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## **Building the managed services blueprint: from the enterprise to homeward bound**

Jim Barthold

Before you can define the new blueprint for managed services, you need to redefine the word "building."

When managed services first arrived, the building was a corporate headquarters or branch site, and the service covered the provisioning, managing and monitoring of termination equipment and, later, routers and switches.

Providers should soon be redrawing their blueprints to include the home--where triple- and quadruple-play services are aimed--as a building. They're already architecting a foundational change in managed services to include higher-value offerings.

"The managed services marketplace has been flourishing for five to 10 years, focused on the enterprise. [Now] the carriers are starting to turn their attention to how to bring some of these same kinds of services to the consumer marketplace through the last mile," said John Scott, vice president of product development for RealOps, a managed services vendor.

[ILLUSTRATION OMITTED]

IP--particularly unified services flowing on IP--is the biggest purveyor of change in both the enterprise and residential spaces. Carriers and/or service providers no longer provide just a voice pipe and a number of phone extensions. Now they're responsible for a unified messaging platform of voice, data and video that is more attractive, sometimes user-friendlier, but so complex that even the most competent IT professionals need help.

[ILLUSTRATION OMITTED]

Because of that complexity, the residence is starting to resemble a small office and someone--perhaps a carrier, perhaps a service provider, or maybe some as-yet-undetermined start-up--will need to step in to manage these services in the residential space, likely leveraging what's being learned right now in the business environment.

VPNs

Enterprise-based managed services are expected to diversify as IP dominates the commercial space. In addition to handling traditional VoIP services, providers will offer features such as managed VPNs, advanced security and even wireless management.

"The perception is that applications like VoIP are straightforward and simplistic, but it really complicates the WAN infrastructure, bandwidth management and traffic prioritization," said Amy Hollister, BellSouth's product marketing manager for network VPN service.

BellSouth's managed VPN service slots data streams in different queues on the broadband pipe to guarantee throughput and QoS.

"If you implement VoIP on your management structure and it's not implemented properly, that voice will step all over your bandwidth and your other applications won't work anymore." Hollister said.

VPN management, she said, is the first step in managing on-premises applications because "there's an additional layer of complexity with all the new applications coming out now, because there's so much acceptance of IP. That complexity is making businesses understand the need for management on multiple levels."

Then There's Wireless

One of those levels is the WAN, where management goes beyond the wires as enterprises move data and voice across fixed and mobile wireless networks.

"We really see growth on the mobile side as enterprises go to more wireless LAN-type offerings or wireless WAN-type solutions for their mobile workforces, integrating or beginning to bridge that imaginary line between wireless and wireline," said Ed Planco, Sprint's managed services product manager.

Those wireless services will be based on IP and with wireline and fixed broadband VoIP services in the enterprise.

"VoIP is a lot more intricate and trying to manage services to VoIP, which is what we're going to do, is going to help us ease VoIP into the market and make it more acceptable to customers to do VoIP-type solutions," Planco said.

### Managed Security

The most immediate and pressing focus area for managed services is security. A cost-conscious enterprise is even willing to pay an outside provider to manage its communications infrastructure to secure both its data and voice networks.

"If it were just a firewall, that would be one thing, but it's not. There's an accumulation of new types of security threats that are just not handled by a firewall," said Throop Wilder, co-founder and vice president of marketing for Crossbeam Systems.

Security threats are so constant and so fluid that even the most competent in-house information technology professionals can't keep control over their enterprise networks.

"The [CIO of a] typical large enterprise network is so fed up with security issues ... that at this point he would be willing to pay for managed services," said Hilary Mine, senior vice president of channels communications marketing for Alcatel. "Rather than have people on board who have to go down the line curve every two seconds ... [an enterprise CIO is] going to pick a security company that really knows this stuff and does it all day long and shares that cost of R&D across a lot of other companies. They guarantee a clean pipe coming into the offices."

### Residential Opportunities

The most intriguing managed service will be target the residence, where security will be the application that gives the provider a foot in that homeowner's door.

"You can manage someone's residential gateway, you can manage the service to the side of the house or to the jack, but managing it beyond that ... that's the part that's missing and needs to be put into place," said Patrick Hurley, TeleChoice's research director. "If you want to charge people money to manage their networks, you have to have visibility to the end points."

Managing security is problematic no matter where it's done, but especially in the residential environment, said Jason Wright, product manager for 3Com's TippingPoint division.

"Traditionally, a lot of the carriers have shied away from building any additional services around security into their bandwidth offerings," Wright said. "They didn't want to interfere or block anything that a customer might actually want, [and] they didn't want to have the responsibility of providing a secure connection." Some providers are still on the outside looking in. Verizon, for instance, while an active player in the IP-based enterprise managed services space, is much more reticent to get involved with the FTTP residential network that will carry multiple advanced applications.

### That Fiber Pipe

"Everyone has a pipe to their home that's theirs and there's no particular need on our part to manage what they do with that," said a

Verizon spokes-woman. "They buy the speed of service ... and then they do with it as they please, and there's no need on our part to manage their use of that."

[GRAPHIC OMITTED]

That sounds eerily similar to the business model Cogent, a company that is virulently against managed services, supports.

"Customers do buy services, they don't buy bandwidth, but we are probably best suited for delivering bandwidth and not trying to be all things to all customers," said Dave Schaeffer, Cogent's founder and COO. "I think a lot of service providers got themselves into trouble doing that."

Cogent, he said, has "a small portion of our customer base requesting managed security services," but rather than offer up its own service "we elected to do that with a third party outsourcing relationship."

The service provider hands-off approach will change as more residential users tie into broadband networks and "all the carriers will be pushed into these managed services if they're not going there proactively," predicted Sanjay Castelino, vice president of industry marketing for Motive. "When you think about IPTV and VoIP, there's recognition that those services had better be as simple to work as my TV and phone are today. To make that happen, they have to provide some sort of managed services."

BellSouth has taken steps in that direction with a managed residential security service starting at \$2.99 a month "designed for the customers who don't want to deal with making their own updates or dealing with another service provider," said a carrier spokeswoman. "They can deal with BellSouth for everything."

#### Wireless Home Networks

If the carriers don't want to manage home security, as Schaeffer suggests, other companies will step in. And they won't stop with just managing data network security.

PC security software provider McAfee is expanding its focus "into supporting other protocols, whether you get into supporting different variants of VoIP or IPTV," said Vastal Sonecha, vice president of market development. "You have to examine where the bundle can have an impact--on either the end-user resources or the network resources--and protect at each of those places."

McAfee, Sonecha said, has realized that "security needs to go into the enterprise as well as the residential world."

In the residential world, it's important that security be applied to the increasing number of in-home wireless networks, said Bill Bullock, co-founder of Witopia.

"If you have a pretty powerful computer in your home hooked up to a really fast DSL or cable connection, that is a wonderful tool for a bad guy," he said. "One of the entry points to that is wireless. A lot of the carriers are giving away wireless networks or charging minimal fees and saying they're secure and they're not. That's a problem we'd love to fix for everyone."

Jim DeMerlis, MCI's vice president of managed network services, agreed that there is "an opportunity in residential as more and more residents deploy wireless networks ... and any other types of devices in their houses to provide VoIP, video or other applications. There will be a need for management of that equipment."

It's not the sort of thing that MCI is necessarily doing today but ...

"I see managed services extending to the residential space," DeMerlis said. "I think it will be a little different than what's offered today to businesses, but I think the need will be there."

#### Future Focus

All sorts of management possibilities are under the microscope at the DSL Forum which, despite its name, isn't necessarily tunnel-focused on DSL and doesn't move without carrier direction.

"If you're going to do a mass market service offering that goes beyond just high-speed Internet connections, you have to make things easier for the customer and this is one major piece of the DSL Forum toolkit," said forum Chairman Michael Brusca, who said the Forum's mandate is to "put things in place for use by carriers to take it to something even further into the home."

Carriers can learn from cable's mistakes in understanding--and frankly caring about--other applications that might be using their consumer networks. From the days of "cable-ready TVs" that weren't cable-ready to today's advanced digital encryption and high-speed data networks that disable consumer electronics, cable has been slow to work with consumer electronics within the residential space.

"The DSL Forum doesn't operate as an island," Brusca said. "We realize we can't say we end with the gateway; we have to recognize other services being delivered over that broadband pipe."

Even cable is changing, starting with the CableHome initiative being developed through its industry-run CableLabs R&D consortium.

"One of the original concepts when we put together CableHome ... was that we would have services to manage all the way to the desktop or wherever the terminus was," said Terry Shaw, CableLabs' network systems director, noting that "once you get inside the house we may need to go in and help subscribers make sure they have the infrastructure within their homes ... make sure that is adequate."

#### The Cost Question

As equipment to manage the services is developed, business plans to make money from it are evolving, starting with the simple question of how much money consumers, already paying for voice, video and data services, will pay to have someone step in and manage those services.

"I certainly think there's money to be made in managed services," said Witopia's Bullock. "I'm not sure why carriers don't enter into that other than maybe it's just their size [and] it's hard to get things done. Start-up companies like us are really [more likely] to take out a sheet of paper ... and do things from a common sense perspective."

There's a bigger question revolving around the economics of serving a market that's new to carriers used to tariffs and other unyielding pricing models but that are just starting to learn how to price residential services.

"We're still babes in the woods about whether the consumer will wish to pay money" to have managed services, said Dan Baker, research director at Dittberner.

#### Complexity Can Overwhelm

For Baker, the complexity of providing triple play services over an IP network is overwhelming enough without adding a management layer to the offering.

"I've been studying this triple play thing that the large telcos are trying to do, and it's becoming apparent to me that they don't know what they're doing," Baker said. "There are so many balls to juggle."

It's likely a non-carrier start-up could step in and grab one of those balls and start managing services. It's unlikely this will be a straight play without carrier blessing because "the people that own the last mile are going to have to be part of the value proposition," said RealOps' Scott.

Whoever runs them, it's apparent that managed services must go beyond the last mile to the last few feet of a home networked environment.

"It's not enough to just have it when it's on the network; you need to manage it on the premises," said Daniel Briere, CEO of TeleChoice, who said that it will also be up to device makers to help with management. "You really need somebody that's going to go and put an SNMP MIB-type capability in all consumer devices."

#### A Team Effort

It's going to require a team effort, said Bruce McGregor, broadband services analyst for Current Analysis.

"I don't think one entity can take the entire burden. I think it needs to be shared," he said. "The manufacturers need to share some of it by having all the devices be compatible and one format. The service providers need to have some flexibility in letting other service providers share their networks. And I think there needs to be some agreement on how content is distributed in this new technology, so it's secure and easy for the consumer to play on whatever device."

In short, managed services, evolving from the enterprise space to residential, is still just a nice fuzzy idea that still requires focus.

"It's a very complex issue," McGregor said. "The providers don't really know what they're getting into when they're talking about managed services. You're dealing with a different market when you're addressing the consumer market. They're not as tech savvy and they have high expectations."

But they're the ones who will have to understand what's going on as IP telecom makes the home space more like a business. That's something that will work itself out as the carriers roll out these new advanced networks, said Alcatel's Mine.

"Over the next 18 months, as the solutions start to come to market, as the big rollouts happen, you'll see service providers do an awful lot of diagnostics remotely," she said. "Then they really can participate in the networking of the home."

#### Business Spending on Network-based Security Services

Spending is projected to grow at a 30.6 percent compound annual growth rate.

(millions)

2003	\$150
2008	\$570

Source: Yankee Group

Note: Table made from bar graph.

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