

## “ECLSAv2” in ION-3.6.0

- In /contrib there is a new directory called ECLSAv2, where all the ECLSAv2 files are contained. In particular, the ECLSA files are in /contrib/ECLSAv2/ion-open-source/ltp/ec/eclsa; while the OpenFEC codecs used by eclsa in /contrib/ECLSAv2/ion-open-source/ltp/ec/openfec. In /contrib/ECLSAv2 there are ancillary files, including ECLSA documentation (see the except of Raminella's Thesis)
- The file /contrib/ECLSAv2/ion-open-source/bp/ltp/ltpcli.c has been modified to discard green ltp blocks with gaps, instead of filling gaps with zeros. The modification is necessary to safely run dtnperf - - server, which is not able to cope with random gaps in bundle payloads. The user planning to use LTP green with DTNperf server, with or without ECLSA, is suggested to replace the original file with this version.
- The files configure.ac and Makefile.am in /contrib/ECLSAv2/ion-open-source have been modified to compile ECLSA. They should replace the original ones (keep a copy) in the root directory of ION.
- In ION 3.6.0 LTP includes a few enhancements to increase robustness against the loss of signaling segment. Although LTP Enhanced is completely independent of ECLSA, when coupled with ECLSA it is particularly advantageous. They are in fact complementary.

## Compiling ECLSAv2

To compile ECLSAv2 with OpenFEC codec library

1. Compile ION the usual way, unless not already done (at present this is necessary to avoid errors with ECLSA Makefile).
2. Install the following packets, if not present: cmake, autotools-dev and automake
3. Copy the ECLSAv2 configure ac and Makefile.am in the ION root directory (keep a copy of the original ones)
4. The first time, you need to build the configure and Makefile; from the ION root directory, enter:

```
aclocal; autoconf; automake; make clean; ./configure --enable-eclsa --with-upperProtLTP --with-lowerProtUDP --with-codecOpenFEC CFLAGS='-O0 -ggdb3' CPPFLAGS='-O0 -ggdb3' CXXFLAGS='-O0 -ggdb3'
```

5. then you can compile and install as usual, by entering:

```
make; make install; ldconfig
```

Should you modify the code, or just re-install you do not need to build configure and Makefile.

## Running and stopping ECLSAv2

See the .rc configuration files in /contrib/ECLSAv2

To stop ECLSA when running, enter:

```
ps a | grep ecl | grep -v grep | sed 's/^ *//g' | cut -f1 -d' ' | while read line; do kill -9 $line; done; killm;
```

At present, as ECLSA is still experimental, killm alone does not stop all elements of ECLSA (you can receive a lot of errors on the screen).