INtime®

NEW VERSION 7

- Windows 10 & 11 Secure boot now supported
- New Graphical TenAsys Platform Assessment Tool
- PC Platform support up to Intel 12th gen Core and Atom Elkhart Lake - AMD EPYC and V2000
- Enhanced Licensing client with new TenAsys License Portal functionality

RTOS

- Enhanced EFI boot loader
- NVMe and eMMC boot media support
- Robust UFS file system with long file name support
- New INshell command line and scripting interface
- Updated embedded Web configuration interface with web-based Platform Assessment Tool
- Updated TCP/IP Network stack with 2.5Gb, 10Gb & 40Gb NIC drivers
- mHPE – new High Performance Ethernet support for common clock source access
- Embedded hypervisor readiness – separately made available for the RTS Hypervisor

SDK

- Visual Studio 2022 with updated BOOST support
- C++ 20 / 22 support
- PTP IEEE 1588 v2.1 synchronization services
- Hypervisor readiness with shared memory and events support

SYSTEM REQUIREMENTS

Minimum requirements for a Windows PC-compatible host to run INtime SDK include:

- Any 32-bit or 64-bit version of:
  - Windows 10 / 11
  - Windows Server versions: 2019 / 2016
- Microsoft Visual Studio 2022 / 2019 / 2017 / 2015 / 2013 or 2012 (Community versions included)
- Any Intel or x86-compatible platform that runs Windows – including single-core, multi-core, and hyper-threaded/SMT cores (64-bit editions of Windows require at least two logical processors)

ORDERING INFORMATION

INtime Software Development Kit

INTIME7-DK-HWKEY
The INtime SDK (Software Development Kit) includes sample projects, C/C++ libraries and header files, TCP/IP and USB stacks, selected device drivers, associated development tools and one year of technical support with products updates and upgrades.

INTIME7-DK-NETSRV
INtime SDK Network starter package of six (6) INtime SDK seats. Includes network license server software.

INtime Runtime Licenses

INTIME-RT / INTIME-MCRT
INtime for Windows - single and multicore licenses

RTOS-RT / RTOS-MCRT
INtime Distributed RTOS - dual and multi-core licenses

INTIME-HW-KEY
USB hardware key option - in combination with INtime runtime licenses

tenAsys®

INtime®

REAL-TIME workloads ++ for industrial PCs ++

NEW VERSION 7

tenAsys®

TenAsys is headquartered in Hillsboro, Oregon U.S.A. with a global sales and support presence across the United States, Europe, and Asia.

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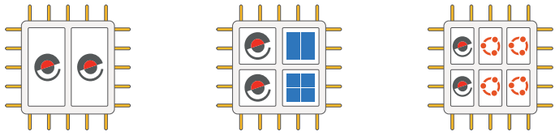
INtime Real-time operating system



Multicore RTOS app running on PC stand-alone

Same RTOS app with Windows side-by-side

Deterministic workloads consolidated with others on Real-time Hypervisor

INtime is a fully featured Real-time Operating System (RTOS), evolving from 40+ years of commercial deployments. Engineered to be a 32-bit, asymmetric multiprocessing (AMP) design for Intel Architecture (x86) CPUs, INtime is the most adaptable RTOS for mixed workload consolidation initiatives available on the market.

The INtime RTOS is used whenever application software must run with absolute determinism, in hard real-time. Real-time applications are considerd to be event driven, as timers and interrupts signal when and where threads are to run. Every processing thread runs based on its own priority, controlled by the software developer.

Combined with multicore CPUs, your application has unlimited capacity to grow as your needs require. Whether it is a stand alone real-time application, combined with Windows, or a time critical workload of a consolidated system with others in an embedded hypervisor environment, you can rely upon INtime to address your needs with reliabily and repeatedly.

The key to INtime's successful RTOS is beyond thread scheduling to include:

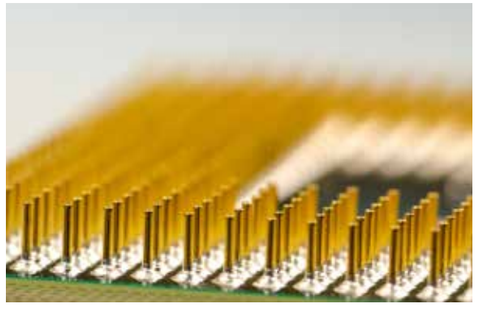
- Object management
- Fault management
- Direct I/O access
- Interprocess communications
- Memory and resource management
- Advanced networking capabilities

Being an object based operating system, INtime standardizes management of threads and data objects. Rigorous accounting of all objects are cataloged for easy programmatic access and control. INtime objects include:

- Processes, Mailboxes, Regions, Threads, Message Queues, Semaphores, Memory

Communications throughout INtime systems is accomplished through various objects which inturn are signals to cause thread switching and initiate dynamic processing control. These Global Objects extend beyond the individual INtime node to other nodes, other operating system workloads on the system and/or across nodes distributed across a network.

Comprehensive exception handling protects overall stability with organized management for programming errors, numerical exceptions, hardware faults and structured exception and C++ exception handling built in.



INtime Distributed Systems Manager (DSM) is the key RTOS service that pulls together system health, registered dependencies and serves to clean up the environment when applications terminate or fail. The overall sponsor / dependent relationship ensures system health by allowing developers to harden mission critical application services which must remain active to be monitored and restarted programmatically. This unique service prevents unnecessary cold system restarts as well as serving a vital role in monitoring overall system status.

INtime AMP Most advanced real-time applications rely upon process core affinity to isolate particularly time sensitive processes. This requirement is the basis for the INtime AMP architecture, giving the developer explicit core control without cross talk effects of a global SMP scheduler.

64-bit memory address management INtime 32-bit applications have access to all physical system memory using Physical Address Extension (PAE). Each INtime process has access to merely 4GB of memory and can map physical memory from anywhere within the system.

... THE RIGHT TOOLS

Comprehensive INtime® Software development Kit using Visual Studio

The INtime SDK is a software development toolkit for the complete development cycle, from code entry to debugging, optimization, and runtime analysis of an INtime Software solution, whether for INtime for Windows or INtime Distributed RTOS or both. The INtime SDK runs on any Windows* PC platform to debug applications on target systems, either on the same host for INtime for Windows or on a remote host, via LAN, for INtime Distributed RTOS.

The INtime SDK provides everything needed to monitor and analyze the application. INtime RTOS Family applications are portable across all deployment models with binary compatibility so applications can be distributed to any number of nodes. Build, analyze, and deploy scalable software solutions to meet demanding, hard real-time application requirements.

HIGHLIGHTS

RTOS

- Deterministic, event-driven processing for x86 architecture
- Designed for scalable and long-term compatible PCs
- Multiple deployment models
- Kernel services in an object based RTOS
- GOBS/GOBSnet - deterministic Inter Process Communication
- I/O interface partitioning
- Fully featured TCP/IP stack
- High Performance Ethernet driver for low-level access

SDK

- Single development environment for all INtime application deployments
- Integrated within Microsoft* Visual Studio*
- C or C++ with Standard Template Library & Boost
- Quick start code wizards and sample projects
- SIMD support for Intel* IPP and Intel* MKL libraries