

Intewell-H

Industrial Internet Edge Operating System



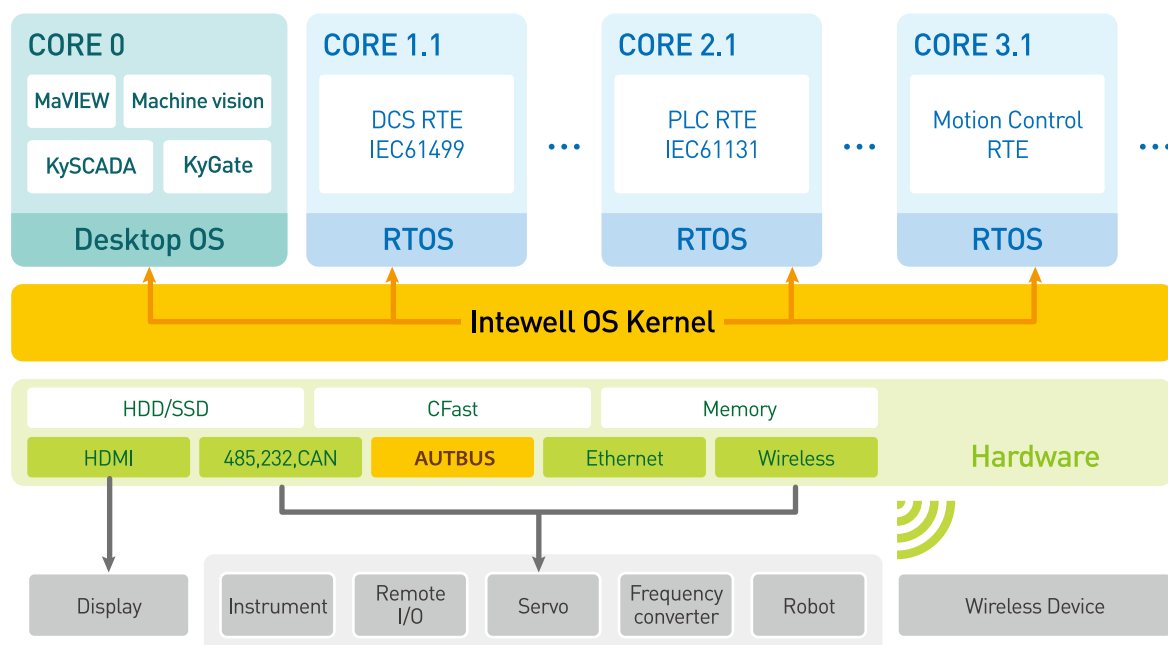
- Provides strong real-time performance in virtualized environment, with interruption response of virtual machine within microseconds, switchover time of the virtual machine within 5us and 50us timer period of virtual machine.
- Open ecosystem and well compatible with Windows/Linux applications.
- Provides pre-installed Kyland industrial control programming platform MaVIEW, human-machine monitoring platform KySCADA and KyGate protocol gateway application.
- Supports simultaneous operation of multiple mainstream desktop systems (non-real time) and multiple real-time operating systems.
- Supports high-speed data exchange between different operating systems through the internal virtual data bus.
- Integrates multiple protocol drivers such as Modbus, CANopen, EtherCAT, etc.

» Overview of Product

As a virtualized operating system independently developed by Kyland and utilizing virtualization technology to fulfill resource pooling of single physical device processing capabilities, the Intewell-H Industrial Internet Operating System enables a single physical device to be highly flexible according to application needs with real-time performance guarantee, rich ecosystem support and reliable security mechanisms.

The Intewell-H Industrial Internet Operating System that is pre-installed in Kyland Industrial Server is characterized with high real-time virtualization, enabling single device of industrial server to perform different tasks such as data collection, industrial control, edge computing, machine vision and gateway connectivity.

» System Structure



» Product Specification

Virtualization

- Supports isolated and simultaneous operation of multiple non-real-time systems and multiple real-time operating systems without interference.
- Supports up to 20 real-time operating systems and 3 non-real-time desktop systems.
- Provides real-time operating system with exclusive mechanism for CPU physical core and peripheral IO device.
- Non-real-time systems supports mainstream Windows/Linux desktop systems and are well compatible with Windows/Linux applications.
- Supporting high-speed data exchange between different operating systems through the internal virtual data bus.
- Supports X86 processor hardware with hardware virtualization feature.
- Supports peripheral virtualization and direct pass-through of GPU and NICs.

Realtime

- Interruption response of virtual machine within microseconds, switchover time of the virtual machine within 5us and 50us timer period of realtime virtual machine.

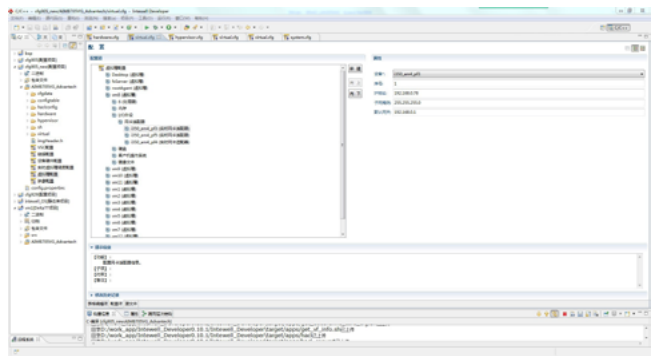
Software

- Pre-install Kyland industrial control programming platform MaVIEW, human-machine monitoring platform KySCADA and protocol gateway application KyGate.
- Integrates multiple protocol drivers such as Modbus, CANopen, EtherCAT, etc.

- Provides device operation management, supports real-time monitoring of industrial server physical status and virtual machine status, including computing resources, storage resources, network resources, running time and status changes and causes of change of virtual machines.

Development tools

- Provides Intewell Developer as development tools and enable users to develop real-time applications based on C/C++.
- Supports lifecycle management of virtual machines, including creation, configuration, deployment, destruction, power-on/down, hibernation, suspend, resume and rebuild.



» Hardware Configuration Requirements

Configuration Item	Configuration Requirements
Processor	X86 platforms that support hardware virtualization, such as Intel ATOM E3950, CORE i3/i5/i7
RAM	≥ 8GB
Hard disk	≥ 250GB

» Ordering Information

Product Model	Description
Intewell-H	Industrial Internet Edge Operating System, pre-installed industrial servers