ITU-T Q13/15 Updates

TICTOC / IETF-80

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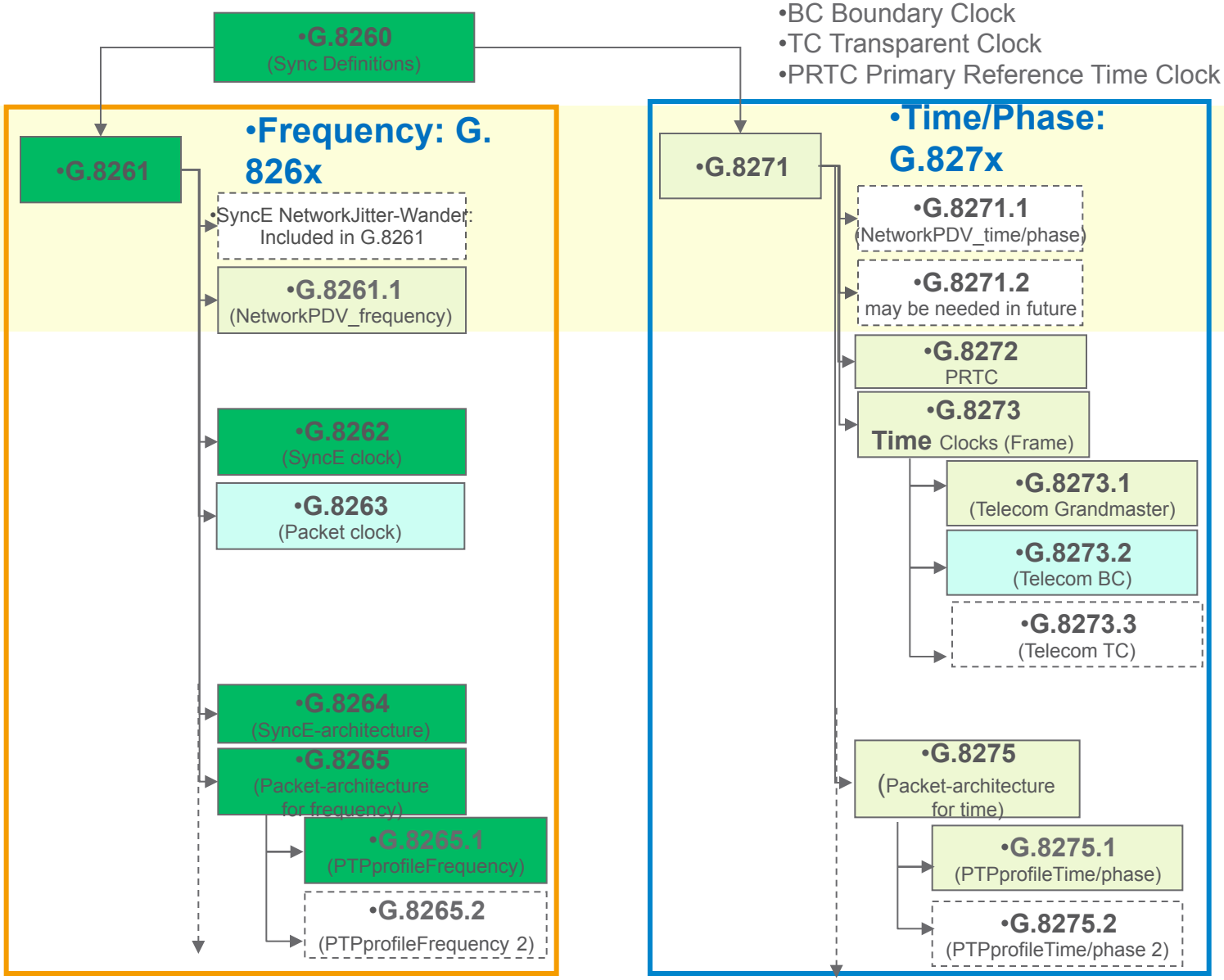
Main ongoing activities of interest for TICTOC

- Packet timing performance aspects for frequency (G.826x series)
  - PDV metrics
  - Network limits
  - Packet clock specification
- Time Sync in packet networks (G.827x series)
  - Network Limits
  - Clocks
  - Architecture and Telecom Profiles

Updated Structure of Documents

•agreed •ongoing

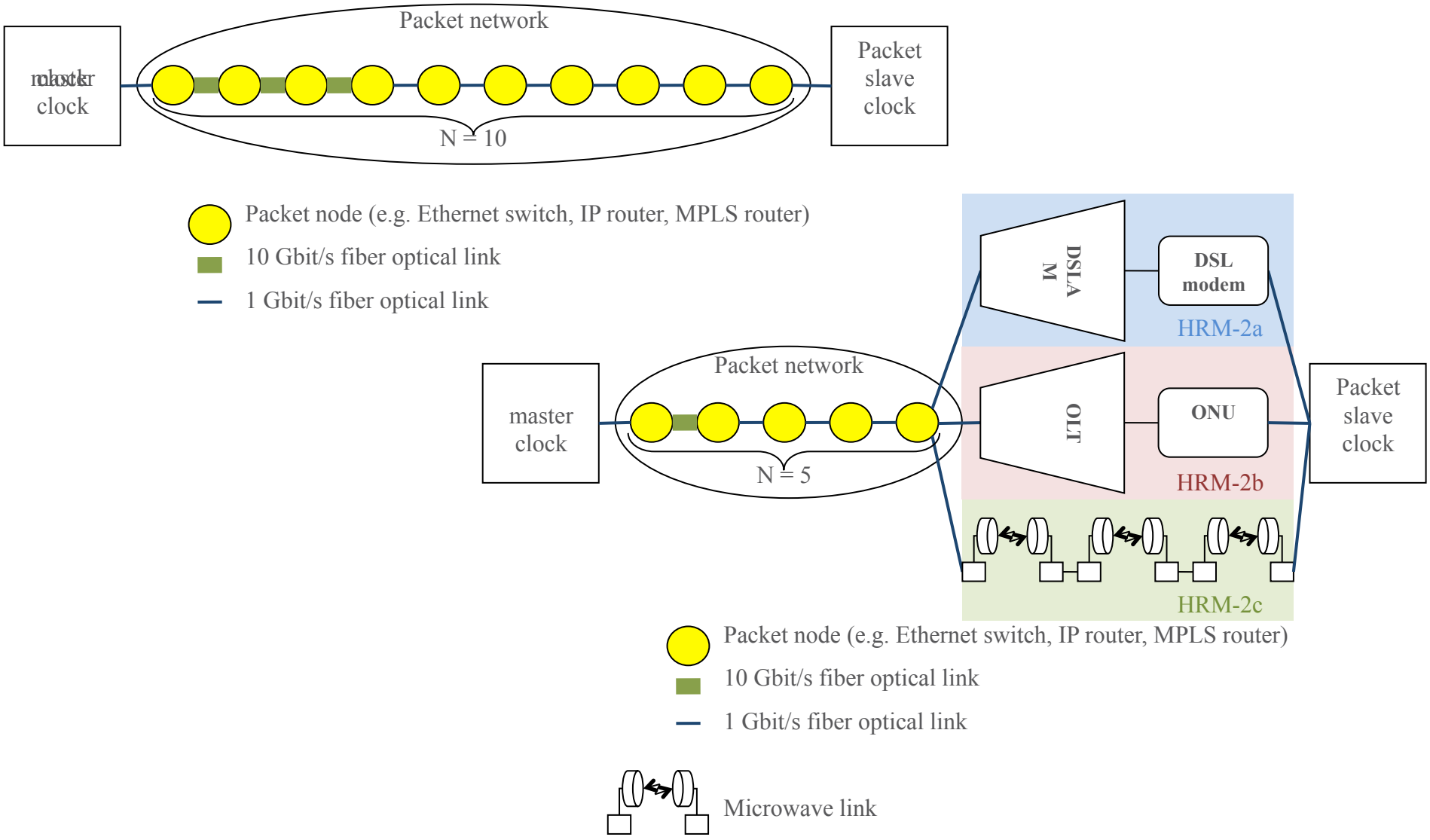
- •Definitions / terminology
- •Basics and Network Requirements
- •Clocks
- •Methods/ Architecture
- •Profiles



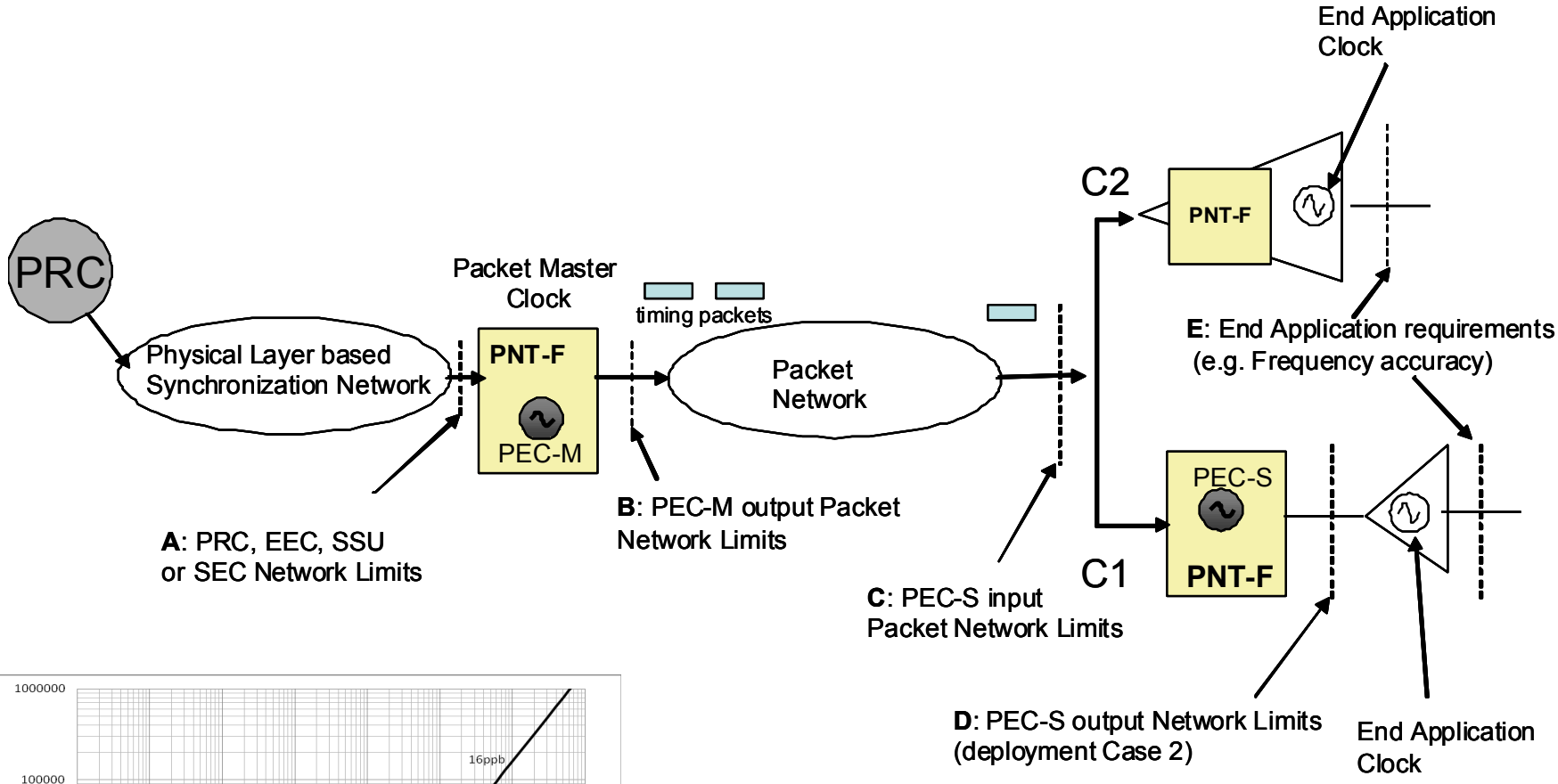
- Amendment to G.8265.1 (1588 Frequency Profile)
  - Consented at last SG15 plenary (Feb 2011)

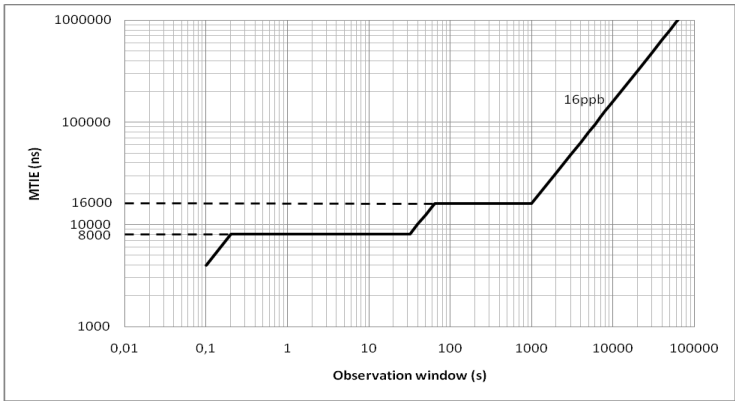
- G.8260
  - Draft updated with Appendix on PDV Metrics at last SG15 meeting (Feb 2011)
  - Two main classes of metrics defined:
    - a) for analysing the network
    - b) for defining network limits
  - Planned for December 2011
- Initial proposals for the packet clock (G.8263)
  - Focus on mobile application
  - Long time constant
  - Planned for December 2011
- Initial Proposals for network limits (G.8261.1)
  - Focus on mobile application
  - Ongoing discussion on applicable packet metric (MAFE? FFO?)
  - Planned for December 2011

Accumulation



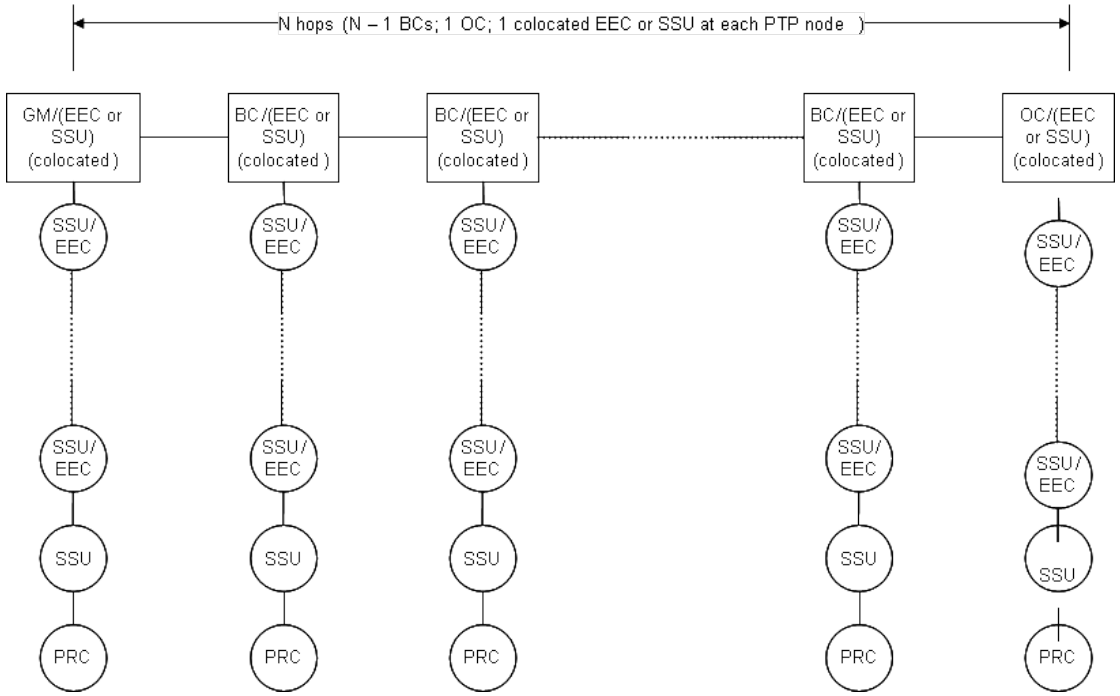
Network Limits for Frequency SYnc





Time Sync Updates

- G.8271 (Time sync requirements)
  - Progresses on time sync error sources and Reference model
  - Initial assumption is for a reference model with 20 BC (“Telecom-BC”)
  - Draft updated at last SG15 meeting (February 2011)
  - Planned for December 2011



Time Sync Updates (Cont.)

- Starting discussions on Time Sync Profile
  - Initial focus on Network with only BCs
  - TC still under discussion
  - Need for an alternate BMCA ?
  - Planned in 2012
- Time Sync Clocks
  - Discussion started on PRTC and Telecom BC performance
  - G.8272 (PRTC) and G.8273.2 (T-BC) Drafts updated at last SG15 meeting (Feb 2011)
- Several related aspects
  - Time sync in the access (GPON, VDSL, etc.)
  - Time Sync over OTN (transparent transport of PTP or with support by OTN Nodes?)
  - Time Sync interfaces (1 PPS, etc.)
  - All these items involve other SG15 Questions (mainly Q2, Q4, Q9, Q11)

Q13 and Tictoc

- Main topics in TICTOC
  - 1588 over MPLS
  - Security
  - 1588 MIB
- 1588 over MPLS
  - No specific needs in case of frequency sync (PTP carried transparently over the MPSL network); ITU-T Telecom profiles can be used
  - Specific tools might be required in case of time sync in order to identify and process the PTP packets (only in case of TC?)
    - How to use TC in Telecom still to be agreed (e.g. discussions on layer violation to be finalized)
    - Some reference to the specific tools to address MPLS scenarios as defined by TICTOC might be added in the ITU-T Time sync Telecom profile
- Security
  - No specific action ongoing in Q13 (details are outside of the scope of Q13). Basic requirements might be discussed together with TICTOC.
  - Outcome from TICTOC could be used and referenced by Q13 recommendations
- Management
  - In general Management is in the scope of ITU-T activities (e.g. Q14) and packet timing management will also need to be addressed.
  - Reference to a 1588 MIB developed by TICTOC might be done in ITU-T. Coordination might be appropriate on this point