

Why you want a Broadband Wireless Card in an OnComm

Getting the wireless data card out of the laptop has many benefits. The Laptop can do whatever it needs to do without having to also configure and manage the wireless connection, connection to other devices and services, and do it all wirelessly. The cost of the OnComm is more than recovered by:



- Reduced Total Cost of Ownership by minimizing training and support cost for laptop network management software and laptop connected peripherals
- Significantly lower cost docking station – no need for expensive device unique wiring interface and power connectors
- Less complex and therefore less expensive vehicle installation cost. Most connections are wireless
- Eliminate cost of buying, installing, and supporting a ChargeGuard device – power the laptop charger from the conditioned power port in the OnComm, which can stay alive for a set period after the vehicle is turned off just as a ChargeGuard does
- Reduced Total Cost of Ownership by minimizing the need to replace lost and damaged laptop cables and accessories that are constantly being plugged and unplugged
- Lower vehicle insurance costs by having a GPS dedicated to the vehicle rather than in or connected to the laptop

Challenges and increased cost of embedded broadband wireless and GPS

Several laptop and Tablet PC manufacturers are now emphasizing embedded broadband wireless. However, this adds \$500 to \$700 to the cost of the laptop or Tablet PC, the monthly wireless service cost is generally at a premium rate, and the customer is locked into that wireless carrier for the life of the laptop. OnComm is wireless vendor agnostic -- the customer can change wireless vendors at any time simply by plugging in a different wireless broadband EVDO or HSPDA card. The customer can therefore take advantage of on-going wireless vendor monthly service price competition, and integrate new technologies and capabilities as they evolve without having to replace or upgrade the laptop or Tablet PC.

GPS in the laptop and TabletPC is also being offered. However, the vehicle roof shields the GPS signal from a PC – the PC may not get a GPS signal at all. Having an external GPS antenna plugged into the PC is constraining and often a safety risk. In addition, in general only one GPS port is provided, so only one application can get GPS coordinates – even though multiple applications may need location-based information. OnComm can multicast the GPS position data over the WiFi antenna as multiple virtual serial ports, allowing several applications to each have a dedicated port for GPS position data.

Field Operations and Remote Software Maintenance

For field operations, in general you want the wireless card to be tied to the vehicle rather than the laptop or Tablet PC. The laptop or Tablet PC will almost always be used within WiFi range of the vehicle anyway. In those rare occasions when needed, the EVDO card can be removed from the OnComm and plugged into a laptop.

It is important to note that the OnComm firmware can be maintained and updated remotely. The OnComm is a full Linux computer with a solid state hard drive, and can be upgraded with a variety of hardware and software. Most other similar products are hardwired single function devices that can not be upgraded – the entire box has to be de-installed and a new box installed to add new capabilities.

The benefits of using an OnComm unit over putting a wireless broadband card in a laptop or Tablet PC include:

More reliable Network Connection

- Installing the broadband wireless card in the OnComm unit eliminates the human element of the end user “fiddling” with the card in the laptop or Tablet PC - pulling the card in and out, losing the card, having the card stolen, etc.
- The broadband wireless card in the OnComm is protected by a PCCardGuard – and is not likely to get snapped off or damaged as it would sticking out the side of a laptop. Replacing a broken wireless card is easily \$200+.
- The broadband wireless service starts up automatically whenever the vehicle starts up – and therefore GPS reporting also starts up automatically
- The broadband wireless network connection is managed by a dedicated LINUX application running on a dedicated processor – not another Windows service with any number of other applications and services running on the laptop
- Eliminates cost to purchase and support wireless network management software such as NetMotion to “manage” the wireless network connection
- OnComm provides power support for the AVaIL Boost unit, which provides dramatically improved cellular coverage range, further improving communications reliability

More reliable Additional Capabilities

OnComm provides dedicated capabilities without wires connected to or a number of devices sticking out of the laptop

- GPS capture and multicasting to all devices in the area
- RFID antenna for the vehicle
- OBDII connection to vehicle engine computer
- Other services that the dedicated OnComm can support

In a vehicle the customer is likely to want these additional capabilities eventually. They will not work reliably if an end user has to remember to always plug in various cables, antennas, and devices into the laptop or Tablet PC, and keep them plugged in without accidentally or otherwise pulling them out, breaking them off, etc.

Supports wireless broadband network connection and GPS sharing

- Share the EVDO wireless connection – the vehicle becomes a wireless hot spot
- Share the GPS position reporting through multicasting to multiple devices – GPS repeaters are illegal per the FCC
- Share the GPS position reporting to multiple applications on the laptop through multiple virtual serial ports – each application requires its own dedicated port

Enables the use of a Low Cost Docking Station

- Eliminates the need for a high-cost hard-wired docking station with a custom connector to various serial and USB devices. Over time the connector can become less reliable if the unit is inserted and removed frequently
- Only provide power through the docking station – all connectivity is wireless
- Reduce the cost of the docking station by several hundred dollars