

Technical Comparisons between FTTH and FTTC Architectures

	Local Access Medium	Intrinsic Bandwidth of Access Medium	Peak Downstream Delivery	Peak Upstream Bit Rate	Services	Design	Upgradeability	Protocol	Standards
FTTH Architectures:									
APON/BPON	Fiber	25,000 GHz	622 Mbps data 1 GHz video	155 Mbps data	Voice, data, broadcast video, switched digital video, HDTV	1:32 shared	Replace only opto-electronics	ATM	G.983.1/ G.983.3
GPON	Fiber	25,000 GHz	2.5 Gbps data 1 GHz video	2.5 Gbps data	Voice, data, broadcast video, switched digital video, HDTV	1:64 shared	Replace only opto-electronics	ATM	G.984
EPON	Fiber	25,000 GHz	1 Gbps data	1 Gbps data	Voice, data, switched digital video, HDTV	1:16 shared	Replace only opto-electronics	Ethernet	802.3ah
Ethernet (Pt-Pt)	Fiber	25,000 GHz	1 Gbps data	1 Gbps data	Voice, data, switched digital video, HDTV	Dedicated	Replace only opto-electronics	Ethernet	802.3ah
FTTC Architectures: (500 ft. subloop)									
With TWP Subloop:									
ADSL	Fiber and Copper	1 MHz	6 Mbps data	640 Kbps data	Voice, data	Dedicated	Replace electronics and copper media	TDM	G.992 GR.909
VDSL	Fiber and Copper	10 MHz	52 Mbps data	6 Mbps data	Voice, data, switched digital video	Dedicated	Replace electronics and copper media	TDM	G.992 GR.909
With TWP and Coax Subloop:									
ADSL plus video	Fiber and Copper and Coax	1.00 GHz	6 Mbps data 1 GHz video	640 Kbps data	Voice, data, broadcast video	Dedicated	Replace electronics and copper media	TDM	G.992 GR.909
VDSL plus video	Fiber and Copper and Coax	1.01 GHz	52 Mbps data 1 GHz video	6 Mbps data	Voice, data, broadcast video	Dedicated	Replace electronics and copper media	TDM	G.992 GR.909

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Notes:

1. BellSouth states on page 12 of its December 16, 2003 *ex parte* notice that FTTC can provide data at a bit rate in excess of 100 Mbps. There is no local delivery capability in the outside plant using FTTC. There is, however, a 100 Mhz standard, ISO-IEC 11801, for delivery of 100 Mhz on CAT5 copper network environment. But, this standard is not used in the outside plant by wireline telephone providers. BellSouth's website http://www.fastaccess.com/content/consumer/product_comparison.jsp states that BellSouth offers only DSL at 1.5 Mbps downstream and 256 Kbps (b
2. BellSouth offers broadcast video to less than 20% of its residential subscribers of FTTC systems. On page 1 of its January 5, 2004 *ex parte*, BellSouth capability to deliver a 230 channel video service[s] (sic) to over 200,000 FTTC homes in the BellSouth region. Of these, more than 40,000 customers service.”

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Sources:

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