



Caption: Percepio® Tracealyzer® v4.7 brings big improvements, including automotive ECU profiling and improved application trace with broader applicability for any C/C++ device software.

High-res image available: <https://percepio.com/press/photos/tracealyzer47.png>

Percepio® Tracealyzer® version 4.7 is here

Percepio® adds improved observability for any C/C++ device software, new support for automotive profiling, and a lot more new features to better support developers.

Västerås, Sweden, March 9, 2023 * * * [Percepio AB](#), the leading provider of observability for critical edge and embedded software, has announced the immediate availability of Percepio Tracealyzer version 4.7. This is a big feature update adding a host of new capabilities and major improvements.

New feature highlights are:

- **Observability for any C/C++ software:** Percepio’s TraceRecorder library can now be used with any C/C++ software without requiring that a supported RTOS is used. This way, more firmware developers can benefit from the powerful observability of Percepio Tracealyzer to improve their software verification, profiling and debugging processes. This is made possible by a “bare metal” option that enables application-level trace without the need for RTOS kernel instrumentation. RTOS kernel trace is not provided by default, but users can log and visualize any event or data in their application, such as function calls, values of variables and registers, state machines as well as various types of software timing.
- **Automotive ECU profiling support:** New support for tracing of “runnables” makes Tracealyzer v4.7 very capable for automotive ECU profiling and debugging. A runnable is an automotive term for a software component in the runtime system; however, runnable tracing is not only for automotive systems but allows detailed profiling of any C/C++ code where timing and performance are important. This lets developers trace and visualize any code section in the Tracealyzer timeline views and get detailed profiling information including execution time statistics and plots.
- **Improved application tracing:** Tracealyzer now allows developers to set up explicit tracing of state machines and custom intervals directly in the TraceRecorder API, on the target side.

This makes such tracing more efficient and easier to use, since no additional setup is needed in the Tracealyzer application. Views like state graphs and interval plots are available directly when such traces are loaded in Tracealyzer.

- **Compact logging:** The new version of Tracealyzer makes logging more efficient as string literals like names and format strings don't need to be logged in full. Instead, only their memory addresses are logged, and these are resolved automatically by Tracealyzer by using the ELF file from the build process. This means fewer bytes per log message, faster logging calls, and thereby higher throughput in the logging.
- **UDP streaming:** Tracealyzer v4.7 adds support for streaming trace over the UDP protocol. Tracealyzer previously allowed for network-based streaming using TCP, but UDP is significantly faster meaning higher throughput, less memory usage and lower processor loads.
- **Improved support for Arm® Cortex®-A/R:** The TraceRecorder library has been extended with a new hardware port for Arm Cortex-R and -A devices using the Armv8 architecture in 32-bit mode. This allows for using Tracealyzer on popular cores such as Arm Cortex-R52.
- **Improved SafeRTOS support:** The integration for SafeRTOS has been upgraded to the new generation TraceRecorder (introduced in v4.6) and now benefits from all the latest and greatest Tracealyzer features. [Contact](#) Wittenstein high integrity systems to learn more about the Tracealyzer support for SafeRTOS.
- **Updates for Percepio® DevAlert®:** The integrated DevAlert client in Tracealyzer has been moved to a separate tool, DevAlert Dispatcher. This since DevAlert now supports any type of diagnostic data, not only Tracealyzer traces. The new DevAlert solution provides the same seamless cloud/desktop workflow. Just click on a DevAlert download link in your browser and DevAlert Dispatcher starts on your local machine. This downloads the data from your private storage and opens it in the appropriate desktop tool, for example Tracealyzer or GDB.

The improvements are not only relevant for Percepio Tracealyzer, but by extension also broaden the applicability of Percepio® DevAlert®, the company's novel solution for observability in deployed devices where Tracealyzer is an integrated component for remote debugging.

"We are thrilled about launching all these major enhancements, and especially the improved application tracing that no longer requires RTOS kernel integration. That has always been a bottleneck limiting what customers we could support out-of-the-box. Now we can offer a major part of the Tracealyzer capabilities to any C/C++ device software developer, regardless of what operating system they use, if any. Moreover, this "bare metal" integration option provides the foundation for our upcoming Tracealyzer SDK that will enable customers and partners to make custom integrations for any RTOS kernel", said Johan Kraft, CTO at Percepio.

Tracealyzer v4.7 is available for evaluation and download immediately at <https://percepio.com/>. Customers with an active subscription or maintenance plan may update to v4.7 free of charge.

About Percepio

Percepio offers observability for critical edge software throughout the product lifecycle, enabling OEMs and operators to deploy intelligent systems with confidence. 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 can be integrated on any edge processor, from small IoT nodes to powerful multicore SoCs. Percepio collaborates with leading vendors of processors and operating systems within embedded system and 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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