

May 22, 2024



TimeProvider® 4100 Grandmaster Version 2.4 Firmware Offers Embedded BlueSky™ Firewall Technology to Detect Security Threats

Adds IEEE® 1588 standard profiles to meet power and 5G private network synchronization requirements

CHANDLER, Ariz., May 22, 2024 (GLOBE NEWSWIRE) -- Critical infrastructure such as public utilities, transportation and mobile networks depend on time to synchronize their networks. The primary source of time comes from national timing systems like Global Position Satellite (GPS), but GPS signals are susceptible to jamming and spoofing attacks. To continue to provide critical infrastructure operators with a secure timing solution, Microchip Technology (**Nasdaq: MCHP**) today announces the release of [version 2.4 of the TimeProvider® 4100 grandmaster firmware](#) with an embedded BlueSky™ firewall function to detect potential threats and validate GNSS before using the signal as a time reference.

“Security is of utmost importance to operators; it is critical to make sure that the time reference used by a grandmaster is a valid signal and can be trusted,” said Randy Brudzinski, vice president of Microchip’s frequency and time systems business unit. “The TimeProvider 4100 grandmaster, with its embedded BlueSky GPS firewall, offers our customers a cost-effective solution that provides highly effective protection against spoofing, jamming and other threats that could compromise the validity of the GNSS signal.”

The TimeProvider 4100 series v2.4 also implements IEEE® 1588 power profiles, which enables gateway capabilities between PTP telecom and power profiles. With this device, utility companies can connect the communication and substation networks to support the convergence of Information Technology (IT) and Operational Technology (OT) networks as operators continue to modernize.

The growth of emerging private networks continues to increase in a variety of locations like factories, stadiums and mines. These private networks can now be synchronized with the TimeProvider 4100 series v2.4 equipped with the Time Sensitive Network (TSN) profile 802.1AS. This functionality provides private networks with a more accurate and autonomous time system to coordinate private network Internet of Things (IoT) devices.

Depending on their unique deployment requirements, operators need grandmasters that can scale to support very few clients up to many clients. The TP4100 v2.4 can serve 2,000 Precise Time Protocol (PTP) clients, providing the capability to synchronize a large number of base stations with precise time without having to deploy multiple grandmasters.

As existing legacy communication signal deployments age, there is a need to migrate these installations to a modern and modular architecture. The TimeProvider 4100 series v2.4 provides a new operation mode that includes the filtering of legacy input signals and provides the ability to serve as a Synchronization Supply Unit (SSU), enabling the migration of large SSU environments to a TimeProvider server architecture. This presents a combination of new protocols such as PTP, NTP, SyncE and legacy signals at a large scale, allowing operators to ensure legacy services remain, while affording the capability to provide modern synchronization signals to support the newer network architectures.

Resiliency is necessary for synchronization solutions serving critical infrastructures. A failure can lead to degradation or a complete loss of service, thereby affecting customer satisfaction. Software redundancy contributes to the resiliency of the TimeProvider 4100 series because it enables two grandmasters to be synchronized in an Active/Standby model so network clients can be served by the Standby unit if the Active unit encounters a disruption. Another important and valuable feature of the TimeProvider 4100 series v2.4 is the additional model for redundancy, allowing two units to operate in Active/Active mode, providing flexibility depending on the customer's preference. Customers employing the Active/Active mode can benefit from the two grandmasters designed to operate at all times, as compared to the Active/Standby configuration where one device is not used while remaining in the standby mode.

The TimeProvider 4100 series v2.4 is integrated with the TimePictra[®] Synchronization Management System to provide users a complete view of their synchronization operation and health across their network.

Pricing and Availability

The TimeProvider 4100 v2.4 grandmaster is now available for purchase. For additional information and to purchase, contact a [Microchip sales representative](#) or an authorized distributor.

Performance levels may differ depending on usage, system configuration, and other influencing factors.

Resources

High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: www.flickr.com/photos/microchiptechnology/53662329147/sizes/l
- Video link: <https://youtu.be/md7fV6pgGI4>

About Microchip Technology:

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Source: Microchip Technology Inc.