

Agenda Item: 7.1
Source: Telecom Modus
Title: Encoding rules for and their suitability for the RRC protocol
Document for: Discussion

1 Discussion

Following WG2 in Copenhagen, it was suggested that a discussion was held on the E-mail reflector to decide on the specification and encoding methodology that should be used on the RRC interface.

TM have tried to solicit responses from members on this issue, and have researched the alternatives internally. The results are documented in this TDOC.

In the studies performed by TM, the RRC message "Active Set Update" was selected as a fairly complex message that would test the ability of all encoding options

Criteria	CSN.1	ASN.1 unaligned PER	ASN.1 BER	Tabular
Compactness (ranking)	1 st	2 nd	4 th	3 rd (1)
Extensibility	4 th (2)	3 rd	1 st	2 nd
Optional Values	Yes	Yes	Yes	Yes
Default Values	No (3)	Yes	Yes	Yes
Comprehension Required	Yes	Yes	Yes	Yes
Inter/Intra IE dependency	Yes	Yes	Yes	Yes
Partial Decoding	Yes	Yes	Yes	Yes
Extension of a value set	Yes	Yes	Yes	Yes

- (1) It may be possible to reduce tabular but this becomes more and more complex.
- (2) We are unsure about the flexibility extension mechanism of CSN.1.
- (3) This must interwork with ASN.1 so the default can be specified somehow.

Our investigations implied that CSN.1, unaligned PER and Tabular produce very similar encoding lengths. CSN.1 produced the shortest encoding.

2 Conclusion

Telecom Modus have no preference over the selection of one of the three encoding methods, CSN.1, unaligned PER or tabular provided that certain assurances are given regarding CSN.1:

- 1) How is extensibility achieved with CSN.1? We are unsure that the extension mechanism is flexible enough as extensions seem to be allowed only at the end of the message.
- 2) If there are further shortcomings with CSN.1 as a language, what is the process for changing it? If a standards body requests a change to CSN.1, will it be modified?

3 References

[1] CSN.1 Specification Version 2.0