



PX5 and Percepio Enhance Safety, Security, and Deep Visibility for Embedded IoT Applications

Manufacturers will benefit from deep insights into system behavior through new PX5 RTOS and Percepio Tracealyzer® integration, reducing time-to-market for MPU-based systems.

SAN DIEGO, CA—November 8, 2023—PX5, a global leader in high-performance real-time operating systems and middleware, today announced general availability of integration between PX5 RTOS and the Percepio Tracealyzer® system visualization tool. Combining the industrial-grade PX5 RTOS with Tracealyzer’s deep observability for critical-edge software gives embedded developers a competitive advantage in reducing time-to-market and improving software safety and security for resource-constrained devices.

“It’s nearly impossible for developers to correct a safety, security, or performance issue if they can’t see it, and this integration between PX5 RTOS and Percepio Tracealyzer helps them dive deep into the real-time behavior of their systems,” said William Lamie, CEO, PX5. “PX5 RTOS is purpose-built to deliver safety, security, and portability benefits to devices across all IoT sectors, and Tracealyzer adds even more robust capabilities to see exactly what takes place before a system crash and understand firmware better to enhance and optimize applications.”

“PX5 RTOS support for Tracealyzer is a definitive step forward for the embedded industry, as the combination of native POSIX pthreads+ support with deep observability and visualizations offers new ways for developers to develop, deploy, and run critical edge software with confidence,” says Johan Kraft, founder and CTO of Percepio. “This integration allows manufacturers and their development teams to accelerate the development of safe, secure, and reliable products through a deep understanding of what their applications are actually doing.”

Purpose-Built RTOS for Today’s Demanding IoT Devices

The industrial-grade PX5 RTOS is an advanced, fifth-generation RTOS designed for the most demanding embedded applications with best-of-class size, performance, safety, and security. The PX5 RTOS is built on a native implementation of the industry-standard POSIX pthreads+ API, including semaphore, mutex, and message queues, and offers real-time extensions such as event flags, fast queues, tick timers, and memory management. This industry-standard support instantly enables a wide range of software stacks—both open source and commercial—for real-time embedded IoT platforms, reducing time-to-market, improving device firmware quality, and enhancing portability across platforms. Such benefits help device makers to maximize their investments in firmware development.

System Visualization with Tracealyzer



The trace recorder in Tracealyzer is designed for easy porting to platforms such as PX5, providing developers with the efficient monitoring of deployed IoT systems and tracing of multi-core systems. Tracealyzer allows developers to capture long software traces, spanning hours or even days, for activities such as burn-in testing, profiling, and investigating sporadic and rare errors. The trace snapshot feature works with the Percepio DevAlert® cloud service to monitor deployed IoT devices to see issues in the field and support easier debugging.

Using the recently released Percepio Tracealyzer SDK, the PX5 team integrated the trace recorder library into the PX5 RTOS source code in just a few weeks.

About PX5:

PX5 creates the industry's most advanced runtime solutions for deeply embedded applications. With decades of domain expertise, including creating the ThreadX real-time operating system, PX5 is pushing the boundaries of how industry standards improve the safety, security, and portability of applications running on microprocessor-based systems. The industrial-grade PX5 RTOS is an advanced, fifth-generation RTOS designed for the most demanding embedded applications, featuring a native implementation of the POSIX pthreads API and best-of-class size and performance.

Headquartered in San Diego, CA, all PX5 products include complete source code and are free of run-time royalties. For more information, please visit www.px5rtos.com or e-mail info@px5rtos.com.

About Percepio:

Percepio® offers observability for critical edge software throughout the product lifecycle, enabling OEMs and operators to deploy intelligent systems sooner and with confidence, de-risking product launches and OTA updates. During application development, [Percepio Tracealyzer](#)® offers real-time observability by software tracing and advanced visualization, reducing time-to-market and improving software quality at launch. During testing and in deployed operation, [Percepio DevAlert](#)® provides secure observability for continuous improvement of product reliability, security and performance. The technology scales to large device fleets and works on any processor, from small IoT nodes to powerful multicore SoCs. Percepio collaborates with leading vendors of processors and operating systems within embedded systems and the IoT such as Infineon, NXP Semiconductors, STMicroelectronics, Renesas Electronics, Wind River Systems, and Amazon Web Services. For more information, visit percepio.com.

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