



Case Study

Layer 4 LAN & WAN Accelerator

The importance of eliminating bandwidth bottleneck

Many modern corporates require substantial bandwidth for optimal performance. Bandwidth bottlenecks can hinder effectiveness and productivity. Especially with the rise of remote work, the need for reliable and high-speed connectivity has become even more critical. Therefore, solving bandwidth bottlenecks is crucial for corporates.

Challenges

The customer focuses on next-generation network technologies that offer solutions to bandwidth bottlenecks and performance problems in wired and wireless internet networks. The customer was looking for a desktop and a rackmount customized network appliance platforms to build Layer 4 LAN & WAN accelerator solutions for enterprises.

Main Requirements

Desktop Compact Network Appliance

- Quad-core low power Intel® Celeron® processor
- 16GB eMMC onboard
- Four GbE LAN ports and one management port

1U Rackmount Network Appliance

- High performance Intel® Atom® processor onboard
- Supports SR-IOV
- Four SFP+ ports

The compact network appliance devices ensure high-speed traffic for enterprises

Axiomtek has proposed its NA346 and NA362R with customized adjustments. The NA346 is an ultra-small desktop network appliance powered by the Intel® Celeron® processor N3350. It comes with four 10/100/1000 Mbps LAN ports for applications such as entry-level SD-WAN, VPN and security gateway. It has a PCIe Mini Card slot for Wi-Fi or LTE module, and it is Microsoft Azure IoT Edge certified.

The NA362R is a 1U rackmount network appliance platform with six 10/100/1000 Mbps LAN ports

and up to four 10 GbE SFP+ fiber ports. It supports the Intel® Atom™ processor C3558/C3758 and has four DDR4 slots for memory up to 128G. The flexiWAN-certified platform supports Intel® QuickAssist Technology (QAT) and Intel® Data Plane Development Kit (DPDK). It is suitable for VPN, network bandwidth controller, firewall, and UTM applications.

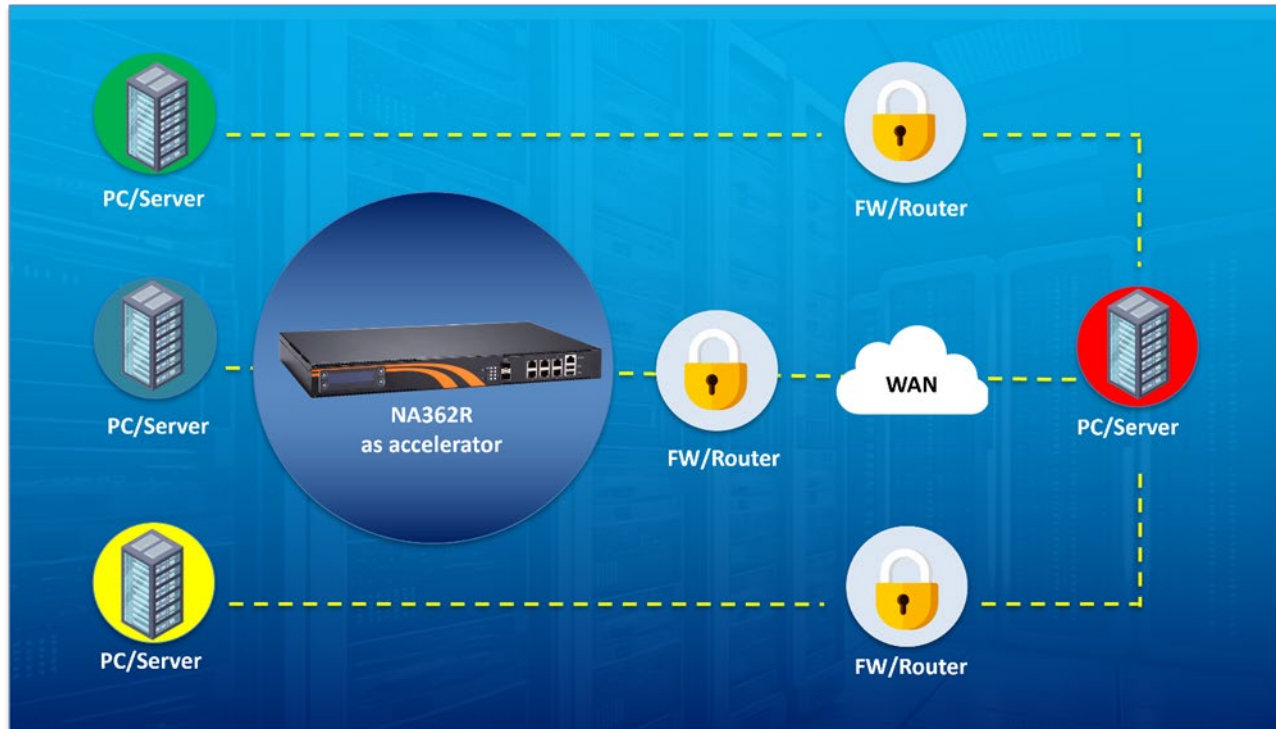
Application

Enhancing Network Performance: Solutions for Latency and Bandwidth Optimization

The customer utilized Axiomtek's NA346 to customize its desktop network appliance. The platform is designed for small and medium businesses that face speed and latency issues caused by internet traffic. It is purpose-built for enterprises and organizations that require speedy data transfer volume over LAN & WAN. The Layer 4 LAN & WAN accelerator reduces latency by managing the bandwidth bottleneck.



The customer also applied Axiomtek's NA362R to customize its rackmount network appliance devices, using the bandwidth at maximum efficiency. The platform is aimed at being deployed in medium and large enterprises. The accelerator offers a higher speed performance.



System Configurations

NA346

- Small form factor with fanless and noiseless design
- Intel® Celeron® processor N3350
- One DDR3L-1866 SO-DIMM for up to 8GB of memory
- Four GbE RJ-45 ports (Intel® I211)
- Two PCIe Mini Card slots for mSATA (optional)
- One PCIe Mini Card slot for WiFi or LTE module
- Suitable for IoT security applications
- Microsoft Azure IoT Edge certified

NA362R

- 1U Rackmount network appliance
- Intel Atom® processor C3558/C3758
- Four DDR4 R-DIMM/U-DIMM for up to 128GB of memory
- Six GbE RJ-45 and four 10GbE SFP+ ports
- Supports SR-IOV for extended virtualization capabilities

- Supports Intel® QuickAssist Technology (Intel® QAT)
- Supports Intel® Data Plane Development Kit (Intel® DPDK)
- Suitable for VPN, network bandwidth controller, firewall, and UTM applications

Why Axiomtek

As one of the leaders in the global IPC market, Axiomtek provides high quality, customizable network appliance platforms for system integrators, service providers, and applications developers.

Axiomtek is able to facilitate customization from custom bezels and logos to the design and manufacturing of new CPU boards and systems based on different specifications. As for network appliances in which network I/O plays a key role, they can be customized to be suitable for the solutions.

“We are focused on developing next-generation network technologies to enable our customers to enrich their business offering. We are delighted that we have achieved success together with Axiomtek. Its professional helps us improve the increasing bandwidth cost and capacity problems of internet users of all sizes,” said the R&D director of the customer.

About Axiomtek Co., Ltd.

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware, and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively-designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value, and the expertise our customers need.