

# 1--TETHERING & HOTSPOTS USING A CELL PHONE

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# SUMMARY

You can use your smart cell phone to create a solid Internet connection for any client computer, tablet, or another cell phone.

# TOPICS

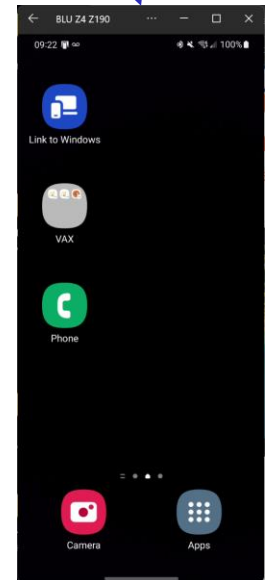
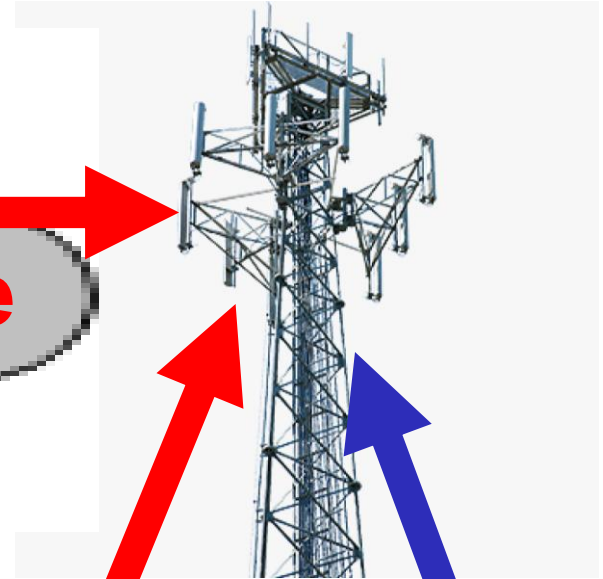
- Basic Configuration of the Cell Phone System
- Tethering and Hotspots for Cell Phones
- Three Options for Tethering a Cell Phone
- Basic Steps for Tethering Using "Option 1" (Wi-Fi)
- Basic Steps for "Option 2" ("Cell Phone to USB" cable)
- Basic Steps for "Option3" (Bluetooth)

# BASIC CONFIGURATION OF THE CELL PHONE SYSTEM

- Your cell phone connects wirelessly to a transmitter/receiver on a cell tower which then has a mandatory connection to the "Public Switched Telephone Network"
- Most cell phone services also provide a "data plan" which is a connection to the Internet cloud

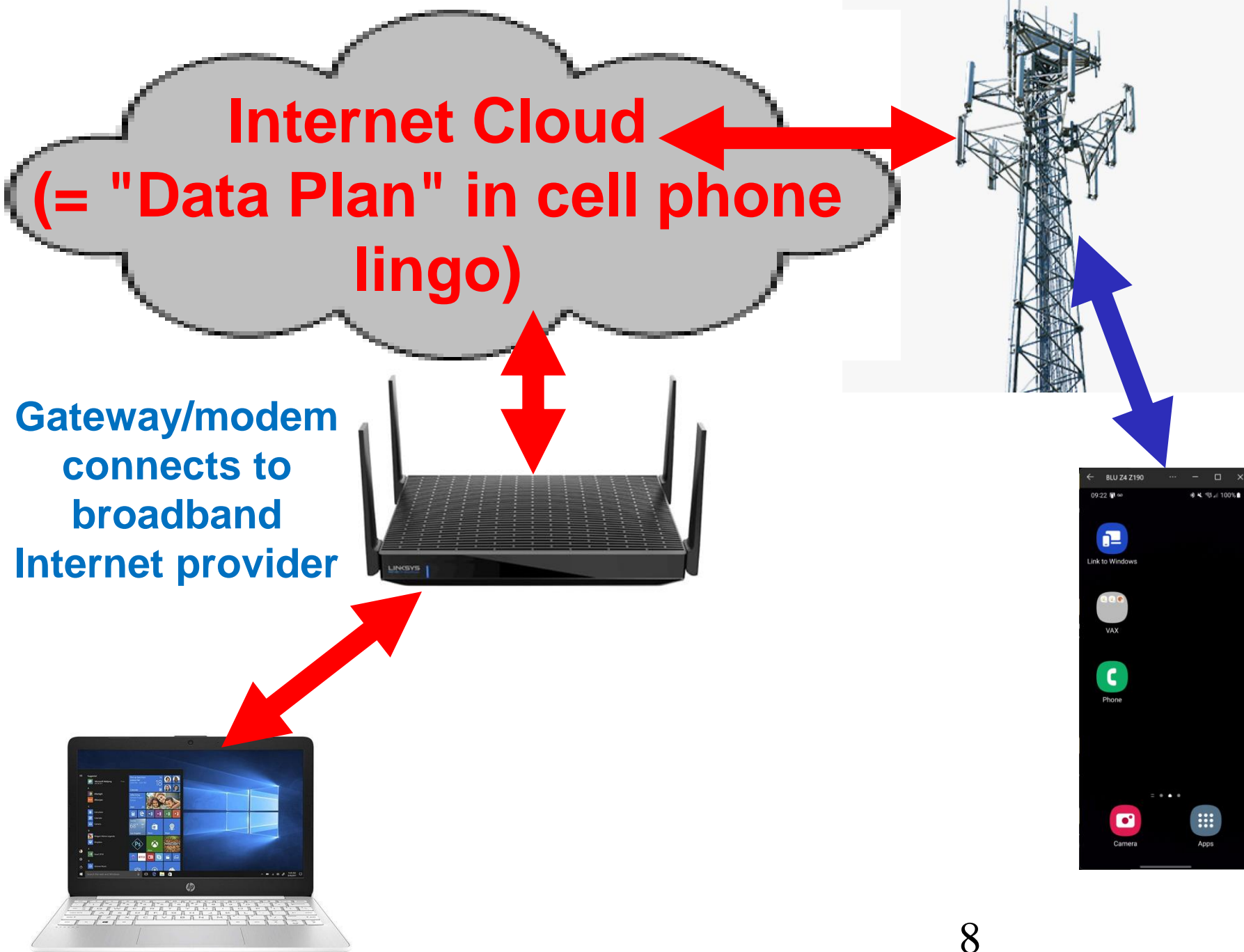
**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**

**Public Switched  
Telephone Network  
("PSTN")  
= "Plain Old Telephone  
Service" ("POTS")**



# CELL PHONE SYSTEM AND BROADBAND INTERNET

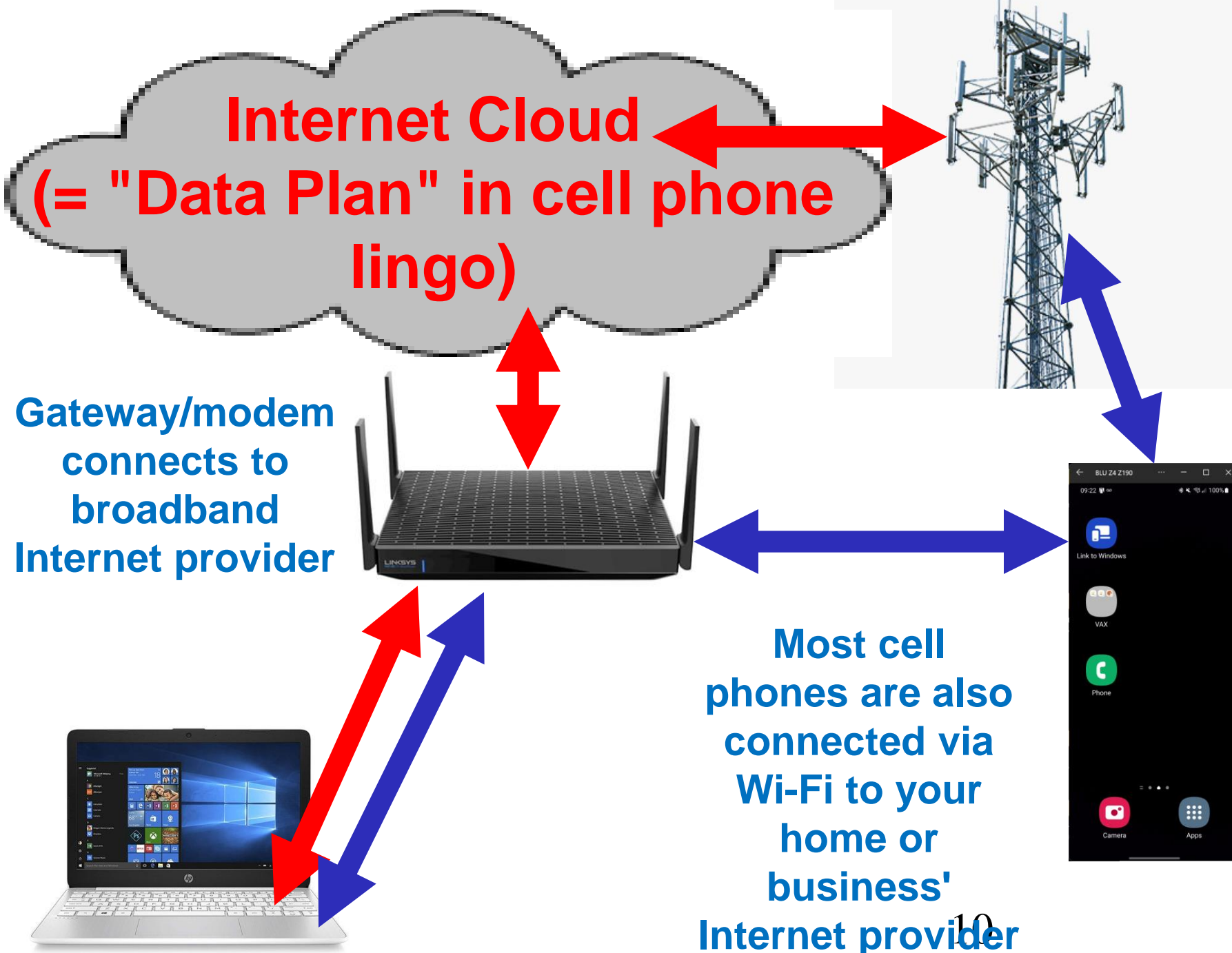
- For many of us, the cell phones that we own and the equipment that we have connected to broadband Internet are not too related to each other, even though both make use of the Internet cloud:





# BASIC CONFIGURATION OF THE CELL PHONE SYSTEM (continued)

- However, for many of us, most cell phones have BOTH a radio connection to a cell phone tower AND a Wi-Fi connection to your broadband Internet provider. This gives your cell phone a much faster and almost unlimited connection to the Internet.



**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**

**Gateway/modem  
connects to  
broadband  
Internet provider**

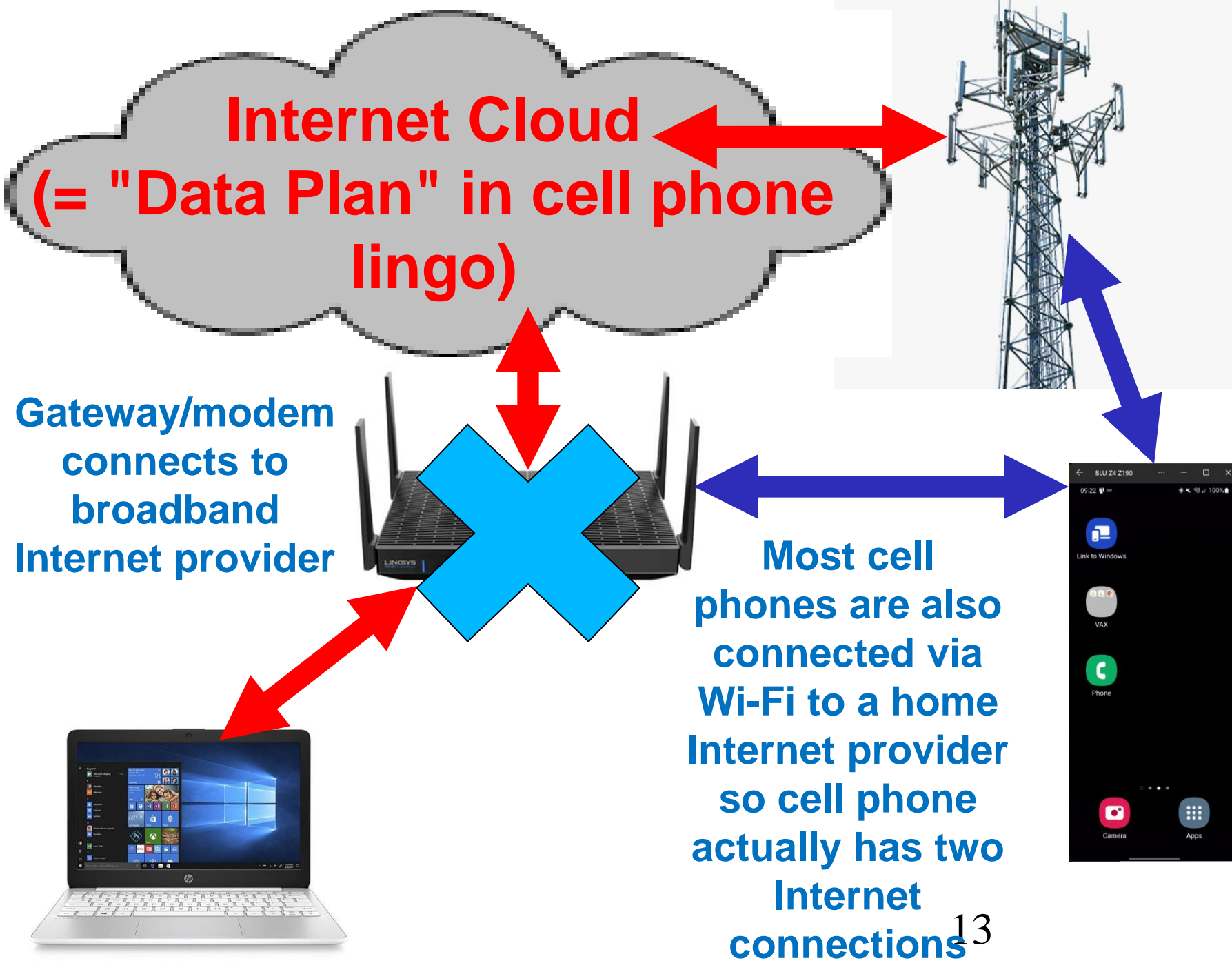
**Most cell  
phones are also  
connected via  
Wi-Fi to your  
home or  
business'  
Internet provider**

# OPTIONS FOR USING CELL PHONE "TETHERING" AND "HOTSPOT" ..

- ..as your only Internet provider
- ..as a backup Internet provider for redundancy when your main Internet provider has a temporary outage
- ..as a supplementary Internet provider so that your main Internet provider does not get overwhelmed when it has too much utilization

# OPTIONS FOR USING CELL PHONE "TETHERING" AND "HOTSPOT" ..

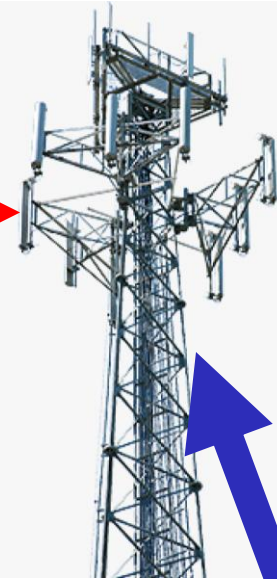
- If you permanently or temporarily lost your broadband Internet service:



# OPTIONS FOR USING CELL PHONE "TETHERING" AND "HOTSPOT" ..

- Then you could still have Internet access for your computers, tablets, or cell phones that lack a data plan if you "tethered" them to a cell phone that has a data plan in four ways:

**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**

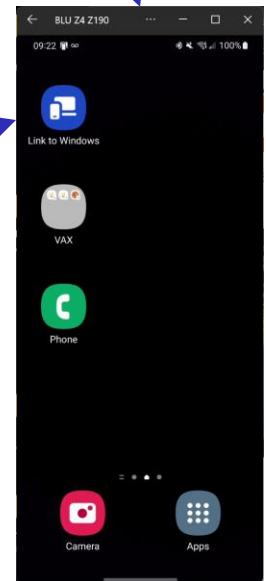


**Option 1:**

**Cell phone provides a wireless  
Wi-Fi hotspot/tether  
so that the client device can access  
the Internet**



**Client device can be a  
computer, a tablet, or  
another cell phone**

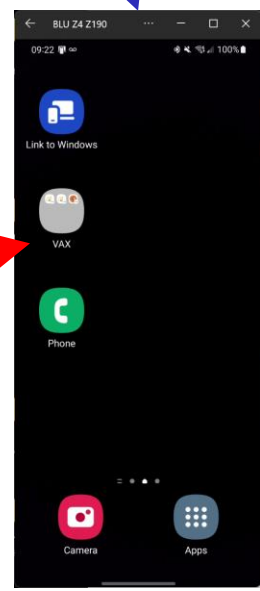


**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**



**Option 2:  
Cell phone provides  
Internet access  
to the client device  
by means of a  
"cell phone to USB" cable**

**Client device can be a  
computer, a tablet, or  
another cell phone**





**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**

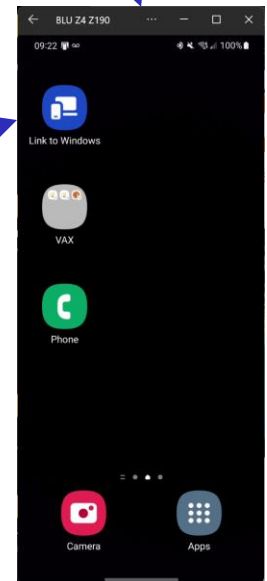


**Option 3:**

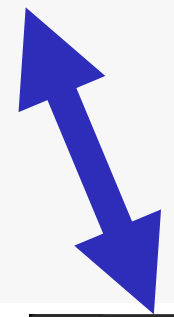
**Cell phone provides a  
Bluetooth hotspot/tether  
so that computer, tablet,  
or client cell phone can  
access the Internet**



**Client device can be a  
computer, a tablet, or  
another cell phone**

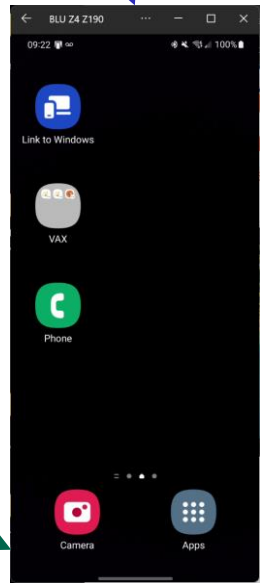


**Internet Cloud  
(= "Data Plan" in cell phone  
lingo)**



**Option 4:**

**Cell phone has a USB  
wired Ethernet adapter  
and a Cat 5/6/7/8 cable  
added to it  
so that computer, tablet,  
or client cell phone can  
access the Internet**



**Client device can be a  
computer, a tablet, or  
another cell phone**

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES

- "Tethering" and "hotspot" to a cell phone usually implies that the tethered device can then use the cell phone's "data plan" as an Internet connection  
The terms "tethering" and "hotspot" are often used interchangeably

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Four ways to tether or create a hotspot with a cell phone:
  - Option 1: tethering using Wi-Fi
  - Option 2: tethering using a "cell phone to USB" cable
  - Option 3: tethering using Bluetooth
  - Option 4: tethering using an add-on wired Ethernet adapter for the cell phone

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Option 3 (= Bluetooth tethering) did not work for my old "iPhone 10" when it was connected to a MacOS computer: The "iPhone10" was able to do a Bluetooth pairing with my MacOS computer but a Bluetooth "connection" to enable "tethering" for Internet access was not possible.

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Option 3 (= Bluetooth tethering) did not work for my "Samsung S22" Android phone when it was connected to a MacOS computer: The "Samsung S22" was able to do a Bluetooth pairing with my MacOS computer but a Bluetooth "connection" to enable "tethering" for Internet access was not possible.

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES

- The terminology is not precise nor is it mutually exclusive:

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES

- **"Tethering"** usually means connecting a computer, tablet, or cell phone to a cell phone, using a wired or wireless technology
- **"Hotspot"** usually means connecting a computer, tablet, or cell phone using a wireless technology such as Wi-Fi or Bluetooth



# "TETHERING" AND "HOTSPOT" FOR CELL PHONES

- However the words **"Tethering"** and **"Hotspot"** are often used interchangeably so you have to view the context of their use to figure out what someone is talking about

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Of the four ways to tether or create a hotspot with a cell phone:

Option 1: tethering using Wi-Fi

IS THE MOST POPULAR  
OPTION AND IT IS THE  
ONLY METHOD THAT  
LETS YOU TETHER  
MORE THAN ONE  
CLIENT DEVICE<sup>26</sup>

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Of the four ways to tether or create a hotspot with a cell phone (continued):

Option 2: tethering using a

"cell phone to USB" cable  
LETS YOU AVOID RADIO  
FREQUENCY  
INTERFERENCE

# "TETHERING" AND "HOTSPOT" FOR CELL PHONES (continued)

- Of the four ways to tether or create a hotspot with a cell phone (continued):

Option 3: tethering using Bluetooth  
**IS THE SLOWEST  
METHOD**

# "TETHERING" AND "HOTSPOT" FOR

## CELL PHONES (continued)

- Four ways to tether or create a hotspot with a cell phone:  
(continued)

Option 4: tethering using an Ethernet adapter for the cell phone IS THE MOST EXPENSIVE WAY OF TETHERING BUT IT SOMETIMES WORKS WHEN THE OTHER METHODS FAIL

# OPTION 1 BIG STEPS

("Option 1:" = tethering using Wi-Fi)

- **BIG STEP 100:**  
Set up Wi-Fi "Hotspot" emanating from the the cell phone
- **BIG STEP 200:**  
From inside each client device, connect to the Wi-Fi "Hotspot"

# OPTION 2 BIG STEPS

("Option 2:" = tethering using a  
"cell phone to USB" cable)

- **BIG STEP 100:**  
Connect the cell phone to the client device using a cell phone to USB cable
- **BIG STEP 200:**  
Activate "USB tether" in the "Settings" app of the cell phone
- **BIG STEP 300:**  
Inside the client device: go to Network Settings" and activate the cell phone which appears a "virtualized Ethernet adapter"

# OPTION 3 BIG STEPS

("Option 3:" = tethering using Bluetooth)

- **BIG STEP 100:**  
Do a Bluetooth "Pairing" between the cell phone and the client device
- **BIG STEP 200:**  
Activate "Bluetooth Tethering" in the "Settings" app of the cell phone
- **BIG STEP 300:**  
From "Network Connections" inside the client device, connect to the cell phone as an "Access Point"



# OPTION 4 BIG STEPS

("Option 4:" = tethering using an add-on Ethernet adapter for the cell phone)

- BIG STEP 100: Add and add-on Ethernet adapter to the cell phone
- BIG STEP 200: Use an Ethernet cable to connect the add-on Ethernet adapter on the cell phone to an existing Ethernet port on the client device
- BIG STEP 300: ACTIVATE "Ethernet tethering" or "Ethernet adapter tethering" inside the cell phone
- BIG STEP 400: From "Network Connections" inside the client device, activate the Ethernet port that is connected to the cell phone

# APPENDIX

- <https://www.satelliteinternet.com/resources/use-your-mobile-phone-for-home-internet/>