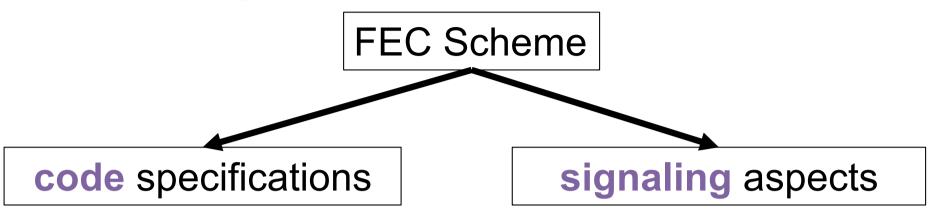
Specifying new FEC Scheme Internet-Drafts (e.g. RLNC): HOW-TO?

Vincent Roca (Inria) NWCRG Interim Meeting Boston, September 2017

What to expect in a FEC Scheme?



- enables interoperable
 implementations
- goes into all tricky aspects

• use-case dependent

- e.g., RLC I-D is for FECFRAME
- several different FEC schemes per code feasible, differing in signaling
- typically:
 - information carried in each packet (FPI)
 - information present in session description (FFCI)

I-D structure ([rfc6363] section-5.6)

Introduction + motivations + definitions + acronyms

Procedures

Othe "hard part", with pseudo code and algorithms, to define non-ambiguously all code details (parameter derivation, mapping to symbols, PRNG, coding coefficients generation)

FEC Scheme

OFEC Framework Configuration Information, source and repair FEC Payload Information

FEC code specification

Ohigh level description of how to assemble the various pieces and make it work, at a sender and receiver

Security + IANA + operations and management

From RLC I-D to RLNC I-D

RLC code specifications

 Oend-to-end only
 OPRNG + repair symbol key define all coding coefficients

- choose a target protocol
- solve packet identification and other potential issues

- remove PRNG + repair key
- change FPI (packet header) to carry coding coefficients
- remove FECFRAME specific parts if appropriate

RLNC code specifications

Oin-network re-encoding capable Ocarry all coding coefficients within packets (FPI)

From RLC I-D to RLNC I-D (2)

several RLNC FEC Schemes feasible / desirable

limited to a single source, using several delivery paths
 Omakes packet identification trivial

Ogeneral case with multiple sources
Omore complex...