



To the Cloud and Beyond

How Unified and Cloud Computing Are Creating the Borderless Networks of Today and Tomorrow

» Today's network is challenged with handling more and greater types of traffic than ever before. This includes VoIP, video, borderless connectivity, and real-time social collaboration—spanning multiple switches, servers, and network security layers. In this issue of Meet the Expert, Peter Eisenhauer, PC Connection's Cisco Business Development Specialist, shares his thoughts on networking, infrastructure convergence, and the evolution of the modern data center.



Q: Expectations surrounding IT, the network, and what it can do for people have been changing. What big changes have you seen over the past several years?

A: The main thing people are talking about is "the cloud"—you even see people joking about it in commercials. As the next generation of workers comes into the marketplace looking for employment, or to start their own businesses, their experience with and expectations of technology are a lot higher than they were in the past, and the cloud is the biggest part of that. The evolution of the cloud is very similar to the dot com boom at the beginning of the decade, but there is a lot more planning and forethought going into it. Things like video on demand, teleconferencing, borderless connectivity, and real-time collaboration were at one time considered very high-end luxuries. With the advent of social networking and the services that people are used to getting on their computer, those technologies are becoming expected. People are going to gravitate towards companies that offer those technologies as a product and as a benefit for their employees.

Q: The idea of borderless connectivity brings to mind the idea of a college campus. You don't go to the computer lab anymore; you are working on your project from wherever—it really is borderless. What concerns do you have about this borderless concept?

A: The number one concern for any borderless network is security. You have numerous people coming on the network, you don't know how or where they are attaching, and you are opening up those gates but are not sure what traffic is coming through. Network security is going to be the paramount concern for anyone who is looking to expand their network to include wireless or remote teleworkers. Cloud computing goes along with this as well; they both allow users unprecedented freedom and productivity.

Anyone who is securing their network the way they did 10 years ago, with a single firewall box, is probably deluding themselves. A comprehensive security strategy includes regular assessments and revisions in addition to security that spans the network. Organizations that aren't concerned about their security probably haven't had a realistic assessment of the major risk that a security breach can bring. They probably haven't given it a lot of thought or they haven't had a major incident. Anything like the loss of proprietary

data, network downtime, or ecommerce failures can be damaging to a company's finances and good reputation. Something like a HIPAA, Sarbanes-Oxley, or PCI compliance audit can be very disruptive and cost an organization a lot of money.

Q: That puts more of a burden on the IT department because of the regulations. And this brings us to the idea of infrastructure convergence and unified computing. What is your take on the emphasis on a unified approach to IT infrastructure?

A: We're never sure what the future holds, but I am a student of history, and we know it is cyclical in nature. When I got into the technology arena almost 20 years ago, the fastest CPU available was a DX266 measured in megahertz. Windows was a brand new concept, token-ring was considered secure networking, and mainframe-based centralized computing was on the way out in favor of distributed client server networks. Computing strategies that we take for granted today like broadband, VPNs, wireless networking, and cloud services were unheard of. Now, they are required to maintain pace, and you can use them to differentiate your organization from competitors, especially in a tough economic climate. From Cisco's perspective, unified

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computing is here, it's now, and it's the focus and future of computing—at least for the next 10 to 20 years.

Q: Let's go back to the idea of the cloud. What are the real, tangible business benefits of moving towards the cloud?

A: The thing that I love about the cloud is that it reaches everybody. Cloud computing allows companies to offer more services for a lower cost and make use of applications that they might not have been able to afford at one time. It can allow companies to lower head counts while maintaining and even improving the customer experience through the use of technology. In the long run, TCO goes down and ROI goes up, but the investment in the infrastructure needed to support those technologies and the experience must be made. We went from mainframe computing to client server computing, and now we are returning to the centralized data center.

People are finding that they can put money into things like virtualization and storage, centralized security policies, and high-speed Internet.

Q: There are many CEOs and executives that are staying back on the sidelines, and there are some people that aren't on board with cloud and unified computing yet. What type of support do you offer organizations that are trying to chart the course towards this type of infrastructure?

A: We have many resources available to assist with the strategic assessment of a customer's organization as well as a plan for the future—and some of these are cloud based. We do assessments where we send an appliance to a customer, give them instructions on how to install it on their server, and then use that to get the information we need. From this we can tell the customer where bottlenecks are, where obsolete technology is found, and

where security gaps exist. We can offer them the knowledge they need to plan what's next, and help them with everything from a basic security assessment, to a wireless site survey, to a full data center overhaul. Our engineering department holds top-level certifications with all of the major vendors like Cisco Gold and HP Elite. We also leverage our industry solution partnerships like VCE, VMware, and EMC. Our technology specialists work directly with our Account Managers and speak every language of networking, virtualization, and storage. They are there to help create the best solution for anyone's needs.

Get Started with a Network Assessment

Our Network Assessment gives you a clear picture of your network infrastructure. If your organization is looking to upgrade or expand your network, the first step is to understand the capabilities and shortcomings of your existing network.

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