Dear IT: Forget the technology

By Joanne Cummings , Network World , 06/16/2008

When it comes to optimizing applications end to end, the biggest game-changers are organizational, not technical

The scenario is typical: The lights on the network management consoles are a soothing shade of green, but a top revenue-generating application is crawling. Business users have swamped the help desk with calls and trouble tickets. Everyone there is calling the network team to figure out the problem.

"The network is the lowest common denominator everyone points to when there's a problem," says Michael Morris, a network engineer for a $3 billion high-tech company and a Network World blogger.

"We have one application that as soon as it goes bad, the application team assumes it must be a network problem. [The team] even configured software so that when there's a problem, a message pops up telling the user that the error that has occurred is probably a network issue and to contact the help desk," Morris says.

The same phenomenon plagues the American Heart Association (AHA), says Josh Hinkle, manager of network management and security at the Camp Hill, Pa., organization. "It always falls back on us. Somebody will say, 'There's a big sinkhole in front of the building' - and everyone will think, 'Oh, it must be the network,'" he jokes.

Pointing fingers at the network is no laughing matter, however. Application performance - especially in today's world of service-oriented applications and virtualized desktops, servers and storage - is a factor of a company's technology as a whole. More often than not, performance degradation can be traced to causes at many different infrastructure layers: server, application, database, desktop, middleware and so on.

"Ninety percent of the problems these days aren't network problems," says Tracy Corbo, a senior analyst for network and service management at IDC. "It's probably something about the application, maybe how it's accessing the database, or maybe a piece of the database is down. There might be three or four people who need to be involved in that discussion to figure it out," she says.

Such complexity puts siloed IT infrastructures at a disadvantage, especially when it comes to ensuring, supporting and troubleshooting application performance end to end. Rather than relying on the server team to keep the servers up, the database team to handle the databases, and the security and network teams to make sure their pieces work as promised, all the pieces - and staff - need to work together seamlessly.

A different mind-set

"End-to-end optimization requires a real organizational change," says Tony Bishop, former chief architect at Wachovia in Charlotte, N.C., and now CEO of IT consultancy Adaptivity. If IT is to become a utility, it must be able to deliver its services without being caught up in internal turf wars and finger-pointing. Now, more than ever, IT must reorganize, he says.

"People need to become accountable as part of a value chain, instead of being accountable for a specific function," Bishop says. "It's not the server; it's a component of a value chain of delivering services. And that's a different mind-set," he says.

Others agree, saying the best way to ensure optimal application performance end to end is to group the IT department into two units: application delivery and application support.

"We're starting to organize that way," network engineer Morris says. "We still have infrastructure and applications, but we now have infrastructure operations and infrastructure delivery within the infrastructure team. And the delivery teams are aligned with the application teams," he says.

For example, if the sales application team wants a new application, it has its own sales infrastructure team that handles server and network provisioning, and so on. "So, we've seen some alignment," Morris says. "We call them build-teams, but essentially, they align with the business applications. They understand the business objectives and say, 'OK, these are the new applications coming in the business unit, these are the servers, network and all the hardware we're going to need to make that application work,'" he says.

Upfront input

Things can get pretty hairy in the absence of such alignment. Morris cites a case of SAP application performance gone bad at his company. "The apps guys tested it on the LAN, and it was fantastic. Little did they know that each session was chewing up about 400Kbps of bandwidth. On a LAN, that's nothing, but over a WAN, you can only put about four or five of those in before the circuit fills up," he says. "That's the kind of stuff that needs to be seen by us more at the beginning. And we're starting to evolve that way."

Hinkle agrees, although he's not too sure how fast that evolution will be. At the AHA, business users buy the bulk of applications. If they suit the needs of the business, they get deployed, no matter what, he says. "If I were brought in during the evaluation phase, I'd leave the meeting and go buy a lottery ticket!" he says. "I don't foresee that happening in the near future."

Until it does, acceleration and the like help mitigate problems, Hinkle says: "If we optimize and accelerate traffic, then it might run like it's on a slow LAN rather than a slow WAN."

Ideally, IT departments wouldn't have to consider the quick technology fix. Instead, they'd reorganize around service delivery.
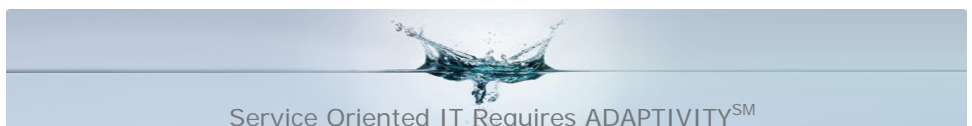
"If you spend $500,000 on WAN acceleration and make the application respond five seconds faster, what's the business benefit of that?" Morris asks. "You might get some benefit out of it because it's good technology, but it's not going to be a business-changer unless you truly align with the business and understand the goals and objectives. There are a lot of organizational, communications and relationship issues you need to build before you can really exploit the technology."

Getting the IT department to the point where it can deliver optimized applications end to end is an evolutionary, iterative process that top IT executives need to drive. "You need to publish the mantra 'We're delivering services, and we're all a part of this value chain,'" Adaptivity's Bishop says. "And you have to educate and re-educate, measure and re-measure. It's like a broken record."

In the end, Bishop envisions IT departments organized like a utility, in which there are generalists in charge of monitoring and management of services, specialists aligned to services for development, and SWAT teams to address problems as they arise. "The way [the IT group] participates in the service delivery, and how everything is monitored and managed, cuts across everything," Bishop says. "There is just one monitoring and management group everyone answers to."

The payoff will become obvious, experts say. As staff becomes more fully involved in application development, delivery and support, optimization just naturally falls out.

"Management may look at this and say it's too costly and it takes too long to deliver the application, but you need to look at the long-term benefits," Morris says. "If you're talking about applications that run your business, you don't want people working in silos. You want people understanding and involved in the application and taking ownership."

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