

LOCAL NETWORK STRATEGIES

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An International
Association of Technology
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SUMMARY

Judicious use of modern local networking technologies can make your home network faster, more efficient, and more reliable.

TOPICS

- Two Guiding Concepts
- Wired networking options
- Wireless networking options
- Use newer tethered 5G cell phones as a backup Internet provider

TWO GUIDING CONCEPTS

- Concept One:
The speeds of the local network devices do not reduce the speeds provided by the Internet provider
- Concept Two:
The speeds of the local network devices do not reduce the speeds that local devices such as printers and cameras can operate at

WIRED NETWORKING OPTIONS

- Cat 5/6/7/8
- Powerline networking
- Multimedia Over Coax Alliance

WIRED NETWORKING OPTIONS

--Cat 5/6/7/8

- The higher "Category" levels are better shielded and pick up less noise.

The higher "Category" levels are provide you with "future proofing": Consider the value of your or your electrician's labor and you will pick higher "Category" levels instead of future re-wiring!!

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING

- Consider the nominal "speed" levels in the manufacturer's description of each product:
Do not buy a powerline networking device or kit that has nominal "speed" level belong 2000

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- Two standards:
Powerline AV 2
and
G.Hn

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- If your neighboring house, apartment, townhouse, or condo also is running powerline networking, you might have to use the powerline standard that they are not using to reduce mutual interference

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- A short <100 foot powerline networking run that goes through a single breaker's lines will have no reduction in your Internet speeds

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- A longer >100 foot powerline networking run that goes through multiple breaker's lines will have up to 40 percent reduction in your Internet speeds

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- If you use more than two powerline devices, each additional one that you install slows down the existing ones

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- If you use the encryption feature of your powerline devices, it slows down their data transmission speed

WIRED NETWORKING OPTIONS-- POWERLINE NETWORKING (continued)

- Do not plug powerline networking units into surge strips
- Do not plug powerline networking into UPS units

WIRED NETWORKING OPTIONS-- MULTIMEDIA OVER COAX ALLIANCE

- Make sure that your MoCA devices conform to "MoCA 2.5" so that they will transmit at full 1 Gigabit Ethernet speeds over your existing coax cabling

WIRELESS NETWORKING OPTIONS

- Wi-Fi 4 or 5 or 6 or 6E
- Single wireless router

VERSUS wireless router plus
separate wireless extender
VERSUS

wireless mesh consisting of mesh-
capable wireless router plus one or
more separate mesh units

WIRELESS NETWORKING OPTIONS

(continued)

- Radio Frequency band options:
 - 2.45 Gigahertz
 - 5 Gigahertz--low band
 - 5 Gigahertz--high band
 - 6 Gigahertz

WIRELESS NETWORKING OPTIONS

(continued)

- Frequency band options:
 - 2.45 Gigahertz: cameras and IoT devices
 - 5 Gigahertz--low band: older cell phones, older tablets, and older computers
 - 5 Gigahertz--high band: newer cell phones, older tablets, and newer computers
- 6 Gigahertz: newer cell phones, older tablets, and newer computers

WIRELESS NETWORKING OPTIONS

(continued)

- Use/install separate routers for insecure cameras & IoT devices
AND
computers and cell phones doing secure transactions

WIRELESS NETWORKING OPTIONS

(continued)

- If you are running "mesh" Wi-Fi system, use free apps to determine which mesh device your computer, tablet, or phone is attached to since your device's operating system will not tell you

WIRELESS NETWORKING OPTIONS

(continued)

- If you are not connected to the optimum mesh device and you are doing a Zoom session or a download that you do not want to interrupt, use a Faraday bag to force a connection to the optimum device.

WIRELESS NETWORKING OPTIONS

(continued)

- If you are not connected to the optimum mesh device and you are not doing a Zoom session or a download, just turn off and then back on your Wi-Fi connection to force a connection to your optimum device

USE 5G CELL PHONES AS BACKUP INTERNET PROVIDERS

- Cell towers do not usually fail when the power grid has an outage
- Practice tethering your 5G cell phone before you have a power grid outage
- When tethering a 5G cell phone, your computer will "see" it as a wired USB Ethernet adapter.

USE 5G CELL PHONES AS BACKUP INTERNET PROVIDERS (continued)

- Using a cell phone as a backup Internet provider is much more secure than resorting to public/coffee shop wireless Internet access

USE 5G CELL PHONES AS BACKUP INTERNET PROVIDERS (continued)

- Using a cell phone as a backup Internet provider is great for communicating with others during unplanned outages caused by inclement weather events

USE FIXED 5G INTERNET ACCESS AS INTERNET PROVIDERS

- Cell towers do not usually fail when the power grid has an outage
- You can use your cell phone provider's "5G Internet access" as either a main or backup Internet provider

