

LET'S
TALK

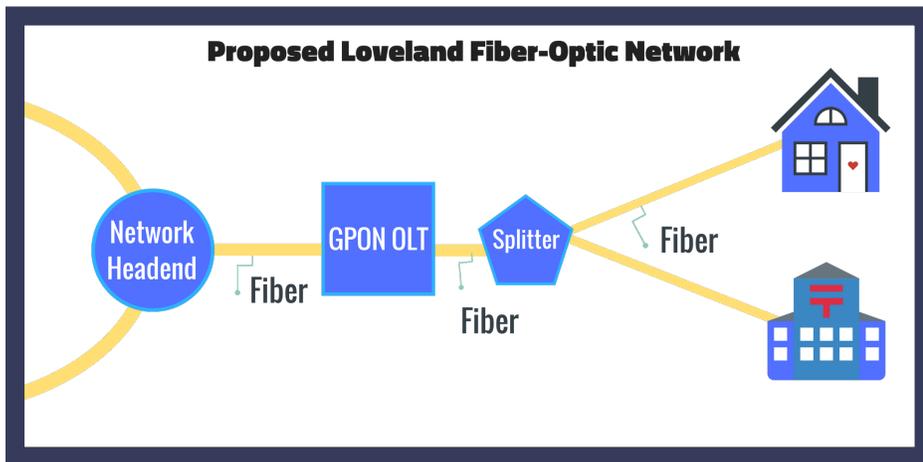
BROADBAND

NETWORK DIFFERENCES >>

SPEED AND PERFORMANCE



How an Internet network is built makes all the difference. What do communities, businesses, and consumers need to work, live and play? Over time, technology advancements have changed how communication networks are made. Here is a look at four different communication network designs and how their technology and speed compare.

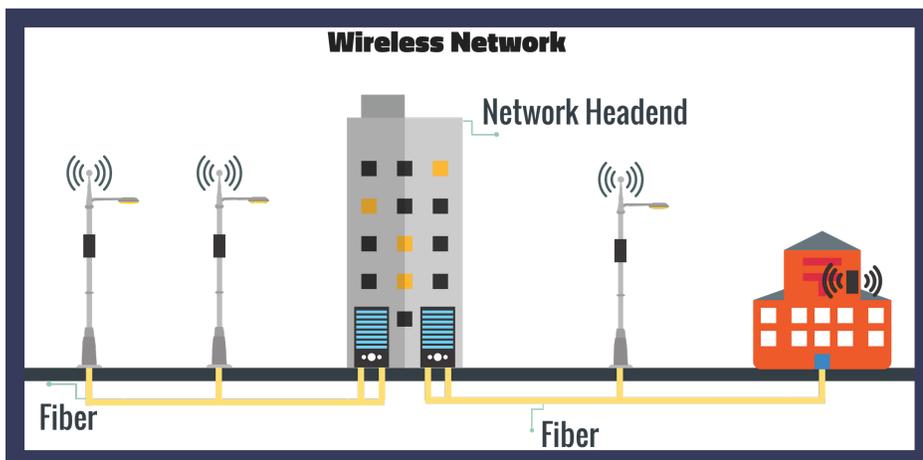


FIBER-OPTIC NETWORK
Throughput Maximum:

>> **Upstream:**
1 to 40 Gbps

>> **Downstream:**
1 to 40 Gbps

A 100 PERCENT FIBER GPON (gigabit passive optical network) uses fiber from start to finish. The synchronous connection begins at the headend, head to a midpoint "optical line terminal" and then runs through a splitter before coming to your home or business.



WIRELESS
Throughput Maximum:

>> **Upstream:**
5 Mbps

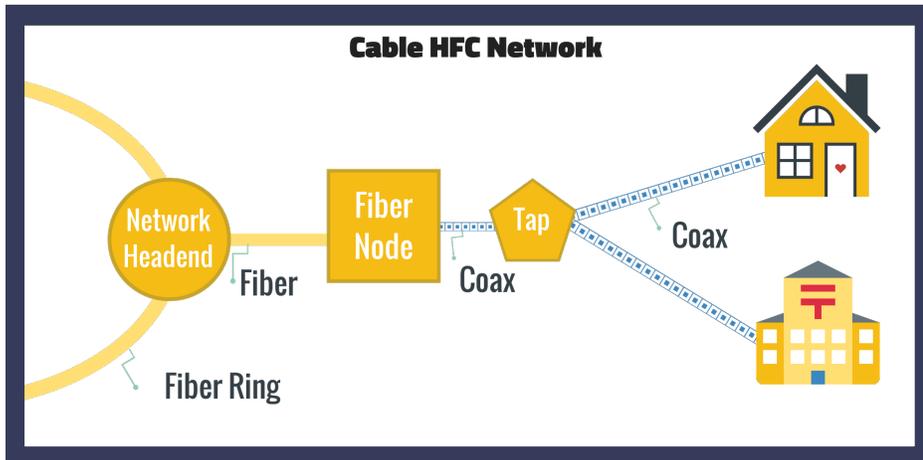
>> **Downstream:**
12 Mbps

A WIRELESS NETWORK starts with an underground network connection from the headend transmitting data to cell towers and antennas. A fiber-optic network and more evenly spaced cell towers and antennas are needed to support potential speeds of 4G and beyond.

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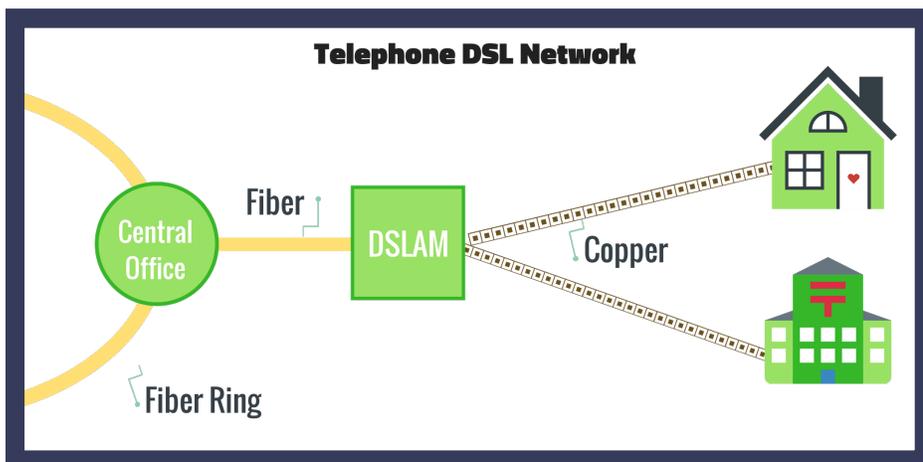


CABLE HFC
Throughput Maximum:

>> Upstream:
35 Mbps

>> Downstream:
1 Gbps

WITH A **CABLE HFC** (hybrid fiber-coaxial) network, a fiberoptic connection runs from the cable network's headend on a fiber ring to a fiber node. That node then sends the signal on to multiple locations over a coax, which is tapped to reach each individual customer.



TELEPHONE DSL
Throughput Maximum:

>> Upstream:
20 Mbps

>> Downstream:
40 Mbps

A **TELEPHONE DSL** (digital subscriber line) network often has fiber connections running from its central office, to a network crossroads, a device referred to as a DSLAM (digital subscriber line access multiplexer.) The DSLAM connects multiple customers to a single channel through a copper telephone line.

FOR MORE INFORMATION, VISIT CITYOFLOVELAND.ORG/BROADBAND

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