

# 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
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- Not supported in all interface cards
- Not supported by all SFP's

# Diagnostic Interface For Optical Transceivers

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<sub>I<sup>2</sup>C</sub>
  - 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

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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?