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NAVIPAC AND IXBLUE GAPS DATA FORMAT

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Version: 4.2

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1 General

NaviPac supports the IXBLUE GAPS Standard exchange format.
The GAPS Standard protocol contains the position of the transponder(s).

```
$PTSAG,12,132810.234,71,03,2006,11,5650.55281,N,0900.01200,E,B,0123.4,1,0122.3*<check sum>
```

See GAPS User Manual for details on the format.

2 Data input

We have modified the ordinary **Remote dynamic objects x** to support the \$PTSAG.

The GAPS can be configured by adding a **Remote dynamic object** driver to the vessel.
Then add beacons by clicking on the **Plus sign** on the vessels **Remote dynamic object** and assign to another vehicle.

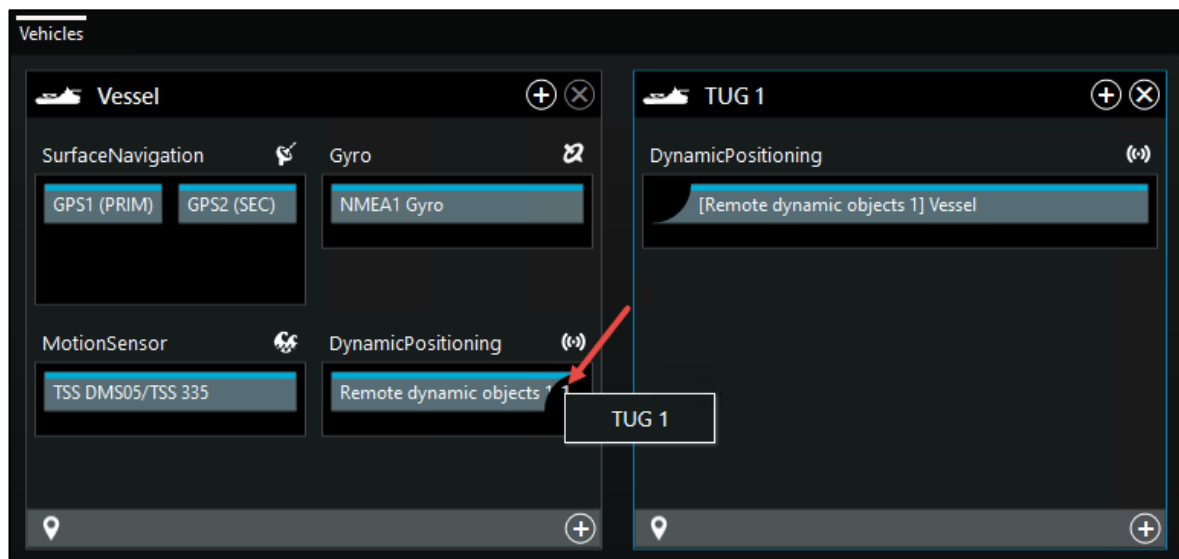


Figure 1 Adding a beacon

Properties
Instrument

Misc

Name	Remote dynamic objects 1
System Name	Remote dynamic objects 1
Instrument ID	421
Info	NaviPac, Winfrog, Pseudo NMEA, Apache, Thales and Stolt France support
Offset	0,0,0
Setup Id	11183
I/O Mode	ON
I/O	udp://127.0.0.1:5000/

Weighted position

Automatic from telegram	<input checked="" type="checkbox"/>
Scale	1
Manual deviation	0
Range scale deviation	0

String details

Number of bytes	200
Telegrams per cycle	5
Driver type	CRLF: Normal ASCII String with 'cr'+'lf'
String prefix	

Figure 2 Dynamic Positioning: Remote dynamic objects x driver

The driver will analyse the input automatic and select the format, as it now supports:

- 1) NaviPac
- 2) Winfrog
- 3) Pseudo NMEA
- 4) Expanded NaviPac
- 5) NaviPac SCS France
- 6) Apache \$SFPOS
- 7) NaviPac Plus
- 8) IMCA Standard
- 9) Thales Tracks \$PRPS, POSN
- 10) Century Subsea Spar
- 11) iXBlue GAPS (\$PTSAG Message)
- 12) IxBlue Phins (\$PIXSE, POSITI)
- 13) Acergy \$ACGDAT
- 14) Kongsberg HUGIN AUV data (\$PKMSLLD)

The unit may read one or more inputs based on the TP code (between 1 and 128)

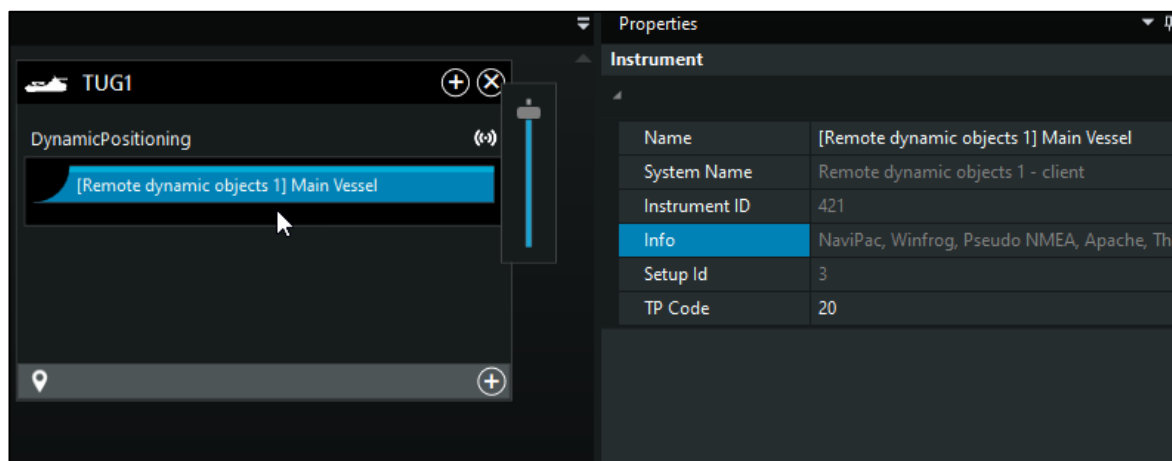


Figure 3 Driver1

The objects will be treated as any other object in NaviPac.

Object Monitor											
File Options View Help											
Object name	No.	Id.	Delta X	Delta Y	Delta Z	Easting	Northing	Height	SMG	CMG	Accuracy
Vessel	0	-1				499998.84	5999999.21	25.46	0.00	0.0	2.37
Filtered vessel position	10	-1				499998.84	5999999.21	25.46	0.00	0.0	
TUG 1	20	11	0.00	1.70	1.53	500111.42	5999990.17	15.00	0.00	5.7	1.70
ROV1	21	12	0.02	1.71	11.53	500112.42	5999980.17	15.10	0.00	5.7	1.71
ROV2	22	13	0.04	1.72	21.53	500113.42	5999970.17	15.20	0.00	5.7	1.72
Towfish1	23	14	0.06	1.73	31.53	500114.42	5999960.17	15.30	0.00	5.7	1.73
Towpoint	805	99	0.00	0.00	0.00	499998.84	5999999.21	1.23	0.00	0.0	
Priority 2	52	-1				499998.82	5999999.11	25.36	0.00	0.0	

Figure 4 NaviPac Object Monitor

The TUG1 in the above dump is positioned via GAPS. Please note that the following information is taken from the input

Delta X - The data latency (based on computer clock vs. time in telegram)

Delta Y - The Position Validity (0 – 15)

Delta Z - The Sensor Depth

Height - The Calculated Depth

Please note that the calculation of the latency/age only will work if the two systems are synchronized to the same clock. The timestamp in the GAPS telegram are assumed to be UTC.

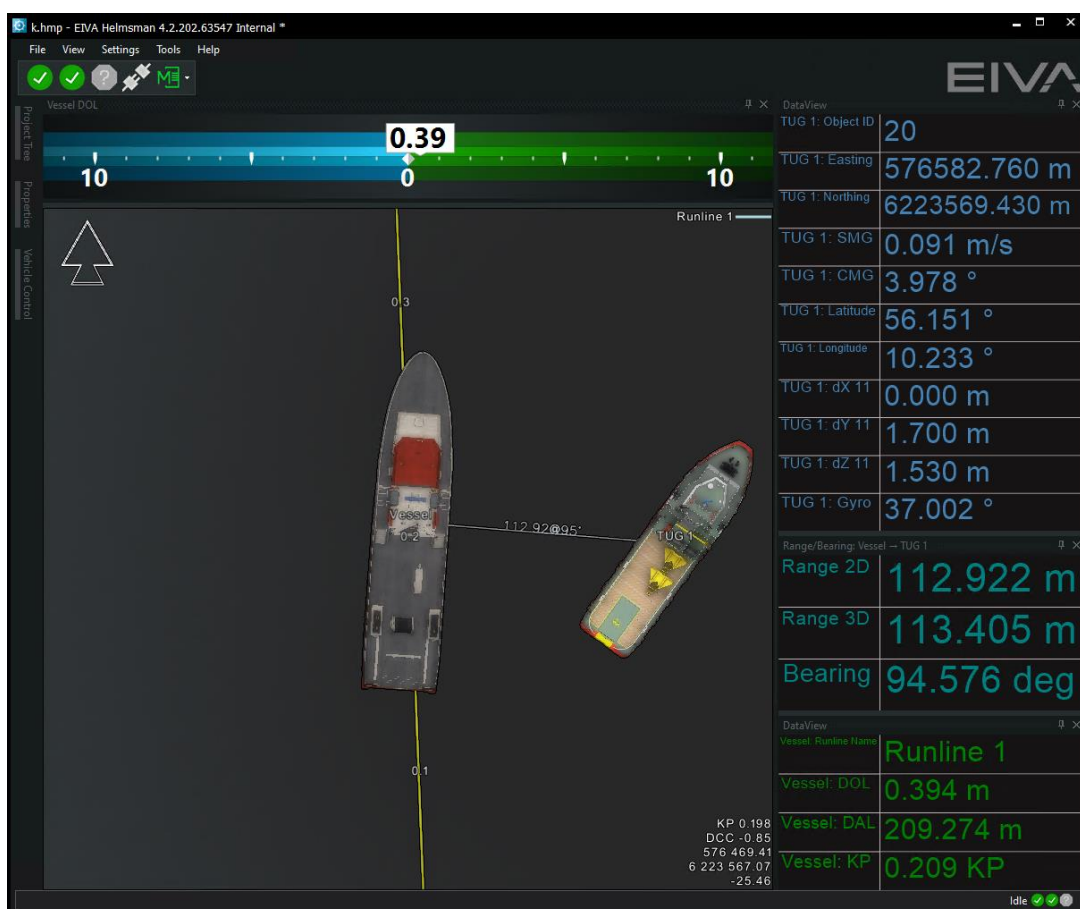


Figure 5 NaviPac Helmsman's display with TUG1 positioned by GAPS

3 Data filtering

If the GAPS unit outputs more than the one interesting telegram – e.g. also some of the other GAPS messages, then you must add a filter in the NaviPac system. This is done in NaviPac Remote object driver properties.

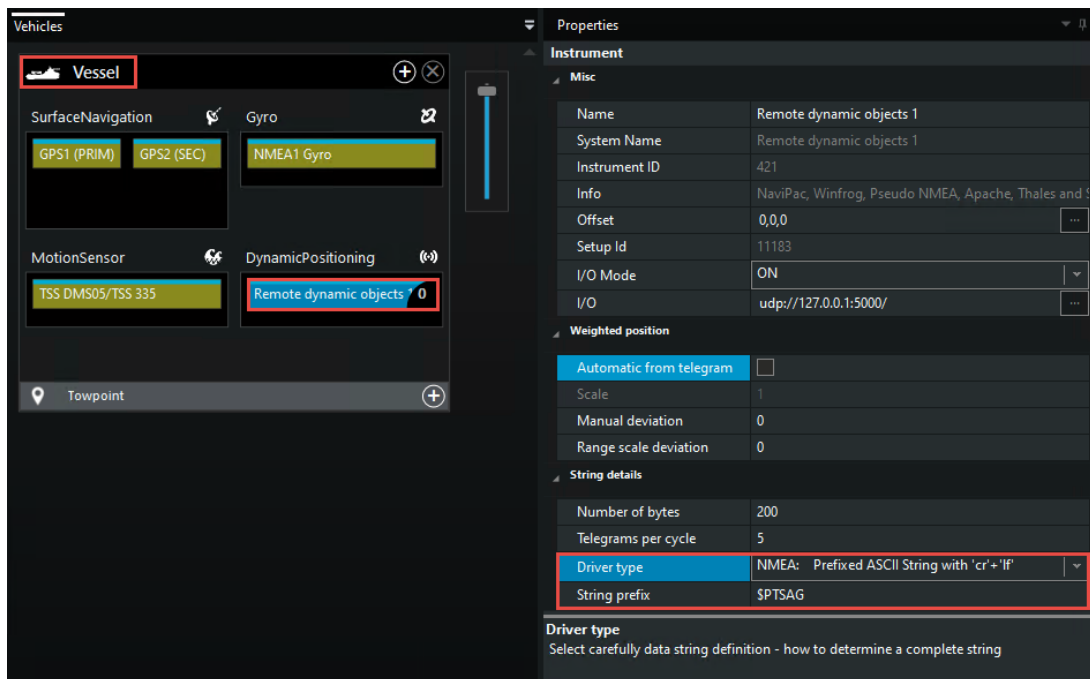


Figure 6 Remote dynamic object properties view

Go to Properties, scroll down to the String details section and modify the Driver Type to NMEA: Prefixed ASCII String with 'cr' + 'lf'. This allows you to enter a String prefix, e.g. \$PTSAG. If set, then only strings starting with the prefix are feed into NaviPac. All others will be rejected.

4 Version descriptions

Version	Date	Author	Description
3.9	01-01-2000	OKR	Initial document
4.2	05-03-2020	ROEL	Reviewed and moved to new EIVA template