NtpServer**Clock**

A low-footprint, configurable, 100% hardware only NTP (SNTP) Server solution, specifically designed for high-performance distributed systems. Allows running NTP synchronization completely independent and standalone from the user application with the highest performance on the market
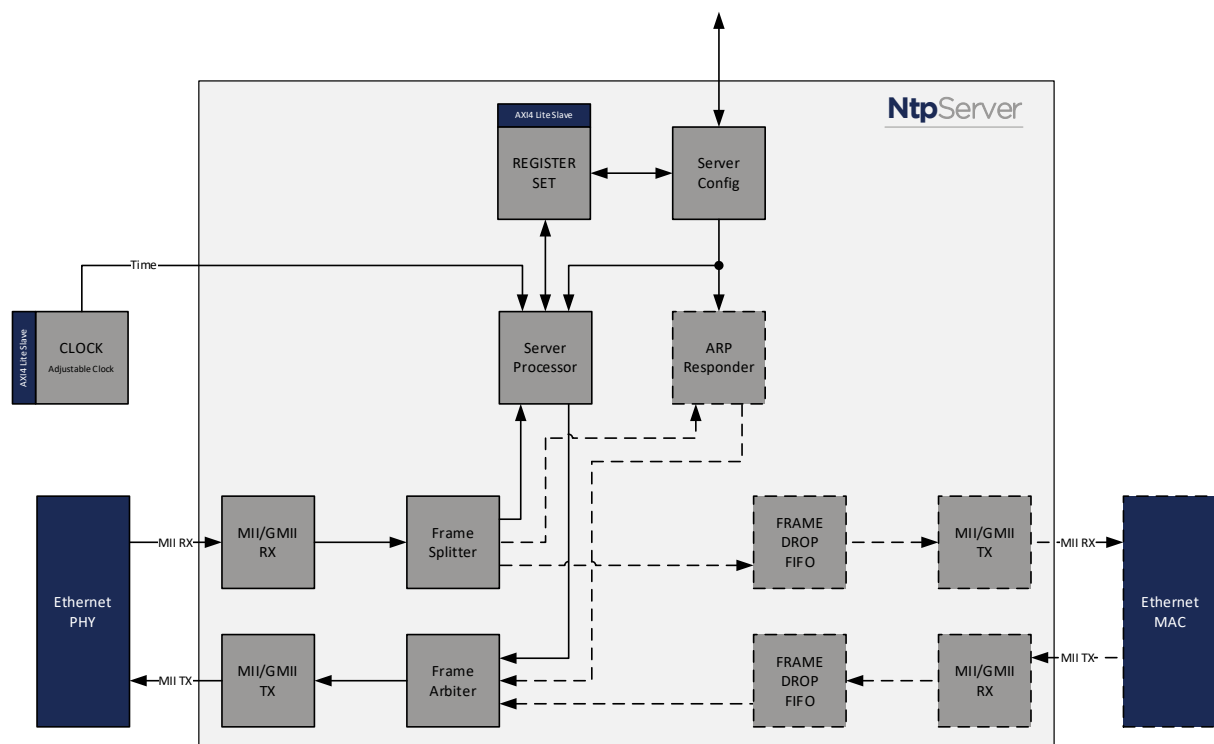
Key Features:

- SNTP Server according to NTPv4 (RFC4330/5905)
- 100% hardware only solution
- Vendor independent
- Support for Unicast, Multicast or Broadcast
- Full line speed, handling 100k+ requests/s (~500k/s with 1G)
- UTC leap second handling

Typical Applications:

- High Performance Local NTP Server
- Ethernet based automation networks
- Power and Utilities
- Etc.

IP Core Architecture:

Specification:

RFC 4330	Support for Unicast, Multicast or Broadcast NTPv4
RFC 5905	Support for UTC leap second handling
	Flexible configuration and supervision
Performance	Full line speed, handling 100k+ requests/s (~500k/s with 1G), offloading synchronization, delivers the highest performance with minimal resources
	Hardware timestamping with 4ns resolution
	Leap Second handling (with configurable smearing rate)
Portability	10/100/1000 Mbit/s support, intercepts (R)(G)MII interfaces between MAC and PHY (no MAC required)
	100% hardware only solution, no dependency on external CPU or PHY features
	Vendor independent, written in plain VHDL
	Low footprint and low frequency requirements
Accuracy	Sub millisecond synchronization possible (depends on client)
	4ns Timestamps accuracy
Modularity	Modular system; adjustable clock is a separate core which can be also synchronized to another source (GPS, DCF, etc.)
	Slim and standardized interfaces are used
Configuration	No CPU required, standalone configuration with signals
	Axi4 lite slave support, for status and configuration

Deliverables:

- Ip core in plain VHDL
- Testbench in plain VHDL
- Reference Design
    - o Top level VHDL file
    - o Timing Constraint SDC files
    - o Vivado/Quartus Project file

Related Products:

- TOD Slave
- DCF Slave
- Adjustable Clock
- PPS Master/Slave
- IRIG Master/Slave
- Signal Timestamper
- Signal Generator

NetTimeLogic GmbH
Synchronization Solutions

Strassburgstrasse 10
8004 Zürich
Switzerland

contact@nettimelogic.com
Tel. +41796716211
www.nettimelogic.com