

# WIND RIVER INTELLIGENT DEVICE PLATFORM XT

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By 2020, more than 200 billion devices will be connected to the cloud and each other in what is known as the Internet of Things (IoT). The advantages of intelligent, connected devices are clear. Gaining greater insight into and control of machines offers nearly unlimited ways for businesses and society to benefit. The idea behind IoT is not new—intelligent devices and systems have been used in the manufacturing, automotive, aerospace, healthcare, transportation, and other industries for decades. The challenge for IoT is that many of these devices have not been connected to the Internet, and have been cloistered in specialized systems with unique communications protocols. The next step in the IoT process is to manage these diverse devices and translate all kinds of data for travel across networks and into analytical cloud systems, where businesses and other organizations can gain insights for operational efficiencies and transformative improvements.

Wind River® Intelligent Device Platform XT is a customizable middleware development environment that provides security, connectivity, rich networking options, and device management. It simplifies the development, integration, and deployment of gateways for the Internet of Things.

Intelligent Device Platform XT is part of Intel® IoT Gateway, a family of platforms that enables companies to seamlessly interconnect industrial devices and other systems into a system of systems. Intel IoT Gateway enables customers to securely aggregate, share, and filter data for analysis. It helps ensure that federated data generated by devices and systems can travel securely and safely from the edge to the cloud and back—without replacing existing infrastructure.

Intel IoT Gateway offers companies a key building block to enable the connectivity of legacy industrial devices and other systems to IoT. It integrates technologies and protocols for networking, embedded control, enterprise-grade security, and easy manageability on which application-specific software can run.

Intel IoT Gateway provides:

- Connectivity up to the cloud and enterprises
- Connectivity down to sensors and existing controllers embedded in the system
- Preprocess filtering of selected data for delivery
- Local decision making, enabling easy connectivity to legacy systems
- A hardware root of trust, data encryption, attestation, and software lockdown for security
- Local computing for in-device analytics

## KEY FEATURES

Wind River Intelligent Device Platform XT offers:

- **Gateway security:** Delivers built-in security features designed to secure the communication channel, the data, and the end device
- **Application enablement:** Provides Lua, Java, and OSGi application environments to enable portable, scalable, and reusable application development on both resource-constrained and full-featured devices
- **Device connectivity:** Embraces IoT protocol MQTT for data transportation and native support for Wi-Fi, Bluetooth, ZigBee, and short-range wireless protocols widely used in IoT devices
- **Remote device management:** Supports well-established management protocols such as TR-069 and OMA DM

## BENEFITS

Connectivity, manageability, and security are core IoT building blocks, essential for reducing device manufacturers' time-to-market, complexity, and risk. Wind River Intelligent Device Platform XT natively delivers on all three:

- Connectivity
  - Pre-integrated smart and connected capabilities enable rich network options to save development time and costs.
  - Validated and flexible firmware provides an extensive network of connectivity choices, including broad modem support and PAN, LAN, and WAN network access.
- Manageability
  - Platform customization significantly reduces development time while increasing the product's life span and uptime.
  - Long-term secure remote manageability simplifies deployment, maintenance, and management of remote devices.
- Security
  - Features, from a hardware root of trust to boot and software loading, are designed for IoT software development to protect critical data throughout the device lifecycle. With support for secure image, secure data, and secure management, the device and data are protected from boot to operations and management.
  - Customizable secure remote management ensures end device integrity via secure boot; provides encrypted communication between device and cloud-based management console; and limits exposure of untrusted applications through device resource management.
- Run-time environments
  - Cross-platform application development support for Lua, Java, and OSGi enables fast development of portable, scalable, and reusable gateway applications.

Intelligent Device Platform XT provides the foundation for fast development of intelligent system solutions on industry standards, using a proven software stack with application

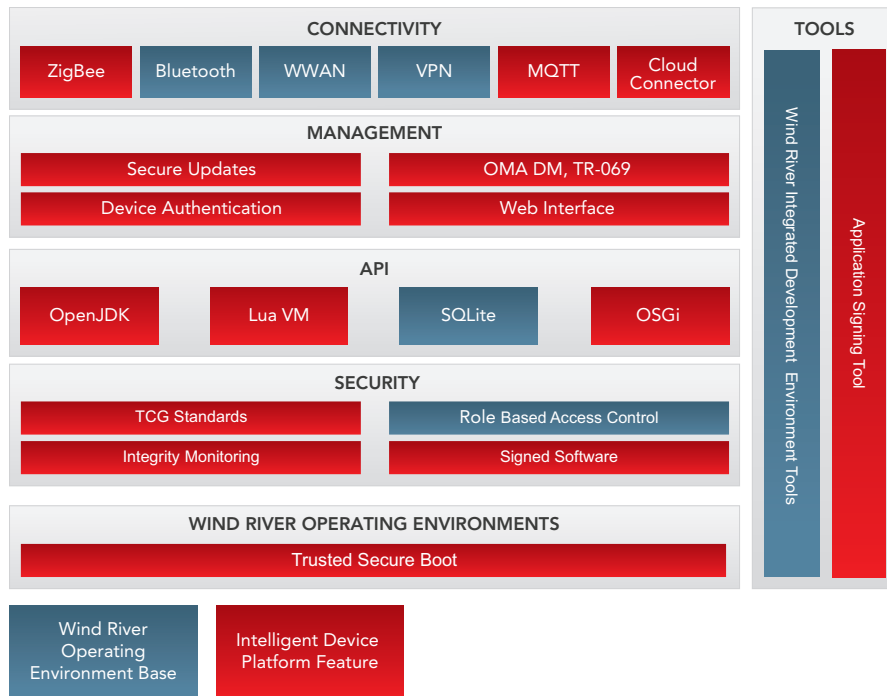


Figure 1: Wind River Intelligent Device Platform XT components

portability for leading programming environments such as Lua and Java to enable customers to quickly build gateway applications, connect, and send and receive data from the cloud.

Building safe and secure systems is the hallmark of Wind River. For the past 30 years we've been ensuring that safety-critical systems, from industrial plants and electrical substations to jet airliners and commuter trains, absolutely work without fail. We're now harnessing our decades of field experience to deploy advanced technologies such as software agents and microkernels to more fully integrate our ultra-reliable operating systems into IoT. We call this Wind River Helix™. Helix is our comprehensive portfolio of software solutions for addressing the system-level challenges and opportunities of IoT. Intelligent Device Platform XT plays an integral role in the Helix portfolio.

Designed to securely connect edge devices to the cloud, Intelligent Device Platform XT and Intel IoT Gateway are ideal for a vast array of applications, including building environment, manufacturing floor, governmental infrastructure services, and much more. By capturing and analyzing data from new sources, it gives management, service businesses, product manufacturers, and their ecosystems new opportunities for accelerating business innovation, a new understanding of the behavior and uses of their existing products, and a foundation for designing new products for the marketplace.

## USE CASES

### Predictive Maintenance

## WIND RIVER PROFESSIONAL SERVICES

A CMMI Level 3–certified organization, Wind River Professional Services offers consultative thought leadership, deep technical capabilities, and innovative intelligent system solutions to help you overcome your most strategic and pressing development challenges. Our offerings span the entire project lifecycle, including consulting, architecture, design, development, porting, integration, and maintenance services; and we leverage our state-of-the-art platform simulation and test tools to accelerate deliverables and provide valuable reporting and documentation. Our global organization provides flexible engagement options for consulting, training, and support that will meet your project resourcing requirements and budget.

For more information, visit [www.windriver.com/services/](http://www.windriver.com/services/).

## WIND RIVER EDUCATION SERVICES

Wind River provides education services that speed the time-to-productivity of your project team. We offer deeply technical, hands-on training led by experienced engineers, mentoring to accelerate technology integration, and on-demand learning. Our services are flexible to meet the learning needs of your team and the constraints of your budget.

For more information, visit [www.windriver.com/education/](http://www.windriver.com/education/).

In addition to performing automated tasks as directed, connected intelligent devices feed performance data into central control systems, making predictive maintenance possible. Sensors report on the condition of equipment in the field through gateways and alert operators when a problem needs to be addressed, eliminating the time and labor costs associated with scheduled inspections and preventive maintenance.

### Resilient Distributed Systems

To ensure uninterrupted operation, a distributed connected system needs to be resilient: Operators need to be alerted as soon as a problem occurs, remote diagnostics should be enabled from the cloud, and corrective action should be possible—from simply rebooting or restarting elements to uploading new software and hot-patching.

### Market Applications

#### Transportation

Bring new data and analytic insights to ensure safe, efficient, and predictable transportation systems.

- Improve vehicle connectivity.
- Create more reliable equipment and systems.
- Enhance safety and help operators meet stringent certification requirements.

#### Building Automation

Bring new control, visibility, and efficiencies for reducing power consumption, ensuring safety, and providing services to new and existing buildings.

- Monitor utility usage.
- Remotely manage environmental controls, including lighting and heating.
- Centrally manage security networks.
- Connect to smart power meters and machines.

#### Industrial Automation

Wind River helps industrial manufacturers bring intelligence to their operations. Gain insights from your machine data with smarter device management.

#### Smart Energy

Build more intelligent energy infrastructure by combining traditional and emerging power sources for the delivery of cleaner, safer, and more economical energy. Perform power-management tasks with finer precision and faster response times.

## HOW TO PURCHASE

Visit [www.windriver.com/company/contact](http://www.windriver.com/company/contact) to find your local Wind River sales contact. To have a representative contact you, call 800-545-9463 or write to [inquiries@windriver.com](mailto:inquiries@windriver.com).

