RBR P802.17 2004Mar31

- Prepared for PAR-preparation meeting
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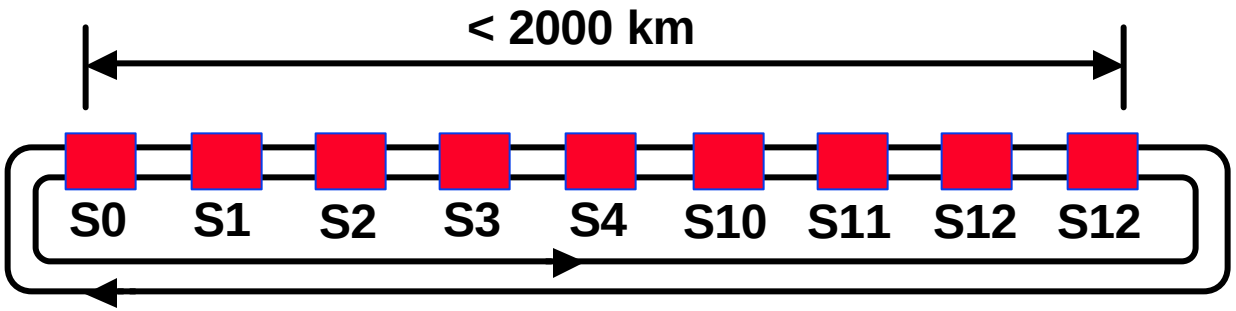
RBR (an RPR derivative)

- Leveraged RPR values
  - Ethernet frames with true QOS delivery
  - Ring efficiency and resiliency
- RPR revisions, as required
  - Real bandwidth guarantees (ala 1394-firewire)
  - Less options: rate shapers, fairness, CRCs
  - Less obscurity: scattered counters and shapers
- RPR extensions, as required
  - Destination-asserted flow control
  - Hard-coded memory-access commands
  - Accurate time-of-day synchronization (w/o GPS)
  - Distinct backplane PHYs (leveraged from 802?)

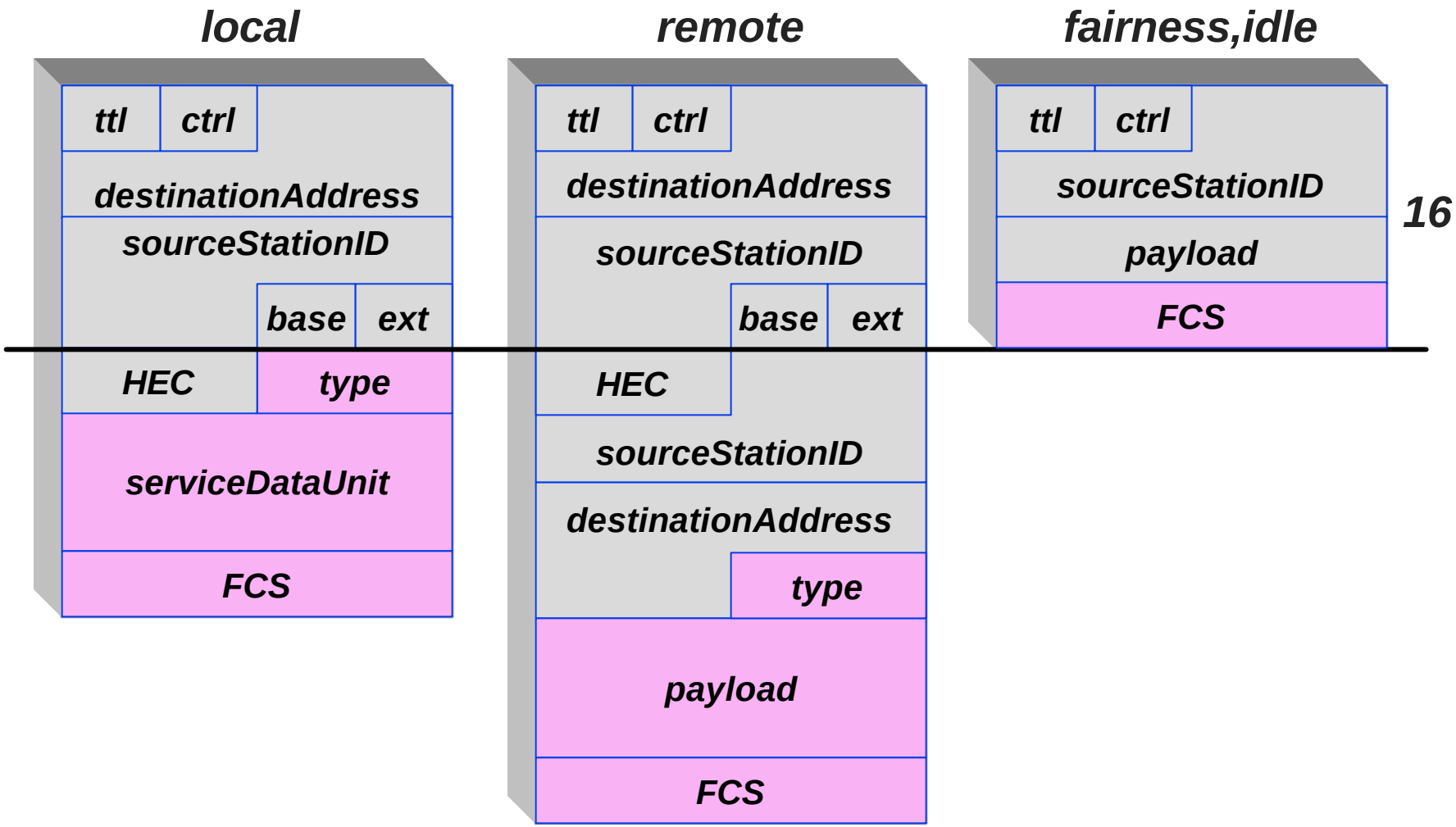
RPR topologies



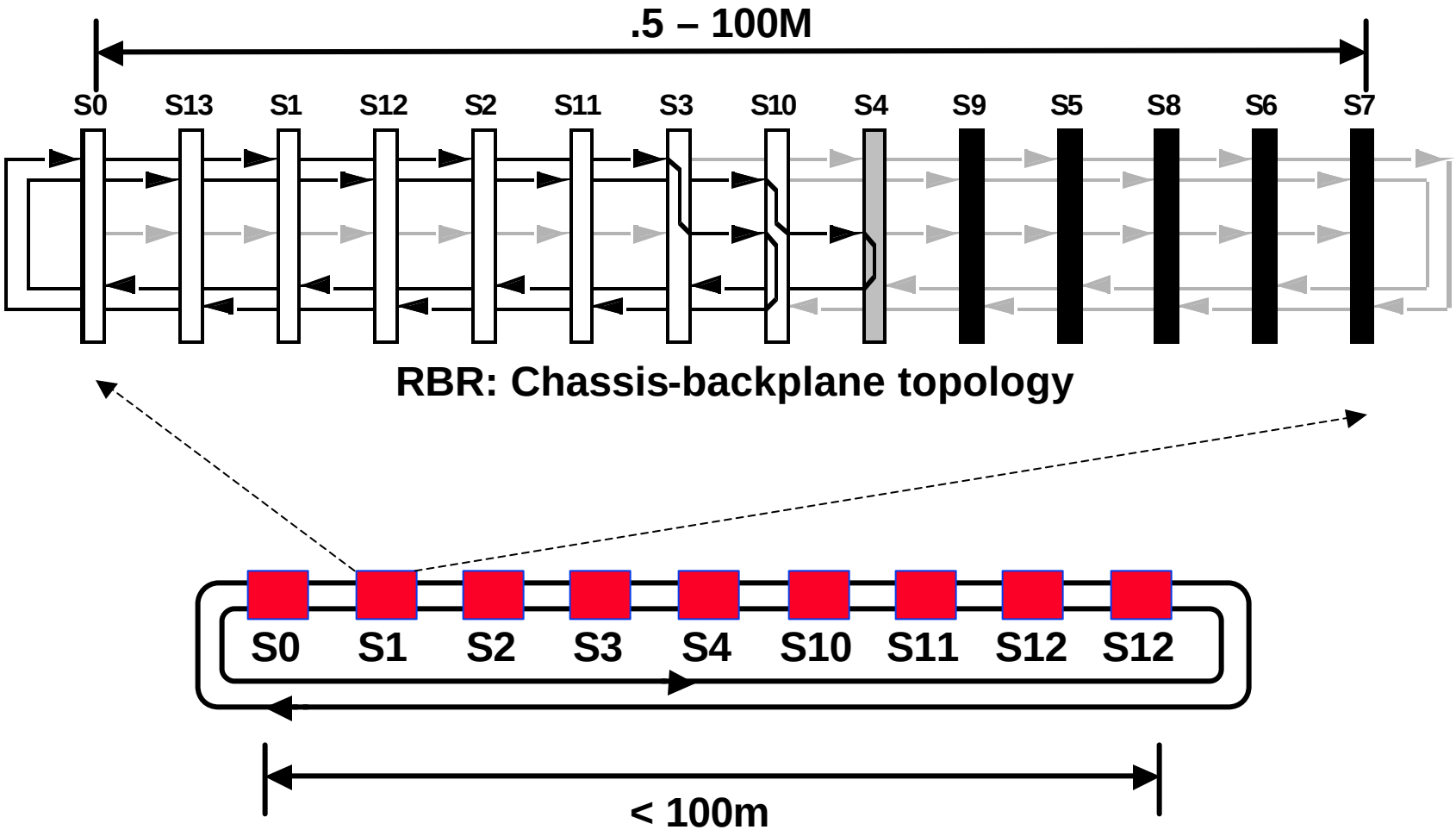
RPR: Metro-area topology

SONET environment applications
Duplex counter-rotating rings with spatial reuse
Ethernet frames, with ring-routing supplements
Several product-in-field constraints

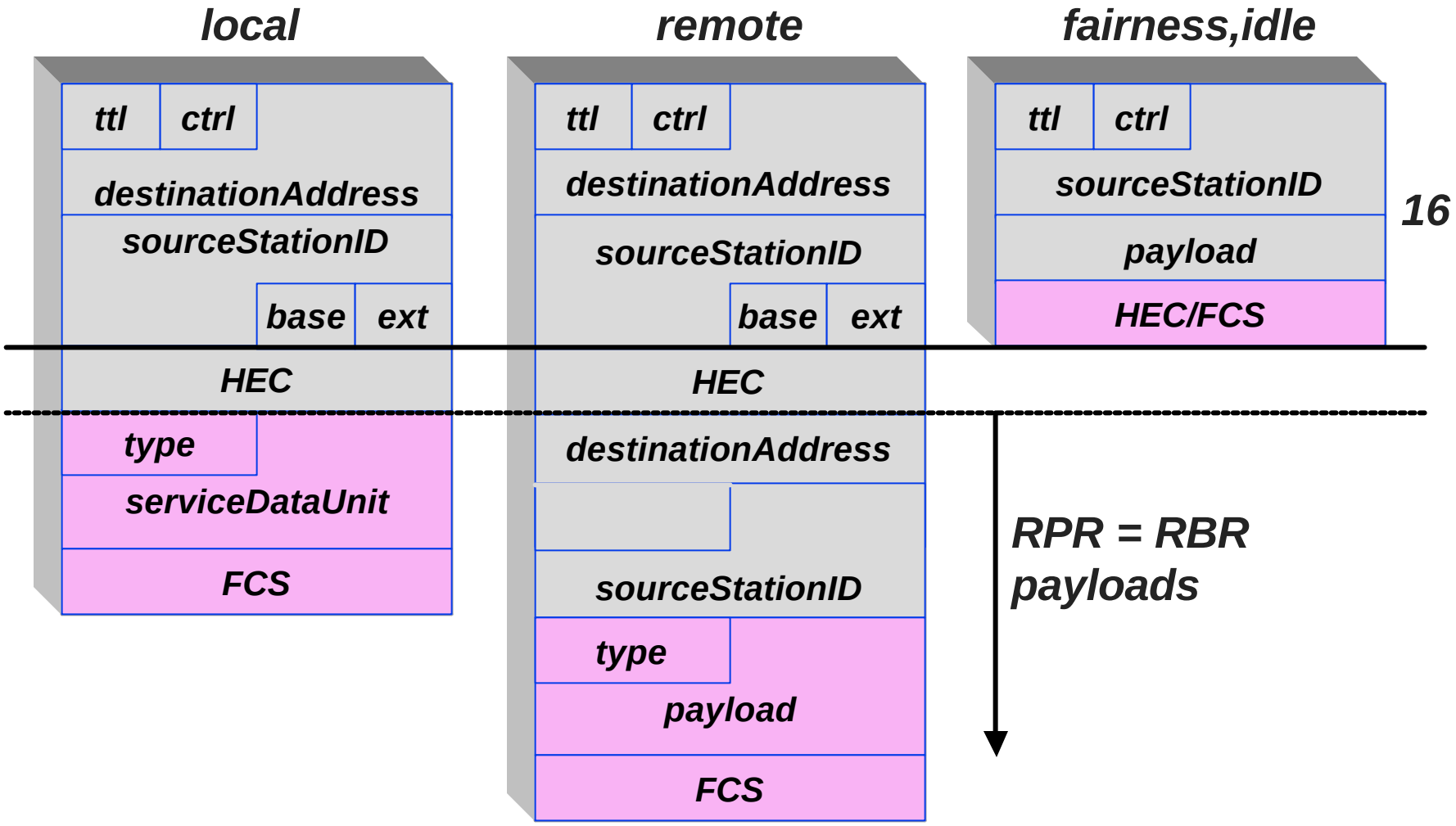
RPR format summary



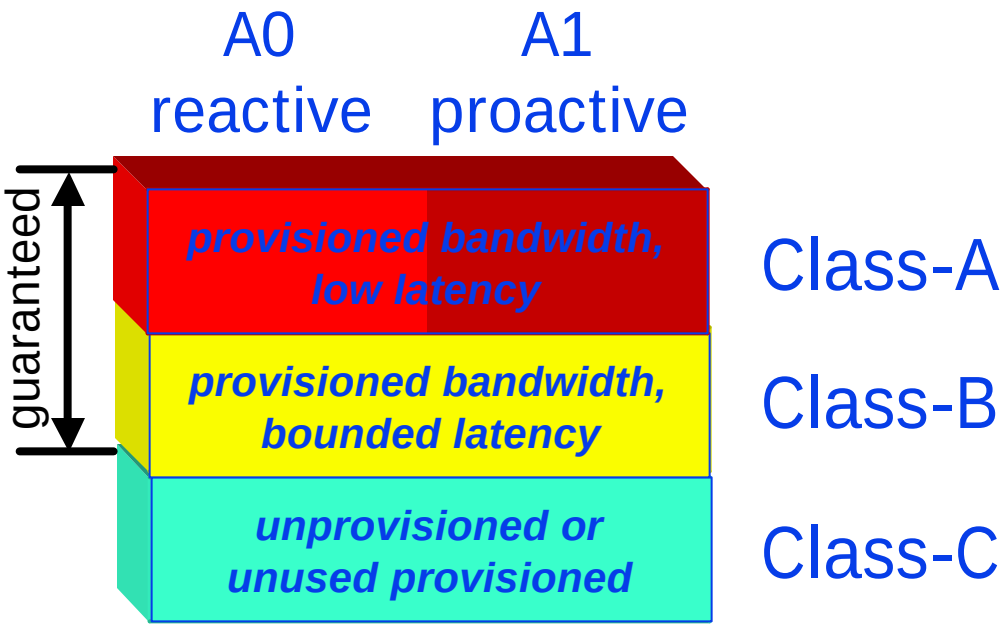
RBR topologies



RBR format summary



Arbitration classes



RBR distinctions

- WG development process
  - Straw men proposals (more than slideware)
  - Evaluation&concensus vs backroom&voting
- RBR is within smaller “boxes”
  - Fairness: reaction times are much smaller
  - Destination-congestion: “retry” becomes practical
  - Low-powered transceivers are a must
- RBR plug-and-play vs RPR single-vendor acquisitions
  - Elimination of most configurable “knobs”
  - Negotiated real-time bandwidths
  - Specified time-of-day synchronization

Time-of-day synchronization (not bit-clock synchronization)