

1588 over MPLS Update

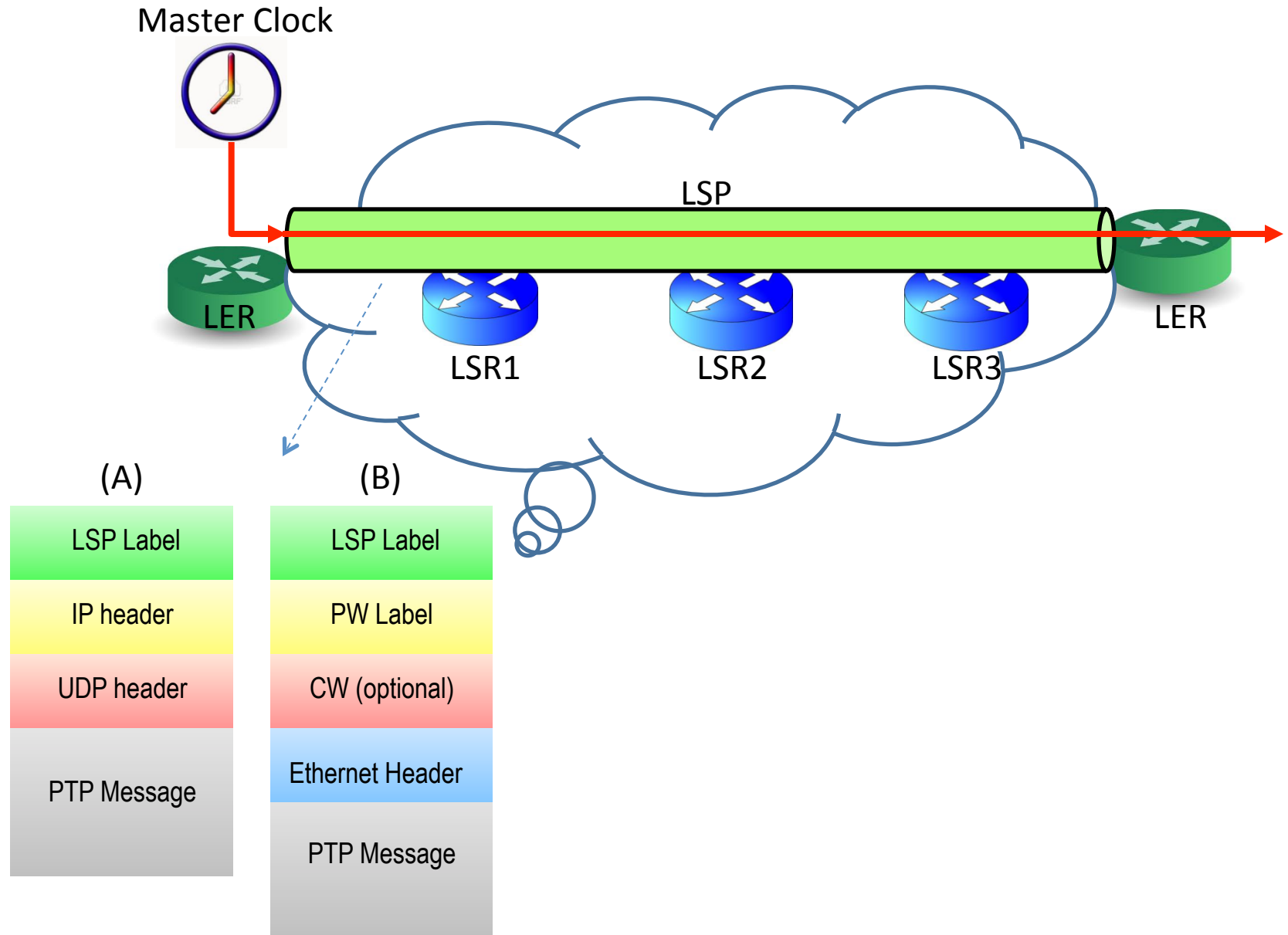
draft-ietf-tictoc-1588overMPLS-02

IETF 83 (Paris), Mar 2012
Shahram Davari

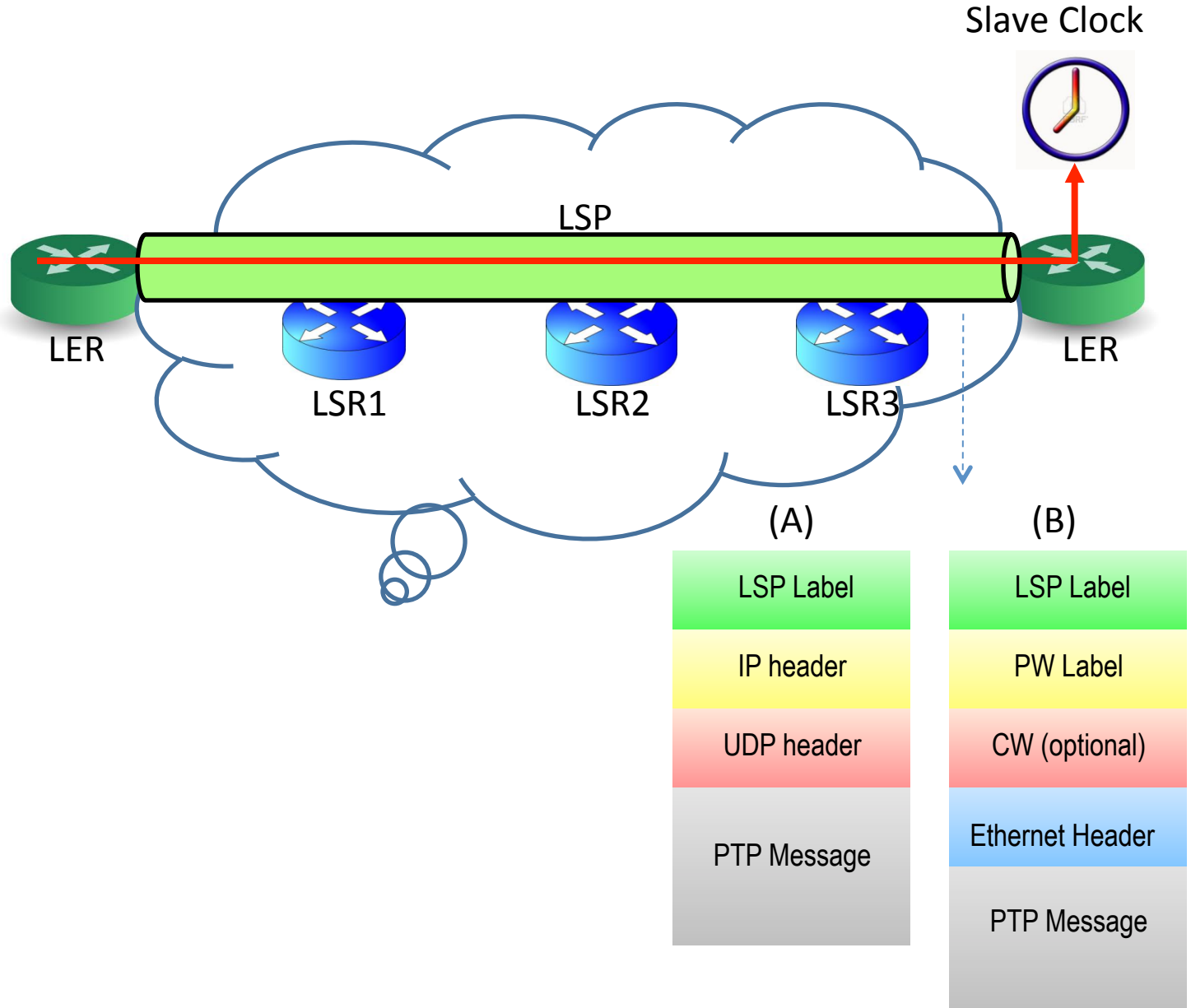
Requirements

- Transport 1588 messages over MPLS domain
- Support Master Clock at LER
- Support Slave Clock at LER
- Support Boundary Clock at LER
- Support Transparent clock at LER/LSR
- Backward compatible with non-1588-Capable LSRs

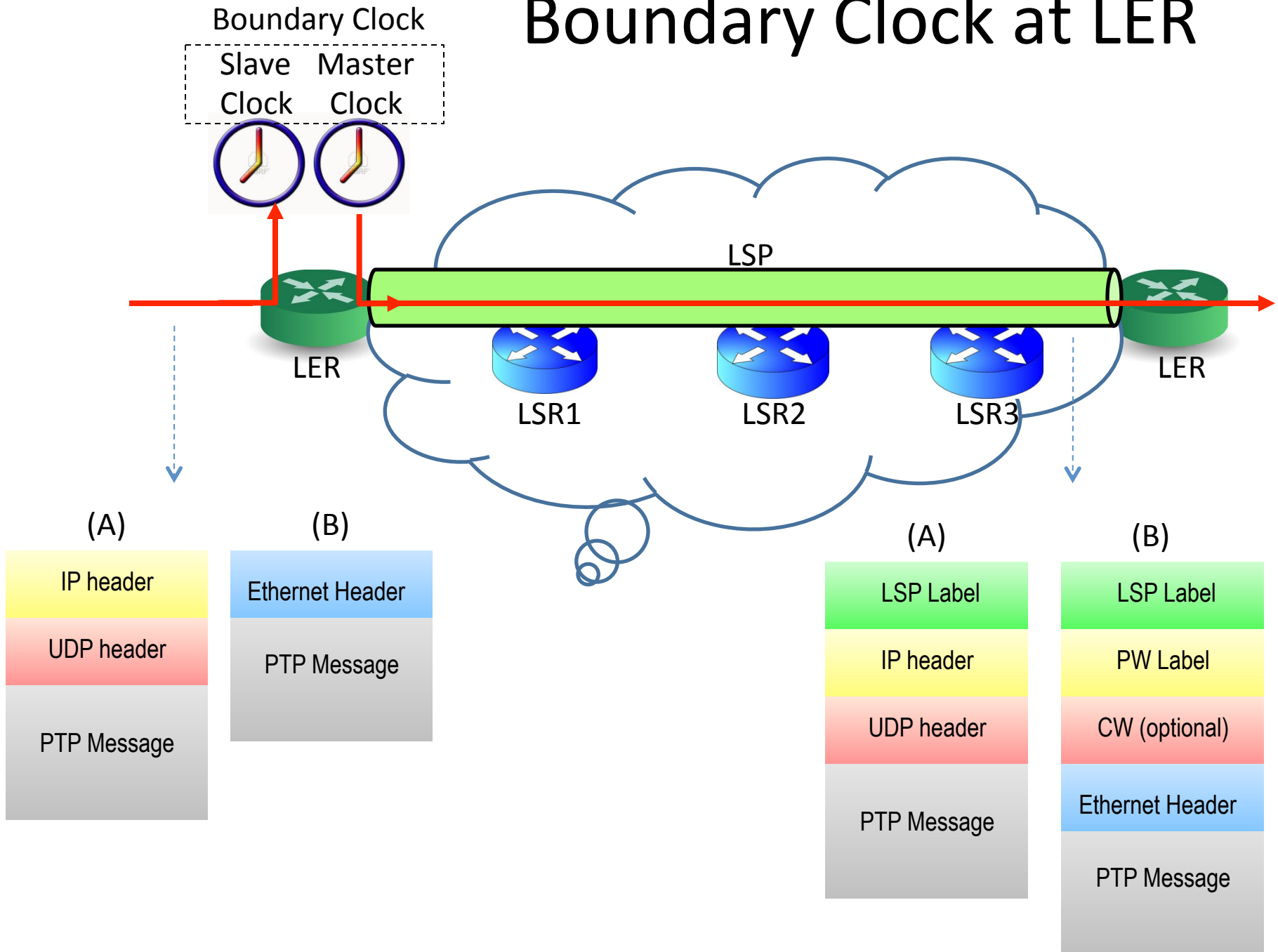
Master Clock at LER



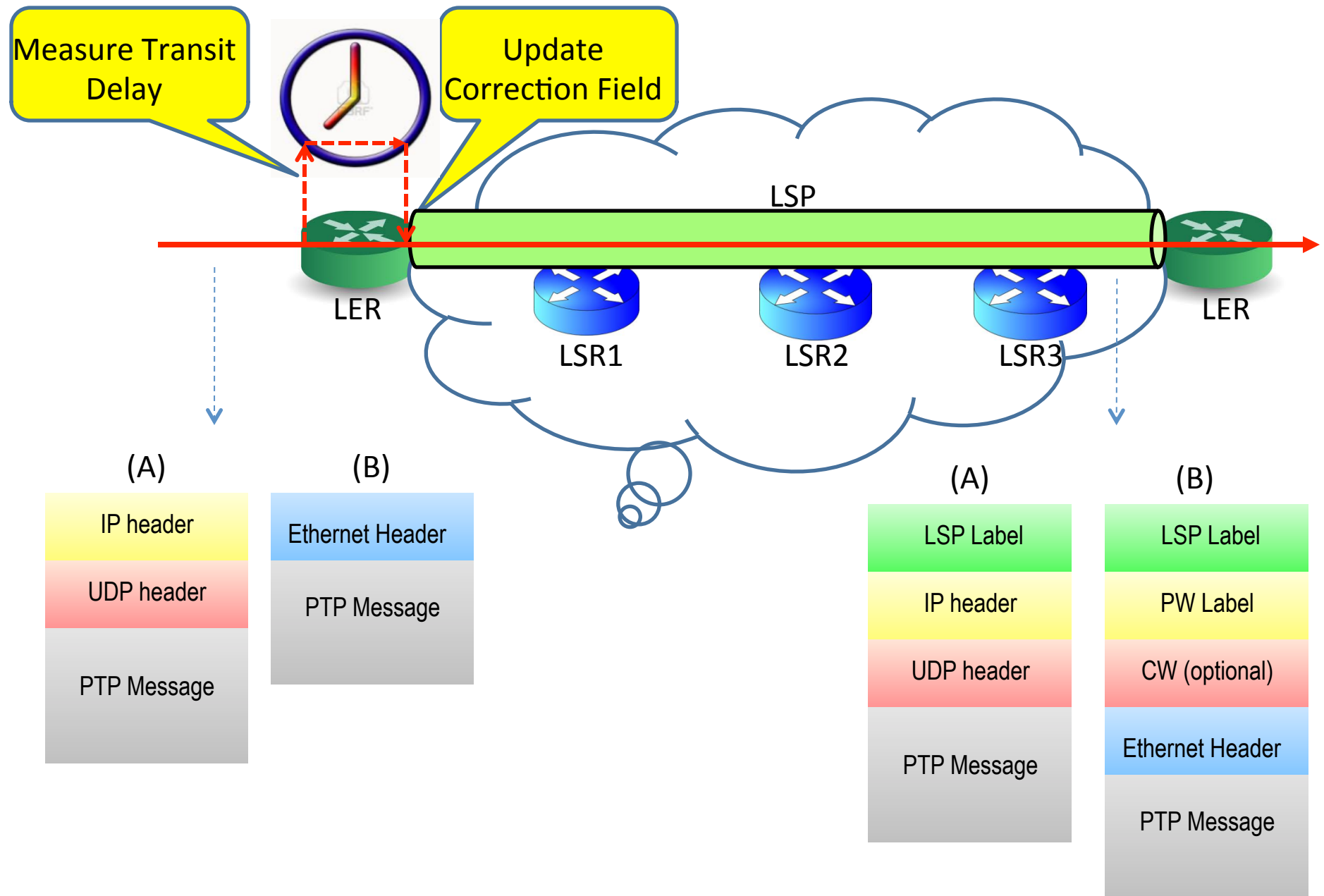
Slave Clock at LER



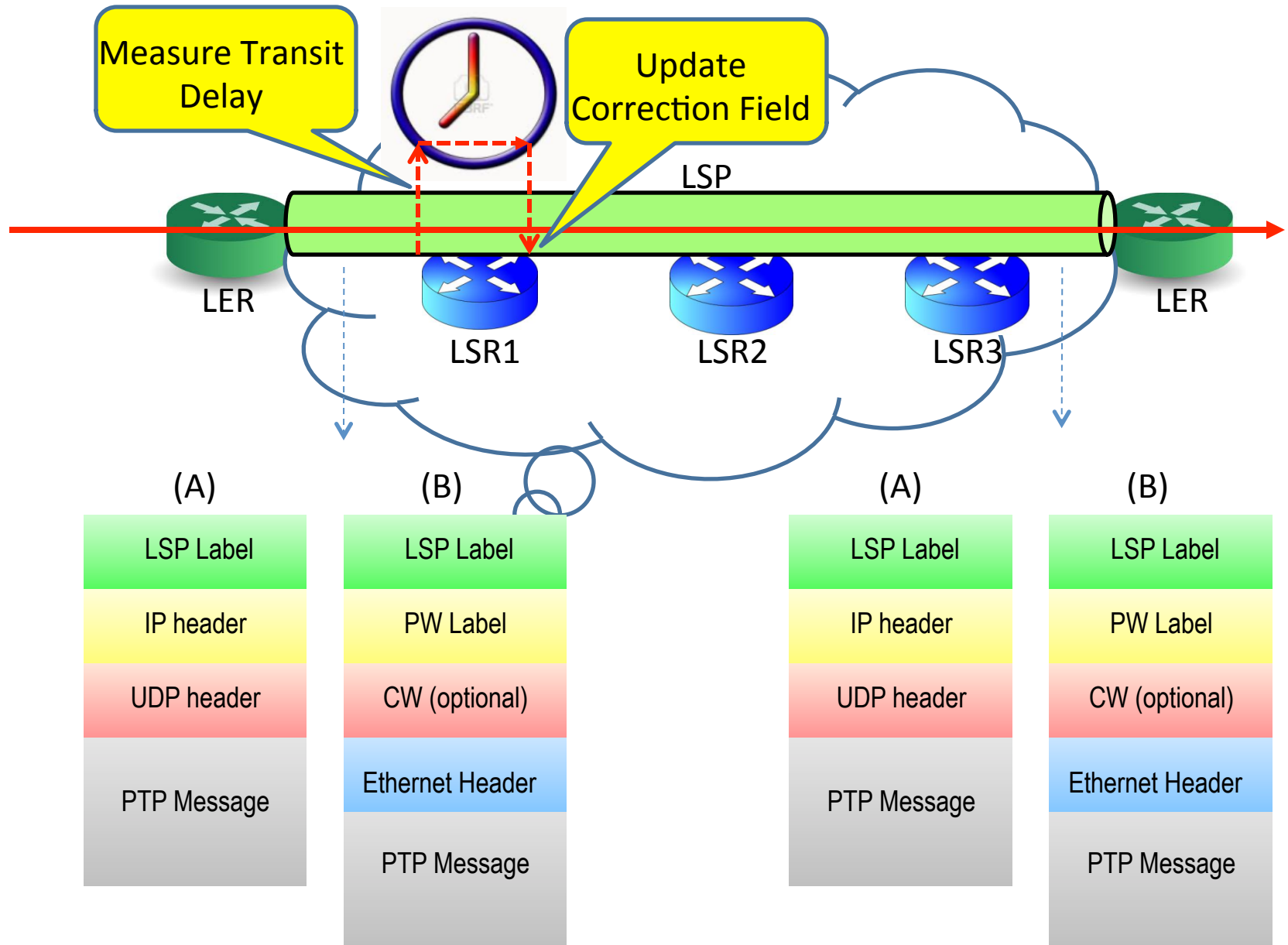
Boundary Clock at LER



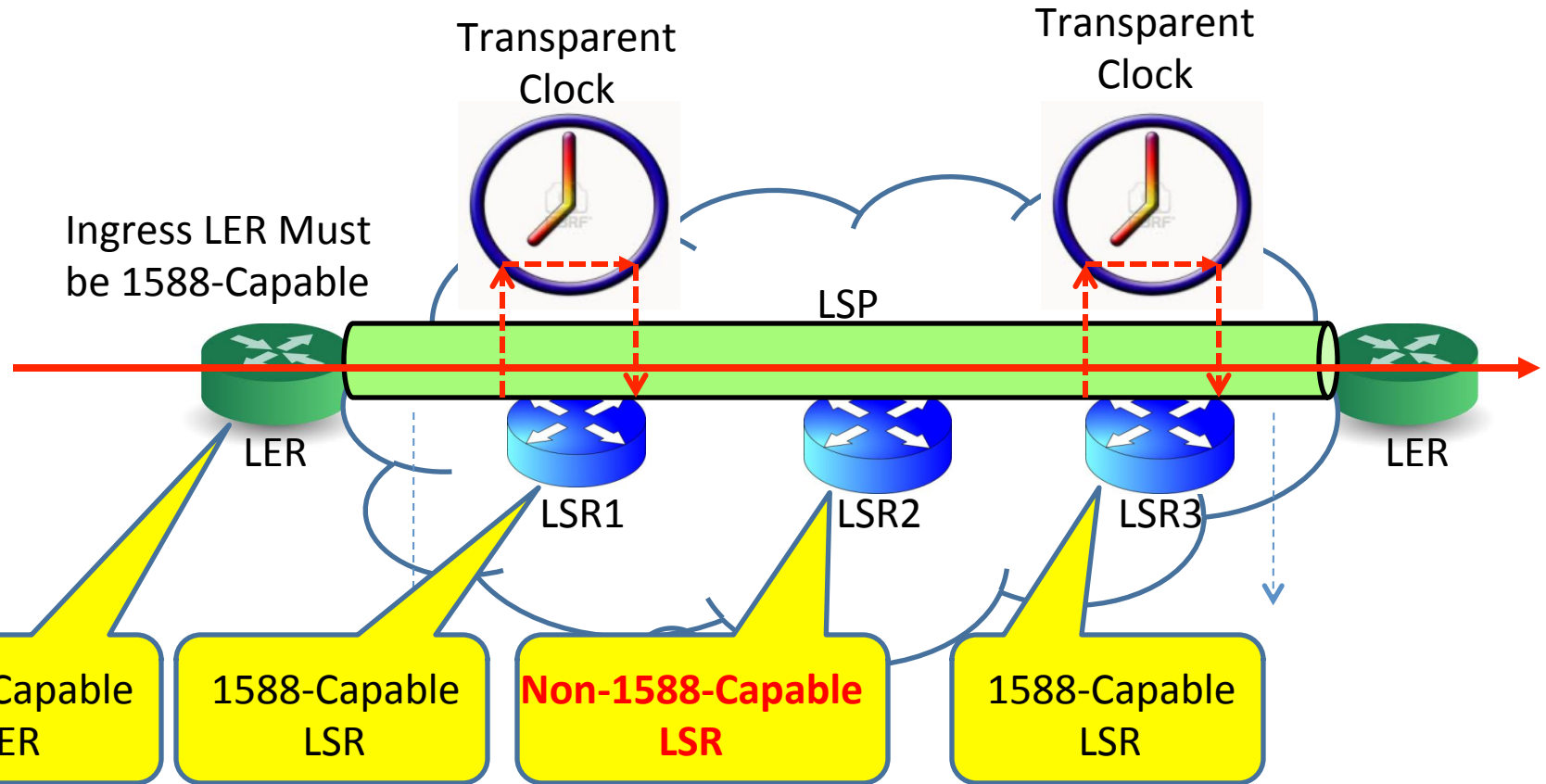
Transparent Clock at LER



Transparent Clock (TC) at LSR



Backward Compatibility



Current Solution draft-02

- Use standard Encapsulation
 - IP/MPLS or PW
- Use Dedicated PTP LSPs to carry 1588
 - To detect 1588 messages without DPI
- PTP LSP/PW is signaled
 - RSVP-TE extension
 - LDP, BGP PW signaling extension (FFS)
- Routers advertise their 1588-capability & Offset to TS
 - OSPF, IS-IS extension

Proposed Enhancements draft-03

- Make it a more generic solution
- Transparently Support any timing protocol
 - PTPv1, PTPv2, NTP, etc.
- Support Time-stamping or Correction Field update
- Signal the following (via OSPF/ISIS-TE, RSVP-TE):
 - 1588 capability per-port
 - Offset to the TS or CF
 - Action Type (TS or CF)
 - Field Type (PTPv1, PTPv2, NTP, etc)

Status

- Draft-00 published Jan 2011
- Draft-02 published Oct 2012
- Draft-03 will be posted after Paris

Next Step

- Require review and comments from:
 - TICTOC WG
 - MPLS WG
 - PWE3 WG
 - OSPF WG
 - ISIS WG