# Inspur Edge Computing Products

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浪潮边缘计算
Inspur-ECBU

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EDGE COMPUTING
AN IRRESISTIBLE TREND

# EDGE COMPUTING, AN IRRESISTIBLE TREND

■ In the era of the digital economy, 5G and artificial intelligence technologies continue to evolve. The market for the Internet of Things (IoT) is rapidly developing. As more and more devices are interconnected, the data generated by them grows exponentially. Complementing the high-speed and low-latency features of 5G, edge computing technology has become a promising opportunity in the trend of the smart IoT. According to International Data Corporation (IDC), the percentage of worldwide enterprise infrastructure deployments at the edge will rise from 10% in 2020 to 50% in 2023. Edge computing will continue to increase in size, becoming a comparable emergent market to cloud computing.

■ Edge computing is an open platform that integrates the core functions of networks, computing, storage, and applications at the network's edge, near the source of equipment or data. It delivers nearby edge intelligent services that may not only realize localized traffic processing but also lessen traffic effect on remote data centers. It can provide a low-latency and highly stable operating environment for applications, allowing the computing framework to be extended between endpoints and the data center and assisting in achieving the optimum balance between scenario needs, computing power distribution, and deployment costs.

■ As the world's leading computing power infrastructure provider, Inspur began exploring the opportunities of the edge computing market several years ago. The technical experience Inspur has gained for more than 30 years in the research and development of IT data center infrastructures is now being applied to the edge market, supporting the development of edge computing infrastructures. Furthermore, committed to the construction of the edge ecology with an open and inclusive mindset, Inspur is focusing on seven application areas such as ICT integration, new-generation CDNs, intelligent connected vehicles, industrial Internet, industry + AI, urban governance, and intelligent Internet of Things to develop scenario-based full-stack solutions in collaboration with upstream and downstream partners.

# Inspur® Edge Computing Portfolio

## 1 Edge micro data centers

01 SRDC

SRDC

## 2 Edge servers

02 NE5260M5
03 NE3160M5
04 NE3120M5

NE5260M5

NE3160M5

NE3120M5

## 3 Portable AI servers

05 NE3412M5

NE3412M5

## 4 Edge micro-servers

06 EIS200
07 EIS800

EIS200

EIS800



## 1 Edge micro data centers

# SRDC600

## Micro Data Center Deployed in an Indoor Edge Environment

▶ **Integrating extreme computing power at the edge, SRDC is versatile, delivered as a complete server, convenient, and reliable. It has been widely used in enterprise 5G networks, edge data centers, edge AI computing nodes, and other scenarios.**

## Benefits

### Compact body

To meet the need of flexible deployment in edge business scenarios, the cabinet depth is ≤ 600 mm, and the cabinet height is ≤ 24U. Equipped with handles and rollers, the cabinet can be moved easily between different physical spaces and can be transported as a whole.

### Flexible module configuration

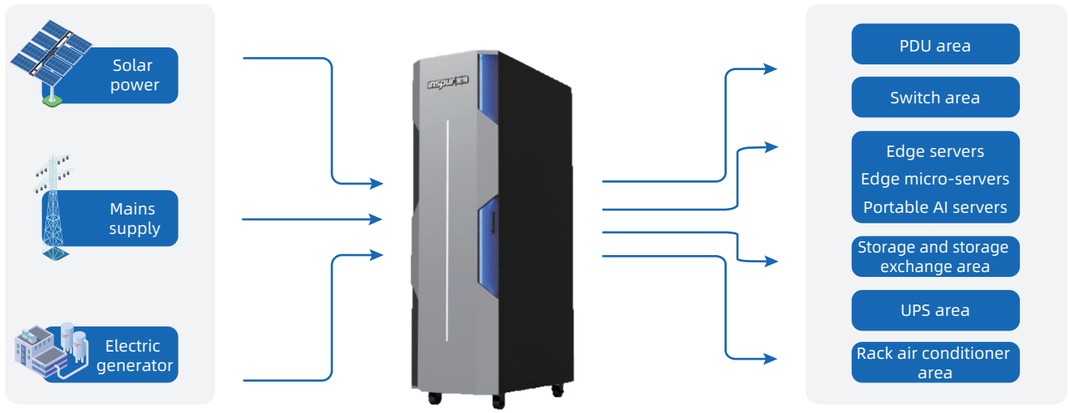
In response to different performance requirements, the all-in-one edge server supports flexible module configuration, including 1U/2U edge servers, AI BOX, 1000 Mb/10 Gb switches, communication equipment, rack air conditioners, and power distribution modules.

### High reliability

Optimized material structure, outstanding high-strength, anti-seismic and anti-damage performance to ensure the safety and reliability of business and data.

### Remote O&M

The devices inside the all-in-one edge server support remote management, operation and maintenance. The cabinet itself is equipped with a dynamic loop monitoring system, which monitors the cabinet's physical information in real time and provides early fault alarms as well as operation and maintenance alerts.



# NE5260M5

## Inspur Server

**NE5260M5 is Inspur's first 2U2S server designed for edge computing scenarios. Featuring the latest Intel® Xeon® Scalable Processors, NE5260M5 delivers high performance, flexible scalability, and exceptional environmental adaptability for the extreme challenges of edge computing.**

## Benefits

### High performance

Each CPU supports 6 channels and 8 DDR4 DIMMs up to 2933 MHz. Supports Optane™ Persistent Memory, achieving greater agility, safety and reliability. Support up to 6 + 2 NVMe SSDs, with low latency and large storage capacity. Adopts the new NUMA Balance architecture, providing more balanced and efficient processing performance.

### Scalability

NE5260M5 supports 6 PCIe 3.0 slots, up to 2 × PCIe x16 + 4 × PCIe x8 or 4 × PCIe x16. It supports up to 2 dual-width PCIe x16 GPUs with a TDP of 300 W, or up to 4 full-height half-length PCIe x16 GPUs with a TDP of 75 W.

### Exceptional environmental adaptation

It supports rack and wall mounting, reducing the deployment environment requirements. The server depth is only 430 mm (16.93 in), nearly 1/3 shorter than that of general-purpose servers. Operating temperature: 0ºC to 45ºC (32ºF to 113ºF) (continuous), -5ºC to 50ºC (23ºF to 122ºF) (short-term); humidity: 5% - 90% Features Class A electromagnetic compatibility, dust-proof, corrosion-resistant, seismic design, meeting telecommunications standards.

### AI edge deployment

Based on 2nd Generation Intel® Xeon® Scalable Processors, NE5260M5 supports the new instruction set extension AVX512_VNNI, and provides professional accelerated deep computing and AI capabilities. It supports up to 2 dual-width or 4 single-width AI acceleration expansion cards, supports NVIDIA A100/T4 and other GPUs and FPGA cards with similar capabilities, and supports mixed use to respond to various AI application requirements.

### Easy O&M

The modular design and front-end operation and maintenance improve flexibility and efficiency. Front IO design and isolated cold and hot air ducts improve cooling efficiency.

## Product Specifications

| Model | NE5260M5 |
|---|---|
| Processor | 2 × Intel® Xeon® Scalable Processors with a variety of TDPs up to 205 W |
| Memory | Up to 16 × DDR4 2400/2666/2933 MT/s memory modules<br>Supports RDIMM/LRDIMM/Optane™ PMem<br>Up to 128 GB (Skylake)/256 GB (Cascade Lake)<br>for each RDIMM/LRDIMM<br>Up to 512 GB (Cascade Lake) for each DCPMM |
| Storage | **Front:** Up to 6 × 2.5" HDDs/SSDs<br>**Internal:** Up to 2 × M.2 SSDs |
| I/O Expansion Slots | Up to 6 extendable standard PCIe 3.0 slots. Different PCIe Riser cards can be selected to provide different combinations of PCIe x8 and PCIe x16 slots.<br>Up to 2 × dual-width GPU or 4 × single-width GPU |
| PSUs | Supports two 550 W/800 W/1300 W/1600 W/2000 W Platinum/Titanium PSUs with 1+1 redundancy. |
| Operating Temperature | -5°C to 50°C (23°F - 122°F) (For details, please refer to the white paper) |
| Dimensions | 448 mm × 87 mm × 430 mm (17.64 in × 3.43 in × 16.93 in) (W × H × D) |





# NE3160M5

## A Lightweight Edge Server

**Designed based on the Open Telecom IT Infrastructure (OTII), the Inspur NE3160M5 is a low-power and high-concurrency edge server and has been widely used in edge computing scenarios such as ICT convergence, lightweight edge control, and video analytics.**

## Benefits

### Powerful AI computing

Provides powerful edge AI computing capabilities and supports two inference cards of standard specifications

### Environmental adaptation

Operating temperature: -5ºC to 55ºC (23ºF - 131ºF); humidity: 5% - 95%, telecom-grade anti-seismic, moisture-proof and dust-proof, Class B electromagnetic compatibility

### Enhanced network functions

Various onboard network interfaces; supports IEEE 1588, GPS/BDS and cascaded clock synchronization, adapts to 5G communication scenarios; and supports a variety of smart network cards to meet different network configuration requirements

### Network modes

Supports multiple network modes such as WLAN, Wi-Fi, 4G, 5G, adapts to various application scenarios and edge AI applications

## Product Specifications

| Model | NE3160M5 |
|---|---|
| Processor | 1 × Xeon® D-2100 processor (4 - 16 cores, 45 W - 110 W TDP) |
| Memory | 4 × 16/32/64 GB DDR4 memory modules |
| Storage | 4 × 2.5" HDDs/SSDs<br>1 × M.2 SSD |
| I/O Expansion Slots | Onboard 4 × 10 Gb optical ports, 2 × 1 Gb electrical ports, 2 × USB ports, 1 × VGA port, 2 × clock ports,<br>1 × management network interface<br>2 × PCIe x16 FHFL expansion slots |
| PSUs | 550 W/800 W 1+1 redundant PSUs |
| Operating Temperature | -5°C to 55°C (23°F - 131°F) |
| Dimensions | 448 mm × 43.4 mm × 420 mm (17.64 in × 1.71 in × 16.54 in) (W × H × D) |

2 Edge servers

# NE3120M5

## A Lightweight Edge Server

▶ **Inspur NE3120M5 server is a cost-effective option for small smart applications and industrial Internet scenarios.**

## Benefits

**Graphics processing optimization**

Built-in integrated GPU provides powerful graphics processing performance without having to purchase additional options

**Lightweight deployment**

Chassis depth: 420 mm (16.54 in), supports wall-mounting, adapts to various application environments

**Cloud-edge collaboration**

The platform management software independently developed by Inspur enables remote monitoring and management of large-scale deployments, effectively reducing the pressure of users on operation, maintenance and management and ensuring information security

**Flexible scalability**

The combination of dual front HDDs and a built-in M.2 SSD can efficiently expand capacity with lightweight dual PCIe expansion, flexibly coping with computing power and network requirements

## Product Specifications

| Model | NE3120M5 |
|---|---|
| Processor | 1 × latest-generation Intel® Xeon® Scalable E processor (up to 95 W) |
| Memory | 4 × 16/32 GB DDR4 memory modules |
| Storage | 2 × 2.5" SAS 3.0/SATA<br>1 × M.2 |
| I/O Expansion Slots | Onboard 2 × 1 Gb electrical ports, 4 × USB 3.0 ports, 2 × DP ports, 1 × VGA port, 1 × serial port, 1 × management network interface<br>2 × PCIe x8 HHHL slots |
| PSUs | 550 W 1+1 redundant PSUs |
| Operating Temperature | 5°C – 35°C (41°F – 95°F) |
| Dimensions | 448 mm × 43.4 mm × 420 mm (17.64 in × 1.71 in × 16.54 in) (W × H × D) |



3 Portable AI servers

# NE3412M5

## A Portable Server Designed for Edge AI Reasoning

▶ **Inspur NE3412M5 is a portable AI server designed for application scenarios such as edge AI reasoning and data migration. It features the latest Intel® Xeon® Scalable Processors and provides strong performance, flexible scalability, exceptional environmental adaptation, and flexible configuration of GPUs and storage.**

## Benefits

**High performance**

1 × Intel® Xeon® Scalable Processor, supports 8 × DDR4 memory modules for one CPU, up to 2933 MHz.

**Scalability**

The configuration can be flexibly expanded based on the environment. The GPU configuration supports 3 × 2.5" or 3.5" SATA drives and 1 × GPU, suitable for AI reasoning at the edge. The drive configuration supports 9 × 2.5" or 3.5" SATA drives, suitable for data storage and migration scenarios.

**Exceptional environmental adaptation**

Operating temperature: 0°C – 45°C (32°F – 113°F) (continuous), -5°C to 50°C (23°F – 122°F) (short-term); humidity: 5% – 90%

**Reliable chassis**

The unique chassis design is not only attractive, but also safe and stable. Furthermore, it employs industrial control-level seismic and IPX5 waterproof designs to adapt to a variety of edge scenarios.

## Product Specifications

| Model | NE3412M5 |
|---|---|
| Form Factor | Single-slot tower server |
| Processor | 1 × Intel® Xeon® Scalable Processor with a variety of TDPs up to 105 W |
| Memory | Up to 8 × 2933 MT/s DDR4 memory modules |
| Storage | **Internal drive:** 1 × M.2 SSD<br>**GPU:** Up to 3 × 2.5" or 3.5" SATA drives<br>**Storage:** Up to 9 × 2.5" or 3.5" SATA drives |
| I/O Expansion Slots | Supports 2 × PCIe x16 + 1 × PCIe x8 slots |
| PSUs | 1 × 850 W ATX PSU with no redundancy |
| Operating Temperature | 0°C – 45°C (32°F – 113°F) |
| Dimensions | 460 mm × 420 mm × 190 mm (18.11 in × 16.54 in × 7.48 in) (W × H × D) |

# EIS200

## Compact Server Providing Edge Computing Power for Edge Applications

▶ **Inspur EIS200 edge micro-server is a high-performance, low-power edge computing product designed for IoT access and edge scenarios and is geared toward a wide range of edge AI applications, including smart retail, smart manufacturing, smart cities, and smart logistics.**

## Benefits

**Powerful AI computing**

Compatible with a variety of Jetson modules, ultra-low power consumption, provides up to 21 TOPS computing power, supports up to 1080p 32-channel decoding and 14-channel encoding.

**Environmental adaptation**

Operating temperature: -40°C to 65°C (-40°F to 149°F); humidity: 5% – 95%; IP40 rating

**Network modes**

Supports multiple network modes such as WLAN, Wi-Fi, ZigBee, 4G, and 5G; adapts to various communication application scenarios.

**Platform compatibility**

Users can quickly migrate reasoning algorithms from the x86 platform to the Jetson platform using NVIDIA's computing ecology.

## Product Specifications

| Model | Inspur EIS200 | | |
|---|---|---|---|
| Modules | Jetson Nano | Jetson TX2 NX | Jetson Xavier NX |
| Computing Power | 472 GFLOPS | 1.33 TOPS | 21 TOPS |
| Memory | 4 GB 64-bit LPDDR4 | 4 GB 128-bit LPDDR4 | 8 GB 128-bit LPDDR4 |
| Storage | 16 GB eMMC 5.1 | 16 GB eMMC 5.1 | 16 GB eMMC 5.1 |
| PSUs | 9 V – 36 V (Via the industrial-grade DC-in connector and DC jack) and PoE PD (802.3at compliant) | | |
| Video Output | 1 × HDMI 2.0 | | |
| Onboard Network Port | 1 × RJ45 network port | | |
| USB Port | 2 × USB 2.0 + 2 × USB 3.0 | | |
| Wireless Network Port | Supports 4G/5G/Wi-Fi/ZigBee module | | |
| CAN (NX) & Serial Port | 1 × CAN port (NX only)/1 × COM RS232/485 | | |
| Extension Module | Speaker (alarm speaker)/8-bit I/O signal (DIO) expansion/built-in SD card for extended storage | | |
| Buttons & Appearance | 2 × buttons (for reset and recovery mode) and 4 × system state LEDs | | |
| Environmental Adaptation | Operating temperature: -40°C to 65°C (-40°F to 149°F); | humidity: 5% – 95% Operating temperature: -40°C to 60°C (-40°F to 140°F); | humidity: 5% – 95% Operating temperature: -40°C to 55°C (-40°F to 131°F); humidity: 5% – 95% |
| IP Rating | IP40 | | |
| Dimensions | 200 mm × 140 mm × 46 mm (7.87 in × 5.51 in × 1.81 in) | | |
| Cooling | Fan-less design, supports slow start in extremely low temperatures (-40°C) (-40°F) | | |





# EIS800 (Coming Soon)

## Flagship Edge Micro Server

▶ **The Inspur EIS800 edge micro-server is a flagship for a variety of edge scenarios. It has a "CPU+GPU" separation design, multiple computing power configurations, high scalability, and a broad application coverage. It can be configured flexibly to meet the needs of various scenarios.**

## Benefits

**Flexible computing power**

Supports accelerator and GPU cards according to different needs, with 0-130 T computing power, covering various AI application scenarios

**Flexible configurations**

Supports three types of I/O expansion boxes, providing large storage capacity, large-bandwidth NICs, and high-power GPUs to meet the needs of various scenarios

**Multiple forms**

Indoor, outdoor, and micro-center nodes are available. Outdoor nodes meet the IP65 requirements and can operate in the temperature range of -40°C to 65°C (-40°F to 149°F)

**Flexible deployment**

Supports multi-node stacking and splicing on a shelf with a small body and high density, adapts to a variety of application deployment environments

Indoor node

Outdoor node

Micro-center node

Desktop node

Cabinet-level node

## Product Specifications

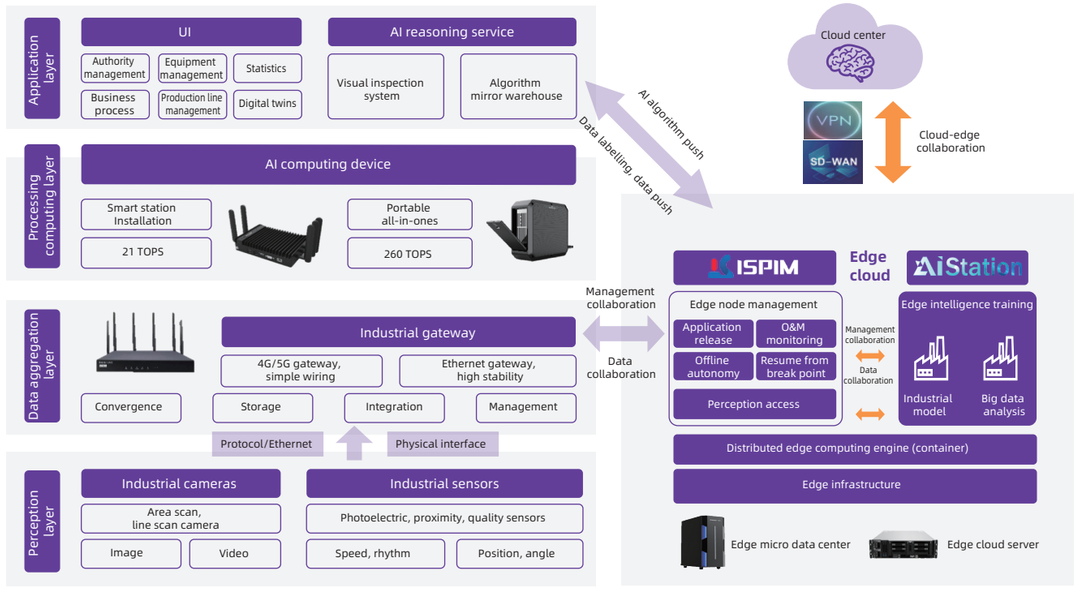
| Model | EIS800 (indoor node) | |
|---|---|---|
| Processor | Atom C3000 | |
| Memory | Up to 64 GB SODIMM | |
| Storage | 2 × built-in M.2 SATA/NVMe drives<br>(M.2 SSD or M.2 accelerator can be added) | |
| I/O Expansion Slots | 2 × 10Gb RJ45, 2 × 10 Gb SFP<br>1 × RJ45 management network port; optional PSE network port expansion | |
| PSUs | Supports power supply via an external power adapter (12 V), support 9 V – 36 V input | |
| Operating Temperature | Max. operating temperature: -40°C to 65°C (-40°F to 149°F) | |
| Dimensions | 250 mm × 220 mm × 65 mm (9.84 in × 8.66 in × 2.56 in) (D × W × L) | |
| Scenario | Item | Specifications |
| Micro-center node | Expansion box | Optional storage, network card, and GPU expansion |
| | Temperature | 0°C – 55°C (32°F – 131°F) |
| | Desktop micro-center | Stacking of up to 6 micro-center nodes |
| | Cabinet-level micro-center | Up to 2 micro-center nodes horizontally spliced on a shelf |
| Outdoor Node | Protection | IP65 |

5 Seven solutions

# Intelligent Quality Inspection Solution

**The intelligent quality inspection solution combines the powerful edge computing power of Inspur servers with the defect detection algorithm capability developed independently by SmartMore, which can automatically, quickly, and conveniently detect cosmetic defects of industrial products and parts and assist manufacturing enterprises in lowering the human resource cost of quality inspection and increasing the yield of products.**

## System Architecture




## Benefits

| Low threshold | Simple UI | Multi-dimensional deployment | Flexible application |
|---|---|---|---|
| Low operating threshold, enabling non-algorithm engineers to complete the entire process of AI training at ease | The extremely simple interactive interface enables users to quickly realize model creation and model iteration | Local/cloud deployment, reducing hardware investment in the early stage | Embedded multiple industry algorithm pipelines, while supporting partners to develop and import industry-general algorithms |

## Applications

| Character recognition | Detection | Category | Segmentation |
|---|---|---|---|
| It supports single- and multi-character labeling and recognition based on the deep learning end-to-end solution, breaking the technical limitations of traditional methods and solving complex problems such as recognition of surface characters, low-contrast characters, and large characters | Locate and classify the targets in the detected materials, suitable for multi-target detection, small target detection, counting, and so on, such as drug pill counting and 3C device detection | Classification judgments on materials, such as OK/NG binary classification judgment on the materials, the colors of the test objects, the types of food materials, 3C defect classification, and so on | Pixel-level detection and edge recognition of objects, such as identifying cracks on silicon wafers and bearing bumps |



5 Seven solutions

# Smart Power Solution

**It is a smart power solution launched by Inspur. It realizes intelligent transformation of scenarios such as intelligent monitoring of power distribution rooms, intelligent analysis of transmission line inspection images, and safety monitoring of job sites through the deep integration of AI, edge computing technology, and grid scenarios, greatly reducing resource occupation and manpower input.**

## System Architecture

| | |
|---|---|
| Service application layer | Safety helmet recognition, chin strap recognition without helmet, single person ladder carrying recognition, uniform recognition, uniform non-conformity recognition, foreign object intrusion recognition, safety sign recognition, power distribution cabinet switch status recognition, job-site mobile phone using/calling recognition, job-site smoking recognition, unmanned escalator recognition for climbing work, personnel identity recognition, digital meter recognition, pointer meter recognition, unattended field operation recognition, and so on |
| Resource platform layer | Power distribution inspection application platform<br>AI Station large-scale training platform / AI Station distributed reasoning platform / Application analysis and optimization<br>Model development + model deployment + application development / Multi-model deployment + online model test and evaluation / AI application and framework feature analyzer |
| Smart calculation foundation | Smart edge / Smart center / Smart data / Smart foundation |
| Terminal collection layer | Drones / Gun cameras / Dome cameras / Patrol robots / Sensors |

## Benefits

| In-depth cloud-edge collaboration | Cost reduction by more than 30% | The efficiency of the business can be increased by more than 50%. |
|---|---|---|
| **1. Cloud-edge collaboration:** Unified management of edge devices can be realized in the cloud, supporting one-click inspection and cloud fault diagnosis, and firmware upgrades.<br>**2. Smart integration:** It can adapt to the temperature range of -20°C to 60°C (-4°F to 140°F) and supports a variety of methods including wall-mounting; in case that the power is lower than 30 W, it can support online processing of up to 24 channels of video. | **1. Plug and play:** Intelligent scene transformation can be carried out quickly without the need to modify the network or information architecture substantially, and existing cameras can be used to avoid downtime and pitting costs associated with multiple transformations.<br>**2. Save resources:** Front-end in-situ analysis significantly reduces the use of public network traffic, cloud storage and computing resources, and overall system construction and operation costs by more than 30%. | **1. On-site linkage:** The network delay on the edge side is less than 15 ms, and second-level identification and analysis can be combined with on-site sound and light alarms, as well as timely abnormality warnings, to ensure the safety of equipment and operations.<br>**2. Increased efficiency:** The operation and maintenance team can conduct remote inspection and use AI to realize intelligent image recognition, which greatly reduces manpower involvement and improves real-time efficiency of operation and inspection by more than 50%. |

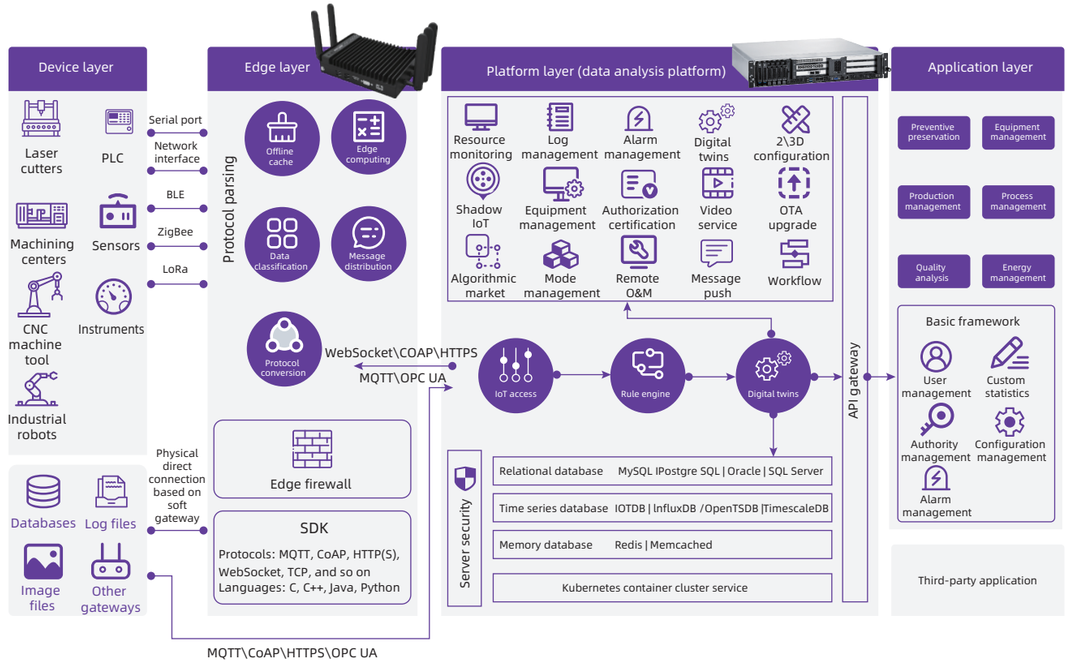
## Applications

Safety helmet recognition, chin strap recognition without helmet, single person ladder carrying recognition, uniform recognition, uniform non-conformity recognition, foreign object intrusion recognition, safety sign recognition, power distribution cabinet switch status recognition, job-site mobile phone using/calling recognition, job-site smoking recognition, unmanned escalator recognition for climbing work, personnel identity recognition, digital meter recognition, pointer meter recognition, unattended field operation recognition, and so on

# Smart Manufacturing Solution

Inspur and Zhan-wan Technology have launched a smart industrial solution that can monitor the health status of robots in smart factories in real time, and use the "Internet of Things + Algorithms" model to monitor and predict potential failures of the robot system online, transforming the traditional TBM (time-based maintenance) to CBM (condition-based maintenance). The solution can help avoid unplanned robot downtime, ensure the continuous, stable, and efficient production operation of the fully automated production line throughout the day, increase the utilization rate of the production line, and improve the factory's overall efficiency.

## System Architecture




## Benefits

| Data collection and processing | Rapid application development | Integrated monitoring and O&M | Intelligent AI algorithms |
|---|---|---|---|
| ■Access to a large number of IoT devices<br>■Multi-protocol SDK and standard API<br>■Distributed big data components<br>■Standard digital twin data models<br>■Efficient streaming data processing | ■Drag-and-drop configuration page development<br>■Digital twin data binding<br>■Zero-code page development<br>■Various BI reports<br>■Equipment and business database access<br>■Surveillance video binding | ■Equipment log traceability<br>■System operation records<br>■Remote OTA upgrade of equipment<br>■Equipment alarms and anti-control capability<br>■Remote debugging<br>■Personnel authority management settings | ■Algorithm management and subscription<br>■Online mode training<br>■Algorithm allocation to edge<br>■Custom algorithms<br>■General scenario algorithms<br>■Specific scenario algorithms |

## Applications

- Predictive maintenance of equipment (CNC machine tools)
- Online quality inspection of welding defects of arc welding robots
- Intelligent factory IoT platform for the construction machinery industry
- Equipment (robot) preventive maintenance
- SAP HANA data connection

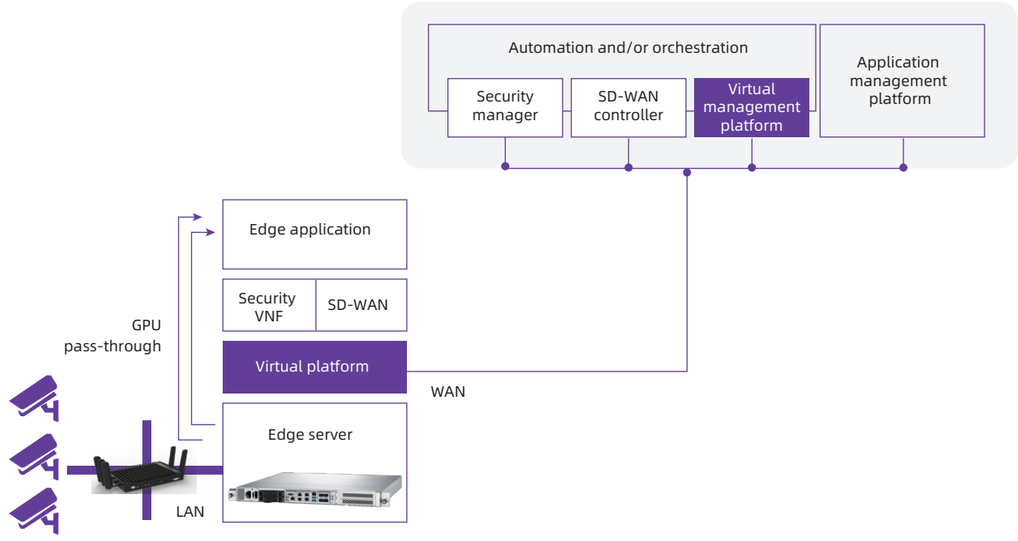




# Smart Edge Network Solution

The SD-WAN intelligent network edge solution developed by Inspur can detect and perceive network conditions and link quality in real time, ensure the reliability and continuity of service transmission, and enable fast and flexible interconnection between edge data centers and cloud data centers, giving the best play to computing power of cloud data centers and reducing business operation costs. In addition, it can provide safer and more efficient edge computing power for AI application scenarios such as unmanned retail stores, product suggestion, self-checkout, logistics control management, and so on, depending on the computing power of the edge data center.

## System Architecture




## Benefits

- Unified monitoring and alarms
- Batch node management
- Cloud edge data channel
- Offline node autonomy
- Edge application management
- Device perception access

## Applications

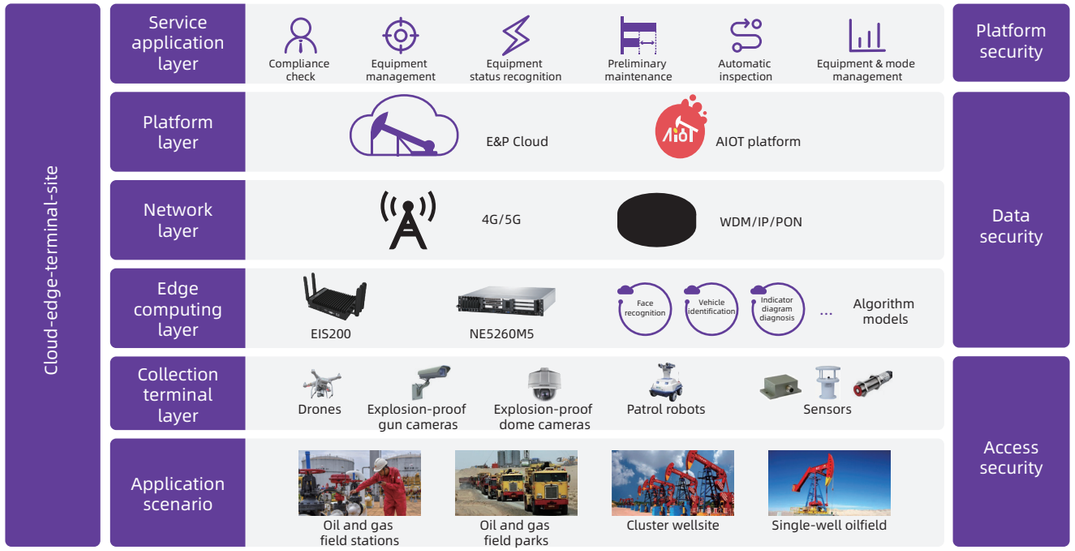
### Smart stores

| Video analysis | Transaction security | IOT control |
|---|---|---|
| Videos and AI algorithms are used to precisely analyze consumer behavior/status and provide services that better fulfill the demands of customers. | SD-WAN/firewall/local area private network, as well as other application features, are used to provide multiple layers of security for transactions | Smart terminals and environmental equipment in the store are controlled in real time and intelligently to provide customers with a more convenient and comfortable shopping experience |

# Smart Oil Well Solution

**The Inspur smart oil well solution can automatically collect the voltage, current, load, temperature, video and image, and other data of smart instruments on the oilfield, perform real-time analysis and processing on the Inspur edge micro-server computing platform, and send the data back to the data center to realize intelligent management**

## System Architecture




## Benefits

**Electricity expense is reduced by 80%**

The mining machine can automatically start and stop, as well as alter its speed based on the oil resource condition beneath, minimizing electricity expenditures.

**Labor costs are reduced by 70%**

The equipment can partly substitute the labor, allowing for remote monitoring, operation, maintenance, and inspection, among other things, as well as the unattended operation of oil production.

**Personnel safety**

Shoot videos on field operations and use AI vision algorithms to achieve compliance inspection of the operation site, such as worker safety.

## Applications

- Monitoring of pumping unit status
- Predictive equipment maintenance
- Workplace safety monitoring

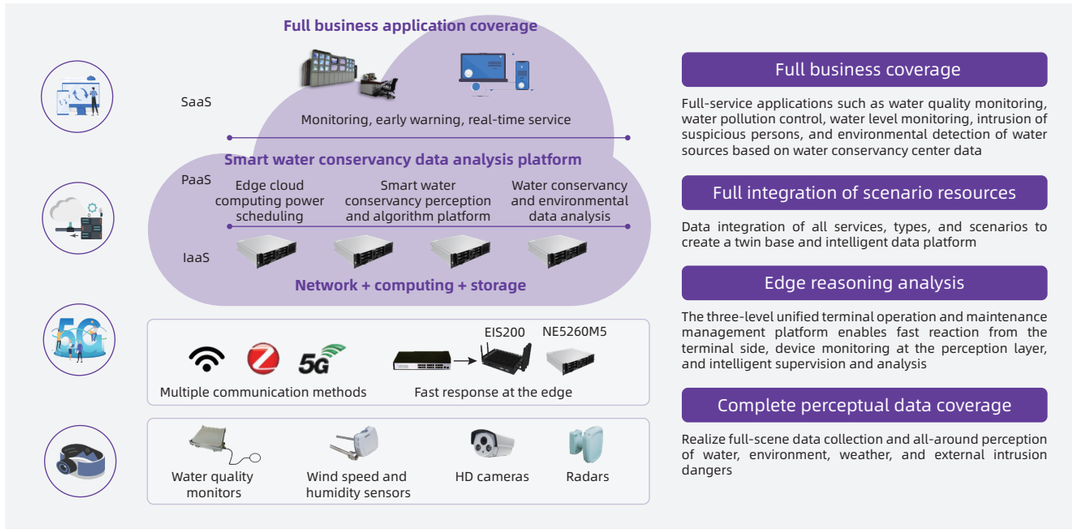




# Smart Water Conservancy Solution

**This solution employs edge micro-servers to perform all-around perception of edge data such as water, environment, weather, and pollutants, collect data in all scenarios, reduce the manual inspection cycle, and provide quick and accurate data and smart alarms for water quality monitoring, water pollution control, water level monitoring, and water source environmental inspection.**

## System Architecture




## Benefits

**Intelligent**

Shorten the manual inspection cycle by intelligently perceiving and controlling a wide range of environmental data

**Integrated**

This solution allows for the centralized control of computing power dispatch, water conservation data, omnipresent perception, algorithm models, business models, and so on

**Platform**

Break down data walls and island systems, and implement platform-based data visualization monitoring and early warning systems

**Multi-scenario**

Implement multi-scenarios such as disaster analysis, hydrodynamic models, water level analysis, and person identification analysis

## Applications

- Water engineering construction progress and staff safety monitoring
- Dynamic monitoring of soil and water conservation
- Flood image analysis using remote sensing

# Smart Parking Lot Solution

**Inspur's smart parking lot solution leverages the high computing power, ease of deployment, low cost, and other features of edge computing products, to boost the parking lot operation and maintenance mode for customers. Edge products are compact and easy to store. They can be positioned freely in a small space and function normally outside without temperature control. In addition, the powerful image analysis and AI computing capabilities enable rapid reasoning and decision-making on the edge, and independently manage a single parking lot, saving time for remote data transmission and processing. As a result, the back-end data center only needs to manage and analyze data for each EIS200, significantly reducing the load on back-end computing. It increases not only the daily management efficiency of a single parking lot, but also the overall management of several parking lots.**

## System Architecture

## Benefits

| Cost saving | Space saving | Computing power |
|---|---|---|

The Inspur edge smart station solution and the Inspur edge micro-server EIS200 ensure the computing power for the smart parking lot project of the Tokyo Institute of Technology. The solution reduced the construction cost of the parking lot by more than 40% and has substantially decreased the pressure on the operation, maintenance and management of the parking lot, simplified the management of numerous parking lots across Japan, and avoided sophisticated earth inductor coil construction and regular aging inspections.

## Applications

| Parking guidance | Contactless payment | Parking records | Danger warning | Electronic charging |
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