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SEFSC

OMI
2021

cELB Program

James Primrose
IT Specialist (Data Management)

Data collected

Stored in a .dat:

. File header

Every 10 minutes:

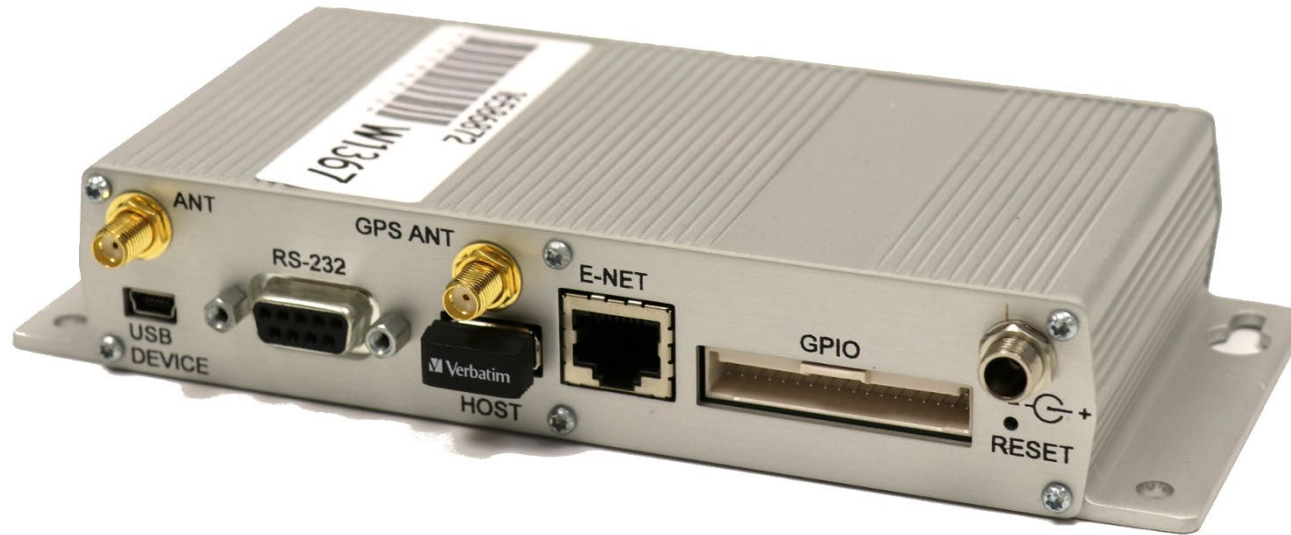
- Latitude (decimal)
- Longitude (decimal)
- Timestamp MM DD YY HH24 MI SS

Ex: NN:NN.NNNN, - NN:NN.NNNN,MM,DD,YY,HH,MI,SS

18522904
2013, Year
04, Month
14, Day
18, Hour
0, Device Number

29:04.061,	-88:21.133,	12,9,13,20,00,18
29:04.063,	-88:22.135,	12,9,13,20,10,19
29:04.067,	-88:23.119,	12,9,13,20,20,19

3G CDMA cELB



MultiTech MTCDP

EV3- GP- N3

ARM9 @ 400Mhz

3G CDMA & GPS Antenna

GPIO / Ethernet (RJ45)

RS232 (serial)

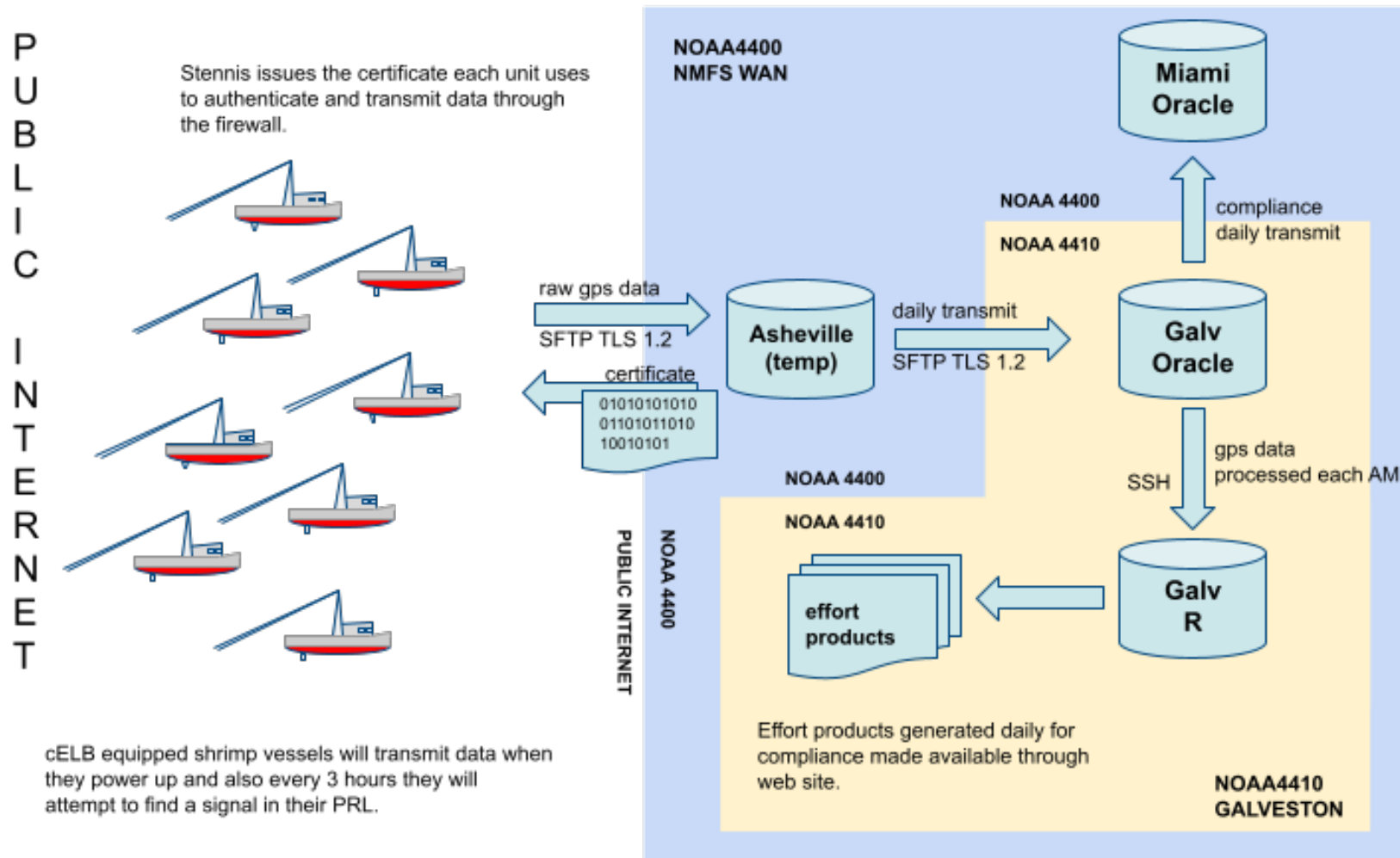
USB 2.0

SD flash (Front)



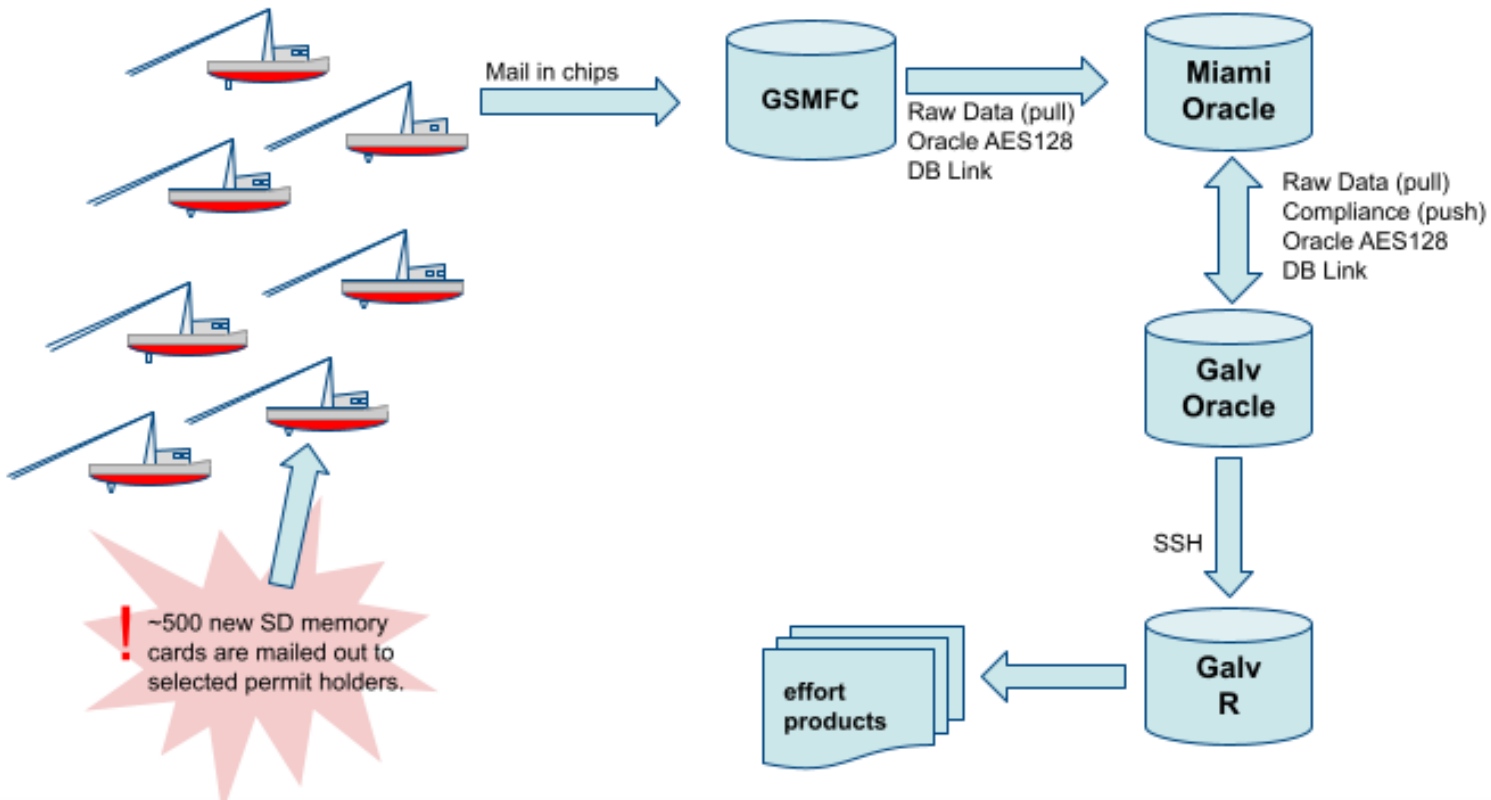
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Original process overview



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Current “mail in” process



Mail in process is really only a short-term, imperfect, solution.

Data recovery is at slightly over half of the chips which means that, previously we obtained 100% of the data and now we only have ~55% (we may get more as we send reminders)

But, as 3G units breakdown, overall coverage will lag as we are not recruiting new vessels.

Meeting Section 7(b)(4) of the ESA from the recent shrimp BiOp regarding Reasonable and Prudent Measures, NMFS must insure that future fisheries effort monitoring is conducted at equivalent (or greater) levels as conducted over the past 10 years.

System components

Data Collection	Data Transmission	Data Storage & Analysis	Policy
<p>The Instrument.</p> <ul style="list-style-type: none"> • GPS requirements. • Cellular requirements. • Storage requirements. • Support / troubleshooting / repair requirements. • Rugged / IP67 requirements. • Security & encryption requirements. • Type approval. • Hardware replacement lifecycle. 	<p>The cellular network.</p> <ul style="list-style-type: none"> • Cell account creation & management. • Cellular network requirements. • Troubleshooting / support. • System security. 	<p>The back end.</p> <ul style="list-style-type: none"> • Physical servers and storage. • System integration. • System security. • ETL & Analysis work. 	<p>The rules.</p> <ul style="list-style-type: none"> • Regulations & compliance. • Roles and expectations.



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Cole, J.G., B.J. Gallaway, L.R. Martin, J.M. Nance, and M. Longnecker. 2006. Spatial Allocation

of Shrimp Catch Based on Fishing Effort: Adjusting for the Effects of the Texas Opening. *North American Journal of Fisheries Management* 26: 789-791.

Gallaway, B. J., J. G. Cole, L. R. Martin, J. M. Nance, and M. Longnecker. 2003. [2] Description of a

simple electronic logbook designed to measure effort in the Gulf of Mexico shrimp fishery. *North American Journal of Fisheries Management* 23:581-589.

Gallaway, B. J., J. G. Cole, L. R. Martin, J. M. Nance, and M. Longnecker. 2003. [2] An evaluation of

an electronic logbook as a more accurate method of estimating spatial patterns of trawling effort and bycatch in the Gulf of Mexico shrimp fishery. *North American Journal of Fisheries Management* 23:787-809.

SEFSC Galveston eELB Program Overview. Retrieved from

<https://www.fisheries.noaa.gov/southeast/commercial-fishing/electronic-logbook-gulf-mexico-shrimp-permit>

With thanks to:

James Nance PhD, Benny Galloway PhD, Rick Hart PhD, John Cole, James Maki, Ian McCoy,
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