# EPON Power Overview

## 802.3av Power Ad-hoc

## ONU and OLT power

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**7/24/08**



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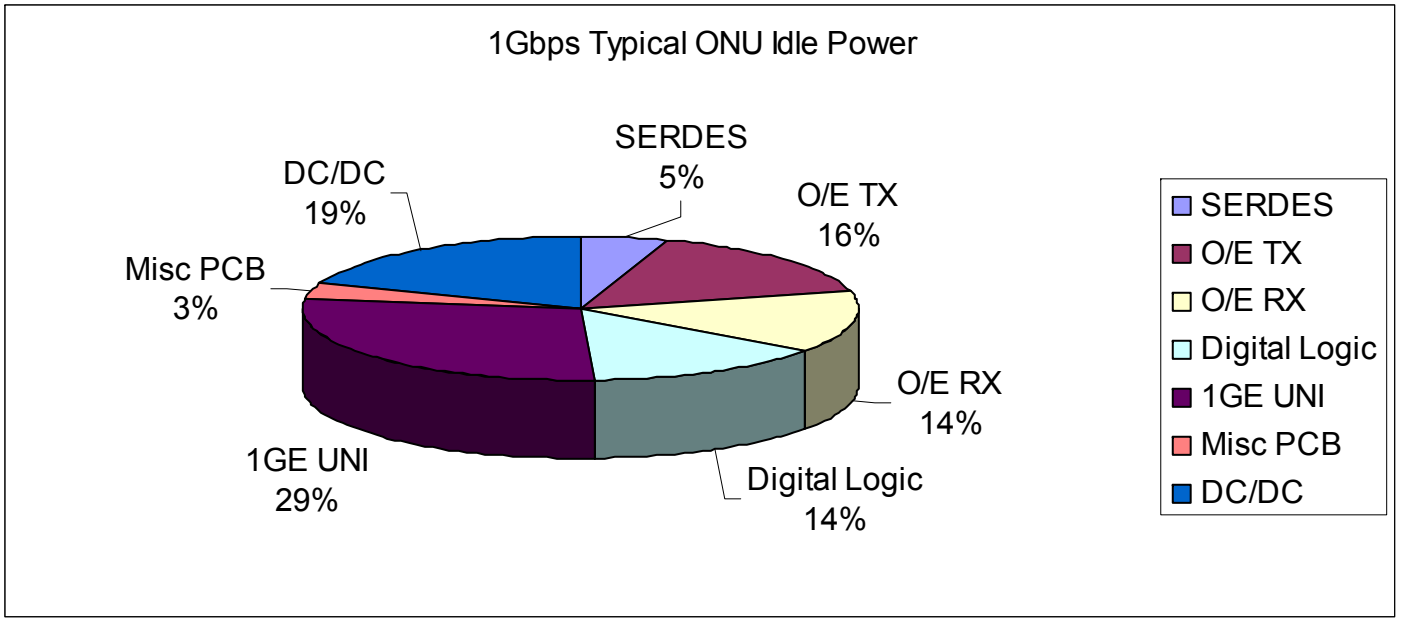
# 1Gbps Idle ONU

- Single 1000Base-TX UNI port
- No user traffic
- ONU registered with MPCP and OAM active



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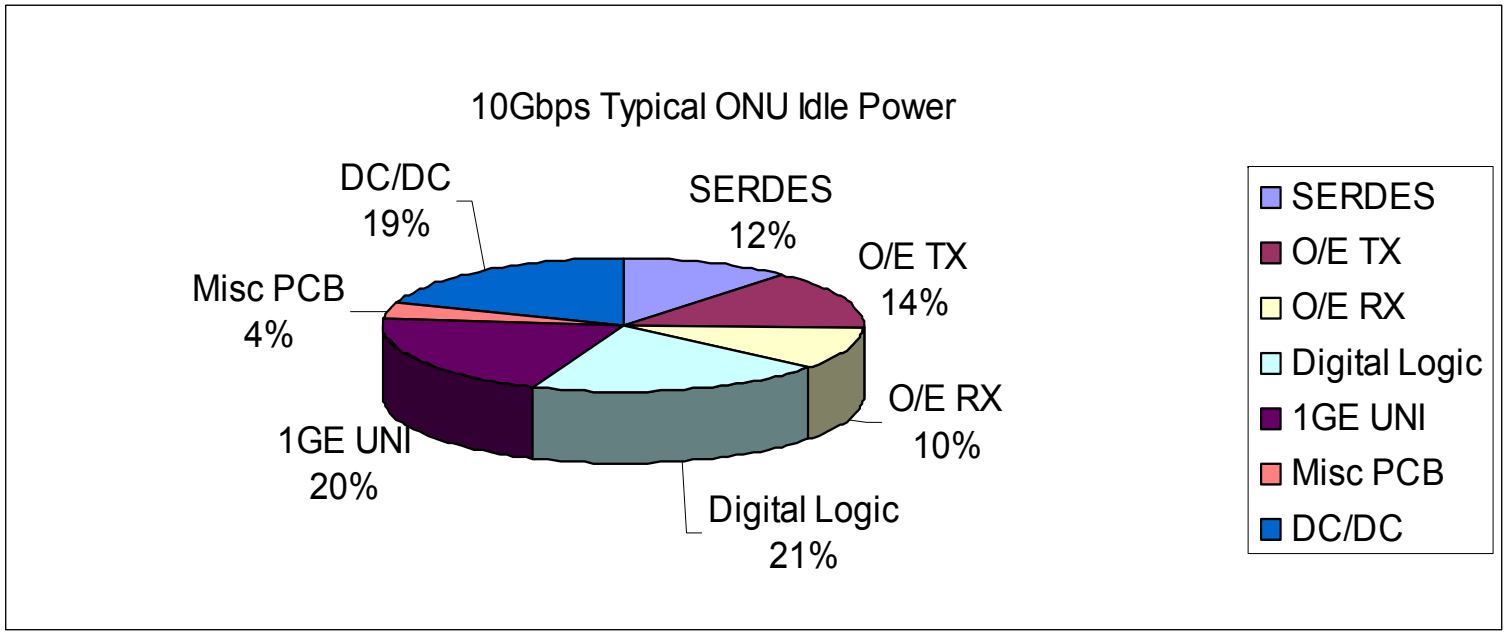




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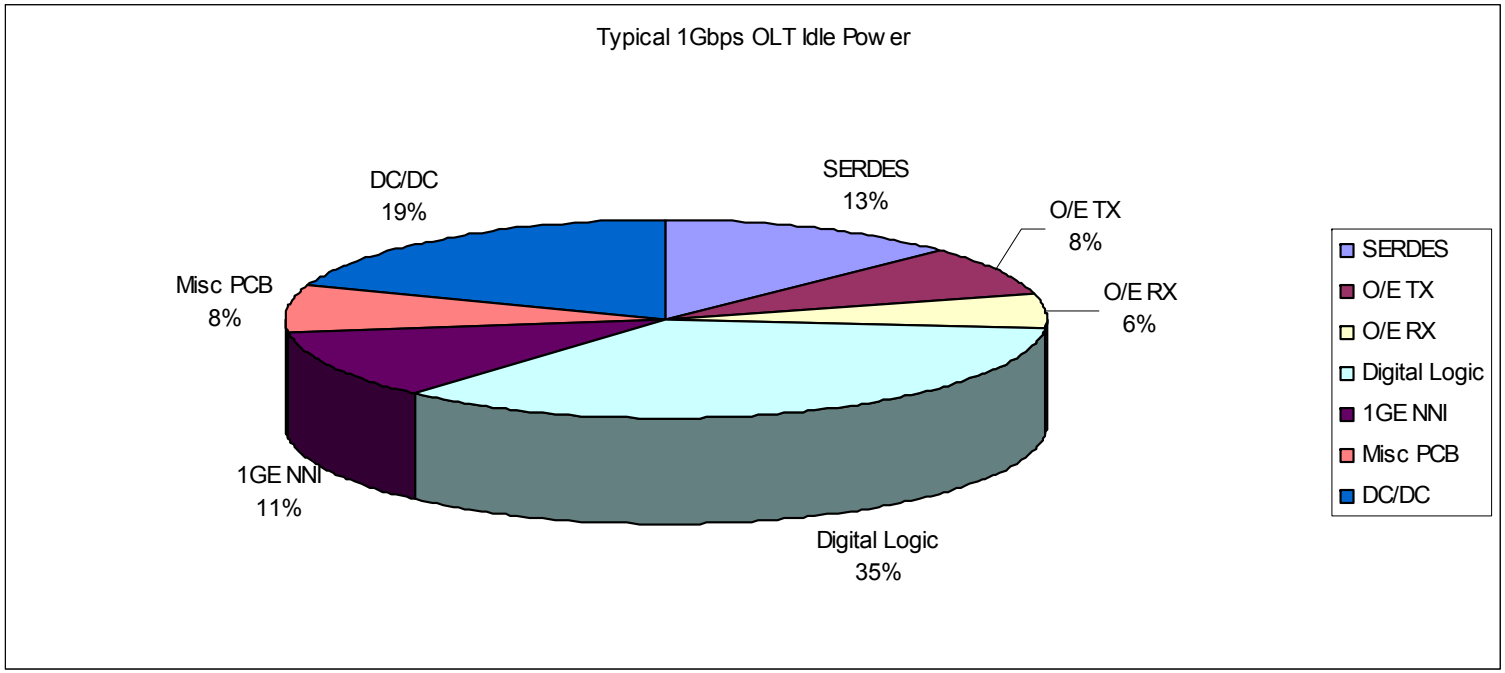
# 1Gbps Idle OLT

- Single 1000Base-TX NNI port
- No user traffic
- 32 ONUs registered and MPCP and OAM active



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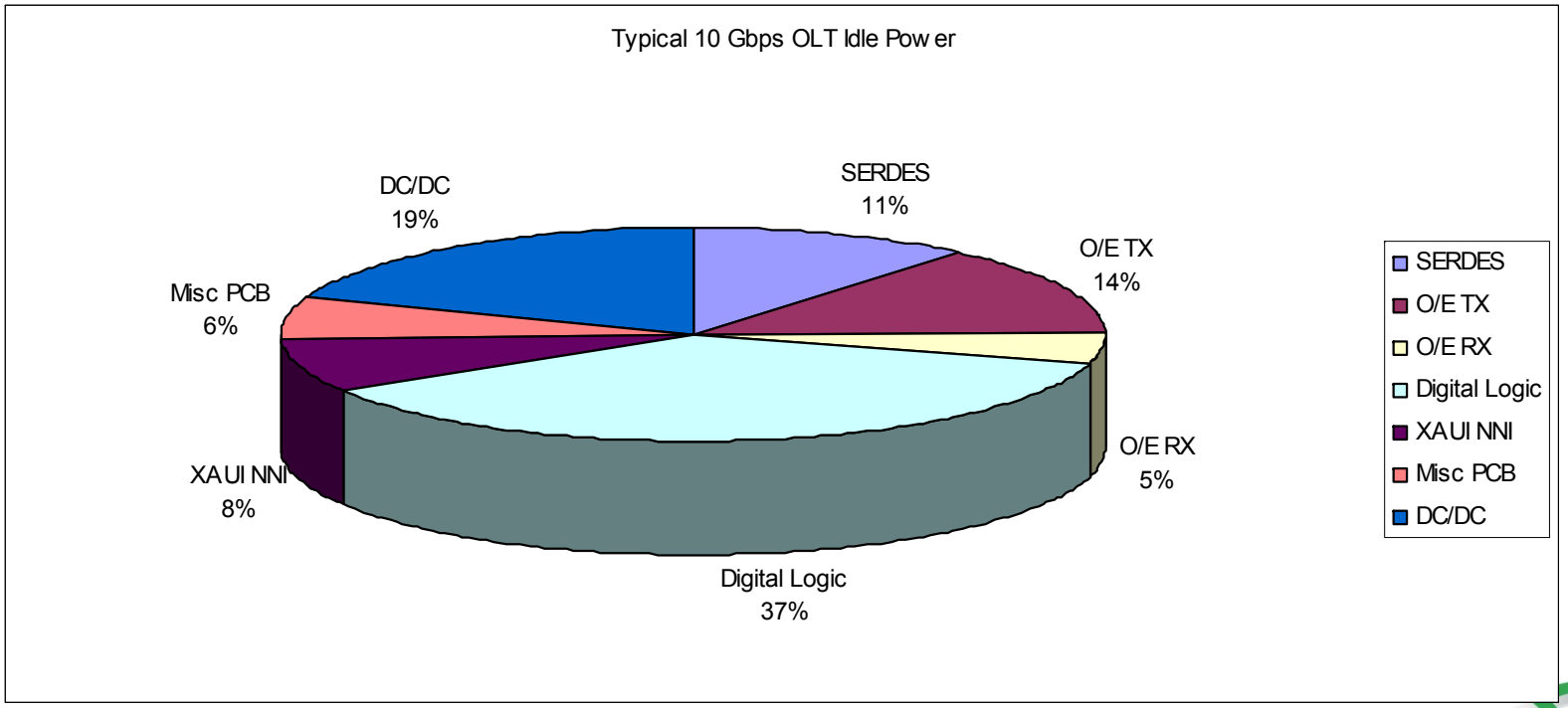
# 10Gbps Idle OLT

- Single XAUI NNI port
- No user traffic
- 32 ONUs registered and MPCP and OAM active



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# Conclusions

- **Results based on measured data where possible**
  - 10Gbps are based on data sheet and estimated results
- **UNI port consumes significant power**
  - Energy Efficient Ethernet should reduce this by ~50%
- **O/E Tx Power is significant even when not transmitting**
  - Powering down laser provides an opportunity to reduce power
- **1Gbps -> 10Gbps migration will increase power by 50% to 150%**
- **Digital logic dominates power at OLT**
  - Idle periods are difficult to isolate with 32+ ONUs registered
  - Power reduction may be best served by silicon process technology