802.1CM conference call

CPRI requirements for Ethernet Fronthaul

CPRI TWG Status of Work

CPRI
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Assumed Types of Traffic

- Synchronization
  - Timing synchronization of Radio Access Network (RAN) wide
  - Frequency synchronization of Radio Access Network (RAN) wide
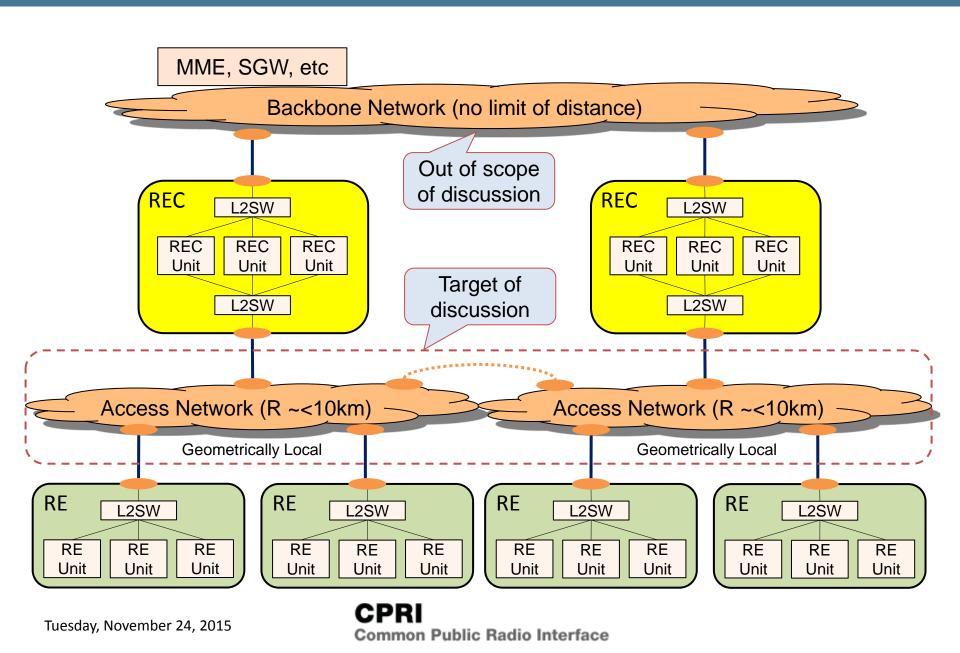 - Master node of synch may not be REC but other node (e.g. PTP grand-master)
- User Plane
  - "IQ data" (and Real-Time vendor specific control signal) for current CPRI function split between REC and RE
  - No CPRI framing encapsulation assumed
  - One QoS type is required for now
  - Different function split(s) may be necessary for next step
    - Multiple QoS types may be necessary
- C&M Plane
  - Control and Management signal between REC and RE
  - "best effort" type QoS is assumed
- Link management
  - Ethernet OAM
  - "best effort" type QoS is assumed
- Background traffic
  - Only "best effort" type QoS is assumed for a first profile

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The simplest but the most typical (useful) network model

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- ## Maximum End to End Latency :

  - 100μs (including fiber length, PDV, bridges delay,…)
  - Minimum maximum distance* to be supported for full performance RE/REC system:
    - CPRI current working assumption: 10km
    - Such requirement should be given by operators

- ## Maximum PDV :

  - 5μs or 10% of the E2E latency
  - Further discussions needed

- ## PLR :

  - Actual PLR caused by bit error, congestion, out of delay packet : 10^{-6} .. 10^{-9}
  - Further studies required to evaluate the impact on the performance

*Geographical distance between REC and RE, not fiber length accumulation between REC and RE

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- Frequency synchronization
  - Agree on possible solutions and derive requirements
- Time alignment
  - Agree on the time alignment goals and derive requirements
- Latency/PDV/PLR
  - Balance these interacting requirements
  - Evaluate the PLR impact on the performance
- Remaining requirements

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