Solution Brief

Smart Cities
Optimize AI on IA

ISS and Supermicro (with Intel Architecture) Validate SecurOS Video Analytics Platform

Intel® Architecture

"The Supermicro servers with Intel® Xeon® Scalable processors we used delivered great performance. In addition, our tests showed that using a combination of Supermicro servers and the latest version of Intel® Distribution of OpenVINO™ can result in more SecurOS® video analytics channels per server, delivering performance improvements and value to our partners."

— Eugene Beytenbrod
ISS Global Director of Engineering

About ISS

Founded in 1996 and headquartered in Woodbridge, N.J., ISS (Intelligent Security Systems) is a pioneer and leading developer of video intelligence and data awareness solutions. With a portfolio of more than 30 patents, the company is one of the world's preeminent providers of artificial intelligence (AI)-powered video analytics.

About Supermicro

As a global leader in high performance, high efficiency server technology and innovation, we develop and provide end-to-end green computing solutions to the data center, cloud computing, enterprise IT, big data, HPC, and embedded markets.

ISS SecurOS® Delivers Video Analytics for Vertical Applications

The ISS SecurOS® Video Analytics product family offers core analytics capabilities that use a range of AI-powered analytic modules to provide high-trust analytics solutions. The SecurOS line of analytics modules includes SecurOS Tracking Kit for situational awareness, SecurOS FaceX to protect against unwanted visitors, SecurOS UVSS for undercarriage vehicle inspections, and SecurOS Crossroad for road monitoring along with other modules for critical infrastructure, retail, and a variety of other vertical markets.

Deploy ISS and Intel-based Supermicro Solutions with Confidence

ISS SecurOS video analytics use of Intel® Distribution of OpenVINO™ toolkit for AI inference on Intel architecture and can be deployed on a range of compute platforms.

In recent testing using four Supermicro servers, the company's software was validated on a 1U mini server powered by 12th Generation Intel® Core™, a CPU with built in graphics processor unit (iGPU) to offload AI processing. The SecurOS software was also validated on three servers with Intel® Xeon® processors including 3rd Gen Intel® Xeon® D-1736NT, 3rd Gen Intel® Xeon® Scalable 6338N Processor, and 4th Gen Intel® Xeon® Scalable 6414U processor paired with Intel® Data Center GPU Flex 140.

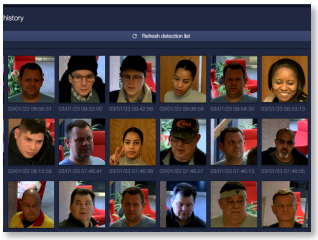
These servers represent increasing processing performance and are examples of configurations for high channel density edge AI inference both with and without GPU acceleration.

Video analytics are increasingly more important to organizations, but due to rapid advances in AI, it can be difficult for integrators and end users to keep up with these changes. These verified results, with specific camera sizing numbers, help reduce the risk that comes with deploying new technology solutions. Because ISS knows how many video feeds a given system can handle it can recommend a right-sized server to optimize total cost of ownership.

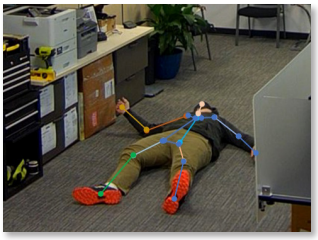
More about ISS Solutions and Features

The ISS SecurOS video intelligence platform serves as the software backbone for a portfolio of more than 50 different video analytic modules that can be leveraged as standalone products or in tandem with each other to create a holistic video intelligence solution. The platform and its associated modules enable organizations to gain real-time awareness of challenges such as operations, security, safety, or logistics while also developing long-term trend solutions and are designed to empower businesses with actionable insights, streamlined operations, and enhanced decision-making capabilities.

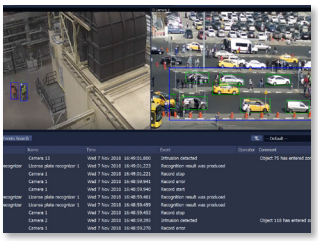
Tested ISS SecurOS AI Modules



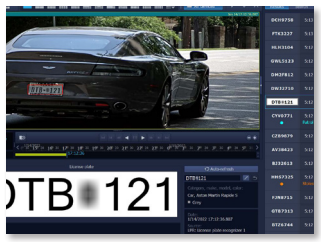
SecurOS® FaceX is an AI-based facial capture and recognition module that provides accuracy in a wide range of operating environments. In addition to detecting and recognizing faces in real time, it also enables users to automate various operations related to monitoring, enrollment, authentication, and statistical analysis.



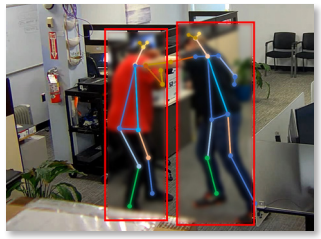
SecurOS® Fallen Person Detection identifies lying or fallen people to warn of individuals in possible need of medical assistance or who may be attempting to intentionally disrupt operations by occupying a restricted area. It analyzes each video frame to track people whose body position is horizontal or close to horizontal. The module has an adjustable time setting that alerts officials of the fallen person after a certain period of time.



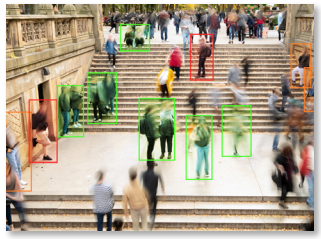
SecurOS® Tracking Kit is a suite of high-trust analytics detectors that provide increased situational awareness. The kit has the ability to detect up to 10 different behaviors per camera – including crowd detection, object left behind, object removed, object counting, dwell time, loitering detection, running detection, smoke detection, intrusion detection, and wrong way detection. The Tracking Kit is camera-agnostic, extending multiple analytic detectors to existing cameras.



SecurOS® Auto leverages deep learning and template-based algorithms to provide industry-leading license place recognition. This module can also simultaneously detect vehicle class, color, make, and model at speeds of up to 155 mph. Developed to work in all kinds of weather conditions, the module can also identify license plates from more than 100 countries and all 50 U.S. states.



SecurOS® Fighting Detection identifies when people are engaged in hand-to-hand combat by measuring active human movements with the hands, arms, and legs. Leveraging video fragments that consist of 64 video frames for analysis, the module searches for people performing such actions and determines the probability of a fight.



SecurOS® Loitering Detection detects all people within a scene, tracks their movements, and subsequently issues an alert if someone stays within a pre-defined detection zone for longer than a period of time designated by the end-user. The module can also differentiate between someone standing, sitting, or laying, enabling end-users to proactively respond to possible medical emergencies and other security-related events.

Performance Validation

ISS tested some of its most advanced video analytics on Intel hardware and were more than satisfied with performance. Some of the Intel architecture on Supermicro platforms exceeded expectations, particularly when processing the most compute-intensive AI models. This was ISS's first experience testing the Intel® Data Center GPU Flex 140, and the performance boost observed may lead ISS to further video pipeline processing innovation beyond AI inference workloads.

Intel® Distribution of OpenVINO™ toolkit

Intel® Distribution of OpenVINO™ toolkit is designed to accelerate the development of machine learning solutions. A tool suite for high-performance deep learning, OpenVINO is aimed at delivering faster, more accurate results deployed into production across Intel® architecture from edge to cloud.

The toolkit enables a write-once, deploy-anywhere approach to deep learning deployments on Intel platforms that, coupled with Supermicro servers, provides a powerful combination to optimize performance and simplify deployment.

Learn More

- ISS Website
- Supermicro Website
- Intel® Partner Alliance
- ISS SecurOS AI Performance and Validation Report on Supermicro Servers with Intel Processors - Report

Why Validating Matters

Count on a prevalidated solution to streamline deployment and simplify scaling. That's because optimizing hardware and software configurations in advance reduces risk and complexity, helping to ensure that an AI solution will deliver the right level of performance for the task at hand.

By validating with Supermicro in the Intel lab, ISS has positioned its solution for:

Simplified AI deployment

An all-in-one preconfigured solution means no need to purchase and experiment with individual components.

Cost-effective performance

The specified system has been tested and proven to deliver the right level of performance to reach desired deployment goals.

Accelerated time to value

The ISS SecurOS validated solution is deployment-ready for public safety and private sector security projects.

The ISV Validation Lab at Intel

Intel's ISV validation lab is a unique and comprehensive preconfigured, remote testing environment. Through the lab, participants have access to the latest hardware and chipsets and GPUs. Intel engineers provide technical consultation and recommendations along with ongoing support throughout the validation process. On completion, the participant receives detailed performance reports and recommendations from Intel on the optimized platform that will best meet their customers' deployment goals for the AI solution.

Intel's ISV Validation Lab featuring Supermicro Servers

Lab Features:

- Preconfigured remote validation lab
- Configured multi-stream in-process analytics
- Access to the latest Intel architecture CPUs, GPUs, accelerators, and enabling chipsets
- Complete system configuration for optimal recommendations

Supermicro Products:

- System: Supermicro IoT SuperServer SYS-E300-13AD
- Processor: 12th Generation Intel Core SoC i3-12300HL
- System: Supermicro SuperServer SYS-211E-FRDN2T
- Compute: 4th Gen Intel Xeon Scalable 6414U processor; and Intel Data Center GPU Flex 140
- System: Supermicro IoT SuperServer SYS-E302-12D-8C
- Compute: 3rd Gen Intel Xeon D-1736NT
- System: Supermicro IoT SuperServer SYS-E403-12P-FN2T
- Compute: 3rd Gen Intel Xeon Scalable 6338N Processor