

Doubling Speed: Bonding Is Working and Cheap

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Five years ago, BellSouth CTO Bill Smith pointed to ADSL bonding as the cheapest and easiest way to double speeds. He had 37% unused copper available and his line count was dropping, not increasing. A modem + DSLAM port then cost \$50-80 so double gear is affordable when the service returns \$300/year. That's fallen by now, although the current double gateways typically cost 2.5 times the single gateway cost.

The early tests were disasters, however. The original gear couldn't handle problems like the 20 feet of copper bridged from the outside box to the home gateway. David Thompson of ZyXEL tells me that 2009 units have better technology and are doing fine. Both Ikanos/Conexant and Infineon tell me they have working chips ready for AT&T. Broadcom made an announcement without details then hid their demo away in a hotel room. With most companies, I'd assume that means they don't have things ready to show, but Broadcom has extra reasons for secrecy. After all, both their founders face jail for stock fraud.

ZyXEL has just introduced the two line P663HN with draft 802.11n WiFi for much higher speeds. Thompson adds this is true 2 x 2 MIMO, not a stripped down version. For years, the 802.11n chipmakers have been promising that .11n would be fast enough for a telco to carry TV around the home without requiring an expensive home network, but the early versions haven't done the job in some test homes. Everyone will be watching closely as the newer chips go to trials.

Bill Smith's problem is not yet solved, because after the merger he's responsible for much of the AT&T network, built on VDSL rather than ADSL. AT&T, Alcatel, and several vendors promised VDSL bonding in 2006, then again every six months or so after that. AT&T needs VDSL desperately, because 25-40% of U-Verse customers can't get the 25 meg the system was designed for. Kevin Schneider of Adtran three years ago was confident his DSLAMs could handle the bonding, but there aren't any bonded VDSL modems ready for field use. Because so few carriers followed AT&T and DT to VDSL, neither chip nor modem makers invested enough to get the gear they wanted. I'm hearing rumors and promises from Broadcom and others, but I doubt I'll see production ready units until 2010. Comcast is now passing 25M homes with 50 meg, most in AT&T territory. If they priced at \$45 like U.K cable, AT&T would be hemorrhaging lines.