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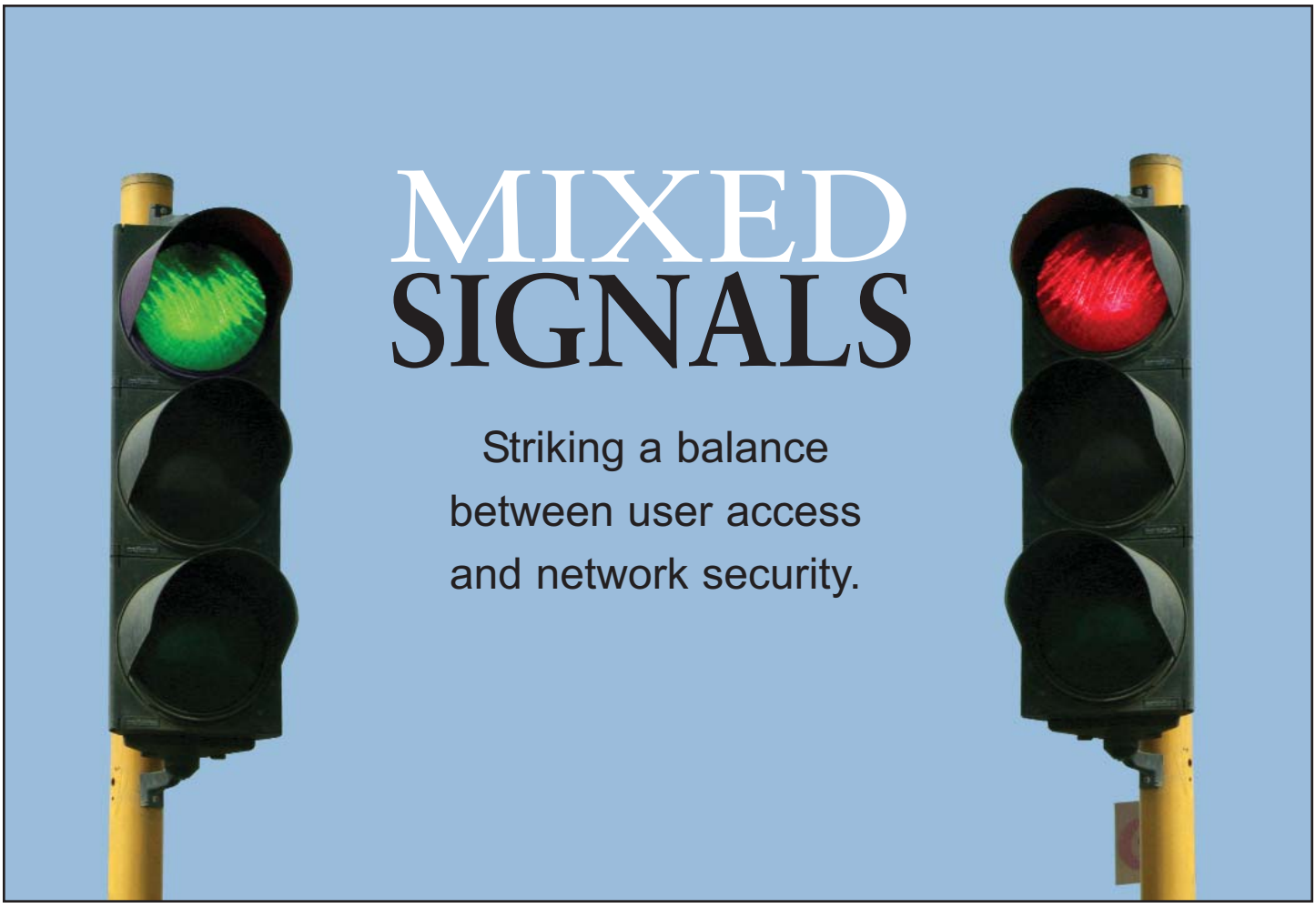

UPTIME

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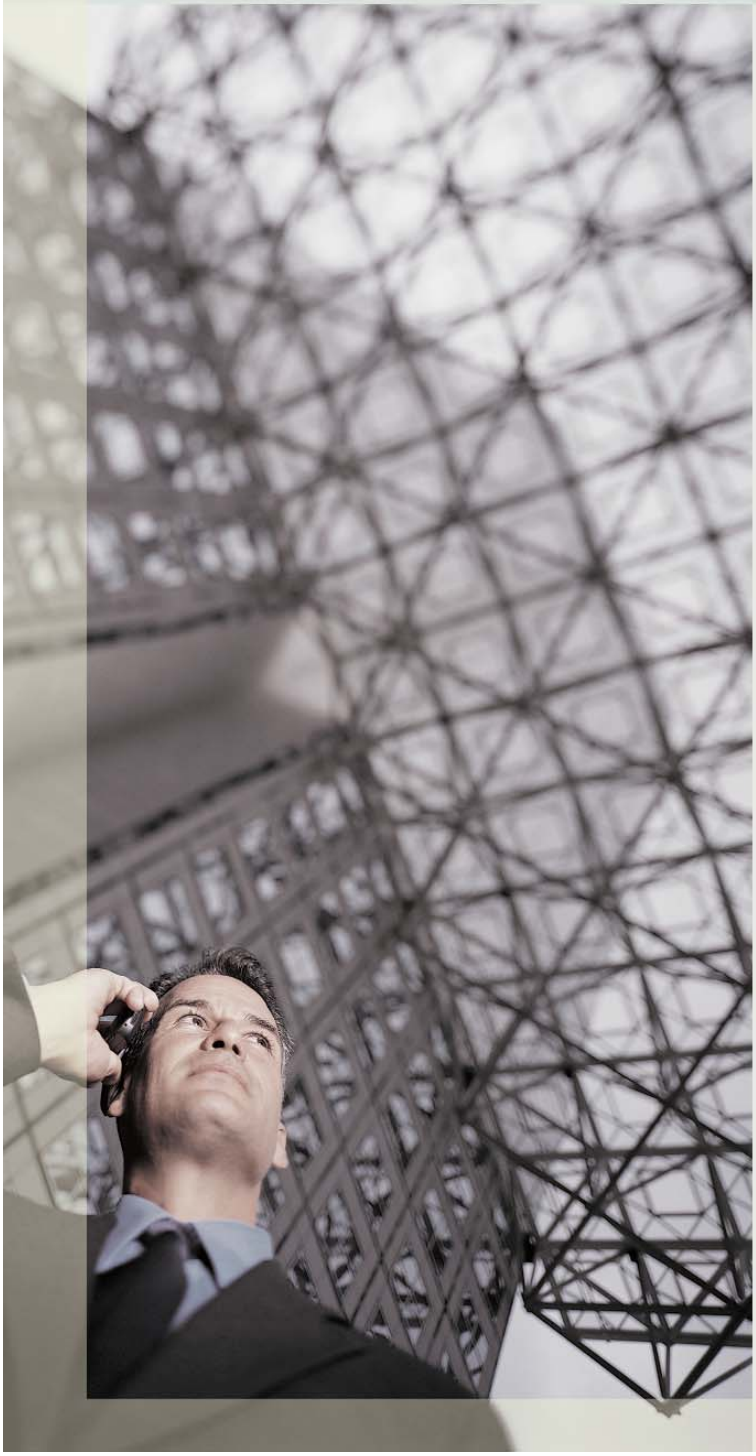
Focus on your business



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SIGMA's **cloud services** are essentially common applications provided as a service. Subscribers utilize the function, without the burden of hardware acquisition, technology administration, or hands-on maintenance. SIGMA owns the asset and the responsibility for uptime. The portfolio of these functions includes e-mail, web and portal services.

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Mixed Sig

nals

Communication is the key to creating a balance between network security and user access.

THERE IS ONLY ONE FOOLPROOF WAY TO PROTECT YOUR NETWORKED COMPUTER systems against electronic snooping, hackers, unauthorized access, stolen passwords, denial-of-service attacks and other security breaches.

Unplug them.

That clearly isn't a practical solution. In fact, most companies these days are compelled to open their systems to people inside and outside their organizations in order to do business effectively. The evolution of modern business has created increased dependence on network-based assets for everything from e-mail and customer contacts to order fulfillment and billing.

This demand creates a challenging paradox for CIOs and IT administrators. While networks exist for the purpose of sharing information, every open avenue for network access is a potential security gap. Access and security are always at opposite ends of the scale — too much of one weighs against the other. The key to effective network administration is finding and maintaining the right balance between security and access.

The IT department typically places greater emphasis on the security side of the ledger, which is to be expected because data protection involves concepts, techniques and technologies that are not well understood by most members of the organization. Ensuring the protection of sensitive company data and applications is a responsibility that can't be taken lightly.

What's more, network security isn't just an imperative business practice, it's the law. A growing number of federal, state and industry regulations require that organizations take measures to protect data from destruction, loss, unauthorized alteration or other misuse. Failure to do so can result in stiff penalties and costly litigation.

Changing Focus

Over the years, IT has traditionally focused on perimeter-based security, with firewalls, access controls, intrusion detection solutions and other measures designed to create a wall around the network. However, the rapid

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It's a simple fact that if people think network security is keeping them from doing their jobs, they will seek the services and access they need from a less-secure source.

growth of virtualization, cloud computing, mobility and wireless technologies is making it nearly impossible to establish a hard perimeter anymore.

New technologies have fundamentally altered IT's customer base, as well as user expectations of what IT should deliver. An increasingly mobile and outsourced user community means IT must provide network and application access to a dynamic workforce with differing needs and operating from numerous locations. In addition, the proliferation of smartphones, netbooks and hosted applications has made workers less reliant upon their employers for their technology needs. More and more employees are making their own buying decisions about the devices and applications that help them maximize productivity, and they naturally want the IT support that will help them do their jobs.

This trend obviously imposes significant burdens on the IT department. It's hard to manage equipment you don't own, and harder still to secure and support a diverse collection of hardware and software that is literally changing every day. The natural inclination is to lock down the network and prohibit the use of all devices and applications not expressly sanctioned by the organization. However, this is precisely where IT must walk a fine line.

With all security policies and practices, there is naturally going to be some tradeoff between ease of use and safety. However, security measures can be counterproductive if they are too severe. Just as people will prop open a locked door when it meets their needs, users will find ways to circumvent security policies and procedures they perceive as too cumbersome or that prevent them from accessing the network resources they need. Just take a walk around the office and see how many employees keep a copy of their network password hidden underneath their keyboard.

It's a simple fact that if people think network security is keeping them from doing their jobs, they will seek the services and access they need from a less-secure source. They will install their own software, download shareware, buy a laptop connect card or an AirCard, and get on their smartphone or iPad and start doing business.

Cooperative Effort

So how does an organization balance its security imperatives against user access needs in this era of distributed and open networked systems? Certainly, it is vital to have a comprehensive strategy in which a variety of measures — including firewalls, intrusion prevention, VPNs, VLANs, endpoint security, Web application security, and more — are synchronized to create a globally distributed defense. But technology is only part of the answer.

Most important — and more difficult to achieve — is the creation of comprehensive and understandable security policies developed in concert by the folks who run the network and the ones who have to use it. CIOs and IT administrators have to make a conscious effort to meet with their customers, internal and external, to find out what they need to do their jobs.

It isn't easy. In fact, it can be a downright painful process. Users — IT's customers —are usually not very technology-savvy. They know where to click and they know how to use the tools they need for their jobs, but they don't understand what goes on behind the scenes. On the other hand, most network experts never really understand their customers' jobs and what they need to work efficiently. The lack of communication and understanding between the two groups can lead to some hostility.

With two-way communication, IT can understand how network modifications can help customers do their jobs, and users can understand why certain limitations and restrictions are necessary to keep the network secure. Through the use of questionnaires and interviews, CIOs can gain insight into the organization's culture and its ability to meet various security standards and requirements. IT must also share complex security principles in a simple manner. Policies that are overly technical and difficult to understand can actually be a barrier to effective security.

This two-way communication provides a crucial starting point in the development of an effective security policy that provides maximum security with minimum impact on user access and productivity. It isn't a "one-and-done" process, however. Because organizations are constantly changing, security policies must be updated regularly to reflect new business directions, technology upgrades and resource allocations. In the end, even the most comprehensive security policy is ineffective if users won't support or comply with it. That's why keeping IT and users plugged in to each other's needs is the key factor in striking a balance between security and access.

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An influx of technology, devices, and communications infrastructure has expanded our ability to collaborate and stay connected. While the benefits are clear, this brings additional risk and poses a new challenge for security professionals.

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The Collaboration Conundrum

Employees say collaboration makes them more efficient, but they are constrained by outdated corporate policies and the tools they need to collaborate effectively.

Collaboration has become second nature to American consumers. A wide variety of devices, applications and services make it easy for us to keep in touch by voice, video and social networking. Those same technologies can greatly benefit businesses, but many employees complain that they are not being allowed to take advantage of them.

It's not that organizations don't understand the benefits of collaboration — they do. A recent global study conducted by InsightExpress found that 77 percent of IT decision makers surveyed planned to increase their spending on collaboration tools in 2010, identifying videoconferencing, Web conferencing and IP telephony as primary areas of investment. More than half (56 percent) expect their spending on collaboration tools to increase by 10 percent or more. Productivity and efficiency were identified as the primary benefits of increased collaboration.

A substantial majority of end-users (69 percent) regularly use advanced collaboration tools. When asked to identify how collaboration benefits them, 45 percent pointed to improved productivity and efficiency, 40 percent noted that they receive assistance in solving work-related problems, and 31 percent enjoyed accelerated decision making.

Many employees feel that their ability to collaborate is constrained by corporate policies, however. End-users also feel that elements of the corporate culture can inhibit their ability to collaborate successfully: 46 percent feel that all decisions are made by people at the top of their organization, and 39 percent say colleagues are not willing to share information when it does not benefit their own business unit.

E-mail Still Reigns

A recent study conducted by Harris Research found that the most frequently used application for collaborating with others is e-mail (91 percent), but what people want from their e-mail is changing. Respondents like the fact that e-mail provides an easily accessible record of communication and the ability to communicate with many people at once. Users also rank e-mail prominently among various collaboration tools because there is a high level of comfort in using the application to easily communicate with others inside and outside

their organizations. However, the poll showed there are many pain points associated with the way most e-mail solutions function today.

While e-mail remains the preferred method of collaboration, many respondents complained they receive too much irrelevant e-mail (40 percent) and that they lack the ability to collaborate in real time (32 percent). End-users also dislike the fact that they have very limited storage (25 percent) and that large volumes of e-mail come into their inbox with no organizational structure (21 percent).

In addition to e-mail, the Harris poll found that other applications being used by respondents to collaborate with others in the workplace include shared spaces (66 percent), voice calls and teleconferencing (66 percent), Web conferencing (55 percent), videoconferencing (35 percent), instant messaging (34 percent) and social networking (17 percent).

Get the Conversation Started

The InsightExpress study found that slightly more than half (52 percent) of organizations prohibit the use of social media applications or similar collaboration tools at work. However, in some cases workers are taking matters into their own hands: Half admit to accessing prohibited applications once a week, and more than a quarter (27 percent) admit to changing the settings on their devices to gain access. Of the respondents using social networking for work, 59 percent say that their usage has increased over the past year.

The Harris study also found that half of those using social networking for work bypass IT restrictions to do so. The study participants who prefer to use social networks indicated they would like to have control over who sees their content as well as the ability to share with groups of users using different tools. The respondents also indicated the desire to collaborate in real time without having to open up an additional application.

Employees identified a variety of other frustrations with collaboration devices and applications. These include restrictions set by IT managers on the types of collaboration technologies that can be used at the workplace, a lack of integration among the applications, non-compatible formats, and the limited number of collaboration tools at their disposal. Ease of use (58 percent), the ability to communicate anywhere and at any time (45 percent), and features and functionality (37 percent) are the three most desired attributes of a device or application.

These studies highlight how end-users can benefit from increased collaboration, but also identify a need for some organizations to adapt their corporate processes and culture to take successful collaborative working to the next level. As collaboration becomes ubiquitous in the consumer realm, organizations should recognize that employees will do what it takes to gain access to these technologies in order to get the job done.

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Looking Ahead

Cloud computing, collaboration and mobility among the top strategic technologies for 2011.

During a year of increased awareness and adoption, cloud computing has demonstrated it can meet the demand for improved IT efficiency through a virtualized, secure infrastructure solution that is both scalable and reliable. IT analysts and industry experts expect the continued evolution of cloud computing to remain among the most important technology trends in 2011.

Gartner Inc. predicts global sales of cloud services to reach $148.8 billion by the end of 2014, up from $68 billion in 2010. A key to the growing cloud market is the ROI an organization can realize. More and more organizations of all sizes are looking to get out of the business of owning and maintaining their own IT infrastructure.

"The core ideas at the heart of cloud computing — such as pay for use, multi-tenancy and external services — appear to be resonating more strongly," said Ben Pring, research vice president at Gartner. "In part, this can be explained by macroeconomic factors. The financial turbulence of the last 18 months has meant every

organization has been scrutinizing every expenditure. An IT solution that can deliver functionality less expensively and with more agility is hard to ignore against this backdrop."

Other key trends that could define the IT landscape in 2011 include:

High IQ Networks

These networks — comprising ultra-wideband capacity, "super" data centers for the cloud and smart devices for anywhere, personalized applications — will become the springboard for a new decade of innovation. Businesses that have learned to do more with less over the past several years will increasingly harness the power of high IQ networks for the most inventive, efficient and cost-effective platform for success. They will look to private, public and hybrid clouds for new delivery models and move to more industry-specific solutions to get the most for their money.

Mobile Apps and Tablets

Smarter, more portable devices combined with fourth-generation wireless networks, advanced mobile enterprise application platforms and an increased demand for workforce mobility will make mobile business apps more attractive and popular. A thin-client approach, in which applications are stored and delivered from the cloud, is helping to make it more practical to "mobilize" applications for today's on-the-go workforce. More powerful devices, backed by huge libraries of applications and large developer communities, will help businesses capitalize on mobile broadband networks.

The quality of the experience of applications on these devices, which can apply location, motion and other context in their behavior, is leading customers to interact with companies preferentially through mobile devices. This has lead to a race to push out applications as a competitive tool to improve relationships and gain advantage over competitors whose interfaces are purely browser-based.

Video

Video will be among the most engaging business applications to take advantage of higher-capacity wireless networks for face-to-face and face-to-machine interaction. Just as telepresence, high-definition desktop video units and Web-based video have become common in business meetings, video will become an essential tool for workers everywhere. It will be used, for example, by doctors to view X-rays that were taken hundreds of miles away, or manufacturers calling on faraway experts to diagnose challenges on an assembly line. New business models will evolve to monetize digital content and deliver video across multiple screens, a development that is reshaping how we interact with video at work, home and on the go.

Machine to Machine

Beneath the service of all the cool apps we employ to engage with each other, a plethora of machines will continue to run in the background, initiating and responding automatically to the business at hand. Employed in applications as diverse as meter reading for utilities, patient monitoring in healthcare and wireless connectivity for devices in automobiles, machine to machine (M2M) communications will make the world we live in more intuitive and efficient.

Collaboration

As communications channels integrate, businesses are turning to unified communications technologies to make collaboration easier by bringing together a myriad of communication platforms — such as IM, chat, click-to-call, video and VoIP calls — into one central system. With the advent of cloud-based subscription models, smaller businesses will find a way to adopt these technologies to speed their operations. As a younger working population demands "social collaboration," companies need to deliver the business-grade tools to empower employees to be more responsive and engaged with each other and with customers.

IPv6

According to the American Registry for Internet Numbers, fewer than 5.5 percent of IPv4 addresses remain. Organizations need to plan now to ensure that e-mail, Web and business applications will be accessible via both protocols once version 4 runs out. Global network service providers, private industry and the public sector will all need to work together to ensure that Web sites can be reached, and that the Internet supports business as usual during the transition to the next-generation Internet protocol, IPv6.

Next-Generation Analytics

Increasing computer processing power along with improving connectivity are enabling a shift in how businesses support operational decisions. It is becoming possible to run simulations or models to predict the future outcome, rather than to simply provide backward-looking data about past interactions, and to do these predictions in real time to support individual business actions. While this may require significant changes to existing operational and business intelligence infrastructure, the potential exists to unlock significant improvements in business results and other success rates.

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The ***EMPOWER*** *Business Methodology* was developed by SIGMA SOLUTIONS, Inc. specifically to help organizations bring strategic initiatives to market, in the shortest time possible, with the highest degree of impact, and with complete confidence that the targeted successes are realized.

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EMPOWER assures operational excellence. No energy is wasted on any task that does not directly support objectives that are well defined and agreed upon. No technologies are propagated unless they are first measured against today's market conditions. Too often aging and disparate systems linger when their operational impact has been diminished. Without a comprehensive perspective, overall functionality is compromised.

EMPOWER brings a new capacity for management teams to "rethink" their systems implementations as a competitive differentiator, rather than a burdensome expense.

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