

# Schools learning broadband lessons

New Orleans' embrace of optical Ethernet service an example of growing trend.

■ BY JIM DUFFY

In an effort to comply with the federal No Child Left Behind law, the New Orleans public school system is subscribing to a managed optical Ethernet service from Cox Communications.

The network is an example of the technology initiatives educational institutions have undertaken as they look to support an expanding number of computers in the classroom. It features a 40G bit/sec dual ring at its core with 1G bit/sec access rings, and Gigabit and Fast Ethernet access links from each school.

The network will connect 90,000 students in 140 schools and support converged Internet access, VoIP, IP/H.323 videoconferencing and distance learning. The optical Ethernet service replaces the school system's frame relay and voice overlay networks that supported limited videoconferencing, according to Cox vendor Fujitsu Network Communications.

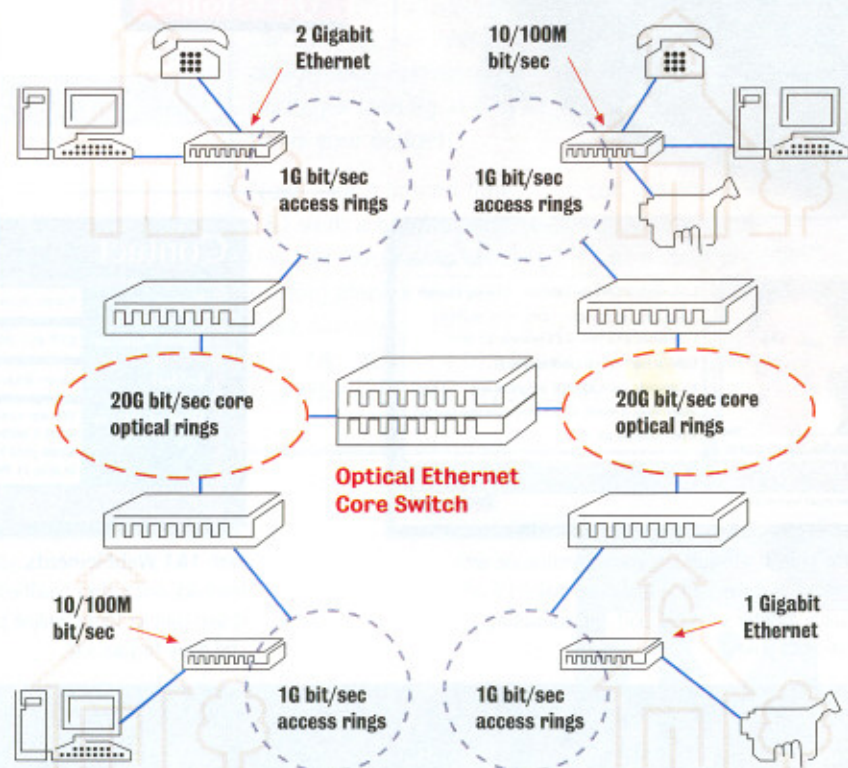
Healthcare, education and government entities are the top three vertical industry segments for retail Ethernet services, according to Vertical Systems Group. Combined, these segments account for more than three-quarters of the total base of Ethernet customer ports installed in 2004, Vertical says.

Other analysts concur.

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## Seeing the light

New Orleans Public Schools opted for a managed optical Ethernet service from Cox Communications to link 140 sites and support voice, data and videoconferencing for 90,000 students.



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"When looking at K-12, they are definitely starting to expand, looking at broadband services, which includes optical Ethernet," says Stephanie Atkinson, a senior analyst at In-Stat/MDR. "The biggest thing is budgets: A lot of these investments can be refundable depending on what it is. In some cases, you've got up to 80% discounts on technology services through the E-Rate program at the federal level."

But the No Child Left Behind initiative

## Contracts

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— are committed to global expansion. In contrast, AT&T might not be as committed to building out its global IP infrastructure with an RBOC as its owner. The same fate might befall MCI. So Rohde advises network managers with global locations to take a look at Infonet and Equant.

- Smaller providers such as Broadwing or Global Crossing might have a tougher time competing against newly formed behemoths such as SBC/AT&T. "With these carriers you want as little commitment as possible," Rohde says. "They're really the ones that are most disadvantaged by all of this [merger] activity."

- Keep your eye on the details of how the merger will be executed. If your carrier has been acquired, you want to get as much information as possible about how and when your traffic will be moved to the new parent company's network. "You need to ask about the timetable for migrating that traffic and how long the parallel networks are going to be in operation," Posey says. "You need assurances that the traffic migration is going to be handled in some kind of systematic way and with fail-over built into the system." ■

has a lot to do with it, too, Atkinson adds. One provision of the No Child Left Behind Act of 2001 is more flexibility for states and school districts in how they spend federal education funds in exchange for strong accountability for results.

That increased flexibility includes authority for states to transfer up to 50% of the funding they receive under four major state grant programs — Teacher Quality State Grants, Educational Technology, Innovative Programs and Safe and Drug-Free Schools — to any one of the programs. Much of that shifting ends up in the educational technology bucket.

"A lot more applications from a K-12 perspective need or require a network like that," Atkinson says. "Now you've got six to 12 computers per classroom, and that's driven by No Child Left Behind."

Cox has deployed optical Ethernet switches from Atrica for the New Orleans network. Atrica's A-8100 core switches are installed at hub locations, while A-4100 aggregation switches populate select aggregation sites and A-2100 edge switches deliver services at each school or administration site.

The Atrica switches support integrated TDM services via circuit emulation and Metro Ethernet Forum-compliant Committed Information Rate capabilities which lets Cox control and equalize between New Orleans Public School sites and ensure QoS and service-level agreements. The switches also support 50-millisecond failover through Multi-protocol Label Switching (MPLS) Fast Reroute techniques, Atrica officials say.

QoS is also MPLS-enabled as the switches map IEEE 802.1p Ethernet priority bits to explicit Multi-Protocol Label Switching paths, Atrica says.

Cox is Atrica's first U.S. customer. Fujitsu, through Fujitsu's Flexible Architecture for Subscriber Service Termination joint marketing program, referred Atrica to Cox. ■