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Seagate converged Ethernet Storage Controller mit silicon photonics I/O Technologie

Submitted by Storage Consortium on 16 March, 2016 - 10:55

Starnberg, München, 16. März 2016 - Seagate und PETRA* entwickeln in Zusammenarbeit optische Verbindungslösungen für zukünftige Hochleistungs-Rechenzentren...

Zum Hintergrund: Seagate Technology und **PETRA** (*Photonics Electronics Technology Research Association in Japan) haben eine Zusammenarbeit bekanntgegeben. Ziel ist es, gemeinsam kommerziell angebotene, neue optische Verbindungen für zukünftige Rechenzentrums-Architekturen bereitzustellen. Weiter hat der Hersteller am 8. März eine produktreife Unit des derzeit schnellsten single Solid-State-Drives (SSD) mit einer Datensatz-Rate von 10 Gigabyte pro Sekunde (GB/s) vorgestellt. Die erste Version des Geräts erfüllt die Anforderungen des Open Compute Project (<http://www.opencompute.org/>) (OCP), das es sich zum Ziel gesetzt hat, die effizientesten Server-, Storage- und Datacenter-Hardware-Lösungen für skalierbare Computing-Umgebungen zu entwickeln. Die SSD eignet sich besonders für hyperskalierbare Rechenzentrums-Umgebungen, um schnellste Flash-Technologie mit den aktuellsten und Standards einsetzen. Nachfolgend hier zwei Auszüge aus den o.g. Orginal-Akündigungen von Seagate:

1) "PETRA, the developer of world-leading photonics devices, packaging and integration technologies, is creating disruptive optical interconnect technologies to make it commercially viable for large scale deployment in future exascale data centres. Seagate will be working with PETRA to deploy some of the prototype technologies as part of the European Nephele and PhoxTrot projects.

For these initiatives PETRA will contribute their optical I/O core technology. The optical I/O core technology is developed as a project supported by NEDO (New Energy and Industrial Technology Development Organization), which Seagate will incorporate into data centre system prototypes. The collaboration signals the first time a systems company, such as Seagate, will be working with PETRA in this field.

- **NEPHELE** < <http://www.nepheleproject.eu/> (<http://www.nepheleproject.eu/>)>, a European collaborative project, is developing a dynamic optical network infrastructure that aims to overcome current architectural limitations and drastically reduce cost and power consumption, enabling cloud data centres to scale gracefully.
- **PhoxTrot** < <http://www.phoxtrot.eu/> (<http://www.phoxtrot.eu/>)> is a large-scale research European programme focusing on high-performance, low-energy and cost and small-size optical interconnects across the different hierarchy levels in data centre and high-performance computing systems: on-board, board-to-board and rack-to-rack.

To find out more, visit PETRA at the OFC 2016 (<http://www.ofcconference.org/en-us/home/>) exhibition (booth 2245) where it will be exhibiting its advanced silicon photonics I/O core optical transceiver in package technology within a Seagate converged Ethernet storage controller**. The first proof of concept demo which will showcase the PETRA and Seagate (<http://www.seagate.com/de/de/solutions/cloud-systems-and-solutions/hpc-storage-solutions/>) technology will be complete in late 2016.

**Anmerkung: Die Seagate Kinetic Open Storage Plattform verbindet - anders als traditionelle Storage-Server-Architekturen – eine objektorientierte Anwendung direkt mit dem Storagemedium, hier der speziellen Seagate-HDD. Die Plattform kann große Storage-Umgebungen vereinfachen, indem sie auf die Storage-Server-Ebene (Subsystem-Controller; Storage Server Node etc.) verzichtet. Weniger Storage-Server bedeuten weniger Kosten-/Energieverbrauch und einen reduzierten Aufwand für das Storage Management. Kombiniert soll das bei Kinetic nach Herstellerangaben die Ausgaben um 15% bis 40% gegenüber bisherigen Ansätzen reduzieren. Mehr dazu auch in unserem Beitrag (<http://www.storageconsortium.de/content/content/seagate-kinetic-open-source-object-storage-laufwerk-hdd-vorgestellt>) "Seagate KINETIC Storage Entwicklungs-Kooperation mit CERN OpenLAB angekündigt".

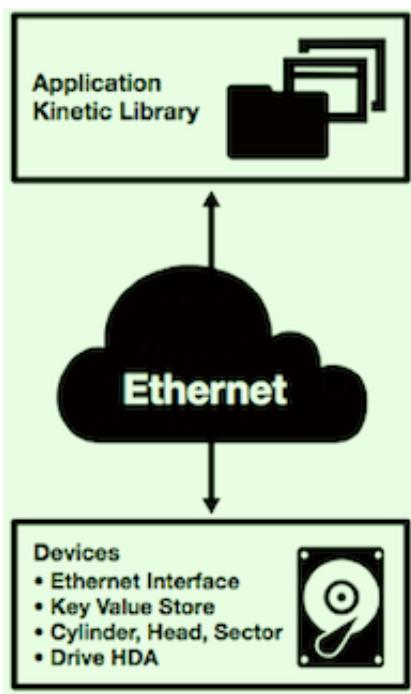


Abb. 1: Bildquelle Seagate Kinetic

2) Cupertino (CA), March 8, 2016 – Seagate Technology plc today unveiled a production-ready unit of the **fastest single solid-state drive (SSD)** demonstrated to date, with throughput performance of 10 gigabytes per second (GB/s). The early unit meets Open Compute Project (OCP) specifications, making it ideal for hyperscale data centers looking to adopt the fastest flash technology with the latest and most sustainable standards. The **10GB/s** unit, which is expected to be released this summer, is (according to Seagate) more than 4GB/s faster than the previous fastest-industry SSD on the market. It also meets the OCP storage specifications being driven by [Facebook](#) (<https://code.facebook.com/posts/360346274145943/introducing-data-center-fabric-the-next-generation-facebook-data-center-network/>), which will help reduce the power and cost burdens traditionally associated with operating at this level of performance.

- The technology would work with any system that supports the [Non-Volatile Memory Express](#) (<http://www.storageconsortium.de/content/search/node/NVMe>) (NVMe) protocol, which was developed by Seagate and other consortium vendors to replace the legacy Serial AT Attachment (SATA) standards and eliminate informational bottlenecks. NVMe helps reduce layers of commands to create a faster, simpler language between flash devices.

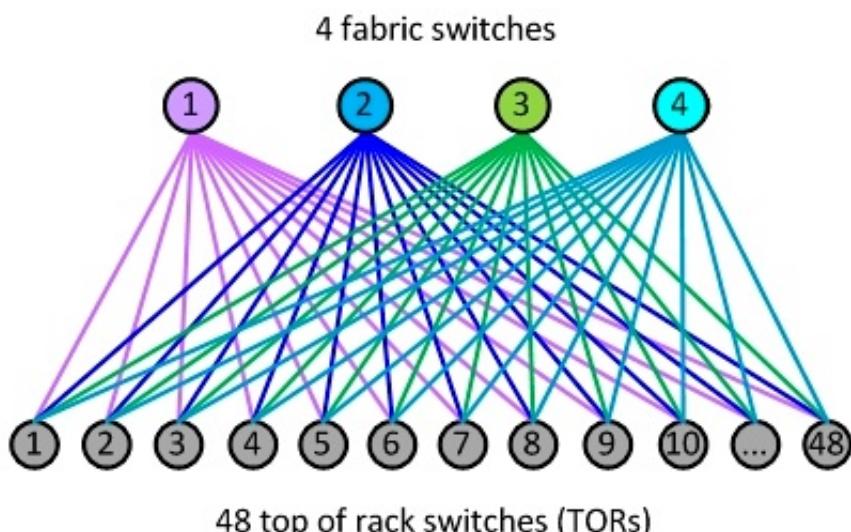


Abb. 1: Bildquelle Facebook (<https://code.facebook.com/posts/360346274145943/introducing-data-center-fabric-the-next-generation-facebook-data-center-network/>) Datacentre Network Architecture, Sample Pod - New Unit of Network

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