RTP and Leap Seconds

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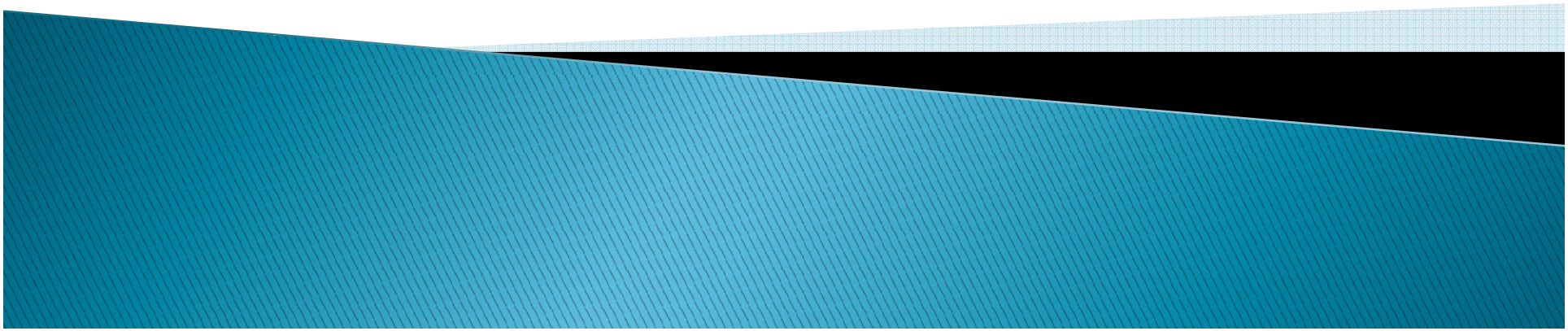
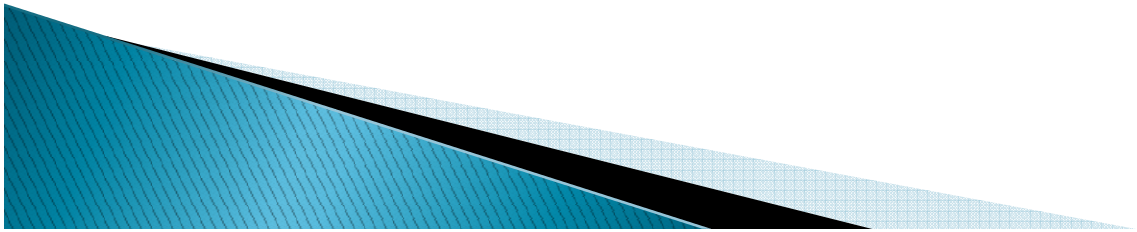


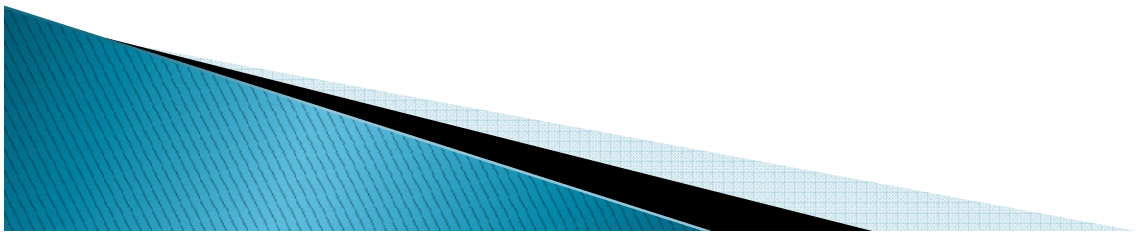
Leap second implementations

RTP (8 kHz)	TAI	UTC	Unix	NTP
8000	00:00:32.500	23:59:58.500	23:59:58.500	23:59:58.500
12000	00:00:33.000	23:59:59.000	23:59:59.000	23:59:59.000
16000	00:00:33.500	23:59:59.500	23:59:59.500	23:59:59.500
20000	00:00:34.000	23:59:60.000	23:59:59.000	00:00:00.000
24000	00:00:34.500	23:59:60.500	23:59:59.500	00:00:00.000
28000	00:00:35.000	00:00:00.000	00:00:00.000	00:00:00.000
32000	00:00:35.500	00:00:00.500	00:00:00.500	00:00:00.500



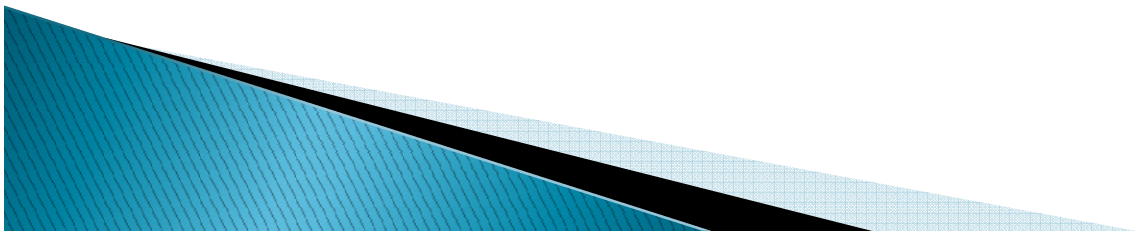
Problems during leap second

- Ambiguous timestamps
- NTP/Unix discrepancy
- Clock discontinuities and rate changes
- Failure to receive notification of leap-second schedule



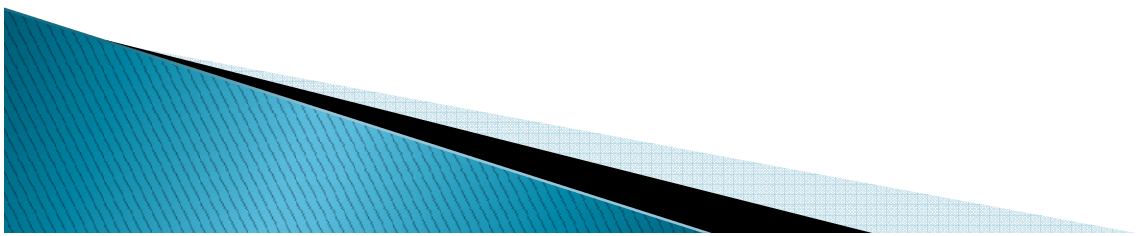
Proposed solution

- Do not generate UTC time-stamped SRs during *leap second event*
- Ignore any UTC time-stamped SRs during *leap second event*
- *Leap second event* is last two seconds of the affected day



Exceptions

- Only RTP streams referenced to a leap-second-bearing wall clock are affected
- TAI clocks (e.g. IEEE 1588) are not leap-second bearing



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