



Inverse RS-FEC Baseline Proposal

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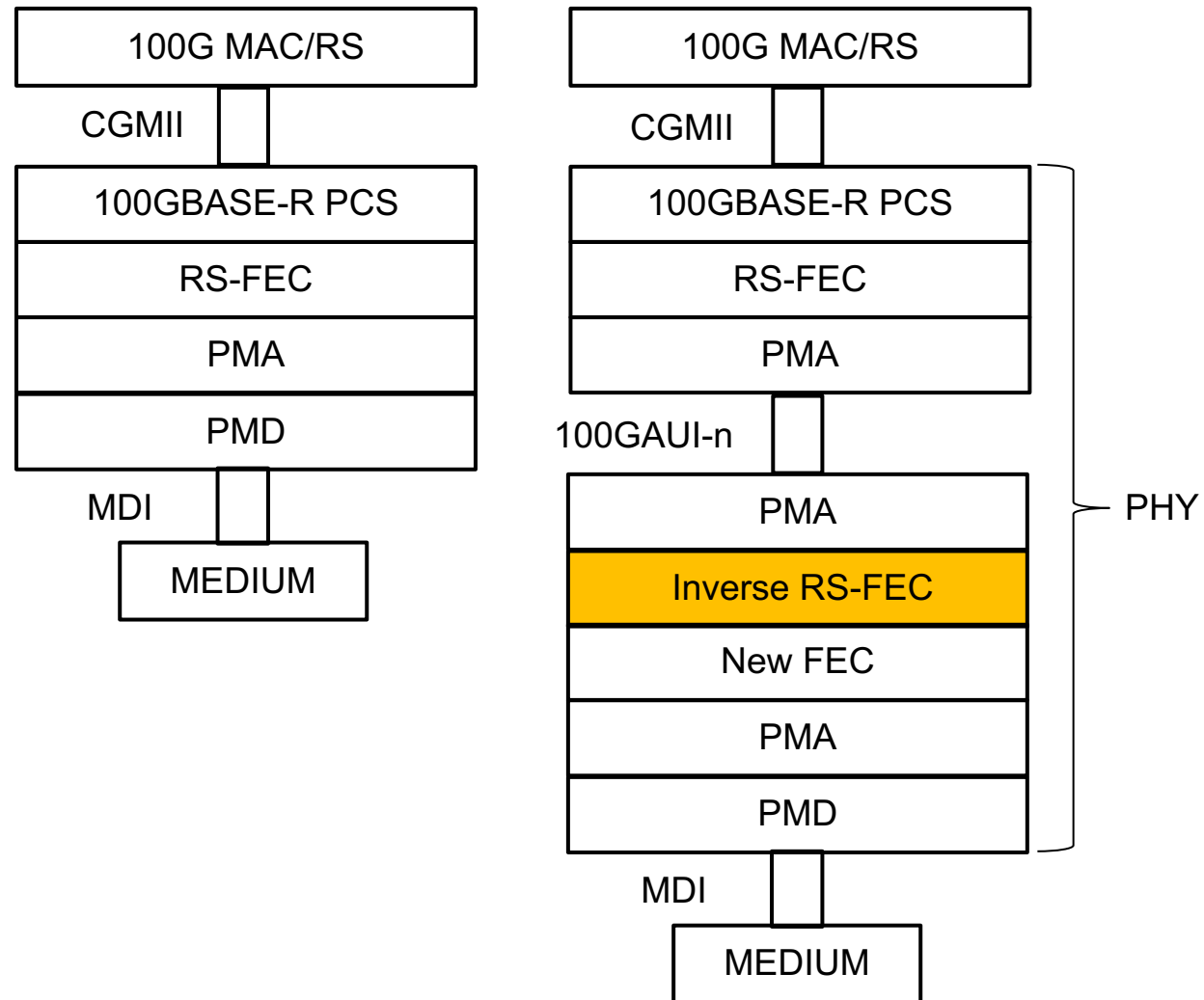
Background

- A baseline proposal for an CGMII Extender was presented at the Long Beach meeting: [nicholl_3cn_01a_0119](#)
- Discussions following the meeting identified an issue with this proposal, resulting in an alternative solution being proposed based on an Inverse FEC sublayer architecture. For more details please refer to the following ad-hoc presentation: [nicholl_3cn_01a_190207](#)
- A baseline proposal for an Inverse FEC sublayer was presented and reviewed during the Feb 14, 2019 802.3ct ad-hoc conference call: [nicholl_3ct_01_190214](#)
- This presentation is a baseline proposal for an optional Inverse RS-FEC (Clause 91) sublayer

Supporters

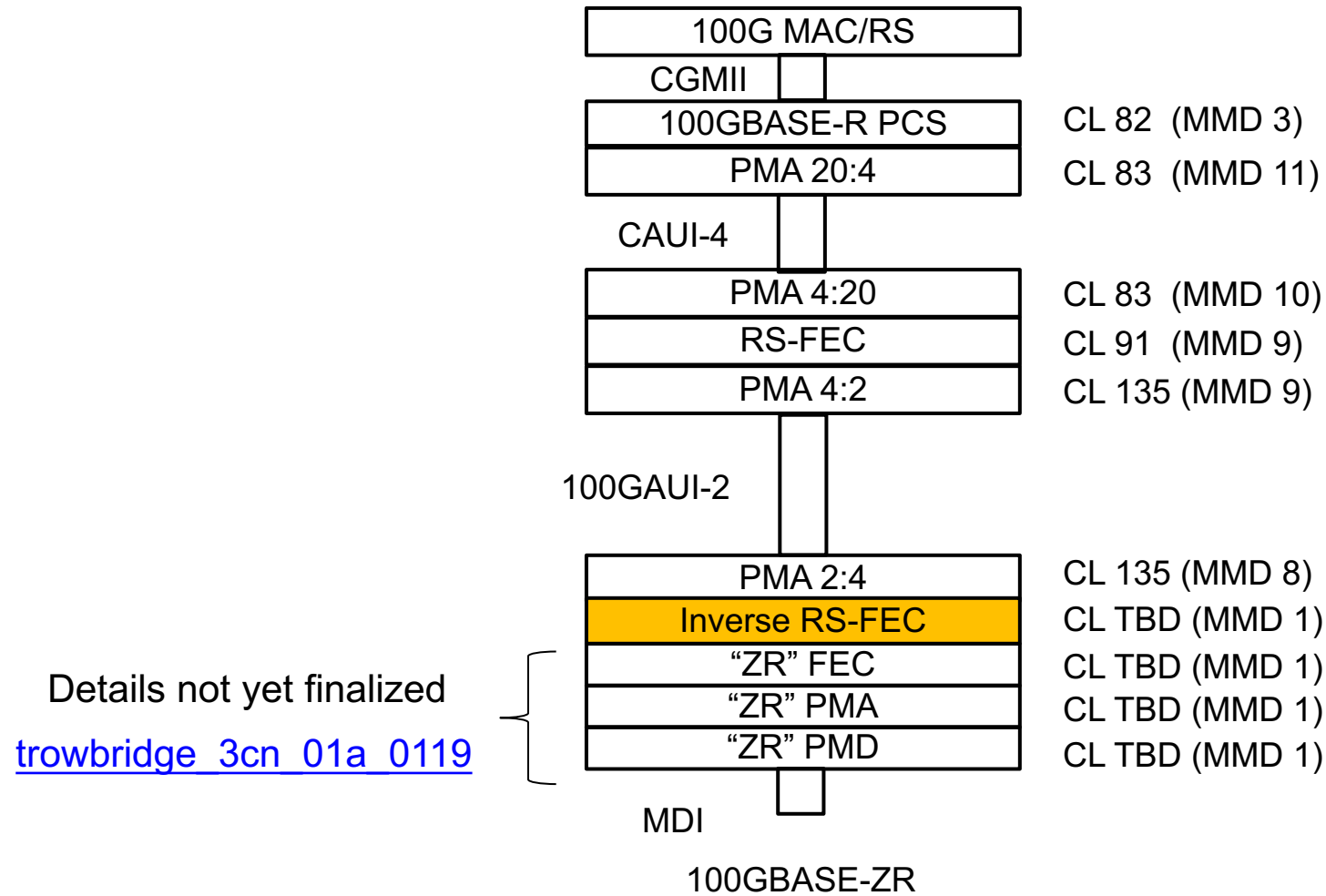
- David Ofelt, Juniper Network
- Steve Trowbridge, Nokia
- Mark Gustlin, Cisco Systems
- Ted Sprague, Infinera
- Jeff Slavick, Broadcom
- Pete Anslow, Ciena
- Jeffery Maki, Juniper Networks
- Matt Brown, Macom
- Derek Cassidy, BT
- Matthew Schmitt, CableLabs
- Mike Dudek, Marvell
- Rich Baca, Microsoft
- Paul Brooks, Viavi
- Ilya Lyubomirsky, Inphi
- Josef Berger, Inphi
- Kapil Shrikhande, Innovium

Architectural Positioning

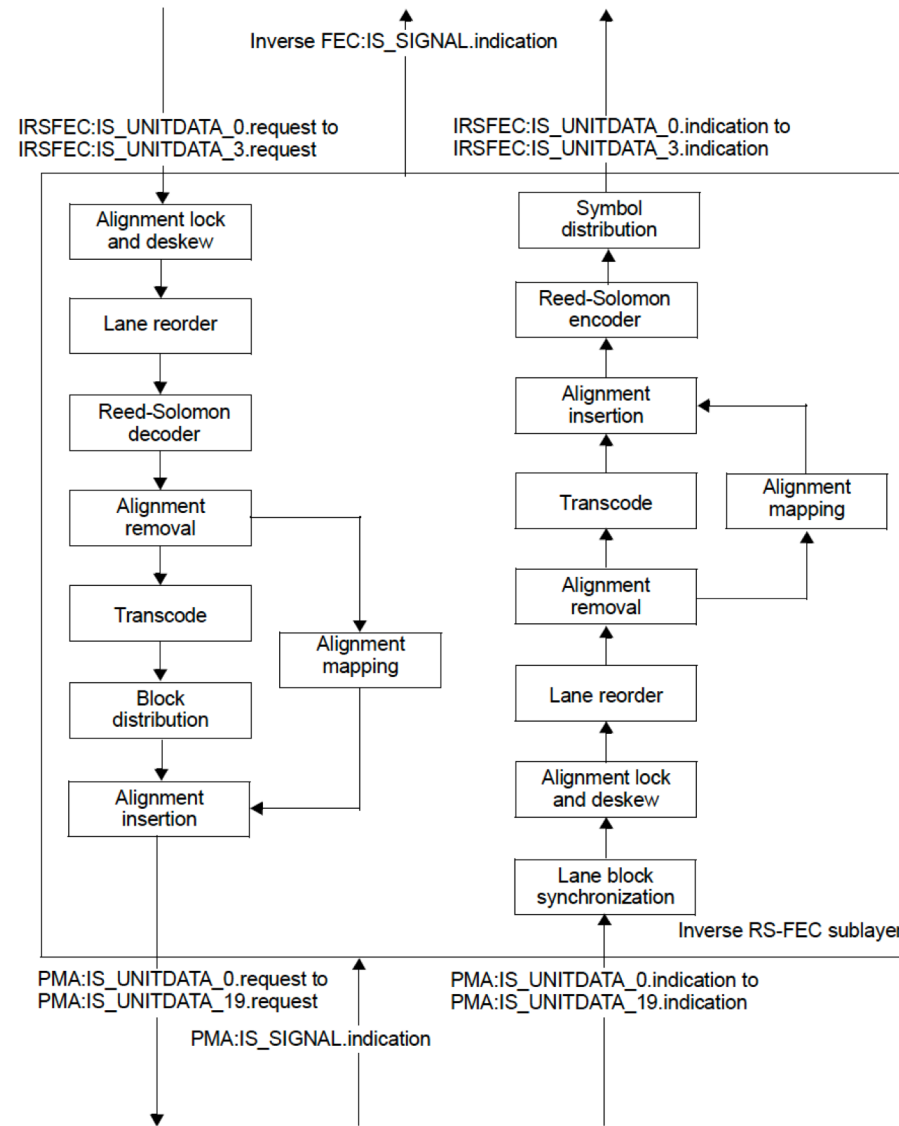


- The optional Inverse RS-FEC sublayer “undoes” the RS-FEC (Clause 91) sublayer, allowing a new FEC sublayer to be inserted further down the stack
- The proposal is to only support the RS(544,514) FEC encoder/decoder option in Clause 91

Example of Inverse RS-FEC Sublayer for 100GBASE-ZR



Inverse RS-FEC Sublayer Functional Block Diagram



Note: Essentially an inverted version of Figure 91-2 in Clause 91

Inverse RS-FEC sublayer Baseline Proposal

- An inverted version of Clause 91 RS-FEC sublayer
- Only implements the RS(544,514) encoder/decoder option of Clause 91
- A new set of “inverted” Clause 91 MDIO control and status variables to be defined and mapped to MMD1.
- Skew budgets are TBD (variation and total skew)

Proposed Motion

Move to adopt the Inverse RS-FEC sublayer baseline as proposed in slide 7 of nicholl_3ct_01a_0319