

Available Broadband Technologies

Carrier Technology	Description	Physical Medium	Estimated Bandwidth (Residential)	Comments
Broadband over Powerline	Uses existing electrical infrastructure to deliver broadband speeds using special modems.	Ordinary power lines.	100 Kbps – Upstream	Still emerging technology, limited availability.
			1 Mbps – Downstream	Significantly lower deployment costs than some other technologies.
Cable	Special cable and cable line required.	Coaxial cable, telephone lines for some upstream requests.	384 Kbps – Upstream	Must have existing cable access.
			1 Gig – Downstream	Cost of bringing coverage to an area can be prohibitive.
DSL	Special modem and adapter card may be required.	Twisted pair (used as a digital, broadband medium).	200 Kbps – Upstream	Does not interfere with normal telephone use.
			768 Kbps – Downstream	Bandwidth is dedicated, not shared, but is affected by distance. Limited availability.
Fiber	Information travels at extremely long distances, uses a transmitter, regenerator, and receiver.	Fiber-optic lines (strands of fine glass).	2 Mbps – Upstream	Super high speed.
			5 Mbps – Downstream *Speeds vary depending on business needs.	High costs in establishing network and connections.
Satellite	Computer sends request for information to an ISP; data returned to high speed satellite to dish, which is sent into a decoder box.	Airwaves, requires outside antenna/satellite dish.	768 Kbps – Upstream	Bandwidth not shared.
			2 Mbps – Downstream	Slower speeds than other technologies, with a higher price.
Wi-MAXX	Access gained by connection to high-speed network via wireless transmitter/receiver	Airwaves, outside antenna	2 Mbps – Upstream	Licensed-spectrum service, faster than traditional wireless.
			4 Mbps – Downstream	Limited availability.
Wireless	Access gained by connection to high-speed network via wireless transmitter/receiver.	Airwaves, outside antenna.	500 Kbps – Upstream	Can be used for high speed data.
			2.5 Mbps – Downstream	Distance, terrain, weather can hamper the signal.
3G/EV-DO	Growing technology that uses cell phone towers to transmit mobile and fixed wireless WAN.	Airwaves, requires a wireless card for a computer.	1 Mbps – Upstream	Evolving technology; does not require line of sight.
			4 Mbps - Downstream	Limited range from towers.