeholders across the business. To do this, you have to be quite social, you have to lead a large group, and you oftentimes have to be

able to work with a large number of peers very effectively and be able to socialize ideas and get people to be enthusiastic.

By the same token, CIOs sometimes have to be in difficult situations where they have to be more aggressive: They need to be more of the predator in a particular situation in order to be successful. So, what I found very attractive about the wolf is that it embodies a lot of the best Machiavellian principles and traits. It's a social creature [that] can lead a pack and take care of those he is responsible for. But it's also a creature that can engage in a fight when he needs to in order to be successful.

Could you provide an example of a CIO who embodies those traits?
The book includes quite a few different examples of CIOs who execute these types of behaviors, but all of them are anonymous. These characteristics or behaviors are less

effective when others around you know you're using them.

One of the CIOs I describe in the book uses a technique that I call *the mathematical steamroller*. This particular technique looks something like this: The CIO needed different stakeholders from across the organization to agree to participate in a large, complex business process improvement. Getting engagement from people is a lot like math: Order matters. You have to engage stakeholders in a specific order in the organization. So, what this CIO would do is, he would look at the different stakeholders and choose one who was important to the initiative but not particularly influential in the organization. The CIO would pitch the potential change to that stakeholder and try to get them on board. ... If the stakeholder got on board, that was great, the pitch worked.

If the CIO didn't get the stakeholder on board, he hadn't lost much ground. Even if

he accidentally alienated the stakeholder, the CIO really hadn't lost much because the stakeholder couldn't work the initiative against him. Then he would move onto the next low-influence stakeholder and the next, to truly fine tune the change pitch in order to get people on board.

The predatory CIO also understands there are other stakeholders who don't want to be last into an initiative; they want to be first and look as though they're leading it. They're very high in status. So, then the CIO would pick the high-value stakeholder and bring that stakeholder on board. As you might imagine, there are other stakeholders who come on board only when enough high-value stakeholders are on board. It's a pack mentality. So, this strategy analyzes different members who needed to be involved and mathematically built the steamroller effect—getting the right people on board in the right sequence in order to build an ex-

traordinarily strong coalition.

Sounds manipulative.
I would say it definitely is. But it's also quite effective and can help build a strong coalition because what it requires is a combination of "light and dark" approaches. The CIO has to have a strong pitch, a strong change agenda and a good reason for bringing people on board. By the same token, they also have to go to the "dark side": They have to be stealthy, secretive and selective in the order in which they bring the people on board. CIOs who use both light and dark techniques simultaneously, in essence, enter the gray space. They become what I would call *the gray wolf*. So, they balance their tactics in order to come up with the optimal solution. These are not necessarily easy decisions to make, and there's not always a clear good and bad in these situations, but oftentimes they do create very strong results.

*When exactly should CIOs
use these 'dark side' tactics?*
The most appropriate time for leaders to
consider going to the dark side is when the
light side hasn't worked. A lot of us are for-
tunate enough to work in organizations that,
culturally, are on the 'light side.' People, by
and large, are honest, open and transparent;
they respond to reason, and they want to do
the right thing for the organization, as well
as for their teams. Unfortunately, not all or-
ganizations are like that. Some organizations
become dysfunctional. People might have
good intentions, but for a variety of reasons,
they don't respond to being rational. They're
not necessarily trying to do the right thing.
They might, in fact, be under threat and feel
as though they have to focus on self-preser-
vation rather than the good of the company
or the good of the community.

When the organization has turned to the
dark side, or if the CIO is simply dealing

with a stakeholder who is on the dark side,
light-side tactics don't work. As a result, in
order for CIOs to be successful, they fre-
quently have to consider the possibility of
using much more dark-side techniques be-
cause they will result often in a better out-
come.

*You provide the example of a woman
CIO who is undermined by a business
colleague who wrongly blamed IT systems
going down for his shortcomings.*
This CIO realized she could go to the light
side in dealing with a stakeholder, but in
doing so she might look defensive. So, what
she decided to do was to simply run a report
of the number of times that the systems in
question had been down in the course of a
year.

The report showed the systems in ques-
tion had been down for a total of 3 minutes
for the entire year. The CIO showed that

data to the CEO and to the other stakeholders who had been told that IT was to blame for the situation.

One could argue this is quite a dark technique. She didn't do it in the presence of that stakeholder; she essentially did the Machiavellian equivalent of throwing that stakeholder under the bus. We could argue this CIO did not do the right thing, but Machiavelli was nothing if not pragmatic. The technique was absolutely effective. The [stakeholders] learned that by attempting to go to the dark side, they failed in dealing with the CIO. The [stakeholders] learned the CIO was a formidable predator, and that the cost of crossing the CIO was extraordinarily high.

One of the most important dynamics that is rarely talked about in terms of building leadership strengths is that you need to go to the extremes. People need to know you're capable of it. If they don't believe

you're capable of taking them down, then they're more likely to attack you. We may not like that this is a reality, but as I said, Machiavelli was nothing if not pragmatic. And as a result, he advocated doing the pragmatic thing when it was absolutely necessary.

Let's take a look at the darkest tactic of the dark side. For a CIO, what does 'warfare' mean?
The concept behind warfare is this: CIOs need to learn how to use power, and they need to learn how to manipulate in places where power doesn't work. Warfare is essentially taking both power and manipulation and multiplying it against one another exponentially to expand the effect across the entire organization. The mathematical steamroller example is a case of warfare. The CIO needed to get multiple stakeholders on board at the same time and get them to

cooperate. That's what warfare is all about: leading in large numbers and scaling the effects.

When should CIOs pull out the warfare card?

I've dealt with several CIOs recently, and I talk about this in the book, where they wanted to create change quickly within the organization. So, they went to the CEO and they asked for control over all of the IT budget, which had previously been disbursed in more decentralized organizations; they asked for control over all of the IT staff that had previously been disbursed, and the ability to essentially dictate IT to the rest of the organization. This is the equivalent of staging a coup. This is declaring a war on the entire enterprise. And, as you might imagine,

the entrenched powers are likely to resist in large numbers. This "all or nothing" strategy is an interesting one. When it works, it's really expedient: You're exerting power against the entire organization with tremendous speed. The problem is, it's all or nothing. When it doesn't work, you've got nothing.

And the fallout from something like that?

If the tactic fails, frequently it results in a complete and total power drain.

I encourage CIOs to think about the fact that sometimes the most expedient methods of warfare are the most dangerous. They can sometimes create a lot of collateral damage and resentment. Even when they work, you have to contend with tremendous collateral damage. ∎

A Digital Meeting of the Minds

THE CONGENIAL Andrew Lippman, associate director of the legendary MIT Media Lab, was squiring a group of journalists through the lab's new building in Cambridge, Mass. And a spectacular place it is, skinned in glass and metal with labs open to view and a penthouse meeting space shaped like a ship's prow. Transparent, built for exploration, it even made a technology Luddite like me feel like this band of researchers was going places and the rest of us are lucky to be along for the ride.

Lippman said as much as he talked about some of his work. His 35-year career at Media Lab has focused on digitizing media. He was at the forefront of rendering media into computers. His projects range from wearable computers to global digital televi-

sion to Internet radio. He now heads the lab's Viral Spaces research group which, according to his Web page, "examines scalable, real-time networks whose capacity increases with the number of members."

But back when he got started, technology was *asymmetric*, Lippman reminded us. "TV had big towers and dumb receivers. Computers had big mainframes and dumb terminals. A lot of the early work was on what I like to think of as the democratization of those technologies." In other words, he was part of a team whose work would change my business (print journalism) and your business (enterprise computing), paving the way for what we in the CIO biz now call the *consumerization of IT*. There's more. With digitized media, information and the power it confers

becomes the province of the many not the few.

"There's an old advertising slogan: 'God made big men and God made small men, and Colt made the .45 to make them all equal,'" Lippman said. "We made the Media Lab to make all those bits equal."

MEETING OF UNLIKE MINDS

That's big stuff. But it's how the digitization of media and other MIT Media Lab breakthroughs came about that CIOs, their companies and any of us on the outskirts of innovation hotbeds should take note of. "Through that time we have grown through bringing in people different from ourselves," Lippman said. "It is the diversity of that collection of people that makes us unique and also what makes us strong."

There are the "oldsters" like Lippman who still think about media "because it is not

completely solved," he said. Others think about how to connect computers more closely with brains and limbs. Sponsored by some 70 companies from around the world, Lab teams help solve problems in industries they may know very little about.

"We bring orthogonality of approach, which is a grownup way of saying we sometimes do our best work in the areas we know least about," Lippman said. And, yes, space does matter. "Getting all of these people in the same space gives us serendipitous interplay that we wouldn't have otherwise."

Thirty years ago, the Department of Defense asked Lippman's group to build a remote conferencing system "for people who absolutely, positively had to get together and make some decisions." The fact that these people weren't all in the same city could not impinge upon their ability to be as comfortable with each other as if they were all sitting in the next room, Lippman recounted.

"You can imagine what kinds of decisions these were."

The technology MIT made was so magical for its time that a ranking general told Lippman that if the virtual Jimmy Carter had asked him to "press the button" he would have rejected the order as some high-tech counterfeit plot, because the system made the image of the president seem too real. That was then. Now we are more accustomed to virtual interactions, Lippman said. Yet conferencing systems that would enable people to really work together the way he and his colleagues do at the MIT Media Lab are not magical enough, let alone democratized.

"You still don't get the winks as good. You still don't get the asides, and you still don't get a little bit of the body language," Lippman said. And that's not good. Companies have outposts that work with each other through conferencing technologies, but in Lippman's experience the work tends to be routine.

"Doing things creative and original still requires everybody to be in the same place, scrawling on the same board, interrupting each other and shoving people and ideas out of the way and into the forefront," he said.

He said his group continues to work on "revived and renewed technologies by which we can extend creativity remotely." Until then, the tyranny of space keeps its stranglehold on innovation, reinforcing the status quo and status places, like the MIT Media lab.

VIRTUAL REALITY BY WAY OF THE ANALOG WORLD

The point was very much in evidence at EmTech, the conference on emerging technology that drew me and the other journalists to the MIT showplace. The data shows

the playing fields of technology innovation remain unlevel terrain for many cities, many companies and many bright young minds, despite all the technology magic made in hallowed places like the MIT Media Lab.

The playing fields of technology innovation remain unlevel terrain for many cities, companies and bright young minds, despite the technology magic made in places like the MIT Media Lab.

"Ideas are spread around the country, but the investment world still favors enclaves like Silicon Valley and the Cambridge MIT/Harvard industrial complex," said Steve Case, co-founder of America Online (AOL), chairman of The Case Foundation and a keynote speaker on day two of the EmTech conference. The money guys still want to be within a two-hour drive of their investments.

Or I think that's what Mr. Case said. I had to be at work on day two of EmTech, in a cubicle far removed from all the talk about emerging technology taking place in that beautiful auditorium atop the MIT Media Lab building. Although MIT had promised to keep the remote audience in the loop by streaming these wonderful sessions live online, the feed stuttered so much I couldn't follow Mr. Case's argument. The malfunctioning feed prompted some jokes on Twitter about this being a fitting tribute to '80s-era AOL technology, but really the joke was on us. The video eventually cut out altogether, leaving me and everybody else in the hinterlands for the time being in the dark. ◼

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