

## VMS Unit Cost and Capabilities Survey Results – August 2014

These are the results from a survey on VMS unit cost and capabilities sent to the following VMS Vendors/

- Boatracs
- CLS America – (has not yet responded to survey).
- Faria (FWI)
- Network Innovations (formerly GMPCS)
- SkyMate

### Questions and Responses

1. VMS Unit Costs: What is the cost of each NOAA Fisheries Service Type-Approved VMS units that your company provides for West Coast (Northwest) commercial fishing vessels?

Boatracs: New FMCT/G which are reimbursable cost is \$3095.00, Refurbished FMCT/G are NOT reimbursable cost is \$1595.00

Faria (FWI); Faria has two type approved systems:  
KTW309 - \$3,195.00 – Iridium  
KTW304 - \$3,295.00 – Iridium & GSM Cellular

Network Innovations (GMPCS):

Antenna replacement: SAILOR 6150 - \$1,523.00  
See cable options below:

SAILOR GOLD PLUS - \$2,500.00  
SAILOR 6150 mini-C Non-SOLAS Distress System  
Package consisting of: -  
SAILOR 3027D  
Non Solas Distess Terminal - SAILOR 6194  
THRANE 6194 Term. Ctrl. Unit -  
Accessories kit - User/installation  
Guide, Keyboard with trackball mouse, 3606XP Monitor.

Optional Antenna Cables Sold Separately:  
406100-946 10M NMEA2K Mini Device Cable - \$56.95  
406100-947 15M NMEA2K Mini Device Cable - \$87.10  
406100-944 30M NMEA2K Mini Cable - \$170.85  
406100-945 50m NMEA2K Mini Device Cable - \$288.10

SkyMate: SkyMate 250 MSRP is \$3,100.00

2. Communication costs for each unit: What is the **monthly** communication cost using type approved satellite communication of each VMS unit at the following position reporting rate?

Interval	Boatracs	CLS America	Faria (FWI)	Network Innovations	Skymate a/
15 min	\$34.95 additional \$0.07 per poll	No Reply	\$70.45	\$172.80	\$84.60
20 min	\$34.95 additional \$0.07 per poll		\$59.95	\$129.60	\$73.99
30 min	\$34.95 additional \$0.07 per poll		\$52.25	\$86.40	\$54.80
60 min	\$34.95		\$44.95	\$43.20	\$36.39
4 hours	\$34.95		\$34.95	\$10.80	\$21.99

a/ All communication costs based on a 30 day month.

[http://www.skymate.com/user\\_groups/commercial\\_fishing.html#servicePlans](http://www.skymate.com/user_groups/commercial_fishing.html#servicePlans)

3. Reduced reporting rate: Which VMS units support “Reduced reporting rate” (reporting every 4 hours when a vessel is in port)?

- a. Describe the procedure for reduced reporting rate, to include how the VMS unit returns to normal reporting rate.

**Boatracs:** Both support reduced rates - Still reports once and hour with a largely reduced power draw. This can be adjusted over the air by Boatracs depending on the Regulations. By use of a “toggle switch” in line with an ignition wire. Switch to “Off” unit will appear to shut down, but will wake up and report at the specified interval. Switch to “On” unit returns to normal reporting rate.

**FWI:** A reduced reporting rate (port-at-rest) is rules based and applied when a vessel remains motionless for 10 or more minutes based on GPS position. Upon the Faria WatchDog 750VMS detecting movement (determined by GPS position) the system automatically switches back to the required in motion reporting rate.

**Network Innovations:** Zones can be used to reduce the reporting interval without on board interaction, as long as the right zones are downloaded in the terminal. The reporting will return to “normal” when the zone has been left.

In harbor requires for an IO pin to be activated manually on board (or could get wired to the ignition or similar). The minimum distance will then be used to reactivate the normal reporting interval. So if the minimum distance is set to 200m then the normal reporting will start when the vessel has moved more than 200m. (To our knowledge, the NW Region cannot use the “In Harbor” option)

**Skymate:** Units can be configured to report at different intervals based on vessel movement. For instance at rest it can be set to report in 4 hour intervals, and in motion report hourly.

- b. When a reduced reporting rate is triggered are the position reporting costs reduced?

Boatrac: No

FWI: No, currently the vessel owner selects a data plan based on the required region reporting rate/number of Iridium bytes (i.e. 12,000 bytes/month for required one hour reporting) needed to achieve this reporting rate. We could offer a variable rate that has a lower fee but should bytes used exceed the plan the vessel owner would be billed for standard byte rate plus overage. Typically vessel owners consume unused iridium bytes sending text e-mail communications.

Network Innovations: Yes

Skymate: Yes

4. Data Logging: Which VMS units support "Data Logging" (saving position reports at an increased interval in non-volatile memory, such as position reports every 5 minutes)?

- a. Which type approved VMS units that support "Data Logging" can also send "Compressed Data Logs" over the satellite network at reduced communications costs?

Boatrac: All of the data we send is compressed

FWI: The FWI 750 VMS system can log up to 60,000 position reports at a frequency from once per second to once per hour and be sent OTA, We offer this feature with other International VMS authorities. The reports can be retrieved via our WSDL interface by Faria WatchDog or Vtrack or can be downloaded onto a USB memory device manually from the Faria WatchDog VTERM. During a recent discussion with Kelly Spaulding about data logging she was not sure if current VMS rules permit this feature.

Network Innovations: All Thrane Mini C terminals support logging. In the firmware from 1.05 and up the logging can also take any event that would cause a data report to be sent.

SkyMate: does not support data logging.

- b. What would the cost be for 1 compressed data log report per day of 96 position reports?

Boatrac: \$5.04

FWI: \$1.632 or 1.7 cents for each 10 byte location update including speed, heading, lat. and lon. location, date, and time of day.

Network Innovations: The cost is pretty much the same if you want the same information logged. Logging is recommended to be used for additional "resolution" on the trail of the vessel. To be downloaded remote only when the interval reporting indicates a reason for looking closer at the vessels trail. Otherwise it should get downloaded while in harbor with a laptop connected for instance.

SkyMate: does not support data logging.

5. Geo-Fencing: Which VMS units support “Geo-Fencing” (the storing of GIS polygons in VMS unit memory)?

Boatrac: Our unit doesn't support Geo-Fencing on the unit. We do support Geo-Fencing on the software side

FWI: FWI VMS systems do not support GIS polygons. However we can field upgrade systems to support GIS polygons if/when required. We currently support this features for other VMS authorities, and can support on orders for new equipment/applications.

Network Innovations: All Mini C supports Geofences as mentioned.

SkyMate: The SkyMate 250 supports Geo-Fencing

6. How many “Geo-Fences” can each type approved VMS unit store?

Boatrac: N/A

FWI: A Modified FWI 750 VMS system can store up to 1,200 geo-fence zones.

Network Innovations: It depends on the number of positions in the zones created. Circle zones only holds one position and a little more information where a polygon includes up to 40 positions.

I will have to get back to you precisely how much flash is available for storing zones. In theory it can be 50 groups with 250 zones in each, but that would likely not be possible with all 40 point polygons.

SkyMate: SkyMate has tested up to 5 Geo-Fences stored in the SkyMate 250.

7. How many lat/lon coordinates can each geo-fence contain?

Boatrac: As many as needed

FWI: A Modified FWI 750 can support geo-fence zones having more than 200 lat/lon points.

Network Innovations: A zone can hold from 1 to 40 points. Firmware 1.05 and up has polygons of up to 40 points, older firmware is a little more limited in the types of zones. Only 8 point polygons and only ones than “close in on themselves” not “free form” polygons as in the new firmware.

SkyMate: SkyMate has tested up to 5 lat/lon coordinates per polygon.

8. Which type approved VMS units can change their internal programming (like position reporting rate) when the VMS unit determines that a vessel is within the "Geo-Fence".

Boatrac: No response.

FWI: A Modified FWI 750 VMS system can assign rules to the various geo-fence zones such that the reporting frequency will change automatically when a vessel enters and/or exist the zone. We currently support this feature for other VMS authorities.

Network Innovations: All terminals with zones can do this. It is possible to specify per zone whether enter/ exit events are sent and whether the reporting interval differs from the normal reporting.

SkyMate: The current type approved unit can increase the reporting interval when detecting inside the Geo-Fence.

9. Which type approved VMS units can send alerts to the vessel (and what kind of alerts) when the VMS units determines that a vessel has entered a "Geo-Fence"?

Boatrac: A message will be automatically sent to the unit. We also have 24 hour client care support if needed can contact them.

FWI: A modified FWI 750 VMS system can alert the vessel operator when entering a geo-fence zone with an audible alarm accompanied by "GEO-FENC" on the standard 2" user interface display or a more comprehensive message with more words and instructions on our approved VTERM touch screen display, We currently support this features for other VMS authorities.

Network Innovations: All Mini C terminals can send enter exit events, change reporting interval and change and IO pin based on whether the vessel is in a zone or not. We are not able to differentiate on the "OK" zones and the "No go" zones. So the IO pin will only be able to indicate in or outside zones.

SkyMate: Currently we do not send alerts to the vessel when inside a geo-fenced area.

10 Alternative communications channels: Which type approved VMS units can send data via alternate communications channels?

a. Cellular connection.

Boatrac: No response.

FWI: Yes, the FWI P/N KTW304 supports GSM Cellular.

Network Innovations: N/A

SkyMate: N/A

b. Wi-Fi

Boatrac: No response.

FWI: Wi Fi is an optional add-on that could be included.

Network Innovations: N/A

SkyMate: N/A

11. What is the cost to send positional data via alternate communications methods?

a. Cellular connection.

Boatrac: No response.

FWI: About one fifth the cost of a Satellite location update transmission or \$.00363

Network Innovations: N/A

SkyMate: N/A

b. Wi-Fi

Boatrac: No response.

FWI: Comm cost would be free unless there is a connectivity charge at the local hot spot.

Network Innovations: N/A

SkyMate: N/A