

Evaluation of the submitted proposals for a common APRS standard for IARU region 1

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Preface

In this document a comparison of the two submitted proposals for the APRS standardization in the IARU region 1 is made. Since so far no common APRS standard for the region 1 exists, most users and software developer adopted the world-wide APRS standard by Bob Bruninga (WB4APR). With the upcoming capacity problems in the US the standard was extended to the NEWn-n paradigm in the last years. At the same time alternatives approaches to NEWn-n were introduced in Denmark and Great Britain. At the next IARU meeting in November 2008 a decision about a common APRS standard in region 1 is planned, two proposals for a region wide APRS standard are submitted. The first proposal (CT08_C5_09) was submitted by the Danish Radio Amateur Club (EDR), the second proposal (CT08_C5_33) comes from the Norwegian Radio Amateur Club (NRRL). While both proposals significantly differ, a decision about the upcoming APRS standard for region 1 has consequences for all APRS user, digipeater operators and software developers.

Possible decisions

Acceptance of the EDR proposal

If the proposal submitted by the EDR is accepted, all users in region 1 have to use RELAY and TRACEn-n. In addition the application of other SSID is proposed.

Acceptance of the NRRL proposal

In case of acceptance of the NRRL proposal the complete world-wide APRS standard will be adopted. In particular only WIDE1-1 and WIDEn-n are used for path addressing. In addition guidelines for stations overlays and local informations are included.

Rejection of EDR and NRRL proposal

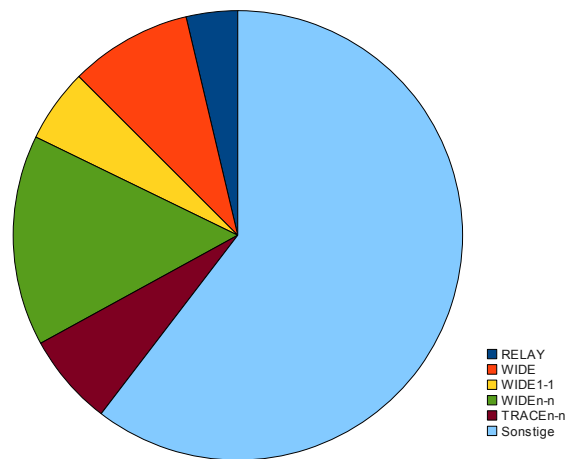
If both proposals are rejected, the current situation will be continued. At this time no common APRS standard exists for region 1, different incompatible approaches are in use in Europe.

Analysis of current situation

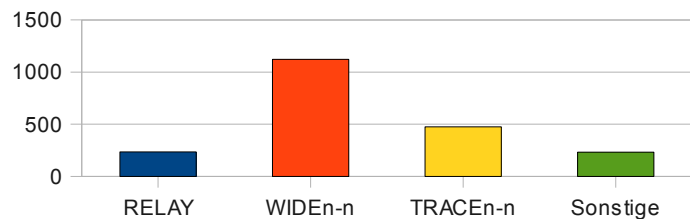
To provide a better overview about the consequences of the different decisions, an analysis of the European APRS internet stream was made. The analysis was focused on the used overlay symbols of active digipeaters and used path calls by regular APRS users. In addition the preferences of regional APRS representatives were kept in mind.

The analysis of the European APRS internet stream was made over a period of 7 days, started from the 19-th June 2008 until the 26-th June 2008. Following results could be determined:

- Total number of digipeaters 1192
 - RELAY-digipeaters: (3%)
 - WIDE-digipeaters (9%)
 - WIDE1-1-digipeaters (5%)
 - WIDEn-n-digipeaters (15%)
 - TRACEn-n-digipeaters (6%)
 - other digipeaters (60%)
(D, U, oder no overlay)



- Total number of beacons 1.8 Mio (5379 users, multiple symbols)
 - unused RELAY (13%)
 - WIDEn-n (62%)
 - TRACEn-n (26%)
 - others (12%)



The analysis shows, that the majority of digipeaters do not use overlay symbols. About 20% of the digipeaters use the proposed WIDE1-1 (1) or WIDEn-n (L, S, X) overlay symbol. The remaining 20% of APRS digipeaters use RELAY, WIDE or TRACEn-n symbol. Most of the APRS users use WIDEn-n for path addressing, about 25% of all users use TRACEn-n.

Following statements from the regional APRS representatives show the preferences for a common APRS standard for region 1:

- TRACEn-n: Denmark, Great Britain
- WIDEn-n: France, Germany, Poland, Switzerland, Austria, Ireland, Luxembourg, Belgium, Netherlands, Norway

Evaluation of submitted proposals

EDR proposal

In comparison to the world wide APRS standard the EDR proposal mainly differs in the path addressing. Instead of WIDEn-n, the use of RELAY and TRACEn-n is proposed. Additional parts (overlay symbols, local information) of the existing APRS standard are not considered.

Pros

- traceability of APRS traffic
- uniform path addressing in region 1

Cons

- migration costs
- coordinative overhead for an additional APRS standard
- no mandatory standardization of additional functions (overlay symbols, local informations)

NRRL proposals

The proposal submitted by the NRRL recommends the use of the world-wide APRS standard for region 1.

Pros

- traceability of APRS traffic
- world wide compatible APRS standard
- simple path addressing (WIDEn-n)
- easy migration, easy user education
- no duplication by unused RELAY
- support for APRS satellites
- uniform guidelines for software developers

Cons

- migration costs

Continuation of the current practice

If both proposals are rejected, the current situation of self regulation will be continued.

Pros

- flexibility of self regulation

Cons

- non-uniform APRS infrastructure for region 1

Conclusion

Based on the current situation a standardization of the recommend APRS standard is useful. The advantage of the EDR proposal in comparison of the current situation is the traceability of APRS traffic. This feature is also provided by the enhanced world-wide APRS standard, submitted by the NRRL. The analysis shows, that the migration to the NEWn-n paradigm is fairly advanced. At the same time an easy migration is possible. For this reason a dedicated APRS standard incompatible to the world wide APRS standard appears needless.

The authors recommend the acceptance of the NRRL proposal to get a authoritative and compatible APRS standard for region 1.