

## **NEW VERSION 5.0 OF THE AVIX RTOS SUPPORTS ASYNCHRONOUS PIPE SUPPORT INCREASING EFFICIENCY AND MODULARITY OF EVERY AVIX BASED APPLICATION**

AVIX-RT is proud to announce version 5.0 of its AVIX RTOS. Building on the unmatched capabilities of its predecessor this new version offers a fully overhauled Pipe mechanism for inter-thread data transfer. Besides synchronous Pipe operations, this important service now also supports asynchronous operations, a feature of which the modularity, testability and maintainability of every AVIX based application will benefit.

The AVIX RTOS offers support to construct thread based applications that expose temporal correct and deterministic behavior. The AVIX API is constructed such that an application build on top of it can be constructed in a highly modular fashion. AVIX based applications have a higher level of testability, maintainability and extendibility than can be reached with any competing product.

*To construct highly modular applications, AVIX offers two mechanisms:*

First, AVIX allows for a thread to wait for multiple events in a single function call. Often threads need to react to multiple possible events where most RTOSes only allow to wait for a single event at a time. While waiting for one event, the thread will not react to other events. With AVIX this problem does not occur since the powerful AVIX Event Flag mechanism allows for many different events and event types to be waited in a single function call. AVIX version 5.0 extends this mechanism to also support Pipes through the new asynchronous Pipe operations.

Second there are AVIX Exchange Objects. Based on the well known publish-subscribe design pattern, Exchange Objects allow threads to communicate without being tightly coupled. A producer thread just writes its data to an Exchange Object and is done. The producer thread does not need to know how many threads are interested in this data and want to receive it. Consumer threads in turn subscribe to Exchange Objects when they need its data and after doing so are notified when new data is produced.

Besides supporting asynchronous operations, the AVIX Pipe mechanism comes with increased performance which is especially important since Pipes are the preferred mechanism for data transfer between Interrupt Service Routines and threads. AVIX version 5.0 allows for even higher interrupt rates than was possible with earlier versions.

AVIX offers everything you may expect from a modern RTOS like Mutexes, Semaphores, Pipes, Timers, Message Queues, Event Flags, Exchange Objects and Memory support. All this functionality is accessible through a user friendly and largely type safe API allowing programming errors to be found compile time instead of runtime.

AVIX is available for all Microchip PIC24, dsPIC and PIC32MX microcontrollers and for virtually every ARM Cortex-M3 based microcontroller like ST-Micro's STM32 or NXP's LPC17 families. AVIX can be downloaded in a free Demo Distribution from the AVIX-RT website. AVIX is accompanied by a comprehensive user manual and utilities to monitor the status of the AVIX based application from within the applied development environment.

About AVIX-RT

Headquartered in 's-Hertogenbosch, The Netherlands, AVIX-RT develops and markets the most advanced RTOS for Microchip PIC24, dsPIC and PIC32MX and ARM Cortex-M3. For more information, AVIX-RT can be contacted by e-mail: [info\[at\]avix-rt.com](mailto:info@avix-rt.com) or phone: +31 615 285 177, ask for Leon van Snippenberg. Detailed information about AVIX-RT and its products AVIX for PIC24-dsPIC, AVIX for PIC32MX and AVIX for Cortex-M3 can be found on the AVIX-RT website ([www.avix-rt.com](http://www.avix-rt.com))

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