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New Resilient, Redundant Source of Secure Network Timing and Synchronization for Power Operators is Now Available

Microchip's GridTime™ 3000 GNSS Time Server meets rugged international environmental standards for power plants and substations

CHANDLER, Ariz., April 26, 2022 (GLOBE NEWSWIRE) -- Power plants and substations rely on high-speed communications networks to transmit critical data including operability metrics, network health, fault monitoring, power measurement and usage trends. To synchronize communications and ensure continuity across these networks, substations require secure, precise timing and synchronization to avoid false tripping and to provide accurate timestamping of substation data including system faults, power measurement data and substation status information. To assist power grid operators to meet these requirements, Microchip Technology Inc. **(Nasdaq: MCHP)** today announced its GridTime™ 3000 GNSS Time Server — a software-configurable solution providing substations with a new level of redundancy, security, and resiliency.

The GridTime 3000 system generates precise time and frequency signals to synchronize analog and digital communication systems. This resilient timing platform incorporates multiple timing inputs for protection in the event of a Global Navigation Satellite System (GNSS) signal disruption caused by severe weather, environmental disturbances or signal jamming or spoofing. Additionally, three levels of internal holdover options are available including a base Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO) and an optional high-performance Oven Controlled Crystal Oscillator (OCXO) or Rubidium oscillator option to extend holdover duration and enhance performance.

Microchip's newest precision time server is compliant with IEC 61850-3, the environmental component of IEC 61850, an industry standard that defines communication protocols for power substations. It is also compliant with IEEE 1613-2009, the international environmental and testing requirements standard for power substations. Compliance to these standards demonstrates high resistance to electrical transients and environmental extremes including temperature, humidity and other factors and helps to ensure reliability in harsh substation environments.

Incorporating a hardware-based cryptographic assurance module, the GridTime 3000 system utilizes industry-standard Rivest, Shamir and Adleman (RSA)- and Advanced Encryption Standard (AES)-based encryption to protect against unauthorized configuration upload of malicious code.

"Surges, adverse weather and cyberattacks targeting critical infrastructure all require resilient timing architectures and technology to mitigate the threats and ensure continuous

timing," said Randy Brudzinski, vice president, Microchip's frequency and time systems business unit. "This solution provides our customers a new level of performance, which translates to an enhancement of the reliability of communications network in their digital substations."

The GridTime 3000 server, with a licensed feature model, provides greater flexibility than earlier technology, allowing clients to upgrade system technology as needed. Developed with input from customers, the GridTime 3000 server offers ten 1000BASE-T Ethernet (1 Gbps) ports for high-speed synchronization using Precision Time Protocol (PTP) and Network Time Protocol (NTP).

This technology complements Microchip's other timing and synchronization solutions including the TimePictra® Synchronization Management System providing status and configuration support, BlueSky™ GNSS Firewall for protecting GNSS systems against threats from jamming and spoofing, and interoperability with the TimeProvider® 4100 timing server family.

The GridTime 3000 server utilizes numerous Microchip technologies including integrated circuits and oscillators to offer customers a comprehensive and reliable solution. In addition to precise GNSS-based systems and other industry-leading time and frequency solutions, Microchip's product portfolio includes in-house fabrication and total system solutions that span power, connectivity, storage, security and memory technology.

Development Tools
Microchip's GridTime 3000 GNSS Time Server includes an internal web browser management interface, Clock Management Tool (CMT). The CMT provides configuration and management for easy remote managing and monitoring of the device and a new array of accessories including a multi-band, multi-constellation GNSS receiver system and cold-swappable power supplies.

Availability
The GridTime 3000 GNSS Time Server is available immediately and is in volume production. For additional information or to purchase, contact a Microchip sales representative, authorized distributor or visit Microchip's **website**.

Resources

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

- Application image:
  - **https://www.flickr.com/photos/microchiptechnology/51925513285/sizes/l/**
- Product Image:
  - **https://www.flickr.com/photos/microchiptechnology/51924968888/sizes/l/**
  - **https://www.flickr.com/photos/microchiptechnology/51925212074/sizes/l/**

About Microchip Technology
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

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