PASSAVE
NETWORKS

IEEE 802.3 EFM

Ethernet PON, navigating the minefield

Ariel Maislos, Passave Networks

ariel.maislos@passave.com

Motivation

- Support of PON topologies for Ethernet access.
- Target markets:
  - Residential
  - Business
  - MTU
  - Curb

Constraints

- Low cost implementation
- Robustness to future improvement
- Support of multiple services
  - Bursty applications
  - Constant-bit-rate applications
- Scalability and Manageability

PASSAVE NETWORKS

Service Oriented Concerns

- Line privacy in a shared media environment
- Ability to support CBR applications
- Theft of service
- Fault location
- Quality of service

Scope

- Standard defines basic bearer mechanisms only
  - Access scheme
  - MIB
- Features and performance based on implementation
  - QoS
  - OSS

Security

- Admission based on authentication
- Privacy based on encryption

- Recommendations to be ratified by 802.1

PASSAVE NETWORKS

Recommendations

- No change of PHY and MAC
  - No new modulation
  - No fragmentation
- Addition of several MAC-control messages
- Access based on Request/Grant mechanism
- Central clock distribution with compensation for round-trip delay.

PASSAVE NETWORKS