Toshiba develops NPEngine, hardware engine that directly streams video content from SSD to IP networks

April 9 2012

System Diagram

Toshiba Corporation today announced the development of NPEngine, the world's first hardware engine for streaming servers that directly delivers video content from SSD to IP networks, without accessing the server's CPU or memory resources. NPEngine can simultaneously deliver up to 64,000 high quality video streams at a rate of 40Gigabit per sec, far surpassing the performance of a typical server, and reducing power consumption, the number of servers and the space required.

Toshiba will showcase a server integrating the NPEngine at the NAB show in Las Vegas, from April 16 to 19. Server products running

NPEngine will be available this year.

In today's networked world, more and more video is delivered over IP networks to PCs, tablet PCs, smartphones and Smart TVs. As this volume continues to grow, on a daily basis, it is driving a need for powerful video streaming equipment on the server side.

Successful streaming requires servers to retrieve and deliver large quantities of stored data. Current servers handle this with software, utilizing the server's integrated CPU and SDRAM to do so. This limits the number of video streams that can be delivered simultaneously to approximately 20,000 on a typical 2RU server, the workhorse among compact size servers. With these limitations, the solution to handle hundreds of thousands of streams at once has been to increase the number of servers. This approach requires more servers, more space and more power consumption.

Toshiba's NPEngine provides an alternative that eliminates burdens on server CPU and memory resources by delivering video content stored on SSD directly to IP networks. This direct delivery also boosts the number of high quality video streams that can be delivered at once to 64,000 at 40Gb per sec. This not only more than triples the performance of a 2RU server, it also cuts space requirements by 70% and power consumption by 77%, for server arrays supporting simultaneous delivery of 1,000,000 video streams.

NPEngine is also compliant with the newest HTTP adaptive bit rate streaming without any modification of existing HTTP streaming applications.

Provided by Toshiba Corporation

Citation: Toshiba develops NPEngine, hardware engine that directly streams video content from SSD to IP networks (2012, April 9) retrieved 26 April 2024 from https://phys.org/news/2012-04-toshiba-npengine-hardware-streams-video.html

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