Celestica and Intel® Select Solutions for
Network Functions Virtualization Infrastructure

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Celestica's S2123 2U Server for Network Functions Virtualization (NFV) Workloads

Celestica and Intel's Select Solutions for NFVI

S2123 is a verified Intel® Select Solutions for NFVI workload-optimized server solution, based on Red Hat Enterprise Linux, that eases interoperability and speeds deployment.

High Performance Network Functions Virtualization Infrastructure (NFVI) Solution

Communications service providers (CommSPs) are actively virtualizing their service platforms to gain flexibility, agility, and scale. To serve this market, Celestica worked with Intel to develop and launch its S2123 2U Server, as a verified Intel® Select Solutions for NFVI system.

Virtualization can be challenging and add complexity and unpredictability to network services. Based on Intel Select Solutions for NFVI reference designs, the S2123 Server provides consistent performance with Virtual Network Function (VNF) interoperability—both of which help speed deployment.

S2123 is a high-performance Dual Socket server product based on the 2nd generation Intel® Xeon® Scalable Processors. The 2U chassis provides flexible configuration, supports up to 12 3.5" or 24 2.5" SAS/ SATA/ NVMe drives with excellent performance and high reliability.

Optimized for Virtualization

S2123 2U Server is powered by the 2nd generation Intel Xeon 6230 Gold processors. Intel Xeon Gold processors feature platform technologies that enable virtualization applications:

- Intel Virtualization Technology (Intel VT) provides hardware abstraction to allow multiple workloads to co-exist 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 S2123 2U Server solution contains a cloud node for network function delivery and a controller node for clustered node deployments. Together, these configurations provide an efficient balance of function to meet varying deployment scenarios.

Key Benefits

Virtualization is a growing service delivery paradigm that relies on high-performance standard servers like the S2123 2U Server. Because it is a verified Intel Select Solutions 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 S2123 2U Server, are designed by Intel and Celestica to deliver to a performance threshold for the workload and are built on the latest Intel architecture technology.

System Specifications for Cloud and Controller Nodes

Table 1: Detailed configuration and specifications for cloud node.

Item	Ingredient
Server Name	S2123
Processor	Intel® Xeon® Gold 6230N CPU @ 2.30GHz * 2
Memory	24x16G DDR4-2666
Network Controller	2x25 GbE Dual Port NIC (XXV710)
LAN on Motherboard	Dual 1GbE Port
Storage (NVMe)	2x Intel 2T SSDPE2KX020T8
Storage (SATA)	2x Intel 1.92T SSDSC2KB01
Intel QAT	L.4.4.0-00023
Operating System	Red Hat Enterprise Linux Server release 7.6 (Maipo)
Hypervisor	KVM/QEMU 2.12.0, Libvirt 4.5.0
Other Hardware Features	Intel VT, Intel CPU VMX Support, Intel Scalable IOV and Intel Boot Guard

Table 2: Detailed configuration and specifications for control node.

Item	Ingredient
Server Name	S2123
Processor	Intel® Xeon® Gold 6230N CPU @ 2.30GHz * 2
Memory	24x16G DDR4-2666
Network Controller	2x25 GbE Dual Port NIC (XXV710)
LAN on Motherboard	Dual 1GbE Port
Storage (NVMe)	2x Intel 2T SSDPE2KX020T8
Storage (SATA)	2x Intel 1.92T SSDSC2KB01
Intel QAT	L.4.4.0-00023
Operating System	Red Hat Enterprise Linux Server release 7.6 (Maipo)
Hypervisor	KVM/QEMU 2.12.0, Libvirt 4.5.0
Other Hardware Features	Intel VT, Intel CPU VMX Support, Intel Scalable IOV and Intel Boot Guard

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