

## VBrick Systems

When the city of Orlando, Florida got ready to upgrade their aging computerized traffic system, they turned to VBrick Systems to offer them new and powerful efficiencies in the distribution of video. And, with the use of a Gigabit Ethernet backbone that integrated data and video, they broke new ground in traffic control systems.

An aging, antiquated system propelled the change. The existing computerized traffic system had been installed in 1991. Not only was it obsolete, but replacement parts became difficult to find. More importantly, the older system simply couldn't provide the functionalities for distribution of video that were increasingly demanded.

"The video system was an older technology," explains Fred Ferrell, District Traffic Operation Engineer for the Florida Department of Transportation. "It was an FM, analog, point-to-point system. As the system grew, there were more requirements for the sharing of that video. Everybody wanted to see it, at the regional traffic centers, other county and city agencies, and TV reporting."

Traffic Control Devices, specialty contractors for the transportation industry in the southeast U.S., was brought on board to update Orlando's system. Video was a key part of the upgrade. "If there's video, they can easily verify what's causing the problem and dispatch emergency vehicles," explains Traffic Control Devices systems coordinator Bob Ledford. "It helps traffic flow more quickly and smoothly."

The company's proposal for a 21st century traffic solution centered around an entirely different communications backbone. Previously, the entire system was based on a copper backbone. Traffic Control Devices recommended a Gigabit Ethernet fiber backbone, to connect everything from the traffic signal system and the freeways, bringing back data to a central command or control center.

The Gigabit Ethernet backbone turned the city of Orlando's traffic system network into an IP-based private intranet. While it

would work well for the data side, Traffic Control Devices still needed to handle the all-important video component. That's where VBrick Systems came into its starring role. "VBrick got into the picture when we were looking for a video encoder that could put the video on the Ethernet backbone," says Ledford. "The video had to be sent back to the control center. I came across several manufacturers, but VBrick Systems had the most mature product line at the most reasonable price. Unlike other manufacturers who had pretty brochures but nothing to show, VBrick actually had a working product they could demonstrate."

Because employing a Gigabit Ethernet backbone with video was a groundbreaking effort, they were especially concerned with finding products that were tried and true.

"VBrick had a proven track record," says Ferrell. "When we looked for a video solution, we were very concerned about the reliability of the equipment and manufacturer experience—and we got that with VBrick."



Florida highway traffic monitoring using VBricks

With the VBrick Systems encoders, now the IP backbone could readily transport real-time video at full DVD-quality. With the old system, distribution of video was based on a cable TV system and played on a monitor wall. Distribution of the video to someplace else was either very difficult or very expensive. Now, instead of a standalone system that was parallel to data, video is fully integrated into the traffic control network. "Rather than having a data system and a video system, with VBrick encoders, we could combine it all together," says Ledford. "The operators can now see the video on their desk-

tops, not on a monitoring wall like in the past."

The Gigabit Ethernet backbone paired with VBrick Systems encoders also now enables the Florida Department of Transportation to be able to do numerous functions that were previously impossible. "Using the multi-cast features, I can have various users watching the same video without needing additional bandwidth which would have been required on our old point-to-point approach," adds Ferrell.

The new system also makes it much easier for the Florida Department of Transportation regional traffic management center to connect with other county and city agencies. "We have multiple Gigabit Ethernet networks with a central hub," explains Ferrell. "There, all these other agencies will be able to hook into the hub with their own separate Gigabit Ethernet, at the core switch. It's a common port to trade video and data, which is much, much more efficient."

An increasing number of emergency operations centers—from transit companies to the Sheriff's department—will be able to look at video from the deployed cameras to keep an eye open for emergencies and incidents. "We're getting to the point where bandwidth is critical," says Ferrell. "But with VBrick and IP multicasting, we reduce the amount of bandwidth needed. I can have ten people look at the same video feed without using up any more bandwidth."

Now, rather than standalone traffic systems in each jurisdiction, unable to communicate with one another, the new Florida Department of Transportation system will soon connect the city of Orlando, Orange County, Seminole County, Volusia County and the Florida Department of Transportation. And the synergies will increase as any other traffic jurisdiction can adopt Ethernet and VBrick. "For a very low cost, they can tap into these networks and the networks can grow, without having to reproduce the entire system all over again," concludes Ledford.