Recommendation CCTF #? (2015):

On the operation and maintenance of Two-Way Satellite Time and Frequency Transfer (TWSTFT) networks for international atomic clock and time scale comparisons

The Consultative Committee for Time and Frequency

considering that

- TWSTFT has been used in the realization of UTC for 16 years,
- about 20 institutes in Asia, Europe, and North America have contributed regularly with their TWSTFT data, most of them providing their data continuously on a daily basis,
- regular calibrations offer a time transfer uncertainty at the level of 1 ns, which is the best uncertainty achieved for international time transfer,
- having redundant and independent measurement techniques increases the robustness of UTC,
- recent developments in TWSTFT, e.g. employing the carrier phase or software defined receivers, may dramatically improve satellite based optical clock comparisons over long baselines,
- fiber links are not yet available on intercontinental distances,

and noting that

- TWSTFT operation relies on satellite services with substantial costs for the participating institutes,

recommends that

- institutes participating in UTC continue to support the TWSTFT activities, including continuous operation of the international TWSTFT network and periodic link calibrations,
- new developments in TWSTFT be undertaken to significantly improve remote time and frequency comparisons especially on intercontinental distances, and also to reduce costs through the use of new kinds of transmitted signals.