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ZipBank

RELEASING SPACE TO
EMBRACE FREEDOM

ZipBank

Video Intelligent Computing (Compression) Series

Tianjin Joint Optic Technology Co., Ltd.

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COMPANY INTRODUCTION

TIANJIN JOINT OPTIC TECHNOLOGY CO., LTD. is a leading provider of intelligent computing and secure network equipment and solutions. As a high-tech enterprise integrating research and production, the company is committed to enhancing the safety and freedom of network connections!

Joint Optic independently develops and manufactures standardized, multi-rate, and diversified commercial and industrial-grade switches, optical transceivers covering data rates from 155M to 800G, WLAN solutions, passive optical networks (XGS-PON), and computing servers. These offerings provide comprehensive support to the communications industry. In recent years, the company has been widely recognized by over a thousand clients in sectors such as video security and visualization, smart cities, IDC data centers, the Internet of Things, power transmission and transformation, and rail transit, by delivering customized solutions to sectors including aerospace, shipbuilding, energy, electricity, and data centers.

In 2024, Joint Optic officially launched several network communication products targeting emerging markets, including secure switches, intelligent computing switches, and liquid-cooled optical modules. These products open new possibilities for terminal access security and video storage in the security industry, while contributing to the advancement of the national digital strategy.

The ZipBank Series includes the world's first video intelligent computing switch with compression capabilities, along with an intelligent video gateway. It achieves high compression under standard encoding while preserving image quality, resolution, frame rate, image features, duration, and encoding standards, reducing storage requirements by up to 90%. This breakthrough offers an innovative and streamlined storage solution for the surveillance and security industry, driving the development of digital assetization, lightweight transmission, and high-reliability communications of the future.

Looking ahead, Joint Optic will continue to lead innovation in security network equipment solutions and intelligent algorithms, working together with partners in communications and security industries to co-create value and shape the future.

PRODUCT INTRODUCTION

SCS2500V-8P4S

Layer 2 Managed Ethernet POE Switch (1 CLI port, 8 Gigabit POE+ ports, 4 Gigabit SFP optical ports, standard power supply AC220V, POE power 130W, fan cooling, 1U height, 11-inch rack mount)

SCS2500V-16P4S

Layer 2 Managed Ethernet POE Switch (1 CLI port, 16 Gigabit POE+ ports, 4 Gigabit SFP optical ports, standard power supply AC220V, POE power 260W, fan cooling, 1U height, 19-inch rack mount)

*Note: The ZipBank series can be extended to support small model AI capabilities.
For details, please consult the sales manager.

ZIPBANK AI SWITCH

The SCS2500V ZipBank AI Switch series is the world's first AI computing+switch product launched by Joint Optic Technology Co., Ltd, designed for premises networks, intelligent weak current networks, smart buildings, security surveillance, and enterprise networks. The series offers multiple models with 4, 8, 16, and 48 ports, and also support customized development.

Based on high-performance hardware and Joint Optic's proprietary switching software platform, the ZipBank series provides comprehensive security protection mechanisms. It supports VLAN, EAPS/ERPS, ACL, QoS, and IGMP functionalities. Furthermore, it supports IPV4/6 static routing protocols, as well as ONVIF, and RTSP protocols. The system is compatible with 1080P@25fps, supports intelligent compression for H.264/H.265 encoded streams. With simple yet powerful management options and flexible installation methods, the series effectively addresses audio and video monitoring access requirements in a wide range of complex scenarios.

PRODUCT INTRODUCTION

SCS2500-JOV4

Semi-industrial grade, 1 Gigabit Ethernet port, concurrent video compression: 4 channels 1080P, 2 channels 2K; DC 12V; operating temperature -30 to 70°C; desktop form factor;

SCS2500-JOV8

Semi-industrial grade, 1 Gigabit Ethernet port, concurrent video compression: 8 channels 1080P, 4 channels 2K, 2 channels 4K; DC 12V; operating temperature -30 to 70°C; desktop form factor

SCS2500-JOV16

Semi-industrial grade, 1 Gigabit Ethernet port, concurrent video compression: 16 channels 1080P, 8 channels 2K, 4 channels 4K; DC 12V; operating temperature -30 to 70°C; desktop form factor

■ ZipBank AI Video Gateway

The SCS2500 ZipBank AI Video Gateway series is a video compression and intelligent computing product launched by Tianjin Joint Optic Technology Co., Ltd. The series offers multiple models with 4, 8, 16, 32, and 64 channels, and also supports customized development.

Based on high-performance hardware and Joint Optic's independently developed video algorithm platform, the ZipBank gateway supports ONVIF and RTSP protocols. The system is compatible with 1080P, 2K, and 4K resolutions, and supports intelligent and efficient compression for H.264/H.265 encoded streams. It can interconnect with GB/T28181 platforms and supports web-based management.

APPLICATION SCENARIOS

ZipBank Video Intelligent Computing (Compression) Series
Efficient deployment, comprehensive applications

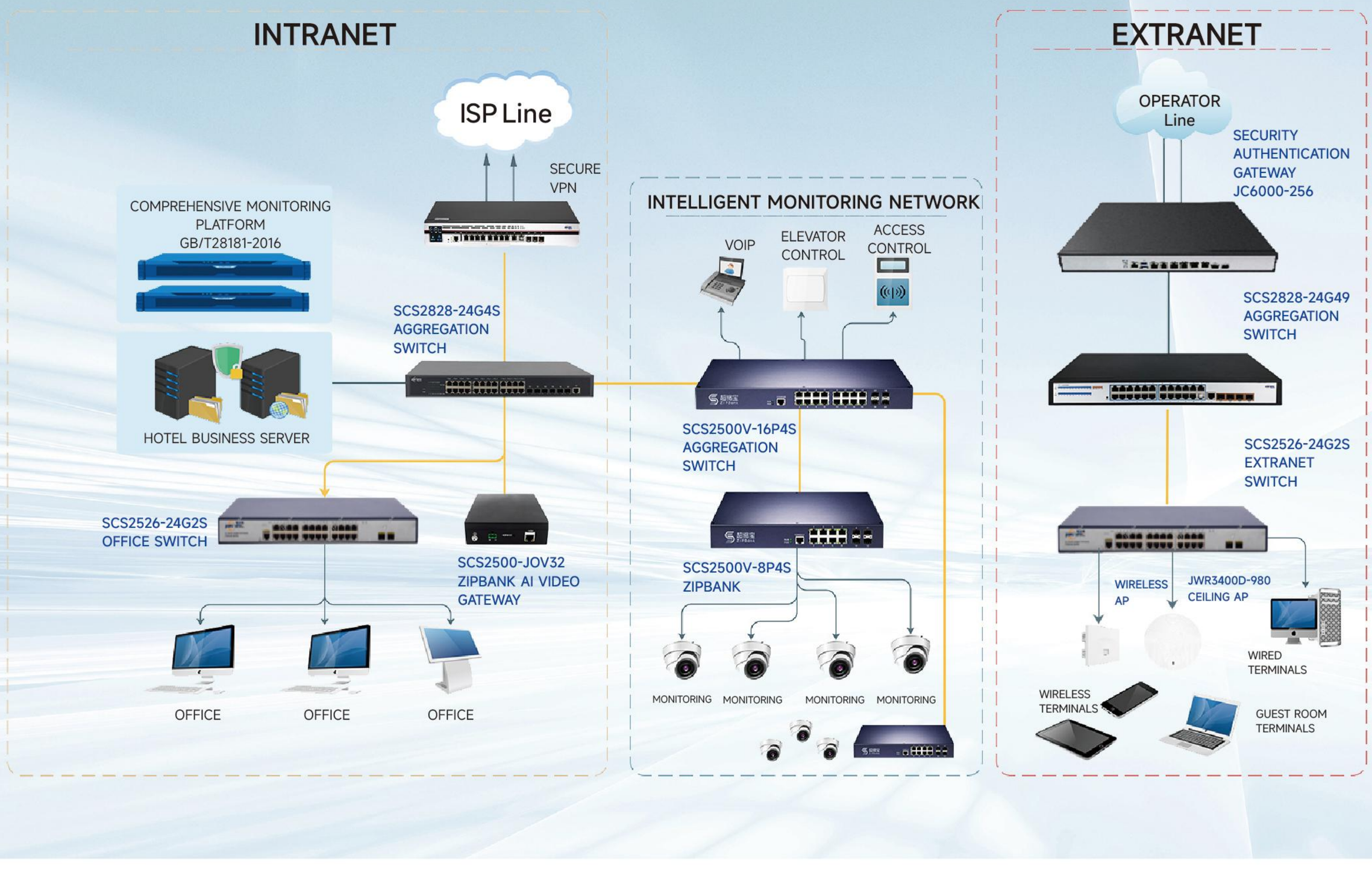
WEEK CURRENT SURVEILLANCE

INTELLIGENT BUILDINGS

INTELLIGENT SECURITY

SMART COMMUNITIES

CASE NETWORK TOPOLOGY DIAGRAM



PRODUCT CHARACTERISTICS

ZipBank AI Switch

Core Network Unit with Integrated AI Compression
Adaptable to Diverse Video Networks

▶ PROFESSIONAL COMPRESSION UNIT

- **Domestic AI Chip:** Switch layer integrates a domestic AI chip with 6 TOPS computing power, supporting real-time HD video compression and forwarding.
- **Optimized Model Algorithms:** AI-based compression optimizes video streams while maintaining standard encoding.
- **Multi-Scenario Adaptation:** Bitrate savings up to 90% in idle scenarios, 70–80% in normal scenarios, and 35–60% inmotion-intensive scenarios.

▶ HIGH-RELIABILITY NETWORK SUPPORT

- **Protocol Compatibility:** Supports GB/T28181, RTSP, and ONVIF protocols.
- **Real-Time Processing:** Video streams are compressed immediately upon network access, significantly reducing transmission load.
- **Secure Access:** Terminal access authentication ensures secure data transmission.
- **Stable and Reliable:** Backend storage optimization can achieve up to 10 × efficiency, enhancing long-term system performance.

PRODUCT CHARACTERISTICS

ZipBank AI Video Gateway

Lightweight Compression Device for Edge Video Nodes Ideal for Small to Medium-Scale Video Systems

EXTREME COMPRESSION EFFICIENCY

- **Intelligent Bitrate Optimization:** 1080P video at 4 Mbps compressed to an average bitrate as low as 550 Kbps.
- **Dynamic Adaptation Algorithm:** Automatically adjusts compression strategies based on scene complexity to ensure clarity of motion scenes.
- **Low-Latency Transmission:** End-to-end delay ≤150 ms, suitable for real-time monitoring.
- **Reduced Storage Costs:** Achieves 4–10× storage savings on average, extending video retention periods.

EFFICIENT AND FLEXIBLE DEPLOYMENT

- **Industrial-Grade Interference Resistance:** Complies with industrial EMC standards, suitable for complex electromagnetic environments.
- **Plug-and-Play Deployment:** Edge-mounted access without altering existing network architecture.
- **Web-Based Visual Management:** Intuitive configuration interface supporting batch device management.
- **Lightweight Design:** 145 × 130 × 40 mm, low power consumption (5W/7W).

PRODUCT ADVANTAGES

01 INVESTMENT SAVINGS

Minimizes expenses associated with optimizing bandwidth and storage hardware resources, conserves space that would otherwise be allocated for equipment storage, and reduces the labor required for maintenance.

02 HIGH CAPACITY COMPRESSION

Achieves real-time compression of videos encoded in H.264 and H.265 by over 10 times on average.

03 NO LOSS IN IMAGE QUALITY

Preserves the image quality, resolution, frame rate, feature points, duration, and encoding standards of the video after high compression.

04 FULL FORMAT COMPATIBILITY

Complies with H.264 and H.265 standards, supports ONVIF and RTSP protocols, facilitates easy access to standard video resources, and supports connection to national standard GB/T28181 video platforms and integrated communication command systems.

05 BANDWIDTH SUPER COMPRESSION

Ensures high compatibility with various network architectures and communication devices, effectively decreases transmission bandwidth resources and backend storage needs, and enhances high-compression transmission efficiency for low-bitrate HD video images.

06 INTELLIGENT ALGORITHMS

ZipBank performs algorithm processing without altering the original video parameters, ensuring a stable playback effect. The output video and storage streams achieve unaltered compression, enabling direct comparison with the original data stream information.

07 HIGH RELIABILITY

Supports carrier-grade Ethernet Ring Protection Switching (ERPS) with a protection switching time of less than 50 ms. It features dual uplink primary-backup link protection and supports simple and efficient redundancy protection mechanisms like static and dynamic LACP link aggregation, meeting users' high reliability requirements.

08 FLEXIBLE CONFIGURATION

Powerful ACL features support L2 to L4 packet filtering. It allows for packet filtering through configurable matching rules and processing operations. Additionally, the system supports flexible security policies such as terminal security control, including DHCP snooping and IGMP snooping, providing users with flexible and diverse policy control options.

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