IEEE P802.1Qbu status

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P802.1Qbu status

- We have a Draft 0.0, prepared by editor Tony Jeffree.

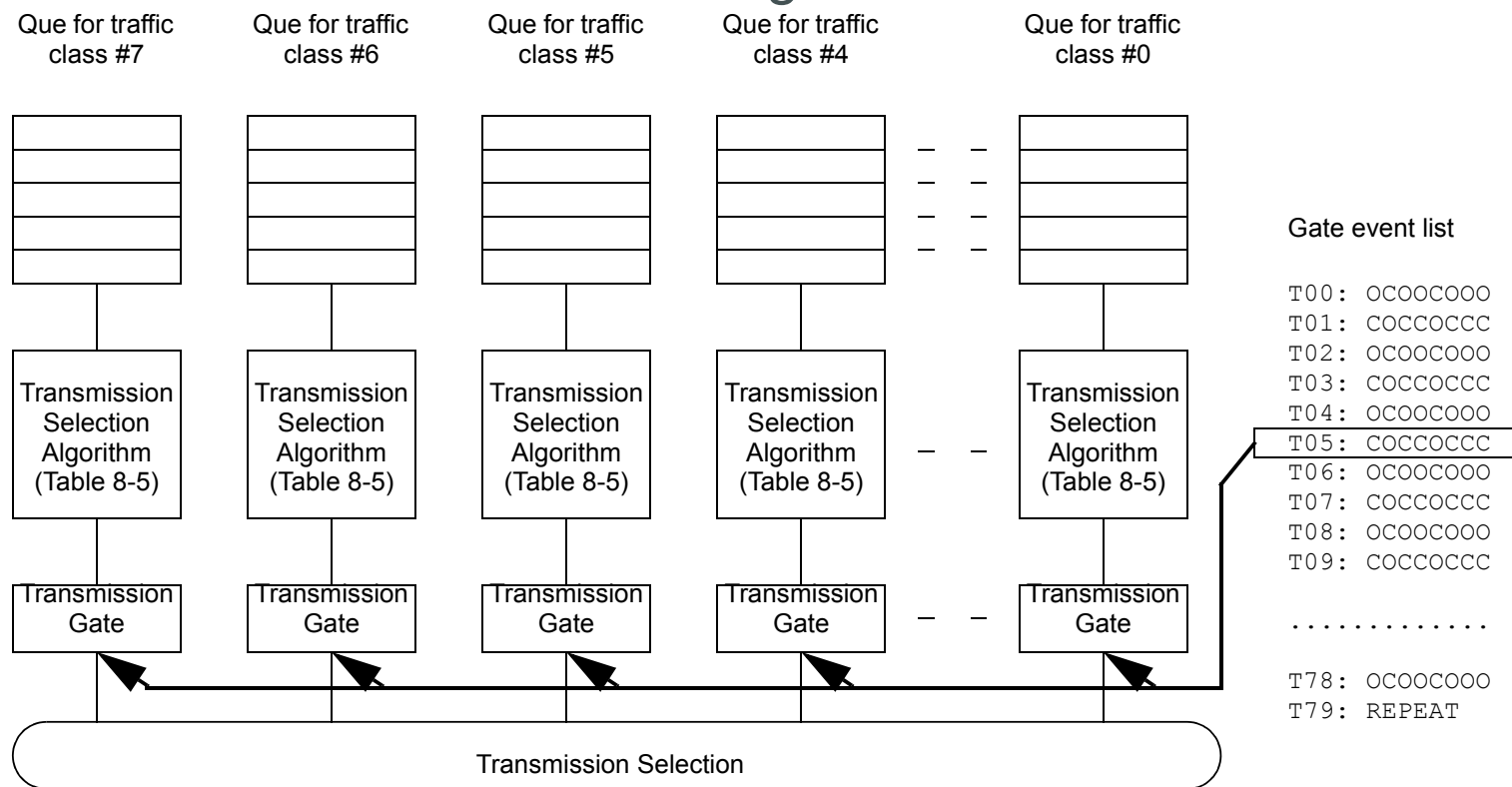- Our baseline architecture for using P802.3br is:

Que for traffic class #7 · Que for traffic class #6 · Que for traffic class #5 · Que for traffic class #4 · Que for traffic class #0

Transmission Selection Algorithm (Table 8-5)

Transmission Gate

Transmission Selection

Gate event list

```
T00: OCOOCOOO
T01: COCCOCCC
T02: OCOOCOOO
T03: COCCOCCC
T04: OCOOCOOO
T05: COCCOCCC
T06: OCOOCOOO
T07: COCCOCCC
T08: OCOOCOOO
T09: COCCOCCC

............

T78: OCOOCOOO
T79: REPEAT
```

**Figure 8-12—Transmission selection with gates**

P802.1Qbu architecture

- Up to 8 queues.

- Some are controlled by credits, some are simple queues.

- One "Transmission selector" that picks among all of the queues that are presenting "I have a frame ready for transmission" according to rules that include priority and round-robin weights.

- **New** for P802.1Qbv "time-based shaper": A row of "transmission gates" between the queues and the transmission selector that are controlled by a repeated time-based schedule.

- **New for P802.1Qbu "frame preemption": A given queue is configured to be either preempting or preemptable.**
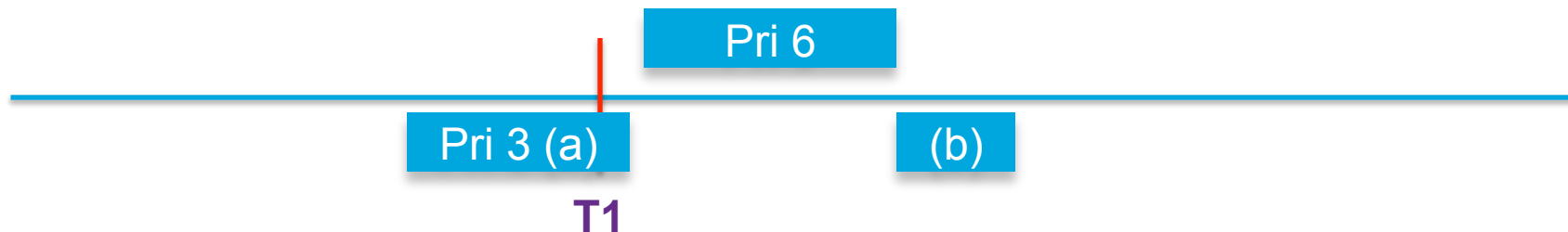
P802.1Qbu uses envisioned by TSN (1)

Pri 6

T1
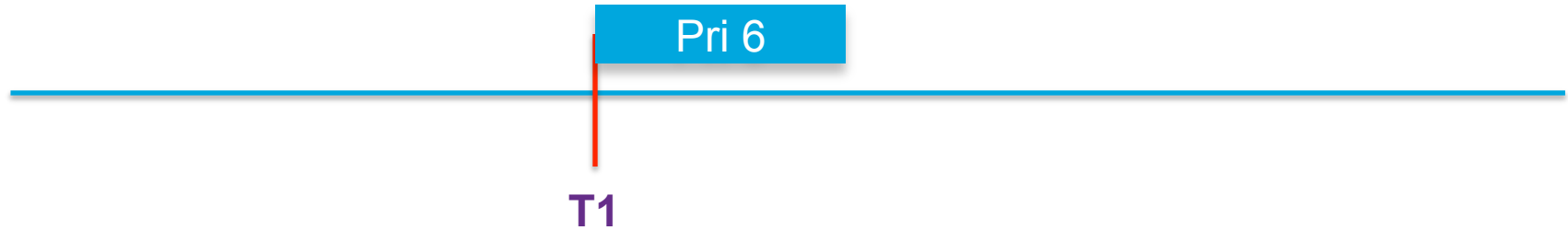
- **Given**: I want to transmit a preempting frame at or shortly after time T1.

P802.1Qbu uses envisioned by TSN (1)
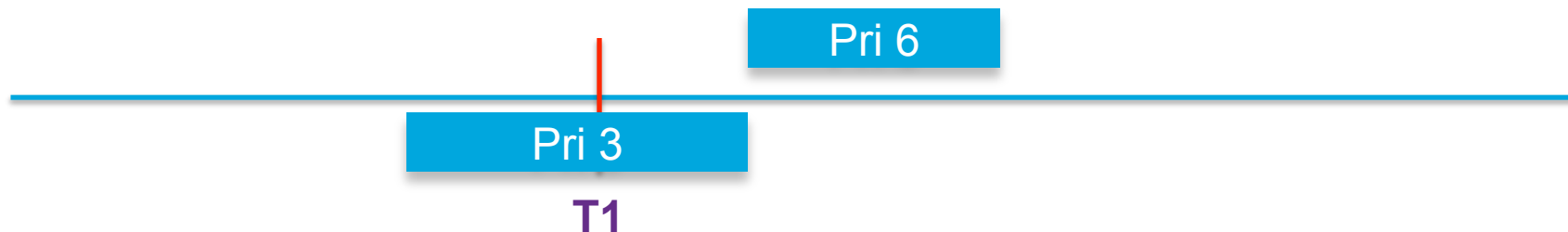
Pri 6

Pri 3

T1

- **Given**: I want to transmit a preempting frame at or shortly after time T1.

- I must not start transmitting a lower-priority frame just before T1, or I will delay the transmission of the Pri 6 frame.

P802.1Qbu uses envisioned by TSN (1)

Pri 6

Pri 3 (a)   (b)

T1

- **Given**: I want to transmit a preempting frame at or shortly after time T1.

- I must not start transmitting a lower-priority frame just before T1, or I will delay the transmission of the Pri 6 frame.

- **Preemption reduces the size of the delay.**

P802.1Qbu uses envisioned by TSN (2)

Pri 6	Pri 6	Pri 6	Pri 6

Pri 3 (a)	(b)	(c)	(d)

T1   **T2**   **T3**   **T4**
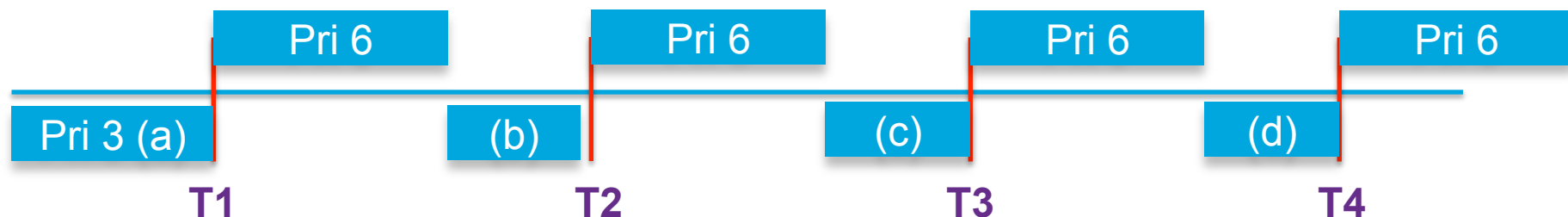
- Preemption allows me to get some amount of useful bandwidth, even if my scheduled traffic takes up most of my bandwidth, leaving relatively small windows for the best-effort traffic.

- Preemption means that time-scheduled transmissions impose no additional restrictions on the length of preemptable frames.

Thank you.