Data Center Timing and Synchronization

Learn About Data Centers

The virtual Primary Reference Time Clock is an innovative architecture that delivers precise timing for data centers with reduced reliance on Global Navigation Satellite System (GNSS)-based timing signals.

Regulatory and user requirements for data centers demand sub-microsecond sequential time stamps. Time stamping precision and accuracy is critical not only across servers in a data center, but also between data centers in a network. From hyperscale applications to colocation data center clients, we offer a full range of timing solutions, including the Virtual Primary Reference Clock (vPRTC), that ensure precise, accurate, secure and resilient time.
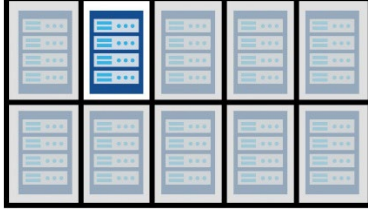
Learn About vPRTC Architecture

Download Data Center Timing White Paper
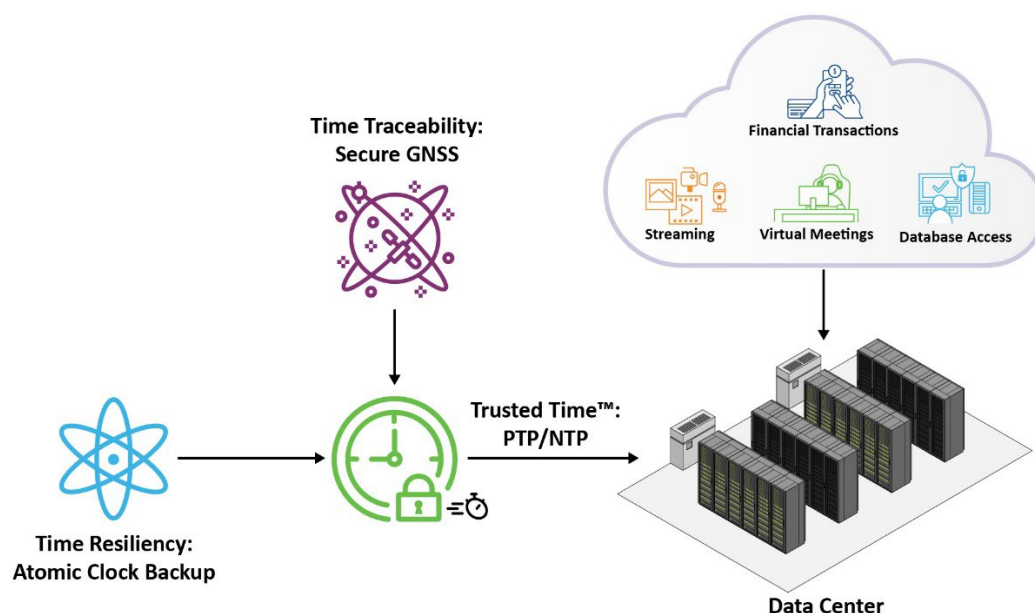
Data Center Timing and Synchronization

Timing and Synchronization Solutions for All Data Center Applications

Hyperscale Data Center	Colocation Data Center Provider	Colocation Data Center Client
• Thousands of servers owned by one entity • Hosted cloud services • Clients lease capacity and services Recommended Products: • BlueSky™ GNSS Firewall • Cesium atomic clocks • NTP servers and/or PTP grandmasters	• Multiple servers colocated in one structure • One entity owns structure, utilities and services • Clients place hardware in cages • Clients lease infrastructure, utilities and services • Provide time or GPS as service to clients Recommended products: • BlueSky GNSS Firewall • Cesium atomic clocks • NTP servers and/or PTP grandmasters	• Clients place hardware in cages • Clients lease infrastructure and services • Control your own timing Recommended Product: • SyncServer® S600 time server with • Embedded 72-channel receiver • Embedded rubidium • PTP or NTP distribution