spectracom

VelaSync™ High Speed Time Server

High Performance NTP Server, PTP Grandmaster and Network Sync Monitor

FSMLabs Enterprise Real-Time®

- **PTP + NTP on all ports**
- **Low 100's of nanoseconds accuracy[1]**
- **1G/10G Ethernet solves network queueing problems (silent time errors)**
- **High quality GPS-disciplined clock source**
- **Rubidium atomic clock option**
- **Single-pane-of-glass enterprise sync management**
- **Time Intelligence Platform gathers statistics from clients, detects problems**
- **Map your time network topology**
- **Multiple time sources for redundancy/security**
- **Configuration via web interface**
- **Dual, redundant and hot-swappable AC power supplies**

VelaSync™ high speed time server with TimeKeeper™ inside is a network appliance designed for high frequency trading and other low-latency network applications. The combination of FSMLab's TimeKeeper's highly optimized timing protocols and management functions, Spectracom's precision GPS timing technology, and the flexibility of commodity hardware offers exceptional performance and keeps pace with the needs of evolving network infrastructure. The server offers multiple 1GbE (RJ-45) and 10 GbE (SFP+) network ports for set-up, management, and simultaneous NTP and PTP server/grandmaster capability.

Flexible Configuration Provides Reliable, Secure Time

TimeKeeper's web-based user interface simplifies configuration of multiple time sources for resiliency against GPS attacks, spoofing or jamming, and equipment failures. For example, the server can be easily setup to use a PTP source as a backup to the on-board GPS and use an NTP source as a cross check. The servers can be setup to back up each other so that if one fails, the time service continues. It includes redundant hot-swap power supplies.

Network Sync Monitoring in a Single At-a-glance Instance

A unique aspect of TimeKeeper is the ability to auto-discover and monitor your network's synchronization topology. From a single-pane-of-glass, see where the server time is going, monitor downstream clients, and discover other available time sources. The benefit is to verify redundancies and failover options, and identify single points of failure and "choke points". See everything related to time sync across the enterprise.

[1]with TimeKeeper time client software

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VelaSync rear panel

Specifications

Timing Protocols

- NTP
- PTPv1,v2 (telecom profile, hybrid mode)
- Time (RFC 868)

Management

Intelligent Platform Management Interface (IPMI) for remote access to monitor chassis health, power on/off and remote console access without a keyboard/monitor or RS232

Monitoring

Time Intelligence Platform for configuration, monitoring of clients, and real-time performance data and network visualization via Time-Map

GPS Receiver

- Connector: SMB, +5V to power active antenna, SMB to Type N adapter cable provided
- Frequency: GPS L1 (1575.42 MHz)
- Satellite tracking: 1 to 50, T-RAIM satellite error management
- Synchronization time: cold start < 15 minutes (includes almanac download), warm start < 5 minutes (assumes almanac download)
- Antenna system: sold separately

Oscillator

	OCXO	Rb
Accuracy[1] to UTC (1-sigma locked to GPS)	50 ns	25 ns
Holdover Accuracy (loss of GPS after 2 weeks locked, constant temp)		
After 4 hours	1 µs	0.2 µs
After 24 hours	25 µs	1 µs

[1]Accuracy is measured by comparing the internal 1PPS with the GPS ontime point.

Time and Frequency Output

- 1PPS: TTL (5v p-p), SMB
- SMB to BNC patch cable included

Communications

Network Ports

- 3x 1G Ethernet RJ-45
- 2x 10G Ethernet SFP+ (additional 2x optional)

Front Panel

- Power On/Off button
- System Reset button
- Power LED
- Hard drive activity LED
- 2x Network activity LEDs
- System Overheat LED

Power

- Dual redundant hot-swapable power supplies
- 100-240 VAC, 50-60 Hz, 6.2-2.6 Amp

Environmental

- Operating Temperature: 10°C to 35°C (50°F to 95°F)
- Storage Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Relative Humidity: 8% to 90% (non-condensing)
- Storage Relative Humidity: 5% to 95% (non-condensing)

Agency

- FCC, CE, UL or CSA listed, RoHS

Physical

- 1U rack mountable
- Height: 1.7" (43mm)
- Width: 17.2" (437mm)
- Depth: 25.6" (650mm)
- Weight:23.5 lbs (10.7 kg)

Warranty

90 day hardware warranty, 1 year set-up assistance, extended by premium support package

Ordering Information

Base Units

1225-013: VelaSync Time Server with internal OCXO oscillator

1225-033: VelaSync Time Server with internal Rubidium atomic clock

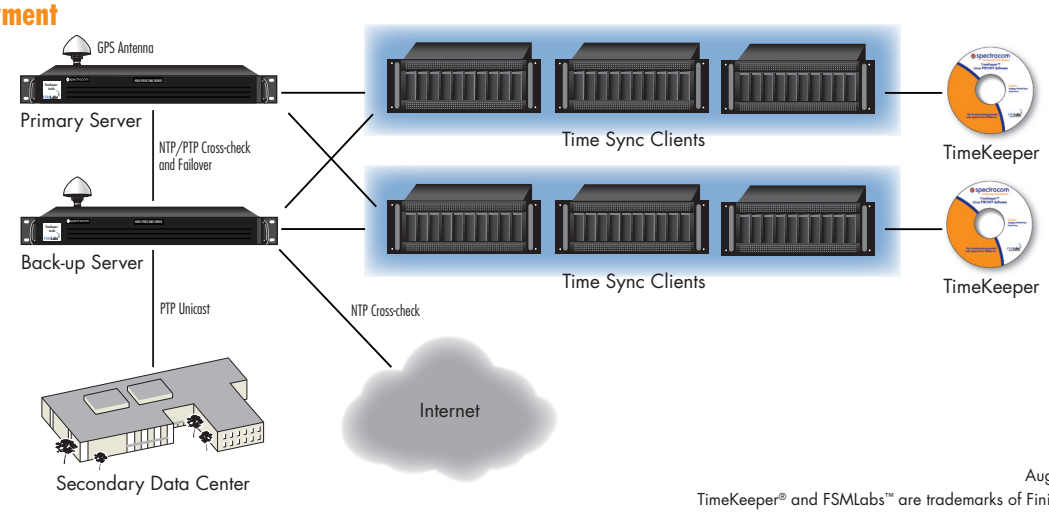
Networking Options

OPT-10G: Adds 2x 10GbE ports to existing 2 for a total of 4 - 10 GbE ports

Service Plan

PSP: 1-year premium support includes warranty extension, 24x7 emergency telephone support, loaner units dispatched next business day, notification and software updates

Typical Deployment



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