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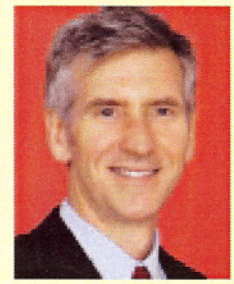
IT – The New "Utility"

by Charles L. Nault



Charles L. Nault, Founder/Chairman of the Board at *Atrion Networking Corporation*, is recognized throughout New England for his technical consulting. He has provided training to a number of renowned companies in addition to working closely with Cisco Systems on network design, implementations and support. He can be reached at 401-736-6400 ext. 111 or cnault@atrion.net

You walk into your office and flip a switch and the lights immediately illuminate. Had the lights not illuminated immediately, your day may be quickly ruined. You may become aggravated and there is a good chance that someone would immediately have to answer for this. You expect a utility like power to simply be there, at your fingertips, at all times, unless there is some catastrophic act of God in your area.

IT has now reached "utility" status just about everywhere – at least from an expectation standpoint. Just as the utility of power is required to run your lights; your network infrastructure is required to run your internet access, and a host of other mission critical applications that you just cannot function properly without. These are today's IT users' attitudes and expectations.

I read a recent letter from the editor of CIO magazine, Richard Pastore, in which he touted "convergence" as the new CIO buzzword, replacing the age-old mantra of "alignment". In it, he states that the term convergence transcends alignment in that IT is no longer a separate entity trying to fit in, but is instead an integral part of every aspect, and every department, and every strategic goal of a business. He is right. IT is now tightly woven into the fabric of the company

So what is the significance of this new "utility" mindset? For one thing, it means that most professional workers have high speed internet in their homes and expect to be able to seamlessly connect to the office at any time. This not only includes large corporations, but businesses of all sizes. If you rely on a licensed, experienced company to do all of your electrical work, you can relate to what it takes to implement a true "utility." Not only is expertise required to design, implement, and maintain your network, there is an ongoing need to secure it as well.

And what does it really take to make your network a continuously functional, expeditious, and safe "utility" network? It first takes a solid commitment. You need to invest with wisdom and confidence. Investing with wisdom means engaging a team of experts from your staff, or a consulting firm or vendor, to align your business objectives with current technologies. Someone has got to do some research in order to cut through marketing fluff and determine what is real and practical and what will drive your businesses today.

Investing with confidence means that once you have the road map drawn up, you have the right people design the integration of that technology into your existing network, swiftly and effectively complete the implementation, and then provide both pro-active, as well as reactive support. The design takes the "utility" approach in that the best products are chosen, they are configured for full redundancy, and every necessary security risk is considered and mitigated.

A professional project manager must manage the implementation. True project management coordinates all the necessary resources, assures timely product delivery, effectively plans and communicates necessary down time, and assures proper documentation. The project plan holds people accountable at every stage of the process, to do all the necessary work to meet the project's milestones and deadlines.

A critical step in the project is the transition from implementation to ongoing support. The project manager will clearly define this transition and all the necessary steps to make it as smooth as possible. Ongoing support used to mean "You have a problem, you call IT." It was largely reactive. This does not, however, qualify as "utility." One executive I met with recently was concerned that a contract for support guaranteed callbacks within 30 minutes of any initial request for service. His firm conducted massive advertising campaigns on weekends, he explained, and so its network of IT phones and Internet Servers had to be up and ready to go for the Monday morning load. But what he really was describing was a need far better served by pro-active monitoring. A team of experts should be monitoring those critical devices all weekend and on Sunday night to assure they will still be functioning on Monday morning at the moment customers started calling or hitting their website. That's what I mean by "utility" service.

Re-active support is a thing of the past if your network is to truly become the utility that it needs to be. Take a few minutes to imagine your entire staff waiting around to get your firm's email system back up. Do a quick calculation of the cost of that waiting time. It won't take long to realize that nothing less than a network that is "always on" is well worth your company's while.

Investing with Confidence in Your Network

by Charles L. Nault

Do you ever feel that your company is at risk? What would be the risk, for example, of down-time to your business should a power outage (or Internet outage) strike your firm? Any discussion of designing, implementing, and maintaining a utility-level network must be precisely tailored to your feelings of such risk, making the question of how much to invest in such a risk-free system, or where to invest and how, a strategic balance of cost vs. risk.

When applied to the all-important "EBITDA" (Earnings Before Interest Depreciation Taxes and Amortization) line on your financials, this will represent X dollars of pure cost. This ultimately amounts to money very well spent indeed, i.e., less downtime equals more EBITDA. As you read on keep in mind that we have not considered the intangible costs, e.g., one's reputation probably being the most critical of that category. Nor have we considered your service level agreements (SLA) to your customers. The costs of missing a SLA could easily exceed your manpower costs, so loss of intangibles is not a small argument for investing in a utility-level network.

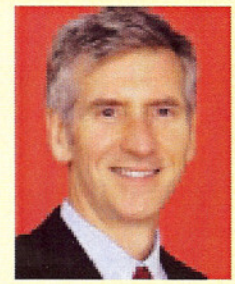
What building blocks for insuring that your network is "utility-status" should you focus on so that you can feel confident about areas to invest in? There are five principal ones:

1. **Network Critical Physical Infrastructure, or NCPI.** This refers to the physical environment in which our critical network components operate, beginning with power. In my company's case, power is directed to sophisticated APC power regulators, conditioners, and backup batteries, built into racks that include cooling fans and sensors that report directly into our network monitoring systems. This is backed by a generator, which is fired by a large propane tank. Build your NCPI as if your company's life depended on it… because it does.

2. **Servers.** When it comes to servers, brand matters less than standardization. Standardize on one vendor with a solid product and on-site support. For all mission-critical applications, make sure that there is a hot spare and a flawless backup. Disaster Recover (DR) is essential, and its single most critical component is the backing up of vital data, a set-up that must be tested regularly.

3. **Security!** Begin this one with patches and fixes: they're not just for servers anymore! Infrastructure devices have become more sophisticated, and so have their operating systems. It is not unheard of for a router manufacturer like Cisco to have to release an emergency upgrade for plugging up a newly discovered vulnerability. These will be the greatest single threats to the security of your network, so be informed when a vulnerability is discovered and when it is mitigated by your IT staff. This is especially important if the vulnerability has the potential to significantly impact the financial well-being of your company. And stay in touch too with HOW your company is being protected. Your IT staff may need outside help for that, so this is a budget line item that cannot be cut!

4. **Edge Devices.** Here's where most companies assume the most risk, because by definition, edge devices serve one subset of users. Again, standardization is critical. A common and usually adequate strategy is to keep a spare router, switch, or whatever the device may be that can be installed in just about any location. If you have a few remote sites that can be disconnected from the host for a day without major impact, you can spare one device at HQ as long as you store configurations for each location. In the event of an outage, these configurations get loaded onto the edge device before it's shipped overnight to the remote location with simple instructions for plugging it in.



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5. **Monitoring and Problem Resolution.** A company that must run 24/7/365, and holds tight SLAs with its customers, demands constant monitoring to prevent problems before they occur. Also, constant monitoring will minimize the time it takes to resolve problems that inevitably do occur. Determine a Recovery Time Objective (RTO) based on the cost of downtime which you discussed when planning your utility-status network. If your recovery time is measured in minutes rather than hours, pro-active monitoring is the only way to get there. Network monitoring will inquire as to the status of each critical device every three minutes or so, alerting you when a performance threshold is violated. In many cases, this prevents downtime because the issue can be addressed before the device fails or locks up from being overloaded. More than that, it can give you a real time performance dashboard that you can understand.

Building your utility-status network is mostly a function of risk assessment and planning done up front. You must establish firm policies providing for stability, standardization, and security, as well as for maximum performance and availability. You also need to be informed continuously via automatic communication which keeps your finger on the pulse of your most valuable, expensive, and critical assets. By observing these guidelines and objectives, you can confidently believe you have invested in your network in the right way and for the right reasons.