



A Passion  
for Innovation

# 2021

## Network and Communication Solutions

- Cyber Security
- Edge and Cloud
- 5G and uCPE
- Industrial Security

# NCS

## Network and Communication Solutions

Cyber Security  
Edge and Cloud  
5G and uCPE  
Industrial Security

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# About NEXCOM

## Reliable Partner for the Future Network

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent solutions. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions, Intelligent Video Security, Intelligent Platform @ Smart City, Mobile Computing Solutions, Medical and Healthcare Informatics, Network and

Communication Solutions. This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating five subsidiaries, from China, Japan, Taiwan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.

Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.



<b>IAS</b>	IoT Automation Solutions: Industrial Automation & I4.0 Execution, Intelligent Edge, Gateway & EWR, Industrial Robot Control, EtherCAT Motion Solutions, Wireless & Embedded Solutions for Industrial IoT
<b>IDS</b>	Intelligent Video Surveillance: IP Video Surveillance Cameras, Mobile Cameras, ANPR/LPR Network Cameras, Panoramic Cameras, NVR Server Platform
<b>IPS</b>	Intelligent Platform @ Smart City: Smart City, Smart Retail, Digital Signage, Interactive Kiosks, Hospitality, Gateway, AI Edge and ODM Customization Services
<b>MCS</b>	Mobile Computing Solutions: Rugged Vehicular Computers and Equipment, Vehicular Telematics Computers, Railway Computers, In-Vehicle AI
<b>MHI</b>	Medical and Healthcare Informatics: Total Solutions with a Variety of Medical IT Systems
<b>NCS</b>	Network and Communication Solutions: Network Security, HPC, Telecommunications, Storage, SDN/NFV, Industrial Security

## Corporate Vision

To become the industrial leader in providing intelligent solutions, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by:

- Great team work
- Cooperation with trusted partners
- Growth through innovation

## Corporate Mission

- An innovative supplier in vertical application markets
- A quality partner in engineering, manufacturing and services

## Business Strategy

Aim to better support the activities of all its partners, NEXCOM divides its sales force into eight dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical solutions, optimized for the next wave of IoT and Industry 4.0 solutions.

## Research and Development

### Innovation, Quality, Speed and One-stop Service

Over a decade ago, NEXCOM successfully launched the PEAK series of Single Board Computers onto the IPC market, and in doing so, gained a solid reputation for product quality and innovation. In subsequent years, NEXCOM has enhanced its reputation for R&D excellence with a multitude of high-end technology products, which has cemented NEXCOM as one of the industry leaders for R&D and innovation.

The mission of NEXCOM R&D team is to design exceptional products that meet the stringent requirements of today's global markets. In order to achieve this goal, we have recruited hundreds of talented engineers who have the knowledge and expertise to make NEXCOM's products stand out in this highly competitive market.



NEXCOM offers solutions for IoT gateway, robot controller, connected cars, Industry 4.0, and industrial security applications. The team is encouraged to "Think with New Ideas" and "Know how to make it and do it right first time". In addition, NEXCOM's R&D team has been expanded to over 300 engineers with the ration of software engineers to hardware engineers coming to about 1:1, and remains as one of core competences of the company.

## Versatile Design Capabilities

- Fanless technology for industrial computer
- High availability network security platform, blade, and cPCI
- Rugged tablet computer and car PC

- Ultra small footprint computer-on-module
- High speed networking
- Isolated and non-isolated power system
- Isolated and non-isolated industrial I/O
- Wide range of operating temperature

## 24/7 Production Line

### Optimal Manufacturing Efficiency

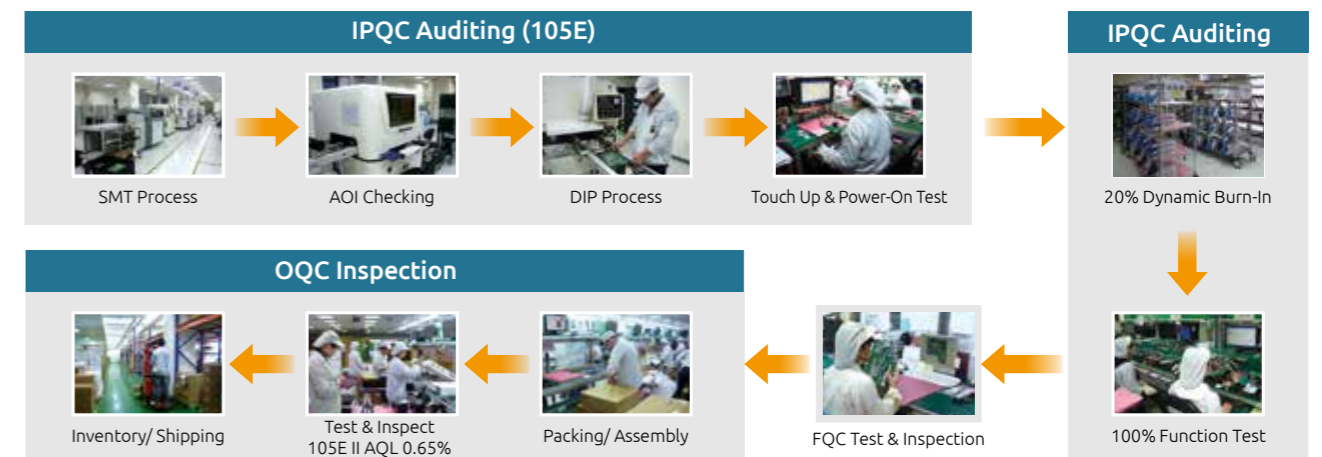
The manufacturing of delicate products requires a high-level technology, craftsmanship, standards and time-to-market efficiency. Over years continual investment in advanced manufacturing equipment and systemic training programs has enabled NEXCOM to obtain optimal manufacturing efficiency.

To fulfill the increasing market demand for NEXCOM's products, the company has opened a 24/7 production line. This investment not only furthers the quality of products, but also reduces production lead-time for all global customers.



## Quality Assurance

Under a strict Quality Assurance System, product design and reliability are controlled to support all critical solutions, and ensure Total Quality Assurance (TQA) implementation for all NEXCOM products and service. Furthermore, NEXCOM technical support team aims to provide feedback within 24 hours to ensure technical issues are resolved in the shortest possible time.



### Closed-Loop Quality Assurance System

## Green Policy

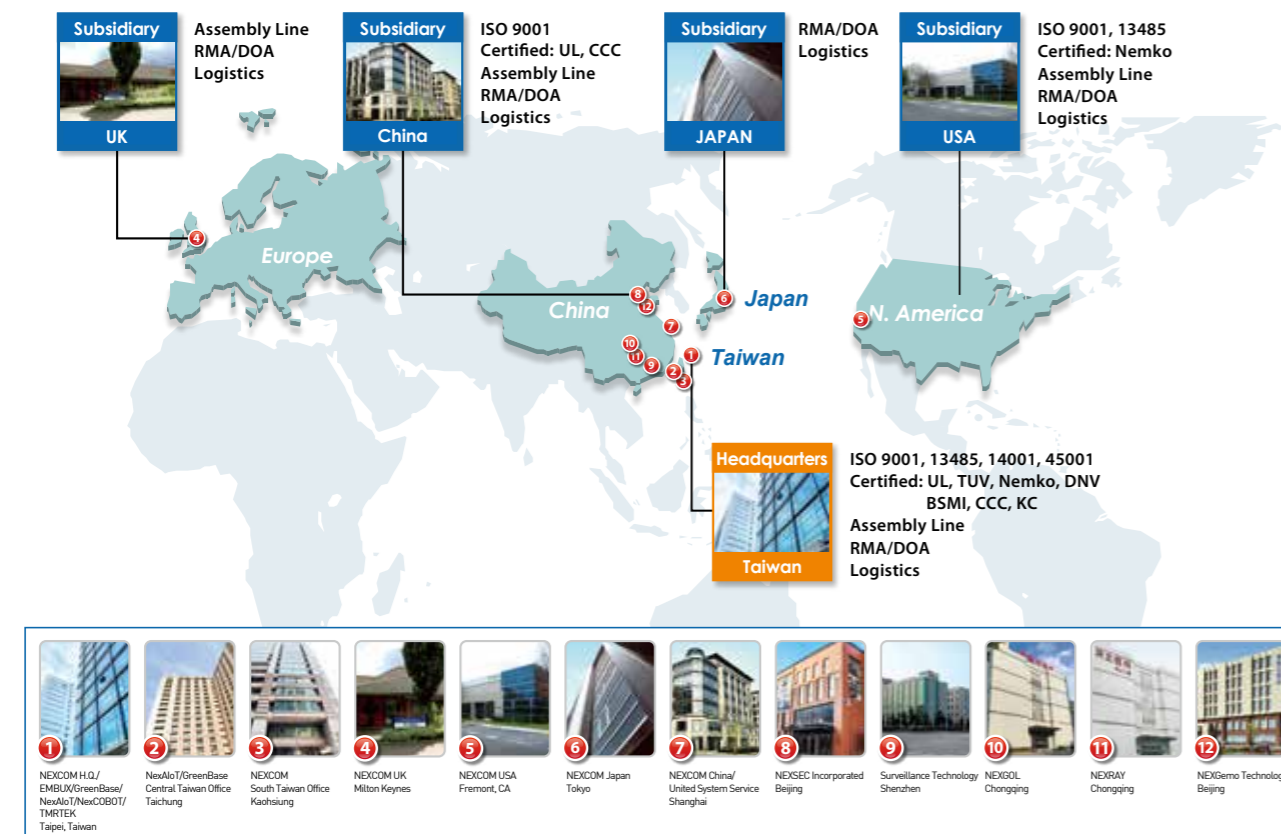
As a global citizen, NEXCOM is committed to providing green products and services, which are compliant with WEEE and RoHS legislation. NEXCOM continues to proactively work with industry peers and suppliers, to clarify standards, and identify compatible technologies and practices that help reduce hazardous substances from our products and manufacturing processes.



## Global Fulfillment Service

Product delivery and customer support are always more effective when delivered locally. NEXCOM localizes support and provides a global customer service network to handle all aspects of global business, from presales, order taking, and system assembly to logistics. For expeditious product delivery, NEXCOM has established four regional service centers: Taiwan (For Asia), USA (for North America and South America), the United Kingdom (for Europe) and China. Therefore, NEXCOM customers benefit from quality assured product assembly and four service centers.

NEXCOM has invested heavily to establish operational infrastructures, including advanced equipment and facilities, not only at its global headquarters but also at subsidiary offices. Today, each of our service centers, with ISO 9001:2008 certification, has a purpose built assembly line, RMA/ DOA center and warehouse storage capability.



NEXCOM Global Service Network

## Assembly Line Operation

NEXCOM offers custom-built products based on customers' specific requirements through the build-to-order services. A dedicated 24/7 assembly line and Quality Assurance System are installed in the services center to ensure exceptional production efficiency and superb product performance and reliability.

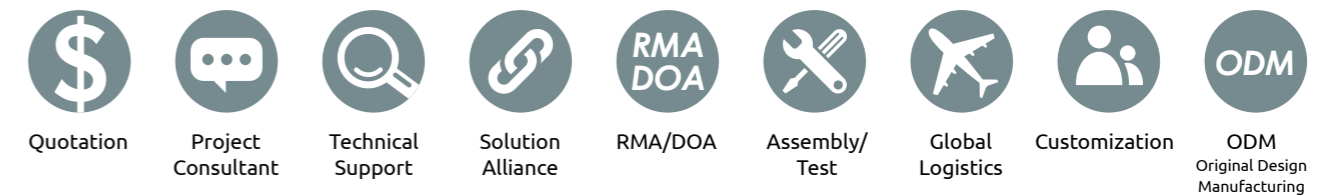


## Service Pledge and Connection

As a reliable intelligent systems provider for vertical markets, NEXCOM provides the very best products and the most expeditious service to help customers build the digital infrastructure. Comprehensive types of service are provided to promptly satisfy varying requirements. In addition to the headquarters in Taiwan, seven subsidiaries and distributors in strategic worldwide locations are at your service.



## Service Types



## Your Truly Global Information Resource

### www.nexcom.com

www.nexcom.com is your one-stop platform for the latest information on all NEXCOM products and services. The rejuvenated website not only contains product relevant information and data, solutions/ products demo, up-to-date news, but incorporates online downloads, publications, and technical service supports, such as RMA/ DOA centre. Furthermore to localize service and support, seven NEXCOM sister websites remain to serve visitors in diverse geographical regions.



## Get the Latest Updates Anytime, Anywhere

### m.nexcom.com

At the end of the year 2011, NEXCOM launches its mobile site, m.nexcom.com. The site aims to cross time and space boundaries by allowing users to access the latest innovation and information of NEXCOM via smartphones. On this website, users will easily find our latest products, news, application stories, white papers, and videos. The mobile site now supports iOS and Android system. Please visit us at m.nexcom.com.

# Design and Manufacturing Services (DMS)

## Customized Service for Tailor-Made Solutions

NEXCOM provides cost-effective and time-to-market Design and Manufacturing Services (DMS). The DMS offers product customization from core modular designs to finished products based on customers' specifications in all kinds of industrial field. The levels of the service include manufacturing new CPU boards and system based products to fulfill customers' unique applications.

## Unique DMS Features

With vast experience, the know-how, leading technology and innovative design capabilities, NEXCOM DMS incorporates the following features:

Prompt Time-to-Market



NEXCOM possesses a dedicated project management team to monitor and ensure each DMS project is delivered on schedule. Thus, a quick time-to-market solution can be offered with time-scales varying from one-three months for the design phase, with an average six month period from design to market.

Flexible Design and Manufacturing



NEXCOM possesses a complete R&D team to design and engineer the latest industrial grade products. As R&D engineers grouped into small cross-functional teams, they can develop more reliable products with flexible designs and quicker response to customers' requirements. In addition to our R&D capabilities, the state of art manufacturing facility and production lines enables NEXCOM to offer a flexible manufacturing with highly skilled factory staff.

Rigid Quality Control



NEXCOM is pledged to deliver high quality products, from design to manufacture, and safeguard against defective products by implementing a rigid Quality Assurance System. In this system, at the end of each process, NEXCOM performs various tests to ensure that the product passes the industrial standard before it enters into next stage. Finally, additional tests are performed to ensure all board and system level products function correctly. Tests include "Failure Mode and Effects Analysis", "Vibration Test", "Burn-in Chambers", "Drop Test", and "AC Power Source Test".

Extensive DMS Experience



We set higher standards! NEXCOM surpasses your tailor-made product requirements with extensive DMS experiences. We are specialized in X86 architecture and have accumulated invaluable experience and know-how in real working environments. Moreover, with a superb reputation, NEXCOM has under its belt many ODM projects in diverse fields, such as gaming, medical, POS, network security, transportation, marine, blade servers, and Linux BIOS etc.

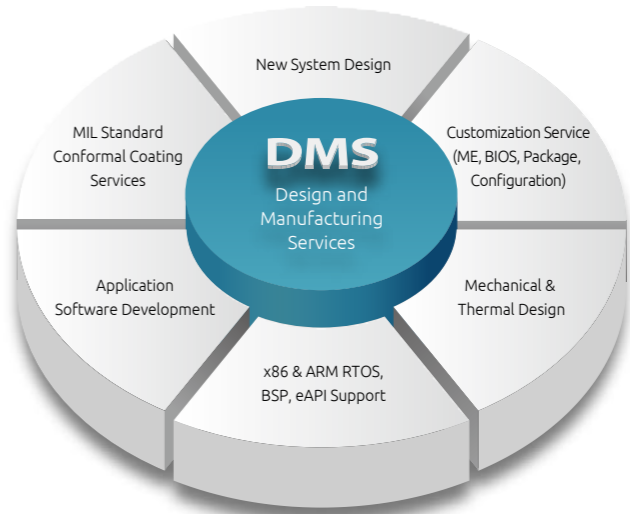
## Scope of DMS Work

### Original Design Manufacturing Service (ODMS)

NEXCOM offers a complete ODM Service starting from the brand new product design right through to the finished product. We can design products based on the customer's unique specifications and application requirements.

### Customization to Order Service (CTOS)

NEXCOM also provides CTOS, which is a quick-to-market solution by modifying the existing products to fit your business requirements, such as BIOS setting, component change by using current PCM layout, chassis color change, and packing accessories etc.



## Service of DMS

With decades of industrial computing experience, NEXCOM has the capability to provide different levels of customized service to manufacture innovative products with exceptional high quality. We can assist you to differentiate from competitors, and save significant time and efforts.

Level 1	Logo Re-brand	We provide the service to change the membrane to re-brand the company logo on the front panel. Customers need to provide Membrane drawing with all color pantone number. There is a service charge involved.
Level 2	Customerized Build	Customers can change the membrane and chassis color to re-brand the packing. NEXCOM can offer dedicated part numbers and BOM. MOQ and service charge are required.
Level 3	Manufacturing Service	Contract manufacturing. The service scope includes system assembly & burn-in, software loading & testing. MOQ and manufacturing service charge are required.
Level 4	New Project	The design of new board & system is available. NRE and quantity commitment are required.

## Professional Conformal Coating Solution

### Get Ruggedized with NEXCOM Cost-Effective Conformal Coating Service for Harsh Environment Protection

#### Prompt Time-to-Market

NEXCOM recognizes the harsh reality that many embedded systems find themselves operating in unusual hostile environments. When conformal coating is required to protect your application against substantial humidity, dust, chemicals or temperature extremes, we can help!

#### Cost Effective Service to Apply Coating Solution in Vertical Market Segments

In addition to the usual military and harsh industrial environments that demand conformal coating, NEXCOM expand our conformal coating to Vehicle Telematics Computing, outdoor traffic control/surveillance, and off-shore Marine applications. These applications demand embedded computing performance with increased reliability through conformal coating process.

To support a wide range of applications in vertical markets, NEXCOM has engineered a diverse range of platforms, which incorporate the latest.

#### "State of the Art" Conformal Coating Line

NEXCOM uses automated Conformal Coater equipment for applications that require a high level of accuracy and repeatability in moderate to high volume manufacturing environments. "State of the Art" coating line is a closed-loop robotic platform featuring optical encoder feedback on all axes.

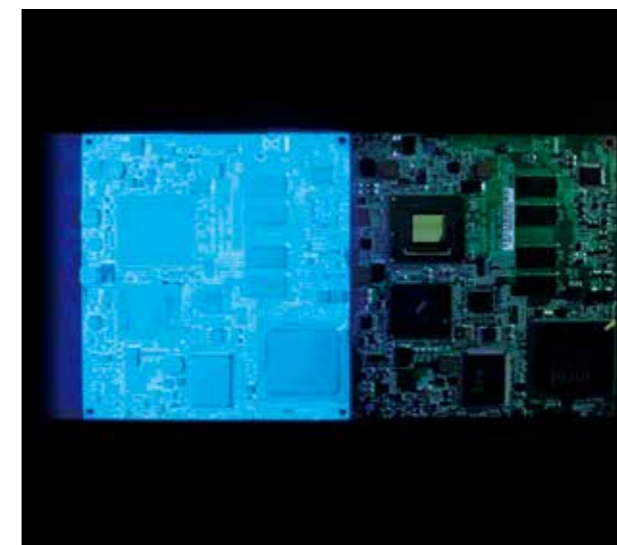
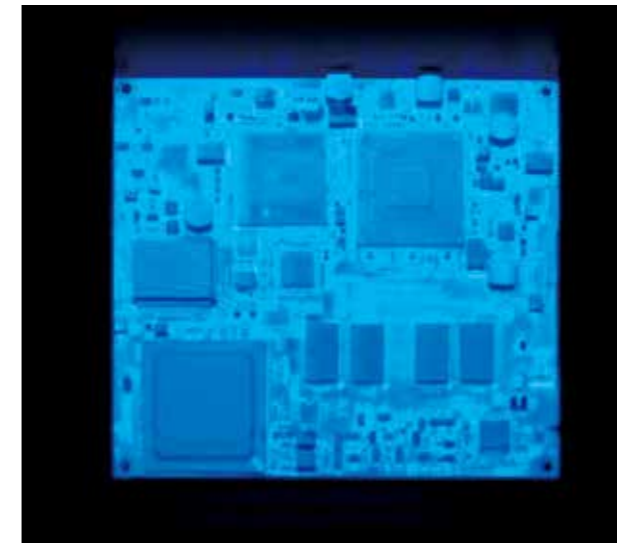
#### Smart Masking Technology

Our smart masking technology can pin point specific area on the PCBA for coating. The green, programmable conformal coater equipment allow user to only coat the area selected, which save labor/ material costs.



#### De-Flux Cleaning

To prepare a PCB for conformal coating, the circuits need to be cleaned. NEXCOM uses automatic defluxing and cleanliness testing systems. The deflux system is equipped with an automatic chemical management system that automatically doses and mixes defluxing chemicals at the turn of a keyed switch.



#### Real Time Cleanliness Testing

NEXCOM's deflux cleaning system is also equipped with an onboard cleanliness testing system which allows a user to program a desired cleanliness level. This assures that cleanliness levels will be consistent batch after batch.

#### De-Coating RMA Service

NEXCOM offer De-Coating RMA service upon request. This new service allows you to further cost down and generate higher ROI.

#### Quality Assurance Policy and Consistency Guarantee

Conformal coating inspection is a critical factor in determining successful coating application and long term reliability of PCBs. Using the IPC standards allows the coating operator to monitor the coating application performance. NEXCOM offers 100% manual screening by examining the PCB under white and UVA light and Thickness Gauge.



NEXCOM follows IPC-A 610, IPC-CC-830, IPC J-STD-001E regulations to generate consistent, adjustable coating thickness and cleanliness.

# NCS's Core Competencies



## Hardware Technology

To meet the needs of different network applications, the intelligent network platform must be able to adapt to different network configurations, creates flexibility and scalability in computing power and availability. Therefore NEXCOM hardware technology encompasses below six major concepts:

### High-Performance Computing

Computing power is the core of the network applications. NEXCOM offers a wide range of computing platforms, from RISC

platform and low-end x86 Atom, from Core i CPUs to high-end Scalable Xeon Processors to meet different computing power needs.

### Network Technology

Network technology is the key to intelligent network applications. Technology embodied in the intelligent network platform designed by NEXCOM forms a complete range of network interface and throughput. NEXCOM invests on cutting-edge network technologies and will continue to lead this industry.



## Acceleration

The very basis of network application comes down to process packets. In some network applications such as VPN, forwarding, deep packet inspection, etc., the acceleration engine that designed for network packet processing is critical to enhancing overall performance. NEXCOM is capable of integrating Intel® QAT technology, Ethernet switch and other kinds of acceleration engine.

## Remote Management

It is vital for IT & OR personnel to efficiently manage and maintain a large number of network platforms deployed in different locations and keep the operational costs to the minimum. In light of this, NEXCOM integrates various remote management technologies, such as Intel® AMT vPro™, IPMI, etc., to provide customers with management interfaces for In-band and out-of-band, significantly reducing the operational burden and maintenance costs of onsite IT personnel.

## Availability

NEXCOM's intelligent network platform consists a WDT (Watch Dog Timer) mechanism, which allows soft-reboot with software functions. NEXCOM also integrates LAN bypass, Dual BIOS, RAID Storage, Hot Swappable Fans, and PSU redundancy, and other technologies to maintain service availability.

## Modular Design

Depending on different user cases, network configuration varies. It is possible to combine high and low bandwidth and different port numbers on the same platform. NEXCOM specializes in modular design, providing a comprehensive series of network modules, when incorporated into NEXCOM's intelligent network platforms, providing maximum flexibility to optimize its network configuration for their application scenarios.



## Software Technology

NCS has a wealth of experience in fulfilling customers' various software customization requirements across both horizontal and vertical integrations. From board level to application layer, from x86 to RISC, from in-band management to out-of-band management, NCS provides optional features and SW/FW designs in creating unique appliances for customers.

We have comprehensive R&D teams for FW and SW development, including CPLD, MCU, BIOS, Linux kernel drivers, system software, and application software. We also develop embedded systems on various distributions, such as CentOS, Ubuntu, OpenWrt, BMC, and, especially, self-developed OS.

Our vertical experience in HW-FW-SW design helps us perform better control-flow analyses on system applications, while horizontal experience in appliance development enables us to truly understand the necessities of different system hierarchies. We also provide high-level system views and design analysis to help customers find their ideal solution.

## Software Solutions

NCS has countless software solutions to fit customers' needs, from low-level FW mechanisms and device drivers, to comprehensive OS solutions and integration support.

### Atlas OS™ – NCS' complete system solution

Atlas OS™ is designed as a Linux-based network appliance OS that provides comprehensive system software and hierarchical design from board driver to front-end GUI. The well-defined system architecture can be adapted for different platforms or

virtualizations, combine with different peripherals, and collect various applications to become a specific customized appliance or network function.

Atlas OS™ has a modern management webtop UI which is highly modular and developed for single-page application (SPA). With a quick, smooth, interactive, and user-friendly experience, its dual desktop design decreases front-end loading and separates workspace and dashboard to reduce unnecessary background operational noise.

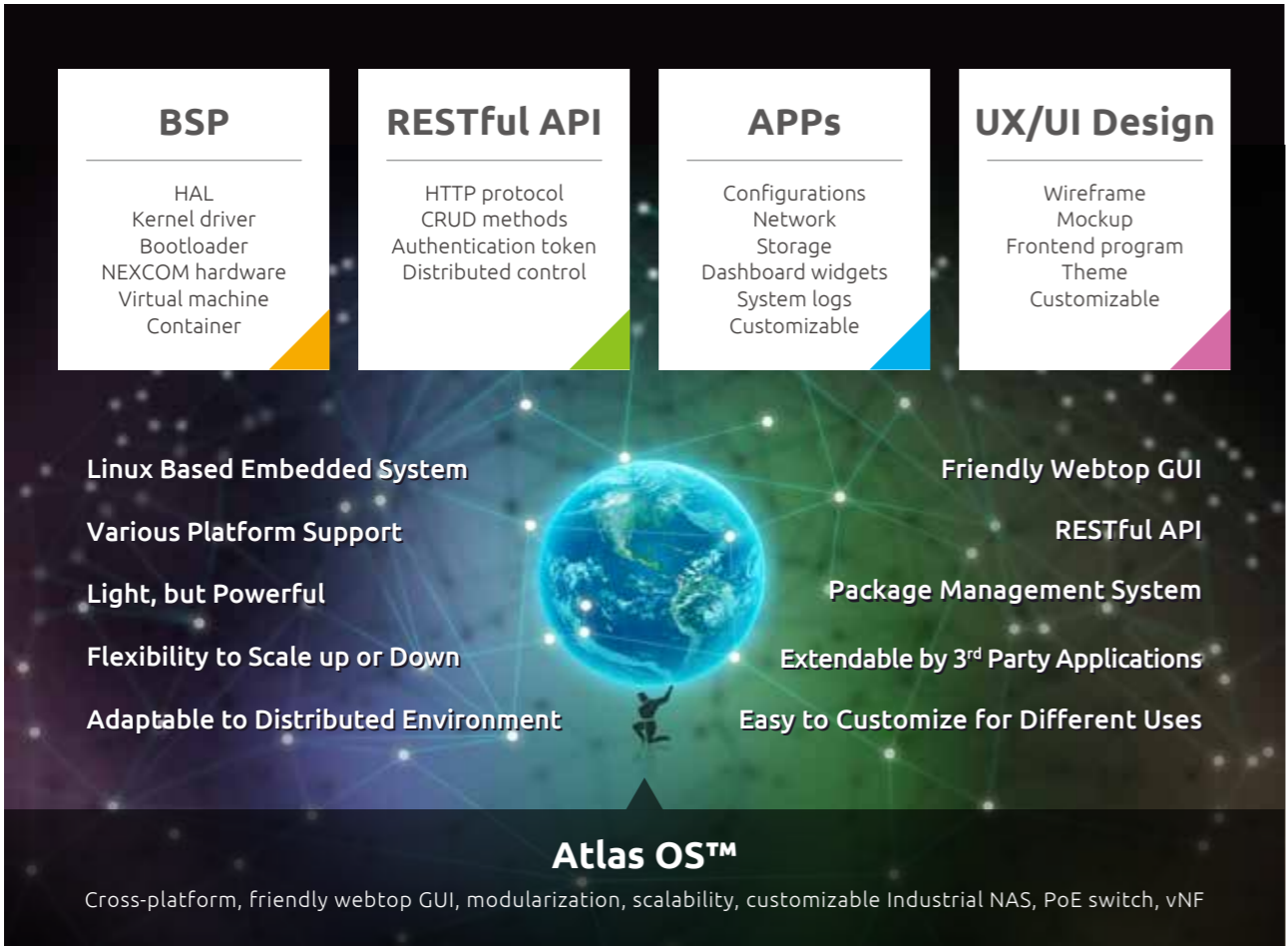
Atlas webtop not only brings the desktop operation experience to end users but also the ability to manage installed applications. Furthermore, users can construct each Atlas device as a specific appliance by installing different packages.

Currently, Atlas network modules such as PoE, L2 switch,

and NAS are available, with more features in development. Combined with Atlas network functions and applications, Atlas OS™ can be a physical appliance (i.e., NAS and PoE switches) or VNF for providing container- or VM-based services like DHCP and SNMP.

The flexible and modular design of Atlas OS™ also makes fulfilling customization requirements convenient: simply select which packages to install.

One of the most important features in Atlas OS™ is support for RESTful API, which enables communication among devices and application services, as well as distributed environment deployment and management. Our management webtop apps use RESTful API to connect backend or remote devices so that users can conveniently use one webtop to manage different devices or VNFs in each Atlas app.



Out-of-Band Management with BMCs

The key to OOB management for NCS' mainstream/ performance solutions is the baseboard management controller (BMC). The BMC is mainly used to monitor system states and record information (e.g., fans, temperature, voltage), as well as to manage simple problems when they occur (e.g., to reboot). In addition, you can also use BMCs to update BMC/BIOS/CPLD

firmware. What's more, IPMI commands or SOL/KVM functions can allow users to remotely operate, diagnose, and repair systems without even entering data centers (e.g., installing the OS by mounting the optical disk drive on the BMC via KVM). NCS' BMC also supports Dual BIOS architecture, which effortlessly operates through the solid integration of HW/BIOS/CPLD/BMC. It also synchronizes with hardware design for customizing IPMI

OEM Commands (e.g., failure LED). NCS is excited to announce that its BMCs are currently available in x86 solutions and is currently working towards supporting more server products, along with RISCs.

Third-Generation Network Bypass

NCS has just launched the third generation of its Ethernet bypass. The network bypass solution provides intelligent protection to network security equipment, such as firewalls, IPS, DPI, and UTM. Its end goal is to protect enterprise network traffic and services from the risk of a network being congested – or even unreachable – due to appliance issues, external attacks, and power failures, among other reasons.

The newest network bypass function is a comprehensive upgrade that keeps system software developers' needs top of mind. The innovative, highly integrated HW-FW-SW design completely consolidates software and hardware protection mechanisms, as well as more wide-ranging functions, to deal with system software crashes and hardware device failures, not to mention offers friendly settings, control interfaces, and

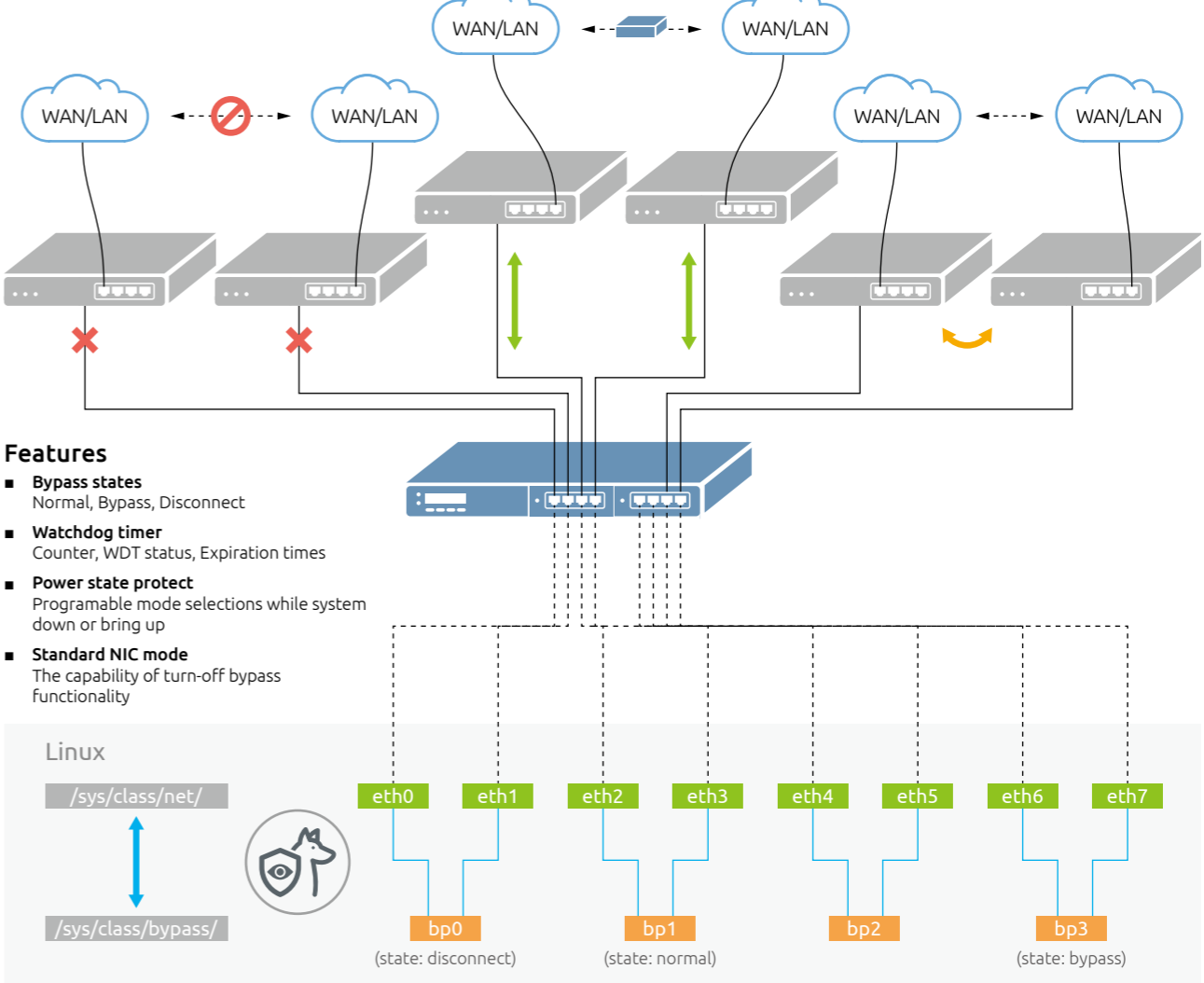
extensibility for system developers.

The upgraded bypass' capabilities also include full triple states, friendly watchdog timer, enable/disable functionality, and complete statuses. The new HW architecture of bypass LAN modules removes any motherboard dependencies and creates consistent behaviors and experiences. The new-generation bypass is also a solution which has SW hooks that adapt to Linux sysfs stacks and establishes relationships between OS bypass segments and net devices. Lastly, it comes with kernel device driver and library.

Linux Driver Support

NCS provides support for fine-tuning and porting of existing drivers to resolve platform issues, upstream bugs, and other special requirements. For system and application developers, we also provide drivers for specific HW designs that are adaptable for Linux stack APIs, avoiding the inconvenience of self-defining their own interfaces. This allows developers to effortlessly develop device drivers straight from a universally compatible Linux stack library.

Network Bypass



# Paradigm Shift: From Purpose-built Appliances to NFVI



## Background

In the rapidly changing environment of the 5G and IoT world, dedicated and purpose-built appliances have been replaced by commercial, off-the-shelf hardware platforms with virtualization software that optimizes their scale and agility. Teeming with mobile devices, more diverse data traffic continues to emerge, and the importance of information security has increased exponentially. We now face new, complicated, and rapidly evolving use cases, in addition to more frequent deployments, upgrades, and replacements of network functions and components than ever before.

Challenges not only include the shift from purpose-built appliances to virtualization platforms, and a hunger for more bandwidth to run a variety of software applications, but also the bigger challenge of security considerations. Information is valuable; as such, many companies have built up their IT infrastructures to defend against attacks from hackers and ransomware. Increasingly, attackers have even carried out data exfiltration to force victims to pay ransoms so that they can avoid customer record leaks, government fines, and even damages to their public reputation.

Network Function Virtualization Infrastructure (NFVI) is the foundation of 5G infrastructure. Using Open Radio Access

Network (O-RAN) means that businesses can avoid proprietary protocols. IP protocols are too familiar; they're easy to utilize in O-RAN but effortlessly attacked when compared to proprietary protocols. Enterprises and telecoms alike need secured platforms than ever before, and they must be secured on the hardware level.

## Solution: More Computing Power, Faster Ethernet Speed, and Stronger Security

NFVI architecture uses standardized general-purpose hardware to simplify IT operation and maintenance. Sharing hardware resources can reduce unnecessary investments in dedicated hardware. Accordingly, NEXCOM has developed NSA 7150, a new-generation NFVI platform with a state-of-the-art uniform security mechanism called Platform Firmware Resilience (PFR)..

PFR, using a hardware-based solution, is a new approach to securing server firmware that prevents attacks on all server-hosted firmware. With the embedded FPGA security core, NSA7150 provides a hardware mechanism to detect any firmware inside the system. If a security breach is detected, FPGA provides a recovery mechanism which increases the overall security level of NSA 7150.

NSA 7150 is also equipped with the more powerful, new-generation Intel® Xeon® scalable (Ice Lake) processor and leverages the OCP NIC3.0 4C+ interface to support more computing power, or CPU cores, for expanded applications. Intel® Speed Select Technology also gives users more sophisticated control over CPU performance. The 4C+ interface further allows NSA 7150 to provide PCIe4.0 x16 bandwidth in a single LAN module slot and provides no-blocking 200G Ethernet bandwidth.

## Conclusion

As a long-term partner of Intel, NEXCOM proudly introduces the NSA 7150. The 2U rackmount network appliance based on

the Intel® Xeon® Scalable (Ice Lake) processor family delivers a workload-optimized platform for NFVI. The network appliance features enhancements to computing performance through dual scalable processors and flexible NEXCOM Ethernet modules that can handle 1GbE to 200GbE speeds. What's more, the embedded C627A chipset supports Intel® QuickAssist Technology (Intel® QAT) to accelerate CPUs' heavy network encryption and decryption needs. The NSA 7150 also includes IPMI 2.0 remote management and swappable system fans for simple operation and easy maintenance. Furthermore, the CRPS redundant power supply prevents service interruptions caused by single PSU failures. In conclusion, the NSA 7150 is a fantastic PFR hardware-based security solution that meets the ever-mounting challenges of the business world.

## Intel® Solution NSA 7150 HW Configuration

### NSA 7150

2U Rackmount Performance Appliance  
w/ Dual 3rd Gen Intel® Xeon® Scalable Processor and  
8 x PCIe 4 LAN Module Slots



Module (P/N)	NSA 7150 (P/N: 10S00715000X0)
Processor Family	3rd Gen Intel Xeon Scalable processor
Cores	Up to 72
Memory (Max.)	1280 for RDIMM / 2560 for LRDIMM
Storage	> 1 TB
LAN Module Expansion	8
PFR	Yes*
TPM 2.0	Yes
Intel® QAT	Yes
IPMI 2.0 RunBMC	Yes (Optional)
Expansion Card	PCIe4 x16 low profile Riser card
OCP NIC 3.0 Support	Yes

\* For ODM Projects only

# Edge Computing and Intel® Select Solutions for uCPE



## Edge Computing

Over the past few decades, cloud computing has experienced extensive development and increasing application due to its high cost efficiency and flexibility. Much of the growth in cloud services has been achieved through consolidation, in which computer network management functions operate in a centralized manner. With the rapid development of Internet of Things applications, conventional centralized cloud computing began encountering challenges such as high latency, low spectral efficiency (SE), security risks, and non-adaptive machine communication.

To address these challenges, a new technology called edge computing is driving a trend that shifts the function of centralized cloud computing to devices residing along the so-called edges of distributed networks. Several edge computing technologies have evolved to offer decreased latency, improved SE, and support for comprehensive machine communication.

What were until recently nascent technologies and applications are now increasingly driving a shift in the computing and communication landscape that moves the responsibilities of centralized cloud computing onto edge device networks. Software defined networking (SDN) and the associated concept of network function virtualization

(NFV) are emerging solutions for networks. In particular, NFV enables edge devices to provide computing services and operate network functions by creating multiple virtual machines (VMs). Moreover, the ultra-low latency offered by edge computing goes well with 5G communications, as high speed radio access networks (RANs) make big bandwidth and low latency absolute must-haves.

NEXCOM TCA 5170 1U rackmount products are designed with ideal features for universal customer premises equipment (uCPE) platforms and are a verified Intel® Select Solutions for uCPE. They expand customer service portfolios in ways that solve the challenges mentioned above.

Meanwhile, as a 1U network security appliance, the TCA 5170 helps medium enterprises build a securely connected workplace and delivers significant performance enhancement when running multiple virtual network functions in software defined wide area networks (SD-WANs). Based on the Intel® Skylake-D Xeon® SoC (BGA type), the TCA 5170 packs excellent performance per watt, QuickAssist Technology, Intel® Virtualization Technology (Intel® VT), scalability, vulnerability management solutions, accelerated data cryptography, and server-grade LAN functions, all in a small form factor. The TCA 5170 network security appliance creates safe environments for network communications to connect employees and businesses.

## Intel® Select Solutions for uCPE

As consumers demand more sophisticated services over increasingly advanced networks such as cloud, mobility, IoT, and AI, seeking solutions to work toward network virtualization for communications and cloud services providers is becoming more challenging.

Meanwhile, small business owners also encounter connectivity issues when adopting current consumer-graded IT communication appliances for business purposes. This problem persists through the transition of IT infrastructure from traditional standalone communication appliances (such as load balancers, edge routers, industry firewalls, and VPNs) to virtualized appliances, where a great variety of network functions run on general purpose servers.

NEXCOM's universal customer premises equipment (uCPE)

platform products are excellent solutions for expanding customer portfolios in a world transitioning to 5G and looking beyond. As more speed and greater responsiveness become even more imperative, NEXCOM solutions step up to the challenge.

Intel® Select Solutions for uCPE provide a foundation for the development of universal customer premises equipment products with a solution reference design and performance verification. Certified systems bring the powerful performance of Intel® Xeon®-D processors to edge communication service provider networks for agile provisioning.

As a verified Intel® Select Solutions for uCPE, NEXCOM products offer a faster and more efficient deployment path for trustworthy and reliable infrastructure configurations that support virtual network enhancements and help meet emerging customer workload demands in network communications.

## Intel® Select Solution TCA 5170 HW Configuration



### TCA 5170

Intel® Xeon®-D 2100 (Skylake-D) SoC Processors, 1U Rackmount with 8GbE Copper, 4 x 10GbE Fiber, 2 LAN Module



Module (P/N)	TCA 5170 (P/N: 10CA0517000X0)
Processor Number	Intel® Xeon® D-2100 series processor
Memory	8 x 16GB DDR4 2666 DIMM ECC/non-ECC memory, max. 256GB
Networking	2 Pairs LAN bypass (8 x 1GbE integrated 2 x Intel® Ethernet controller I350 LAN chip)
Storage	1 x Intel® Solid State Drive Data Center @ 480 GB 1 x 2.5" HDD bay 1 x M.2 2280 length Key M socket
Intel® QAT	Yes
Intel® Select Solution	uCPE uCPE with Cent OS uCPE with ADVA Ensemble Connector
TPM 1.2/2.0	Yes
Front I/O	1 x USB 3.0 1 x Micro USB type console port 1 x Management LAN port 8 x Copper RJ45 ports 4 x SFP+ fiber ports 1 x 16x2 LCM (optional) 2 x LAN module slots (optional; refer LAN module list ) 4 x SMA connector holes for RF antenna cable

# Artificial Intelligence in Edge Computing



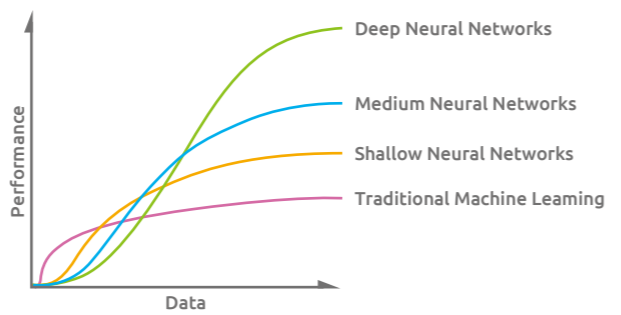
The invention of the first computer also launched the development of AI (Artificial Intelligence). In the 1980s, the expert system began to be popular, as computers used knowledge from a large number of experts as input. The computer judged answers according to users' questions. Though the experts' knowledge was vast, it was still impossible to input every bit of knowledge into computers, so the expert system became impractical in the end.

The advancement of semiconductor technology has increased computing power at the same time that the cost of semiconductors has decreased. Similarly, new AI technology is on the rise. Artificial neural networks based on the advantages of semiconductor technology also provide excellent environments for further development of various fields, such as autonomous vehicles, dialogue robots, medical illness detection, network security, smart manufacturing, and more. Overall, AI has the potential to deliver an additional global economic value of around \$13 trillion by 2030.

Current AI mainly uses artificial neural network technology to perform deep learning and applies the deep learning model to specific applications. There are several characteristics that need specific consideration.

First, the computational characteristics of the artificial neural network: when both the amount of data used for learning and number of layers of the neural network are greater, the performance of the learning model is better. Artificial neural networks need to handle big data and

model parameters through an enormous amount of matrix computation. Therefore, computing platforms suitable for artificial intelligence need to have powerful parallel computing capabilities and support a substantial amount of memory.



Secondly, there are two steps to applying an artificial neural network to a specific case. The first is to learn a usable model from big data (AI training) and then deploy the model on-site (AI inference). In training, because it requires a huge amount of computing power, it repeatedly adjusts model parameters, mostly in the cloud data center. Once a viable model is trained, it can be deployed to the site. There are many ways to deploy the trained model: in the cloud, to the endpoint, or to the edge. These deployment methods have their individual advantages and disadvantages.

When the inference model is deployed in the cloud's data center, the advantage is that it's centralized and easy to manage and maintain. The disadvantage is that all data must be uploaded to the cloud to be processed. When the amount

of data needing to be uploaded is very large, the cost of the uplink bandwidth will be considerable, and, secondly, when the inference model is deployed in the cloud, the result of the backhaul inference will be delayed. For some critical applications, the delay is not only inconvenient but also more likely to cause damage.

When the inference model is deployed to the endpoint, for example, the embedded box PC deployed at the endpoint has the advantage of low latency, but the disadvantage is that a large number of machines need to be deployed in the endpoints to cover the service area, compounding equipment costs. Spread out, hundreds or even thousands of inference embedded PCs become a big challenge in terms of operation and maintenance.

Edge computing combines the advantages of both of the previous methods, while offering low latency and cost, as well as ease of operation and maintenance. Its basic concept is inference engine deployment close to and within the same local area network as the endpoints. Purchasing uplink bandwidth services through the ISP is unnecessary, thus reducing data upload costs. At the same time, because the edge computing platform and endpoints are in the same local area network, it

greatly reduces latency, and deployment is also centralized. Less equipment needs deployment, making it easy to control and upkeep.

In view of the AI inference model's deployment requirements, NEXCOM introduces NSA7141, a high-performance edge computing platform based on the Intel® scalable processor family. The CPU provides up to 28 computing cores and 258GB of memory. For the model's parallel computing requirements, the NSA7141 supports PCIx16 slots for GPU cards, which are widely used in AI inference accelerators.

In terms of operation and maintenance, the NSA7141 is equipped with two management ports, which can be used for remote management, and redundant PSUs to avoid service interruptions caused by single power failures. In addition, the NSA7141's flexible LAN module design can be used with NEXCOM's own LAN module series, which provides a wide range of network bandwidths with different interfaces. The LAN module card includes a LAN bypass function as a layered, backup mechanism. When the main system stops service for any reason, this function switches data to another system, thus maintaining service availability and assisting customers in quickly deploying AI services.

## Intel® Single Xeon® 1U Rackmount NSA 7141 HW Configuration

### NSA 7141

Intel® Xeon® Processor Scalable Family, 1U Rackmount with 4 LAN Module & PCIe x16 Extension



Module (P/N)	NSA 7141 (P/N: 10S00714102X0)
Processor Number	Intel® Xeon® processor scalable family
Memory	8 x DDR4 RDIMM, support 2133/2400/2666, up to 256 GB 2 x Intel® Optane™ DC persistent memory (Apache Pass)
Networking	Optional LAN module Support 1GbE/10GbE/25GbE/40GbE/100GbE link speed LAN bypass
Storage	2 x 2.5" Internal SSD/HDD 1 x M.2 2242 Key B 1 x M.2 2242 Key B
Front I/O	1 x Micro USB type and 1x RJ45 type console ports 1 x VGA 2 x Management LAN port 2 x USB 3.0 port 4 x LAN module slots (x8, x8, x8, x8 or x16, x8, x8)
Internal I/O	1 x PCIe x16 expansion slot

# RISC (ARM/MIPS/PowerPC) SoC Capabilities



Over the last decade, NEXCOM has gained a strong foothold across the world in the area of RISC SoCs with our quality design and exceptional manufacturing capabilities, especially critical nowadays as leading network security companies deploy millions of boxes powered by SoCs.

We have dedicated team members in Sales, Product Management, and R&D ready to support our customers. Specifically within our R&D team, each member has rich design experience in various types of products – some with even more than 20 years.

## Wide Range of Capabilities in a Changing World

NEXCOM’s RISC SoC capabilities are not limited to network security appliances. Our products range from module to 5U, commercial-grade to industrial-grade, with fan to fanless, and wired to wireless. These products include 40G Ethernet switches, 10G-EPON OLT with 100G Ethernet switch board, industrial-grade firewalls and NAS, network appliances with Wi-Fi and LTE support, network storage with two to 24 bays, and even vehicular multimedia with touchscreen, among others. We’re capable of designing and making Wi-Fi and PoE modules in-house or, for the utmost savings in cost and space for our customers, developing options such as on-board PCBA’s. Our professional know-how in installing

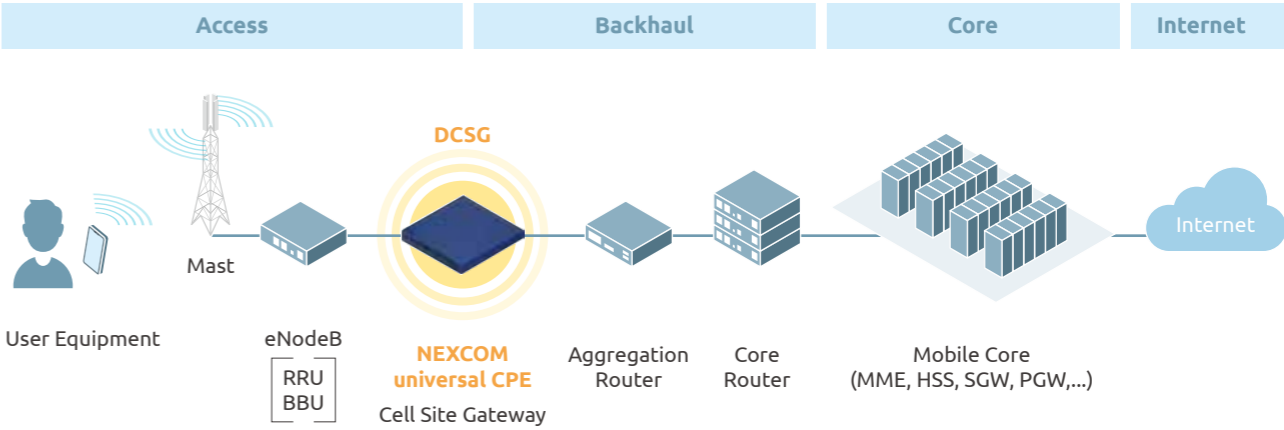
multiple Wi-Fi/LTE/GPS antennas on a compact desktop chassis also helps customers resolve critical issues among Wi-Fi/LTE/GPS systems. All of these capabilities help address the complexities of the 5G era’s fluctuating IT infrastructure.

## Strategic Partnerships Help Us Excel

Our strategic partners include NXP, Marvell/Cavium, Broadcom, Intel, Qualcomm, and Amazon/Annapurna, all top-of-the-line in network communications technology. We at NEXCOM have positioned ourselves as part of the driving force to transform network infrastructure and have thus been actively involved in developing the IoT network ecosystem. We’ve not only taken the lead in technological innovation by developing 100G/40G/25G Ethernet but are also especially experienced in RF technology for Wi-Fi/LTE designs. NEXCOM has always been well known for its industrial-grade design, such as in rugged fanless appliances for various applications.

## Why NEXCOM?

As our company slogan states, we’re committed to customer success. In order to deliver such an important commitment to our clientele, the Network and Communications Solutions Group continues to be passionate about innovation not only in technology leadership, but also in other equally important



factors across the entire value chain, such as product life cycle management, support and services, global logistics, and supply chain management. All things considered, NEXCOM is a trustworthy partner that will help you to gain a competitive edge amidst the ever changing landscape of the IT world.

NSA 6310 is an open uCPE based on the Layerscape® LX2160A processor, with sixteen 64-bit ARM Cortex-A72 cores. The cores, in combination with integrated hardware acceleration for cryptographic processing, virtual forwarding, and traffic

management, provide support for multi-gigabit routing and network services.

The NSA 6310 white box also offers two SerDes slots, with a choice of four dedicated 25G, 10G, and 1G LAN modules, for customers who need multiple I/Os to satisfy different applications; FPGA/GPU support to extend computing applications, board manager control (BMC) module and IEEE 1588 PTP feature for server-grade network appliances; and optional PoE support for edge deployments.

## NXP® Layerscape® Solution



### NSA 6310

1U NXP® Layerscape® LX2160A SoC Processors, 4 x GbE RJ45 and 2 x SerDes Module Slot



Module (P/N)	NSA 6310 (P/N: 10S00631000X1)
Processor Number	NXP® Layerscape® LX2160A processor
Memory	4 x DDR4 3200 ECC-DIMM sockets, up to 64GB
Networking	2 x SerDes LAN modules support 25G/10G/1G
Storage	1 x 2.5" internal SSD/HDD bays 1 x M.2 2280 Key B, supports SATA signal
PoE at/af Spport	Yes
IEEE1588 PTP	Yes, optional
TPM 2.0	Yes, optional
Remote Management	Yes
Arm Server Ready	Planning
Dual Boot	Yes

LAN Module	NSK 7200	NSK 7100	NSK 7602	NSK 7601
Speed/Port Type	25G SFP28 x 4	10G SFP+ x 4	10G RJ45 x 4	1G RJ45 x 4

\* Only for use with NSA 6310

# The Growth of Industry 4.0 is Forcing Us to be “Smarter”



In the face of a world pandemic, Industry 4.0 still continues its accelerated development. Specifically, the growth of Industry 4.0’s smart manufacturing has been triggered by the compounding of an aging population and low birth rates consequently multiplying human resource costs, and increasingly complex industrial processes mixing with decreasing quantities of wide-ranging production modes. However, when workers can’t work in factories or simultaneously gather in the same workspace due to COVID-19 restrictions, the only options are minimal or zero-contact: smart manufacturing and automated production.

One prerequisite for a factory to become “smart” is Internet connectivity. From operational equipment, sensor nodes, and gateways, to back-end databases, industrial controls, AI analytics, and the BI (business intelligence) displayed in war rooms, all parts need to be connected through a sophisticated network – like a spider web. A spider web is elastic, scalable, and interconnected, particularly needed in SCADA frameworks and cloud-native landscapes to collect and analyze real-time data. But once equipment is connected to this IT spider web, a real danger arises: inadequate information security.

## The Pain Points of Upgrading Facilities are Manifold

In the past, manufacturing facilities used “on-premise security,” or physical access control, to manage information security. Public and

restricted areas were clearly defined. Outfitted with surveillance cameras and alarms and routinely patrolled by 24-hour guards, restricted areas could only be accessed by authorized personnel. The number of networked equipment was also small, and factory intranets were independent networks without external connections. This meant that if outsiders couldn’t touch the intranet, then its information security would also be protected.

In the age of IoT, Internet connection is a must, so factories often maintain a sizable quantity of external network connections to exchange information with headquarters, suppliers, and other factories. The concept of EDI further pushed businesses to develop systems for uplinking to the Internet. At the same time, the large-scale adoption of industrial wireless networks has allowed users external access to factory intranets without physically entering the premises. However, as older manufacturing facilities didn’t take into account the information security infrastructure needed for Industry 4.0 when they built their factories, it has become the introduction of Industry 4.0’s greatest obstacle and risk.

Secondly, due to their long life cycles, many pieces of manufacturing equipment still run legacy operating systems (OS) which are no longer supported. As these older machines were designed without considering information security threats, and maintenance is further limited by human labor capacity, installing information security software has become a difficult task. During installation, factories must also temporarily cease machinery

operations and encounter unpredictable operational risks. For factories to be able to prioritize production capacity, they cannot perform any actions that may affect production capacity, availability, stability, and yield.

Finally, factories’ manifold equipment all require their own protocols and interfaces. When compounded with factories’ complex network architectures, obtaining IT network visibility – what machines there are, who’s using these machines, how these machines connect – becomes a tremendous effort. As if this isn’t enough, the combination of numerous factors, such as network infrastructure not taking into account information security, machinery OS not updating to eliminate security loopholes, and complex network operating environments, all create a haven for malware propagation.

## Our Newest Solution: ISA 140

In order to introduce Industry 4.0 into smart factories, they need to incorporate a painless solution to upgrade their network security infrastructure, with three considerations:

- Enhance network security without changing current intranet infrastructure
- Enhance network security without affecting productivity and creating downtime
- Enhance IT network visibility by detecting unauthorized network connections and immediately issuing alerts, as well as performing event logging and traffic monitoring

This may sound like mission impossible, but NEXCOM’s ISA 140 is up to the task. Powered by Intel’s latest dual-core Atom® CPUs (codename Elkhart Lake), ISA 140 is a compact, fanless industrial security appliance equipped with six 1GbE ports for network connectivity. It also supports seamless WiFi/LTE connectivity and

OOB remote management, and operates in settings with wide temperature ranges.

The compact DIN rail design allows IT personnel to easily embed ISA 140 in existing network infrastructure. Through the built-in security feature of “micro-segregation,” factory managers only need to decide which security nodes the existing intranet requires, install ISA 140 in these nodes, and deploy required information security software on ISA 140, to perform painless information security upgrades of factory networks.

ISA 140 is deployed in secure nodes on existing network infrastructure, which neither changes the infrastructure nor affects manufacturing equipment productivity, but instead improves factories’ network security. Information security software runs on ISA 140 to monitor and manage network packets passing through the gateway. Suspicious or unwanted data packets are “quarantined” in segregated zones to prevent further spread and reported to the central node.

ISA 140 essentially blocks harmful packets, records and reports suspicious network behavior, and prohibits unauthorized access. Through network micro-segregation, you can considerably strengthen network security. And even if network security is ever compromised, ISA 140 can limit the range of its effects.

## Your Reliable Partner for Future Networks

ISA 140 is the best choice to introduce Industry 4.0 and strengthen factory network security. NEXCOM’s Network and Communication Solutions Group, as a leading manufacturer of information security equipment, is always one step ahead of others in securing network connectivity.

## Fanless Industrial Security Appliance

### ISA 140

Fanless Industrial Security appliance in a compact DIN Rail form factor with Intel Atom processor and 6 x 1GbE RJ45 ports



Module (P/N)	ISA 140 (P/N: 10L10014000X0)
Processor	Intel Atom® processor x6212RE, BGA type
Cores	2
Mem (max.)	16 GB
Default LAN port (s)	6 x 1GbE RJ45
Bypass	1 pair
TPM 2.0	Yes
Wireless	Wi-Fi and 4G LTE
OOB remote management	Yes
Wide Temperature	Yes
Fanless Design	Yes

# 2021 Featured Products

New



## NSA 7150/7150A

2U Rackmount Performance Appliance w/ Dual 3rd Gen Intel® Xeon® Scalable Processor and 8 x PCIe4 LAN Module Slots

- Dual 3rd Gen Intel® Xeon® Scalable processor (socket P + 4189-pin)
- Supports Intel® Optane™ persistent memory
- 20 x DDR4 3200 ECC RDIMM/LRDIMM
- 2 x 2.5" swappable SSD/HDD
- 8 x PCIe4 LAN module slots
- 1 x PCIe4 x16 low profile riser card
- Supports Intel® QAT (NSA 7150A)



## NSA 7141

Intel® Xeon® Processor Scalable Family, 1U Rackmount with 4 LAN Module & PCIe x16 Extension

- Single Intel® Xeon® processor Scalable family
- DDR4 2133/2400/2666 ECC & REG, up to 256GB
- Modular design supports 4 x LAN Modules
- PCIe x16 Expansion slot on rear side
- Internal 2.5" SATA HDD/SSD
- 1+1 ATX Redundant power supply
- Optional TPM module



## NSA 5181

Intel® Xeon® (Coffee Lake-S) Processors (LGA1151) 1U Rackmount with 4 LAN Modules

- 1U rackmount workstation system
- Intel® Xeon® (Coffee Lake-S) processors (LGA1151)
- Support DDR4 2666 DIMM x 4
- Support IPMI 2.0 remote management
- Four LAN module slots
- Support LCM module (optional)
- Support internal 2.5", mSATA and M.2 storage



## NSA 3180A/HA

1U Rackmount Entry Level Appliance w/ Intel® Coffee Lake Processor (LGA1151), 8 x GbE LANs and 1 x LAN Module

- Intel® Coffee Lake Processor (LGA1151)
- 2 x DDR4 2666 UDIMM slots
- 2 x 2.5" internal SSD/HDD
- 1 x M.2 2280 Key M
- 8 x GbE RJ45 LAN ports
- 1 x LAN module
- 1 x PCIe x8 slot (optional)



## NSA 6310

1U NXP® Layerscape® LX2160A SoC Processors, 4 x GbE RJ45 and 2 x SerDes Module Slot

- NXP® Layerscape® LX2160A SoC, BGA type
- 4 x DDR4-3200 ECC-DIMM
- PCIe Gen3 x8 with SR-IOV
- 2 x SerDes LAN modules support 25G/10G/1G
- Optional IEEE1588 PTP
- Optional BMC support with Management port
- Optional PoE at/af support



## TCA 5170

1U Rackmount uCPE w/ Intel® Xeon® Skylake-D SoC Processor, 8 x GbE RJ45, 4 x 10GbE Fiber and 2 x LAN Modules

- Intel® Xeon® D-2123IT SoC, BGA type
- 8 x DDR4-2400 RDIMM
- 1 x 2.5 SSD, 1 x M.2 2280
- 8 x GbE RJ45 & 4 x 10GbE Fiber
- 2 x LAN modules
- Redundant power supply

New



## DTA 1164W

Desktop uCPE Appliance with Intel Atom® SoC Processor and 6 x 1GbE RJ45 + 2 x SFP or 8 x 1GbE RJ45 Ports

- Intel Atom® C3000 series SoC, BGA type
- 1 x DDR4-2400 SO-DIMM
- 1 x M.2 SATA 2242 Key M
- 8 x GbE RJ45 (reserve co - layout design to support 2 x SFP ports)
- 1 x M.2 3042/3052 B Key for LTE/5G support (Sub 6G)
- 1 x mPCIe slot for Wi-Fi support

New



## ISA 140

Industrial Security Appliance with Intel Atom® Processor and 6 x 1GbE RJ45 Ports

- Intel Atom® processor x6212RE
- DIN rail, fanless design
- 6 x 1GbE RJ45
- Dual DC power input
- Supports out of Band Remote Management
- Supports Wi-Fi and LTE modules
- Wide temperature range

# Product Selection Table

## Gateway to Communication

NEXCOM delivers the trusted and reliable platforms for network security appliances. Building upon the standard x86 architecture, our products allow network security software vendors to create their own professional appliances easier without additional efforts in BIOS and drivers. With the integration of leading technology from x86 CPU, PCI-Express and I/O accelerations, the security and performance of customers' applications are greatly improved.

### Features and Benefits

- RoHS compliance: commit to produce green products and services compliant with EU RoHS directive 2002/95/EU.
- PCIe based GbE LAN: our PCIe based network security appliances can be enhanced to utilize 10 Gigabit networks to boost network performance.
- Dual/quad core processors with I/O acceleration: greatly improve CPU computing bandwidth in complex and intensive security computing. With sufficient processing power, they are appropriate for connection/ control- oriented and threat management-oriented network security appliances.
- Modular design platforms: can cope with diverse connection types from copper to fiber or from 2 ports to multi port. Security software vendors can focus on per port performance or increased connectivity with high port density.
- LAN bypass: enable connection fault tolerance for appliances, which act as the transparent bridges among networks. Users will hardly sense the network inaccessible when the appliances stops working due to hardware or software detects.


### LAN Modules

Our 1U and 2U rackmount network appliances adopt a variety of LAN modules, with up to 200GB workloads per one single LAN module. These LAN modules come in different port types (copper or fiber), port counts, speeds, and choice of with or without bypass. All LAN modules are swappable to provide flexibility in configuration.

To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/Products/network-and-communication-solutions> or scan this QR code:




## Network Security Appliance

Model		
	NSA 7150	
	Form Factor	2U
	Processor	Dual Intel® Xeon® processor scalable family
	Cores	Max. 56
	Mem (max.)	512 GB
	Default LAN port (s)	2x Intel® I210-AT for management port
	LAN Module	8
	TPM	TPM 1.2/2.0
	Intel® VT-x	V

Intel® VT-d	V
SR-IOV	V***
Intel® QAT	V
Intel® AES-NI	V

\*\*\* Supported by selected LAN module.

Model		
	DTA 1164W	
	Form Factor	Desktop
	Processor	Intel Atom® processor C3000R series SoC, BGA type
	Cores	Max. 4
	Mem (max.)	16 GB
	Default LAN port (s)	6 x 1GbE RJ45 + 2 x SFP ports (reserve design to support 8 x 1GbE RJ45)
	LAN Module	-
	TPM	-
	Intel® VT-x	V

Intel® VT-d	V
SR-IOV	-
Intel® QAT	V
Intel® AES-NI	V

							
NSA 7141		NSA 5181		NSA 3180A/3180HA		NSA 1160/1160A	
1U		1U		1U		1U	
Intel® Xeon® processor scalable Family		8th/9th gen. Intel® Xeon®/Core™/Pentium® processors		8th/9th gen. Intel® Xeon®/Core™/Pentium® processors		Intel Atom® C3000 series, BGA type	
Max. 22		Max. 6		Max. 6		Max. 16	
256 GB		64 GB		32 GB		128 GB	
2 x Intel® I210-AT for management port		2 x Intel® I210-AT for management port		8 x Intel® I211-AT		6 for NSA 1160A (4 x Intel® I211-AT, 2 x Marvell PHY 88E1543, 2 x SoC) 8 for NSA 1160 (4 x Intel® I211-AT, 4 x Marvell PHY 88E1543)	
4		2		1		2	
TPM 1.2/2.0		TPM 2.0		TPM 2.0		TPM 2.0	

V	V	V	V
V	V	V	V
V***	V***	V***	V***
V	V	V	V
V	V	V	V

							
DTA 1160		DNA 1160/1160A		DNA 130/130A/130B		ISA 140	
Desktop		Desktop		Desktop		DIN Rail	
Intel Atom® C3000 series, BGA type		Intel Atom® C3000 series, BGA type		Intel Atom® processor x5-E3900 series, BGA type		Intel Atom® processor x6212RE, BGA type	
Max. 16		Max. 12		Max. 4		Max. 2	
64 GB		32 GB		4 GB		16 GB	
4 x Intel® I350-AM4 4 x Marvell PHY 88E1543 (Flexible I/O)**		4 x Intel® I211-AT 4 x Marvell PHY 88E1543		5 x Intel® I211-AT		6 x 1GbE RJ45 ports	
TPM 1.2/2.0		-		TPM 2.0		TPM 2.0	

V	V	-	V
V	V	-	V
V	-	-	-
V	V	-	-
V	V	V	V

# NSA 7150/7150A

2U Rackmount Performance Appliance w/ Dual 3rd Gen Intel® Xeon® Scalable processor and 8 x PCIe4 LAN Module Slots



### Main Features

- Dual 3rd Gen Intel® Xeon® Scalable processor (socket P + 4189-pin)
- Supports Intel® Optane™ Persistent Memory
- 20 x DDR4 3200 ECC RDIMM/LRDIMM
- 2 x 2.5" swappable SSD/HDD
- 8 x PCIe4 LAN module slots
- 1 x PCIe4 x16 low profile riser card
- 1300W 1 + 1 CRPS redundant power supply
- Supports OCP NIC 3.0
- Supports IPMI 2.0 RunBMC (optional)
- Supports Intel® QAT (NSA 7150A)

### Product Overview

The NSA 7150 is a 2U rackmount high-performance networking appliance intended for networking security and 5G network applications. Based on 3rd Gen Intel® Xeon® product family (codenamed Whitley), NEXCOM's NSA 7150 features enhancements in multi-core computing performance, high memory capacity, high speed I/O interface, and Intel® QAT hardware acceleration with DPDK to support NEXCOM proprietary LAN modules and OCP NIC 3.0 modules for both enterprise and telecommunication applications.

### Specifications

#### Main Board

- Dual 3rd Gen Intel® Xeon® Scalable processor
- Intel® C627A w/ Intel® QAT (NSA 7150A)
- Supports 3 x UPI between CPUs
- Supports 8 x PCIe4 LAN modules
- Supports IPMI 2.0 RunBMC (optional)

#### PCH

- NSA 7150: Intel® Lewisburg Refresh LBG-1G (C621A)
- NSA 7150A: Intel® Lewisburg Refresh LBG-T (C627A)

#### Memory

- Support 20 (10 + 10) DDR4 memory DIMMs (up to 1280GB for RDIMM and up to 2560GB for LRDIMM)
- Support Intel® Optane™ persistent memory (Barlow Pass)

#### Storage

- 2 x 2.5" swappable SSD/HDD
- 1 x M.2 2280 (Key M ) socket

#### Interface External

- Button: power & reset & NMI
- LED: PWR/STBY/HDD/ERR
- 2 x 2.5" swappable SSD/HDD bays
- 2 x USB 3.0 ports
- 1 x RJ45 type console
- 8 x LAN module slots + 1 x PCIe4 x16 low profile card
- 8 x OCP NIC 3.0 slots + 1 x PCIe4 x16 low profile card (optional)

- 4 x LAN module slots + 1 x PCIe4 x16 FHFL card (optional)
- 2 x Management ports
- 1 x VGA port (for models with RunBMC installed only)
- 3 x Swappable smart fans
- 2 x Power inlets
- LCM module

#### Interface internal

- TPM 2.0 module (optional)
- RunBMC module (optional)

#### Power

- 1300W 1 + 1 CRPS redundant power supply

#### Dimension and Weight

- Chassis dimension: 438 mm x 650 mm x 88 mm
- Carton dimension: 867 mm x 688 mm x 249 mm
- Without packing: 16.72 kg
- With packing: 25 kg

#### Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -20°C~75°C
- Relative humidity: 10%~90% non-condensing

#### Certification

- CE/FCC Class A

### Ordering Information

#### Barebone

- **NSA 7150 (P/N: 10S00715000X0)**  
2U w/ Dual 3rd Gen Intel® Xeon® Scalable processor, w/ o QAT, LCM, 8 x LAN module slots and RunBMC
- **NSA 7150A (P/N: 10S00715001X0)**  
2U w/ Dual 3rd Gen Intel® Xeon® Scalable processor, w/ QAT, LCM, 8 x LAN module slots and RunBMC

#### Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>



### Main Features

- Dual Intel® Xeon® scalable processor (LGA3647)
- 16 x DDR4-2666 RDIMM
- 2 x 2.5" swappable SSD/HDD
- 2 x Management ports
- 8 x LAN modules

- Supports Intel® QAT
- Redundant power supply
- Supports IPMI 2.0 remote management
- Intel® Select Solution for NFVI, VCDN (RHEL), and NFVI FP

Product Overview

The NSA 7146 is a 2U rackmount high-performance security appliance intended for more secure workloads and lower energy consumption in contributing to a greener world. Based on the Intel® Xeon® product family (codenamed Skylake-SP), NEXCOM's NSA 7146 features enhancements of in multi-core computing performance, flexible I/O throughput and interface, and Intel® QAT hardware acceleration technology to process network traffic for both enterprise and telecommunication applications.

Specifications

<b>Main Board</b> <ul style="list-style-type: none"><li>• Dual Intel® Xeon® Skylake-SP scalable processor (LGA3647), up to 165W</li><li>• Supports 2 x UPI between CPUs</li><li>• Intel® C627 w/ Intel® QAT</li><li>• Supports IPMI 2.0</li><li>• Supports Dual BIOS</li></ul>	<ul style="list-style-type: none"><li>• 3 x Swappable smart fans</li><li>• 2 x Power inlets</li><li>• LCM module</li></ul>
<b>Main Memory</b> <ul style="list-style-type: none"><li>• 16 x DDR4 2133/2400/2666 RDIMM sockets, up to 512GB</li></ul>	<b>Interface-Internal</b> <ul style="list-style-type: none"><li>• TPM 1.2/2.0 module (optional)</li></ul>
<b>Storage</b> <ul style="list-style-type: none"><li>• 2 x 2.5" swappable SSD/HDD</li><li>• 1 x CFast</li></ul>	<b>Power</b> <ul style="list-style-type: none"><li>• 700W 1+1 CRPS redundant power supply</li></ul>
<b>Interface-External</b> <ul style="list-style-type: none"><li>• Button: Power &amp; Reset</li><li>• LED: Power/HDD/GPIO/System</li><li>• 2 x 2.5" swappable SSD/HDD bays</li><li>• 2 x USB 3.0 ports</li><li>• 2 x USB 2.0</li><li>• 1 x RJ45 type console</li><li>• 8 x PCIe x8 LAN module slots</li><li>• 2 x Management ports</li><li>• 1 x VGA port</li></ul>	<b>Dimensions and Weight</b> <ul style="list-style-type: none"><li>• Chassis dimension: 440.6 mm x 570 mm x 88 mm</li><li>• Carton dimension: 774 mm x 636 mm x 293 mm</li><li>• Without packing: 19 kg</li><li>• With packing: 25 kg</li></ul> <b>Environment</b> <ul style="list-style-type: none"><li>• Operating temperature: 0°C~40°C</li><li>• Storage temperature: -20°C~75°C</li><li>• Relative humidity: 10%~90%, non-condensing</li></ul> <b>Certifications</b> <ul style="list-style-type: none"><li>• CE/FCC Class A</li><li>• UL</li></ul>

Ordering Information

<b>Barebone</b> <ul style="list-style-type: none"><li>• <b>NSA 7146 (P/N: 10S00714600X0)</b> 2U w/ Dual Intel® Xeon® Scalable Processor, w/ QAT, IPMI, LCM and 8 x LAN modules</li></ul>	<b>Optional</b> <ul style="list-style-type: none"><li>• <b>LAN modules</b> To check the list of all supported LAN modules for this appliance, please visit our website: <a href="https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf">https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf</a></li></ul>
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Main Features

- 1U compact rackmount
- Single Intel® Xeon® Scalable processor family, up to 140W
- 8 x DDR4 RDIMM, support 2133/2400/2666, up to 256 GB
- 4 x PCIe x8 LAN module slots, up to 100G QSFP28
- 2 x 2.5" SSD/HDD internal bracket
- 1 x M.2 2242 B key
- 1 x FHHL PCIe x16 expansion slot
- 3 Swappable fans
- 450W redundant power supply
- TPM module option

Product Overview

NEXCOM has released the 1U network security appliance NSA 7141 to take on more VNFs workloads and lower energy consumption to contribute to a greener world. Based on Intel® Xeon® scalable processor family (codenamed Purley), NEXCOM NSA 7141 features enhancements in computing performance, system responsiveness, I/O throughput and hardware design for virtual network functions for both enterprise and telecommunication applications. Support PCIe x16 extension slot for more application use like AI engine or crypto/decrypt Accelerator.

Specifications

Main Board

- NSB 7141 (PCH C621)
- Single Intel® Xeon® scalable processor family
- 1 x PCIe x16 expansion slot

LAN Features

- Optional LAN module
- Support 1GbE/10GbE/25GbE/40GbE/100GbE link speed
- LAN bypass
  - \* please see LAN module list information

I/O Interface-Front

- Power status/HDD status/HW monitor/GPIO LEDs
- 1 x Power button and 1 x reset button
- 1 x Micro USB type and 1x RJ45 type console ports
- 1 x VGA
- 2 x Management LAN port
- 2 x USB 3.0 port
- 4 x LAN module slots (x8, x8, x8, x8 or x16, x8, x8)

I/O Interface-Rear

- 1 x PCIe x16 expansion slot
- 3 x Swappable system fan

Main Memory

- 8 x DDR4 RDIMM, support 2133/2400/2666, up to 256 GB
- 2 x Intel® Optane™ DC persistent memory (Apache Pass)

Storage Device

- 2 x 2.5" internal SSD/HDD
- 1 x SATA DOM
- 1 x M.2 2242 B-Key

Power Input

- 450W redundant power supply

Dimensions

- Chassis dimension: 438 mm x 600 mm x 44 mm
- Packing dimension: 773 mm x 588 mm x 221 mm

Weight

- Without packing: 10.91 kg
- With packing: 14 kg

Environment

- Operating temperatures: 0°C~40°C
- Storage temperature: -20°C~80°C
- Relative humidity: 10%~90% non-condensing

Certifications (Plan)

- CE approval
- FCC Class A

Ordering Information

Barebone

- NSA 7141 (P/N: 10S00714102X0)

Optional

• LAN modules

To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>



Main Features

- 1U rackmount workstation system
- Intel® Coffee Lake-S Xeon® processors (LGA1151)
- Support DDR4 2666 DIMM x 4
- Support IPMI 2.0 remote management
- Four LAN module slots
- Support LCM module (optional)
- Support internal 2.5", mSATA and M.2 storage

Product Overview

NEXCOM network appliance NSA 5181 helps small and medium-sized businesses (SMBs) scrutinize network traffic with ease. Featuring Intel® Xeon® E Series Product Family, the NSA 5181 delivers scalable computing performance, high port density, and easy expansions of high-speed networking interface. By simplifying deployment, configuration, and management of network security controls, NEXCOM network appliance can fend off unauthorized access, patch potential security loopholes, and create protected networks for business environments.

Specifications

Main Board

- NSB 5180
- Intel® Coffee Lake-S Xeon® processors (LGA1151)
- Intel® C246

Main Memory

- 4 x DDR4 2666 memory DIMM support ECC/non-ECC memory, up to 64GB

LAN Features

- Support 4 x swappable LAN modules
- Support up to 1 x 100GbE LAN module
- LAN bypass
- \* Please see LAN module list for more information

I/O Interface-Front

- Power status/HDD status/Error/GPIO LEDs
- 1 x Management ports (LAN chip: Intel® i210)
- 2 x USB 2.0 ports
- 1 x RJ45 type console port
- 1 x Reset button
- 4 x PCIe Gen.3 LAN module slots

I/O Interface-Rear

- 1 x VGA port
- 1 x Power button switch
- 2 x USB 2.0 port

Storage Device

- 1 x mSATA
- 1 x M.2 2280
- 1 x 2.5" HDD bay

Power Input

- Power supply 300W (1+1) redundant PSU

Dimensions

- Chassis dimension: 438mm x 470mm x 44mm
- Carton dimension: 665mm x 547mm x 226mm

Weight

- Without packing: 7.5 KG
- With packing: 10.5 KG

Certifications

- CE Approval
- FCC Class A

Ordering Information

Barebone

- **NSA 5181 (P/N: 10S00518100X0)**  
Intel® Coffee Lake-S, Xeon® E processor with 4 x DDR4 DIMM, 4 x LAN modules, IPMI and redundant PSU

Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

# NSA 3190A

1U Rackmount Entry Level Appliance w/ Intel® Comet Lake Processor (LGA1200),  
8 x 2.5 GbE LANs and 1 x LAN Module



### Main Features

- Intel® Comet Lake processor (LGA1200)
- 2 x DDR4 ECC/non-ECC (2666/2933) UDIMM
- 2 x 2.5" internal SSD/HDD
- 1 x SATA3 for SATA DOM
- 1 x M.2 2242 Key M
- 8 x 2.5 GbE RJ45 LAN ports
- 1 x LAN module
- Single power supply

### Product Overview

NSA 3190A is a network communication appliance intended for secure workloads and lower energy consumption. Based on the Intel® Comet Lake processor, NEXCOM's NSA 3190A features high performance computing, flexible I/O, and cost-effective design in processing traffic for network security applications. With up to 16 2.5GbE RJ45 LAN ports and optional expansion cards, it also gives opportunities for customization. NSA 3190A is an ideal edge server or a network security appliance in small and medium business networks.

### Specifications

#### Main Board

- Intel® Comet Lake processor (LGA1200), up to 80W
- Intel® W480
- TPM 2.0 (optional)
- Dual BIOS

#### Main Memory

- 2 x DDR4 2666/2933 ECC/non-ECC UDIMM, up to 32GB

#### Storage

- 2 x 2.5" internal SSD/HDD bays
- 1 x M.2 2242 Key M (SATA)
- 1 x SATA3 for SATA DOM

#### Interface-External

- Buttons: power & reset
- LED: HDD/bypass 1/bypass 2/GPIO
- 2 x USB 3.0 ports
- 1 x RJ45 console
- 8 x 2.5 GbE RJ45 LAN ports
  - 2 x LAN bypass pairs
  - 2 ports PoE supported (30Wx2) (optional)
- 1 x LAN module slot
- 1 x HDMI

#### Interface-Internal

- 2 x Fixed smart fans
- 1 x Power inlet
- 1 x 54V DC Input (optional for PoE function)
- 1 x low profile standard PCIe x8 expansion slot (optional)
- LCM (optional)

#### Riser card (one out of three can be installed per SKU) (optional)

- 2 ports PoE control card
- NVMe with 2 x M.2 SSD
- 8 x 2.5GbE riser LAN card

#### Power

- 300W single power supply
- 54V DC adapter for PoE (optional)

#### Dimensions and Weight

- Chassis dimension: 430mm x 300mm x 44mm
- Carton dimension: 544mm x 506mm x 205mm
- Without packing: 4.7kg
- With packing: 7.5kg

#### Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -40°C~80°C
- Relative humidity: 10%~90%, non-condensing

### Ordering Information

#### Barebone

- **NSA 3190A (P/N: 10S00319000X0) for ODM projects only.**  
1U w/ Intel® Comet Lake processor, 8 x 2.5GbE, 1 x LAN module, single PSU

#### Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/File/NCS/LAN-Matrix.pdf>

# NSA 3180A

1U Rackmount Entry Level Appliance w/ Intel® Coffee Lake Processor (LGA1151),  
8 x GbE LANs and 1 x LAN Module



### Main Features

- Intel® Coffee Lake Processor (LGA1151)
- 2 x DDR4 2666 UDIMM slots
- 2 x 2.5" internal SSD/HDD
- 1 x M.2 2280 M key
- 8 x GbE RJ45 LAN ports
- 1 x LAN module
- 1 x PCIe x8 slot (optional)
- Single power supply

### Product Overview

The NSA 3180A is a 1U rackmount entry level security appliance intended for secure workloads and lower energy consumption in contributing to a greener world. Based on the Intel® Coffee Lake product family, NEXCOM's NSA 3180A features high performance computing, flexible I/O, and cost-effective design in processing traffic for network security applications.

### Specifications

#### Main Board

- Intel® Coffee Lake Processor (LGA1151), up to 80W
- Intel® C246
- TPM 2.0
- Dual BIOS

#### Main Memory

- 2 x DDR4 2666 ECC/non-ECC UDIMM, up to 32GB

#### Storage

- 2 x 2.5" internal SSD/HDD bays
- 1 x M.2 2280 M key (SATA)

#### Interface-External

- Button: Power & Reset
- LED: HDD/Bypass 1/Bypass 2/GPIO
- 2 x USB 3.0 ports
- 1 x Micro USB and 1 x RJ45 console
- 8 x GbE RJ45 LAN ports
  - 2 x LAN bypass pairs
- 1 x LAN module slot
- 1 x HDMI

- 2 x Fixed smart fans
- 1 x Power inlet
- 1 x 107 mm x 110 mm PCIe x8 expansion slot (optional)
- LCM (optional)

#### Power

- 250W single power supply

#### Dimensions and Weight

- Chassis dimension: 430 mm x 300 mm x 44 mm
- Carton dimension: 544 mm x 506 mm x 205 mm
- Without packing: 4.7 kg
- With packing: 7.5 kg

#### Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -40°C~80°C
- Relative humidity: 10%~90%, non-condensing

#### Certifications

- CE/FCC Class A
- CE-LVD

### Ordering Information

#### Barebone

- **NSA 3180A (P/N: 10S00318000X0)**  
1U w/ Intel® Coffee Lake Processor, 8 x 2.5 GbE, 1 x LAN module, single PSU

#### Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>



### Main Features

- Intel® Coffee Lake Processor (LGA1151)
- 2 x DDR4 2666 UDIMM slots
- 2 x 2.5" internal SSD/HDD
- 1 x M.2 2280 M key

- 8 x GbE RJ45 LAN ports
- 1 x LAN module
- 1 x PCIe x8 slot for acceleration card (optional)
- Redundant power supply

Product Overview

The NSA 3180HA is a 1U rackmount entry-level security appliance intended for secure workloads and lower energy consumption in contributing to a greener world. Based on the Intel® Coffee Lake product family, NEXCOM’s NSA 3180HA features high performance computing, flexible I/O, redundant PSU, and cost-effective design in processing traffic for network security applications.

Specifications

- Main Board**
  - Intel® Coffee Lake Processor (LGA1151), up to 80W
  - Intel® C246
  - TPM 2.0
  - Dual BIOS
- Main Memory**
  - 2 x DDR4 2666 ECC/non-ECC UDIMM, up to 32GB
- Storage**
  - 2 x 2.5" internal SSD/HDD bays
  - 1 x M.2 2280 M key (SATA)
- Interface-External**
  - Button: Power & Reset
  - LED: HDD/Bypass 1/Bypass 2/GPIO
  - 2 x USB 3.0 ports
  - 1 x Micro USB and 1x RJ45 console
  - 8 x GbE RJ45 LAN ports
    - 2 x LAN bypass pairs
  - 1 x LAN module slot
  - 1 x HDMI

- 2 x Fixed smart fans
  - 2 x Power inlets
  - 1 x FHHL PCIe x8 expansion slot (optional)
  - LCM (optional)
- Power**
  - 450W 1+1 redundant power supply
- Dimensions and Weight**
  - Chassis dimension: 430 mm x 480 mm x 44 mm
  - Carton dimension: 632 mm x 567 mm x 203 mm
  - Without packing: 7.6 kg
  - With packing: 10.6 kg
- Environment**
  - Operating temperature: 0°C~40°C
  - Storage temperature: -40°C~80°C
  - Relative humidity: 10%~90%, non-condensing
- Certifications**
  - CE/FCC Class A
  - CE-LVD

Ordering Information

- Barebone**
  - **NSA 3180HA (P/N: 10S00318001X0)**  
1U w/ Intel® Coffee Lake Processor, 8 x GbE, 1 x LAN module, dual PSU
- Optional**
  - **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

# NSA 1160

Intel Atom® Processor C3000 Series,  
1U Rackmount with 1 LAN Module



NSA 1160



NSA 1160A

### Main Features

- Intel Atom® processor C3000 series SoC, BGA type
- DDR4-2400 ECC/non-ECC UDIMM/RDIMM, up to 128GB
- 8 x GbE RJ45 ports for NSA1160
- 2 x 10GbE SFP+ & 6 x GbE RJ45 ports for NSA1160A
- 1 x LAN module slot for NSA1160A
- 2 x USB3.0 connector
- Two pairs bypass

### Product Overview

1U network security appliance NSA1160/1160A helps small and medium enterprises build a securely connected workplace. Based on the new Intel Atom® processor C3000 series, the packs excellent performance per watt, accelerated data cryptography and server-grade LAN functions into a small form factor. This 1U network security appliance can create safe environments for network communication to connect employees and offices.

With Intel Atom® processor C3000 series integrated with Intel® QuickAssist technology, the NSA1160/1160A is designed to help increase both network responsiveness and security by distributing computing power to core applications, ranging from mail servers to firewalls, while using Intel® QuickAssist technology for data encryption and decryption, which were processed by software or a discrete hardware accelerator.

### Specifications

#### Main Board

- NSB 1160/NSB 1160A
- Intel Atom® processor C3558 for NSA 1160
- Intel Atom® processor C3758 for NSA 1160A

#### Main Memory

- 4 x DDR4-2400 ECC/non-ECC UDIMM/RDIMM, up to 128GB

#### LAN Features

- 8 x 1GbE RJ45 for NSA 1160
- 2 x 10GbE SFP+ & 6 x GbE RJ45 for NSA 1160A
- 1 x PCIe x4 LAN module slot for NSA 1160A
- LAN bypass: 2 pairs

#### I/O Interface-Front

- Power/HDD/LAN bypass 1/LAN bypass 2 LEDs
- 1 x Reset button
- 2 x USB 3.0
- 1 x RJ45 type console port
- 1 x LCM (optional)

#### I/O Interface-Rear

- 1 x VGA
- 2 x USB 2.0
- 1 x Power inlet

#### Storage Device

- 1 x mSATA slot
- 2 x 2.5" HDD/SSD bay (optional)

#### Power Input

- 65W power supply for NSA 1160
- 150W power supply for NSA 1160A

#### Dimensions

- Chassis dimension: 430mm x 310mm x 44mm
- Carton dimension: 544mm x 506mm x 205mm

#### Weight

- Without packing: 5.6Kg
- With packing: 8.4Kg

#### Environment

- Operating temperatures: 0°C~40°C
- Storage temperature: -20°C~75°C
- Relative humidity: 10%~90% non-condensing

#### Certifications

- CE Approval
- FCC Class A
- UL

### Ordering Information

#### Barebone

- **NSA 1160 (P/N: 10S00116000X0)**  
Intel Atom® C3558, BGA type, 4 x DDR4 memory slots, 8 copper LAN ports, mSATA slot
- **NSA 1160A (P/N: 10S00116001X0)**  
Intel Atom® C3758, BGA type, 4 x DDR4 memory slots, 2 10GbE + 6 copper LAN ports, 1 LAN module slot, mSATA slot

#### Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

TCA 5170

1U Rackmount uCPE w/ Intel® Xeon® Skylake-D SoC Processor,  
8 x GbE RJ45, 4 x 10GbE Fiber and 2 x LAN Modules



### Main Features

- Intel® Xeon® D-2123IT SoC, BGA type
- 8 x DDR4-2400 RDIMM
- 1 x 2.5 SSD, 1 x M.2 2280
- 8 x GbE RJ45 & 4 x 10GbE Fiber
- 2 x LAN modules
- Redundant power supply
- Intel® Select Solution for uCPE (ADVA Ensemble Connector)

Product Overview

The 1U rackmount uCPE TCA 5170 helps telecom companies build virtualization environments based on Intel® Xeon® D-2123IT processor (Skylake). Packing excellent multi-core CPU performance and server-grade LAN functions into a small form factor, this 1U rackmount uCPE creates virtualized environments for flexible VNF deployments in enterprises and branch offices.

Specifications

<b>Main Board</b> <ul style="list-style-type: none"><li>• Intel® Xeon® Skylake-D SoC, BGA type<ul style="list-style-type: none"><li>- D-2123IT, 4 cores w/ o QAT</li></ul></li></ul>	<ul style="list-style-type: none"><li>• 2 x Power inlets</li><li>• LCM module (optional)</li></ul>
<b>Main Memory</b> <ul style="list-style-type: none"><li>• 8 x DDR4 2400 RDIMM sockets, up to 256GB</li></ul>	<b>Interface-Internal</b> <ul style="list-style-type: none"><li>• 1 x M.2 2230 E key</li><li>• 1 x M.2 3042 B key with SIM slot</li></ul>
<b>Storage Device</b> <ul style="list-style-type: none"><li>• 1 x 2.5" internal SSD/HDD bay</li><li>• 1 x M.2 2280 M key, supports SATA and PCIe x4 signal</li></ul>	<b>Power</b> <ul style="list-style-type: none"><li>• 450W 1+1 redundant power supply</li></ul>
<b>Interface-External</b> <ul style="list-style-type: none"><li>• Button: Power &amp; Reset</li><li>• LED: Power/HDD/2 x GPIO</li><li>• 1 x USB 3.0 port</li><li>• 1 x Micro USB type console</li><li>• 8 x GbE RJ45 ports<ul style="list-style-type: none"><li>- 2 x LAN bypass pairs</li></ul></li><li>• 4 x 10GbE fiber ports</li><li>• 2 x PCIe x8 LAN module slots</li><li>• 1 x Management port</li><li>• 4 x SMA connectors for Antennas</li><li>• 3 x Fixed smart fans</li></ul>	<b>Dimensions and Weight</b> <ul style="list-style-type: none"><li>• Chassis dimension: 438 mm x 480 mm x 44 mm</li><li>• Package dimension: 632 mm x 567 mm x 203 mm</li><li>• Without packing: 8kg</li><li>• With packing: 12kg</li></ul> <b>Environment</b> <ul style="list-style-type: none"><li>• Operating temperature: 0°C~40°C</li><li>• Storage temperature: -20°C~80°C</li><li>• Relative humidity: 10%~90%, non-condensing</li></ul> <b>Certifications</b> <ul style="list-style-type: none"><li>• CE/FCC Class A</li></ul>

Ordering Information

- **TCA 5170 (P/N: 10CA0517000X0)**  
1U Intel® Xeon® D-2123IT w/o Intel® QAT, w/ 4 x 10GbE & 8 x 1GbE LAN ports, 2 LAN module slots
- Optional**

  - **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

TCA 5170B

1U Rackmount uCPE w/ Intel® Xeon® Skylake-D SoC Processor,  
8 x GbE RJ45, 4 x 10GbE Fiber and 2 x LAN Modules



### Main Features

- Intel® Xeon® D-2177NT SoC, BGA type
- 8 x DDR4-2666 RDIMM
- 1 x 2.5 SSD, 1 x M.2 2280
- 8 x GbE RJ45 & 4 x 10GbE fiber
- 2 x LAN modules
- Supports Intel® QAT
- Redundant power supply
- Intel® Select Solution for uCPE (CentOS)

Product Overview

The 1U rackmount uCPE TCA 5170B helps telecom companies build virtualization environments based on Intel® Xeon® D-2177NT processor (Skylake). Packing excellent multi-core CPU performance, accelerated data cryptography with Intel® QAT technology, and server-grade LAN functions into a small form factor, this 1U rackmount uCPE, an Intel® Select Solution for uCPE, creates virtualized environments for flexible VNF deployments in enterprises and branch offices.

Specifications

Main Board

- Intel® Xeon® Skylake-D SoC, BGA type
  - D-2177NT, 14 cores w/ QAT

Main Memory

- 8 x DDR4 2666 RDIMM sockets, up to 256GB

Storage Device

- 1 x 2.5" internal SSD/HDD bay
- 1 x M.2 2280 M key, supports SATA and PCIe x4 signal

Interface-External

- Button: Power & Reset
- LED: Power/HDD/2 x GPIO
- 1 x USB 3.0 port
- 1 x Micro USB type console
- 8 x GbE RJ45 ports
  - 2 x LAN bypass pairs
- 4 x 10GbE fiber ports
- 2 x PCIe x8 LAN module slots
- 1 x Management port
- 4 x SMA connectors for antennas

- 3 x Fixed smart fans
- 2 x Power inlets
- LCM module (optional)

Interface-Internal

- 1 x M.2 2230 E key
- 1 x M.2 3042 B key with SIM slot

Power

- 450W 1+1 redundant power supply

Dimensions and Weight

- Chassis dimension: 438 mm x 480 mm x 44 mm
- Package dimension: 632 mm x 567 mm x 203 mm
- Without packing: 8kg
- With packing: 12kg

Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -20°C~80°C
- Relative humidity: 10%~90%, non-condensing

Certifications

- CE/FCC Class A

Ordering Information

- **TCA 5170B (P/N: 10CA0517002X0)**  
1U Intel® Xeon® D-2177NT w/ Intel® QAT, w/ 4 x 10GbE & 8 x 1GbE LAN ports, 2 LAN module slots

Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

TCA 5170C

1U Rackmount uCPE w/ Intel® Xeon® Skylake-D SoC Processors,  
8 x GbE RJ45, 4 x 10GbE Fiber and 2 x LAN Modules



Main Features

- Intel® Xeon® D-2146NT SoC, BGA type
- 8 x DDR4-2133 RDIMM
- 1 x 2.5 SSD, 1 x M.2 2280
- 8 x GbE RJ45 & 4 x 10GbE Fiber
- 2 x LAN modules
- Redundant power supply

Product Overview

The 1U rackmount uCPE TCA 5170C helps telecom companies build virtualization environments based on Intel® Xeon® D-2146NT processor (Skylake). Packing excellent multi-core CPU performance and server-grade LAN functions into a small form factor, this 1U rackmount uCPE creates virtualized environments for flexible VNF deployments in enterprises and branch offices.

Specifications

Main Board

- Intel® Xeon® Skylake-D SoC, BGA type
  - D-2146NT, 8 cores w/ QAT

Main Memory

- 8 x DDR4 2133 RDIMM sockets, up to 256GB

Storage Device

- 1 x 2.5" internal SSD/HDD bay
- 1 x M.2 2280 M key, supports SATA and PCIe x4 signal

Interface-External

- Button: Power & Reset
- LED: Power/HDD/2 x GPIO
- 1 x USB 3.0 port
- 1 x Micro USB type console
- 8 x GbE RJ45 ports
- 4 x 10GbE fiber ports
- 2 x PCIe x8 LAN module slots
- 1 x Management port
- 4 x SMA connectors for Antennas
- 3 x Fixed smart fans
- 2 x Power inlets
- LCM module (optional)

Interface-Internal

- 1 x M.2 2230 E key
- 1 x M.2 3042 B key with SIM slot

Power

- 450W 1+1 redundant power supply

Dimensions and Weight

- Chassis dimension: 438 mm x 480 mm x 44 mm
- Package dimension: 632 mm x 567 mm x 203 mm
- Without packing: 8kg
- With packing: 12kg

Environment

- Operating temperature: 0°C~40°C
- Storage temperature: -20°C~80°C
- Relative humidity: 10%~90%, non-condensing

Certifications

- CE/FCC Class A

Ordering Information

- **TCA 5170C (P/N: 10CA0517003X0)**  
1U Intel® Xeon® D-2146NT w/ Intel® QAT, w/ 4 x 10GbE & 8 x 1GbE LAN ports, 2 LAN module slots

Optional

- **LAN modules**  
To check the list of all supported LAN modules for this appliance, please visit our website: <https://www.nexcom.com/UploadFiles/FCKeditor/file/NCS/LAN-Matrix.pdf>

# DTA 1164W

Network Function Virtualization and Software-Defined Appliance  
with Intel Atom® SOC C3000R



### Main Features

- Intel Atom® processor C3000R series SoC, BGA type
- DDR4-2400 ECC memory SO-DIMM, up to 16GB
- 6 x 1GbE RJ45 + 2 x SFP ports (reserve design to support 8 x 1GbE RJ45)
- Two ports with PoE, supports up to 30W (802.11at)
- M.2 SATA 2242 Key M
- M.2 3042/3052 for 4G LTE and 5G (FR1)
- mini-PCIe slot for Wi-Fi 5 and 6
- Supports Intel® QAT
- Supports 5G NR NSA/SA network

### Product Overview

The desktop uCPE DTA 1164W helps small and medium enterprises build a securely connected workplace. Based on Intel’s Atom® C3000R processor, the DTA 1164W packs excellent performance per watt and PoE functionality, all in a small form factor. This compact network appliance is perfect for cloud native deployments, while its flexible, multiple configuration easily adapts to today’s dynamic IT environments.

### Specifications

- Main Board**
- Intel Atom® processor C3436L, BGA type, 4 cores, 1.30 GHz
  - Supports Intel® QAT
- Main Memory**
- 1 x DDR4-2400 SO-DIMM ECC, up to 16GB
- Storage**
- 1 x M.2 2242 SATA Key M
- LAN Features**
- 6 x 1GbE RJ45 + 2 x SFP ports (reserve design to support 8 x 1GbE RJ45)
  - Support 10/100/1000 link speed
- Interface External**
- SW1/SW2/power/SSD LEDs
  - Ethernet LED: active/link speed
  - 1 x USB 3.0 (support software power control)
  - 1 x SIM slot
  - 2 x DC-in (12V for system, 54V for PoE)
  - 1 x Power button
  - 1 x RJ45 console + 1 x USB 3.0 port
  - 1 x Reset button
  - 3 x Antenna holes for Wi-Fi 5 or 6
  - 2 x Antenna holes on each chassis side for 5G/4GLTE support (4 x total)
  - 6 x 1GbE RJ45 + 2 x SFP ports
    - Two ports with PoE, supports up to 30W/port and individual power off/on for both ports (802.11at)
    - Two SFP ports can optionally serve as RJ45 ports
- Interface-Internal**
- mini-PCIe slot for Wi-Fi 5 and 6
  - M.2 3042/3052 for 4G LTE and 5G (FR1)
  - 1 x M.2 2242 storage socket

- Power**
- 65W 12V AC power adapter
  - 72W 54V PoE power adapter (optional)
- Dimension and Weight**
- Chassis dimension (mm): 225mm x 150mm x 44mm (W x D x H)
  - Package dimension (mm): 343 x 258 x 212 (W x D x H)
  - Without packing: 1.5kg
  - With packing: 2.5kg
- Environment**
- Operating temperature: 0°C~40°C
  - Storage temperature: -20°C~80°C
  - Relative humidity: 10%~90% non-condensing
- Certification**
- CE/FCC class B

### Ordering Information

- **DTA 1164W (P/N: 10TA0116408X0)**  
Intel Atom® processor C3436L, BGA type, 4 cores, 1.30 GHz, 6 x 1GbE RJ45 + 2 x SFP ports
- **DTA 1164WA (P/N: 10TA0116404X0)**  
Intel Atom® processor C3436L, BGA type, 4 cores, 1.30 GHz, 8 x 1GbE RJ45

# DTA 1162 Series

Virtualization Networks and Software-Defined Appliance  
with Intel Atom® SOC C3000



### Main Features

- Intel Atom® processor C3000 series SoC, BGA type
- Support Intel® QuickAssist Technology
- DDR4-2133 ECC or non-ECC memory SO-DIMM, up to 32GB
- 4 x 1GbE RJ45 & 2 x 1GbE RJ45 for DTA 1162A
- 4 x 1GbE RJ45 & 2 x 1GbE SFP for DTA 1162B
- 1 x M.2 2242 storage socket
- Onboard 8GB eMMC 5.0
- 2 x USB 3.0 connector
- TPM 1.2/2.0

### Product Overview

Desktop network security appliance DTA 1162A/1162B helps small and medium enterprises build a securely connected workplace. Based on the new Intel Atom® processor C3000, the DTA 1162A/1162B packs excellent performance per watt, accelerated data cryptography and server-grade LAN functions into a small form factor. This desktop network security appliance can create safe environments for network communication to connect employees and offices.

With Intel Atom® processor C3000 integrated with Intel® QuickAssist Technology, the DTA 1162A/1162B is designed to help increase both network responsiveness and security by distributing computing power to core applications, ranging from mail servers to firewalls, while using Intel® QuickAssist Technology for data encryption and decryption, which were processed by software or a discrete hardware accelerator.

### Specifications

- Main Board**
- DTB1162 series
  - Intel Atom® processor C3338 w/o Intel® QAT for DTA 1162A
  - Intel Atom® processor C3558 w/ Intel® QAT for DTA 1162B
- Main Memory**
- 1 x DDR4-1866 SO-DIMM ECC/non- ECC memory for DTA 1162A, up to 16GB
  - 1 x DDR4-2133 SO-DIMM ECC/non- ECC memory for DTA 1162B, up to 32GB
- LAN Features**
- 4 x 1GbE RJ45 (88E1543) & 2 x 1GbE RJ45(Intel® I211) for DTA1162A
  - 4 x 1GbE RJ45 (88E1543) & 2 x 1GbE SFP (Intel® I210) for DTA1162B
  - Support 10/100/1000 link speed
- Expansion**
- 1 x M.2 2230 Key E for Wi-Fi module
  - 1 x M.2 3042 Key B for LTE module with SIM slot onboard
- I/O Interface-Front**
- Power/System/HDD/LAN LEDs
  - 1 x SIM slot
- I/O Interface-Rear**
- 1 x DC-in
  - 1 x Power button
  - 2 x USB 3.0
  - 1 x RJ45 type console port
  - 1 x Reset button
  - 3 x SMA connector holes for RF cable
- Storage Device**
- 1 x 8GB eMMC

- 1 x M.2 2242 M-key socket (SATA)
- Power Input**
- DC 12V/3.33A 40W power adaptor
- Dimensions**
- Chassis dimension (mm): 225 x 150 x 44
  - Carton dimension (mm): 275 x 230 x 185
- Weight**
- Without packing: 1.5kg
  - With packing: 2.5kg
- Environment**
- Operating temperatures: 0°C~40°C
  - Storage temperature: -20°C~80°C
  - Relative humidity: 10%~90% non-condensing
- Certifications**
- CE Approval
  - FCC Class B

### Ordering Information

- Barebone**
- **DTA 1162A (P/N: 10TA0116201X0)**  
Intel Devnerton SoC Atom® C3338, BGA type 2 cores 1.5GHz, non Intel® QAT
  - **DTA 1162B (P/N: 10TA0116200X0)**  
Intel Devnerton SoC Atom® C3558, BGA type 4 cores 2.2GHz, Intel® QAT

# DTA 1160

Virtualization Networks and Software-Defined Appliance  
with Intel Atom® SOC C3758



### Main Features

- Intel Atom® C3758 SoC 8 cores, BGA type
- Support Intel® QAT
- Support SR-IOV
- DDR4-2400 ECC/non-ECC UDIMM/RDIMM, up to 64GB
- 2 x 10GbE SFP+ and 6 x 1GbE LAN ports

- 8GB eMMC
- 1 x 2.5" internal SSD bay (optional)
- 2 x USB 3.0 connector
- TPM 1.2/2.0

## Specifications

### Main Board

- DTB1160
- Intel Atom® C3758, BGA type

### Main Memory

- 4 x DDR4-2400 ECC/non-ECC UDIMM/RDIMM socket; up to 64GB

### LAN Features

- 2 x 10GbE SFP+ ports
- 4 x 1GbE RJ45 ports from Intel® I350-AM4
- 2 x 1GbE RJ45 ports from Marvell 88E1543

### Expansion

- 1 x M.2 2230 slot for Wi-Fi module (E Key)

### I/O Interface-Front

- 2 x USB 3.0 ports (5V/1A)
- 1 x RJ45 type console port
- 2 x SFP+ ports
- 6 x RJ45 ports
- 1 x Power button; 1 x Reset button
- Power/HDD/System/SW LEDs
- DC jack with lock (12V/5A)

### I/O Interface-Rear

- 3 x SMA holes for Wi-Fi antennas

### Storage Device

- 1 x 2.5" internal SSD bay (optional)
- 1 x SATA connector (for SATA DOM)
- 1 x M.2 2242 SSD socket (SATA & NVMe); M Key

### Power Input

- DC 12V/5A 60W power adaptor

### Dimensions

- Chassis dimension (mm): 240 x 220 x 44
- Carton dimension (mm): 431 x 301 x 176

### Weight

- Without packing: 1.9kg
- With packing: 3.2kg

### Environment

- Operating temperatures: 0°C~40°C
- Storage temperature: -20°C~ 80°C
- Relative humidity: 10%~90% non-condensing

### Certifications

- CE approval
- FCC Class B
- UL

## Ordering Information

### Barebone

- **DTA 1160 (P/N: 10TA0116000X0)**  
Intel Atom® C3758 base, 8 cores, BGA type 2.2GHz

# DNA 1160

Intel Atom® Processor C3000 Series BGA type  
with 8 GbE Copper LAN Ports



### Main Features

- Intel Atom® processor C3000 series SoC, BGA type
- DDR4-2133 Long-DIMM ECC memory, up to 32GB
- Support 8 GbE LAN ports

- One CFast socket
- USB 3.0 connector (Type A)
- Backup power (optional)

## Specifications

### Main Board

- DNB 1160
- Intel Atom® processor C3000 series, BGA type

### Main Memory

- DDR4-1866/2133 Long-DIMM ECC memory, max. 32GB

### LAN Features

- 8 x Copper ports
- 4 x LAN controller: Intel® i211-AT
- 1 x MARVELL PHY: 88E1543
- Support 10/100/1000 link speed

### Expansion

- 1 x mini-PCIe slot for Wi-Fi module
- 1 x mini-PCIe slot with one with SIM Sokcet for LTE module

### I/O Interface-Front

- LED for Power status/HDD status/LAN status

### I/O Interface-Rear

- 2 x USB 3.0
- 1 x RJ45 type console port
- 8 x Copper ports
- 1 x Power button
- 1 x VGA port

### Storage Device

- 1 x Onboard CFast socket
- 1 x Internal 2.5" HDD bay (optional)

### Power Input

- DC 12V/3.33A 40W power adaptor
- Backup power (optional)

### Dimensions

- Chassis dimension: 288mm x 186.8mm x 44mm
- Carton dimension: 431mm x 301mm x 176mm

### Weight

- Without packing: 1.6kg
- With packing: 2.9kg

### Environment

- Operating temperatures: 0°C~40°C
- Storage temperature: -20°C~ 80°C
- Relative humidity: 10%~90% non-condensing

### Certifications

- CE
- FCC Class B
- UL

## Ordering Information

### Barebone

- **DNA 1160 (P/N: 10L00116000X0)**  
Intel Atom® processor C3358, BGA type 2 cores/1.5 GHz  
1 x DDR4-1866 Long-DIMM ECC memory, Max. 16 GB
- **DNA 1160A (P/N: 10L00116002X0)**  
Intel Atom® processor C3558, BGA type 4 cores/2.2 GHz  
2 x DDR4-2133 Long-DIMM ECC memory, Max. 32 GB

DNA 130

Intel Atom® Processor x5-E3900 Series up to 4 Cores 1.6G, BGA type  
with 5GbE Copper LAN Ports



Main Features

- Intel Atom® processor x5-E3900 series SoC, BGA type
- DDR3L SO-DIMM memory, max. 8GB
- Support 5 GbE LAN ports
- Onboard eMMC 4GB
- Wi-Fi/LTE (optional)
- USB 2.0 connector
- HDMI type A connector

Product Overview

Desktop network security appliance DNA 130 helps small and medium enterprises build a securely connected workplace. Based on the Intel Atom® processor x5-E3900, the DNA 130 packs excellent performance per watt and LAN functions into a small form factor. This desktop network security appliance can create safe environments for network communication to connect employees and offices.

Specifications

- Main Board**
- DNB130
  - Intel Atom® processor x5-E3900 series, BGA type

- Main Memory**
- 1 x DDR3L SO-DIMM non ECC memory, max. 8GB

- LAN Features**
- 5 x Copper ports
  - LAN bypass: 1 pair
  - 5 x LAN controller: Intel® i211-AT
  - Support 10/100/1000 link speed

- Expansion**
- 1 x mini-PCIe slot for Wi-Fi or LTE

- I/O Interface-Front**
- Power status/HDD status/LAN status/Wi-Fi status
  - SIM slot

- I/O Interface-Rear**
- 2 x USB 2.0
  - 1 x microUSB type console port (first priority)
  - 1 x RJ45 type console port (secondary)
  - 1 x RJ45 WAN port
  - 4 x RJ45 copper ports
  - 1 x Power button
  - 1 x HDMI type A connector
  - 1 x DC-in
  - 1 x Reset button

- Storage Device**
- 1 x Onboard eMMC flash 4GB
  - 1 x mSATA connector

- Power Input**
- DC 12V/3.33A 40W power adaptor

- Dimensions**
- Chassis dimension (mm): 225 (W) x 150 (D) x 44 (H)
  - Carton dimension (mm): 275 (W) x 230 (D) x 185 (H)

- Weight**
- Without packing: 1.1kg
  - With packing: 2.1kg

- Environment**
- Operating temperatures: 0°C~40°C
  - Storage temperature: -20°C~ 80°C
  - Relative humidity: 10%~90% non-condensing

- Certifications**
- CE Approval
  - FCC Class B

Ordering Information

Barebone

- **DNA 130 (P/N: 10L00013002X0)**  
Intel Atom® x5-E3930 Apollo Lake SoC, BGA type 2 cores 1.3GHz, 1 x DDR3L non- ECC memory slots, 5 copper LAN ports, eMMC flash 4GB, 2 x USB 2.0
- **DNA 130A (P/N: 10L00013003X0)**  
Intel Atom® x5-E3940 Apollo Lake SoC, BGA type 4 cores 1.6GHz, 1 x DDR3L non- ECC memory slots, 5 copper LAN ports, eMMC flash 4GB, 2 x USB 2.0

ISA 140

Fanless Industrial Security Appliance in a Compact DIN Rail Form Factor  
with Intel Atom® Processor and 6 x 1Gbe RJ45 Ports



Main Features

- Intel Atom® x6212RE (Elkhart Lake) industrial grade processor
- 1 x DDR4 SODIMM slot and support up to 16GB 2400/2667/3200 MT/s
- Storage eMMC up to 8GB for OS
- Storage M.2 Key B slot, supports 2242 for data storage
- 6 x 1GbE RJ45 with 1 x bypass pair
- 1 x M.2 3042 Key B with USB signal
- 1 x Micro SIM slot
- 1 x Minicard full size with PCIe & USB signal
- Supports TSN
- Supports OOB

Product Overview

NEXCOM's ISA 140, powered by Intel's latest dual-core Atom® processor, is a compact, fanless industrial security appliance equipped with six 1GbE ports for network connectivity. It also supports seamless Wi-Fi/LTE connectivity and OOB remote management, and operates in settings with wide temperature ranges. The compact DIN rail design allows IT personnel to easily embed ISA 140 in existing network infrastructure without affecting manufacturing equipment productivity.

Specifications

- Main Board**
- Intel Atom® x6212RE (Elkhart Lake) industrial grade processor

- Main Memory**
- 1 x DDR4 SODIMM slot support 2400/2667/3200 MT/s up to 16GB

- Storage**
- Storage eMMC up to 8GB for OS
  - Storage M.2 Key B slot, support 2242 for data storage

- Interface External**
- 6 x 1GbE RJ45 with 1 bypass pair
    - 2 ports with TSN support
    - 1 port with OOB support
  - 1 x Micro SIM slot
  - LED indicator for bypass/ LTE/ Wi-Fi/ SYS/ SSD/PWR
  - 1 x HDMI
  - 1 x Power button
  - 1 x Reset button
  - 1 x RJ45 for console
  - Dual terminal block
  - 4 x SMA antenna holes
  - 2 x USB 3.0

- Interface Internal**
- 1 x DDR4 SODIMM slot
  - 1 x M.2 2242 Key B slot
  - 1 x M.2 3042 Key B slot
  - 1 x Minicard full size slot

- Power**
- Dual 24VDC (9~36VDC)

- Dimension and Weight**
- System size: 165 x 61.7 x 129.25 mm
  - Packaging size: TBD
  - Weight without packaging: TBD
  - Weight with packaging: TBD

- Environment**
- Operating temperature: -40°C~75°C
  - Storage temperature: -40°C~85°C
  - Relative Humidity: 5%~95% non-condensing

- Certifications**
- CE/FCC Class A

Ordering Information

- **ISA 140 (P/N: 10L10014000X0)**  
Intel Atom® x6212RE (Elkhart Lake) processor, with 6 x 1GbE RJ45 with 1 x bypass pair

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