At Washington State University's student union (left), AV consultant Rick Wells opted for Cat-5e-based Crestron QuickMedia cabling (below).

Lead With Cabling?

The way the AV industry is going these days, the better you are with category cabling, the better your chances of success. **BY BRAD GRIMES**

It's a common refrain: AV integrators are at a disadvantage in new construction projects because they're among the last contractors invited to the party. But what if they parlayed a relatively recent phenomenon in AV wiring into an advantage that could get them in the door sooner, namely running AV signals over category cabling?

The industry has grown rife with success stories of AV installations using Cat-X instead of traditional AV cables. Recently, at Washington State University's Pullman campus, Rick Wells, founding principal of MultiMedia Consulting in Los Angeles, vetoed his own plan to use RGB cables throughout a 240,000-square-foot student union in favor of using Crestron QuickMedia cabling, which combines one Cat-5e and one Cresnet control cable in a single jacket.

"To eliminate an RGB run was huge," Wells says. And the savings in cable costs, installation labor, and the cost of matrix switchers turned out to be about 30 percent of the price of the AV systems.

Wells designed an AV control room to serve all the major spaces. It includes a Crestron MPS-300 Media Processing System, QM-RX QuickMedia Receiver, and a QM-MD16X16 QuickMedia matrix switcher, which together combine a control system, amplifier, audio and video switcher, and 8-channel mic mixer, accepting all video and audio signals and routing them over the QuickMedia cable. A Crestron TPS-12G-QM-LB 12-inch wall-mount touch panel provides the user interface for each room.

In addition, Wells specified a QuickMedia Receiver in each of eight smaller meeting rooms to handle signals and provide sound and control. Each has a built-in stereo amplifier, DSP, and room controller.

Such integrated AV systems over Cat-X demonstrate the flexibility of the medium. But as AV integrators know, the sooner they can wire a job, the better.

Patrick O'Neal, a sales representative for Denver-based Linx, says his company is in a unique position because its roots are in structured cabling but it also has an AV integration division. "We typically get into a job a lot earlier because we're talking to them about voice and data cabling," he says. "AV isn't even a thought at that point."

According to O'Neal, a building has three types of cabling: "must-have," which includes telecom cabling; "should-have," which includes security; and "would-like-to-have" cabling, which includes AV.

"The success we've had [in AV] has been because we can offer our customers more services as a turnkey solution, with operational and technical cost savings built in," O'Neal explains. Typically, voice and data cabling technicians are best at pulling and terminating cable. "Then the parts and smarts guys come in for the AV," he says.

HERDING CATS

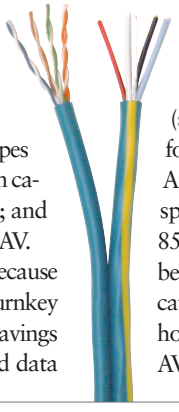
But even tried-and-true category cabling must change as applications and technology advance. And many AV pros believe now's the time to look beyond Cat-5 and Cat-5e. Dan Fulmer, CTS, CEO of FulTech Solutions in Jacksonville, Fla., has already seen the Cat-5 and other wiring solutions his company regularly uses for large-scale residential projects hit a wall. "HDMI will stretch the limits of Cat-5," he says.

What about Cat-6? Some integrators believe it will eventually go away. "It's a tweener cable, like Cat-6 with insurance," says O'Neal. "It doesn't do anything commercial Cat-5e doesn't do and it's not rated for 10 Gbps over any significant distance."

Several integrators told Pro AV they'd begun fielding requests for Cat-6a cabling, which was defined by the Telecommunications Industry Association (TIA) in February 2008. Linx has done several installations in which it provides both a Cat-5e and a Cat-6a jack in order to future-proof the building.

Cat-6a (the "a" is for "augmented") operates at twice the frequency of Cat-6 cabling (500 MHz as opposed to 250 MHz) for transmitting 10-gigabit Ethernet up to 100 meters. It was specified by TIA in part to reduce issues of alien cross-talk, which have proved to be a problem for Cat-6 cabling at high frequencies. Moreover, Cat-6a supports something called Power over Ethernet (PoE) Plus, a new standard that was finally ratified last September by the Institute of Electrical and Electronics Engineers. With PoE Plus, integrators can power devices, such as videoconferencing-enabled phones, at up to 25W over category cabling.

Mary Armenta, a commercial territory manager for Liberty Wire & Cable, says Cat-6a "is flying under the radar right now, but will be the next upcoming wave of the future."



Of course, Cat-6a comes at a price premium. A survey of online vendors shows 1,000 feet of Cat-6a in various flavors (shielded or unshielded, for instance) selling for more than twice what Cat-5e cabling costs. And some cable manufacturers have their own spin on Cat-6e, such as versions that can go 850 MHz. AV pros expect fiber-optic cabling to be more widespread in the future, but for now, category cabling in all its various formats still holds more promise for the breadth of today's AV installations.

PHOTOS: COURTESY WASHINGTON STATE UNIVERSITY COMPTON UNION BUILDING