SMARTER TECHNOLOGY FOR ALL

Lenovo | **NVIDIA**

Real-time AI performance at the Edge

AI Is Now Everywhere

As businesses across industries grapple with vast amounts of data, more complex operations, and more dynamic markets, edge AI is playing a growing role in helping them rapidly respond. Through a combination of computing power, AI technology, data analytics, and advanced connectivity, the edge extends compute capabilities from data centers out to the edge of networks, allowing organizations to act quickly on data where it's captured. Reducing the distance between where data is captured and where it's processed not only alleviates data transit costs, but also improves latency, bandwidth utilization, and infrastructure costs.

Addressing the Requirements of Edge AI

AI at the edge comes with a unique set of requirements. Edge systems, dispersed across vast physical distances, lack the centrality that a data center presents. Software or system updates either need to be performed manually or need to be centrally managed to easily deploy, manage, and scale software across vast fleets of devices. Moreover, the security requirements for edge computing infrastructure differ from cloud or data center computing models. Edge locations lack the physical security that data centers have, so an end-to-end security model that protects both the application IP and the sensor data is paramount for a successful deployment.
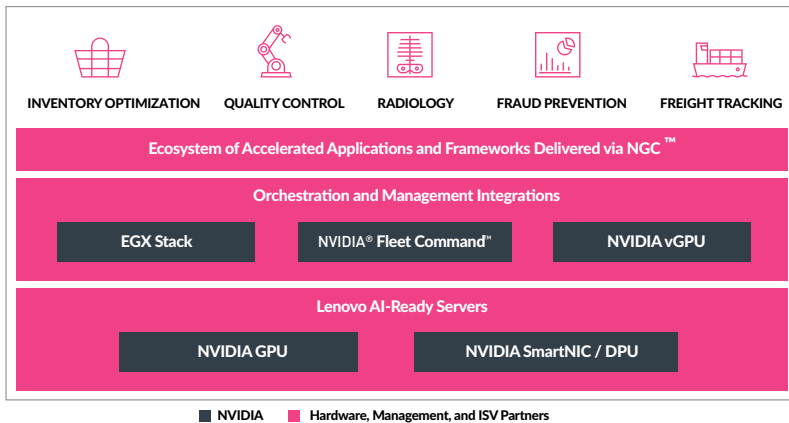
Generate faster insights from AI deployed across thousands of devices using Lenovo AI edge servers powered by NVIDIA EGX™ platform.

KEY USE CASES

- Inventory optimization and shrinkage reduction in retail stores.
- Automation and quality control in manufacturing facilities.
- Radiology and patient care in hospitals.
- 5G multi-access edge computing (MEC) and virtual radio area network (vRAN) for telecommunications providers.
- Fraud prevention and recommendations for financial institutions.
- Freight tracking and route optimization for efficient logistics.

SOLUTION OVERVIEW

Lenovo AI Edge Servers and NVIDIA EGX for Accelerated Edge AI

Lenovo AI servers powered by NVIDIA EGX platform allows enterprise IT to deliver diverse applications on highperformance and cost-effective infrastructure. The platform is a combination of highperformance GPU computing and high-speed, secure networking in NVIDIA-Certified

INVENTORY OPTIMIZATION   QUALITY CONTROL   RADIOLOGY   FRAUD PREVENTION   FREIGHT TRACKING

Ecosystem of Accelerated Applications and Frameworks Delivered via NGC ™

Orchestration and Management Integrations

EGX Stack   NVIDIA® Fleet Command™   NVIDIA vGPU

Lenovo AI-Ready Servers

NVIDIA GPU   NVIDIA SmartNIC / DPU

■ NVIDIA   ■ Hardware, Management, and ISV Partners

The EGX platform supports a vast suite of accelerated applications for edge AI, delivering faster insights where they matter the most.

Systems™, built and sold by Lenovo. Lenovo AI servers and NVIDIA EGX platform allows customers to prepare for the future while driving down costs by standardizing on a single unified architecture for easy management, deployment, operation, and monitoring. The Lenovo AI severs and EGX platform supports a vast suite of accelerated applications for edge AI, delivering faster insights where they matter the most.

Securely Deploy, Manage, and Scale Applications with NVIDIA Fleet Command

Fleet Command is a hybrid-cloud platform for managing and scaling AI deployments across dozens or up to millions of servers or edge devices. Fleet Command allows IT departments to securely and remotely manage a large-scale fleet of deployed systems. Instead of spending weeks planning and executing deployment plans, in minutes, administrators can bring AI to networks of retail stores, warehouses, hospitals, or city streets. Administrators can add or delete applications, update system software over the air, and monitor the health of devices spread across vast distances from a single control plane.

PROOF POINTS

Customers improved real-time fraud detection by 10 percent, lowered their server capacity by nearly 8X, and deployed a new fraud detection service that operated worldwide 24/7 in real time to protect customer transactions from potential fraud. A requirement that CPU-only servers couldn't meet.

LENOVO NVIDIA-CERTIFIED SYSTEMS

Lenovo AI optimized servers coupled with NVIDIA GPUs and networking are validated for performance, manageability, security, and scalability and are backed by enterprise-grade support from NVIDIA and Lenovo. With an NVIDIA-Certified System, enterprises can confidently choose performance-optimized hardware solutions to power their accelerated computing workloads—both in smaller configurations and at scale.

Learn more about accelerated servers at
nvidia.com/certified-systems

ADMIN

NVIDIA FLEET COMMAND

CLOUD	EDGE

CLOUD

PRIVATE REGISTRY

ONE-TOUCH PROVISIONING

MONITORING & ALERTS

APPLICATION LIFECYCLE MANAGEMENT

EDGE

SECURE EGX STACK

AI FRAMEWORKS

CUDA-X

KUBERNETES

IoT Sensors

HEALTHCARE

MANUFACTURING

RETAIL

SMART CITIES

Securing the Edge

In addition to accelerated computing and simplified deployments, NVIDIA solutions for edge computing offer industry-leading security protocols to ensure data is always protected. All processed data is encrypted in transit and at rest and secure and measured boot protects the AI runtime from being tampered with. Because systems are on premises to process local sensor feeds, organizations maintain where sensor data is stored. Furthermore, AI applications deployed using Fleet Command are scanned for vulnerabilities and malware and offer signed containers, certifying that every application deployed is secure.

Why Lenovo

Focused on a bold vision to deliver smarter technology for all, Lenovo is developing world-changing technologies that create a more inclusive, trustworthy, and sustainable digital society. By designing, engineering and building the world's most complete portfolio of smart devices and infrastructure, we are also leading an Intelligent Transformation – to create better experiences and opportunities for millions of customers around the world. To find out more visit www.lenovo.com.