



Microchip's TimeProvider® 4100 Release 2.2 Grandmaster Provides a New Level of Redundancy, Resiliency and Security

IEEE® 1588 precise timing grandmaster with gateway clock is the industry's first to offer software-based redundancy

CHANDLER, Ariz., March 17, 2021 – For today's critical infrastructure providers – 5G wireless networks, smart grids, data centers, cable and transportation services – a fundamental need exists for a redundant, resilient and secure precise timing and synchronization solution. Microchip Technology Inc. (**Nasdaq: MCHP**) today announced its [TimeProvider® 4100 Release 2.2 grandmaster](#), providing a new level of resiliency with the introduction of an innovative redundancy architecture in addition to support for a multiband Global Navigation Satellite System (GNSS) receiver and enhanced security to ensure always-on precise timing and synchronization.

Redundancy is key for infrastructure providers to ensure uninterrupted services. Infrastructure deployments previously relied on hardware redundancy to avoid service disruption despite costly modular architectures. Microchip's TimeProvider 4100 Release 2.2 grandmaster provides redundancy via software implementation, enabling flexible deployment and lower hardware costs without sacrificing ports.

In addition, the TimeProvider 4100 Release 2.2 grandmaster introduces an increased level of resiliency by supporting a new GNSS multi-band, multi-constellation receiver to protect against time delay resulting from space weather, solar events and other disruptions that may impact critical infrastructure services. Multiband GNSS is particularly important for the highest levels of accuracy including Primary Reference Time Clock Class B (PRTC-B) (40 ns) and Enhanced Primary Reference Time Clock (ePRTC) (30 ns).

With a focus on security solutions across its technology portfolio, Microchip's new TimeProvider 4100 Release 2.2 grandmaster adds support for RADIUS and TACACS+ as well as new anti-jamming and anti-spoofing capabilities.

"Resilient, redundant and secure precise timing and synchronization solutions are necessary to mitigate security risks to critical infrastructure," said Randy Brudzinski, vice president and general manager of Microchip's frequency and time business unit. "This latest release brings an innovative software redundancy that enables always-on technology as well as support for multiband GNSS to eliminate ionospheric time error delays. It provides new key security, anti-

jamming and anti-spoofing so critical infrastructure services can be accessed only by authorized, authenticated personnel.”

In addition, the TimeProvider 4100 Release 2.2 grandmaster provides a super Oven Controlled Crystal Oscillator (OCXO) option for enhanced holdover capabilities in case of GNSS disruption.

The TimeProvider 4100 Release 2.2 grandmaster is a family of products with hardware expansion modules for legacy fan-out or Ethernet fan-out with 10 Gigabit Ethernet support. It can be configured in specific operation modes to act either as a gateway clock, a high-performance boundary clock or an ePRTC.

The TimeProvider 4100 Release 2.2 grandmaster embeds additional Microchip technology including its OCXO, super OCXO, Rubidium atomic clock, Field Programmable Gate Arrays (FPGAs), Ethernet switch, synthesizers and cleaning oscillators.

The TimeProvider 4100 is part of Microchip’s [virtual Primary Reference Time Clock](#) (vPRTC) product portfolio, offering end-to-end precise time and synchronization solutions. These include Cesium atomic clocks for source of frequency and time, the BlueSky™ GNSS Firewall for security, TimeProvider 4100 high-performance boundary clock and TimeProvider 4100 Gateway clocks, as well as the TimePictra software suite, which manages the end-to-end precise time architecture across all Microchip timing products.

Service and Support

Microchip’s TimeProvider 4100 Release 2.2 grandmaster offers several options for software and hardware support including installation, sync audits, network engineering and 24/7 worldwide support.

Pricing and Availability

The TimeProvider 4100 Release 2.2 grandmaster is available now for both new and already-deployed systems. Contact a Microchip salesperson or channel partner for ordering details.

Resources

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

- Application image: <https://www.flickr.com/photos/microchiptechnology/50947606192/>
- Product image: <https://www.flickr.com/photos/microchiptechnology/50946812023/>

Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at www.microchip.com.

###

Note: The Microchip name and logo, the Microchip logo and TimeProvider are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. BlueSky is a trademark of Microchip Technology Inc. in the U.S.A. and other countries. All other trademarks mentioned herein are the property of their respective companies.

Editorial Contact:

Cathy Gedvilas
480-792-4386

Cathy.Gedvilas@microchip.com

Reader Inquiries:

1-888-624-7435