

High Availability Retailer SD-WAN

Solution Brief

Lanner **128**
TECHNOLOGY

Solution Description

Retail chains today have shown growing reliance on advanced IT technologies to manage their inventories, transaction records and customer database. In particular, the global-scale retail chains may generate high-volume of transactions and customer data on a daily basis, and they have to manage inventory records in their warehouses worldwide. However, retail chains face the challenges in their network architecture. Traditionally, retailers rely on vendor-specific, disparate networking equipment and software, and therefore, OPEX have obviously increased when they expand in locations.

In order to maintain their profitability and cost-efficiency, global-scale retailers are seeking high-availability, agile networks that can eliminate outages, improve bandwidth and add services for their customers, while reducing operating costs. Thus, they have turned to SD-WAN to manage their networks.

Challenge

As cloud services grew in popularity, branch offices added Internet networking equipment alongside their legacy WAN access systems to provide responsive cloud service for workers. Since the legacy WAN equipment was already installed, the initial response was to add fixed-function appliances (middleboxes) for each new service and to create composite functions using service chaining of those appliances. But middleboxes come with high infrastructure and management costs because they are fixed-function appliances that utilize complex and specialized processors. Middleboxes also introduce management complexity in terms of variations in management tools across devices and vendors, and the need to consider policy interactions between these appliances.

Service function chaining of virtual middleboxes results in some minor cost savings, but places higher demands on the uCPE or complex chains in the cloud. Many of these problems can be resolved by providing integrated middlebox functions natively in the router.



Deployment

The combination of Lanner whitebox uCPE platform and 128T Session Smart technology has been deployed in various secure interconnect and SD-WAN scenarios:

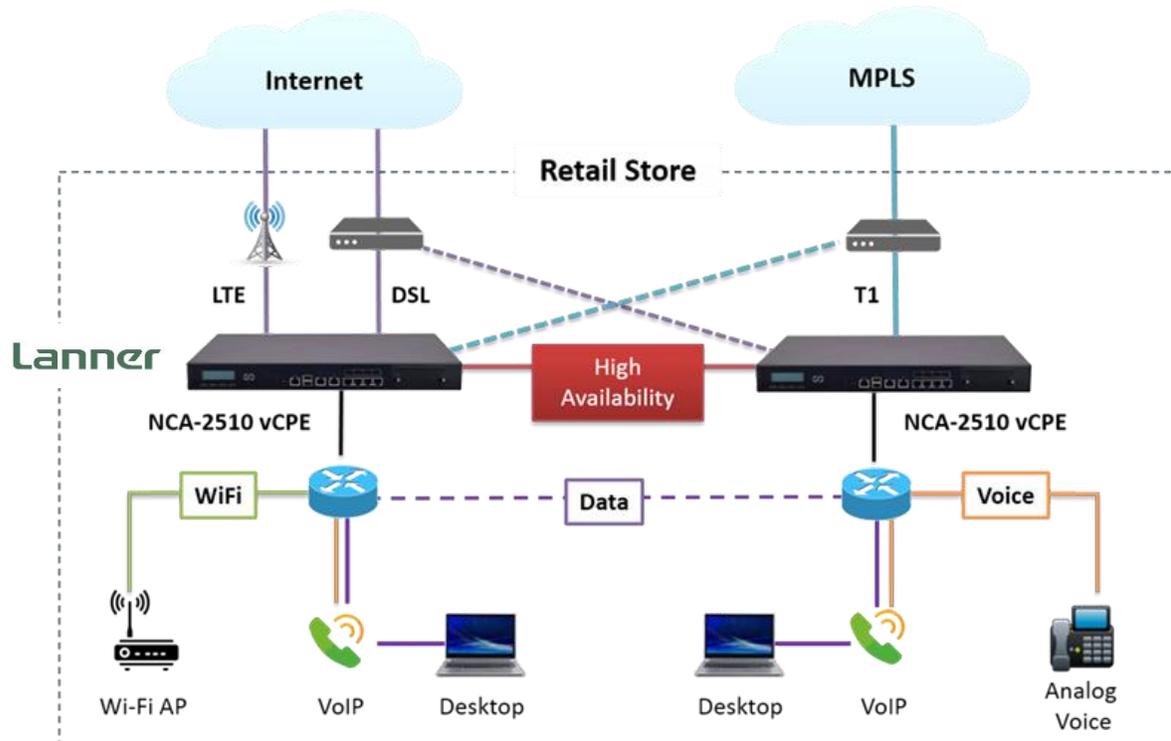
- An US-based carrier as a system integrator and installer came to Lanner for SD-WAN hardware, and Lanner cooperated with its SD-WAN software partner 128 Technology to develop an integrated solution to the targeted customer, a retail chain with around 5,000 branches. The CommSP chose the solution because it can switch from an active connection to a backup connection without the need for a pre-established backup tunnel without a service disruption. Prior to this joint development, the retailer adopted proprietary routers as WAN interconnect equipment. Once they have deployed the integrated SD-WAN solution from Lanner and 128 Technology, they can easily converge existing infrastructures such as MPLS service, cable modem, Wi-Fi, and 4G LTE through software-defined WAN, while ensuring constant uptimes, unified load-balancing and Zero-Touch Provisioning.
- A building materials manufacturer built its WAN using the technology and was able to realize outstanding application response with no need to add costly new network services. This was due to 128 Technology's innovative Smart Session Routing, which freed up bandwidth for users.
- A cloud-based communications provider deployed the solution in order to extend security and service level agreements (SLAs) to hundreds of hospitals. The solution enabled the service provider to have complete visibility and provide performance guarantees in case of any failures along the path.



Contact Lanner today for a whitebox uCPE platform www.lannerinc.com or contact@lannerinc.com

Deployment Scenario

High Availability SD-WAN for Retail Connectivity



128T Session Smart Technology

The combination of 128T Session Smart technology with innovative hardware from Lanner powered by Intel has been deployed in various secure interconnect and SD-WAN scenarios:

Session-Aware Data Plane

Transforms a stateless layer 2 or layer 3 network data plane into a fully session-aware, in-band signaling data plane. This allows computation and enforcement of deterministic end-to-end route vectors that can also serve multi-tenant applications.

Services Control Plane

For control, the 128T features a Services Information Base (SIB) that combines dynamic service policies and IP routing tables. This control plane is distributed among multiple platforms and features multitenant service enablement.

Open, Service-Centric Automation and Analytics

Applications, orchestration, and automation tools are enabled by RESTful and Netconf APIs, which provide the capability to integrate other networking applications.

Lanner Whitebox uCPE Platforms

128 Technology has teamed up with Lanner to develop a uCPE that combines its software running on Lanner white box servers. Several of Lanner's servers powered by Intel Atom® C3000 processors can be utilized for this uCPE application. NCA-2510 features features and throughput for vCPE, uCPE, SDWAN, and software-defined security applications.

- A virtualization-optimized 1RU-high server that utilizes Intel Atom C3000 processors
- Available with between 4 and 16 cores and up to 32 GB of memory.
- Supports up to four 10 GbE small form-factor pluggable (SFP+) optical connections in addition to a four-port Intel® Ethernet Server Adapter I350 Gigabit Ethernet controller.
- Leverages other Intel technologies including single root input/output virtualization (SR-IOV), Intel® Advanced Encryption Standard, New Instructions (Intel® AES-NI), and Intel® QuickAssist Technology (Intel® QAT).

Lanner Whitebox uCPE Appliances

NCA-2510 rackmount network appliance
<https://www.lannerinc.com/products/network-appliances/x86-rackmount-network-appliances/nca-2510>