AMD EMBEDDED SOLUTIONS

PARTNER:
ONLOGIC

INDUSTRY:
INDUSTRIAL EDGE SERVERS

AMD TECHNOLOGY AT A GLANCE:

- AMD RYZEN™ 9 3950X PROCESSOR
- AMD EPYC™ 7002 SERIES PROCESSORS

AMD RYZEN

AMD EPYC

CASE STUDY

ONLOGIC

Bringing Long-life, High-performance, Small Form-Factor Industrial Servers to the Edge: AMD Ryzen™ and EPYC™ Processors

CHALLENGE:
Putting long-life server functionality where customers need it can be a challenge. As innovators uncover the need for powerful processing and decision-making right where data is being collected, a new breed of computer is being called into action. Industrial edge servers bring computation power out of the cloud to decrease latency, reduce bandwidth costs and provide direct data access in real time.

SOLUTION:
OnLogic's newest edge server solutions harness the high-performance, ultra-reliable processing power of AMD Ryzen™ 9 3950X and the AMD EPYC™ 7002 Series CPUs. Each system is designed for energy savings and extended lifecycles so customers can rely on them for years.

RESULTS:
Rather than focusing on what the customer might be willing to purchase, OnLogic focuses on what the customer hopes to achieve, and builds solutions to enable those needs for compute, connectivity, functionality and more. Based on customer demands, OnLogic has created the compact industrial MC850-40 and the 4U rackmount MK400-60, both of which are designed to fully address its customers' computing requirements where they need it most. That means putting server functionality in the right environments at the right cost with the right features.

High-performance AMD processors allow for right-sized servers in the right location at the right price point

The meteoric growth of the Internet of Things (IoT) means more companies than ever must process large volumes of data at the edges of their networks using a new class of machine built for long lifespans and with extreme reliability: the industrial edge server.

Edge servers put users in control of the massive amount of mission critical industrial IoT and Industry 4.0 data their applications are analyzing and creating, right where it's being produced. With edge servers, processing, service delivery, storage and IoT management can be done on-site, saving computational time while reducing bandwidth costs and latency.

Global industrial and IoT computer hardware manufacturer and solution provider OnLogic (*www.onlogic.com*), pioneered the rugged computer market. Now, it is teaming up with AMD to release a line of small form factor industrial computers powered by AMD Ryzen™ and AMD EPYC™ processors for use at the network's edge. The systems are built for long lifecycle use and reliability.

THE RIGHT FIT

OnLogic focuses on helping its clients find the 'right-fit' computing solution, matching customers with the hardware platform that will best solve their project challenges, while reducing latency and lowering their costs. This is achieved by providing users with the capabilities to capture and react to data as it's being generated by bringing the compute resources to the edge of the network.

To achieve these goals, OnLogic has chosen AMD processors for their very appealing mix of performance, price and capabilities that, when combined with the OnLogic hardware platforms, create new application possibilities and give OnLogic's clients a way to further customize their hardware solution to meet their unique requirements.

EXTREME PROCESSING, ADVANCED CAPABILITIES

OnLogic's AMD Ryzen™ 9 3950X and AMD EPYC™ 7002-based systems are headless edge servers harnessing PCIe® Gen4 connectivity and high clock speeds, with ample onboard storage. These OnLogic servers include small form factor systems (MC850-40), as well as highly configurable workstations and rackmount servers (MK400-60), that provide long lifecycle, reliable performance and easy integration into IoT solutions.

Broadly, use cases for OnLogic Edge Servers include embedded vision applications for industrial automation, high-performance computing for advanced analytics or machine learning, and advanced data acquisition and supervisory control using next-gen PCIe Gen 4.0 NVMe storage. More specifically, OnLogic Edge Servers are currently being deployed for central control of autonomous guided vehicles (AGVs) in warehouses and manufacturing plants using high-performance AMD processing and PCIe Gen 4 expansion for GPU or FPGA accelerators, as well as for collection, storage, and low-latency analysis of advanced sensor data like LiDAR, RADAR, and high-resolution cameras for mapping, object recognition, surveillance and security.

OnLogic's compact industrial AMD Ryzen™ processor-based edge server, the MC850-40, features a small footprint (roughly the size of a shoebox), and takes advantage of the AMD Ryzen™ CPU's powerful compute engine, security features, and PCIe x16 expansion for accelerated GPU or networking applications.

The MC850-40 incorporates an AMD Ryzen™ 3rd Generation 3950X processor, includes 4 USB ports, 2 10Gb LAN ports, 1 IPMI, and offers up to 64 GB DDR4 SO-DIMM memory and dual 2.5" SATA storage drives. It provides extremely fast storage and capable connectivity in a small device.

The rackmount AMD EPYC™ CPU-based edge server, called the MK400-60, is a highly expandable 4U rackmount device with advanced security features, and multiple PCIe expansion ports for accelerated GPU or networking applications.

The MK400-60 uses the AMD EPYC™ 7002 Series Processors, and includes 4 USB ports, 2 10Gb LAN

ports, 1 dedicated IPMI, 1 VGA, 1 Serial and 1 UBS 3.1 Gen2 Type C. Users have up to 512GB DDR4 DIMM Memory and dual M.2 & U.2 NVMe storage drive options. The flexibility of the MK400-60 platform allows customers to find the right components for their applications and add them as warranted.

STANDING THE TEST OF TIME

For OnLogic, one of the primary benefits of working with AMD is their planned processor availability for AMD Embedded processors, where supply can extend up to 10 years, providing customers with a long-lifecycle roadmap. OnLogic's industrial customers simply want to 'set it and forget it' in their mission-critical, 24x7x365 environments. They also want to be able to source their solutions for years at a time. OnLogic's team can help its clients choose newer technology when it makes sense to upgrade. They're deploying the new servers with the best technology available, and it may be years before many of the customers need to upgrade.

Because OnLogic believes the security features in the AMD devices are excellent out of the gate, they use its dedicated ports for out-of-band management and trusted platform module (TPM), which makes the process of moving into network applications and other devices easier.

OnLogic's goal was solving the problem of capturing and reacting to data as it's being generated by moving the analysis and learning to the edge. The resulting servers allow their customers to fit an immense amount of compute into a small system, helping reduce latency and cost by being able to deploy them virtually anywhere and scale them up as needed.

ABOUT ONLOGIC

OnLogic is a global industrial computer manufacturer that designs highly-configurable, solution-focused computers engineered for reliability at the IoT edge. OnLogic systems operate in the world's harshest environments, empowering customers to solve their most complex computing challenges, no matter their industry. Fueled by a unique, direct-to-customer business model that combines vertical integration, modular product design, and a powerful online platform, OnLogic produces computers designed to last, built to order, and delivered in days. Founded in 2003 as Logic Supply, the company has offices in the U.S., Netherlands, Taiwan and Malaysia, and has helped more than 70,000 customers worldwide solve their most complex hardware challenges. Learn more about how OnLogic is helping innovators advance their ideas at **www.onlogic.com** or on Twitter **@OnLogic***

ABOUT AMD

For more than 45 years AMD has driven innovation in high-performance computing, graphics and visualization technologies – the building blocks for gaming, immersive platforms and the datacenter. Hundreds of millions of consumers, leading Fortune 500 businesses and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit **www.AMD.com**

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