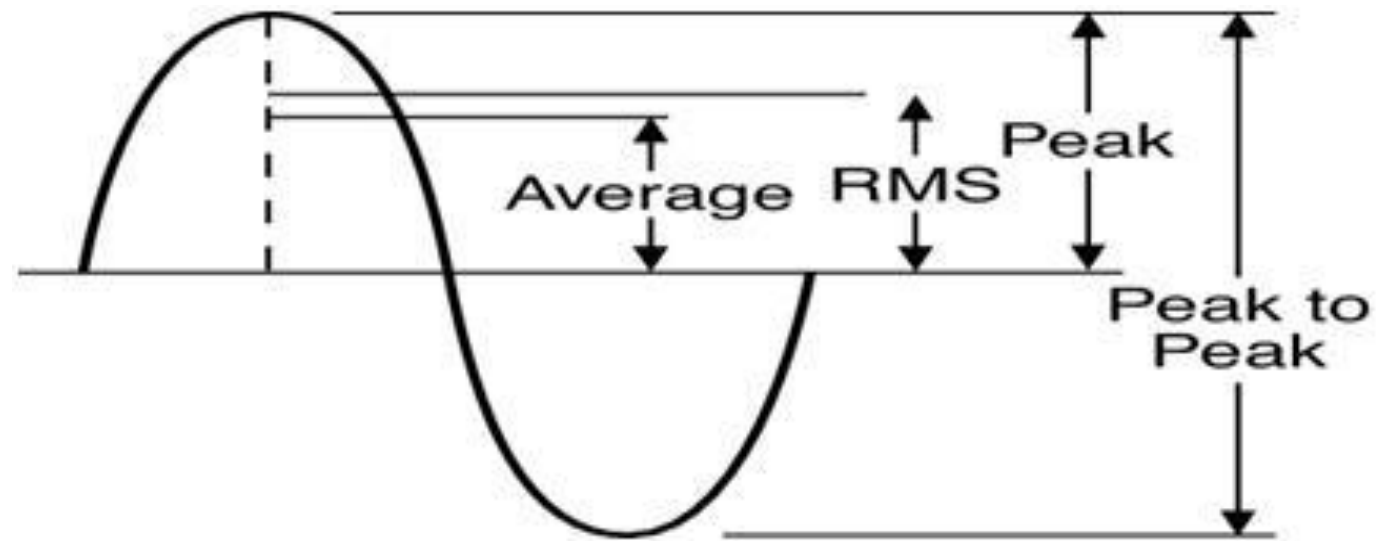


# RMS vs P2P



$$\text{Volts}_{\text{(RMS)}} = .707(.5 \times \text{Volts}_{\text{(P-P)}})$$



# WINLINK RMS GATEWAY VS. PEER-TO-PEER OPERATIONS

MAKING THE BEST CHOICE

# WINLINK RMS GATEWAY VS. PEER-TO-PEER OPERATIONS

- This presentation is not a Winlink beginner's presentation.
- We assume you are already familiar with Winlink and know how to use the software.
- This is a presentation about the use of Winlink's message types.



# WINLINK RMS GATEWAY VS. PEER-TO-PEER OPERATIONS

## WINLINK BASIC POINTS

- Winlink is an email-like messaging tool
- Winlink is very similar to other e-mail user interfaces
- Winlink is designed to work with amateur radio (can work without the need for the Internet or cellular phone service)
- Winlink works with multiple digital modes
- Winlink is an excellent tool for use in EmComm

## WINLINK ACRONYMS

# WINLINK RMS GATEWAY VS. PEER-TO-PEER OPERATIONS

- RMS = Radio Message Server
- CMS = Common Message Server
- P2P = Peer-To-Peer

**Winlink provides the CMS hardware & Winlink Express client software and software for RMS gateway operators.**

**Individual Hams provide the RMS Gateway and the P2P hardware and 3<sup>rd</sup> party software (Airmail, PAT, Paclink, etc.)**

**Show appreciation to the RMS Gateway operators!**



Winlink Express 1.5.35.0 - WB5PJB

WB5PJB Settings **Message** Attachments Move To: Saved Items Delete Open Session: Telnet Radio-only Logs Help

No active session.

	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
System Folders							
Inbox (0 unread)							
Read Items (0)							
Outbox (0)							
Sent Items (136)							
Saved Items (557)							
Deleted Items (1)							
Drafts (0)							
Personal Folders							
Global Folders							
Contacts							

Enter a new message

Close Select Template Attachments Post to Outbox Spell Check Save in Drafts

From: WB5PJB Send as: Winlink Message ☐ Request message receipt Set Defaults

To:

Cc:

Subject:

Attach:

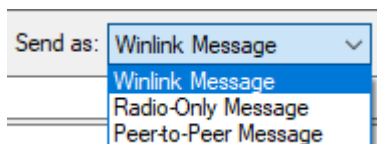
Send as: Winlink Message

- Winlink Message
- Radio-Only Message
- Peer-to-Peer Message

# Winlink Message Types

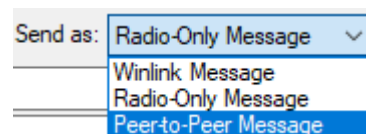
## Winlink Message

- Default message type
- Used with Internet Telnet, RMS gateways and RMS Relay Post Office
- With RMS gateways, requires Internet access at the gateway
- Can address message to any valid email address (non-hams)



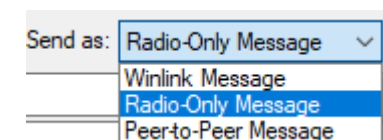
## Peer-to-Peer (P2P) Message

- Not the default message type
- Used for station-to-station connections
- No Internet access required on either end
- Can only address message to another licensed ham

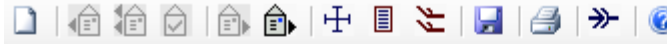


## Radio-Only (RO) Message

- Not the default message type
- Used for station-to-Message Pickup Station (MPS) connections
- No Internet access required on either end.
- Can only address message to another licensed ham



WB5PJB Settings Message Attachments Move To: Saved Items Delete Open Session: Telnet Winlink Logs Help



**No active session.**

System Folders	Date/Time	Message ID	Sender	Recipient	Subject
Inbox (0 unread)					
Read Items (0)					
Outbox (0)					
Sent Items (142)					
Saved Items (560)					
Deleted Items (3)					
Drafts (0)					
Personal Folders					
Global Folders					
Contacts					

**Open Session:**

- Telnet Winlink
- Packet Winlink
- Pactor Winlink
- Robust Packet Winlink
- Ardop Winlink
- Vara HF Winlink
- Vara FM Winlink
- Iridium GO Winlink
- 
- Packet P2P
- Pactor P2P
- Robust Packet P2P
- Ardop P2P
- Vara HF P2P
- Vara FM P2P
- Telnet P2P
- 
- Pactor Radio-only
- Vara Radio-only
- Telnet Radio-only
- 
- Telnet Post Office

**Send as:**

- Winlink Message
- Winlink Message
- Radio-Only Message
- Peer-to-Peer Message

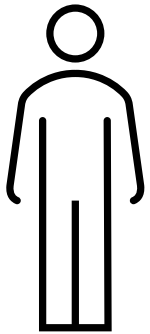
Diagram illustrating the flow of message sending options:

- Red arrow from **Telnet Winlink** to **Winlink Message** in the Send as menu.
- Green arrow from **Packet P2P** to **Radio-Only Message** in the Send as menu.
- Red arrow from **Telnet Post Office** to **Peer-to-Peer Message** in the Send as menu.



# Winlink Message Flow

Originator/Sender



Ham Op

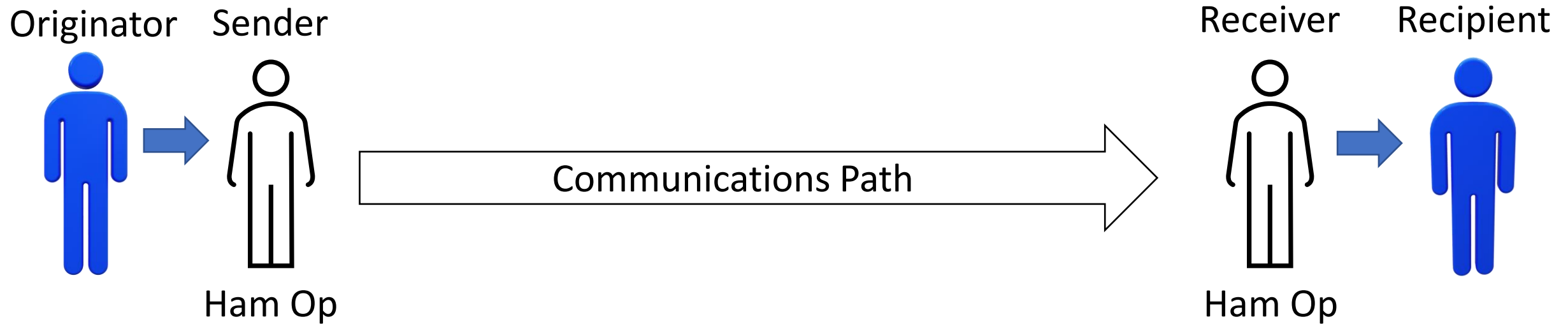
Receiver/Recipient



Ham Op

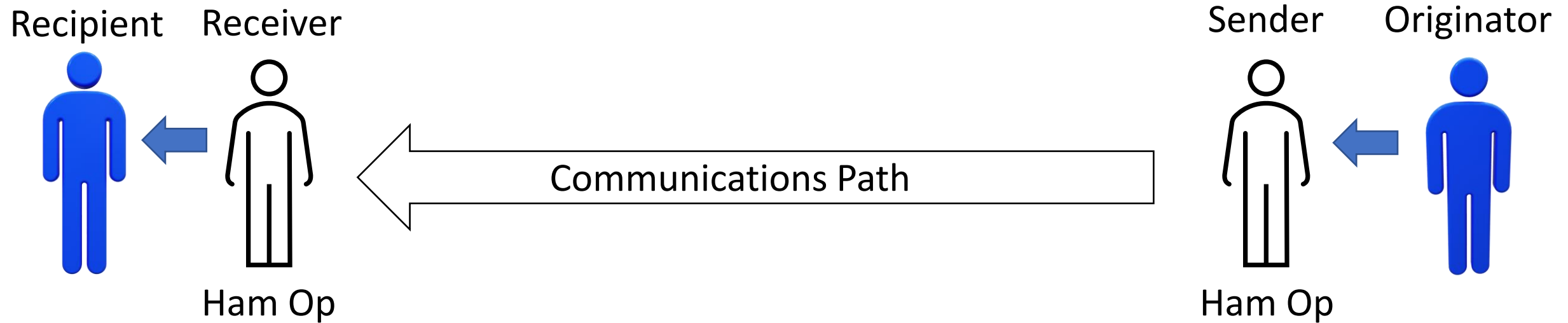


# Winlink Message Flow



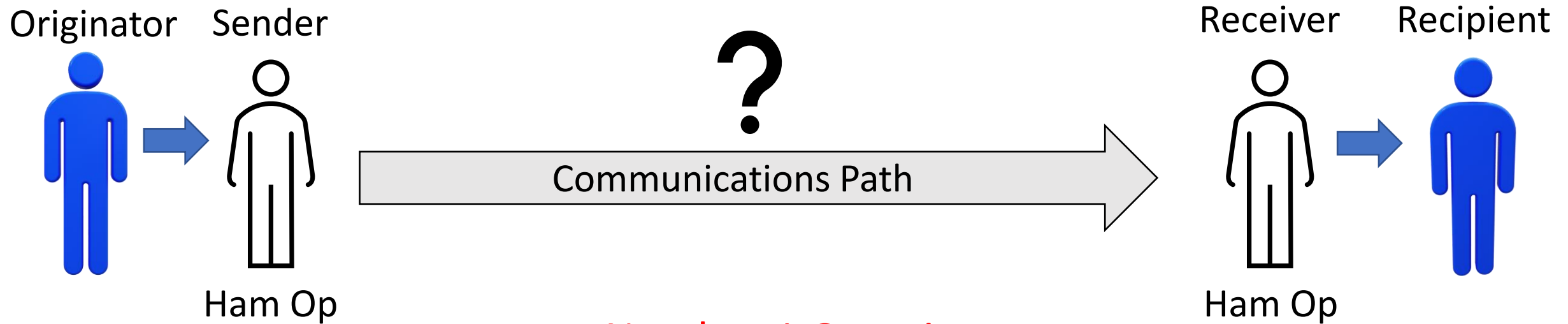
In many cases, the Ham Op becomes part of the communications path.

# Winlink Message Flow



In many cases, the Ham Op becomes part of the communications path.

# Winlink Message Flow

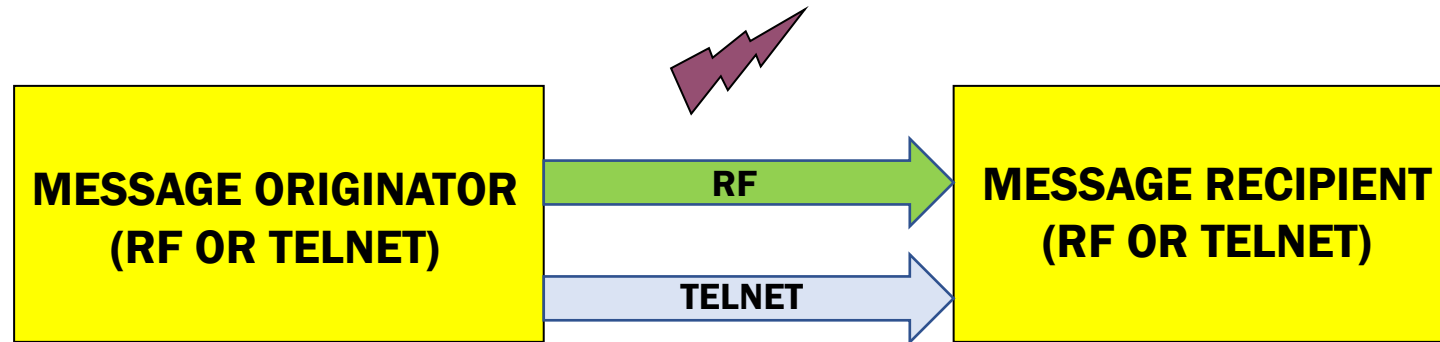


Number 1 Question:

Q. What is the best communications path for Winlink messaging?

A. It depends on many factors.

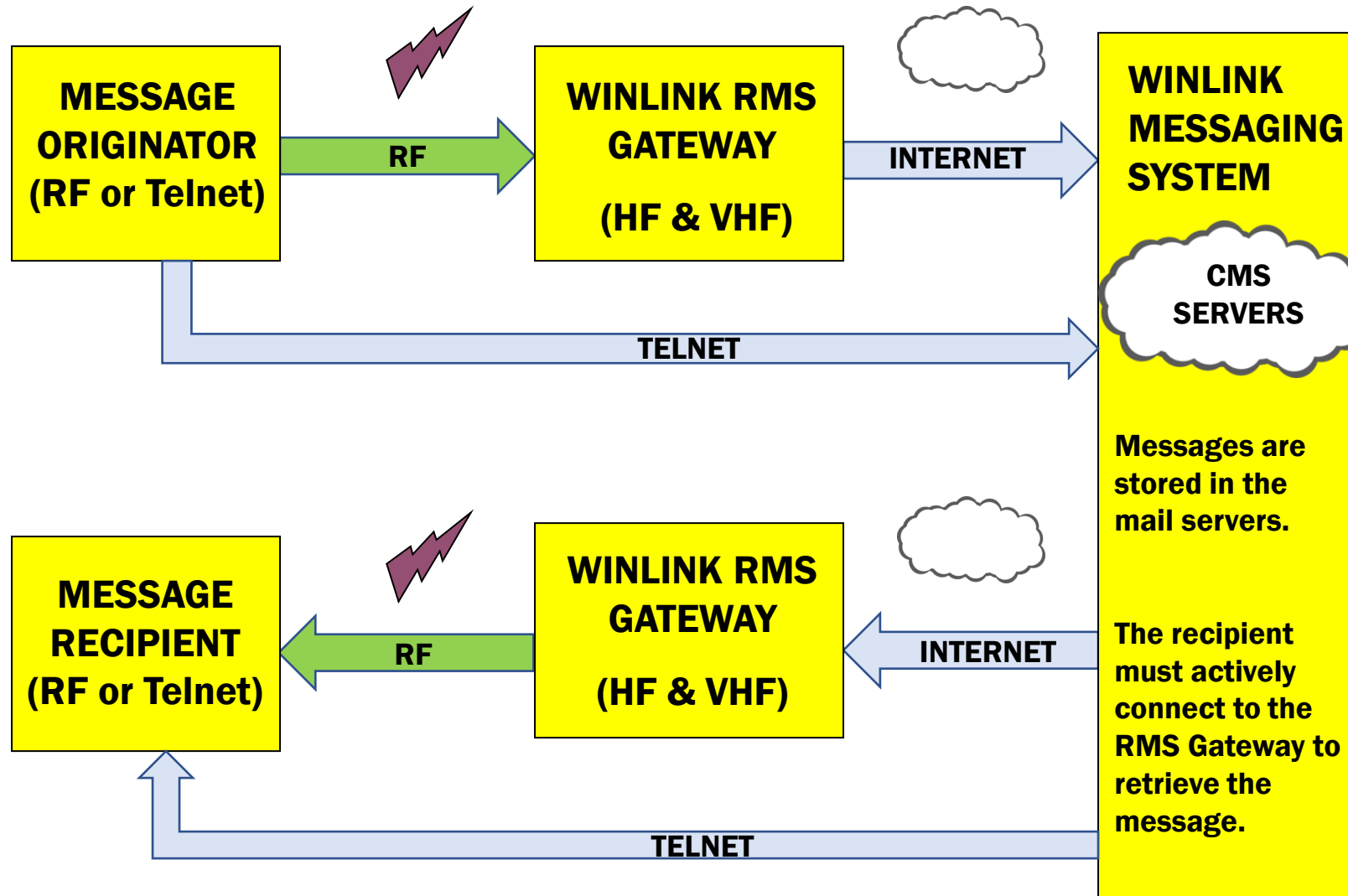
# P2P MESSAGE BASIC FLOW



The recipient must be running Winlink Express in a P2P session.  
The recipient must be using the same P2P protocol.  
The recipient must be on the same frequency as the sender.  
This requires coordination between both parties.

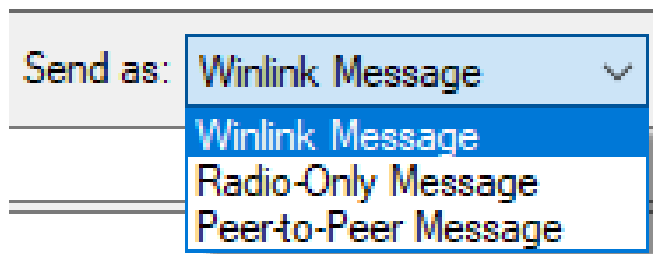


# WINLINK MESSAGE BASIC FLOW

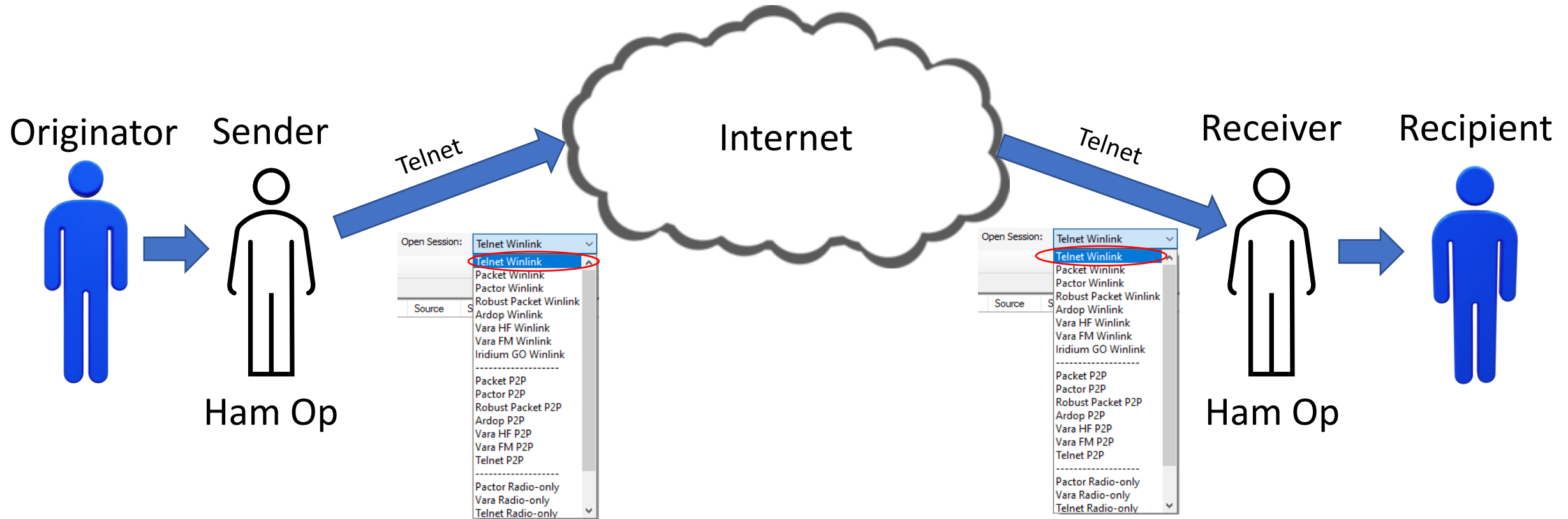


# Winlink Message Flow

- Winlink Type Message
- Typical Scenarios



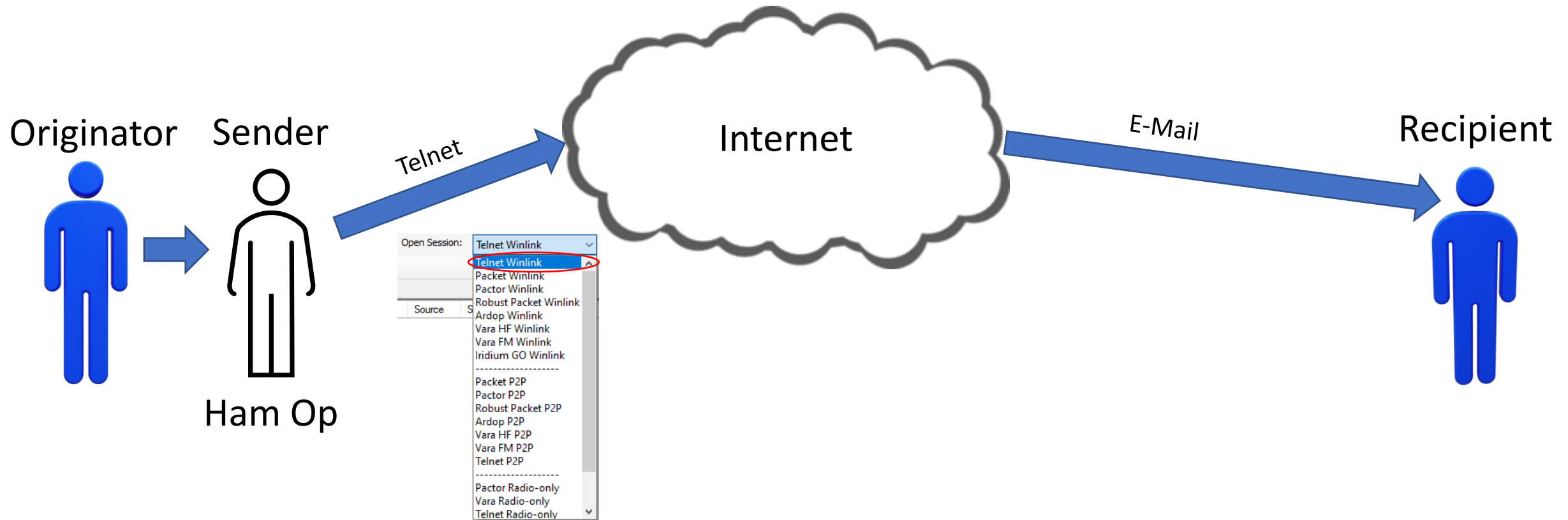
# Winlink Message Flow



If both parties involved have Internet access, then simply use  
Telnet and the Winlink message type.

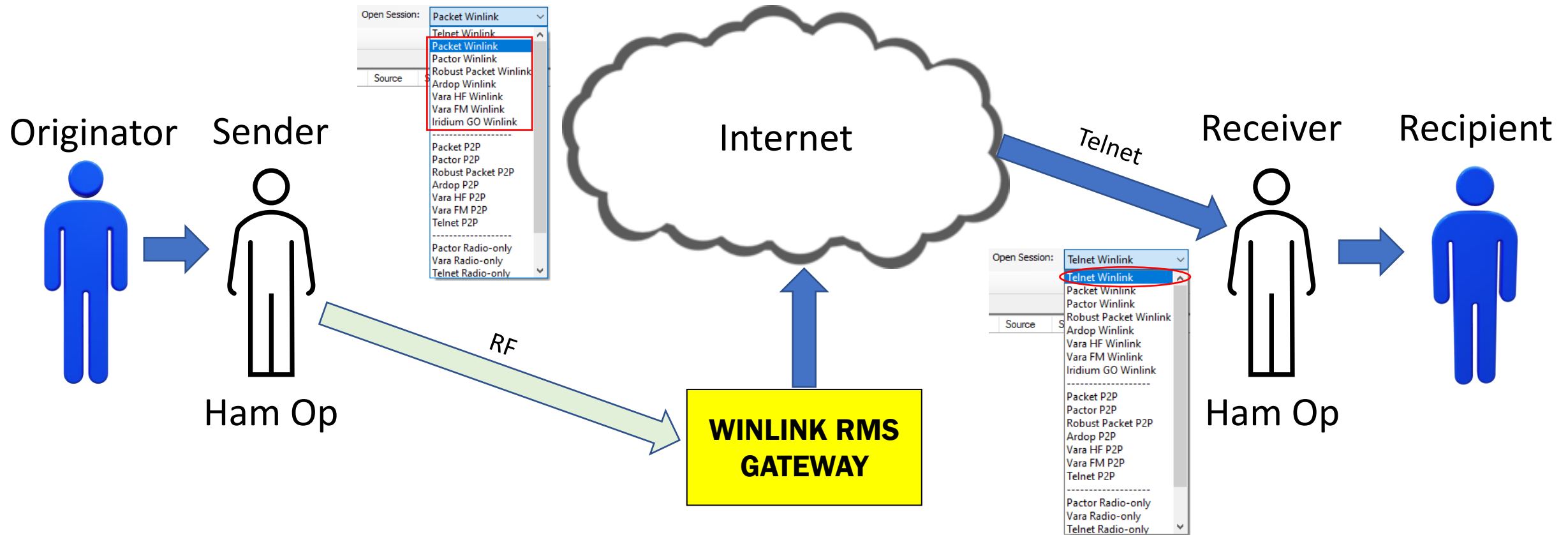
Easy. Life is good.

# Winlink Message Flow



Keep in mind that Winlink can send the message to any valid email address, so if a Ham operator doesn't exist at the recipient's end, it is possible to send the message directly to the recipient's email address.

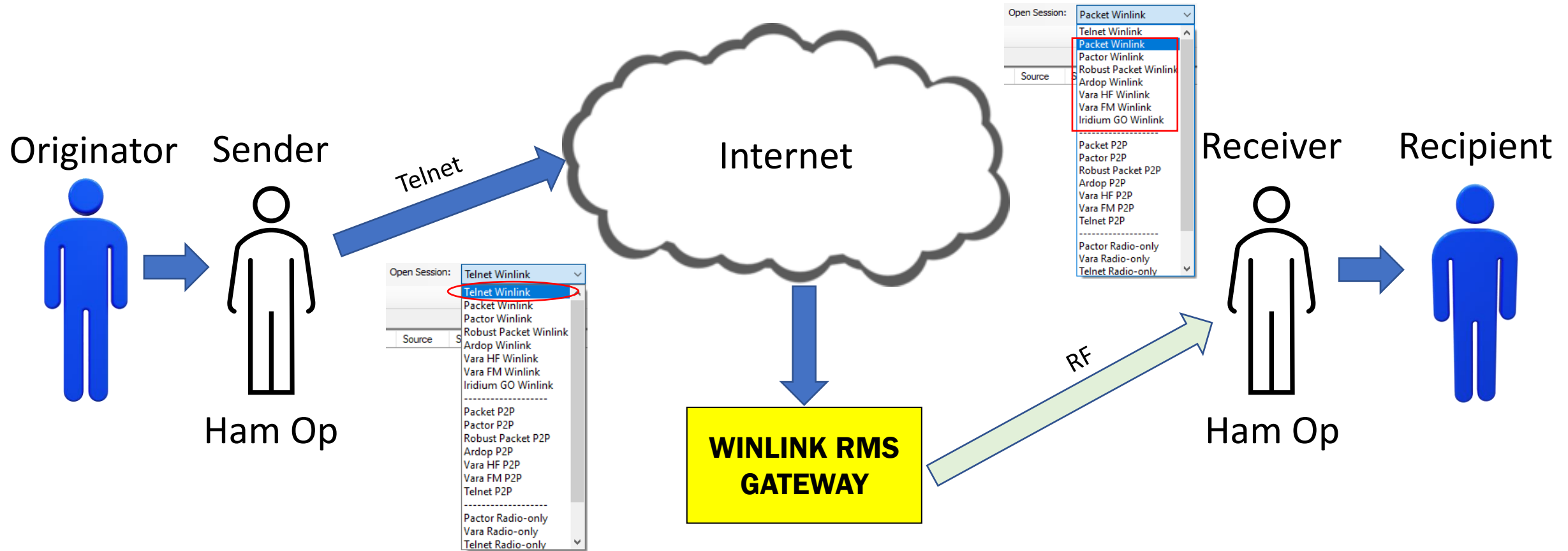
# Winlink Message Flow



If one party has Internet access, but the other party does not, then at least one RF communications path usually comes into play.

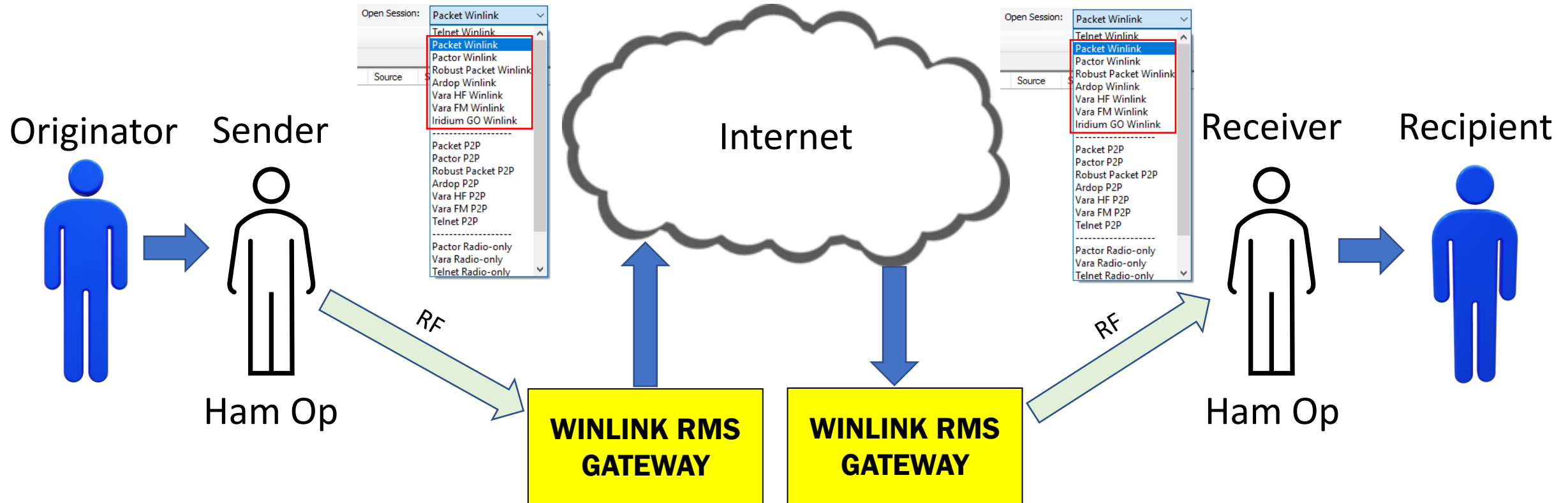


# Winlink Message Flow



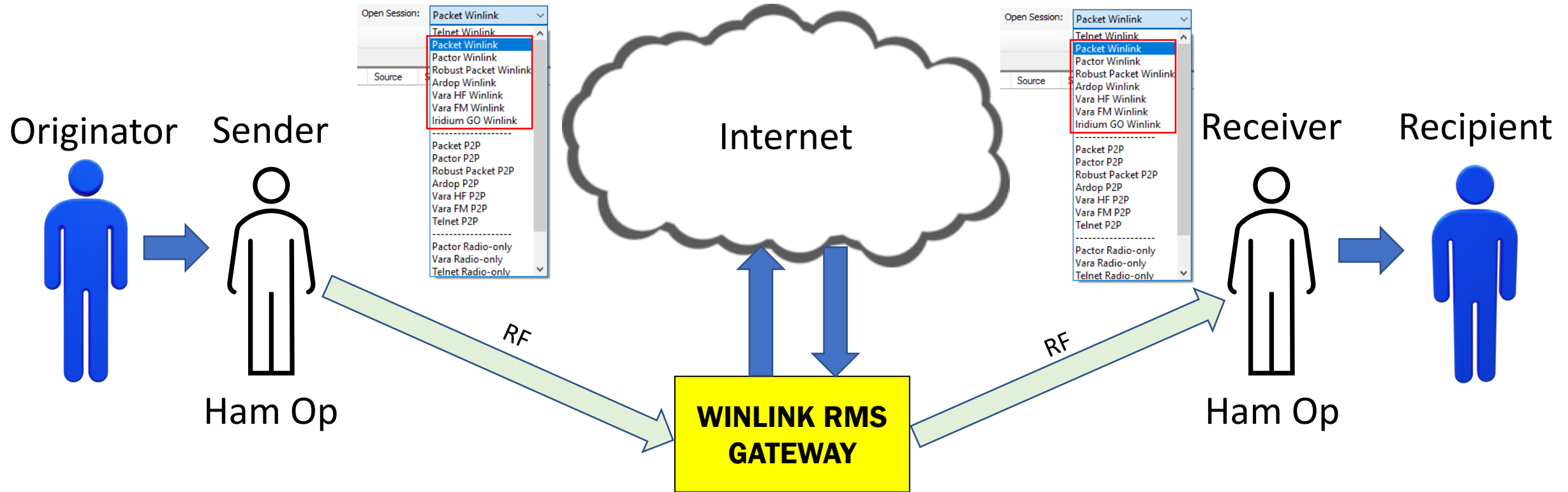
If one party has Internet access, but the other party does not, then at least one RF communications path usually comes into play.

# Winlink Message Flow



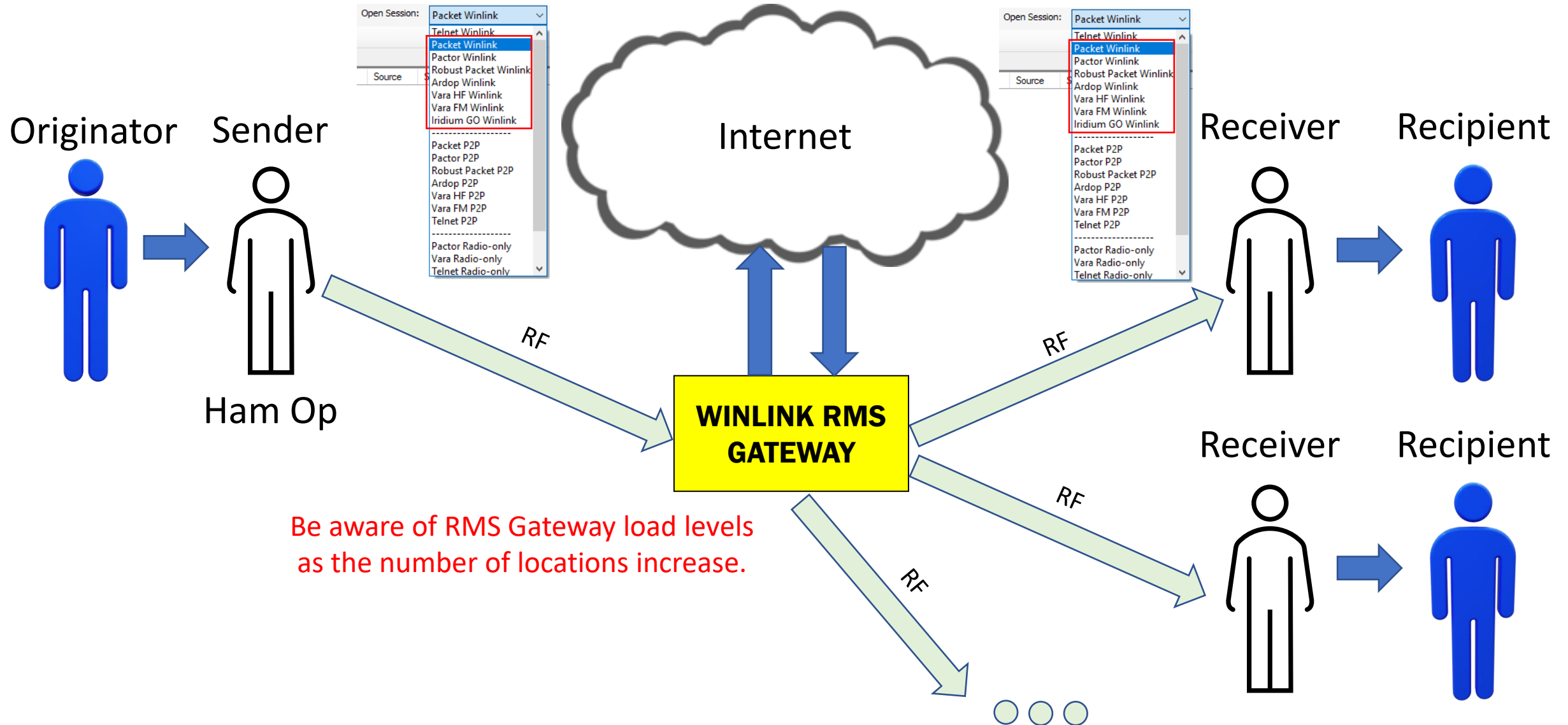
If neither party has Internet access, then RF access methods come into play.

# Winlink Message Flow

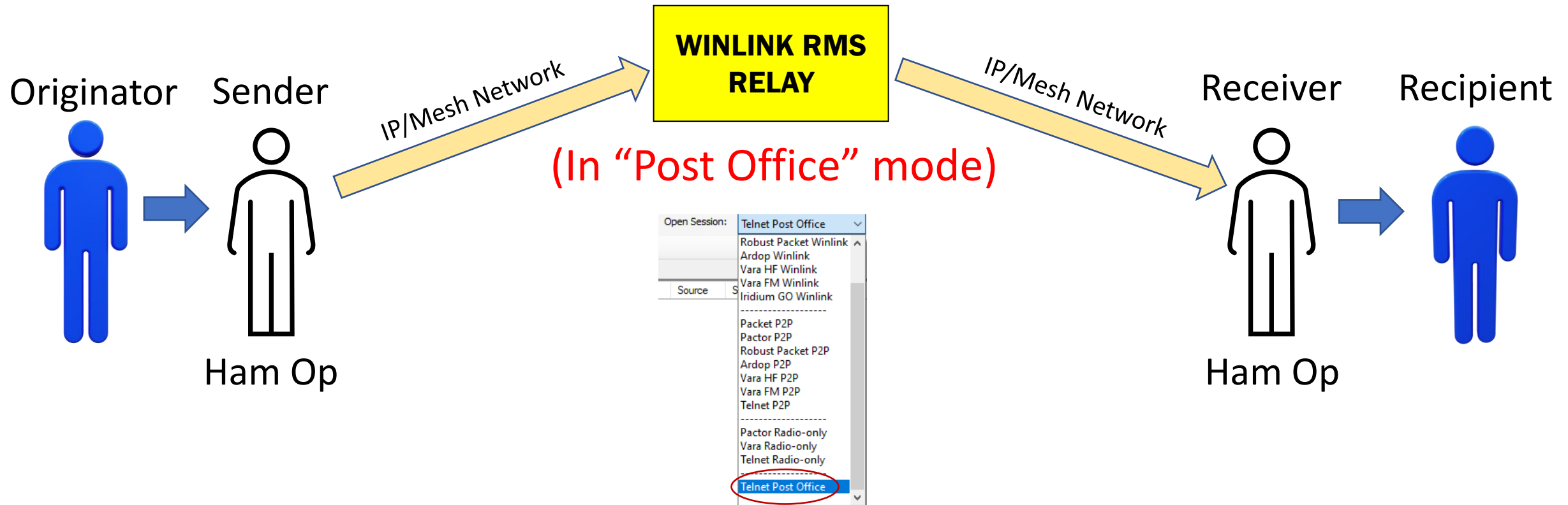


If neither party has Internet access, then RF access methods come into play.

# Winlink Message Flow



# Winlink Message Flow

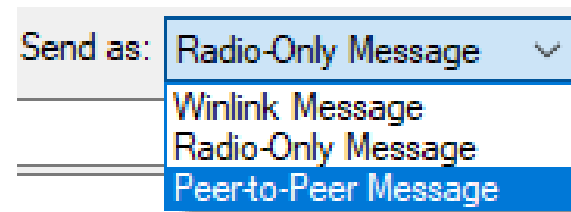


RMS Relay is a store-and-forward message handler that doesn't require the Internet and accepts Winlink type messages.  
Very useful on IP/Mesh networks.

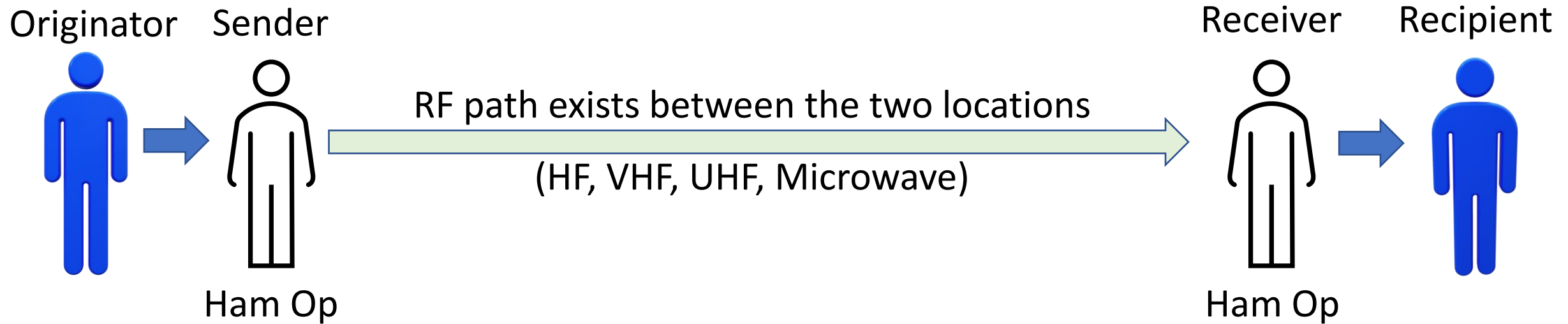


# P2P Message Flow

- P2P Type Message
- Typical Scenarios

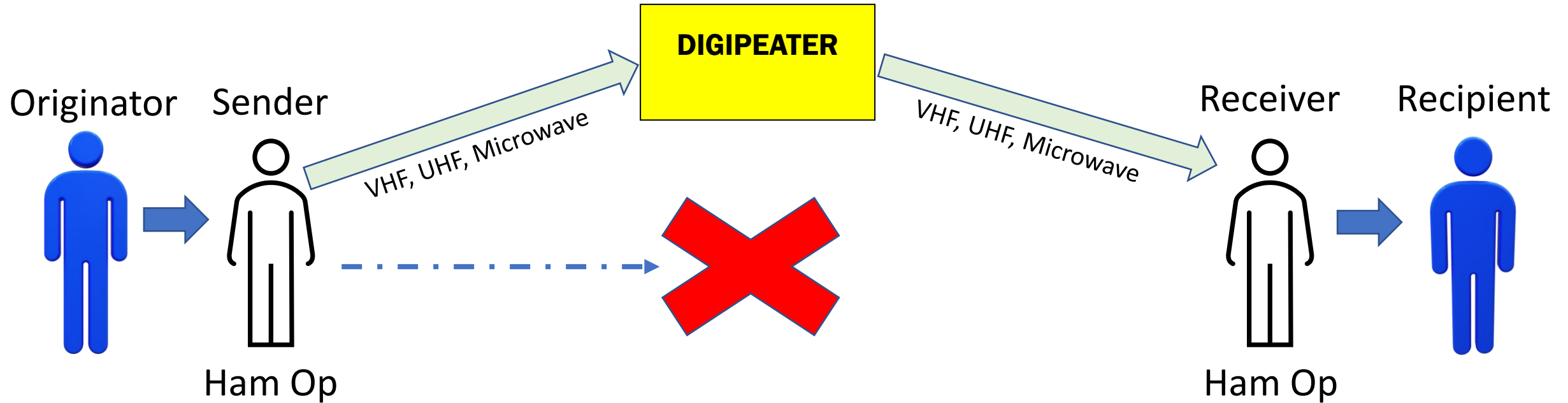


# Winlink P2P Message Flow



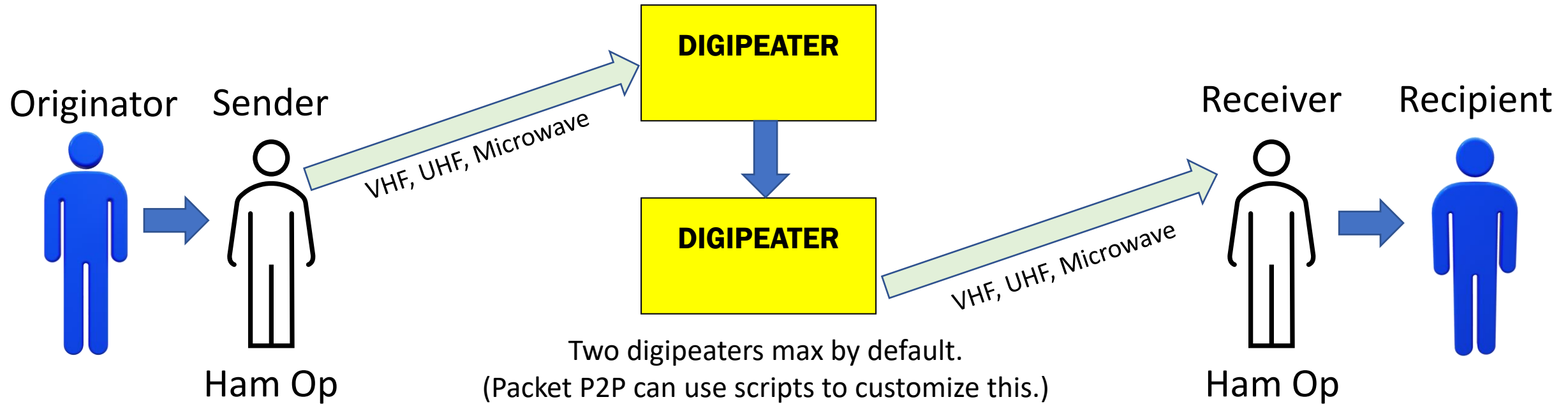
Winlink Peer-to-Peer (P2P) messaging is possible when the sender and the recipient can both communicate directly with one another, or via a digipeater on V/UHF.

# Winlink P2P Message Flow



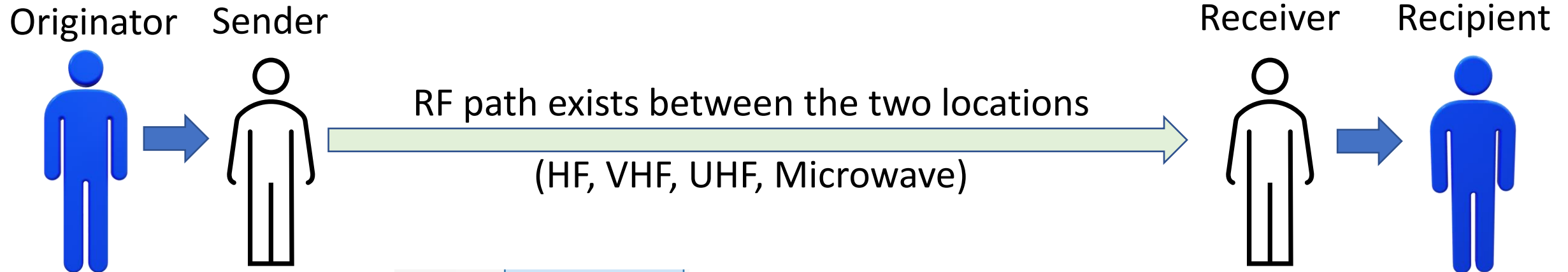
On V/UHF & Microwave, a digipeater can be used for P2P if a direct RF path doesn't exist.

# Winlink P2P Message Flow

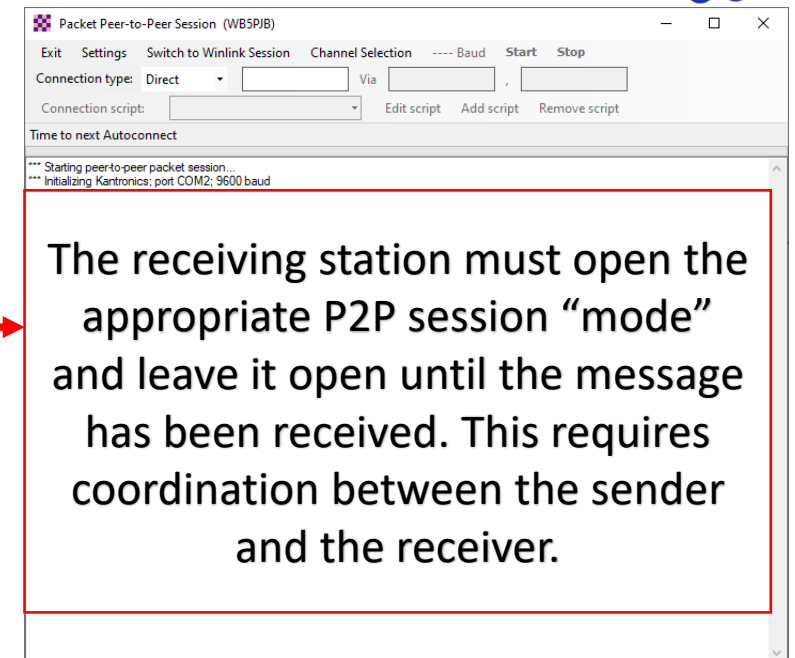
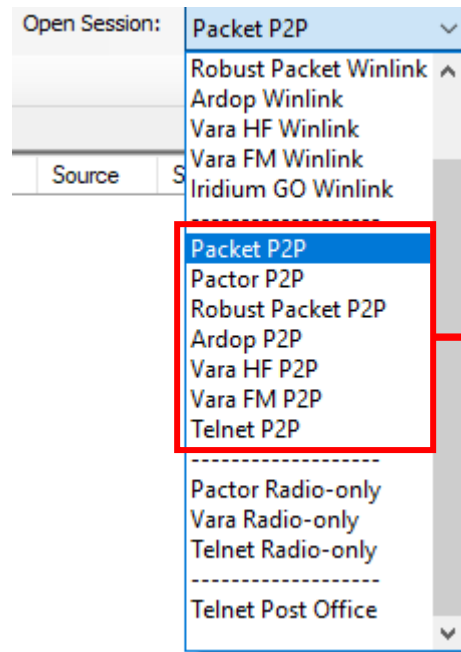


Winlink Peer-to-Peer (P2P) messaging using Packet or VARA FM.  
P2P starts to become more complicated and slower when using digipeaters.  
Be mindful of “clogging up” the frequency.

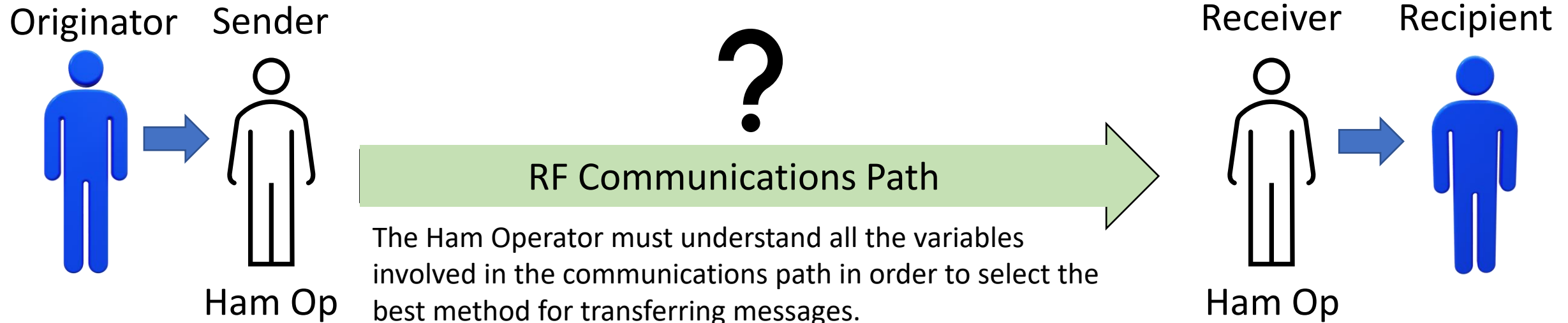
# Winlink P2P Message Flow



Ham Op



# Message Flow



The Ham Operator must understand all the variables involved in the communications path in order to select the best method for transferring messages.

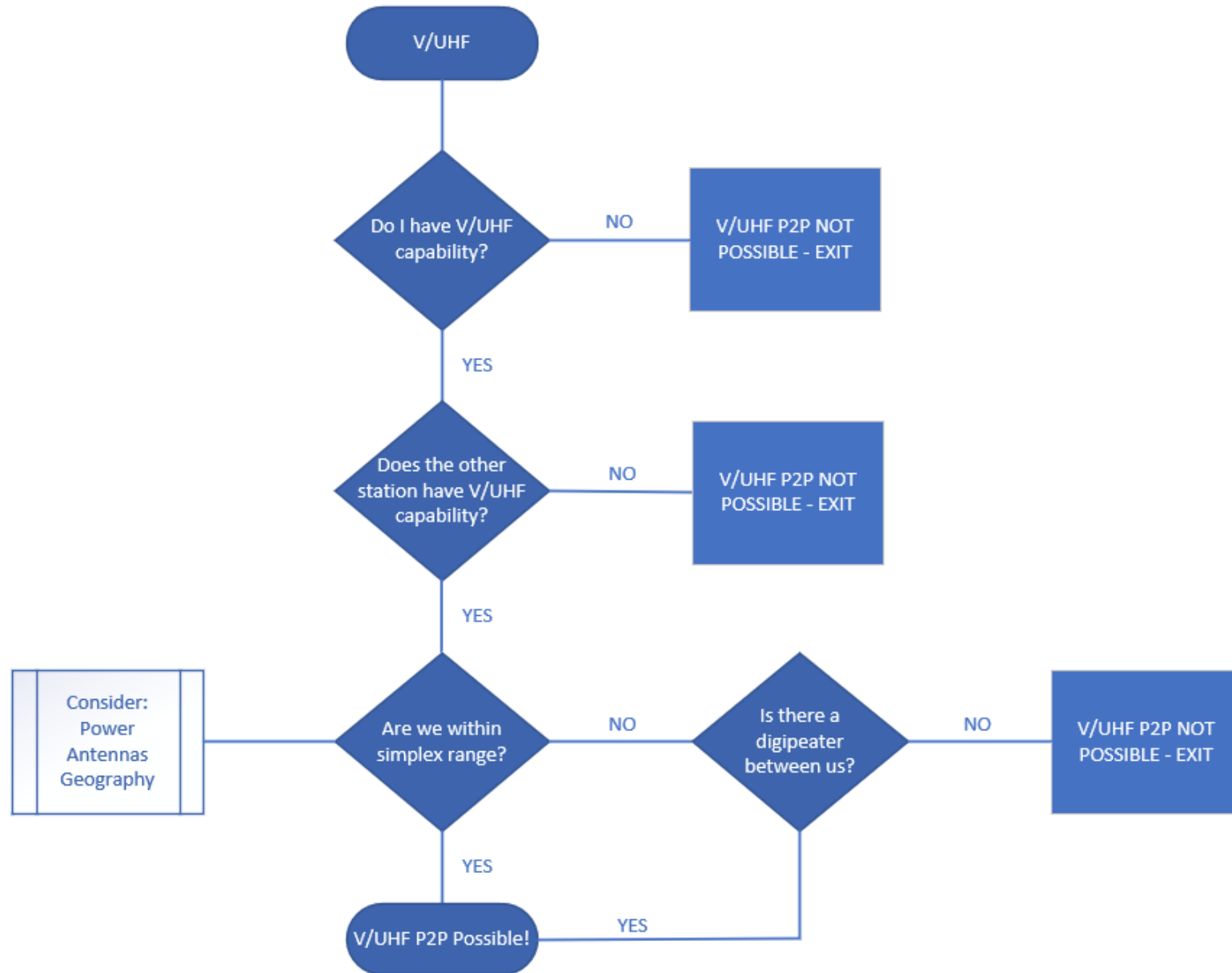
- Where am I and where are they? How far apart are we?
- What physical or geographical barriers exist between us?
- What communication tools are available on each end?
- What communication facilities ("digipeaters"), if any, are available in between?
- What is the skill level and licensing level on each end?
- Who is the recipient (call sign, tactical name, etc.)?

# Basic Questions

- Where am I?
  - Do I have V/UHF capability?
    - If yes, then are there RMS gateway stations that I can reach reliably?
    - How much power am I running?
    - What is my antenna system?
  - Do I have HF capability?
    - If yes, then how much power am I running and what is my antenna?
    - What bands can I operate on?
- Where are they?
  - Do they have V/UHF capability?
    - If yes, how much power? What is their antenna system?
    - Do they have a V/UHF RMS gateway station within reach of their location?
  - Are they close enough such that V/UHF P2P is a possibility?
  - Do they have HF capability?
    - If yes, how much power and what is their antenna?
    - What bands can they operate on?

# P2P V/UHF

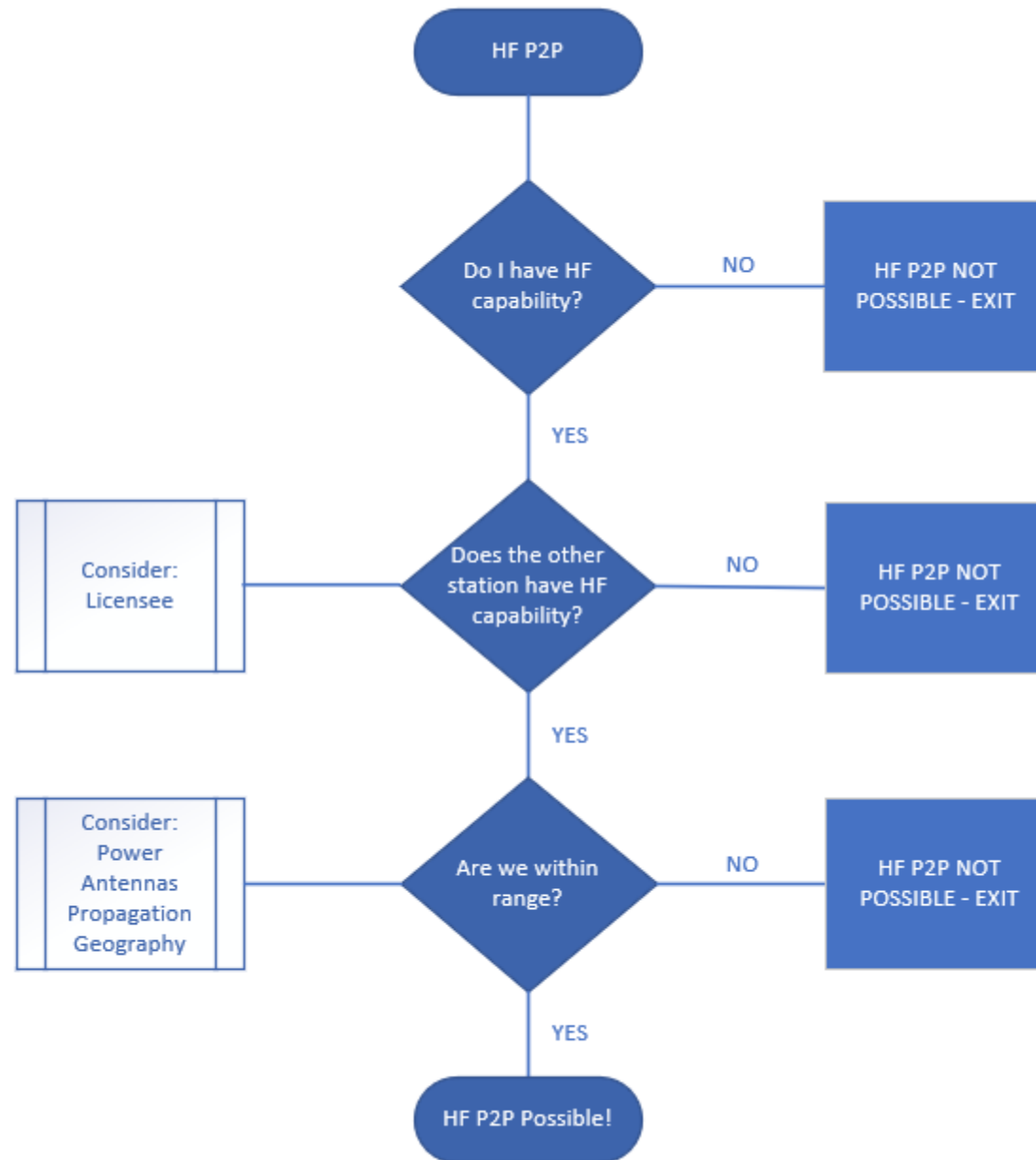
## Basic Questions





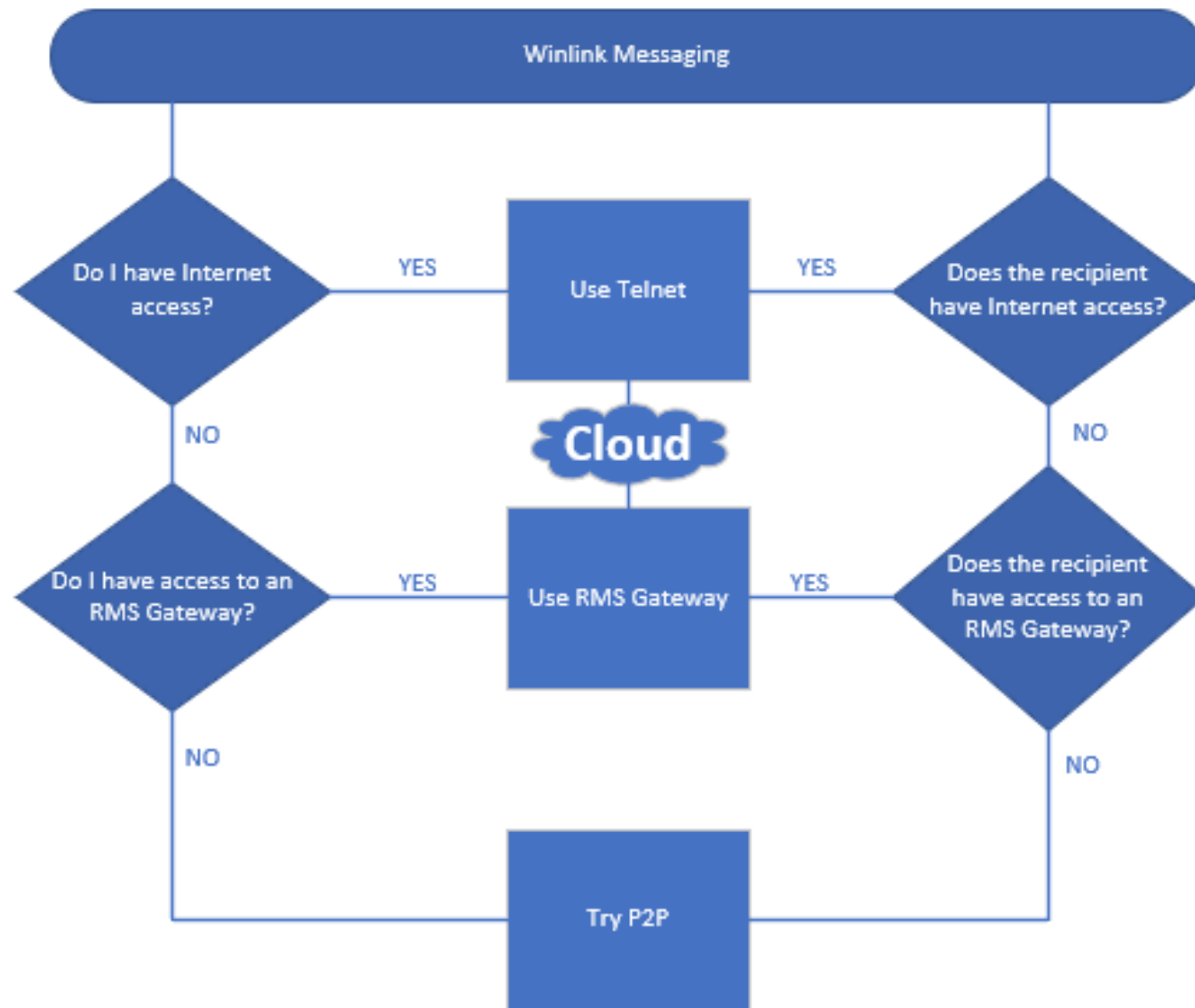
# P2P HF

## Basic Questions



# WINLINK MESSAGE TYPE

Basic Questions



# Things To Consider

- If both the sender and recipient have Internet access, use a Winlink message type and Telnet.
- If using an RMS Gateway, always be mindful of the possible load on the Gateway.
- Learn what Winlink resources are in your area (RMS Gateways, Digipeaters, etc.) <https://winlink.org/RMSChannels>
- Know which HF RMS Gateways you can connect with reliably during various times of the day and year.
- Know your local geography.
- Test known field locations (EOCs, Hospitals, Shelters, Rest Stops, etc.) for both P2P and RMS Gateway possibilities.
- Keep your digital go-kit in working order. Test it regularly.
- Practice Winlink regularly to stay familiar with the software and keep it updated.
- Practice using local V/UHF RMS Gateways and HF RMS Gateways on a regular basis.
- Educate others on digital communications (it's not as easy as pushing a PTT button.)
- Conduct regular exercises within your ARES, RACES, AUXCOMM groups.
- Develop Winlink Standard Operating Procedures (SOP) within your group. Have a plan!
- Always try to have backup options available if the primary means of communication fails.
- Practice, practice, practice!!!



Thank you!

Muchas  
gracias !

Merci  
beaucoup !

