Diagnostic Interface For Optical Transceivers

20 min presentation for coming experts
Bernt fiber course

Robert Olsson/2009
Diagnostic Interface For Optical Transceivers

- Specification for Optical Diag from GBIC, SFP
- Also referenced XFP and SFP+ (mandatory)
- In SFP it's optional
- Not supported in all interface cards
- Not supported by all SFP's
ethtool  -D eth5
PHY Diagnostics for eth5:
Externally-Calibrated:
Average RX-Power:
  Wavelength: 1310 nm
  Temp:  53.6 C
  Vcc:  3.33 V
  TX-PWR:  -21.2 dB ( 0.26 mW)
  TX-BIAS:  15.9 mA
  RX-PWR:  -9.9 dB ( 0.41 mW)
Diagnostic Interface For Optical Transceivers

- I2C bus on Optical Module

- Two 256 byte pages
  - 0xA0 Interface ID
  - 0xA2 Diagnostic Interface For Optical Transceivers
Diagnostic Interface For Optical Transceivers

- I2C bus on Optical Module
  - Lot's of optional and vendor specific data
    - Opt Alarm
    - Opt Warnings
  - Complicated calibration.
    - Internal
    - External (need float)
Diagnostic Interface For Optical Transceivers

- RX and TX range
  - 0 – 6.5535 mW
  - -40 – + 8.2 dBm (1 mW reference)
Update for bifrost workshop
2010-01-27

- Now works for SFP+ w. ixge driver
- Patches sent for linux kernel inclusion
  - Status: Not yet included
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Questions?