OISC Agenda

How to Close the IT Gap
Ohio Information Security Conference 2016

By: Ann Gallaher, COO, Technology First

The Ohio Information Security Conference is a technical conference targeted to business owners, managers, and security professionals who have a vested interest in protecting their company's information and communication systems. The conference is hosted each year by Technology First at Sinclair Community College and will offer four breakout tracks and three keynote presentations.

The Breakfast Keynote this year will be presented by David Kennedy, Founder and CEO of TrustedSec and Binary Defense Systems. His talk, Compromise Analysis — Why We’re Seeing So Many Breaches, will cover: analysis of the most recent data breaches as well as historical data, how a number of the breaches have occurred, common patterns within most data breaches, how to build defensive capabilities to prevent these, and understanding of both offensive and defensive capabilities.

The luncheon keynote speaker will be Richard Staynings, a Principal in Cybersecurity for Cisco. His presentation, Emerging Cybersecurity Threats and Challenges, states that 2016 looks to be another watershed year for cybercrime. Adversaries continue to rapidly refine their attack capabilities, while business and government struggle to keep up. Outnumbered by five to one, what can security professionals do to stem the advancing tide?

As the final wrap-up keynote, Leo Cronin, CSO for Cincinnati Bell, will cover NIST 800-53: A Practical Approach to Benchmarking. His abstract states NIST 800-53 and the NIST Cyber Security Framework have all the bits and pieces we need to benchmark our security program maturity. Leo will discuss a practical way to use this standard and measure progress over the lifecycle of your security program.

This year is the 13th annual Ohio Information Security Conference. Again, it has been organized by local information security professionals to focus on emerging trends and share industry insights. They are certain this event will provide a networking environment to meet and learn from professionals around the state who share similar challenges and requirements. We would like to recognize those committee members contributing to the success of the conference.

Steve Walker ........................................ Premier Health
Deral Heiland ....................................... Rapid7
Leo Cronin ............................................. Cincinnati Bell
Dave Salisbury ............................ University of Dayton
Lisa Heckler, CISSP .............................. CareSource
Michael Natale ................................. Wright State University

Hope to see you there!
<table>
<thead>
<tr>
<th>7:30–8:00</th>
<th>Registration and Breakfast</th>
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| 8:00–9:00 | **BREAKFAST KEYNOTE:**  
*Compromise Analysis — Why We’re Seeing so Many Breaches*  
David Kennedy, TrustedSec  
Charity Auditorium |

| 9:10–10:10 |  
**Two Factor Authentication**  
Skill  
**Incident Response**  
Johnson  
**Risk Matters — So Does Trust**  
Fite  
**Database Security — Your Last Line of Defense**  
Woody |

| 10:10–10:35 | Networking and Exhibition Time |
| 10:35–11:35 |  
**Tool for Making Objective Decisions about Subjective Security Controls**  
Killgallon  
**Cybersecurity Economics — How Much is Enough?**  
Hughes  
**10 Years of Data Breach**  
Ganow  
**You are How You Query: Deriving Behavioral Fingerprints from DNS Traffic**  
Zhang |

| 11:45–1:00 |  
**LUNCH KEYNOTE:**  
*Emerging Cybersecurity Threats and Challenges*  
Richard Staynings, Security Principal  
Director of Global Security Advisory Services, Cisco  
Charity Auditorium  
Presentation from 12:15 to 1:00 pm |

| 1:15–2:15 |  
**What to Do About Human Error in Security**  
Kall  
**It Was the Best of Logs, It was the Worst of Logs**  
Kopchak  
**Preservation Challenges**  
Kelley  
**One Team, Two Team, Red Team, Blue Team**  
Wilkins |

| 2:15–2:45 | Networking and Exhibition Time |
| 2:55–3:55 |  
**Tuning SEIM Analytics**  
Adams  
**Social Engineering a Breach**  
Spurlock  
**Future of Info Sec Governance, Risk, and Compliance**  
Aulakh  
**Frying Fluorescents from Afar**  
Hall |

| 4:10–5:00 |  
**FINAL KEYNOTE:**  
*NIST 800-53 A Practical Approach to Benchmarking*  
Leo Cronin, CSO Cincinnati Bell  
Charity Auditorium |
How to Close the IT Skills Gap

By: Anthony Losacco, Brian Peterson, and Jason Sango, Forsythe Solutions Group

It’s getting harder and harder to find and retain high-quality IT professionals.

The U.S. creates 120,000 new jobs that require a degree in computer science each year. However, the U.S. educational system only produces 49,000 related degrees — creating an annual deficit of 71,000 degrees and a growing number of unfilled IT jobs.

This problem isn’t isolated to the United States. The IT skills gap is impacting organizations around the world — making global competition for top IT talent fierce.

According to a survey by staffing firm Manpower, 36 percent of global employers are having trouble filling their IT positions. The top three reasons why these positions are going unfilled are lack of technical skills, lack of experience and lack of soft skills.

Areas with the widest IT skills gaps include:

• **Information security.** According to a Gartner analysis, the information security market will have a compound annual growth rate of 8.1 percent through 2018. With such rapid growth, it’s difficult to find trained security professionals who understand the changing threat landscape and how to quickly deploy technologies that might make a difference.

• **Data center management and engineering.** Many organizations still own and operate an in-house data center but don’t have the facilities talent required to operate it. Experienced facilities engineers are being hired by competitors before companies can move to the cloud, leaving them exposed.

• **Big data.** The demand for data scientists is growing at a much faster rate than IT training programs can keep up with. Gartner predicted that 4.4 million big data jobs will be created in 2015, but only one third of them will be filled.

Other in-demand IT skills include infrastructure architects, converged infrastructure administrators, cloud service brokers, and IT automation engineers. All areas of IT are impacted.

Five Ways You Can Close Your IT Skills Gap

Stop looking for the IT unicorn and start building your in-house expertise. Instead of focusing on finding people with the perfect set of IT skills, look for employees with attitude, aptitude and intelligence. Here are five steps that will help you close the IT skills gap in your organization:

1. **Focus on Agility Over Education**

   Academia changes slowly and isn’t agile enough to teach the specific skills that today’s IT pros need. The future of IT will be increasingly complex and competitive. Moore’s Law is relentlessly changing much of the nation’s economy and will continue...
to do so. Workers who know how to think critically and communicate highly specific ideas will be in great demand.

Many computer science programs teach old-school programming languages, specific operating platforms and other technologies that are barely relevant in today’s data centers. Most of these programs only scratch the surface of IT security.

It’s more important to look for someone agile than someone with the right degree. Agile employees enjoy learning and can quickly pick up new skills.

At Forsythe, we have developed an Academy program that hires bright college graduates with degrees in fields such as physics, math, engineering, finance and English. We then leverage their learning agility and develop their IT expertise in-house.

2. Ask the Right Questions
During your interviews, look for people who are passionate about technology and learning. To help identify these people, look for passion in the answers to some simple questions such as:

- Are you a gamer? If so, what games? (Gamers love to solve problems.)
- What kind of computer systems do you have at home? (Are they passionate about their own technology?)
- Have you built your own computer systems? (People who build their own systems are curious.)
- Have you ever hacked anything? (Hackers think outside the box and solve problems without complete information.)
- Do you have a home lab? (Agile learners test, experiment and play with technology as a hobby.)
- What tasks have you used technology to automate? (The best talent hates repetitive work and will automate the mundane.)

3. Encourage Play
Google allows employees to spend 20 percent of their work week on special projects that aren’t related to their regular tasks. Giving employees this room for creativity has been the catalyst for many of Google’s products.

You can build a culture of “learning agility” like Google. Encourage your employees to play and experiment. The more they play, the more agile they will become and the quicker they will learn new skills. You can also create teams of people who push and challenge each other to perform at the top of their games. This will weed out the less capable and make your team stronger.

4. Value the New Generation of Agile Learners
IT organizations need both young agile workers and experienced professionals. It’s hard to quantify the value of agile learners, since many of them haven’t been on the job for very long. You can’t compare them with someone who has been doing the job for 30 years, since they likely have different skills and are bringing a different value to your organization. However, don’t discount them, as they will take you to new places.

Also be prepared for people to move from job to job. This new generation of employees will change jobs a lot. Understand that the people you train will move to other companies and if karma works, more talent will come to you.

5. Form Partnerships
Don’t bog down your agile learners with repetitive and mundane tasks unless you also empower them to automate, outsource or eliminate the tasks. Encourage them to find ways to automate or outsource work that doesn’t require agility. Otherwise agile learners will become frustrated and quit — leaving you with an even wider IT skills gap.

You can also form partnerships to quickly acquire new skills such as working with cloud, data center or IT managed service providers. Partnering with others allows you to innovate and take advantage of the latest technologies — without burdening your in house team with extra work that is outside your core competencies.

If You Build it, They Will Come
Don’t wait for the education system to catch up. The quickest way to address the IT skills gap is to stop looking for the unicorn and stop waiting for the educational system to catch up. Instead, leverage a mix of agile learners and seasoned veterans to carry your IT organization into the future. You can cultivate agility by creating a learning-friendly environment, outsourcing your mundane tasks and focusing your resources on areas that give you the highest returns.
Common Problems Experienced When Adopting Agile Development

By: John Freeman, Segue Technologies

There are a number of challenges non-Agile organizations face when attempting to adopt Agile development practices and the Scrum methodology. In this article we will discuss three of the more common ones.

Problem 1: Scrum fails to get traction with the real work of the project, or Scrum is a distraction from the real work of the project.

In order to be effective, a Scrum Master and as many team members as possible must have start-to-finish experience with team projects of enough duration to have had scheduling delays, non-project distractions, and requirements drift, among other things. Six months is usually long enough to have experienced at least some of these issues, but a longer duration has a way of compounding them and challenging the team even more. This experience has a way of making the value and purpose of agile practices vividly clear. It helps to have worked on a number of waterfall life-cycle projects and to have been frustrated by the impedance mismatch between how they were managed and how developers actually work.

Without that experience, at least for the Scrum Master, CSM training will not have sufficient relevance, and the Scrum Master will probably not be able to guide the team through the many day-to-day decisions that will have to be made. Scrum and agile are practice frameworks, and the unique details of each project must be considered carefully. Experience is keenly important here.

This may well be the source of complaints from experienced developers that Scrum and agile are ineffective. If your project involves a team consisting of subject matter experts, product owner, developers, and project manager, then Scrum provides the avenues of collaboration sorely needed for project success, and should be seriously considered for the benefit of the whole team and overall project goals.

Problem 2: Developers accustomed to working autonomously may find that Scrum is unnecessary and slows them down.

There is no question that Scrum adds some overhead to the development process, as compared to a development process with no formal methodology. By design, Scrum is a management tool for agile projects; intended to give management a meaningful view of the health of the project, and the ability to make management decisions about how to proceed. This, unfortunately, entails some amount of overhead. But, arguably, Scrum, done right, provides more realistic information about the project than traditional tools, helps the team self-manage, and incurs less overhead than traditional tools would incur.

Some projects are better suited for a smaller number of developers working autonomously. Personal Kanban might be a more useful project management tool for these projects. However, when you need to scale up to a team of developers and product owner(s), you need to emphasize collaboration among the team members, and Scrum is an excellent solution for that situation.

Whether to use a collaborative approach like Scrum, or a more individual-based approach, should be based on the nature of the project.

Problem 3: Some development efforts don’t easily fit into a time-boxed sprint. Therefore, Scrum doesn’t work for me.

This is a real problem. Several kinds of development resist being meaningfully squeezed into standard size sprints. Here’s a partial list:

- New system architecture
- New complex user interface design
- Database ETL requiring extract, cleanse, transform, stage, and present data

Some of these may take several tries to get something that even works, let alone the best solution. They all have trouble conforming to a sprint-sized effort.

If time-boxed sprints are one of the best ideas of agile, why does it appear that I am suggesting that we need to make exceptions sometimes? The goal of a sprint is to ensure that all of the sprint’s backlog items are completed, tested, and working, and that the sprint delivers its designed functionality, however small, to the end user within the fixed duration allocated to each sprint. Delivering a sprint on time requires good planning, good discipline to stay focused, and good teamwork. One of the problems is with the phrase “to the end user”. If the end user is defined as one of the consumers of the application, there are some development tasks that normally take longer than a single sprint. But wait! There are things you can do to make them work within an agile framework. Let us start with 3 problem areas:

New System Architecture often involves many different hardware components, many existing software applications, and different layers of an organization’s IT and administrative staff. Hardware must be purchased, installed, and made to work. Third-party and in-house applications must be made available for access by the to-be-built application. Security must be implemented according to the organization's current infrastructure. Permissions must be planned and granted for the development team and at least a small SME test team. All of this crosses organizational org-chart boundaries and requires administrative approval. Delays can be caused by hardware not being ordered or not arriving when expected, IT and administrative delays, low support staffing, and many other things not directly under the control of project planners. While virtualization and cloud resources help lessen the burden of setting up the

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BUSINESS (CONT.)

initial operating and development environments, it is easy to see how implementing new system architecture is hard to predict and is dependent on many external factors which do not lend to fitting it into sprints.

Another example is Complex UI Design, which can take many tries to get right, involving both development team and SMEs, and often requires many trials and many errors, involving the creation of a large number of style sheets, mockups, wireframes, graphics, and other design assets. All of this effort does not lend itself to right-sizing for sprints.

Dear to my heart is Database ETL, which often requires many layers of work, including extract, cleanse, one or many data transformations, staging, and finally presentation of the data according to requirements. Presentation is the first time that the end user actually sees the output of this work. Again, a big bite for a single sprint.

Each of these scenarios presents a challenge to fitting into a standard sprint. However, there are several ways that even the largest of tasks can be broken down into sprint-sized chunks:

1. **Loosening the definition of “end user”:** Open the definition of end user to mean something other than a person using the application. The end user could be the next hardware layer (even if no human sees the interface). It could be the business layer interface which is one step away from the presentation layer that the end user sees. It could be the cleaned extracted data ready for transformation, something a real end user never sees. By breaking large tasks down into layers, you can split those layers between sprints for more manageable delivery.

2. **Narrowing the “river” of the sprint:** Instead of delivering the entire environment right away, focus on delivering the pieces of the environment that will be needed earliest in the development cycle: if a server (virtual or otherwise) will be supporting capabilities you will not be developing for several months, provisioning that server can be tackled in a later sprint. Instead of tackling ETL for multiple data sources from disparate organizations, focus on one data source at a time. If a data source is sufficiently large, one sprint might focus on extraction & cleansing, the next sprint on transformation, and a third sprint on loading. For additional database-relevant ideas, see Agile Data Warehousing Project Management by Ralph Hughes (Morgan Kaufmann, 2013).

3. **Using the idea of a special “Sprint 0”:** Sprint 0, which may be shorter or longer than a standard sprint, focuses on all of the tasks necessary to launch a project before any “productive” work can be done. Carefully allowing a sprint to take longer than the normal time-boxed iteration is acceptable as long as it does not become a habit. Allowing some slack when there is inherent uncertainty is a good thing.

Having said that, I want to underscore the value of using the time-boxed sprint: Parkinson’s Law describes the phenomenon that “Work expands so as to fill the time available for its completion.” As a programmer, I remember often working on a very specific solution, and suddenly coming up with a much more flexible generalized solution that would take a bit longer but would be so much more capable. Sometimes the more generalized solution is just not needed. When you are working under a finite time-boxed constraint, you tend to avoid the not strictly necessary embellishments. The discipline of a time constraint can be an amazingly effective productivity tool.

Consider also that breaking larger efforts into smaller time chunks has been proven to be much more likely to succeed. You are less likely to get waylaid, you are more likely to stay focused, and the frequent sanity check keeps you closer to your chosen track. These are among the reasons that agile works.

If you find yourself resisting the adoption of an agile approach, consider whether the issue is primarily a problem with agile itself, or the execution of agile that you are experiencing. Here, I have addressed the top 3 complaints that I hear. Like anything new, agile methods and Scrum will cause their share of growing pains. But the track records of agile and Scrum are good, and these approaches will almost always reward the teams that embrace them.

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From finance to agriculture, many industries are looking to leverage one of the latest technology waves: the Internet of Things. However, as the Internet of Things continues to evolve, computer systems and communications networks are in overdrive trying to keep up with the demand and scale of all the data that is being generated. Add to the mix the explosive growth in software as a service (SaaS) and mobility solutions. And while beneficial to business, all of these technologies put a tremendous strain on both data center and communications infrastructure.

In order to meet these increasing capacity requirements and thus advance your company’s Internet of Things strategy, data center infrastructure must be at the core of your plan. A growing number of organizations are already moving away from traditional on-premises corporate IT facilities and turning to service providers that deliver data center services, such as colocation and cloud computing. In fact, market research firm IDC reports IoT alone will generate the need for 750 percent more data center capacity in service-provider facilities than consumed today.

**What Colocation Delivers**

Security and transparency are among the benefits for companies looking to explore the new territory of data center colocation. With colocation, instead of maintaining computing systems in a private data center, an organization houses them in a data center owned and managed by a colocation provider.

The colocation customer organization retains all control over its systems, but the colocation provider manages the data center security, network connections, power, and cooling. In some cases, the colocation provider offers value-added services to customers, such as a data center infrastructure management (DCIM) system that provides additional layers of visibility and control.

One of the top benefits of colocation is scalability. Additional capacity can be brought on quickly, which is a key requirement for fast-growing IoT deployments. Colocation also allows for lower total cost of ownership, meaning organizations can typically maintain their data center operations for much lower total cost than they could build and operate a private data center.

Multi-tenant data centers are enabling companies to reduce capital investments and only purchase what they require, while providing infrastructure and delivering robust and highly reliable enterprise and carrier-grade telecom solutions.

**The Colocation Advantage**

By tapping colocation, companies can achieve a number of operational improvements, including:

**Agility and time to market.** The colocation model turns the capital expenditures associated with building a data center into operating expenditures associated with “renting” data center space. In other words, customers are not being locked into a sunk capital cost. As a result, organizations can be more agile. They can more quickly scale IT capacity where they need it, and reduce or eliminate IT capacity where there’s no longer a business case for it. These capabilities can position tech firms to take advantage of new market opportunities and implement them quickly.

**Focus.** Companies need to be focused on delivering innovation to customers. And data center infrastructure should be an enabler not an impediment to achieving this goal. Colocation services can relieve organizations from many of the necessary but mundane aspects of IT (such as data center management and monitoring) that are not core to their strategic plan. This will allow IT teams to focus on the company’s strategic mission and vision instead of repetitive tasks such as monitoring and maintenance.

**Availability and security.** In Internet of Things deployments, the large volume of devices connected to the data center can present an availability and security challenge for organizations. Colocation providers have the focus and core competency to provide the uptime level commitments needed for critical support infrastructure. Additionally, their facilities are typically composed of multiple active and failover power and cooling distribution paths and redundant components, which make them more secure.

**Fueling Internet of Things Success**

Any company moving forward with an Internet of Things strategy needs to have their data center infrastructure at the core of their plan. The role of the data center in the industrial internet is as an enabler, fueling the success of organizations in the Internet of Things. After all, the data center is the foundation of the IT stack, so as the IT stack becomes more critical to competitive advantage, so too will the data center.

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The Cost of Inaction: How Aging Technology Can Impact Your Business

Technology is evolving rapidly, and accelerating the aging process of your infrastructure. Advances in areas such as mobility and virtualization are changing the way people work and how they shop for products and services, and your infrastructure must keep pace. There is nothing companies can do to slow change, but you can take advantage of innovation to increase your efficiency and revenue.

Organizations have delayed implementing new infrastructure for multiple reasons. Many companies made significant investments to implement new servers (often following the recession), and planned for hardware to remain in place for 10–15 years. Those initiatives took considerable effort, and companies do not look forward to repeating that expense and organizational challenge.

In addition, some organizations that have aging legacy infrastructure and applications utilize very specific industry platforms. Implementing new technology is not just a matter of installing the new infrastructure, but also about the time and investment to integrate the industry solutions. In other situations, companies are simply comfortable with their current technology and avoid change and risks of disturbing existing processes.

Generally, organizations have a measure of fear, uncertainty and doubt when it comes to new technology. Users become attached to systems and processes, and stakeholders have a lasting memory of challenges involved with moving to new physical servers and transferring data to a different platform in the past. However, with the evolution of virtualization and cloud platforms, new technology is stable and secure, and implementation pains have been significantly reduced.

Unfortunately, time stands still for nobody, and technology will continue to advance as aging infrastructure breaks down with potentially significant consequences. The issues can involve expanding customer expectations, increased maintenance costs or service issues, or potential destructive failures and catastrophic outages. If you struggle with outdated technology platforms, you must evaluate your infrastructure and needs, and consider implementing new technology before there is no choice.

You can, and should, operate your technology as long as it meets business needs and remains stable. However, technology infrastructure is like a car; eventually, it is going to break down. Maintenance costs grow, and it becomes difficult and costly to repair platforms and get them back to an operational state.

Utilizing dated systems can have a significant effect on your organization’s competitiveness. The business landscape has changed, as we have become a very mobile economy and interface with IT systems on a constant basis. In this technologically advanced marketplace, customers now expect an interactive experience. However, if you are on a 10-year-old infrastructure, you may not be able to deliver that experience, and customers will eventually turn to a competitor.

As a society, we are data hungry; we have constant connectivity through smartphones, and organizations must have the ability to transmit data to users and customers. In addition, older systems often do not allow for an agile and mobile workforce that is always connected. These platforms simply are not equipped to handle that level of connectivity and access, so when employees step away from their desks, they lose connection with customers and the opportunity to expand the business.

In addition to lost productivity and business opportunities, older technology also presents a security risk. Older hardware can fail, and software is just as volatile, resulting in potential security flaws and exposed data. If you are vulnerable, someone will take advantage of you.

Organizations understandably think of past technology implementation pain and how much new technology may cost. However, you also must consider how inefficiency and lost productivity could be even more costly. You must find a balance of how well your technology performs as it ages, and what you can sustain until value starts degrading.

To get your technology framework back on track, you need to undergo an assessment of your environment, evaluating what physically operates within your organization and infrastructure, but also your specific business needs. Measure your needs against your existing technology, its current state and how it operates, and where it needs to be in the future. You must take a business-first approach, or you tend to lose sight of the true requirements for technology platforms.

Creating an infrastructure plan without considering the business needs can keep you from running your organization in a profitable manner. The starting point is discussing the business needs and operations with leaders and key stakeholders. Then, determine whether your systems truly align with what you do. Do they fit what you need and bring you the most value? In many cases, technology systems do not align as well as they should. That critical conversation can help to develop an action plan to encourage alignment.

In some cases, companies may jump to upgrade everything, but that may not be necessary. You must know what you really need to optimize your technology investments. There are so many new technologies available to help you increase access and connectivity. In many cases, it’s not hard to find systems and infrastructure that fit your individual business needs, but choosing the right platforms can be a challenge without the right knowledge and experience.

New technology can help you save money, become more efficient and better serve your clients, but you have several options. You can build platforms in-house, outsource technology or design a strategy with a combination of both, depending on what fits. Cost is not as much of a limiting factor as it was in the past, as technology such as the cloud has brought a higher level of performance and scalability at a much more affordable price.

Technology is a key differentiator for your business; providing the experience that your users and customers expect and require is important to drive additional value. However, that process becomes more difficult as the technology cycle accelerates, introducing new features and functionality, but also hastening the aging of current platforms. Leveraging the right resources to assess your technology environment and implement change can mean the difference between technology supporting, or hampering, your organizational success.
The design of a video surveillance security system can be immensely intricate. The list of considerations that need to be taken, regarding a variety of factors, is extensive: how many cameras should be implemented, whether they should be IP, analog, or a mix of both, whether they should be P/T/Z or fixed (and the pros and cons of both), what sort of lenses should be used, the degrees of their angular field of view, integrating analytical software or recording technology—and more. Because of the inherent security risks a business may encounter, comprehending the degree of security needed for a specific video solution is paramount to any organization in need of surveillance.

It can be agreed upon that almost every video surveillance system installation, no matter its size or complexity, aims to fulfill any or all of three main goals:

1. Provide safety and protection for property and personnel by proactively monitoring for security threats or vulnerabilities.
2. Enable users to view areas covered by surveillance remotely to ensure they are out of reach of any potential harm.
3. Yield high-quality video footage for post-incident reporting purposes.

In order to guarantee maximum surveillance coverage of an organization, some may argue the more cameras the better. In some cases, this is true, as the mere presence of a visible camera in an area can act as a deterrent to potential burglaries or attacks, but in many instances, it's not the amount of cameras that necessarily makes a space safer, but rather how they are used and what technological innovations they incorporate.

- Despite the rising prevalence of networked IP/megapixel cameras in modern security systems, cameras that output signals over an analog medium (via coaxial cable) continue to find useful ways to boost a facility’s protection thanks to technical advances such as higher quality digital sensors and video processing.

- Pan/tilt/zoom (P/T/Z) cameras are commonplace, but they only provide a view of a limited area at any given time. Similarly, fixed cameras increase the degree of security within an organization, but so do equipment costs in order to cover every vulnerable area. A novel development and potential solution is the use of virtual P/T/Z cameras, which essentially stitch together image information from multiple wide-angle and/or megapixel cameras using specialized software. This approach allows central station operators the ability to change camera views digitally, without the need to move the physical lens of the camera.

- Video analytics applications have been of interest to many security system designers due to their ability to aid cameras by incorporating intelligent algorithms that detect motion and can differentiate between common false triggers versus real threats. Similarly, thermal cameras are popular for outdoor use as they pinpoint heat signatures, which is beneficial for cameras that may struggle to properly discern images due to extreme sunlight, complete absence of light, reflectance of light, and other stimuli.

Procedures and products for video solutions continue to advance every year so it’s important to stay up-to-date with the technology of system design. However, one aspect of surveillance will not change: cameras are not the only piece of the puzzle. To reach peak coverage, integration of cameras into other security systems and technologies, such as access control and intrusion detection, remains a necessity.
The marquee breaches that have occurred recently (i.e. Anthem, Home Depot, Morgan Stanley, Target, LinkedIn, and Sony) have helped U.S. Fortune 1000 companies understand that data security must be taken seriously. Not only must companies invest in their data security, but they must proactively manage and protect it. Previously, large corporations generally considered hacking attacks and general security breaches as “Force Majeure” events in that they were both unpredictable and unpreventable. Therefore, many of the Fortune 1000 purchased cyber insurance, rather than increasing capital investment in data security technology.

However, with the rising regularity of data breaches and the consequential lawsuits, insurers are no longer covering these events as readily as they did in the recent past, since they are not in the business of making capital investments into their customers’ businesses. This has forced the Fortune 1000 to begin making the necessary capital investments and to begin sharing information about their data breaches, not only with the government, but also with each other. This trend towards proactive management and information sharing will only increase with the White House’s recent proposal of the Cyber Threat Sharing Act of 2015.

As the Fortune 1000 strengthen their collective defenses, this reduces the amount of “low hanging fruit” available to cyber criminals, forcing them to target small and medium sized companies who often have weak defenses. Currently 31% of hacks occur at companies with less than 250 employees. That percentage will increase as criminals shift their focus to what may be perceived as “softer” targets. Only 20% of small/medium companies have formal written information security plans that are barely more than “check the box” plans. Complicating this picture for small and medium sized companies: the plaintiff’s bar, having cut their teeth on earlier data breach class action law suits against the Fortune 1000, are improving their techniques. Future lawsuits may not be dismissed as readily for lack of damages as more and more complaints shift from alleging “data breach” to alleging “identity theft”.

The takeaway is that small and medium sized companies need to better understand the risks associated with the personal information that they collect, use, share, and store, and they have to be proactive in securing it. Start with a privacy impact assessment, put the right policies and technologies in place, train your employees, and have a response plan. You do not want to be low hanging fruit.
Email Etiquette: The Subject Line

You don't get a second chance to make a first impression.

Many blogs and web pages help you craft a quality message. I encourage you to take a look at those from time to time to ensure that best practices are part of your arsenal of business tools.

However, of all those tips, tricks and traps of email etiquette, there is one particular attribute of a quality email that stands above the rest—that is a well-crafted subject line. Below are six points of consideration on how best to help your readers from the very first words they see.

1. Make sure you use a subject line.
Not taking the time to put in a subject immediately deprioritizes the message. If you don't take the time to label your communication appropriately, you should not expect anyone to take the time to look at your communication.

2. Make sure the subject line is meaningful.
Informal phrases such as, "Oh, while I'm thinking about it" or, "BTW…" do not convey meaning to the recipient who is scanning email messages. In a busy enterprise or a busy lifestyle, there are bound to be messages that forever go unread. Useless and meaningless subject lines might result in your message being ignored.

3. Make sure the subject line is accurate.
Particularly when forwarding or replying to emails, make sure the subject line accurately represents the current topic and status in the thread of the conversation. For example, let's say an email with a subject of "Cindy's Divestiture Project" morphs into a discussion about "Asset Reallocation." New persons added to the thread responsible for assets may ignore the email about "Cindy's Divestiture" since they are not on that project.

4. Make the subject line even more useful.
As in project management, many people process countless emails as part of larger processes, workflow, and team coordination. Additionally, people are often working on more than one initiative at the same time. Therefore, putting project names in subject lines as a way to auto-index the context can be very helpful when reviewing messages for follow up. For example, emails with a subject "Project Butterscotch=Asset Review" and "Project Butterscotch=Relocation Timeline" would be useful follow-up email subjects to the original email titled "Project Butterscotch." With this, all messages for the same project are quickly visible when scanning inbox or sent items.

5. Make sure smart phone replies have a subject line.
Many smart phone email apps do not automatically retain a subject line. And, unless you check for a subject in a smart-phone sent message, there is a good chance that message will not have a subject at all. Using your phone for email is no excuse for doing a poor job of communicating. One additional warning about smart phone email apps is to make sure you do not put your entire reply as the subject line. I've seen this done too, and it is just as frustrating for the reader as not having a subject at all.

6. Good subjects promote you above SPAM.
SPAM filters use various algorithms to keep unwanted email from recipient's eyes. With this, good subject lines may or may not get past an automated filter. However, beyond the automated SPAM, a good subject line will allow your readers to see quickly that your message is truly not SPAM. As a result, they are more likely to read the quality content you've crafted for them.

In the end, it is a matter of respect. You show respect for your recipients when you help them predigest a message with a meaningful subject line. Not taking the time to craft a quality message, with a useful subject, could imply a lack of consideration for the recipient.

I thank you for reading and leave you with this: I am a corporate consultant and project manager. I process dozens of emails a day. I am an employee of AfidenceIT, and I am here to help.
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By: Paul Moorman

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