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New Uses For Fiber Networks

The promised deluge of applications for fiber networks is beginning to arrive.

Exactly a decade ago, when this magazine launched a section called Killer App, I wrote an introductory article that advised deployers, “Build it, and they will come.” As every business student knows, this is bad advice when “they” means customers – and, in fact, broadband deployers have become much more savvy since that time about gauging (and boosting) demand before they ever start to build.

In this case, however, “they” meant applications. Ten years ago, people were just beginning to glimpse the possible uses for fiber networks. I argued that deployers should think beyond HDTV, YouTube and video Skype to a wealth of new applications that would drive demand for their networks. Fiber networks have always had a chicken-and-egg problem, which kept high-bandwidth applications from emerging until enough fiber was in place.

Many deployers did take the risk of investing in fiber. Now that the chicken (fiber) has reached a critical point, the eggs (applications) are appearing on the market. Ten years from now, even more applications will likely be available. But already, fiber networks have proven far more versatile than anyone could have imagined. Some new applications, interestingly, rely on a combination of a dense fiber network and lightweight sensors or other mobile devices that operate over short distances.

Here are a few of the fiber applications and technologies you’ll find discussed in this issue of

BROADBAND COMMUNITIES:

- Virtual reality, the technology that took SXSW by storm this year (“Combine it with videoconferencing, and it’s pretty close to teleportation”)
- Telepresence (way better than standard videoconferencing)
- 4K video with high-dynamic-range imaging
- Car-mounted distributed antenna systems for maintaining wireless coverage in elevators
- Smart electric grids and microgrids
- Automatic switchover of building operations to backup power
- Real-time air quality measurement
- Real-time traffic measurement (and correlation with air quality measurement)
- Tracking first responders at emergency sites
- Remote physical therapy with real-time movement assessment
- Remote support for dementia caregivers
- Remote access to research microscopes for high school students
- Remote, real-time collaboration on video broadcast production
- Environmental monitoring to predict public health issues
- Virtual environments for surgical training
- Multiple-venue dance performances.

How is your community using fiber? Tell us if you have new and interesting applications in the works. ❖

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