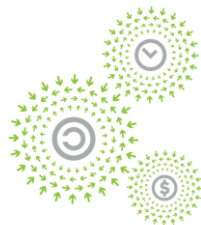


Introducing Open Time Server

Julian (Meta) and Elad (NVIDIA)

OPEN POSSIBILITIES.



OPEN
PLATINUM™



Agenda

Concept

OTS Reference Architecture

Time Cards

Performance

Building an eco-system

Call to action

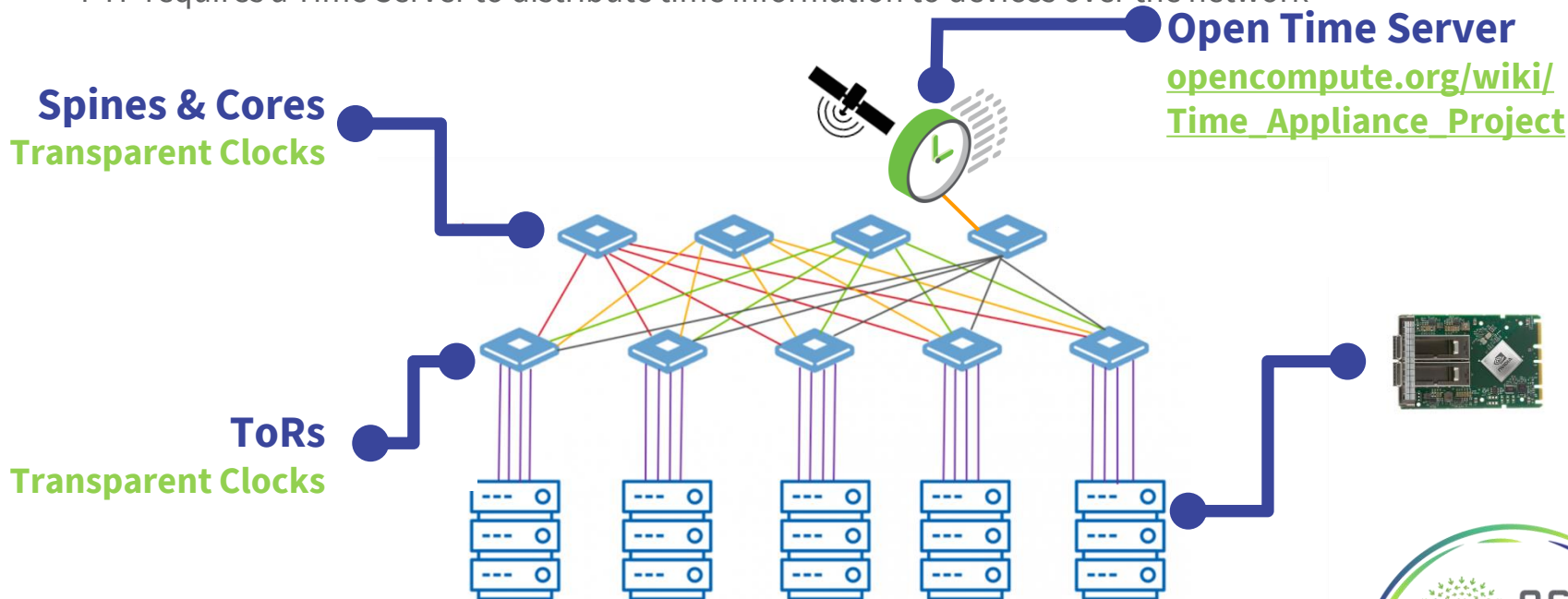


TIME
APPLIANCES



Introduction

- PTP distributes accurate timing over Ethernet Networks with hardware timestamping
- PTP requires a Time Server to distribute time information to devices over the network

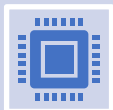


OPEN POSSIBILITIES.

Problem and Solution



Traditionally, Time Servers are considered off-the-shelf closed-source commodities. Typical deployments require only a handful of such appliances, making R&D for advanced features hard to justify. Often, you are limited by the feature set provided from the manufacturer.

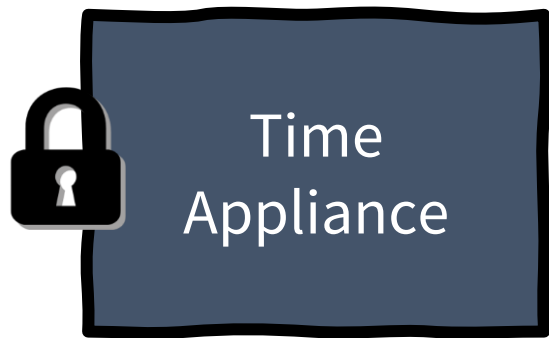


The Open Time Server (OTS) reference architecture democratizes the entire suite of hardware, software and management tools to build such appliances with off-the-shelf components and open TAP software.

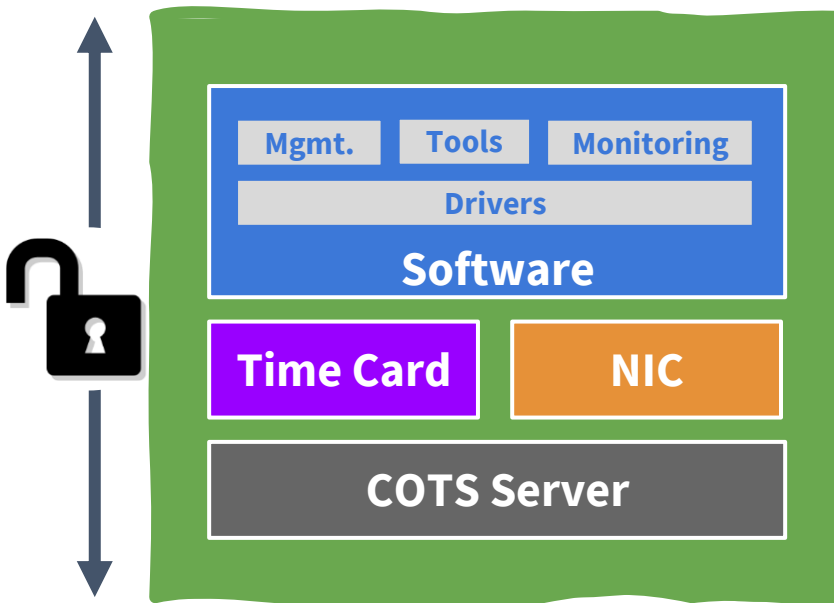


By using the latest NIC technologies, the OTS provides unprecedented scalability and heightened security.

OPEN POSSIBILITIES.



Traditional



Open Time Server

OPEN POSSIBILITIES.



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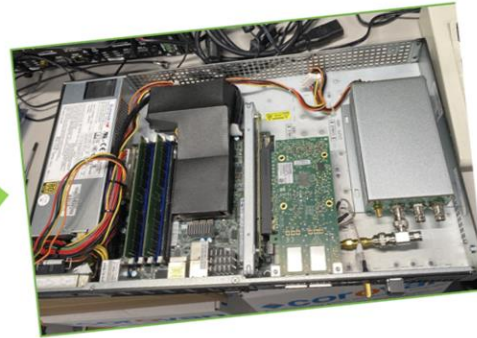
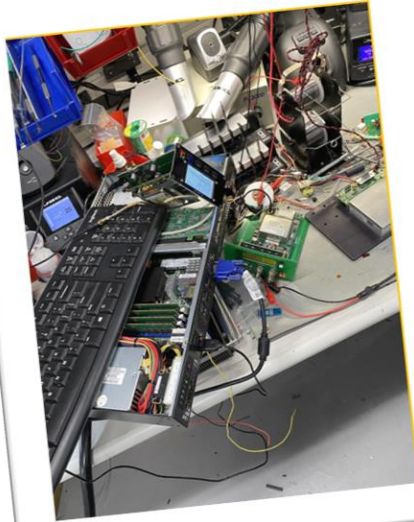


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2020 OCP Tech Week

Building a Time Appliance



OPEN POSSIBILITIES.

OTS Reference Architecture

- opentimeserver.com
- Open, scalable and validated architecture for DC and Edge
- Marketplace Link



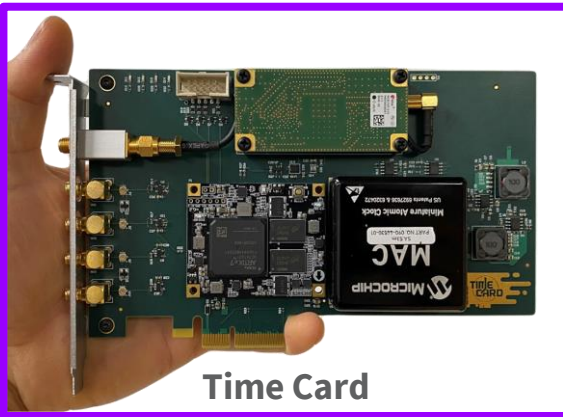
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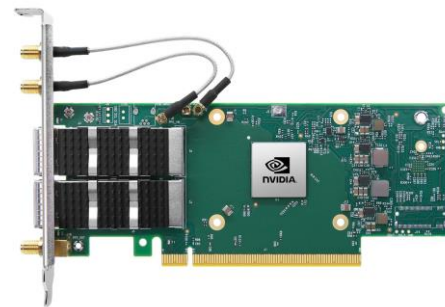
OPEN
INSPIRED™



HPE DL830

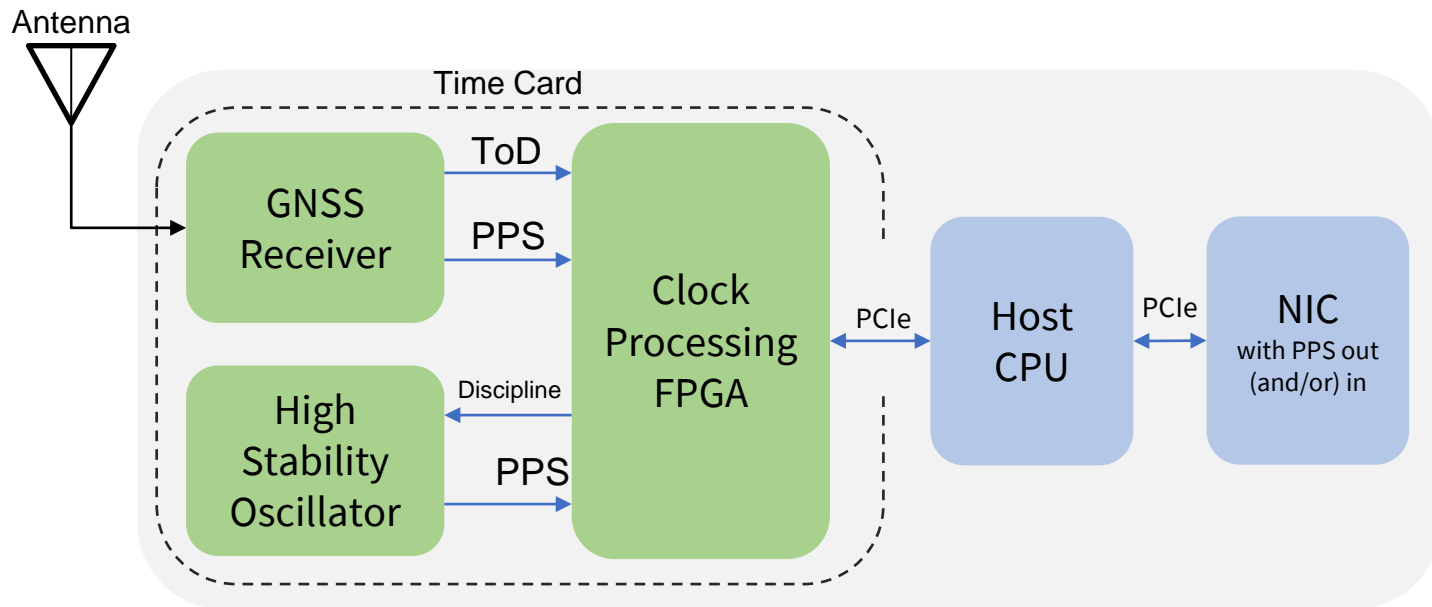


Time Card



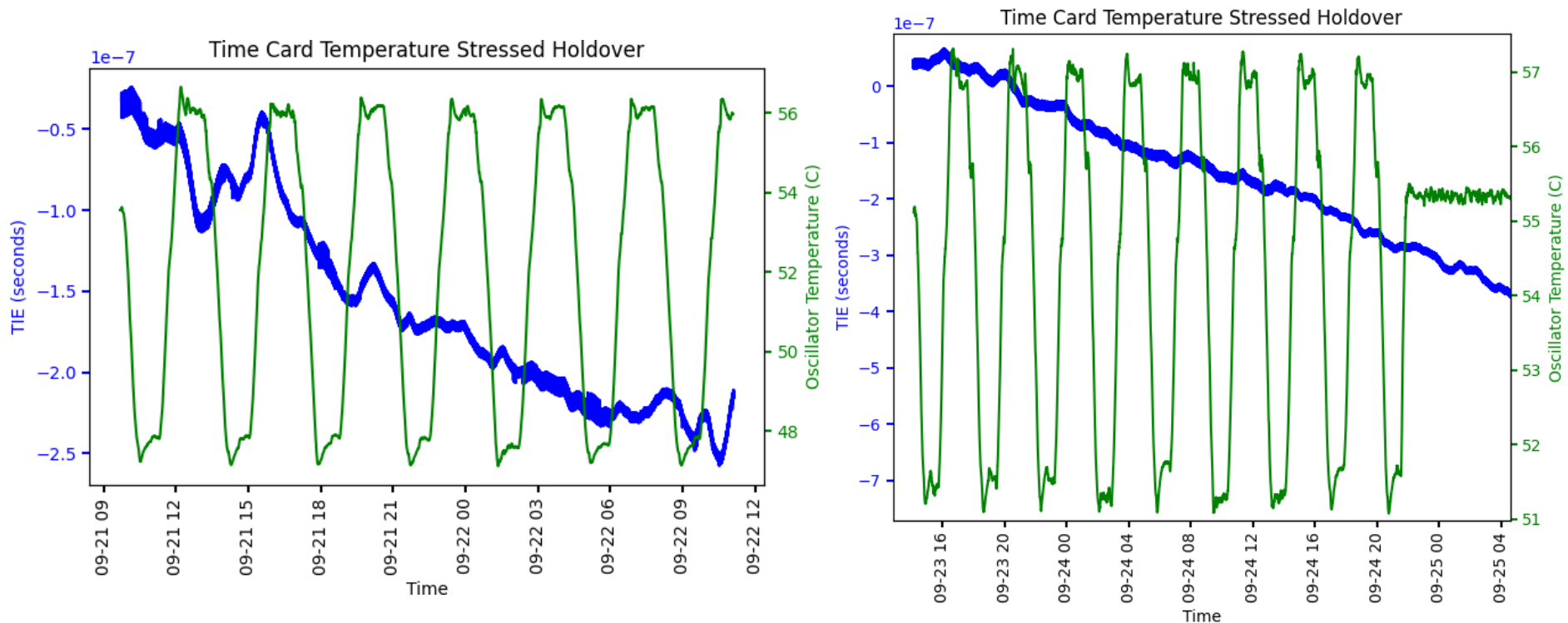
NVIDIA ConnectX-6 Dx

OTS Reference Architecture



OPEN POSSIBILITIES.

Time Card Performance



FlexSMA Hardware

Time Card SMAs will support multiple input and output functions

Inputs

- 10MHz or PPS for Disciplining, Timestamper

Outputs

- 10MHz , PPS from FPGA or Oscillator or GNSS

All four SMAs can support input and output

- Up to 4 PPS Outputs
- Up to 4 PPS External Timestamp Inputs

OPEN POSSIBILITIES.



We Are Building a Software Eco-System

ptp4u – PTP for Unicast

- Open source Meta implementation for hyper-scale PTP Grandmaster
- Supports over 1,000,000 of clients with detailed telemetry
- github.com/facebookincubator/ptp/tree/main/ptp4u

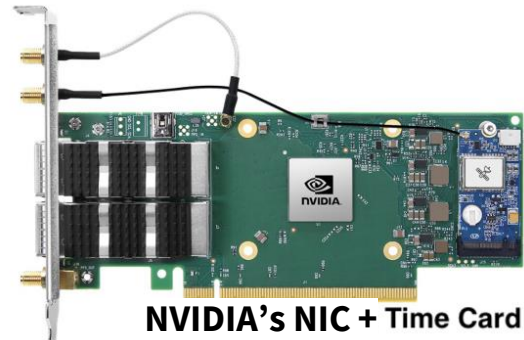
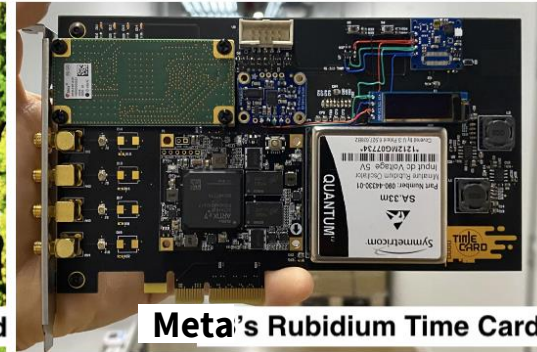
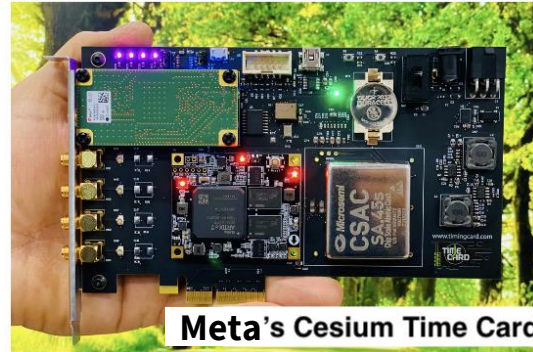
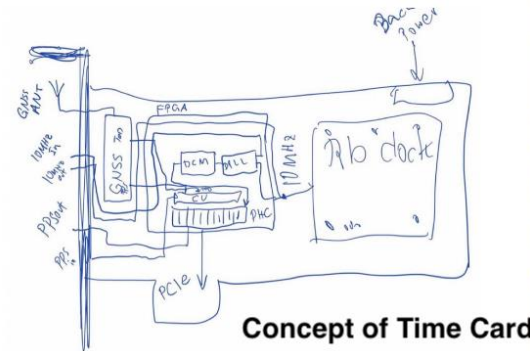
▪ **Clientgen** – PTP Client Traffic Generator

- Open source Meta implementation for large PTP client traffic generation
- Simulating ~100,000s of clients with latency and telemetry tracking
- github.com/opencomputeproject/Time-Appliance-Project/tree/master/Software/Experimental/clientgen

OPEN POSSIBILITIES.



Time Cards



OPEN POSSIBILITIES

Call to Action

This should be the last slide
before your closing slide
(remove this note before submitting your presentation)

- Visit www.opentimeserver.com
fork the project

get involved

- Time Appliances article
engineering.fb.com/2021/08/11/open-source/time-appliance

OPEN POSSIBILITIES.





NOVEMBER 9-10, 2021