

Project Title

Development of an open, low-cost time-transfer system for traceable time and frequency applications

Project Code

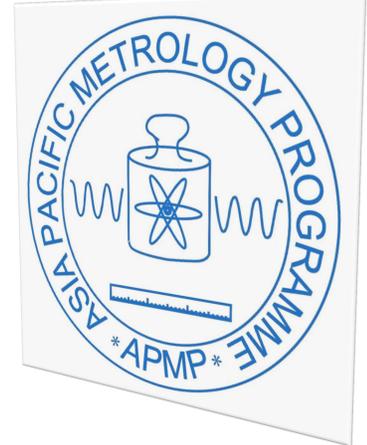
TCI-2015-05-TCTF

Status

Under way

Participants/ Affiliations

Amitava Sen Gupta (NPLI), Piyaphat Phoonthong (NIMT), Ahmad Sahar Bin Omar (NML-SIRIM) & Michael Wouters (NMIA)



Planned Project Period

2015. 03. 01 ~ 2016. 09. 01

Allocated Budget(USD)

\$8,750

Remaining Budget(USD)

\$8,750

Remaining Assets(USD)

\$0

Main Expenditure

Components for 4 systems: embedded computer, GPS receiver, antenna, FPGA module, solid-state disk, GPS-disciplined oscillator, enclosure, custom printed-circuit board

Results

Background

The purpose of this project is to develop a low-cost time-transfer system (TTS) for remote dissemination of national time and frequency standards. The motivation for this arises from a recent workshop where a number of participants indicated interest in establishing remote time services. These services would be greatly facilitated by a flexible, low-cost system.

The TTS would fill a niche not currently addressed by commercial devices which are oriented to highly precise time-transfer using high-end GNSS receivers. For example, it will enable new applications such as auditing of networked devices which depend on accurate time.

Status

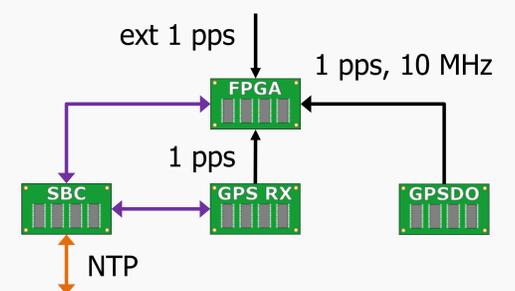
To reduce development effort, the design is based on hardware already used by NMIA. In particular, development and testing has been conducted using existing hardware so it has not been necessary to spend any money yet. To date, efforts have focused on software development. Some software has already been publically released on the collaborative platform GitHub at github.com/openttp. Design of the motherboard for the TTS, based on an existing PCB, is now underway.

There is a website to promote the project

 Open Traceable Time Platform

www.openttp.org

It is hoped that in the longer term, the wider T&F community will contribute to the project.



Benefits to APMP Members

- ❖ The entire design - hardware, software and documentation - will be open source and freely available
- ❖ Supports dissemination of national time standards
- ❖ Provides an ongoing opportunity for development of technical expertise in time-transfer
- ❖ Facilitates development of commercial time-dissemination services