

# Radio Link Between Ethernet Networks Jumps to 15 miles

BY PATRICK DRYDEN

Campus and crosstown Ethernet LANs requiring full-speed connection can join up to 15 miles apart through an enhanced radio bridge shipping this week from Microwave Bypass Systems.

The pioneer in full-bandwidth micro-

wave LAN connectivity also now adds SNMP support to its radio interface for monitoring, testing, and troubleshooting the point-to-point wireless links.

Originally a single interLAN connection required both Ethernet and microwave repeaters to extend beyond a 4.3 mile limi-

tation, set by the round-trip Ethernet propagation delay. A duplex-like configuration developed with Cisco Systems Inc. adjusted timing between the transceiver and router at each end to extend distances to 8.6 miles, said David Theodore, founder and president of Microwave Bypass Systems.

Now a pure duplex bridge called LAN-LINK 1000-D extends transmission distances to 15 miles. It splits the transmit and receive paths through two Intel 32-bit Ethernet controllers, coordinated by a Motorola 68020 CPU. Three AUI ports connect to the LAN and to the transmit and receive ports on the companion Etherwave Transceiver. Separating paths through the bridge

avoids collisions and improves performance, Theodore said.

The only distance-limiting factors become the transmit power of the LAN radio and the time before network time-out due to lack of response, according to Theodore. That time-out can range from milliseconds to seconds, unlike the round-trip Ethernet propagation budget which is conservatively figured at 46.4 microseconds, Theodore said.

Such a full-speed pipeline appears to each LAN as a wire link. To improve integration within spreading networks, the Braintree, Mass., company expects to ship next month SNMP support in its Etherwave Transceiver. This interface joins an 802.3-compatible bridge, router, or repeater to the microwave radio.

Network managers will be able to remotely query each end of the point-to-point link for statistics on packet transmission and errors. They can ping test packets between Etherwave Transceivers as well, to test the radio link from each end.

Theodore expects SNMP support to help users dispel radio mystery and accept the alternative to T1 leased lines and fiberoptic installation. Microwave Bypass Systems also can independently check its microwave links for users.

Future management options include an SNMP board within the microwave radio unit itself to provide information on signal strength, transmit power, baseband voltages, frequency, and other operational data.

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