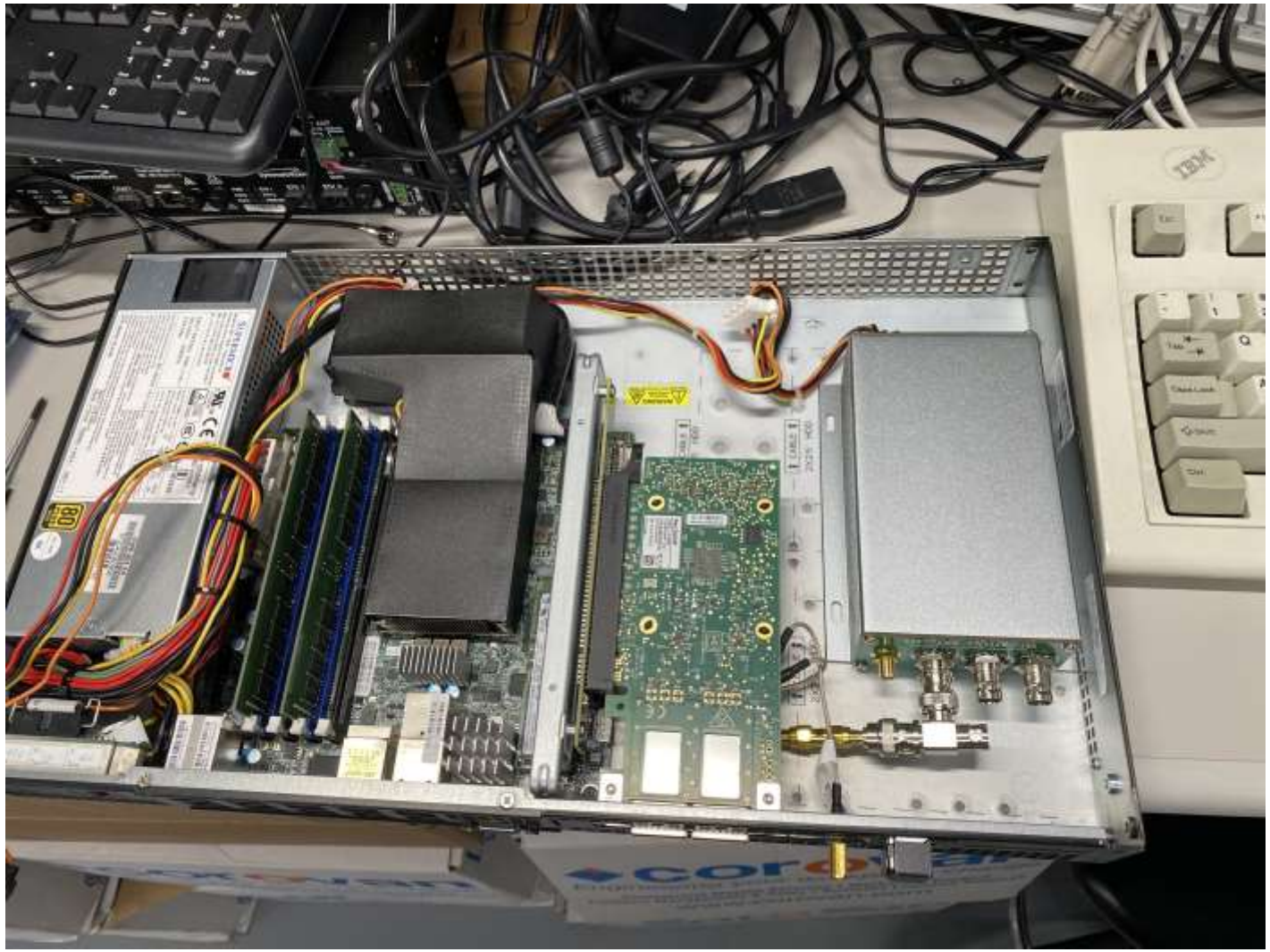
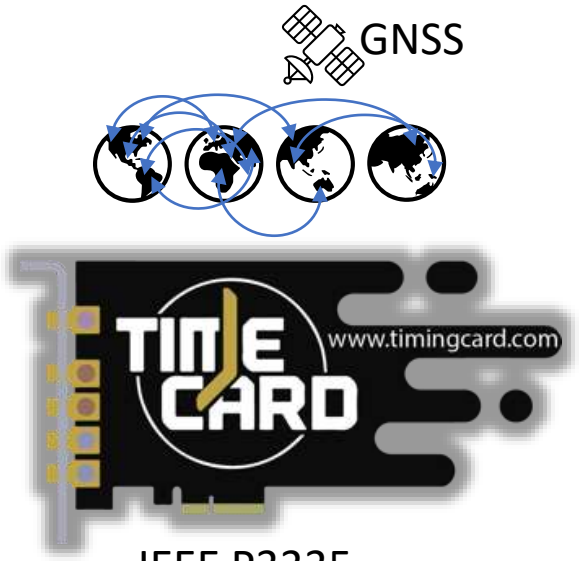
P3335

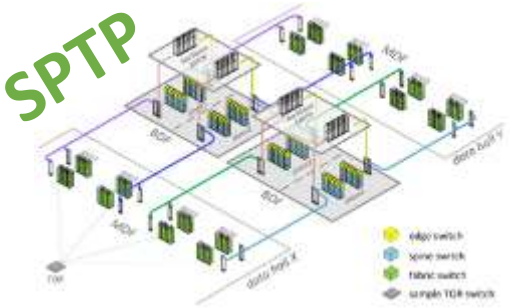
Standard for Architecture and Interfaces for Time Card





IEEE P3335

SPTP



PTP

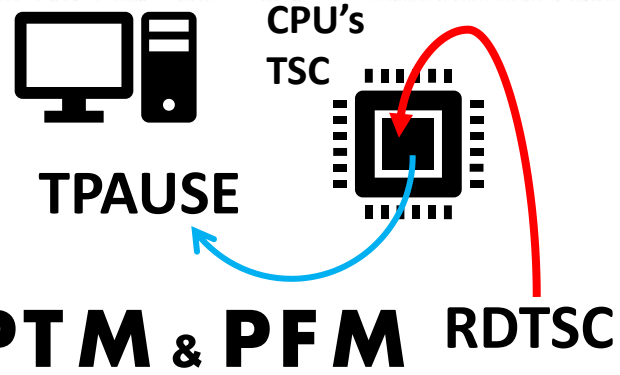
Data Center IEEE 1588

TPAUSE — Timed PAUSE

Opcode / Instruction	Op/En	64/32 bit Mode Support	CPUID Feature Flag
66 0F AE /6 TPAUSE r32, <edx>, <eax>	A	V/V	WAITPKG

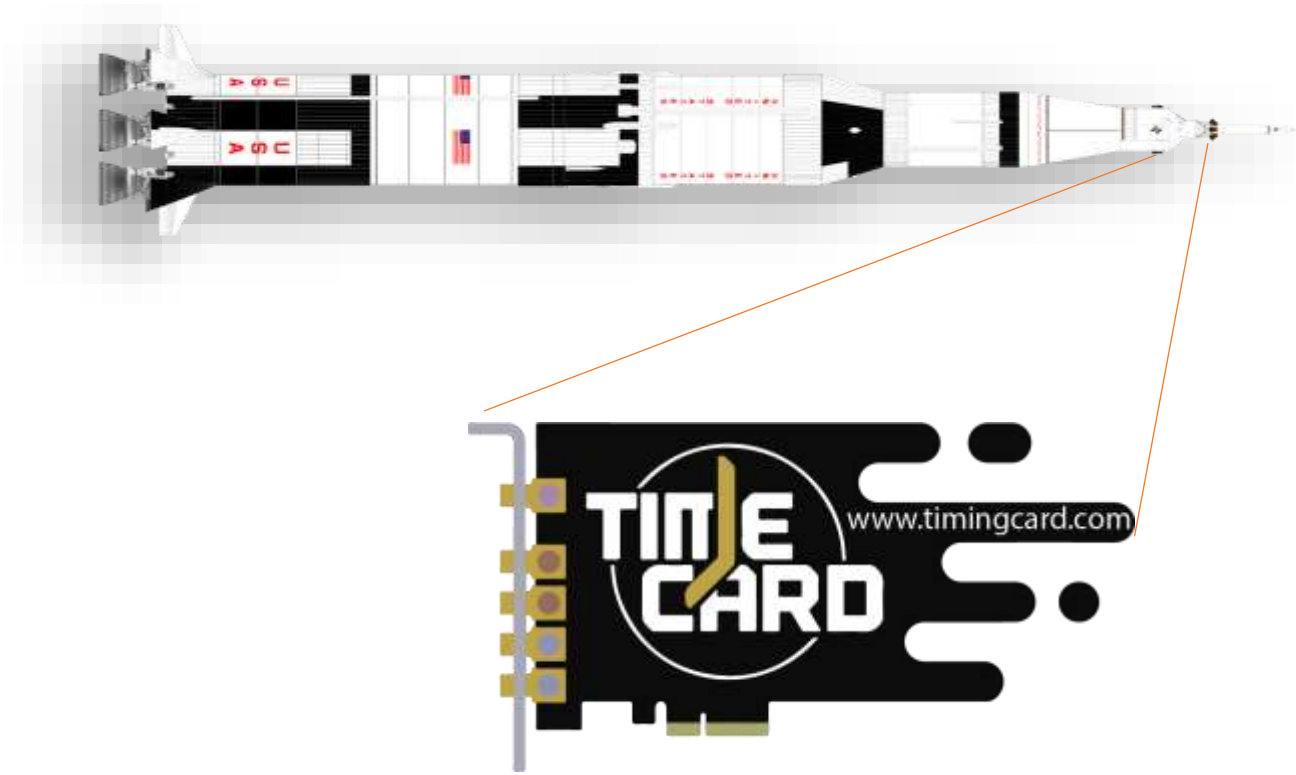
RDTSC — Read Time-Stamp Counter

Opcode*	Instruction	Op/En	64-Bit Mode	Compat/Leg Mode	Description
0F 31	RDTSC	ZO	Valid	Valid	Read time-stamp counter into EDX:EAX.



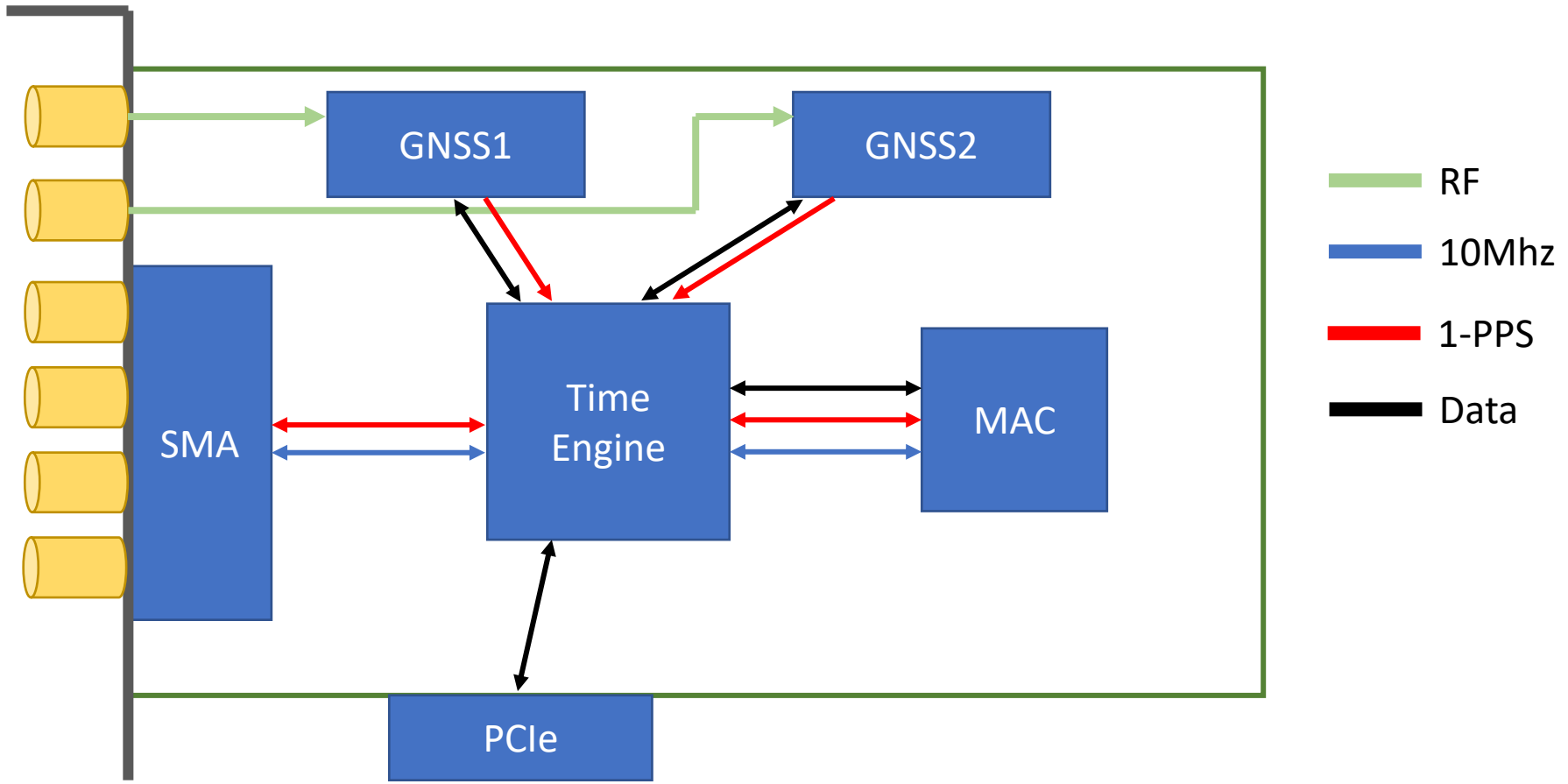
Time Keeping and Time Dissemination

- Launch Vehicle:
  - NTP
  - PTP
  - WR
  - PPS
  - None
- Payload
  - Time Card (Time)



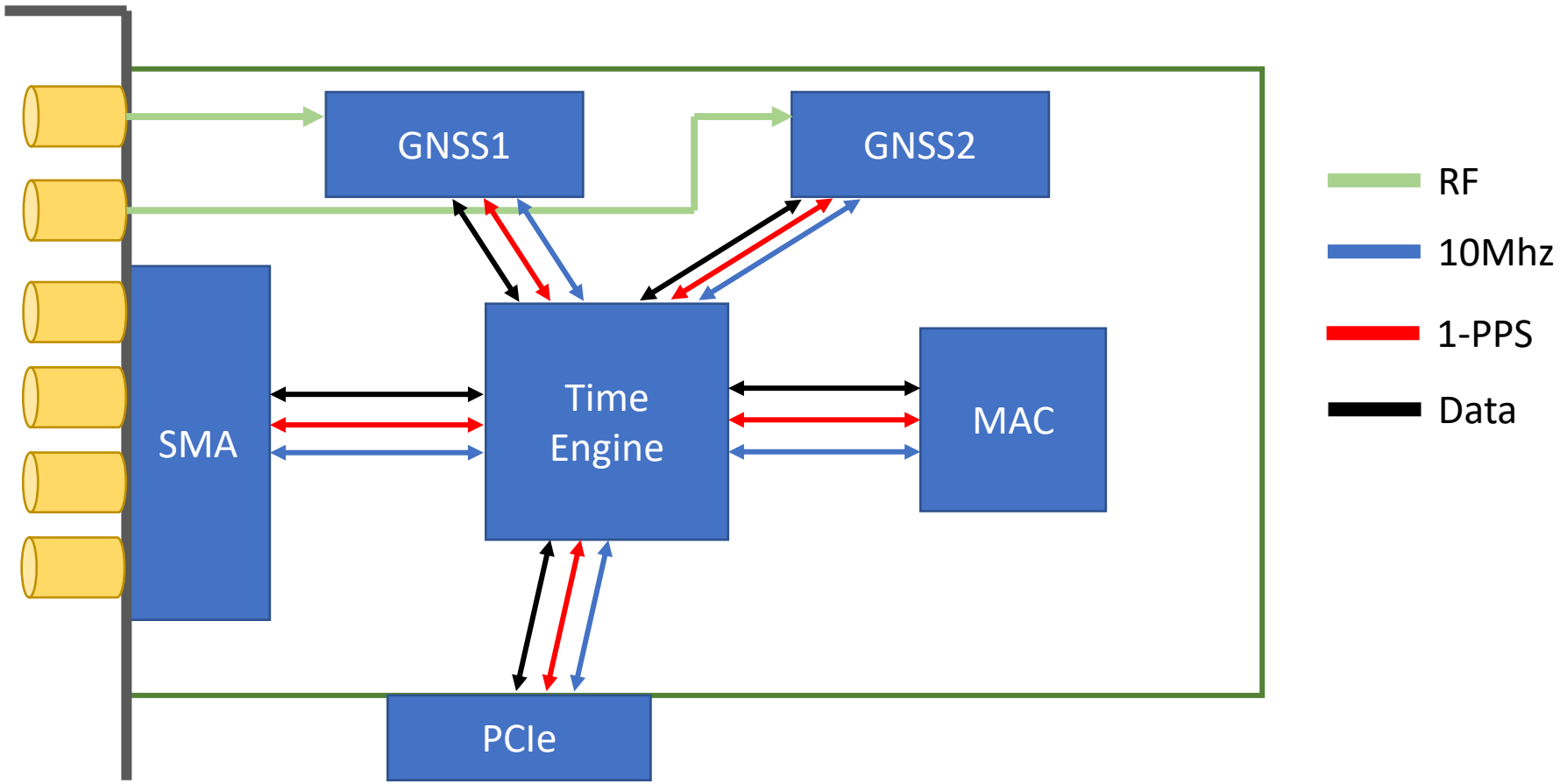
Open Compute Project's Time Card 2

- Dual GNSS PCIe card with a MAC



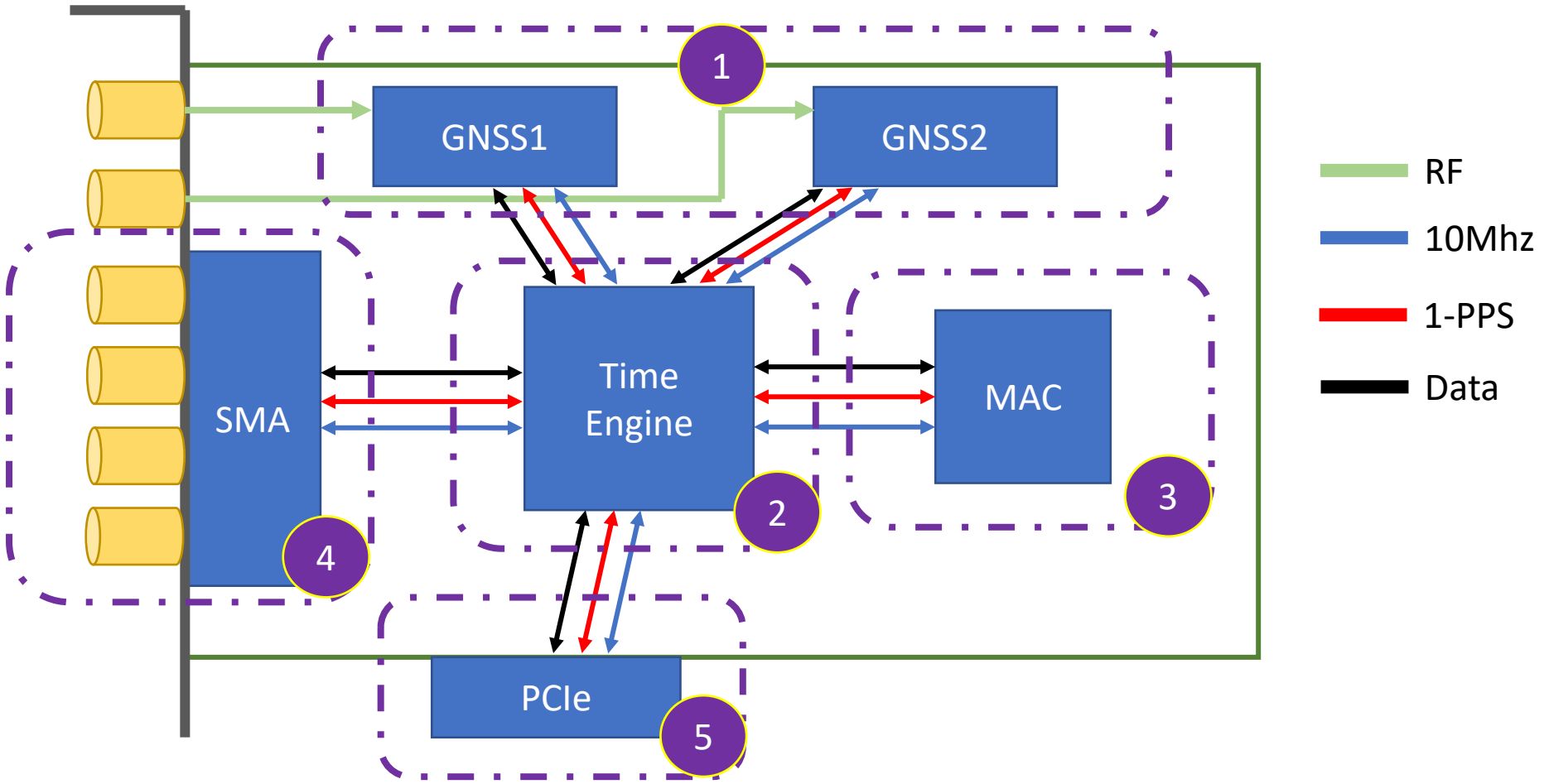
Time Card Concept

- All possible pathways



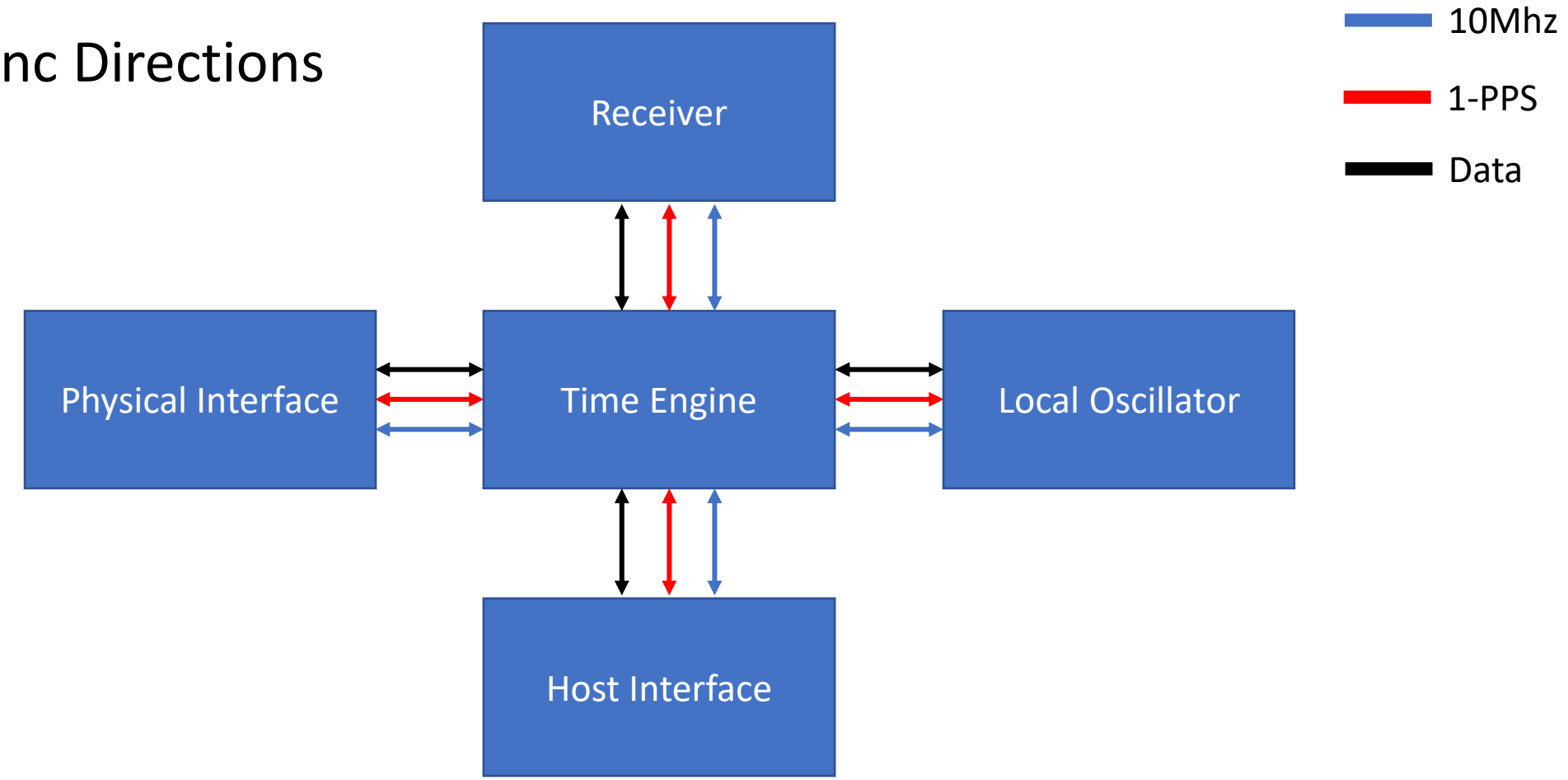
Time Card Concept

- All possible pathways

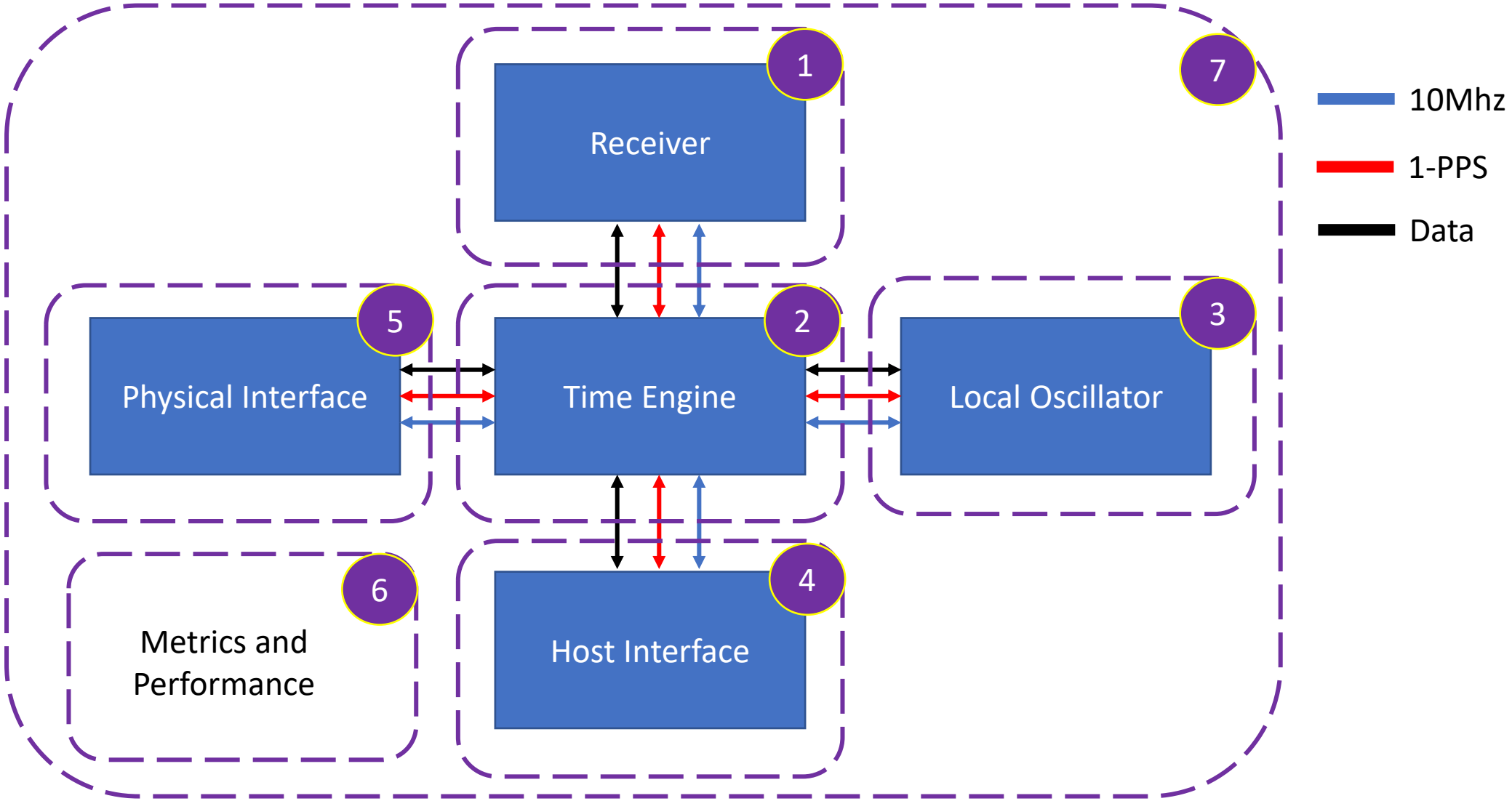


High Level Structure

- Data/Sync Directions

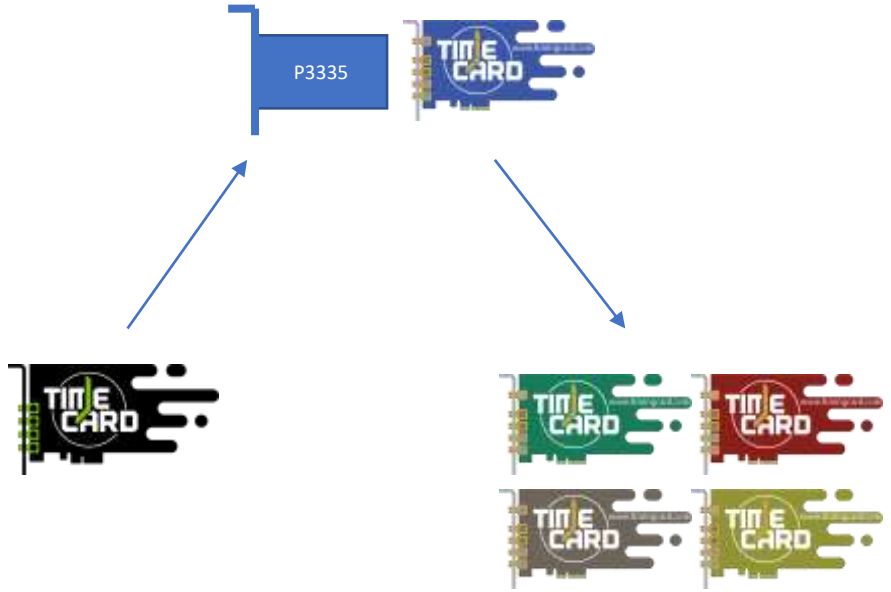


Focus Areas


1
Receiver
7
10Mhz
1-PPS
Data
5
Physical Interface
2
Time Engine
3
Local Oscillator
6
Metrics and
Performance
4
Host Interface

Proposed Approach

- We already have something that works (various Time Cards)
- Turn the Time Card to a general case
- Study the general case
- Dissect the work in subgroups (Diverge)
- Work in parallel
- Bring things together (Converge)
- Combing through the work (coherence)



Goal: Embrace Diversity, Ensure Interoperability