

Vector Core

Connectivity Tips While Traveling

This content is intended to inform Vector Core users of their best options for uploading system data when traveling (on the road) or away from any network where the dock has been “allowlisted”. These tips will help to ensure users that they can successfully use their Vector Core system, end to end, using supported workflows, while on the road. We also provide a step by step guide on how to action these workflows using the Vector Core system and chosen iOS device.

Challenges On The Road

While away from their “home” network, users may encounter network connectivity issues that inhibit use of the Vector Core system as intended. These typically include:

1. Users may not have access to a stable & accessible internet connection,
2. The dock(s) cannot be easily “allowlisted” on the network (*Vector Core Dock does not support Captive Portal Authentication¹ and so must be allowlisted by administrators to access the network.*), and,
3. Public internet options are not usable due to security issues or items 1 and/or 2 above

Connecting On The Road - Options

To remedy this, we recommend the following connectivity options (in priority order) for a traveling user to connect their Vector Core Dock to the internet for data upload while away from their home network.

There may be other/more complicated methods of doing this, so the below is non-exhaustive, but we believe these represent the best options for the average user.

1. Personal Hotspot (iPhone / iPad)

Using an iPhone or iPad as a *personal hotspot* allows users to share the **mobile data** connection from the iPhone/Pad to other nearby devices. The accessory device (the Dock) connects to the iPhone/Pad over Wi-Fi and can utilize the cellular connection to access the internet for data upload. And since the user is essentially the administrator for the personal hotspot, the user controls who/what devices can connect through the phone in this manner, and the allowlist issue (#2 above) does not arise. Learn more about this function [here](#).

2. 4G LTE / 5G Mobile Wi-Fi Hotspot

A mobile **Wi-Fi hotspot** is a portable Wi-Fi access point to an internet connection facilitated via the cellular network. It essentially provides the same functionality as an iPhone or iPad as defined in #1, but as a *stand-alone device*. Hotspots provide a convenient, secure and portable high speed internet connection, don't require any connection to a laptop and are typically available from most major mobile network operators. You can learn more about mobile hotspots [here](#).

3. Public Open Wi-Fi Network

A true “open” Wi-Fi network is one that does not have any password or captive portal authentication¹ requirement for access. While these networks are very accessible by their nature, they also have a higher likelihood of security vulnerabilities and can be unreliable. Use this method as a last resort.

Connecting Vector Dock to a Personal Hotspot

1. In iPhone/iPad settings, open the ‘Personal Hotspot’ menu item
2. Enable the hotspot by toggling on “Allow Others to Join”
3. Ensure you have a password set / set your desired password

¹ See next page for definition of captive portal authentication.

4. If the iOS device has not done so automatically, disable any active Wi-Fi connections. This enables the iOS device to share its Wi-Fi connection to the Vector Dock
 5. Open Catapult Vector & navigate to the 'Docks' screen
 6. Select your Dock and open 'Wi-Fi' to add a new connection
 7. Configure your Vector Dock's Wi-Fi connection to your Personal Hotspot. (*Note: If the Dock does not "see" the iPhone/iPad as an available access point, enable the "Maximize Compatibility" setting in the hotspot menu after step #2 above and try again.*)
 8. Confirm that the LED on the Dock turns solid blue, indicating an active Wi-Fi connection
 9. Proceed with the upload process
- Note: Some wireless carriers require an additional subscription to access/enable the Personal Hotspot function. If your wireless plan does not allow you to enable this function, check with your service provider for more information on how to enable it.*

Connecting Vector Dock to a 4G LTE / 5G Mobile Wi-Fi Hotspot

1. Turn on the mobile Wi-Fi hotspot and confirm the cellular network connection is sufficient using whatever indicator the manufacturer provides - typically ≥ 2 bars.
 2. Open Catapult Vector & Navigate to the 'Docks' screen
 3. Select your Dock and open 'Wi-Fi' to add a new connection
 4. Configure your Vector Dock's Wi-Fi connection to the mobile Wi-Fi Hotspot
 5. Confirm that the LED on the Dock turns solid blue, indicating an active/successful Wi-Fi connection
 6. Proceed with the upload process
- Note: Ensure that the mobile hotspot you use/purchase supports 2.4GHz Wi-Fi. This is the earliest, "original" Wi-Fi frequency, but some mobile hotspots may initially prioritize 5GHz as the primary connection frequency.*

Connecting Vector Dock to a Public Wi-Fi Open Network

1. Open Catapult Vector & Navigate to the 'Docks' screen
 2. Select your Dock and open 'Wi-Fi' to add a new connection
 3. Configure your Vector Dock's Wi-Fi connection to the Open Network returned in the scan
 4. Confirm that the LED on the Dock turns solid blue, indicating an active/successful Wi-Fi connection.
 5. Proceed with the upload process
- Note: Open networks in public spaces sometimes employ captive portal authentication. Please ensure the network you are trying to connect your dock to DOES NOT have a captive portal requirement.*

What is Captive Portal Authentication?

An Open Wi-Fi Network may require *captive portal authentication* to grant network access. This involves a web page that is displayed to newly-connected users of a Wi-Fi or wired network that users must navigate prior to being granted broader access to the network. Captive portals are commonly used in hotels, airports, cafes, ...etc. to present a landing or login page which may require additional authentication, payment, acceptance of an acceptable use policy, ...etc. prior to being granted network access. There is currently no utility in Vector that allows a user to navigate such a process, so if an Open Network utilizes captive portal authentication, the Vector Dock cannot connect to it.



How to Check if a Network Requires Captive Portal Authentication

To do this, try to connect your phone or tablet to the Wi-Fi network in question and open a web browser (Safari). If you're automatically redirected to a login or sign-in page before being able to browse, the network requires captive portal authentication and cannot be accessed by the Vector Dock.

How Much Data is Typically Uploaded?

A typical 2 hour session for 24 athletes generates approximately 400-500MB of data that will need to be uploaded. Total upload time will vary depending on your connection type and allocated bandwidth.

Which 4G LTE / 5G Mobile Wi-Fi Hotspot Does Catapult Recommend?

Catapult does not provide recommendations regarding any specific vendor, manufacturer or wireless carrier. We instead suggest that you speak with your preferred carrier about what hotspots they offer & recommend. As long as the hotspot will support a 2.4GHz Wi-Fi connection, it will meet your needs for the purposes of connecting to the Vector Dock & uploading data.