

INtime® for Windows*

Real-time application consolidation on Windows PCs

As Windows* is the standard for implementing human machine interfaces and enterprise connectivity there is vital demand for real-time application solutions complementing it. INtime for Windows was conceived as an RTOS on Windows PCs and has been implemented from the ground up to run real-time applications side-by-side with any current native 32- or 64-bit Windows version.



Hardware consolidation reduces costs and improves efficiency

INtime for Windows integrates real-time applications with the general purpose capabilities of Windows on a single, powerful multi-core PC host. This combination of both deterministic and general purpose applications enables the migration of existing applications onto a single PC resulting in a simpler, cost effective solution.

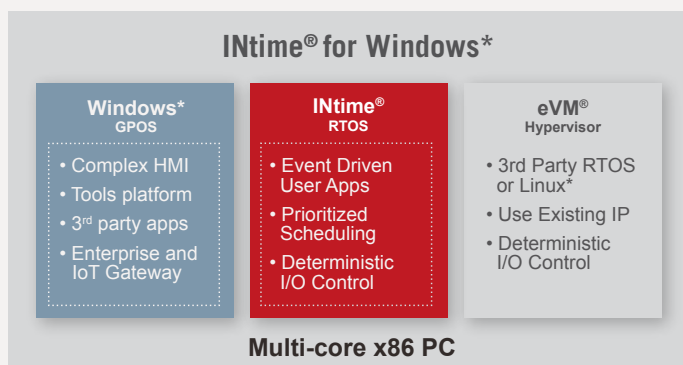
INtime for Windows explicitly partitions multi-core PC hardware into distinct processing nodes, dedicating execution

cores, RAM, and I/O resources to each node. Windows keeps running applications using symmetric multiprocessing (SMP), independent from INtime RTOS nodes. INtime uses an asymmetric multiprocessing (AMP) approach, which allows RTOS applications to run independently from one another. INtime for Windows enables solutions to be scaled to different core counts and topologies, without the need to rewrite applications.

Multi-kernel solution for flexible, scalable multi-core deployments

INtime application binaries run natively on either INtime for Windows or INtime® Distributed RTOS for flexible deployments on today's powerful multi-core PC hosts. Partitioning applications onto their own execution nodes ensures protection at the

application level. This innovative RTOS design allows developers to scale out solutions across multiple nodes, multiple hosts, or both, optimizing system hardware costs for the total solution.



- GPOS and RTOS consolidated onto one PC to save cost
- Complete Object-based RTOS solution
- Explicit HW Partitioning for enhanced Application Protection
- Deterministic – Hard Real-time capable
- Flexible Deployments due to Multi-process Architecture
- Reduced Complexity – less physical connections
- GOBSnet IPC – Cross-node and Cross-PC communication
- Binary Compatibility with INtime® Distributed RTOS

Comprehensive inter-process communication

Processes easily interact from separate environments with global objects across GOBSnet Inter Process Communication (IPC), the global objects network that enables INtime® RTOS processes and Windows processes to interoperate across nodes and hosts in a deterministic way, without

requiring any code changes. Deterministic applications run as part of a networked system, accessing services and resources across the entire solution. All processes execute in protected user mode (Ring 3) out of up to 4 GB of memory, ensuring memory protection between processes.

System requirements

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

- Any 32- or 64-bit version of:
 - Windows 10
 - Windows 8.1
 - Windows 8
 - Windows 7
 - Windows Vista (SP1 or later)
 - Windows XP (SP3 or later)
 - Windows Server versions: 2012 R2, 2012, 2008 R2, 2008, or 2003 R2 (SP2 or later)
 - Windows Embedded versions of the above Windows releases
- Any Intel*– or PC-compatible platform that runs Windows – including single-core, multi-core, and hyper-threaded cores (Windows 8 and later as well as all 64-bit editions of Windows require two logical processors or hardware threads) [Hard real-time performance will be adversely affected by the use of hyper-threads]
- For INtime Software networking: Intel* I210/I2xx, Intel* PRO*/1000, Intel* PRO*/100, Realtek* RTL 8xxx-100/1000, Broadcom* BCM 5xxx-100/1000 Ethernet*
- At least 16 MB of RAM available for dedicated INtime Software plus RAM for real-time application

Development system requirements

- INtime® Software Development Kit (SDK)

Ordering information

INtime for Windows is licensed software. Multiple instances of the INtime Software Operating System can be installed on hardware with more than two logical processors. Licenses can be purchased for single-instance deployment or multiple instances per PC system as described below.

INTIME-RT	INtime for Windows run-time incorporation fee for redistribution of base operating system and derivative works. This license is used for one INtime Software kernel instance per PC system. Does not include a license for Microsoft Windows.
INTIME-MCRT	INtime for Windows multi-core run-time incorporation fee for redistribution of base operating system and derivative works. This license is used for two or more INtime Software kernel instances per PC system. Does not include a license for Microsoft Windows.