

Convergence Curbs Wireless Complexity

March 19 2007

Hearst's distributed antenna system dramatically reduces the complexity of the company's wireless network.

One of the most technologically advanced features of the Hearst Tower's converged network is its distributed antenna system. By choosing such a system, Hearst dramatically reduced the complexity of its wireless network.

MobileAccess Networks, which provided the distributed system in the new Manhattan high-rise, has delivered a number of distributed antenna systems for large projects.

Besides the Hearst Tower, the Vienna, Va., company designed and delivered the wireless antenna system for the University of Phoenix Stadium in Glendale, Ariz., which is home to the National Football League's Arizona Cardinals and college football's Fiesta Bowl.

Depending on the needs of individual sites, the antenna systems may handle everything from public service radio to Wi-Fi. The system in the Hearst Tower is used for Wi-Fi and wireless phones and data.

"We have two types of sources: centralized sources, such as base stations, and distributed sources, such as wireless LANs," said Jeff Kunst, vice president of marketing for MobileAccess.

Kunst said the wireless access points are essentially like hundreds of little base stations. "We take them and create an architecture and put

them in centralized locations," he said.

Kunst said many of the installations his company implements include both Wi-Fi and wireless phone services. The antenna system at the Arizona stadium covers nearly everything, including public service and emergency service radios, phones, and Wi-Fi.

MobileAccess uses specially designed antennas along with a combination of coaxial cable and fiber to carry radio signals from central locations to the antennas, Kunst said.

"It's a multielement antenna," he said. "We have to create a flexible system that handles the necessary power levels. You can continue to add bands on top of it. We have different variants of our antennas."

MobileAccess is service-agnostic, caring only about the actual frequency band, Kunst said.

The company's antenna systems normally handle frequencies from 400MHz to 6GHz, he said. In addition, MobileAccess provides specialized modules that allow different signals to travel along the same cable.

"Our system also supports voice over wireless LAN, VHF and UHF radios," Kunst said.

The advent of distributed antenna systems such as those from MobileAccess has changed the way some companies plan their building infrastructure.

"Every large building is fundamentally a multiservice environment," Kunst said. "There are a lot of wireless applications, and most people start serving them individually."

MobileAccess is already developing modules for new applications, including the newly available 700MHz band, Kunst said.

One advantage to the distributed approach is that while antennas are spread around a building, radios are not. Those are in one place, where they're easier to service and less expensive to manage, Kunst said.

In addition, because the only things out in the building are the passive antennas, there's rarely a reason to send a technician out to service them. That is the reason Hearst chose the distributed approach - all officials needed in the Hearst Tower were antennas on each floor.

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