

DAS Moves to the Great Outdoors

Distributed antenna systems (DAS) are a common sight inside buildings, but they're branching out. One group hopes to guide their travels for the benefit of industry and communities.

BY MONICA ALLEVEN

Structures criss-cross neighborhoods across the country where wireless carriers could install antennas to improve coverage and capacity in residential areas. Yet most people never notice them because they are so commonplace.

The structures are telephone and electric poles, as well as light posts, and they've caught the eye of more than a few wireless industry professionals looking to beef up coverage, namely through distributed antenna systems (DAS). Although DAS has been widely used indoors, it's only now starting to emerge outdoors.

Last September, Sprint Nextel, Donohue & Blue, Crown Castle International and Corning Cable Systems founded the DAS Forum to start charting new territory for the technology.

While the older pole structures look mundane, DAS is fairly high-tech – usually taking RF energy and converting it to optical for traveling a certain distance over fiber and converting it back as RF. Besides poles, buildings and other structures may be involved. Because cable makes up such a great

part of DAS, industry insiders have talked about whether it really falls into the wireless space or the fiber arena. Founding member Corning Cable, as the name implies, is a big supplier of cable.

EDUCATION ON TAP

One of the purposes of the DAS Forum is to educate, according to Connie Durcsak, executive director of the forum

Outdoor DAS systems require the involvement of more players.



and senior director of industry services at PCIA. Although DAS is promising, it's also an area fraught with challenges. Local officials get excited when they hear about DAS and the possibility of using it in lieu of towers. But it doesn't work in every situation, and the equipment remains orders of magnitude more costly for carriers than traditional gear. "Our challenge is to help improve that, make it more of the 'be-all-to-end-all' than it is now but also to manage expectations," Durcsak says.

The forum is in the recruitment phase and wants to get a broad cross-section of members from the industry and local jurisdictions. The idea is not to advocate DAS as a solution. The ultimate architecture should be at the discretion of the carrier, Durcsak says. But it's important to get industry and local communities together now, she adds. A draft model ordinance is available on the forum's Website (thedasforum.org).

The issues get sticky pretty quick. A DAS builder may need a combination of public and private poles. The structures must be strong enough to handle the equipment, so there may be structural issues, says Catherine Blue, an attorney at Donohue & Blue. Some newer residential areas require utilities to put infrastructure underground, so if no existing poles are available, the DAS installer needs to build them. Crown Castle, for example, built poles on Hilton Head Island, S.C., where the DAS Forum kicked off its first seminar in January. The Hilton Head deployment represents a case study in building DAS in sensitive environments.

STREAMLINING PAPERWORK

Donohue & Blue lawyers also say they wouldn't mind seeing some standardization when it comes to zoning. What the law firm brings to the table is a history in zoning, permitting and transactions, says Blue, a former AT&T Wireless/Cingular Wireless attorney who

was involved in a lot of indoor DAS deployments. One reason she cites for creating the forum is to avoid what happened in the mid-1990s, just after PCS licenses were awarded and municipalities wildly started passing zoning ordinances prohibiting towers, and the industry grappled with the consequences.

Of course, outdoor DAS is different from the indoor systems in hotels, casinos and the like, Blue says. Indoor systems usually just involve striking a deal with one landlord, but outdoor systems require the involvement of more players, and the permitting process differs from jurisdiction to jurisdiction.

Another DAS Forum member, NextG Networks, has been around about four years and, like others in the space, acts as a competitive local exchange carrier (CLEC).



From left to right: Catherine Blue, Thomas Carroll and Edward Donohue, who hope more standardization through the DAS Forum will minimize paperwork associated with DAS.

That designation allows the company to apply to use public rights of way for mounting antennas on poles and similar structures. The company uses off-the-shelf products from the likes of Andrew, Powerwave and ADC, and operates a 24/7 network operations center to monitor what's going on, according to Bo Piekarski, vice president of marketing and university programs at NextG.

"The technology is nothing new," he says. "The beauty of having the rights of way is we don't really care what the technology is." DAS networks, like the one NextG built in Del Mar, Calif., are protocol neutral, so multiple wireless carriers – from GSM to CDMA – can share in the system. Similar to Hilton Head, the Del Mar oceanside installation also called for minimal impact to the environment.

Of course, there's plenty of competition for the poles. Cable TV companies were among the first to get pole attachment rights. Since then, other interested parties have joined in, and wireless carriers have to compete for the space – if they want it. ■