Maurice France

A founder of RadioConnect Corporation, the company's President and CEO is Mr. Maurice France, an experienced technical and business executive with over 30 years of experience in the electronics, communications and data networking fields with the U.S. Navy, TRW and now RadioConnect. Mr. France's projects have included spacecraft data networks, satellite communications control systems, secure communications, broad band cable Local Area Networks and currently, commercial wireless communications products. He holds patents in both cable modems and wireless communications systems.

Mr. France received the Chairman's Award for Innovation from TRW. He holds a BEE from the Georgia Institute of Technology, is a member of the IEEE and an avid sailor.

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FCC Presentation Speaking Papers

H. Maurice France

What Technology?

The way to win a race is to run more than one horse.

Current Technologies

Wired
Copper
Fiber

Wireless
Radio
Satellite
Terrestrial links
In building links
Optical
Terrestrial links
In building links

Infrastructure based technologies

Telephone lines
Broadband Cable
Fiber Optics
Power lines
Licensed Wireless

Non-infrastructure based technologies

Unlicensed Wireless
Free space optical

Unlicensed Wireless Technology

Wireless technology in general is not a panacea. There are many limitations to its use. Line of sight transmission is required for operation in most of the available spectrum allocations.

The unlicensed bands have "Shared Use" of the spectrum and must accept interference from others. Much of the older unlicensed equipment meets only the minimum requirements of the rules and, as a result, offers less than stellar performance in today's environment.

However, the new generation of unlicensed equipment is designed to operate in these shared bands and makes good use of previously secret techniques to greatly increase its' resistance to interference and to reduce its' interference to others.

These techniques allow more efficient use of the spectrum by increasing the density of communications. Perhaps more importantly, a large number of these new devices can be co-located at a single point of presence to make wireless internet serviced access a viable activity.

Backbone

Current unlicensed wireless technology can support a relatively "skinny", but highly reliable backbone. The voice and data requirements of a small community, or a small to medium sized business could be supported assuming line of sight and distances of 20 miles or less.

Rather than being the backbone itself, we see such links as being the next tier in the network architecture distributing the data to many smaller locations from a wired or licensed microwave backbone node.

Last Mile (or 20)

This is the forte of the new generation of unlicensed wireless technology. More sophisticated coding, transparent error correction and recent FCC regulatory changes have made relatively high speed point to point links highly reliable.

The most important feature of this technology is the lack of infrastructure cost. With this technology, a school district can connect the district office with other buildings on campus or other campuses. The capital costs are relatively low and the life cycle costs are very low due to the lack of fees for use.

Our cash strapped schools often have more greater access to funds for capital improvements than funds available for operations and maintenance.

Last 100 Feet

This is the domain of unlicensed wireless. The reality is that things move around within the home or office. The wiring in the walls is never where you want it to be. The 803.11 wireless standard appears to be the best fit for this application.

Barriers and Cost

There are three major issues with manufacturers of unlicensed equipment. The first problem concerns the long term availability and viability of these allocated shared bands. The second is the expense and time required to obtain authorization for a new product. And the third is new rule making, good (higher power for point to point) and bad (placing a restricted band adjacent to a shared band where wide bandwidth modulation is a requirement, which effectively reduces the spectrum within the shared band).

What Should the FCC Do?

From our company's view, the best thing that the FCC has done to serve our point to point link market, has been to modify the radiated power limits for gain antennas. These higher effective radiated power limits make 20 mile links reliable for commercial applications.

However, the next regulatory change should be to allow point to multipoint operation with the same directional antennas and power levels. This will have a profound effect on the user cost of equipment and will not increase the power density within the spectrum.

This change alone would allow a next generation system to provide essentially ADSL rates to the residence with several residences supported by a single unit at the Internet Serviced Provider.