

# cifX / comX

Real-Time-Extension Support

- **Standard application interface**
- **Standard code base (C toolkit)**
- **Not dependent of the Fieldbus system**
- **Number of supported devices limited only by the real-time extension**



**INtime**<sup>®</sup>  
Real-time for Windows

**IntervalZero**

Today's PC hardware becomes more and more powerful and cheaper. Meanwhile, the hardware platform has enough processing power to run traditional desktop PC operating systems and at the same time to realize the functions of a software-based Logic Controller (SoftPLC) in automation technology.

A prerequisite for such a SoftPLC is a real-time software environment. Since most of the traditional operating systems does not offer real-time capabilities, several manufacturers have specialized in developing so-called real-time extensions for the most popular operating system.

These real-time extensions are mostly separated and self-contained systems, processing the host operating system as an own task. To integrate hardware components in such a system, special custom device drivers are usually required.

Hilscher offers such specific device drivers for their CIFX, COMX, netPLC and netJACK 100 components.

Like on standard operating systems, the drivers for real-time extensions are also completely managing the communication modules, including firmware and configuration file loading.

In addition, they using the same code base (C toolkit) and providing the same user interface (CIFX API). As far as possible available bus interfaces (ISA, PCI/PCIe and dual-port memory couplings) are supported by the drivers.

**hilscher**  
COMPETENCE IN  
COMMUNICATION

# Technical Data / Product Overview

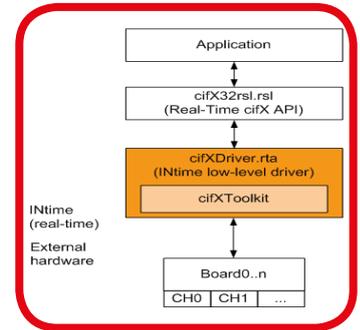
- One driver for all fieldbus systems
- Based on the CIFX toolkit
- Driver configured using the windows registry



INtime is a product offered by TenAsys. It is a real-time kernel expanding a standard Windows PC system by adding hard real-time features according to industrial requirements.

The INtime driver offers access to netX-based hardware (e.g. CIFX 50) with the same functionality as Windows and runs in a separate address space.

The INtime driver provides a special version of the Windows CIFX application DLL that allows Windows applications to access the hardware via the INtime driver.



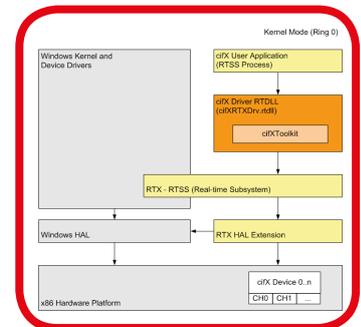
- One driver for all Fieldbus systems
- Based on the CIFX toolkit
- Driver configured using Windows Registry export file or direct registry access

## IntervalZero

IntervalZero's RTX<sup>®</sup> is a real-time extension for the Microsoft Windows operating systems: Windows 2000, Windows XP, Windows 2003 Server and Windows Vista.

The CIFX driver for RTX allows access to Hilscher netX based components (CIFX/COMX/netPLC/netJACK 100) with the same functionalities as those used by the CIFX Windows driver. It consists of a dynamic link library (RTDLL) that contains the CIFX toolkit.

User programs accessing the driver functions by using LoadLibrary() and GetProcAddress() requests.



Product details	NXDRV INtime	NXDRV RTX
<b>Associated products</b>	CIFX / COMX / netPLC / netJACK 100	CIFX / COMX / netPLC / netJACK 100
<b>Operating systems</b>	Windows 2000, Windows XP, Windows Vista or Windows 7 (32/64 Bit)	Windows 2000, Windows XP, Windows 2003 Server, Windows Vista or Windows 7 (32 Bit/64 Bit)
<b>Driver type</b>	INtime Version 3.1 / 4.x	RTX 8.1 , RTX2009 , RTX 2011 or RTX 2012
<b>User interface</b>	API-DLL Opening and closing the driver Initializing the PC cards Accessing process data map Reading and writing commands Writing parameters Reading status information Watchdog function	API-DLL Opening and closing the driver Initializing the PC cards Accessing process data map Reading and writing commands Writing parameters Reading status information Watchdog function
<b>Operating mode</b>	Polling / Interrupt	Polling / Interrupt
<b>Hardware support</b>	PCI / PCIe	ISA, PCI / PCIe
<b># of cards/system</b>	Variable	Variable
<b>Other characteristics</b>	Accessing hardware from Windows (non-real-time)	Hardware access restricted to a single RTX <sup>®</sup> process No simultaneous access from real-time and non-real-time environment Support for development boards (NXSB-PCA /NX-PCA-PCI)

*Note: All technical data may be changed without further notice.*

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