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Supporting Enterprise Networks and Operating Environments

SUPPORT

SUMMER 2012

VOLUME 4, NUMBER 2

Consider This: Strategic Technology Support Boosts Productivity

By Ted Werth

Sizing up Your Cloud Connection

By Dean Niedelman, ASi Networks

Thwarting the Cleverest Attackers

By Larry Hardesty, MIT News Office



Message from the President

FCC Chair Renews Support for Usage-Based Internet Pricing

Well, here is another reason why you need your NaSPA Membership. If large companies in this country have their way, your Internet service will become like cable TV rather than a free and open pathway to innovation. Signs are already appearing that foretell an Internet in the USA increasingly dominated by large special interests rather than users like you. The latest salvo comes from an unlikely source, the very federal agency created to regulate those special interests.

On May 22, 2012, the Chairman of the Federal Communications Commission (FCC) Julius Genachowski came out (again) in favor of **usage-based Internet pricing**. Predictably, his comments drew sharp criticism from public interest groups but high praise from groups like AT&T and Comcast.

Speaking at the National Cable and Telecommunications Association's Cable Show 2012 in Boston, the Chairman said usage-based pricing would "help drive efficiency in the networks" and could be "healthy and beneficial" for the cable, telecommunications, and high-tech industries. This is not the first time that the chairman has endorsed data caps or usage-based pricing. In 2010, Genachowski noted that the agency's work has "demonstrated the importance of business innovation to promote network investment and efficient use of networks, including measures to match price to cost such as usage-based pricing."

Companies like AT&T of course came out strongly in favor.

"FCC Chairman Genachowski made an important statement today in support of usage-based pricing," Jim Cicconi, AT&T's senior executive vice president of external and legislative affairs, wrote in a blog post May 22. *"This isn't the first time the chairman has recognized the need for flexibility in broadband pricing, but his words today come at a time when one company has been pushing the FCC to impose a particular pricing model on internet service providers. Under that company's proposal, the costs of providing their service would be borne by all consumers, not just those who choose to use their service. This would be fundamentally unfair, and that's why Genachowski's pushback is significant."*

AT&T was referring to Netflix, which has 24.4 million subscribers, including 21.7 million which use the Netflix streaming program service.

So who is looking out for us if the nation's foremost telecom regulatory agency is aligned conceptually with AT&T and Comcast? We recommend that you become acquainted with some of the consumer groups out there, such as Free Press or web sites like stopthecap.com. You can also depend on NaSPA.

NaSPA continues to advocate for a free and open Internet. The acquisition of Login International was the first step in this process. It's going to take money, however, for our members to truly have a voice in Washington as to how the Internet evolves. Not a lot of money, but money nonetheless. Please tell your friends and co-workers about NaSPA or forward this publication to them. Advertise on the NaSPA web site or in this magazine. [Renew](#) your own membership in NaSPA right now. Help NaSPA preserve a free and open Internet. *Help us help you.*

Best regards,

Leo A. Wrobel

Editor in Chief Technical Support Magazine

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Published exclusively for NaSPA, Inc.
Network and Systems Professionals Association

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FEATURES

4 Consider This: Strategic Technology Support Boosts Productivity*By Ted Werth*

ARTICLES

7 Sizing up Your Cloud Connection*By Dean Nedelman, ASi Networks***9 Serve UP Satisfaction: 10 Tips for Effectively Handling Customer Complaints***By Ron Kaufman***16 Thwarting the Cleverest Attackers***By Larry Hardesty, MIT News Office***17 A Satire by Leo A. Wrobel – But With a Valid Point***By Leo A. Wrobel*

DEPARTMENTS

2 President's Letter**21 NaSPA Services Directory**

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Consider This: Strategic Technology Support Boosts Productivity

By Ted Werth

Network, service, cloud, device and application disruptions can stop productivity in its tracks. Interruptions come in many forms, such as a specialty app issue that strands sales reps without the tools they need when they're sitting in front of a prospect, or a network outage that leaves executives without access to the information they depend on to make important business decisions.

Technology outages also consume IT time, putting employees in the role of fighting fires rather than focusing on more strategic or top-line initiatives. Who has time to think about network upgrades or develop a long-term capacity plan when the management team can't access company email?

To minimize fire-fighting, ensure robust support, extend organizational capabilities and improve business continuity while containing costs, it makes sense to consider a managed technology services partner capable of fully handling IT support functions that are not core to your operations. Here is a list of key considerations that can be addressed by leveraging the right managed technology services provider:

Keep Field Teams Productive

Businesses of all sizes have expanded their horizons with new technology, gaining a competitive advantage by turning tablets and smartphones into portable business centers they can use anywhere. However, in many cases, the technology support needed to keep mobile capabilities operating 24x7 hasn't caught up with the new assets.

For example, there are numerous specialty apps that require IT support and centralized handheld device management, such as learning management systems, customer relationship management apps and sales pipeline management tools. These rapidly evolving requirements can take a toll on already stretched IT staff who are also tasked with managing infrastructure

issues, evaluating emerging trends and implementing technology strategies to provide a competitive edge.

Protect Vital Business Data and Ensure Quick Recovery from Incidents

As all technology professionals know, robust backup services and a sound disaster recovery strategy are essential – for startups and global corporations alike. Many smaller companies treat disaster recovery and backup services as luxuries, but they may be most at risk: *The majority of smaller companies that lose important data go out of business within two years.*

Offsite and cloud-based data backup can help your company retain important data in the event of a data loss, as well as assist with regulatory compliance. A comprehensive review can confirm that your IT employees are ready to handle a major disaster from any source, including hackers, technology failures, weather, fire or user errors. A thorough assessment provides company management with the assurance that business activities can continue no matter what challenges arise. It can also serve as a competitive advantage since customers can be assured that the services they depend on will continue and their vital data will be protected.

Focus on Strategic Planning

It's important to demonstrate IT ROI by expanding business capabilities and delivering more than basic IT and helpdesk support. However, strategic planning can be a challenge when you're caught up in daily tactical activities like providing services that keep important technology assets available and allow the business team to serve customers better.

Remote technology support capabilities can free in-house IT professionals to concentrate on strategic initiatives. This in turn can underscore the value IT delivers.

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Take a Proactive Stance on Maintenance

Proactive maintenance is another vital IT function; it can help your IT team stand out by addressing issues before they become problems. It also allows you to provide seamless access to the technology solutions the business needs to operate efficiently.

Maintenance tasks, however, are often a distraction from strategic planning and initiatives. Proactive, remote maintenance can ensure access to vital assets continues while in-house IT staff focus on expanding capabilities.

Get the Right Solution for the Right Price

Managed technology support can be the answer as you consider ways to improve productivity and deliver IT ROI. “Cost is a hurdle,” you might think in response to this suggestion. But that doesn’t have to be the case. Partnering with an experienced managed technology services provider with customized IT support and management solutions can be more affordable than you think, particularly when you factor in the cost of opportunities lost when you can’t immediately address technical problems and keep mission-critical assets available or up-to-date. The return on investment for technology support generally makes this option more cost effective than hiring a single IT professional, and it frees time to enable in-house staff to focus on strategic tasks.

The monthly per-computer cost is generally between \$20-\$40; the starting price of server support is \$299 for each server supported. The right partner can put your focus back on the big picture while ensuring you have the scalable, expert resources necessary to promptly address outages, get technology assets up and running again, and handle basic maintenance and upgrades.

A managed technology services provider can help you deliver IT support across your organization, providing 24x7 access to solutions that can increase productivity, improve efficiency with mobile asset management, ensure access to important business data, deliver enhanced business continuity capabilities and elevate customer satisfaction – all at an affordable price. And since up to 95% of technical issues can be resolved promptly by an experienced managed technology services partner, your IT organization can demonstrate measurable value while focusing your efforts on technology planning or strategy projects instead of routine support activities.

Final Recommendations

When you’re considering additional technical resources to support your company’s growth and refocus your team on productivity and strategy, take a look at managed technology services companies that specialize in the type of support your company need. Assess prospective partners’ industry experience and longevity. Ensure that you form a partnership with a company that will provide references so that you can be certain they will deliver the service required when you need it. And think about customer service access to deliver the best possible experience to your end-users.

When you choose the right managed technology services partner, you can successfully extend your organization’s IT capabilities and ensure that your company and team have the bandwidth to stay focused on growing the business.

Ted Werth is Founder, Chairman and Chief Strategy and Products Officer of PlumChoice, the company creating customer satisfaction through technology care solutions and a pioneer in the remote technical services sector. PlumChoice provides 24x7 online repair and assistance and managed technical support to SMBs and consumers directly and through telecommunications, cable company, consumer electronics, warranty, hardware, software and retail partnerships. Learn more at www.plumchoice.com.



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Sizing up Your Cloud Connection

By Dean Nedelman, ASi Networks

We've been down this road before. Ten years ago we were told that application service providers (ASPs) were going to revolutionize the way we used the Internet – and it never happened. Five years ago we were told that utility computing was going to revolutionize the way we used the Internet – and it never happened. Now, we are being told that cloud computing is going to revolutionize the way we use the Internet. So why should this revolution be different from all other revolutions?

Mostly likely because three technological improvements have converged to make cloud computing a reality: better applications, more reliable Internet networks, and cheaper network bandwidth. All three of these components needed to happen to allow us to even consider cloud computing. With the consolidation of the backbone providers, we have reduced latency and dropped packet issues that used to plague the Internet in the early days. With the use of JavaScript, AJAX, and HTML 5, we were able to develop cloud based applications that look (and act) like desktop applications. These bandwidth heavy applications only succeeded because network bandwidth has become cheaper for larger quantities.

Ten years ago we were still using dial-up and DSL for home computers and most companies either had a fractional T1 or a single T1 line to the Internet. Five years ago T1 Internet connections were going for around \$800/month and companies might have two connections. Nowadays companies can get 20Mbit and 30Mbit/sec connections for around \$1,200/month. These large, inexpensive connections allow companies to consider moving critical operations to the cloud – something that would not have been possible ten or even five years ago.

As companies increase their usage of cloud based applications and systems, they are finding the need to better control their network usage. They are realizing that Internet usage that may have previously been allowed (or at least implicitly overlooked) because it was not viewed as being harmful to a company now

has to be addressed and its impact mitigated in order to allow for the successful use of cloud based applications.

Existing Internet connections are typically sized for inbound requirements instead of outbound needs. And this makes sense – a small outbound request of 80 bytes to a web server can easily return a ½ to 1 Megabyte webpage (when all the graphics are included), or a multi megabyte file. These outbound requests were, from a network perspective, infrequent.

Today's cloud based services not only require a larger inbound pipe to accommodate the increased load from data that is now being stored/accessed in the cloud – but also a larger outbound pipe as well. Not only are documents being downloaded to view, but they are being edited and then uploaded back into the cloud.

All of this increased cloud traffic requires changing the paradigm that IT uses to manage the Internet traffic. Internet traffic is no longer a luxury and a perk. Internet traffic is no longer a marketing/advertising tool. Internet traffic is now a critical piece of your network infrastructure – if the Internet is inaccessible, the entire company may be down. With the Internet traffic being so critical to a company, we need to change the process and procedures we use to monitor its health and manage its growth.

There was a time when we managed our Internet connection at layer 4 – what ports would we allow in and/or out? Firewalls were good for controlling access to our network, and we would either block certain ports outbound to block certain services and applications, or use a proxy server to provide a similar level of control. Life was good, management was easy, and every year we simply showed our usage charts to justify the need for a bigger pipe.

But then two things started to happen to make managing the bandwidth harder – standalone applications started to aggressively try to get around the network administrator, and web based applications became more

of a reality. Instant messaging applications lead the charge to try and get around the network administrator by trying multiple IP addresses, multiple IP ports, and when all else failed – pretend to be HTTP web traffic. And then we have the problem of web based applications – which really ARE HTTP web traffic.

So now we have increased needs from cloud based applications and decreased ability to manage the network bandwidth. We can no longer block outbound traffic by IP address and/or port – we can no longer manage our network at OSI protocol levels 3 and 4. We now have to look INSIDE the application traffic and what is or is not allowed traffic. We may have to do this differently for different groups since marketing may need access to Facebook but we want Facebook blocked for everybody else in the organization.

Now that we know that we have to manage our networks from the application layer and inspect the application traffic, the question becomes – how? One answer is to combine two different technologies – deep packet inspection for application classification and flow based reporting such as NetFlow, sFlow, J-Flow, etc. Most firewall and router manufacturers offer some sort of deep packet inspection and flow based reporting, with Cisco using Network Based Application Reporting (NBAR) for deep packet inspection and Flexible NetFlow for flow based reporting.

Cisco's NBAR solution performs deep packet inspection to identify the protocol and application. It can tell the difference between SIP and Skype – one which you may want because you are using cloud based telephony, one which you want to block. It allows you to control traffic based on the underlying application rather than what port the application is using. At the end of the day NBAR allows companies to properly identify and classify traffic because if you can't identify the traffic, you can't block, report, prioritize, or differentiate between company critical traffic and the release of the latest Twilight movie.

Now that you have the ability to identify the traffic, you can setup QoS rules on your firewall or router to block such programs or limit them to those [rare] occasions when the company has “extra” bandwidth. Some companies also have time-based access, where these systems are allowed during lunch and after hours, but blocked during normal work hours. These time-based settings can also be done via your firewall or router.

NetFlow and its brethren report on the network communications between systems without reporting or copying the actual contents of the transmissions. This

allows the reporting to be very small and concise without requiring a lot of overhead to parse or bandwidth to transmit. NetFlow reporting systems allow network administrators to drill in and see all the communication that was happening at a given time and determine how the Internet bandwidth is being used and by whom. This is very helpful when an executive comes in and says those famous words: *Why was the Internet slow this morning?* NetFlow allows network administrators to answer that question.

When combined with NBAR or similar technology, Flexible NetFlow allows network administrators to properly monitor and report on traffic on a per-web application basis instead of just by protocol. So you will be able to report on not only “web” traffic, but how much of it is going to places like Pandora or YouTube. Cisco users should be careful to make sure that their NetFlow application properly supports Flexible NetFlow and allows you to be able to inspect the actual flows. While it is nice to know that 10% of your bandwidth is going towards playing the latest web based action adventure game, it is more helpful to know who was using the bandwidth so that he/she can be thanked – personally.

So what traffic should be blocked in order to use cloud based services? The answer is of course going to vary by company. Facebook and twitter seem obvious candidates – until you talk to the marketing department and find out that is what they are using to help your company appear socially connected. Instant messaging? Better talk to your purchasing department – they may be using it to communicate with suppliers. The point is that you need to find out what your company is using, what your company needs to be using, and then tailor your network to eliminate as much of this bandwidth consuming traffic as you can.

One last word of advice: It is often easier in an organization to discuss why something should be allowed instead of why something should be removed. Work on the presumption that no traffic should be allowed and that each exception should be documented and approved. That will help save your bandwidth to only appropriate usage and make your cloud initiative a success.

Dean Nedelman is Director of Professional Services at [ASi Networks](#), a network and voice services firm in City of Industry, Calif.



Is Now



Serve UP Satisfaction: 10 Tips for Effectively Handling Customer Complaints

By Ron Kaufman

As the Spirit Airlines case has recently shown, sticking to your guns is rarely the best way to handle customer complaints. Here's how to handle complaints so that your unhappy customers become customers for life.

Spirit Airlines recently flew into a big public relations disaster. Sticking to a no-refunds policy, the airline refused to refund the airfare of a passenger who had to cancel his trip after finding out he has terminal cancer. The incident unearthed earlier cases of Spirit's difficulty handling customer complaints. A couple of years ago, CEO Ben Baldanza hit "Reply All" on an email from two customers who had missed a concert due to a delayed flight. Essentially, he told his employees and (accidentally) the customers themselves that Spirit Airlines didn't owe the customers anything and the customers would be back the next time they wanted low airfare.

These examples are proof of just how tricky it can be to properly navigate customer complaints.

Spirit Airlines has a policy and they're sticking to it. That seems to be how the company chooses to handle customer complaints. Unfortunately, as we've seen, that approach might not be what's best for business. When any company receives a complaint, it essentially has two choices. One, treat the complaining customer like he's a pain in the neck. Or two, appreciate each complaining customer and use the complaint as an opportunity to improve.

One complaining customer actually represents many other customers who had the same problem, but didn't complain. Because that's true, you should try to uplift them every time.

For every person who actually comes to complain to you, there is a quantum number who won't come to you. They're the ones who go off and tell somebody else, complain about you online, and take their business

elsewhere. Let's say 1 out of 100 of your customers actually comes to you with their complaint. Shouldn't you really value that person times 100? Because they're representing all the other people who never came to you, you should be happy—or if not happy, at least very, very appreciative—when someone actually takes the time to give you a second chance.

Read on for my advice on how to use customer complaints to uplift your service.

1. Thank them for their complaint.

Give positive recognition by saying, right off the bat, "Thank you for reaching out." Show appreciation for the complaining customer's time, effort, communication, feedback, and suggestions. Always keep in mind that the customer didn't have to come to you at all. He could have simply taken his business to your competitor. When a customer gives you the opportunity to recover their service, be grateful.

2. Don't be defensive.

It's easy to get defensive when an angry customer is on the other end of the line. Customers with complaints exaggerate situations, they get confused, and yes, they may even lie about how things went down. It's tempting, as the Spirit Airlines CEO did in his "Reply All" email, to just blow off the customer. You want to say, "No! That's not what happened. You're wrong!" But getting defensive will lead only to more problems. When you get defensive, you raise the temperature even higher. Think about the last time that you had a disagreement with your spouse. How did it make you feel when he or she told you that you were wrong about something or completely denied that a set of events happened the way you said they happened? You probably weren't very happy. When a customer complains, they're doing so because they feel wronged in some way. You don't have to agree with what they're saying but you do have

Mayan Calendar, Hell!

Will 2012 Mark the End of the *Internet* as We Know it?



Some people speak of the end of the world this year, at least those who believe in the Mayan Calendar. Assuming the world survives however, 2012 could go down as the year the *Internet ends* as we know it.

When we use the Internet we assume we can access any feature we like without restriction, whether it is browsing, listening to music, research, e-mailing or gaming or work. This is all changing because special interests are making all the decisions, not you. *Network Neutrality* is a principle that preserves a free and open Internet. Net Neutrality means Internet providers may not discriminate or provide inferior service to people who don't use THEIR services. Imagine what the Internet would be like if your phone or cable company made all the price and content decisions for best idea what is truly at stake. [NaSPA is doing something about this issue through acquisition of another not-for-profit company called Login International.](#)

Login International was founded to assure concerns from Internet users from *all* walks of life are voiced at Federal and State Policy levels. Now NaSPA members will have the same voice in the evolution of the Internet. Watch or more about this exciting development over the coming months! Better still, [JOIN NaSPA](#) now. For a limited time NaSPA membership includes free membership in Login International, but hurry, not for long.



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to agree to hear them out. That's how you keep the conversation moving in a positive direction.

3. Acknowledge what's important to them.

Service providers must find a complaining customer's value dimension (or what's important to them). Even if you think the customer's complaint is unfair, there is something they value that your company didn't deliver on. Embrace that value. What the customer wants is to feel right. When you agree with their value dimension, you're telling them they are right to value this specific thing. For example, if a customer says your service was slow, then that customer values speed. You might say, "Absolutely, you deserve quick, efficient service." Or if a customer says your staff was rude, you might say, "We do agree that you should be treated with courtesy and respect every time you come to our store." In Spirit Airlines' case, the man was complaining about its no-refund policy. The company might have responded by saying, "We understand that flexibility in appropriate circumstances is the right thing to do." When you validate what your customer values you aren't agreeing with them that your service is slow or that your staff is rude. You're saying, "We agree with you on what you find important and what you value. And we want to deliver in those areas."

4. Use judo, not boxing.

In boxing, you go right after your opponent, trying to punch him to the ground. In judo, you work with someone else's motions to create a desired result. You use another person's speed and energy to spin him around and then end up together on the same side. When you show a customer that you understand what they value, you're catching them off guard with your own movement. They don't expect you to tell them that they're right. Suddenly, just as you might do in judo, you've avoided a defensive confrontation and you can spin them. In judo, you'd spin them to the ground. In customer service, you use the opportunity to show the customer that you're now both on the same side and you can work together.

5. Apologize once, up front.

Every service provider knows that the customer is not always right. But the customer is always the customer. You don't have to tell the customer you were wrong, but you should apologize for the inconvenience they've experienced. When you do so, you're showing understanding and empathy for their discomfort, displeasure, or inconvenience.

6. Explain the company's desire to improve.

When you understand what the customer values, show them things your company does that helps you perform well in that area. For example, let's say a customer is complaining because a package was delivered a day late. You would say, "We understand that quick, on-time delivery is important to our customers."

Now the unhappy customer will probably say, "But you failed in my case! My package was a day late." Then, you should calmly say, "Here's what happened.

On that day there was a snowstorm that slowed our service. I'd like to reassure you that we are working right now to find a better solution. In fact, we've recently invested \$1.7 million in a fleet upgrade that will allow us to better navigate inclement weather and keep our deliveries coming to you on time." Show you are sincere about your commitment to do well in

the areas the customer values. At the very least, you can say, "I'm going to make sure everyone in the company hears your story. We don't want this to happen again." When you express the company's desire to improve, you start on the path to rebuilding its credibility with the customer.

7. Educate your customer.

Part of hearing the customer out is answering any questions they ask about their specific situation. Provide additional, useful information. If they ask a question that you can't answer or don't know the answer to, tell them you'll find out the answer and get back to them. Then actually follow through. Contact the customer with the answers they requested. Even if they might not have requested an update about their situation, get back in touch with them with one any-

When you show a customer that you understand what they value, you're catching them off guard with your own movement.

way. These are additional opportunities for you to say through your actions, “We care about you. We value your business.”

8. Contain the problem.

Let’s say a family is at a crowded theme park on a hot day. The youngest child in the group starts to have an all-out meltdown. Suddenly, a theme park staff member sweeps onto the scene and whisks the family into a special room. Inside, they find an air conditioned room with water and other beverages, an ice cream machine, a bathroom, a comfortable sitting area, etc. The only thing missing in the room is any connection to the theme park’s brand. That’s because this room is used to isolate customers from the brand until they’re all—parents and children—having a more pleasurable experience. The room is also being used to isolate the unhappy family from the families outside the room who are enjoying their day at the theme park. And finally, they’re being isolated from some park staff who may not be as well-prepared as the staff member who brought the family to the room to handle these sticky situations. That’s how you contain a problem. The Spirit Airlines situation is completely different, but they still had an opportunity to contain the problem before it became a national public relations disaster. They could have done so by having a service provider educated in uplifting service responding to the customer’s complaint. They might have said, “No matter what our rules or policies are, we see that your circumstance requires flexibility. We want to handle your special situation carefully. Let’s work together to figure out what’s best. But first, let me thank you for reaching out.” Had they said this, they would have been working together with their customer to solve the problem. Instead, he didn’t feel like he was going to get help from the airline so he took his complaint elsewhere.

9. Recover.

Show the customer you care about them, even if you feel the company did everything right, by making them an offer. Companies worry that they’ll get taken advantage of if they give vouchers, discounts, or freebies as part of their service recovery, but the reality is that almost never happens. Offer the customer something and then explain that you’re doing so ‘as a gesture of goodwill’ or ‘as a token of our appreciation.’ Sears takes recovery seriously. The company now has a ‘blue

ribbon team’ of specially educated and empowered staff to handle recoveries. Once an issue goes to them, anything they recommend is what gets done. They have full support from the top down. Sears does this because the company understands that a successfully recovered customer can become your most loyal advocate and ally.

10. Give serial complainers an out.

Some people just love to complain. These kinds of customers complain, not so that they can *become* satisfied, but because they are never satisfied. With serial complainers, you must limit your liability and isolate them from your brand. One leading luxury airline had a serial complainer who loved caviar. He loved it so much that on every flight he’d eat all of the caviar the flight crew had to offer and then he’d complain that they didn’t have enough. As a test, the airline even stocked extra caviar on one of his flights. He ate it all again, and complained...again. His constant complaints led the airline to send him a letter. Essentially it read, “Thank you for traveling with us for so many years. It appears that despite our best efforts we haven’t been able to satisfy you. Out of our concern for your happiness we’ve provided you here with the contact infor-



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mation for three other airlines that serve your route of travel. However, should you choose to travel with us again, and enjoy the high level of service we are able to provide, we will be delighted to welcome you on board with us again.” With the letter, they gave the complaint-prone passenger an out. On the rare occasions when you deal with someone who complains all the time, that’s the best thing to do. Your customers are not your enemy. It’s sometimes hard to remember that when you’re involved in a tense complaint situation. But they’re essential to your business and you really are both on the same side. Your customer wants the product or service you provide, and you want to give it to them. When you treat complaints as opportunities to build loyalty, you can create customers for life and uplift your entire company in the process.

Say What? Five Quick Scripts for Responding to Customer Complaints

The last thing a customer with a complaint wants to hear you say is: “*You’re wrong.*” What they want to hear is that you understand them, appreciate them, and agree with them on the *importance of the value* they have cited in their complaint.

Here are a few quick scripts to use when responding to customer complaints:

➤ **Customer Complaint: Rude Service**

Your customer says: “*Your staff was rude and totally unprofessional.*”

You say: “*You are right to expect courteous, respectful, and professional staff.*”

➤ **Customer Complaint: Too Many Rules**

Your customer says: “*Your policies are rigid. Your company is so bureaucratic.*”

You say: “*I agree that we should be as flexible and user-friendly as possible. Your suggestions can really help.*”

➤ **Customer Complaint: Overpriced**

Your customer says: “*This product isn’t anything like what I was promised. And your price is way too high!*”

You say: “*I am on your side in this situation. You have a right to be satisfied with whatever you purchase from us. You deserve good value for your money. Let’s review what you have purchased and see if there’s a better option for you.*”

➤ **Customer Complaint: Too Slow**

Your customer says: “*I’ve been waiting forever. Why did it take you so long to take my order?*”

You say: “*We understand that in today’s world speed counts. You deserve fast, friendly service.*”

➤ **Customer Complaint: Bad Website**

Your customer says: “*Your website is terrible. I couldn’t find the information I needed.*”

You say: “*You are right to want an informative, user-friendly website. What information couldn’t you find? Your suggestions on how to improve the site are a big help.*”

Notice how your responses make the customer feel *right*. We don’t argue over the facts: rude staff, stiff policies, or insufficient product features. But we do *actively agree* on the importance of what they value most.

Let’s face it—the customer is *not* always right. But customers are always important, and we can make them feel much better by *agreeing* with them on the importance of the service dimensions they identify and value.

Ron Kaufman is the author of *Uplifting Service: The Proven Path to Delighting Your Customers, Colleagues, and Everyone Else You Meet* (Evolve Publishing, 2012, ISBN: 978-09847625-5-2, \$14.95, www.UpliftingService.com). He is the world’s premiere thought leader, educator, and motivator for uplifting customer service and building service cultures in many of the world’s largest and most respected organizations, including Singapore Airlines, Nokia Siemens Networks, Citibank, Microsoft, and Xerox. He is the founder of UP! Your Service, a global service education and management consultancy firm with offices in the United States and Singapore.

Ron is a columnist at Bloomberg Businessweek and the author of 14 other books on service, business, and inspiration. Ron has been featured in the Wall Street Journal, the New York Times, and USA Today.

With powerful insights from working with clients all over the world in every major industry for more than 20 years, Ron is an inspiration to leaders and managers in his high-content, high-energy speeches and impactful, interactive workshops. He is rated one of the world’s “Top 25 Who’s Hot” speakers by Speaker magazine. He is passionately committed to uplifting the spirit and practice of service worldwide.

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Thwarting the Cleverest Attackers

by Larry Hardesty, MIT News Office

Savvy hackers can steal a computer's secrets by timing its data storage transactions or measuring its power use. New research shows how to stop them.

In the last 10 years, cryptography researchers have demonstrated that even the most secure-seeming computer is shockingly vulnerable to attack. The time it takes a computer to store data in memory, fluctuations in its power consumption and even the noises it emits can betray information to a savvy assailant.

Attacks that use such indirect sources of information are called side-channel attacks, and the increasing popularity of cloud computing makes them an even greater threat. An attacker would have to be pretty motivated to install a device in your wall to measure your computer's power consumption. But it's comparatively easy to load a bit of code on a server in the cloud and eavesdrop on other applications it's running. Fortunately, even as they've been researching side-channel attacks, cryptographers have also been investigating ways of stopping them.

Shafi Goldwasser, the RSA Professor of Electrical Engineering and Computer Science at MIT, and her former student Guy Rothblum, who's now a researcher at Microsoft Research, recently posted a long report on the website of the Electronic Colloquium on Computational Complexity, describing a general approach to mitigating side-channel attacks. At the Association for Computing Machinery's Symposium on Theory of Computing (STOC) in May, Goldwasser and colleagues will present a paper demonstrating how the technique she developed with Rothblum can be adapted to protect information processed on web servers.

In addition to preventing attacks on private information, Goldwasser says, the technique could also protect proprietary software so that it can't be reverse-engineered by pirates or market competitors — an application that she, Rothblum and others described at last year's AsiaCrypt conference.

Today, when a personal computer is in use, it's usually running multiple programs — say, a word processor, a browser, a PDF viewer, maybe an email program or a

spreadsheet program. All the programs are storing data in memory, but the laptop's operating system won't let any program look at the data stored by any other. The operating systems running on servers in the cloud are no different, but a malicious program could launch a side-channel attack simply by sending its own data to memory over and over again. From the time the data storage and retrieval takes, it can infer what the other programs are doing with remarkable accuracy.

Goldwasser and Rothblum's technique obscures the computational details of a program, whether it's running on a laptop or a server. Their system converts a given computation into a sequence of smaller computational modules. Data fed into the first module is encrypted, and at no point during the module's execution is it decrypted. The still-encrypted output of the first module is fed into the second module, which encrypts it in yet a different way, and so on.

The encryption schemes and the modules are devised so that the output of the final module is exactly the output of the original computation. But the operations performed by the individual modules are entirely different. A side-channel attacker could extract information about how the data in any given module is encrypted, but that won't let him deduce what the sequence of modules do as a whole.

"The adversary can take measurements of each module," Goldwasser says, "but they can't learn anything more than they could from a black box."

The report by Goldwasser and Rothblum describes a type of compiler, a program that takes code written in a form intelligible to humans and converts it into the low-level instruction intelligible to a computer. There, the computational modules are an abstraction: The instruction that inaugurates a new module looks no different from the instruction that concluded the last one. But in the STOC paper, the modules are executed on different servers on a network.

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A Satire by Leo A. Wrobel – But With a Valid Point

by Leo A. Wrobel

Every so often I like to write something a little bit off the wall regarding technology. Humor me, as I will make a few valid points with this Andy Rooney style diatribe by the end of this article. First, I will rant a bit.

ISN'T IT FUNNY that in my early youth, anything you used for communications and entertainment had to WARM UP? I know I risk dating myself here but at age 55, I remember when a lot of things had vacuum tube technology. Many people don't recall those days. In fact, a boy in our neighborhood once asked what was "wrong" with the radio in one of my antique cars. I explained that it had to warm up. No sense of wonderment, he just didn't understand the concept. I then explained that the radio had TUBES in it. To which he said "*oh, tubes, that explains it. The radio has tubes.*" He then went on.

"What's a tube?"

When I was about ten years old, I got a Jade six transistor radio. You may remember them; they came with a 90-day warranty and broke on the 91st day. The best part about that radio was that it turned on instantly. You did not have to wait for it to warm up. If you wanted to listen to the 6:00 PM news you could turn it on at two seconds to six, rather than have it warm up just in time to miss the headlines but catch the commercials. Now *that* was technology. Anyhow I digress, but that's my prerogative in a back handed semi-satirical article. And now that I have ranted for a while, it brings me to another point:

ISN'T IT FUNNY that technology-wise, we seem to have taken a step backward? Turn on your computer from a cold start for example. It has to warm up.

It seems that today everything that one uses for entertainment or communication slows us down even more.

Now I don't know about you, but I turn on a computer because I want to know or do something *right now*. There is nothing more frustrating to a knowledge-based worker

than to have a brilliant thought in his or her head and really need the computer now, only to have to wait. Myself, I don't want to sit through 90 seconds of hour glasses and smiley faces and have my computer "Welcome" me for the nine millionth time.

Granted, we have lived with this problem for a generation, but now it's worse. It seems that *today* everything that one uses for entertainment or communication slows us all down even more. Everything today asks you if you want to UPDATE.

In the example above, I turned the computer on for a reason. That reason was NOT because I wanted to update. It's not just computers that irk me either. In the last week alone the following has happened:

1. I received a text message from my daughter on my phone. First off, I was irritated because I receive about five text messages a year and send, well, zero. Sorry, but most of us baby boomers don't give a rat's patootie about typing with their thumbs and squinting with our 50-something eyes to see a 2 inch screen. Why would we when we can just hit the speed dial button and CALL the person. And bummer, she texted me a PICTURE. Now what do I do? Since I have an iPhone 3G (that for some ungodly reason has trouble with SMS Picture messages) I have an after-market application that allows the iPhone to send and receive pictures in text messages. I never use it. Still, for some reason I feel the need to have it.

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When I opened the application, it asked me if I wanted to UPDATE. *No, I don't want to update, I was trying to look at a picture.* Why would I want to update anyway? The application worked a year ago when I got my last text message. Does it have a shelf life or expiration date?

2. Shortly thereafter I sat down for an evening of TV courtesy of NetFlix, which is in my opinion the greatest invention ever. In particular, I get to watch all of my favorite 16-minute History Channel programs. Why 16 minutes you ask? Because that's how long they are with the commercials taken out. This fact is of course is a big reason why I like the service so much. Granted, one has to wait a little bit for NetFlix in order to download the program, but that only takes a few seconds and is worth the trade off. After all what's better, 30 seconds of download, or 14 minutes of commercials featuring Chuck Norris on the Ab Buster machine? Anyhow, with three fingers of Scotch poured, a dish of salted nuts and three good History Channel shows in queue, I fired up my Blu-Ray player and eagerly launched NetFlix. It was then that I got the dreaded message again, this time from the Blu-Ray player.

"There is a new firmware update available, do you WANT TO UPDATE?" Not only no, but hell.....well, you get the idea.

No, I do NOT want to UPDATE. I want to watch *Weapons of War* on the History Channel. Even so, and against my better judgement I pressed the "OK" button for the firmware update. This mistake resulted in my being treated to 45 minutes of a status bar keeping me informed of the status of my important update. (Don't even THINK you can abort the process once it starts – beware!) By the time the update was done, so was the Scotch and nuts, and worse, my wife Sharon now wanted to watch *Bones*. *Weapons of War* would have to wait, essentially because it was not *worth a war* with Sharon.

Leave it to Samsung Blue Ray to screw up something as awesome as NetFlix and destroy the user experience. *"But wait... there's more!"*

3. We recently remodeled our conference room at the office and installed a PC for video conferencing and presentations. You guessed it. "Do You Want to UPDATE? No, we really did not want to update at the time, but did so anyway. Did you know that

Windows XP has some 60 updates to download, all purportedly "critical?" And even with Windows supposedly "pre installed" on the computer? Whatever else we wanted to load or test on our new conference room system had to wait.

No, We Don't Want to Update

Folks, but this whole update business is akin to me bringing wine and roses home to Sharon, dimming the lights, putting on soft music, and lighting candles only to have her suddenly pop up a window and say, *"Do you want me to vacuum and do the wash now?"* In the context described above, maintenance chores were obviously NOT what I had in mind. The same holds true with computer, phone or Blu-Ray box having other ideas when I clearly have something else in mind to do. So what is the answer?

In fact, there are things that can be done to enhance the user experience, bolster software quality, and avoid the dreaded update. Perhaps the biggest change would be for software writers to concentrate on software applications and stop toying with the operating system. It's a pipe dream of mine, but seriously, *think about the idea below.* It would work.

Why can't operating system manufacturers – even Microsoft - put their operating system on a chip and only change it once every ten years? Now I know what you are probably thinking, but consider this issue from another perspective.

Many years ago, about the time I got my Jade six transistor radio in fact, I used a black, rotary dial, Clark Kent-style telephone. My number was BUTLER 5-1896. Yup, I really am that old. I remember when phone numbers were five digits long and actually had NAMES. Even the phone book said BU5-1896 rather than 285-1896. Yet even at that time, the phone com-



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pany used T1s – a technology that survives virtually intact to this day.

A T1 is a 1.544 Mbs data circuit essentially, designed originally to carry 24 voice channels. Later T1 was adapted to carry data and remains a backbone transmission speed to this day. When one looks at the T1 bit stream, it is the same one that existed in 1965 to serve my Clark Kent telephone service. You no doubt have routers and multiplexers in your office right now that still have T1 interfaces. Notwithstanding setting the options right for error detection (Extended Superframe or ESF) and other T1 improvements that came along later, (like clear channels using B8Zs line code) it is still possible to connect a 2011 T1 multiplexer with a 1965 T1 multiplexer. *The two will still sync up with one another and run!* This begs a few questions in my estimation.

What if instead of keeping the same thing for 50 years, AT&T Bell Labs had changed the T1 format every five or six years. It would be a constant battle for anything to talk to anything and we would have the phone network of France. Conversely, what if Microsoft had a light bulb come on and designed an operating system on a chip that only changed every ten or fifteen years? Which makes more sense?

What about those “critical updates?” To this observer, most seem to be security issues and improvements for applications running higher up the protocol stack than the operating system. Who died and made Microsoft responsible for every application in existence? It hardly seems fair. Why not let Microsoft concentrate on stabilizing its operating system until its as reliable as the T1? If other applications have security problems or need improvements let them write their own updates.

Of course my opinions probably don't comport with the strategy at Microsoft, which is frankly one reason for the status quo. To roughly quote Larry Ellison from a few years ago, Microsoft can engineer a ham-on-rye and a glass of orange juice into the Windows operating system, but the deli industry won't like it at all. Seriously though, I am not disrespecting Microsoft either. I just think that if they concentrated on developing a Johnson Space Center quality operating system that users knew would be around for 10 years or more, they would be hard to beat.

Microsoft is also pretty good at writing higher level applications that would more than make up the revenue they would lose (and bad press due to the inevitable bugs) of changing their operating system every five

years. Face it, we human beings are lousy at debugging systems with more than about a million lines of code. It's just too complex. Microsoft should give themselves a fair chance by concentrating on their basic operating system longer between revisions.

For the record, we use Microsoft in this office, but we still use Windows XP like a lot of people still do these days. It's a good and stable platform now that it is all patched up – but it took ten years to get there.

Imagine if Microsoft announced today that it would take its latest and greatest version, put it on a chip, and keep it in service until 2020. I think such a product would be a winner. For one thing, the computer would not have to “warm up” any more, at least to the extent it does now. It would instantly turn on when one has an idea, wants instant information, needs to prescribe medicine right now, or whatever. Just like the iPhone and iPad do now.

This would be a capability worth marketing relentlessly because I can't be the only one peeved about waiting for the hourglass and welcome messages. Besides, if Microsoft is worried about the revenue loss of no longer replacing operating systems every five years, it could make the chip integral to the latest generation of motherboards. Motherboards last about five years. When the motherboard dies, then you need another chip. As I said earlier, Microsoft is very good at writing applications that do not necessarily reside in the operating system. They would do fine. Furthermore, when they did release a new operating system chip every ten years, it would be grounds for celebration, not dread, since it would be a well-tested and high quality release.

Anyway, I hope this article provides food for thought about how to enhance the user experience in a way many of us don't often consider. I don't think it's a coincidence that the products today which are the most runaway successes (e.g. the iPhone, iPad, etc) are those which, in the words of Toffler, are “high TOUCH as well as high TECH.”

In closing, if you are a software developer working on the next wonderful product or service, think about these issues. Also PLEASE design your new gadget to improve or correct itself while I sleep, because *I do NOT want to update.*

NaSPA President Leo A. Wrobel has written over 800 articles. Find some of his other articles at NaSPA's valued Sponsor [Informit.com](http://informit.com). Comments can be directed to Leo at president@naspa.com.

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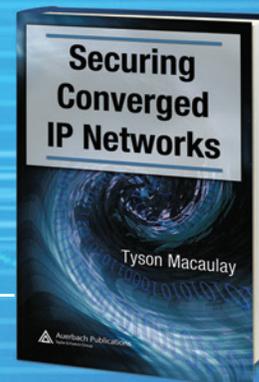
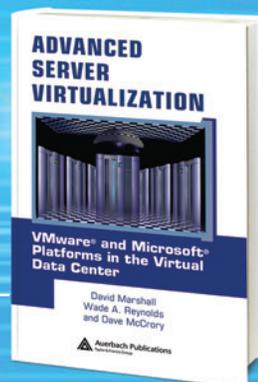
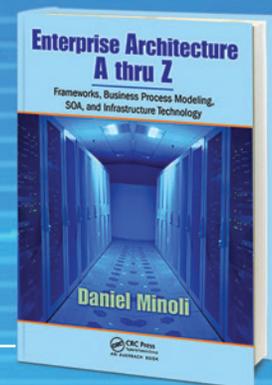
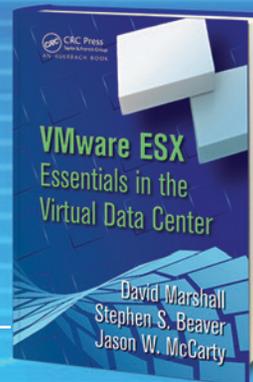
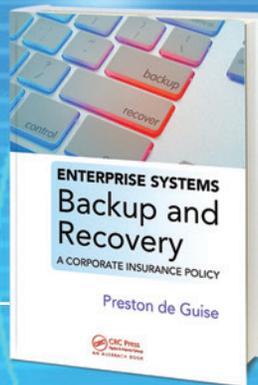
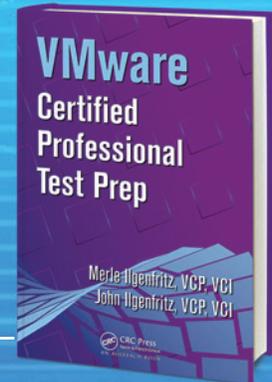
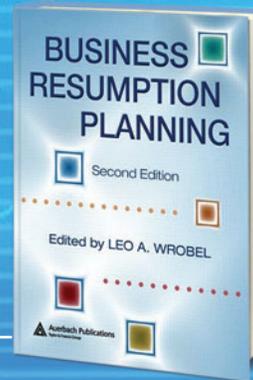
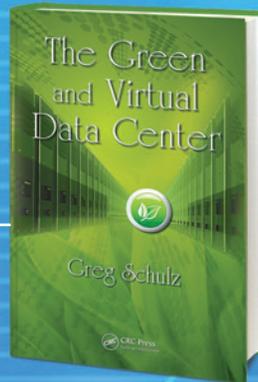
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