

Agenda Item: 9.1
Source: Nokia
Title: RLC retransmission scheme in descriptive SDL
Document for: Decision

1. INTRODUCTION

This document contains a new version of the RLC retransmission scheme SDL diagrams presented in [1]. This new version is written using the descriptive SDL guidelines ([2], [3]).

It has to be noted that the SDL presented in this contribution does not represent the latest version of the current state model and the PDUs used. Basically the SDL contains the same functionalities as the current SDL in [1], but written according to the descriptive SDL guidelines. It will probably have to be accepted that the SDL representations of different functionalities will not always comply to the latest specifications.

2. HOW THE SDL HAS BEEN CHANGED

The changes made to the previous SDL model include:

- All parentheses have been removed from variable names, since SDL would interpret these as procedures. For instance VT(SQ) is now VT_SQ.
- Internal input and output symbols are no longer used – in fact, they are no longer supported by SDL tools. Signal naming and input/output symbol orientation have been used instead. The PDU input and output symbols face right while the input and output symbols for other signals face left.
- In most cases, procedures have been used instead of macros. The only exception to this rule are the macros used for timer handling. However, it has to be noted that procedures could perfectly well have been used here as well.
- The layout of the SDL has been changed according to the descriptive SDL guidelines. During this process a great deal of the connectors used in the original SDL have been removed and some new ones have been added.
- There are now only two states in the model, Null and Ack Data Transfer Ready.
- The first part of the signal name indicates where the signal is coming from. This does not apply to the PDU type signals, however.
- The syntax and static semantics of the SDL have been analysed, and the analyser produced no errors.

The following changes have not been made yet, but would make the model more complete:

- The handling of data carried in signals should be indicated somehow. For example, before a PDU is sent, its contents should somehow be constructed.
- The model could perhaps be simplified a little more, especially the use of connectors should be limited.
- None of the procedures have yet been defined.
- The system and block levels of the SDL should be included in the RLC specification as well.

3. DESCRIPTIVE SDL

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4. PROPOSAL

It is proposed that the SDL presented in chapter 3 would replace the current SDL in 25.322 Chapter 12.

5. REFERENCES

- [1] TSGR2#4(99)358: 3GPP 25.322 V1.0.0: Description of the RLC Protocol
- [2] TSGR2#2(99)081: Descriptive SDL and its use in 3GPP standards. Source: Nokia
- [3] TSGR2#2(99)082: Descriptive SDL guidelines. Source: Nokia