Tracking WGC

Solution to set up for the French WGC 2021

IGC trackers

IGC will provide 120 IGC trackers

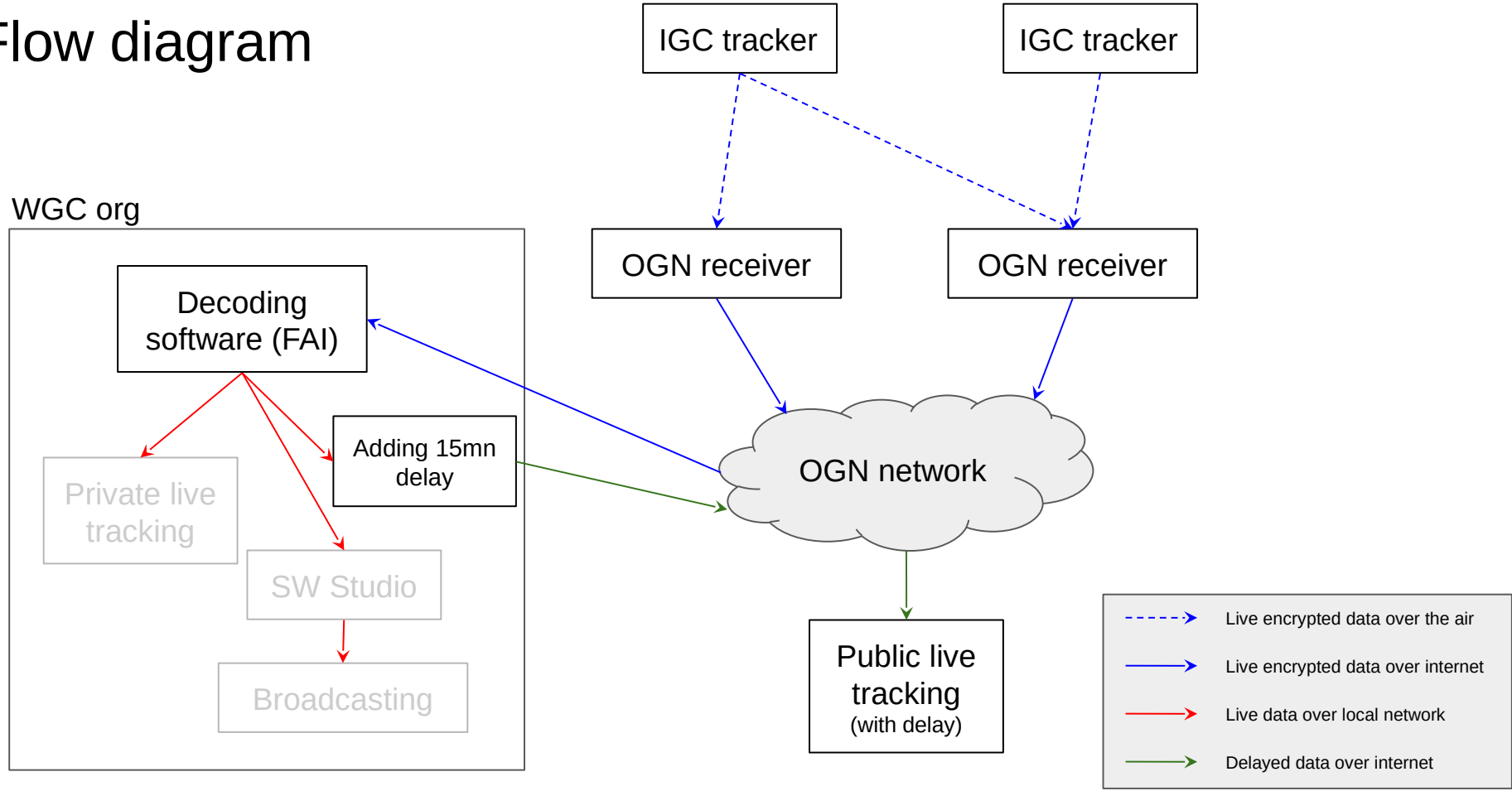
They are OGN trackers could be sending encrypted flow over the air.

OGN receivers needs to get this information to transmit it to OGN servers.

WGC org will get this still encrypted, need to run a software to decode it.

Then reinject with 15-20 mins delay to OGN APRS network the data.

Flow diagram



IGC trackers setup

To achieve this setup we need to configure each IGC tracker with a specific encryption key. This is done prior to the contest and if we have time can be changed between days of the contest.

https://github.com/acasadoalonso/OGN-IGC-Trackers-setup

Decoding software

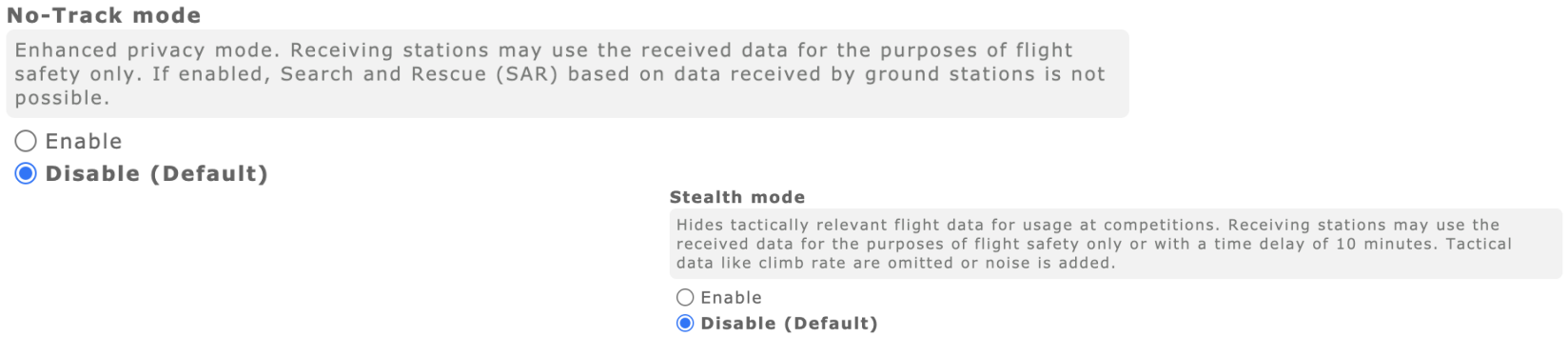
https://github.com/acasadoalonso/SGP-2D-Live-Tracking-data-gathering/blob/master/dlym2ogn.py

Flarm

Flarm of competitors gliders are going to be setup in **No-Track mode**.

So they can’t be used for the tracking.

But they will still be useful for SAR. So knowing each glider Flarm radio ID can be very interesting.



OGN-IGC-Trackers-setup

OGN/IGC Trackers setup utilities
This is a set of utilities to do the setup of OGN/IGC tracker for WGC.

Install the software

INSTALL

Get a fresh installation of a RaspberryPi, https://www.raspberrypi.com/software/
Raspberry Pi OS Lite
Release date: January 28th 2022
System: 32-bit
Kernel version: 5.10
Debian version: 11 (bullseye)
Size: 482MB
we suggest to call the server as TRKsetup, user pi, password OGNOGN but any choice will work. Also you can use the ARM64 version or do it in a UBUNTU64 version

Installation procedure

- Once that the RPi is installed it do the following LINUX commands:
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- ssh pi@TRKsetup.local
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- mkdir OGN
-
- cd OGN
-
- wget glidertracking.fai.org/dist/V1.0/TRKtools.tgz
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- wget glidertracking.fai.org/dist/V1.0/esp32-ogn-tracker-bin.tgz
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- tar xvfz esp32-ogn-tracker-bin.tgz
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- Connect the tracker with the USB cable to one of the 4 USB ports of the RPi
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- type command:
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- dmesg
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- and check on which port the tracker has been connected, normally ttyUSB0, if not update the flash_USB0 script.

Installation procedure

- bash flash_USB0.sh
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- tar xvzf TRKtools.tgz
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- cd dist
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- cp TRKSconfig.ini.template TRKSconfig.ini and review the settings
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- ./TRKsetup.Linuxarmv7l -h # check that works
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- # the name of the program is TRKsetup.xxxyyy where xxx is the opsys and yyy is the architecture of the server
- ./TRKsetup.Linuxarmv7l --setup ON --reg ON # do the setup with registration on the FAI server

More details at:

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- https://github.com/acasadoalonso/OGN-IGC-Trackers-setup