From: www.cio.com

Network Management: Tips for Managing Costs

– Karen D. Schwartz, CIO

August 25, 2008

Of all of the ongoing expenses needed to keep corporate IT running, network-related costs are perhaps the most unwieldy. New technologies, changing requirements and ongoing equipment maintenance and upgrades keep IT staff on their toes and money flowing out the door. But there are ways to manage network costs.

The Problem

According to Aberdeen Group, network costs continue to rise steadily. In 2008, for example, network spending is expected to increase slightly more than 5 percent over 2007. Telecom management industry association AOTMP of Indianapolis, Ind., backs that up, estimating that spending for voice and data services alone averages $2,000 to 3,000 per employee.

The biggest area for steady cost growth is the ever-expanding network, either as a result of physical expansion or a general thirst for connectivity. In the first case, a new branch office could require replication of the security infrastructure through technology like a point-to-point VPN connection. The network may need to add a multiprotocol labeling service (MPLS) to provide that branch office with a wide-area, high-speed connection. And those expenses are in addition to the cost of routers, switches and network appliances that the branch office may need.

Internally, the "need for speed" is driving the increase of network costs. More and more devices, either in terms of number of ports for network access or the number of network-connected devices per employee, is increasing.

One growing trend is the shift from standard PCs to mobile PCs in the corporate world. Over the next five years Forrester Research believes corporate America will reach an inflection point where traditional PCs are eclipsed by mobile PCs.

"Now you have a device that perhaps needs a port or wired drop at the desk and may also need to be supported on a wireless network, so the number of means by which employees can connect to the network drives the size of the network in terms of end points of connectivity," explains Chris Silva, an analyst with Forrester Research of Cambridge, Mass.

Other factors also are contributing to spiraling network costs. Aberdeen Group, for example, found that companies expect to increase their bandwidth by 108 percent on average over the next 12 months and expect to increase the number of business-critical applications running on their networks by 67 percent.

The growth of wireless networking is also increasing IT costs. As companies begin to replace all or part of their networks with Wi-Fi networks to take advantage of newer technologies like 802.11n, they are spending liberally.

And don't forget the hidden costs: As new devices enter the network and new network end points are developed, network management becomes more complex and expensive. For example, you might have your core wired network infrastructure from Vendor A but overlay a wireless network from Vendor B, which creates two separate management consoles. And as more employees connect to the network via devices like BlackBerrys and phones, the IT staff must manage and secure these network-connected devices as well.

Clearly, companies must do what they can to manage network costs. AOTMP, a telecom consultancy based in Indianapolis, found that developing a strategy to manage network expenses was the top telecom network initiative for companies in 2008, with reducing spending for telecom services and improved asset and inventory management services rounding out the top three.

Reducing Network Costs

The first step in controlling network costs, says Aberdeen analyst Began Simi, is to take the network's pulse. That means understanding exactly where the network's performance bottlenecks are and how efficiently the network is performing.

"Throwing more bandwidth and money at the problem even though you don't understand the bandwidth consumption per application or network location can be expensive," he says.

There are automated network monitoring tools available to measure these metrics. Both sophisticated products from vendors like Cisco Systems and NetQoS and free tools like PRTG Network Monitor and pier can provide a lot of value, such as reducing bandwidth and server performance bottlenecks and avoiding system downtime.

Once you understand what's going on in your network, there are many methods companies can use to reduce costs or prevent them from rising further.

One method is to consolidate the physical network infrastructure by finding ways to make the switch that's at the core of the network perform more functions; by doing so, you can reduce the number of appliances and bolt-on solutions your network uses. Many networking vendors like HP and Cisco are making inroads in this area.

Virtualization is a key part of network consolidation. By setting up the network infrastructure to be delivered from a pool of shared resources, those resources can be used more efficiently across a network fabric, explains Peter Fetterolf, a partner at Network Strategy Partners, a Boston consultancy. Virtualization can improve network resource utilization, efficiency and agility, helping lower the total cost of ownership.

What's more, virtualization leads to reduced overhead in areas like power and cooling; real estate; supervision, maintenance and personnel; and telecom services, he adds. And consolidation of service capacity in a single location creates more predictable demand patterns that permit better utilization, while overhead costs are spread over more productive assets such as systems administrators per server and network managers per network element.

Another part of consolidation is adopting technology that allows the IT staff to manage both the wired and wireless network from a single platform via APIs or other types of application integration tools. Most of the major network vendors are battling to provide functions like these, but third-party vendors also can help.

"That means taking one network management console and managing not only just the flow of data bits and bytes, but managing the VPN service, the WAN optimization tool and other things in the network," Silva says. "You want to consolidate your different management interfaces and consoles into one virtual single pane of glass management, where everything is on one screen."

And don't forget about what you already have in place. It doesn't make sense to invest in more technology if you're not maximizing the value of the investments you have already made, Silva says. For example, you may have spent a lot on a wireless network and mobility technology, but if the network hasn't been configured properly to use the technology, you're wasting money. If built correctly, the network can probably support technologies like voice over wireless LAN or VoIP, for example.

"Most often, you can squeeze more value from what you already have by using the same infrastructure with different overlay technologies to get more return on the investment that's already been made," he says. "So in addition to serving data, that $200,000 investment in a wireless LAN can also work toward cutting down the monthly cellular bills of an organization because that network can also support voice. And the same template can be applied for supporting things like video, using the WLAN for asset or employee tracking and presence-enabling unified communications systems."

And examine the vendors and technologies you are using for best value. If, for example, you have relied on Cisco Systems to develop your entire network, expenses could get very high very quickly. "There are a lot of different ways to build a network, and there are a lot of different options. They are all worth exploring," Fetterolf says. And once you have done that, don't be shy about pitting vendors against each other, he adds.

Finally, it can also make sense to look beyond the four walls of your organization for cost savings. Outsourcing network management, for example, can save significant money in some cases. In a recent study, Aberdeen Group found that organizations that outsourced network management reported an average savings of 26 percent as compared with previous spending.