

Gigabit to the Home

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We don't Exactly mean Gigabit. Or Home.

“What if you had as much reliable, low latency bandwidth as you could possibly use?”

Internet Connections

Table 2: Wired Speed Leaders

Rank	City	ISP	Network Technology	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)
1(t)	Seoul	HelloVision	Fiber	1000	1000	\$31.47	N/A
1(t)	Tokyo	KDDI	Fiber	1000	1000	\$33.69	N/A
1(t)	Hong Kong	Hong Kong Broadband Network Limited	Fiber	1000	1000	\$64.42	N/A
1(t)	Kansas City, MO	Google Fiber	Fiber	1000	1000	\$70.00	N/A
1(t)	Kansas City, KS	Google Fiber	Fiber	1000	1000	\$70.00	N/A
1(t)	Lafayette, LA	LUS	Fiber	1000	1000	\$999.95	10000
7(t)	Chattanooga, TN	EPB	Fiber	1000	50	\$69.99	N/A
7(t)	Bristol, VA	BVU	Fiber	1000	50	\$319.95	N/A
9(t)	Riga	Baltcom	Fiber	500	500	\$9.22	N/A
9(t)	Amsterdam	KPN	Fiber	500	500	\$106.02	.
11	New York, NY	Verizon	Fiber	500	100	\$299.99	N/A
12	Paris	SFR	Fiber	300	.	\$26.73	N/A
13(t)	Washington, DC	Verizon	Fiber	300	65	\$209.99	N/A
13(t)	Los Angeles, CA	Verizon	Fiber	300	65	\$214.99	N/A
15	Toronto	Rogers	Fiber	250	250	\$183.73	500
16	Mexico City	Totalplay (Iusacell)	Fiber	200	66	\$254.11	.
17	Berlin	Deutsche Telekom	Fiber	200	.	\$69.56	Throttle
18	Copenhagen	Stofa	Cable	150	15	\$77.99	2500
19	Zurich	UPC	Cable	150	10	\$77.27	N/A
20	Bucharest	UPC	Fiber	150	6	\$29.94	.
21	Prague	UPC	Cable	120	10	\$45.62	N/A
22	San Francisco, CA	Comcast	Cable	105	20	\$114.95	.
23	London	Virgin	Fiber	100	.	\$47.35	N/A
24	Dublin	Magnet	Fiber	100	.	\$60.98	N/A

* * indicates that data could not be found.

*Offers included additional bundled services.

speeds in Mb/s

- Backhaul **not** the problem
- Infrastructure is expensive
- Incumbent carriers
- Asymmetric connections

<http://arstechnica.com/business/2013/10/cheapest-150mbps-broadband-in-big-us-cities-costs-100-more-than-overseas/>

It's Coming



- Internationally available
- Google Fiber, municipal, etc.
- Verizon FiOS maxes out at 500/100 Mbit/s
- Consumer desire exists

http://www.afr.com/p/technology/google_fibre_optic_boss_unravels_RdzwEZdT2tT3WyVjWwZneJ

We can do interesting things with it



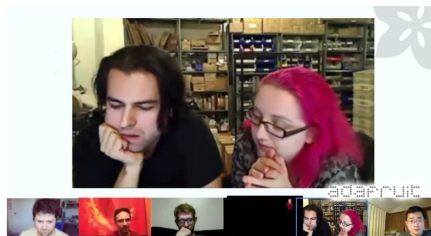
- Google Fiber ToS now allows non-commercial servers
- US Ignite: <http://us-ignite.org/>
 - ▶ fosters the creation of next-generation Internet applications that provide transformative public benefit.
- Examples:
 - ▶ Cloud
 - ▶ Education
 - ▶ Collaborative manufacturing
 - ▶ Peering

<http://arstechnica.com/information-technology/2013/10/google-fiber-now-explicitly-permits-home-servers/>



- Responsive and reliable?
- Ignite: Network Powered By BYOD Cloud
 - ▶ <https://www.youtube.com/watch?v=110kCUN5wo0>
 - ▶ Mark Medovich/Juniper Networks
- Security/data vassals
 - ▶ <http://owncloud.org/>

Education



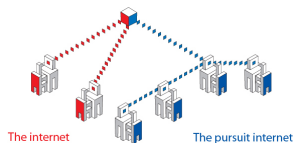
- High-definition multipoint video[conferencing]
- Network-Collaborative
 - ▶ Hangouts/ Adafruit's "Ask an Engineer," "Show and Tell"
- Learning environments
 - ▶ Ignite: Software Lending Library
 - ▶ <https://mozillaignite.org/apps/460/>

Collaborative Manufacturing



- VR for design collaboration
- Telepresent access to scarce resources
- Ignite: Cloud Computing for Collaborative Advanced Manufacturing
 - ▶ <https://mozillaignite.org/apps/415/>
 - ▶ micro devices assembly

Peering



- Serve content from nearby peers
- Shared caches
- Avoid DoS and outages
- Ignite: PeerCDN
 - ▶ <https://mozillaignite.org/apps/415/>
- FP7: PURSUIT
 - ▶ <http://www.fp7-pursuit.eu/PursuitWeb/>

What about you?