

# World timekeepers wrangle over scrapping leap second

September 20 2013, by Jonathan Fowler

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An old clock is pictured on March 22, 2013, in Angers, western France.

Timekeeping experts failed Friday to reach a decision on scrapping the four-decade-old practice of adding extra seconds to clocks, a system opponents say causes headaches in a hi-tech, interconnected world.

After deferring a decision almost two years ago, members of the 193-nation International Telecommunication Union aim to settle the

issue by 2015, but divisions persisted as a week of talks among technical experts wrapped up in Geneva.

The issue of scrapping the "[leap second](#)" has been on the table for a decade.

Like a February 29 added to calendars in quadrennial leap years, leap seconds are used to keep [atomic clocks](#) in sync with the earth's rotation, which is slowed by the [gravitational pull](#) of the Sun and the Moon.

Every time a second is added, the world's computers need to be manually adjusted, a costly practice that boosts the risk of error and raises the spectre of havoc when differently-timed systems communicate.

But without leap seconds, ultra-accurate hi-tech clocks would race ahead of skewed [solar time](#), amounting to a discrepancy of about 15 seconds every 100 years, experts believe.

Leap seconds were created in 1971 in an effort to simplify adjustments to Coordinated Universal Time (UTC), which had been defined by ITU members in 1963 as a successor to Greenwich Mean Time.

They have been added on 24 occasions since then, and are always introduced at midnight on June 30 or December 31.

Breakneck technological change has increase calls for a move to a continuous, global time-scale, given that global navigation or [satellite systems](#) require a continuous, uninterrupted time reference, and Internet communication straddles borders.

"A second today is much larger than it was back in 1971," said Ron Beard, head of the ITU's time signals arm.

"With the Internet and telecommunication systems that we have now, there are hundreds of thousands of interactions and transactions through that network every second. And if that network is one second out, how many transactions can you affect?"

The leap second battle lines do not reflect the traditional international diplomat divisions, with countries including the United States, France and Japan in favour of ditching them, and Britain, China and Canada among those wary of the idea.

"A variety of systems using UTC have been developed over the past 40 years since the introduction of the leap second and proponents argue that UTC should be maintained," said Francois Rancy, head of the ITU's radiocommunication bureau.

"Strong arguments are also made to abolish the leap second in favour of a continuous reference time scale as a measure to increase the reliability of systems that depend on time to reduce costs and avoid unnecessary disruptions," he added.

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