



Case Study

Open uCPE Solution (NA720)

The universal customer premises equipment constructs SD-WAN with more secure connectivity and reasonable cost

Software-defined wide-area networking (SD-WAN) has been the center of focus when it comes to internet connectivity for corporates that have multiple branches around the world. The SD-WAN uses software to manage and partition the traffic of different connections like LTE, MPLS and broadband; it also lowers the high cost of private lines and provides a secure connection to enhance access to the software as a service (SAAS). Moreover, the overall network infrastructure can be managed more easily by one centralized controller. Taking the advantage of Zero Touch Provisioning of SD-WAN, as soon as the “white box” networking device, the universal customer premises equipment (uCPE) is installed, the network can be established right away.

Challenges

The customer was looking for a 1U rackmount white box to build open uCPE solutions for enterprises. In order to run the vCPE® software, it requires the network platform with the high-end, multi-core Intel® Xeon® processors for enhanced reliability and performance as a SD-WAN router. In addition, the network appliance must feature the Intel® SR-IOV to achieve virtualization. It also needs to be equipped with extra NIC slots for flexibility and a variety of power options.

Main Requirements

- Server-class Intel® Xeon® processor with up to 16 cores
- Supports customer’s vCPE operating system
- SR-IOV virtualization extended capabilities
- NIC slots for extra LAN or SFP+ ports
- Redundant or DC power supply options
- Customized form factor with customer’s logo

Axiomtek's NA720 provides reliable performance for the network

Axiomtek has proposed its **NA720**, a 1U rackmount network appliance powered by the server-class Intel® Xeon® processor D-1527. It comes with two 10GbE SFP+ ports, eight Gigabit Ethernet ports and two expandable LAN modules supporting 1GbE/10GbE/Fiber/Copper/Bypass with a maximum of 26 LAN ports. Four DDR4-2400 MHz R-DIMM/U-DIMM sockets can provide system memory of up to 128GB and support both ECC and non-ECC memory types. For storage, it supports one mSATA and two 2.5" SATA hard disk drives.

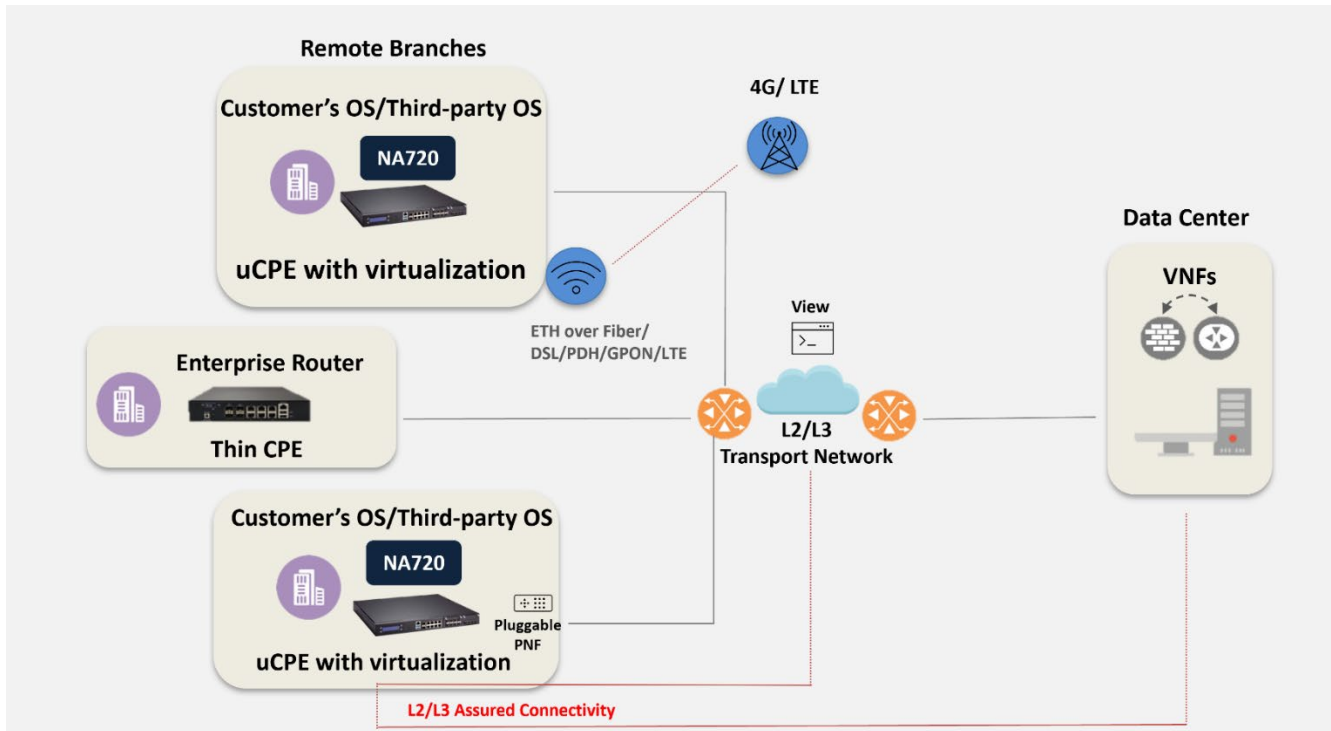
To enhance reliability, the NA720 is equipped with two pairs of LAN Bypass functions for fail-over option as well as featuring BIOS console redirection. Trusted Platform Module (TPM 1.2) is also supported to provide efficient hardware-based data protection. In addition, it supports the mainstream Linux operating system.

Application

The NA720 has been deployed to provide access to on-demand functions and connectivity management

The customer has adopted Axiomtek's NA720 as uCPE to run Virtualized Network Functions (VNFs) including SD-WAN to build the open uCPE solution. The system combines powerful networking capabilities with virtualization for hosting SD-WAN and any other value-added VNFs from any vendor. In the solution, the universal customer premises device can include the function of a router, firewall, monitor, etc. The solutions replace the traditional specialized hardware devices and allow users to utilize them as services in the cloud since they are software-based and can be set up virtually. It also saves time and cost that the technicians do not have to be on-site for network environment deployment, instead, at the moment it is plugged in, the functions can be set up remotely. As a result, the solution also simplifies and lowers the cost of management and maintenance.





System Configurations of the NA720

- Intel® Xeon® processor D-1527 (codename: Broadwell-DE)
- 288-pin DDR4-2400 for 64GB ECC system memory
- 2.5" SATA3 SSD with 1TB
- Max. up to 24 LAN ports and 2 SFP+ ports
- Supports SR-IOV for Intel® Virtualization Technology
- 2 expandable NIC modules supporting 1GbE/10GbE/Fiber/ Copper/Bypass (optional)
- Onboard TPM 2.0

*For detailed specifications, please visit www.axiomtek.com or go to Products > System & Platforms> Network Communication Platforms for > Rackmount Network Appliance for [NA720](#)

Why Axiomtek

With rich experience in researching and developing networking appliances for enterprises of different sizes, the system Axiomtek provides has met the demand of the customer. The customer can provide a complete solution as a system integrator and refashion the enterprise network with more secure and cost-effective connectivity and management.

“We provide an economical migration path to network edge virtualization via the disaggregation of software and hardware. Through the successful collaboration and the best service which we get from Axiomtek, our solutions allow our service provider customers to enrich their business service offering as they add value off the edge to businesses transitioning to the cloud”. product manager 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.

Axiomtek is a Member of the Intel IoT® Solutions Alliance. A global ecosystem of more than 800 industry leaders, the Alliance offers its members unique access to Intel technology, expertise, and go-to-market support—accelerating the deployment of best-in-class solutions.