



► Simplifying
Converged Networks

► Secure Wireless
Connectivity

► Preventing DDoS
Attacks with Firewalls

► Enterprise
Messaging Platforms

Lanner

Network Computing

Solution Brief

Simplifying Converged Networks for SMEs with An All-In-One Platform

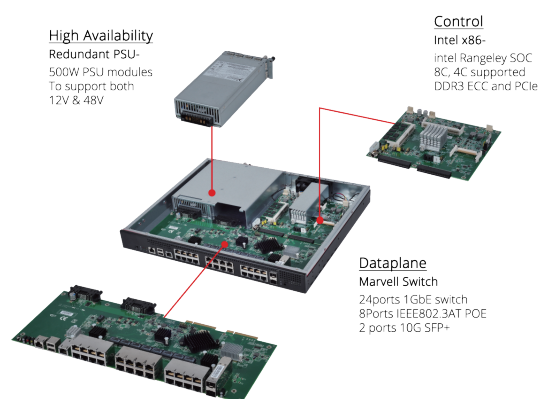
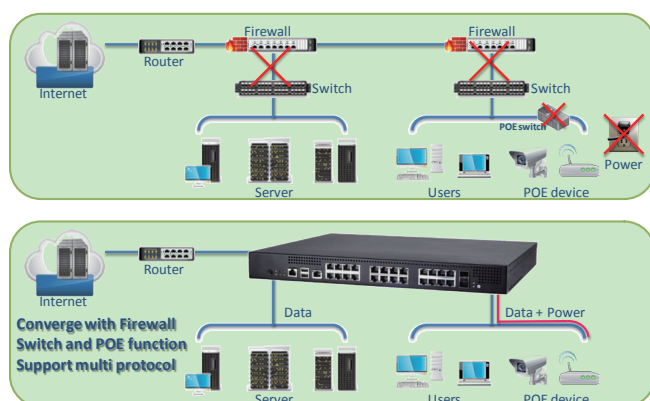


UP-2010

Background

Due to the rise of cloud computing and IoT (Internet of Things), enterprises all over the world have become highly concerned towards cyber security threats such as breaches. In fact, major corporations have invested billions of dollars into massive network segmentation process. Their IT teams have to operate among various networking appliances, familiarize themselves with different software interfaces and learn to handle complicated settings of each network segments. However, only large corporations can afford such infrastructure investments. For small and medium enterprises (SMEs), they need an economical solution for converged networking applications in data processing, cyber security and wireless management.

Lanner Solution



Security wise, UP-2010 can function as a 1U, port-stuffed UTM built with Intel® Atom™ C2758 processor. Empowered by Intel® security instructions such as Intel® QuickAssist Technology and AES-NI, UP-2010 is capable of processing cryptographic duties and packet inspection tasks. In order to run deep packet inspection, the CPU comes with Intel DPDK technology for inspecting small packets in an efficient manner. On the hardware security aspect, UP-2010 comes with TPM design for cryptographic keys. For data consistency, UP-2010 supports DDR3 ECC memories to secure data flow.

Though built in 1U rackmount network appliance, UP-2010 delivers high-density LAN ports and some even come with PoE capability. The appliance comes with 24 x 1GbE RJ45 LAN ports and two 10GbE SFP+ ports. In addition, 8 of the many Ethernet ports are PoE (Power-over-Ethernet) enabled, with IEEE 802.3at compliance to offer up to 30W per port power supply. This can reduce the need of implementing PoE extension routers for connecting IP cameras, wireless access points, VoIP phone systems or other network devices such as intercom systems. Empowered by Marvell® Prestera® 98DX3035 processor, UP-2010 can accelerate switching processes for its stuffed LAN ports, making UP-2010 capable of functioning as an exceptional network switch. UP-2010 also comes with redundant power supply.

Key Applications

- Converged Security Switch
- Firewall with PoE Switch
- Wi-Fi Controller
- Network Access Control
- UTM
- Next Generation Firewall
- SDN Controller

Simplifying Converged Networks for SMEs with An All-In-One Platform



UP-2010

Benefits

High Port Density

UP-2010 includes 25x GbE ports (8 of which have PoE) and 2x 10G SFP+ ports. High port count makes it easy to enforce custom security policies on different network segments.

PoE Capability

POE describes any standardized systems which allow a single cable to provide both data connection and electrical power to devices such as wireless access points or IP cameras.

Intel QuickAssist Crypto Acceleration Technology

As the complexity of networking and security applications continues to grow, systems need more and more computational resources for workloads, including cryptography, data compression, and pattern matching. Intel® QuickAssist Technology is designed to optimize the use and deployment of algorithm accelerators in these kinds of applications.

Optional Redundant Power Supplies

Network appliances need to run 24 hours a day, 7 days a week, and every failure, no matter the length of time is equal to lost dollars.

UP-2010 supports optional dual power supplies to ensure its high availability and serviceability.

TPM (Trust Platform Management)

Lanner Trusted Platform Module (TPM) provides the hardware security and secure boot with the cost effective solution to build up the best value system for mission critical application like finance, banking, healthcare, or military. Hackers will never get data through network. All operations will keep records for tracking.

10G SFP+ Fiber Ports

UP-2010 supports two onboard 10G SFP+ Fiber ports. FW-7573 provides one NIC module slot which can be expanded by various types of NIC modules (1G/10G/copper/fiber) with a maximum of 14 Gigabit Ethernet ports.

Featured Products



UP-2010

1U Rackmount Network Appliance with High-port Density & PoE

- 8 x PoE ports for wireless access points or IP cameras
- High-port density with 24 x 1GbE RJ45 copper ports plus 2 x 10GbE SFP+
- Intel® Atom™ C2758 8-core, 2.4 GHz
- Marvell® Prestera® 98DX3035 packet processor
- Built-in Intel® QuickAssist acceleration technology
- Compliant with IEEE 802.3at PoE standard for up to 30W per port power supply
- PoE configuration interface
- Supports DDR3 ECC memory
- 1 console port, 1 management port, 2 x USB ports
- Onboard TPM support, optional redundant power supplies



FW-7573

Rackmount x86 Network Security Platform with 8-core Intel® Atom® C2000 Series Processor

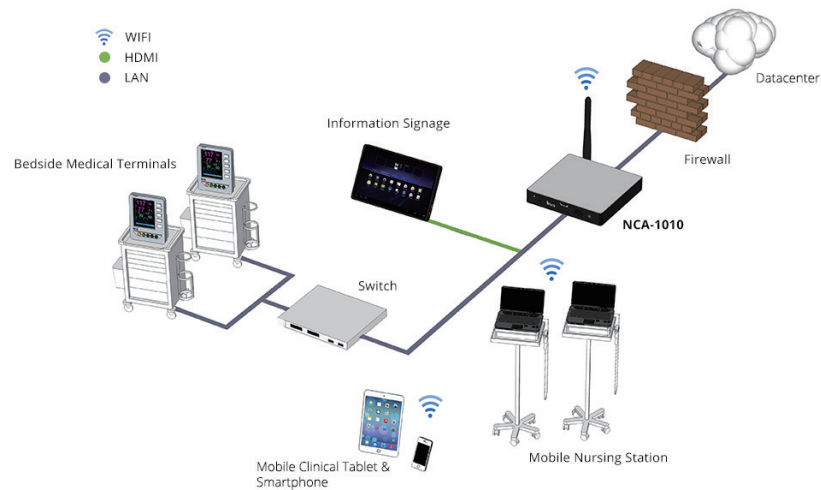
- Intel 8/4-core Atom C2758/2518 SoC CPU (codenamed "Rangeley")
- High port density for a 1U rackmount, with a maximum of 14 Gigabit Ethernet ports
- Supports Intel® QuickAssist crypto acceleration
- Supports up to 16 GB ECC DDR3 memory
- Intel i210AT LAN controller
- Supports 3rd Generation LAN Bypass function
- Built-in LCM with keypad
- 1 x NIC expansion slot for various types of NIC modules (1G/10G/copper/fiber)
- Optional rear PCIe expansion slot



Background

Today, many hospitals wards have been implemented with wireless network infrastructures for healthcare uses. By leveraging the concepts of IoT (Internet of Things) to connect medical devices and patient data to the cloud, medical staff can optimize their efficiency while reducing unnecessary workloads when traveling around wards.

Lanner Solution



Lanner's newly introduced NCA-1010 comes in a highly compact form factor, with a size of two smartphones at dimensions of only 124.26 x 19.4 x 119.66 mm. The small form factor allows it to be deployed in any corner of a hospital ward since this type of environment is usually packed with basic furniture setting, nursing medical cart and various medical instruments. Featuring low-powered Intel® Atom™ E3815 (codenamed Bay Trail) SoC architecture, NCA-1010 offers satisfying processing power and advanced security function. This SoC is pre-programmed with Intel® AES-NI and Secure Boot. These hardware-assisted features ensure endpoint and content protection, while only allowing chosen software to run on NCA-1010. This feature will make sure security is addressed properly. Since hospital information is often confidential, NCA-1010 provides another security measure by offering TPM (Trusted Platform Module) design. The micro module incorporates cryptographic keys to reinforce NCA-1010 in security management.

Connectivity wise, NCA-1010 also comes with rich I/O settings. To link to networking devices around the hospital wards, this device provides 3 RJ-45 Ethernet LAN ports and a mini-PCIe expansion socket for Wi-Fi module insertion. To establish connections with peripheral devices, NCA-1010 offers one USB2.0 port, one USB3.0 port and a HDMI port for Full HD digital signage display. Together with compact size, rich I/O, as well as powerful Intel processor with enhanced security features, NCA-1010 is an ideally deployable solution to manage the network flow in hospital wards and it is a conveniently time-to-market platform.

Key Applications

- Multi-Service Gateway/ Controller
- Firewall/UTM
- IDS/IPS
- Wireless Gateway
- Media Player
- Information Signage



Benefits

Compact & Fanless Design

The small form factor provides deployment flexibility, especially in environment where space is limited. Without the most frequently replaced part, the systems can be widely deployed in various environments.

Wireless Connectivity

Support Wi-Fi, 3G, 4G/LTE modules and antenna for wireless network connectivity.

Low-power Consumption

The entry-level network appliance uses low power Intel® Atom™ processor with lower TDP (Thermal Design Power).

LAN Bypass

Bypass ports allow uninterrupted network traffic even if a single in-line appliance is shut down or hangs. Lanner's engineers have improved on standard bypass functionality to provide higher reliability and greater control.

Featured Products



NCA-1010

Compact Fanless x86 Network Appliance with Intel Bay Trail Platform (Atom E3800 CPU)

- Ultra Compact form factor
- Intel Atom E3815 or E3825 CPU (codename Bay Trail)
- 1 x DDR3L SODIMM memory up to 4GB
- Fanless design
- Built-in security engine: hardware assisted AES-NI
- 3 x RJ45 GbE LAN ports, 1 x USB 3.0, 1 x USB 2.0, 1 x HDMI port
- 1 x full-length mini-PCIe slot for Wi-Fi/BT/3G/4G/LTE connectivity
- 1 x half-length mSATA-mini
- 1 x antenna hole

Crypto Acceleration

As the complexity of networking and security applications continues to grow, systems need more and more computational resources for workloads, including cryptography, data compression, and pattern matching. Intel® QuickAssist Technology is designed to optimize the use and deployment of algorithm accelerators in these kinds of applications.

Enhanced Security Features

Built-in AES-NI new security instruction set to shorten system development life cycle.

TPM Support

Lanner Trusted Platform Module (TPM) provides the hardware security and secure boot with the cost effective solution to build up the best value system for mission critical application like finance, banking, healthcare, or military. Hackers will never get data through network. All operations will keep records for tracking.



FW-7525

Fanless Desktop x86 Network Security Platform with Intel® Atom™ C2000 Series "Rangeley" Processor

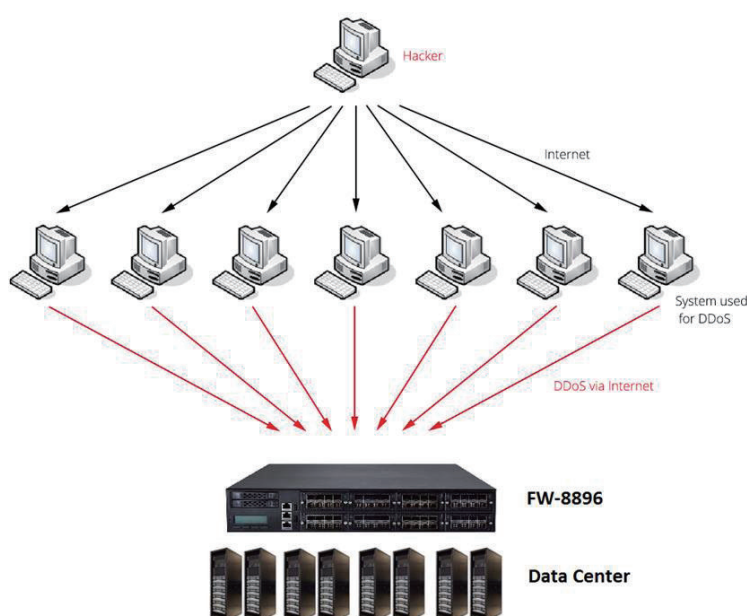
- Intel® Atom™ processor C2358 2-core or C2518 4-core (Codename "Rangeley")
- Fanless design
- 4 or 6 x GbE RJ-45 LAN ports
- Built-in Intel® QuickAssist crypto acceleration
- Intel AES-NI new instructions
- Support up to 8GB DDR3 memory
- Intel i210AT LAN controller
- Support 1 pair Gen.2 LAN Bypass (FW-7525A/C)
- Optional rack mounting kit support



Background

DDoS, the abbreviation of “Distributed Denial-of-Service”, is a malicious attempt against websites, servers, or networks unavailable to provide its services or resources to its intended users. The following article will discuss the background and types of DDoS attacks, and also get into the methods of prevention and protection.

Lanner Solution



With the rising complexity in network attacks, ordinary, standardized firewalls or IPSs alone are not enough to protect targeted networks from DDoS. To build up a comprehensive prevention, Lanner offers robust and powerful platforms built in well-consolidated architectures highly essential for enterprise and industrial network management. The necessary elements include the following:

- High processing power CPU to run deep packet inspections in efficient manners. For instance, Intel® Xeon® E5-2600 series. To counter highly complicated DDoS attacks, only top performing CPUs can handle multiple detection and mitigation tasks.
- A complimentary chipset or PCH to work with the CPU in coordinating with peripherals. For instance, Intel Wellsburg PCH can communicate with IPMI LAN ports, PCIe lanes and storage devices in high efficiency.
- High-port density and ultra bandwidth, from 10GbE to 40GbE Ethernet LAN.

By taking the above technological benefits into considerations, Lanner offers a high-end, well-rounded security system FW-8896, optimal for web traffic filtering, content detection and network optimization.

Key Applications

- Multi-Service Gateway/ Controller
- Firewall/UTM
- IDS/IPS
- Wireless Gateway
- Media Player
- Information Signage



Preventing DDoS Attacks with High Performance Network Appliances

Benefits

High-performance CPU

The Intel® Xeon® processor series provides Intel® Virtualization Technology for flexible virtualization, as well as Intel® QuickPath Technology, Intel® Turbo Boost Technology and Intel® Hyper-Threading Technology.

Intel® DPDK

Intel® DPDK improves throughput by 3 to 4 times on the Intel® multi-core processor architecture. Lanner has developed Intel®DPDK-based hardware as well as software components that allow both software vendors and application developers to accelerate network packet processing performance.

Remote Management

With Lanner's IPMI add-on card, network appliances can be managed at a central location remotely to configure, install, reboot and shut down through firewalls and NATs. The card features SSL encryption, and comes with an SDK so you can create a custom management console for your appliance.

Flexible NIC Module

Enhance the performance and bandwidth of your network appliance according to your needs with these front-facing and easily swapped modules. Choose from over 20 different Ethernet network modules, including RJ-45 copper, fiber, bypass and speeds from 1GbE, 10Gbps to 40Gbps.

High Reliability (FAN/Power supply)

Many top-of-the-line network appliances utilize dual power supplies to ensure a constant flow of power. These appliances are relied on to be in operation 24 hours a day, 7 days a week, and every failure, no matter the length of time is equal to lost dollars. Therefore, smart network maintenance experts utilize dual power supplies, often attached to different sources of power to make sure these appliances do not fail.

Featured Products



FW-8896A/B/C/D

High-performance x86 Network Security Appliance based on Dual Intel Xeon E5-2600 v3 CPUs

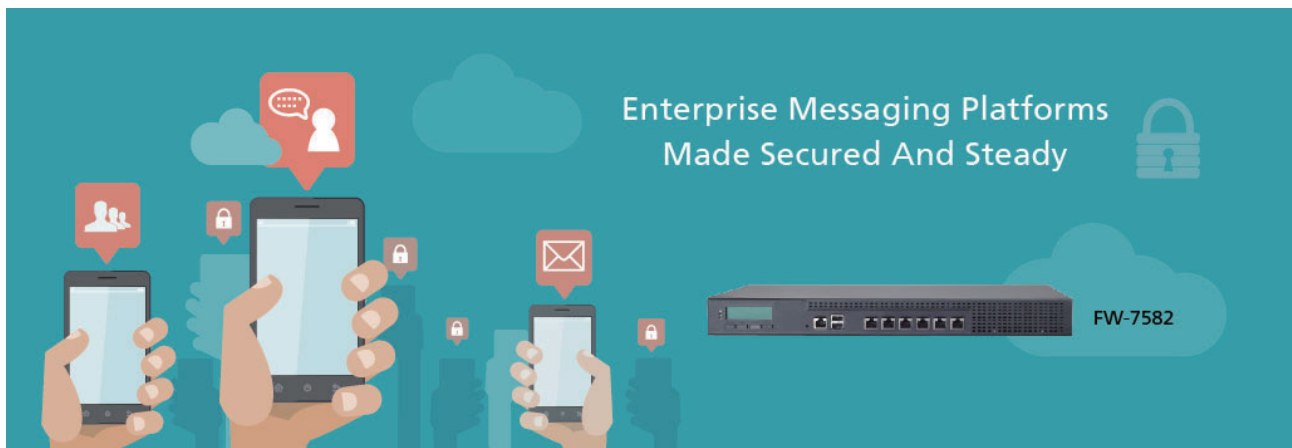
- Support dual Intel Haswell-EP Xeon E5-2600 v3 CPU with C612 chipset
- Low-powered DDR4 2133 MHz (Max. 512 GB)
- 8 NIC module slots (up to 64 GbE ports)
- FW-8896A/C with Coletto Creek 8925 acceleration chip
- 1+1 ATX 600W/800W redundant power
- 1x PCI-E x8 expansion at rear
- OPMA slot for IPMI
- Gen. 2 or Gen. 3 LAN bypass function
- Support N+1 hot-swappable cooling fans with smart fan control



FW-8896E/F/G/H

High-performance x86 Network Security Appliance based on Dual Intel Xeon E5-2600 v3 CPUs with Swappable Drive Bays

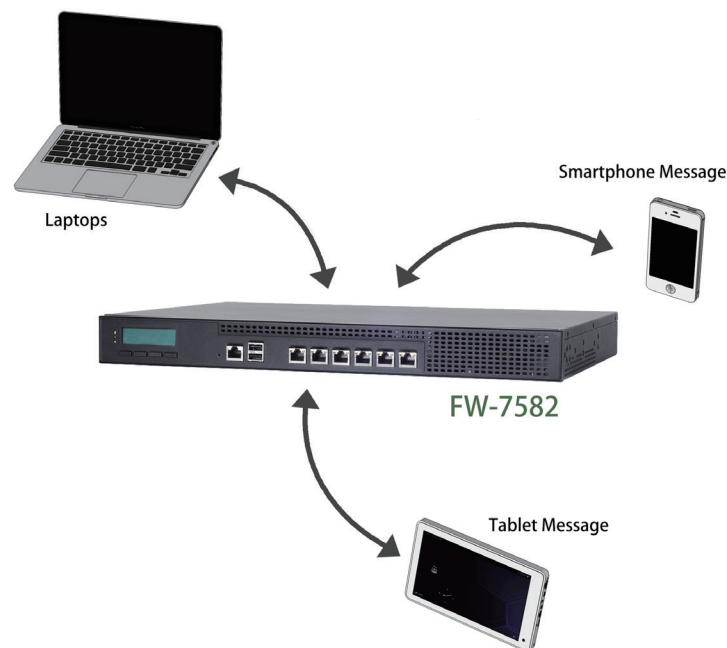
- Support dual Intel Haswell-EP Xeon E5-2600 v3 CPU with C612 chipset
- 2 x Swappable drive bays
- Low-powered DDR4 2133 MHz (Max. 512 GB)
- 8 NIC module slots (up to 64 GbE ports)
- FW-8896E/G with Coletto Creek 8925 acceleration chip
- 1+1 ATX 600W/800W redundant power
- 1x PCI-E x8 expansion at rear
- OPMA slot for IPMI, dual management ports
- Gen. 2 or Gen. 3 LAN bypass function
- Support N+1 hot-swappable cooling fans with smart fan control



Background

A client in Asia Pacific with expertise in enterprise messaging software came to Lanner for hardware backend platform to reinforce an efficient mobile enterprise messaging environment. The main objective from the client is to build up a secured enterprise messaging platform different from other commercial or consumer level counterparts.

Lanner Solution



Lanner's FW-7582 is the ideal hardware backend for this case. This model offers several processor options based on Intel® Sandy Bridge, ranging from the entry-level Celeron® series, to the intermediate Pentium® line, and even the high-end Core™-i series. All supported CPU options are compatible with mainstream operating systems. This will ensure seamless integration between the hardware and the software.

Customization wise, the Intel x86 architecture of FW-7582 offers the scalability and high-availability for further customizations in I/O designs. With its Sandy Bridge nature, FW-7582 offers virtualization power (for selected CPUs) for VPN and other virtual machine networking purposes, enabling FW-7582 to accommodate unlimited number of firewall, IPS, anti-virus and other monitoring mechanisms. For higher levels of security, the Intel Core™-i series supports further upgraded AES (Advanced Encryption Standard) for more up-to-date cryptographic operations. This will ensure message filtering to run more efficiently.

Key Applications

- Enterprise Messaging Platform
- Firewall/UTM
- IDS/IPS
- Unified Communication Server
- Network Monitoring System
- Information Signage
- Intrusion Prevention System



Benefits

Intel® 3rd generation Core™ Processors Support

The FW-7582 is compatible with both 2nd and 3rd* generation Intel® Core™ processors. The 3rd generation Intel® Core™ processor delivers increased performance with lower power, also enables multiple capabilities enhancing connectivity, responsiveness and security.

1U Rackmount

The system design to fit/mount standard rack in 1U(44mm) height. It's easy to manage or maintain in server room or Internet Data Center (IDC).

Rear PCIe Expansion

Some Lanner network appliances provide optional rear PCIe expansion for future upgrade. You may contact Lanner sales to purchase optional riser card when necessary.

Mini-PCIe Expansion

Lanner network appliances support mini-PCIe expansion, which allows customer to expand Wi-Fi, 3G, 4G/LTE modules and antenna for wireless network connectivity.

LCD Module

Lots of Lanner network appliances built-in LCD module for network administrator check equipment status or direct control without a PC connection. It is convenient for system setup and maintenance.

LAN Bypass

Bypass ports allow uninterrupted network traffic even if a single in-line appliance is shut down or hangs. Lanner's engineers have improved on standard bypass functionality to provide higher reliability and greater control.

Featured Products



FW-7582

1U Rackmount Intel H61 Network Appliance with PCI-E (8) Golden Finger

- Intel® Core™ i3, Pentium® G850, Celeron® G540 on LGA1155
- Max 16 GB DDR3 RAM
- 1 X 2.5" or 1 X 3.5" HDD Bays
- Type II CompactFlash
- Two USB 2.0 ports
- 1 x PCI-e (8) Golden Finger for expansion at rear
- One system fan & two CPU fans



FW-7568

1U Network Appliance with Dual Core Intel® Atom™ D525 CPU and 6 or 8 GbE Networking ports

- Intel® Atom™ Dual Core Pineview
- Up to 6 or 8 networking ports
- Mini-PCIe expansion slot
- Smaller form factor