

Joint ITU-T/IEEE Workshop on Next Generation Optical Access Systems

Session 2: Service and OAM Requirements

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Highlights from Presentation “Requirements For Next Generation PON”

- Fundamental requirements for NG PON are
 - ➔ Gradual and smooth upgrade of existing customers, no service interruption to other customers
 - ➔ NG PON should be able to coexist with deployed PON architectures
 - ➔ Reuse of deployed ODN
 - ➔ Power saving methods
 - Lifeline with up to 8 hours of battery backup.

Highlights from Presentation “DBA & QoS on the PON - Commonalities with Switching & Routing”

- IEEE 802 work groups focus on different parts of a system
- Bandwidth management and QoS mechanisms for layer 2 networks are being standardized in IEEE 802.1
- PON is just another layer 2 network

Highlights from Presentation

“End-to-end QoS for Ethernet & IP-Based Services in NGNs: Implications for NG Optical Access”

- Access & Home Network are the most difficult parts to achieve an end to end QoS
- GPON GEM mechanism is key to achieve this QoS
- Home Gateway is the central point to manage Home Network QoS
- Power consumption (OLT, ONT) must be evaluated carefully

Conclusions

(What we think we agree upon)

- At the high level, carrier requirements are similar, regardless of the underlying transport solution
- Carriers would benefit from the common management interface and capabilities
- Access & Home Network QoS are challenging. SDOs must study the QoS issues in conjunction with the transport
- Power consumption (OLT, ONT) must be evaluated carefully

Recommendations

(Issues to study and resolve)

- Investigate interplay between QoS guarantees and standby capabilities
 - Impact on jitter, latency, loss
 - Session initiation
 - Impact on protection and fault management
- System management is not fully addressed in either standards body. Should we work together on defining this?
 - Fault management scalability, alarm avalanche problem