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The 21st Annual APCO – Illinois NENA Conference

The 21st annual APCO – Illinois NENA Conference was held at the Springfield Convention Center October 23 - 26. Intelligent Solutions, Inc. displayed various technology offerings at our booth. The centerpiece was Countryside Police Department's Ford Mustang squad car that has been setup with

voice activated controls known as Project 54 (siren, lights, radar, etc.), Alvarion wireless communication systems that allow access to our CAPERS RMS software and other information.

The Illinois Chapter of the National Emergency Number Association (INENA) is comprised of public safety professionals throughout Illinois. Their mission is to foster the technological advancement, availability, and implementation of the universal emergency number 9-1-1 in the State of Illinois.

The Association of Public-Safety Communications Officials-International, Inc. (APCO) exists to serve the people who manage, operate, maintain, and supply the communications systems used to safeguard the lives and property of citizens everywhere.



Gummi Bears Defeat Fingerprint Sensors

A Japanese cryptographer has demonstrated how fingerprint recognition devices can be fooled using a combination of low cunning, cheap kitchen supplies and a digital camera.

First Tsutomu Matsumoto used gelatine (as found in Gummi Bears and other sweets) and a plastic mould to create a fake finger, which he found fooled fingerprint detectors four times out of five.

Flushed with his success, he took latent fingerprints from a glass, which he enhanced with a cyanoacrylate adhesive (super-glue fumes) and photographed with a digital camera. Using PhotoShop, he improved the contrast of the image and printed the fingerprint onto a transparency sheet.

Matsumoto took a photo-sensitive printed-circuit board (which can be found in many electronic hobby shops) and used the fingerprint transparency to etch the fingerprint into the copper.

From this he made a gelatine finger using the print on the PCB, using the same process as before. Again this fooled fingerprint detectors about 80 per cent of the time.

Fingerprint biometric devices, which attempt to identify people on the basis of their fingerprint, are touted as highly secure and almost impossible to fool but Matsumoto's work calls this comforting notion into question. The equipment he used is neither particularly hi-tech, nor expensive and if Matsumoto can pull off the trick what would corporate espionage boffins be capable of?

Matsumoto tried these attacks against eleven commercially available fingerprint biometric systems, and was able to reliably fool all of them.

"The results are enough to scrap the systems completely, and to send the various fingerprint biometric companies packing," said Schneier in yesterday's edition of his Crypto-Gram newsletter, which first publicised the issue.

Alliance Tackles VOIP Security Threats

As the volume of phone calls carried over IP grows, so does the threat of voice spam. From the perspective of those who hold a stake in voice over IP, however, “social irritations” such as spam are the least of their worries.

According to the VOIP Security Alliance, the greatest threat to VOIP comes in the form of deceptive or fraudulent behaviors, such as unlawful monitoring of calls, DoS (denial-of-service) attacks, false caller ID and eavesdropping. This week, VOIPSA is unveiling a Taxonomy Threat Model as its preferred framework for addressing privacy and security policies surrounding VOIP deployment.

In an initiative reminiscent of the industry’s lobbying campaign leading up to the ineffectual CAN-SPAM Act of 2003, VOIPSA is trying to direct policy-makers’ attention away from the technologies that enable new headaches for users and turn the spotlight on human behavior. The distinction between the human action behind threats to VOIP and their technical means is meant to dissuade policy-makers from imposing technology-related rules that could hinder growth and innovation in the industry.

In addition to the vulnerabilities inherited from data networking, a number of VOIP-specific threats confront calls carried over IP. DoS attacks are easier to launch, in part because attackers have more devices to target, including IP phones, broadband modems, signaling gateways, location servers and other equipment. Furthermore, the wide array of vendors contributing to the VOIP environment makes security more difficult to achieve.

Privacy advocates, who widely rate Congress’ action to reduce e-mail spam as ineffective, argue that more needs to be done to protect consumers.

“What often is missed with social irritants like spam and telemarketing is that they are a product of privacy violations,” said Chris Hoofnagle, director and senior counsel at the Electronic Privacy Information Center, in Washington. “You can try to marginalize spam, but it is inextricably linked to fraudulent practices. Addressing spam will get at the other issues that they claim to be important.”

Hoofnagle cautioned that companies carrying voice traffic do not necessarily have a financial interest in eliminating unwanted calls. “A seller of these systems might benefit from the very things that annoy consumers,” he said.

Lessons learned from the ongoing problem of e-mail spam likely will help the industry reduce the risks to VOIP, said Ray Everett-Church, chief privacy officer and senior consultant at Philadelphia-based ePrivacy Group. “With the current deployment of VOIP systems, you’re not seeing nearly the risk of spam that you saw very quickly with the rise and popularity of e-mail,” Everett-Church said.

Google Bowling: How Competitors Can Sabotage YOU!

Have you heard about the latest “sport” in dirty online business?

It’s called Google Bowling and it represents a gaping flaw in Google’s system that allows your competitors to sabotage your site to the point of getting it banned or penalized.

Here’s the loophole, explained

It all began with Google’s aggressive attempts to curb link popularity manipulation by penalizing sites that purchase site-wide text link ads to get lots of incoming links in a hurry. (eg: If the ad selling site had 1,000 pages, the advertiser’s link would instantly be on 1,000 pages.)

Google began filtering sites that indulged in this kind of linkage and either penalized or flat-out removed the site from its database. Bad news for that business. Excellent news for their competition. Can you guess what’s coming next?

Certain scoundrels began thinking: “If buying site-wide text link ads en masse will get my site into hot water with Google, why not buy them for my competitor’s site instead? Then just sit back and wait for Google to solve my number one business headache... the competition.” (Cue evil laughter sound track.)

A small loophole has turned into a devastating black hole, sucking in and wiping out countless quality websites in the process. And it just may be their competitors sending them into the abyss.

Although this would be a fortuitous time for me to suggest that the solution to this problem is hiring a reputable SEO firm (like www.eTrafficJams.com) to watch over your rankings, I shall resist the temptation. Instead, I’d like to offer Google - as if they’re listening - a simple solution to this nasty problem.

Right now, Google hands out either rewards or harsh penalties for linking strategies - good rankings to reward good linking techniques, and penalties, such as the now-infamous sandbox, to punish un-cool, manipulative linking practices. But there isn’t any middle ground.

- 1) Innocent victims of Google Bowling don’t get hurt.
- 2) If the dubious links actually were perpetrated by the business at the receiving end of them, Google would exclude those links and the site would gain nothing. It would simply be throwing ad money out the window (unless, of course, it was buying site-wide ads in vehicles that generated relevant traffic).
- 3) Google’s reputation for delivering accurate and fair search results would be restored.

Accountant's Corner

INCOME TAX REFORM PROPOSAL

By the end of Tuesday, November 1, 2005, President Bush's tax advisory committee is expected to present a final version of a sweeping reform proposal.

The proposal suggests eliminating the ever-encroaching alternative minimum tax, streamlining tax paperwork for individuals and families, cutting back taxation of investment profits, eliminating deductions for state and local taxes, and putting some crimps into tax breaks for home-owners.

There is even more, but that's enough to indicate how extensive and potentially controversial the proposal is.

If Congress and President Bush approved the whole thing, it would be the most significant overhaul of income tax law since 1986, when Ronald Reagan was president.

But don't hold your breath.

Here is a summary of the most significant changes:

- **Paperwork.** The commission unveiled a new version of Form 1040, the basic document filed by individuals. Its revised version contains 32 lines, down from 75 in the form now in use.

The number of supporting forms, used to report various kinds of income, expenses and other information, would be cut from about 50 to 10. But as the forms disappear, so do some tax breaks.

- **Investment tax breaks.** There are two choices. One would eliminate taxes on all dividends paid by domestic corporations and 75 percent of capital gains from the sale of domestic corporate stock.

The second, sometimes identified as a "progressive consumption tax," would establish a 15 percent tax rate on all interest, dividends and capital gains.

There are many more details in each proposal. Either way, the winners would be those with significant investments in taxable accounts.

- **State and local taxes.** The commission would eliminate deductions for these taxes. States with high income tax rates are automatically against it. The same goes for those states, including Texas, that depend more heavily on sales taxes and only recently won the right to deduct them from taxable federal income.

- **Homeowners.** The home mortgage interest deduction would be eliminated and replaced with a credit worth 15 percent of interest paid during the year. The credit could be claimed only on mortgages up to a certain size, usually \$300,000 or less. The credit would not apply to mortgages on second homes or on home equity loans.

Those provisions, like many others, were presented as an effort to target the breaks to low- and moderate-income households.

- **The rest of it.** The committee also suggested big changes in tax rates, standard deductions and other deductions, and tax-favored savings accounts, including individual retirement accounts, 401(k)s and flexible spending accounts.

What does it all mean? Only our elected leaders can tell us, and they won't start slicing and dicing until sometime next year.

Europe Inflight Mobile Framework Expected in Feb

LONDON (Reuters)—OnAir, a European firm backed by planemaker Airbus that aims to introduce in-flight mobile phone service in 2006, said it expected a key framework agreement on coordinating telecoms regulations by February.

"Before passengers can use their mobile telephone on board an aircraft, there must be an acceptable agreed legal basis to do so," OnAir said in a news release on Tuesday.

"OnAir now expects the compatibility study for Europe to be finalized around February 2006."

OnAir has estimated a potential market of more than 700 million users by 2009 for the technology, which would allow passengers to use mobiles, laptops and PDAs on planes and pay through their own phone company or Internet service provider.

The firm wants a framework agreement to ensure that only one license will be required for planes flying across Europe and has been working within the Conference Europeenne des Postes et Telecommunications (CEPT) on this. The Electronic Communications Committee (ECC) coordinates CEPT's telecoms activities.

"The ECC has decided to include several technical parameters into the framework," OnAir said in explaining the time still required to finalize the agreement.

Airbus, Swiss-based SITA Inc. and U.S. firm Tenzing Communications Inc. announced plans to form OnAir in July.

The system it is working on would route mobile phone calls via a small onboard base station, or "picocell", and use the Globalstar satellite communications network to reach terrestrial telephone networks.

Test results announced in September showed the system did not interfere with aviation electronics.

Regulatory approval will also require safeguards to ensure that phones being used on planes do not interfere with terrestrial networks.

Internet TV Provokes Changes in Telecom Laws

The regulatory structure for the cable TV industry is being toppled by new technologies, such as Internet Protocol TV, industry watchers warn, and a new regulatory regime needs to evolve, and quickly, to deal with the changes.

A panel of the Judiciary Committee of the U.S. Senate on Wednesday heard testimony from SBC Communications Inc. and Verizon Communications Inc., two major phone companies that plan to deliver TV, and Internet access, via an IP network.

At this point, the companies don't face the same regulatory requirements as cable companies, such as building systems throughout a serviced community or the payment of franchise fees to an array of local government agencies.

The rule creates a single, statewide franchise fee for companies entering the cable TV business, and does not require mandatory "build-outs" of the technology companies. However, state associations in the cable industry are challenging the legislation.

"The entry of SBC, Verizon and others into the cable television marketplace is great news for consumers and more evidence that competition is reaching every corner of the telecommunications business," said Joseph Bast, president of the Heartland Institute Inc., a libertarian-leaning think tank based in Chicago.

"Regulations designed to regulate monopolists ought not to be used to slow down or prevent the entry of these new competitors."

Bast told Ziff Davis Internet that technology innovations that have emerged during the last decade have essentially made most telecom regulations obsolete.

"The last thing we should do is impose these regulations on new

entrants in the marketplace," Bast said, adding that to do so would be "counterproductive."

Jim Harper, director of information policy studies at the Washington-based Cato Institute, said the very reason for regulation of telecom regulation may have disappeared with the debut of these new innovations.

"Cable companies may seek to slow competition from these IP video providers by bringing them under the old cable mandates," Harper said. "But the right answer is to reduce regulation across the board and let competition find what best serves consumers."

"SBC and Verizon are acting like IPTV is a brand new technology that they are implementing and bringing to consumers," said a spokesperson for the Cable & Telecommunications Association for Marketing, based in Chicago.

"The reality is that consumers have already been experiencing IPTV from cable companies. Cable has long used Internet Protocol for signal transmission, and they've invested \$100 billion in their infrastructure to make it happen."

But the cable industry will face stiff opposition from the telcos.

According to John Logan, a former senior official at the Federal Communications Commission, now a lawyer in private practice in Washington, the telecom companies are probably going to win the battle to reshape the rules for new video delivery services.

"Telcos will probably win any legislative and regulatory battles, because of their influence in Congress," Logan told Ziff Davis Internet.

The question is, he said, once they have the rules in place to remake



the television delivery market, what will be the future costs?

"The bigger question is can they afford to deliver on these networks," Logan said. "Fiber-to-the-home could cost telcos \$1 billion to \$2 billion. There are a number of wireless technologies that are faster and less expensive to deploy."

Logan called the wireless technologies a form of "inexpensive broadband."

But analysts, including Mitch Mitchell, chief IPTV analyst at A.T. Kearney Inc., suggest that IPTV is a critical component of the Baby Bell companies' future positioning in the marketplace. The Bells will offer personalized content choices, and offer more diversified content via IPTV.

That will then enable the telcos to market integrated voice, data and video services to the same customers, he said.

Meanwhile, the cable companies have argued before Capitol Hill—and also down in Texas before state legislators—that it is unfair for phone companies not to be regulated in the same way as cable firms. They say that all that they want is a "level playing field."