SCB-1921-NFVI from AEWIN Accelerates Deployment of Network Functions Virtualization (NFV) Workloads

**SCB-1921-NFVI is a verified Intel® Select Solutions for NFVI v2 workload-optimized server solution, based on Ubuntu, that eases interoperability and speeds deployment.**

Communications service providers (CommSPs) are actively virtualizing their service platforms to gain flexibility, agility, and scale. To serve this market, AEWIN has chosen to partner with Intel to develop and launch its SCB-1921-NFVI as a verified Intel Select Solutions for NFVI v2 system.

Virtualization offers many benefits to network services, but it can be challenging and complex to deploy. Because SCB-1921-NFVI is based on Intel® Select Solutions for NFVI reference designs, it provides consistent performance with virtual network function (VNF) interoperability—both of which help speed deployment.

Keeping with the trend of software defined functions, a variety of networking appliances can be virtualized and hosted right on the system, helping administrators to easily remote manage and deploy virtualized network functions. SCB-1921-NFVI is designed to meet the modern demand of agile and flexible networking equipment. This solution is based upon the widely deployed SCB-1921 network computing platform. The SCB-1921 is a 2U Rack-Mount system, supporting dual 2nd Generation Intel® Xeon® Scalable Processors. With 8x forward-facing PCIe Gen3 x8 expansion bays, the SCB-1921 can support up to 8 Network Expansion Modules from 1GbE and all the way up to 100GbE with PCIe x16 dual bay convertors. A multitude of accessories can be added such as BP-010 to support 2x datacenter focused U.2 NVMe drives, and PCIe conversion kits to support full height and half height standard PCIe add-on cards. Accelerators, such as FGPAs up to 70w, are supported to provide application specific acceleration. These bays offer a flexible way to custom tailor the system for your specific requirements.

The SCB-1921-NFVI have been enhanced from our standard configuration with BIOS and firmware tuning specific to the needs of virtualized environments. Further customization may be available for your specific workloads and requirements. Intel Select Solutions validation ensures the platform has met the stringent performance requirements set by Intel.
**Optimized for Virtualization**

SCB-1921-NFVI is powered by the 2nd generation Intel® Xeon® Scalable Processors, which feature important platform technologies that are required for virtualization applications:

- Intel® Virtualization Technology (Intel® VT) provides hardware abstraction to allow multiple workloads to coexist and share common resources while maintaining full isolation.
- Intel® Boot Guard technology offers hardware-based boot integrity protection that can help prevent unauthorized software and malware takeover of boot blocks critical to a system’s function.
- Intel® Trusted Execution Technology (Intel® TXT) is a hardware-based platform security technology that tests the authenticity of critical elements of a platform, operating system, and hypervisor against known good results.

**Design Features**

The SCB-1921-NFVI solution contains a cloud node for network function delivery and a controller node for clustered node deployments. Together, these configurations help realize an efficient balance of function to meet many deployment needs.

Tables 1 and 2 shows system specifications for the cloud node and controller node.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cloud Node Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Name</td>
<td>SCB-1921</td>
</tr>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Gold 6242R Processor</td>
</tr>
<tr>
<td>Memory</td>
<td>24x 16GB DDR4 2933MHz RDIMM</td>
</tr>
<tr>
<td>Network Controller</td>
<td>2x R386 4x 10GbE SFP+ (based on Intel® Ethernet Controller XL710)</td>
</tr>
<tr>
<td>LAN on Motherboard</td>
<td>2x 1GbE (MGMT)</td>
</tr>
<tr>
<td>Storage (NVMe)</td>
<td>2x PCIe Gen3 x8 HHHL, up to 6.4TB. Options available</td>
</tr>
<tr>
<td>Storage (SATA)</td>
<td>1x Intel® SSD D3-S4510 Series 960GB</td>
</tr>
<tr>
<td>Intel® QuickAssist Technology</td>
<td>Onboard (Intel® C627 Chipset). Add-on PCIe x16 Intel® QAT accelerator available.</td>
</tr>
<tr>
<td>Technology (Intel® QAT)</td>
<td></td>
</tr>
<tr>
<td>Operating System</td>
<td>Ubuntu 20.4 LTS</td>
</tr>
<tr>
<td>Hypervisor</td>
<td>KVM</td>
</tr>
</tbody>
</table>

Table 1: Detailed configuration and specifications for cloud node.
## Item | Controller Node Ingredients
---|---
Server Name | SCB-1921
Processor | Intel® Xeon® Gold 6226R Processor
Memory | 12x 16GB DDR4 2933MHz RDIMM
Network Controller | 2x R509 2x 25GbE SFP28 (based on Intel® Ethernet Controller XXV710), 2x R386 4x 10GbE SFP+ (based on Intel® Ethernet Controller XL710)
LAN on Motherboard | 2x 1GbE (MGMT)
Storage (NVMe) | 2x PCIe Gen3 x8 HHHL, up to 6.4TB. Options available
Storage (SATA) | 1x Intel® SSD D3-S4510 Series 480GB
Intel® QuickAssist Technology (Intel® QAT) | Onboard (Intel® C627 Chipset). Add-on PCIe x16 Intel® QAT accelerator available.
Operating System | Ubuntu 20.4 LTS
Hypervisor | KVM

Table 2: Detailed configuration and specifications for control node.

### Key Benefits
Virtualization is a growing service delivery paradigm that relies on high-performance standard servers like the SCB-1921. Because it is a verified Intel Select Solution for NFVI, customers can expect additional benefits, including:

- **Faster evaluation:** The tight hardware and software specifications of Intel Select Solutions for NFVI eliminate guesswork and speed decision making. Network managers can focus their search on key value-added elements and select an optimal solution quickly.

- **Fast and easy deployment:** Intel Select Solutions for NFVI feature pre-defined settings and rigorous system-wide tuning for efficient pre-deployment testing. This helps speed time to service delivery and network staff can have increased confidence in solution performance.

- **Workload-optimized performance:** Verified Intel Select Solutions for NFVI, like SCB-1921, are designed by Intel and AEWIN to deliver to a performance threshold for the workload and are built on the latest Intel architecture technology.

### Conclusion
With the SCB-1921-NFVI verified as an Intel Select Solutions for NFVI, AEWIN is delivering a differentiated platform that can simplify and accelerate the process of selecting and deploying the hardware and software needed for today’s workloads and applications. SCB-1921-NFVI has many upgrade options for customizing the system for your specific requirements. The Integrated Intel QuickAssist Technology function will offer acceleration of cryptographic algorithms and compression workloads. The available 8x expansion bays support all the standards AEWIN
network expansion modules for additional networking capability, or optionally support various HHHL accelerators for specific workloads. Intel Select Solutions for NFVI represent the latest technology that will accelerate the transformation of the network from end to end.

About AEWIN Technologies

AEWIN Technologies, a member of Qisda Business Group, provides smartly designed networking platforms for customers of any scale. With 20 years of experience building high performance network forwarding platforms, AEWIN has extensive knowledge in building secure and reliable systems trusted by some of the top Network Security experts as the foundation of their network solutions. We offer products featuring the full range of Intel processors for wide range of applications. AEWIN can be your hardware partner with flexible design and customization options to meet your stringent requirements.

AEWIN Technologies Co., Ltd.
9F., No. 133, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 22183, Taiwan (R.O.C.)
Website: www.aewin.com
Contact us: www.aewin.com/contact_us/

Learn More
To find out more about the AEWIN SCB-1921-NFVI, visit https://www.aewin.com/products/scb-1921-nfvi/

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