

Executive summary

Due to the increasing volume of data consumption, including the proliferation of high quality video content, the content delivery network (CDN) market is growing rapidly. With the concept of caching at the edge, copies of the content are stored closer to where they are likely to be consumed rather than pulling from the centralized origin repositories. This distributed model for content caching will improve the quality of customer experiences and also reduce the burden on network resources.

CDN deployment continue to evolve to take advantage of the latest advances in Intel server CPUs and NVM Express storage technology. Reliability and scalability are important considerations when CDN is deployed in a virtualized model on commodity hardware. QCT has been working with Intel to build an optimized, reliable, scalable CDN solution with the latest Intel technologies.

The Intel Select Solution for Visual Cloud Delivery Network which is a product of the QCT-Intel collaboration covers optimized hardware and software configuration recommendations. Based on a QCT hardware configuration with verification by an Intel testing suite, the result is a solution that helps CDN deployers to take full advantage of hardware and software features available.

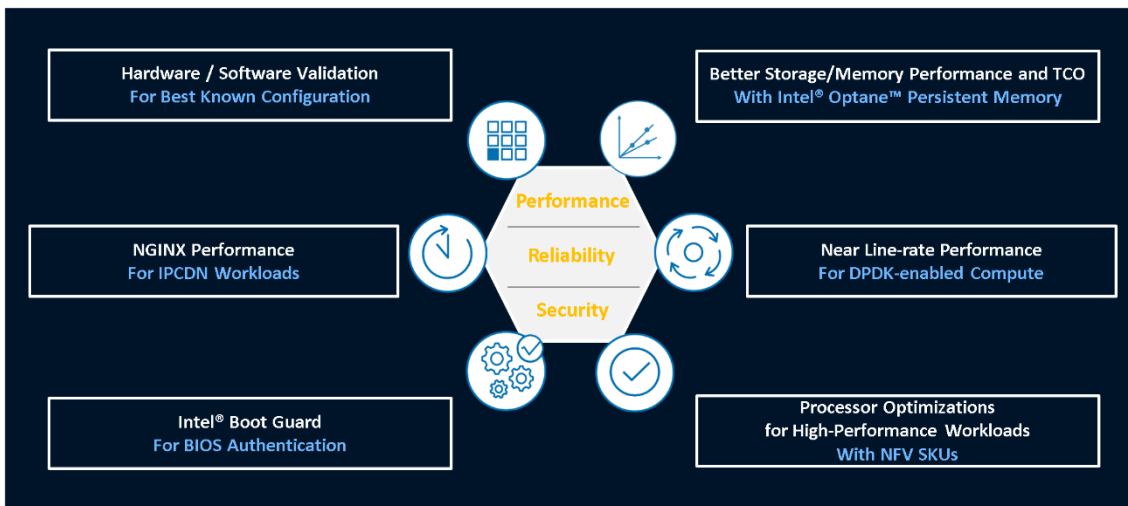


Figure 1. Intel® Select Solution for Visual Cloud Delivery Network verification coverage

Verification Process with Hardware and Software

The verification includes both hardware and software testing suite, including:

1. TRex for infrastructure network performance
2. FFmpeg with Scalable Video Technology for transcoding performance

3. NGINX with Jmeter for IP CDN web proxy validation
4. Jmeter with NGINX-RTMP for video streaming validation

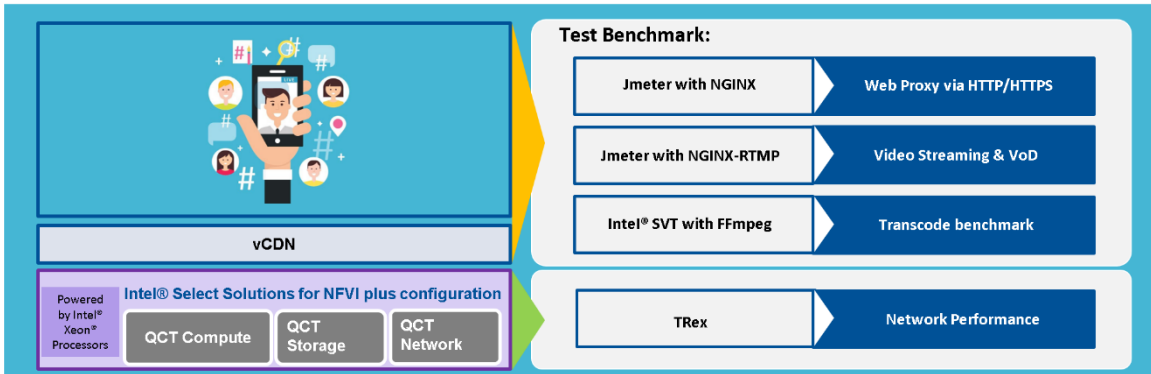


Figure 2. Testing suite with hardware and software component

QCT QuantaGrid D52B-1U server has been verified to be an Intel Select Solution for Visual Cloud Delivery Network on Red Hat Host OS. The compute and NVMe storage density it provides in 1U form factor, in a NUMA-balanced fashion, makes it a great choice for high throughput, low latency CDN workloads.

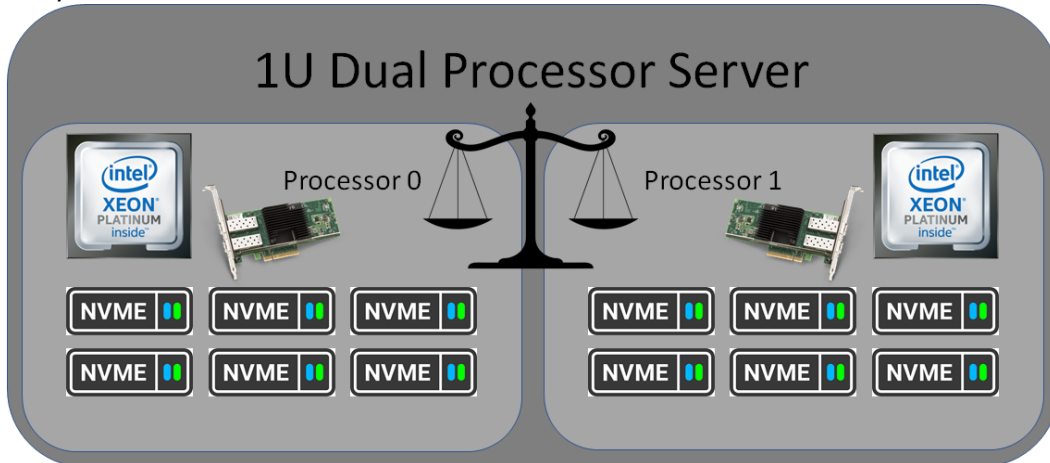


Figure 3. NUMA-Balanced Network and Storage

Network Performance for Carrier-Class Use Cases

Content delivery service providers can plan their own CDN on this reference architecture when they seek the computing and storage resources with add-in platform acceleration products for carrier-class use cases that require high reliability and performance.

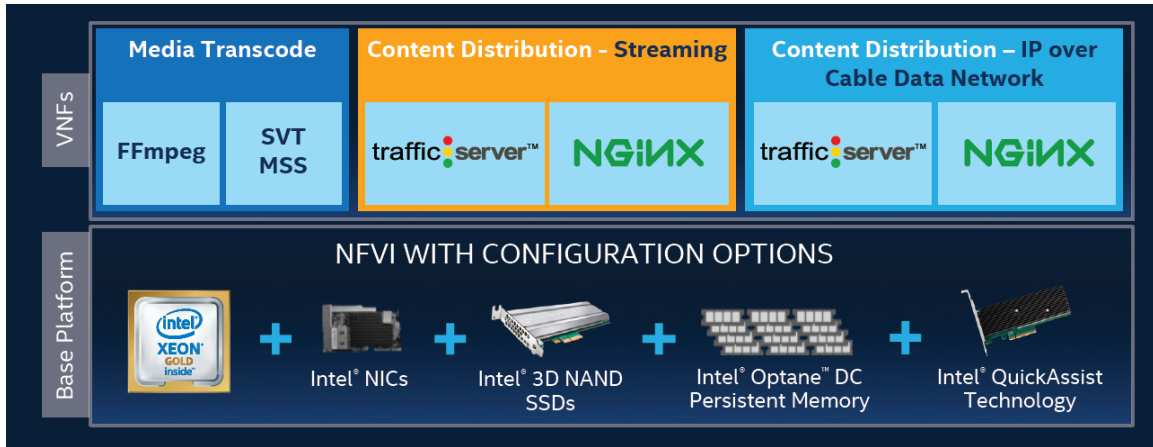


Figure 4. Testing Coverage

Intel Select Solution for Visual Cloud Delivery Network reference hardware configurations.

Hardware Configurations		
	Ingredient	Quantity
Platform	QuantaGrid D52B-1U	1
CPU	Intel® Xeon® Gold 6252 CPU @ 2.1GHz	2
Memory	[DRAM only configuration] 32GB DRAM (Total 384GB) - Required	12
NIC	Dual Port 25GbE Intel® Ethernet Network Adapter XXV710 SFP28+ -Required	2
LOM	Management port (1/25G)	1
Storage	Intel® Solid State Drive Data Center P4510 Series for NVMe* 2.0TB each Drive - NUMA aligned recommended	2

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