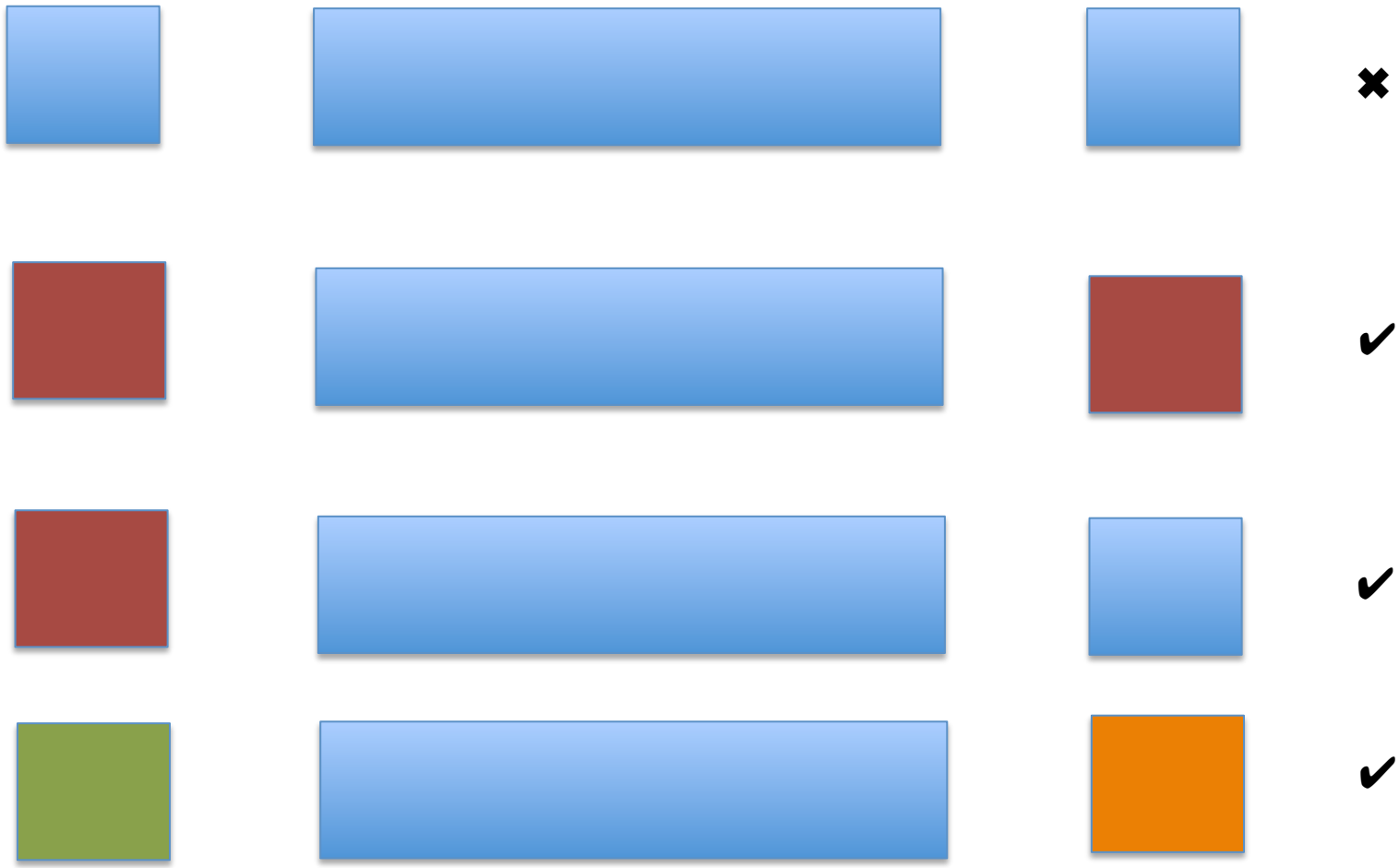
draft-doolan-ccamp-proprietary-ac

paul.doolan@coriant.com

Interoperability aka transverse compatibility



Enabling TC in systems

- Optical interface specifications (we ignore higher layers here)
  - ITU-T Recommendations under responsibility of Q6
- Signaling and/or management
  - IETF CCAMP
  - ITU-T Q6,Q12,Q14

Parameter	Units	DN50C-2A2(C) DN50C-2A3(L) DN50C-2A5(C)
General information		
Minimum channel spacing	GHz	50
Bit rate/line coding of optical tributary signals	–	NRZ 10G
Maximum bit error ratio	–	10^{-12}
Fibre type	–	G.652, G.653, G.655
Interface at point S_S		
Maximum mean channel output power	dBm	+6
Minimum mean channel output power	dBm	–3
Minimum central frequency	THz	191.5 for (C) 186.0 for (L)
Maximum central frequency	THz	196.2 for (C) 191.5 for (L)
Maximum spectral excursion	GHz	±11 (±12.5 Note 1)
Minimum side mode suppression ratio	dB	30
Minimum channel extinction ratio	dB	8.2
Eye mask	–	NRZ 10G 1550 nm region per G.959.1
Maximum transmitter (residual) dispersion OSNR penalty	dB	2
Optical path from point S_S to R_S		
Maximum ripple	dB	2
Maximum (residual) chromatic dispersion	ps/nm	+800
Minimum (residual) chromatic dispersion	ps/nm	–300
Minimum optical return loss at S_S	dB	24
Maximum discrete reflectance between S_S and R_S	dB	–27
Maximum differential group delay	ps	30
Maximum polarization dependent loss	dB	ffs
Maximum inter-channel crosstalk	dB	–16
Maximum interferometric crosstalk	dB	–40
Maximum optical path OSNR penalty	dB	5
Interface at point R_S		
Maximum mean input power	dBm	0 (Note 2) | –8 (Note 3)
Minimum mean input power	dBm	–11 (Note 2) | –17 (Note 3)
Minimum OSNR	dB (0.1 nm)	27
Receiver OSNR tolerance	dB (0.1 nm)	22
Maximum reflectance of receiver	dB	–27

NOTE 1 – If the ripple specification of the black link is met over a width of at least ±12.5 GHz, then the transmitter can have a maximum spectral excursion of ±12.5 GHz.
NOTE 2 – These power levels are appropriate for P type-intrinsic-n type (PIN) receivers. As an alternative, the power levels appropriate for avalanche photodiode (APD) receivers can be used.
NOTE 3 – These power levels are appropriate for APD receivers. As an alternative, the power levels appropriate for PIN receivers can be used.

- Lots of numbers, lots of notes, lots of definitions
- Required to build one of these
- But a bit of a mouthful
- **Application Code** is the notational shorthand

From this

To this

L-16.2

Long haul, STM 16, G.652 fibre

ACs are defined in ITU Reccomendations

The plot thickens

- What about 'non standard' interfaces? Ones for which no AC has been defined?
- Application Identifier is introduced in G.872 "covers both standard and proprietary applications"
- Management of AI introduced in G.874. Definition is in G.874.1:

The syntax of **ApplicationIdentifier** is a **pair {ApplicationIdentifierType, PrintableString}.**

The value of **ApplicationIdentifierType** is either **STANDARD or PROPRIETARY.**

The value of **PrintableString** represents the **standard application code** as defined in the ITU-T Recommendations or a **vendor-specific proprietary code**.

- CCAMP drafts use AI
  - draft-galikunze-ccamp-g-698-2-snmp-mib
  - draft-dharinigert-ccamp- g-698-2-lmp-08

The problem?

- Proprietary codes are not (uniquely) self indentifying.
- The most I can say is “this sure looks like one of mine”.

The solution?

- Restrict usage – 
  - Then why even bother ?
- Add namespace identifier (OUI?)
  - Where ? Fix at source of problem…… ☺

Discussion