

1588 over MPLS Update

draft-ietf-tictoc-1588overMPLS-03

IETF 85 (Atlanta), Nov 2012

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Initial Scope

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

Recap of the Solution

- Use standard Encapsulation
 - IP/MPLS or PW
- Use ***Dedicated*** LSPs to carry Timing messages
 - To detect Timing messages without DPI
- Timing LSP may be signaled
 - RSVP-TE extensions
- Routers advertise their 1588-capability
 - OSPF, IS-IS extensions

Changes based on IETF 84 (Vancouver) Action Items

- Made the draft more generic to support other Timing Protocols
 - PTP, NTP, Shim Timing, etc.
- Kept only the data-plane functions in this draft
- Created 3 other drafts for Control, Signaling
 - OSPF extensions
 - ISIS extensions
 - RSVP-TE extensions

Other Changes

- Support Time-stamping and Correction Field update
- Support various Timestamp field formats
 - 80-bit PTPv2, 4-b64-bit PTPv1, 64-bit NTP, etc.
- Support Signaling “offset” from BoS to Timing PDU
- Removed the UDP/IP over Ethernet as a option to simplify the solution
- Mandated CW to guarantee the proper parsing

Status

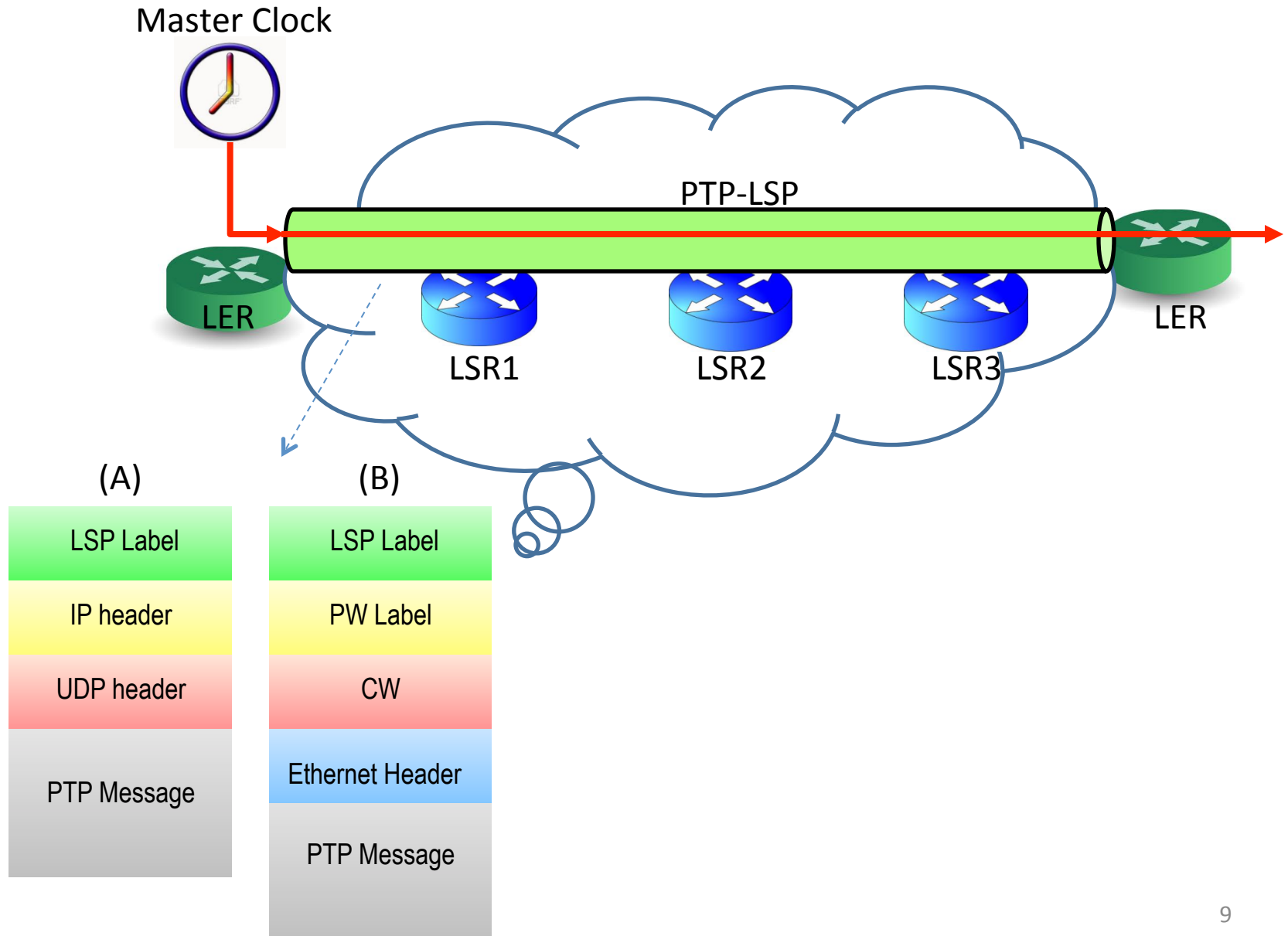
- Draf-00 published Jan 2011
- Draft-02 published Oct 2011
- Draft-03 published in Oct 2012

Next Step

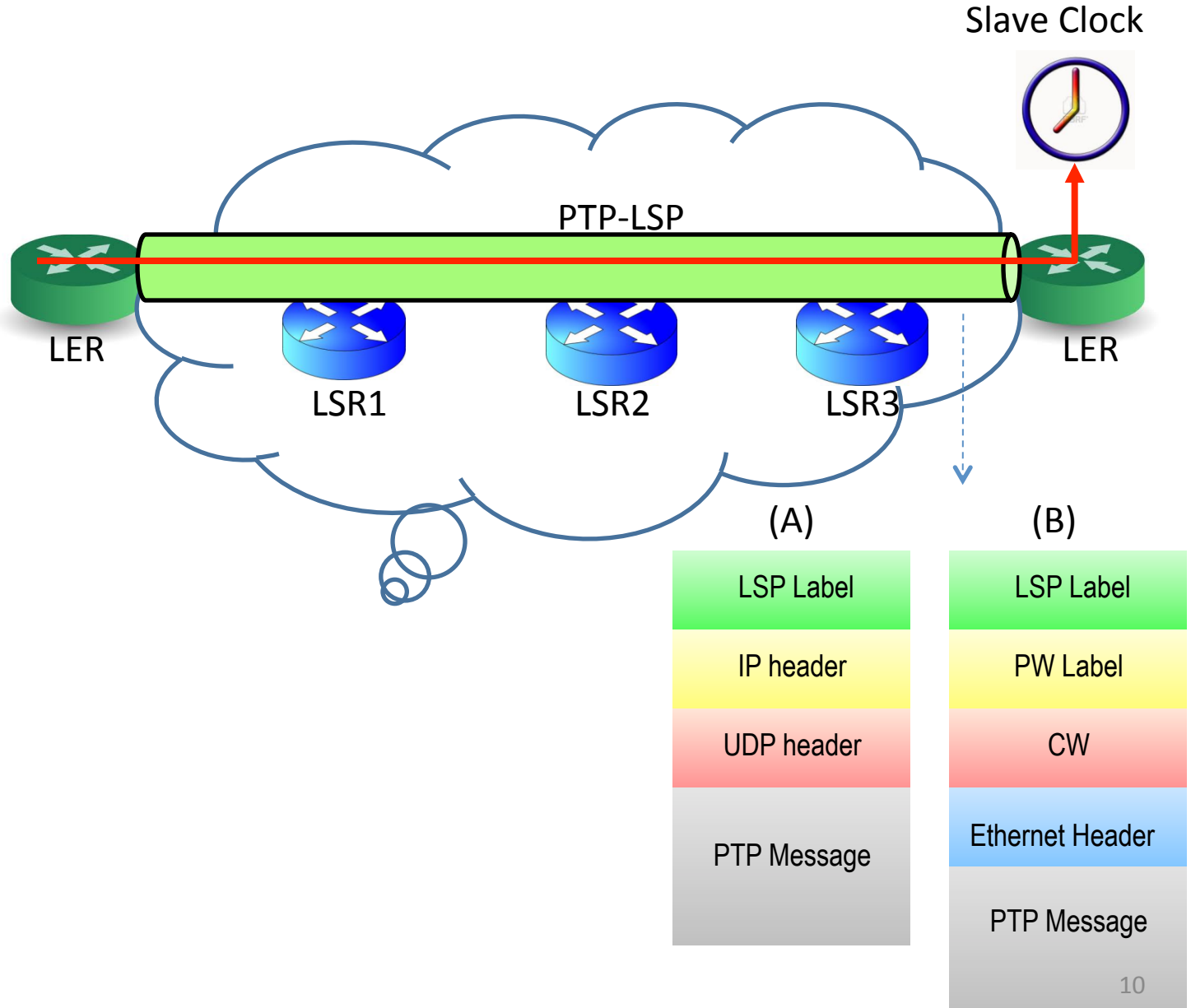
- Release draft-04 by Jan 2013
 - Based on WG comments
 - Need to change the name to
 - “draft-ietf-tictoc-timing-over-mpls”
- Send draft-04 to WG last call after IETF 86

BACKUP SLIDES

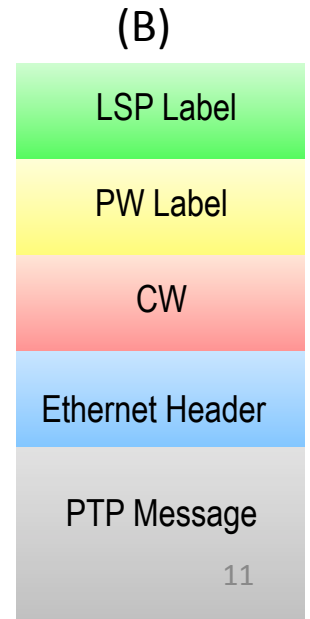
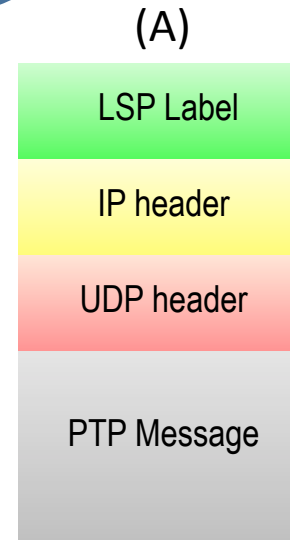
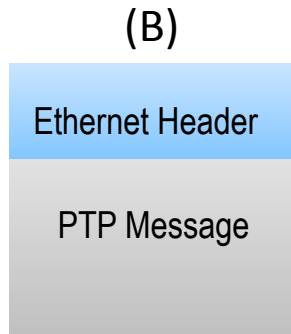
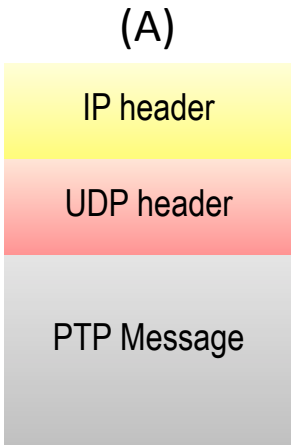
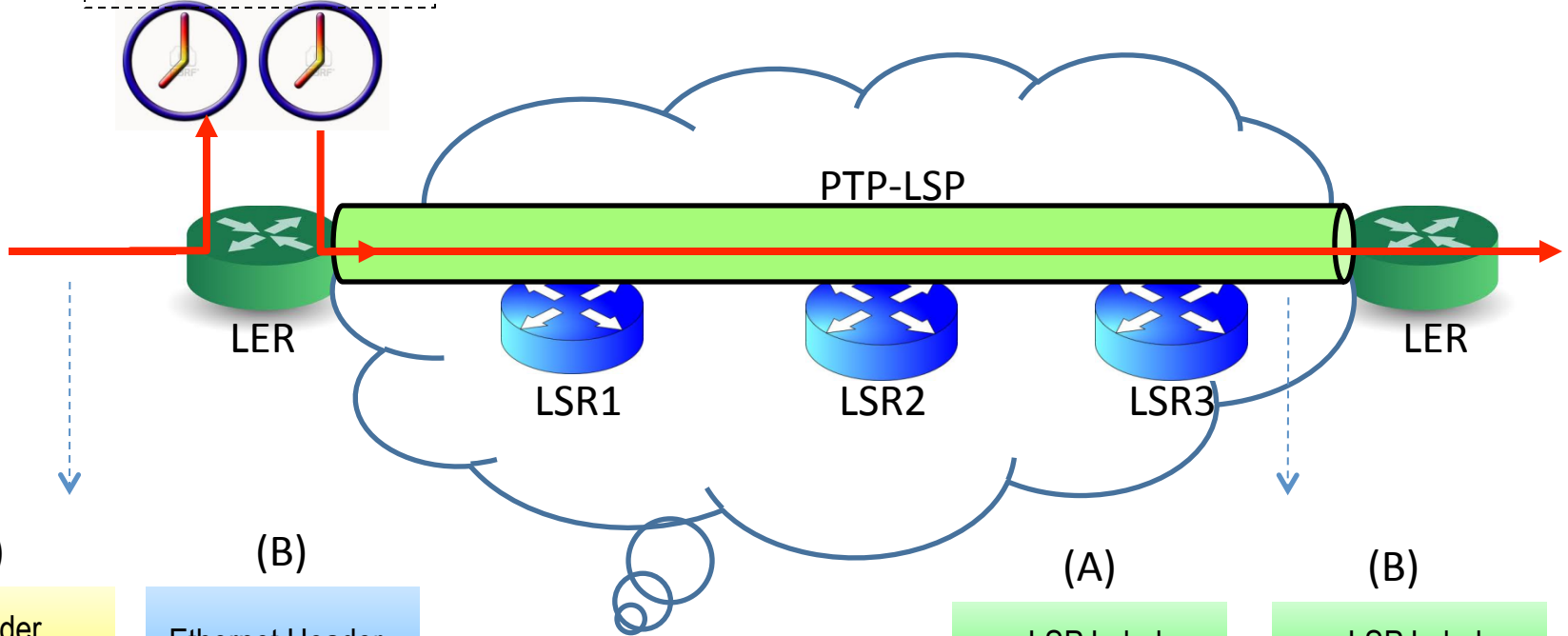
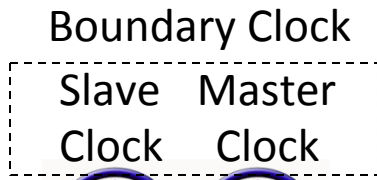
Master Clock at LER



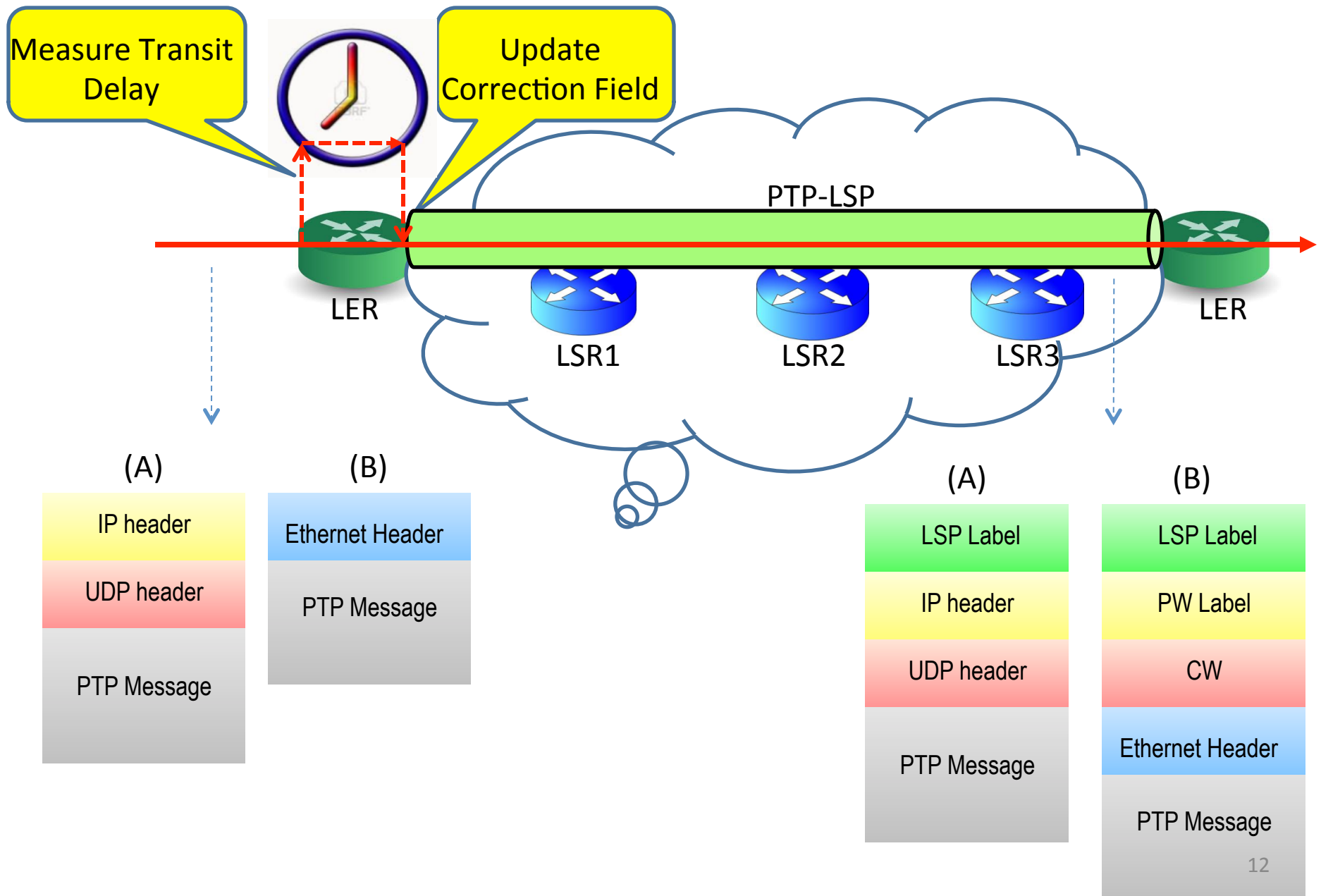
Slave Clock at LER



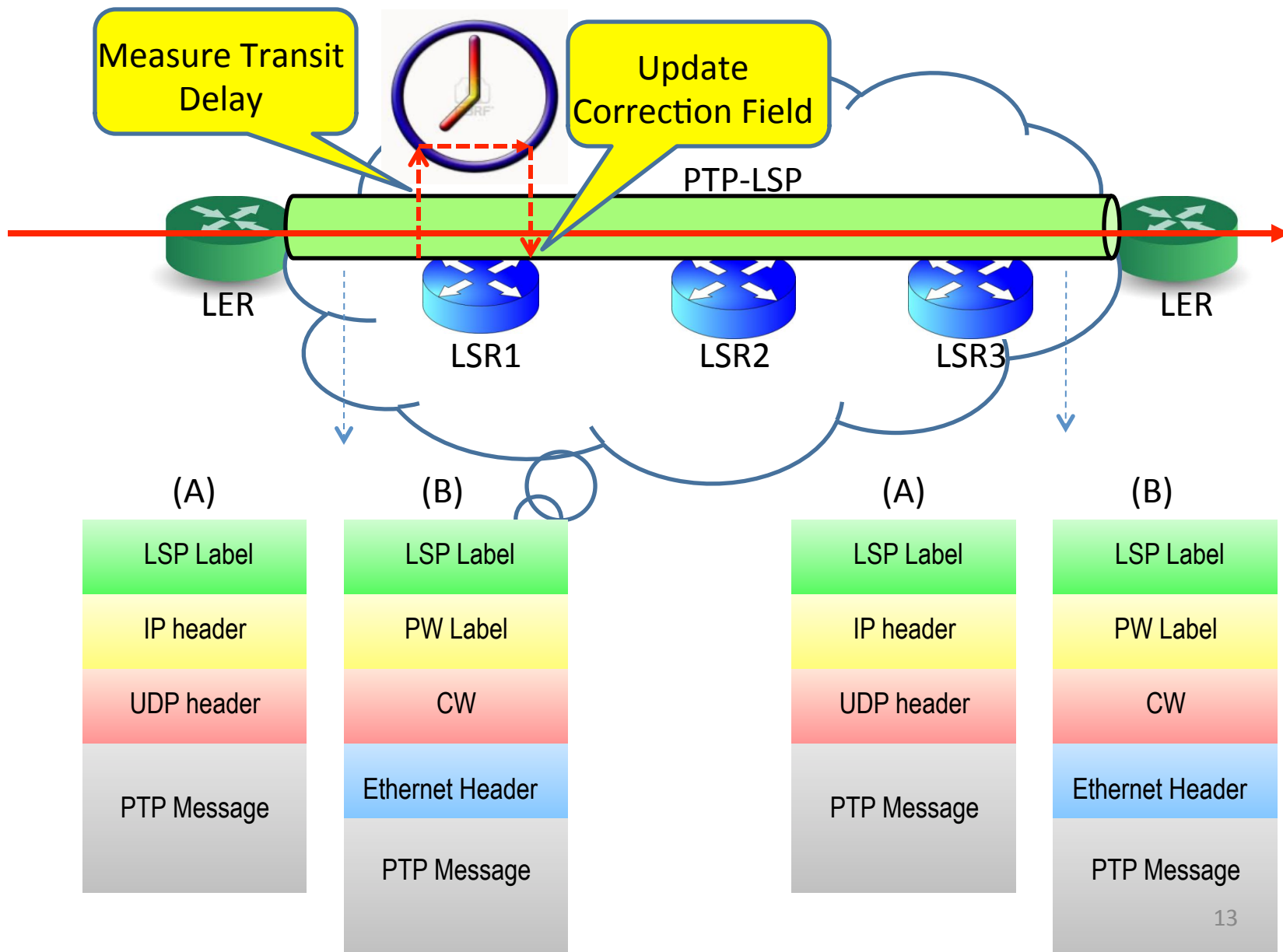
Boundary Clock at LER



Transparent Clock at LER



Transparent Clock (TC) at LSR



Backward Compatibility

