

INTRODUCING SUPERSERVER 1029U-TN12RV FOR VISUAL CLOUD DELIVERY WORKLOADS

The SuperServer 1029U-TN12RV provides next-generation content delivery network services as a verified Intel® Select Solution for Visual Cloud Delivery Network.

Real-time streaming services have grown exponentially since the early 90's. Communications service providers (CSPs) are anticipating continued market expansion with the rise of new over-the-top (OTT) services, richer content, and network services offering augmented and virtual reality.

All of these Visual Cloud workloads, CSPs need next-generation content delivery network (CDN) services. That's why Intequus has verified the 1029U-TN12RV as an Intel® Select Solution for Visual Cloud Delivery Network.

1029U-TN12RV uses an optimized hardware design based on the second generation Intel® Xeon® Gold processor, Intel® Optane™ DC persistent memory and Intel® Ethernet 700 Series Network Adapters. This design incorporates the most common and popular open-source CDN caching frameworks such as NGINX and Apache Traffic Server (ATS). It also incorporates open-source media libraries such as FFmpeg, Media Server Studio, and Scalable Video Technology for media transcoding.

Acceleration is built into the system for key CDN workload functions such as cryptography, data compression, and transcoding. 1029U-TN12RV uses non-uniform memory access (NUMA)-balanced I/O for maximum throughput and consistent latency. It also features new memory and storage solution options for improved scalability, reduced latency, and cost savings.

The 1029U-TN12RV is a 1U platform that provides 12 NVMe drives balanced across dual-socket Intel® Xeon® Gold processors . In addition to the balanced NVMe drive configuration, the 1029U-TN12RV also provides a pair of PCIe expansion slots for high-speed Network IO. Each of the two PCIe expansion slots has its PCIe lanes mapped onto either CPU1 or CPU2. The combination of dedicated lanes for both NVMe drives and Network IO means each CPU NUMA zone achieves optimal IO without having to traverse the UPI Interconnects.

OPTIMIZED FOR VISUAL CLOUD WORKLOADS

CDN servers need both high throughput and low latency to deliver smooth and consistent real-time content. The 1029U-TN12RV uses several Intel technologies to deliver this performance. These include:

2nd generation Intel® Xeon® Gold processors

These processors feature up to 24 cores per socket with up to 2.3 GHz for optimized visual computing performance. 2nd generation Intel Xeon Gold processors also feature high-value platform technologies. These include Intel® Virtualization Technology (Intel® VT) for full isolation of multiple virtualized workloads and Intel® Boot Guard technology for boot integrity.

Intel® Optane™ DC persistent memory

Intel® Optane™ DC persistent memory addresses memory constraints for latency-sensitive CDN use cases such as live streaming. It does this by offering lower per-Gigabyte memory cost and similar performance as DRAM.

Intel® Visual Compute Accelerator 2 (Intel® VCA 2)

This hardware accelerator card provides high-density video transcoding. The Intel VCA 2 enhances the Intel Xeon Scalable processor for powerful media performance and Intel® Quick Sync Video for ultra-fast media transcode performance.

Intel® Solid State Drive Data Center Family (Intel® SSD Data Center Family)

The Intel® SSD Center Family offers outstanding quality, reliability, and advanced manageability and serviceability. When used for caching, Intel Optane DC SSDs provide high endurance and can increase scale by accommodating more capacity than DRAM-based memory technologies.

Intel® QuickAssist Technology

This hardware acceleration technology provides lookaside cryptographic and compression/decompression co-processing services for the CPU.

Intel® Ethernet 700 Series Network Adapters

Intel® Ethernet 700 Series Network Adapters support 25GbE network connections and deliver validated performance that meets quality thresholds for data resiliency and service reliability with broad interoperability.[1] All Intel Ethernet products are backed by worldwide pre- and post-sales support and offer a limited lifetime warranty.

1029U-TN12RV Specifications:

The 1029U-TN12RV is optimized for live streaming, live transcoding, and VOD applications. Table 1 shows more detailed system specifications.

Item	Ingredient
Server Name	1029U-TN12RV
Processor	Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors
DRAM	24 DIMMs; up to 6TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM
Intel® Optane™ DC memory	Supports Intel® Optane™ DCPMM
Network Adapters	2 x 25Gb dual port Intel® Ethernet Network Adapters XXV710 Network Options provided via Ultra Riser card
Intel® QAT	Yes
Visual Cloud Accelerator Card	Yes
Intel® 3D NAND SSDs	Yes
LAN on Motherboard	1 RJ45 Dedicated IPMI LAN port
SOFTWARE	
Operating System	
Caching Frameworks	NGINX, Apache Traffic Server (ATS)
Media Libraries	FFmpeg, Media Server Studio, Scalable Video Technology

Table 1: Detailed configuration and specifications for the 1029U-TN12RV.

About Intequus

Intequus is a leading provider of configurable compute and storage solutions. Headquartered in Minnesota for 30 years, Intequus has established itself as a leading partner to the world's largest CDNs. Intequus's expert engineering, high-quality manufacturing, experienced program management, and personalized technical support give CDNs the tools they need to be the leaders in their field.

LEARN MORE

To find out more about the Intequus, visit:

intequus.com

Intel Select Solutions:

intel.com/select

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[1] The Intel® Ethernet 700 Series includes extensively tested network adapters, accessories (optics and cables), hardware, and software, in addition to broad operating system support. A full list of the product portfolio's solutions is available at intel.com/ethernet. Hardware and software is thoroughly validated across Intel® Xeon® Scalable processors and the networking ecosystem. The products are optimized for Intel® architecture and a broad operating system ecosystem: Windows, Linux kernel, FreeBSD, Red Hat Enterprise Linux (RHEL), SUSE, Ubuntu, Oracle Solaris, and VMware ESXi. Supported connections and media types for the Intel Ethernet 700 Series are: direct-attach copper and fiber SR/LR (QSFP+, SFP+, SFP28, XLPP/CR4, 25G-CA/25G-SR/25GLR), twisted-pair copper (1000BASE-T/10GBASE-T), backplane (XLAUI/XAUI/SFI/KR/KR4/KX/SGMII). Note that Intel is the only vendor offering the QSFP+ media type. The Intel Ethernet 700 Series supported speeds include 10GbE, 25GbE, 40GbE.

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