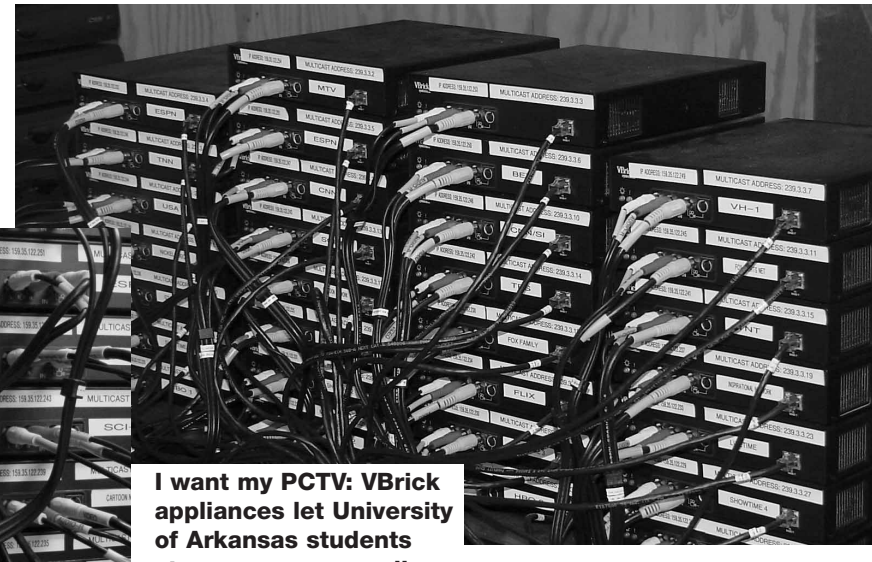
CASE STUDY

Streaming with Class

Delivering rich media over an IP network is not new for educational institutions. Its implementation at the University of Arkansas at Pine Bluff, however, may encourage other universities, as well as some corporations, to invest in added infrastructure and to increase reliance on streamed media.

It's not just about cost savings or being on the leading edge. In the case of UAPB, streaming is based on a network that's used for nearly all communications on the campus. "We have one of the world's first IP converged networks," says Maurice Ficklin, interim technical services director. "We send everything over it—telephony, video, data and surveillance."



I want my PCTV: VBrick appliances let University of Arkansas students stream campus media and cable TV across their computers.

Spearheaded by UAPB's chancellor, Dr. Lawrence A. Davis, the $3 million network relies on "20 miles of composite fiber for some 70 buildings," says Ficklin. Beginning next semester, students will not need to return to their dormitories with TV sets. Rather, they will need only their PCs. The university plans to use VBrick Systems' Model 1200 content-delivery appliances to stream internally produced content, such as talk shows from the university's on-campus studio, as well as externally produced programs across the campus.

On the receiving end, VBrick StreamPlayer II software powers a program guide that detects multicasts and lets end users know what programming and features are available; it also lets their PCs display MPEG-1 and -2 video at 30 fps. Windows Media Player decodes the content. "We have a total of 80 cable stations," says Ficklin. "Right now, we have 35 cable stations operating with VBricks on the network [one VBrick per channel]. I'm ordering more VBricks to handle the other 45."

Blending Voice and Video

Previously, the university worked with a cable company to deliver programming, and the university had only a 10-megabit-per-second shared network for data. It wasn't nearly powerful enough to handle all of the traffic that the new IP network can accommodate, which includes all of the phone calls that were once handled by a traditional Centrex system. Network operations and multicasting, which the university calls UAPB Net TV, are managed by four Cisco Systems routing cores and about 200 switches.

Ficklin particularly likes being able to control the streams. "With the MPEG-1 encoder, you can go up to 3 Mbps streams; with MPEG-2, you can go up to 15 Mbps," he says.

Transmission doesn't degrade as more traffic flows on the network, he adds. "We're using multicasting, not video on demand. We will have 80 stations individually, in 3 Mbps streams. That's 240 Mbps streaming over the network—but we have a 2 gigabit backbone, so all the streams won't harm things. Because of the VBrick, I can watch television, surf the Web and talk to you. Our conversation doesn't break up, because voice has first priority; video has second priority."

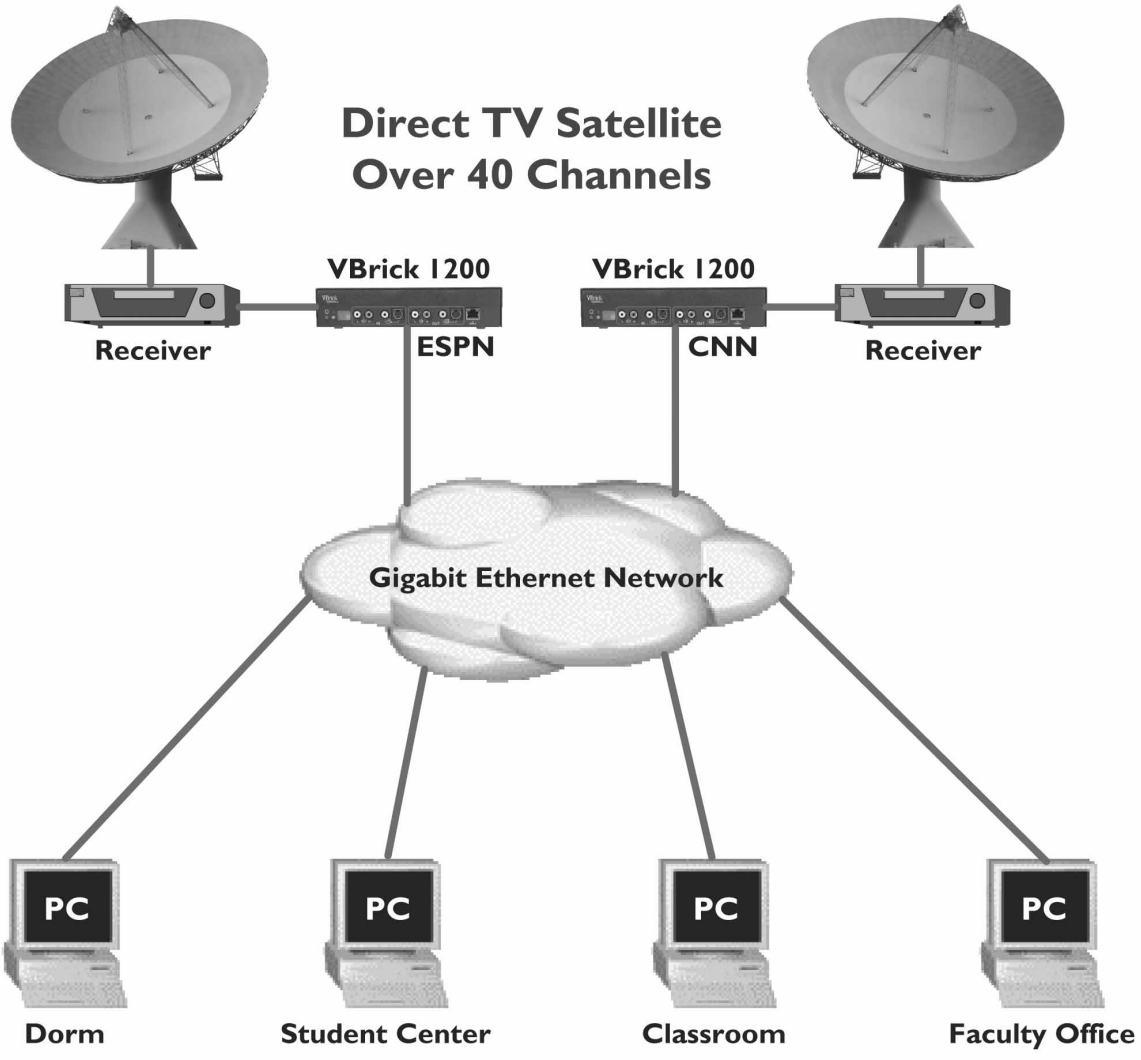
Ficklin points out that the university did not have to hire an outside integrator to get the VBricks up and running. Instead, one IP integrator who works on campus was able to plug the VBricks in.

Looking forward, Ficklin says that the university will stream a lot more content for distance learning, using a VBrick video-on-demand server. "This will replace a lot of videotape. All we'll need is the streaming server connected to a VBrick, and content will go out," he says.

He is also eyeing VBricks for the university's wireless networks—one for voice, one for data—and possibly for enabling two-way video communication with the university's Little Rock campus. *—S.K.*

University of Arkansas Case Study

Building Vision Across your Network



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