

AMD packs 1TB SSD into a GPU for Better VR and Gaming

AMD's Radeon Pro SSG is an experiment that may lead to SSDs becoming a common feature in GPUs. AMD for the first time is placing a solid-state drive in a new graphics card in an effort to squeeze every ounce of horsepower out of GPUs for better virtual reality and gaming experiences.

The idea is simple: As file sizes get larger, more memory and storage are needed for GPUs to quickly process and deliver graphics. The Radeon Pro Solid State Graphics (SSG) card will have a 1TB SSD, which can be used as storage or as a supplement to on-board volatile memory.

AMD's graphics cards top out at 32GB of memory, which limits the processing of large amounts of data. The SSD will add a terabyte of memory, allowing larger chunks of data to be lined up for processing on the GPU. It could also be used to store processed graphics or video for delivery to screens.

A closer-linked SSD wastes little time sending data to a GPU, and the hardware could be useful for video editing and virtual reality. Cameras taking 360-degree video generate a lot of data, which can be lined up temporarily in the SSD.

Similarly, the GPU can help stream 4K videos to multiple screens simultaneously, and it will allow graphics for VR headsets to be delivered faster. It could alleviate some challenges with delivering smooth graphics to VR headsets like Oculus Rift and HTC Vive.

The SSD can also be used as a cache where the next level of a game can be processed, then loaded on a PC instantly. Games often can be loaded faster if stored on the SSD.

Placing an SSD next to the GPU also cuts internal PC bandwidth issues.

The integrated SSD could also be used as a storage drive on a Windows PC, according to AMD. Users will be offered the option to list the SSD as a storage drive.

The Radeon Pro SSG will initially be sold as a development kit for US\$9,999, but it won't be aimed at all computer users. AMD will evaluate applications, and ship the GPU to people who could help develop the final product.

Right now, the concept is being tested. But AMD could release final products in the first quarter next year, said Raja Koduri, senior vice president and chief architect of AMD's Radeon Technologies Group.

SSDs paired with GPUs as persistent memory will be a feature in more GPUs moving forward, and usage models will develop over time, Koduri said.

There are many possibilities with SSDs on GPUs — they can be used as cache, primary storage, or secure storage — and AMD is working with partners to discover different uses, Koduri said.

Movie makers, in particular, have been excited about graphics cards with integrated SSDs, Koduri said.

SSDs used as cache or temporary storage is already available in PCs. Newer Windows PCs have cordoned-off, low-capacity SSDs to quickly load commonly used programs, fast boot PCs, or store replicas of the OS if a hard drive goes bad. SSDs are also used as cache in servers to process data-intensive applications.

The Radeon Pro SSG has a single graphics processor based on Fiji architecture, also used in the company's dual-GPU Radeon Pro Duo. AMD didn't share more details, but with two GPUs, the Radeon Pro Duo delivers 16 teraflops of single-precision performance. The Radeon Pro SSG is a test product, and the specifications will certainly change in the final product that ships next year.

Bangladeshi Tech startup SSD-TECH Valued at US\$ 65 million

Systems Solutions & Development Technologies Limited (SSD-TECH), a leading technology company of Bangladesh has been valued at US\$ 65 million (BDT 525 crore) according to a recent valuation by LankaBangla Investments. Mind Initiatives acted as advisor to SSD-TECH during the valuation process. The valuation report was handed over to Mahbulul Matin, President and Chairman of SSD-TECH by Khandakar Kayes Hasan, CEO of LankaBangla Investments in a simple handing over ceremony held at SSD-TECH's Corporate Office in Dhaka. Firoze M. Zahidur Rahman, Managing Director & CEO of SSD-TECH, Mohiuddin Rasti Morshed, CEO of Mind Initiatives, and other officials of the organizations were also present.

Facebook tops \$1b revenue in Asia for the first time

In a record high, Facebook pulled in just over US\$1 billion in revenue from the Asia-Pacific region, shows the company's newest earnings release.

The US\$1.03 billion figure for Q2 2016 has more than doubled from the US\$431 million Facebook pulled in from the region exactly two years ago. It's mostly brought in by advertising.

The huge milestone comes without any help from the people of China, who are prevented from accessing Facebook by the country's strict web blocking system. However, Facebook's bottom line is benefitting from a lot of Chinese companies using its site and ad platform to reach customers around the globe.

While the booming Asia revenue will please Zuckerberg and crew, the money Facebook makes from Europe has also doubled in the past two years — while in the US and Canada it has more than doubled, indeed nearly tripled, in the same period.

Facebook's total revenue for Q2 was an all-time high of US\$6.44 billion, which has doubled since Q3 2014.

Daily active users in Asia reach 346 million from a global total of 1.13 billion. Monthly active users in Asia hit 592 million from the 1.71 billion total. Average revenue per user in Asia grows to US\$1.77...

...But that's still way below the US\$14.34 it makes from every user in the US and Canada.

Facebook earlier this month celebrated strong-arming one billion people to become active users of its spin-off Messenger app.

Nvidia's Powerful New Titan X Arrives This Month



Nvidia in the last week of July last unveiled a new, super powerful Titan X graphics card. Boasting 12 billion transistors, 3,584 CUDA cores at 1.53GHz (up from 3,072 cores at

1.08GHz in the previous Titan X), 12GB of GDDR5X memory, and more than 10 teraflops of computing performance, the \$1,200 GPU began with a bet.

"Brian Kelleher, our top hardware engineer, bet CEO, Jen-Hsun Huang, we could get more than 10 teraflops of computing performance from a single chip," Nvidia said in a blog post. "Jen-Hsun thought it was crazy."

In a recent meeting of deep-learning experts at Stanford University, Nvidia's CEO presented the Titan X to Baidu Chief Scientist Andrew Ng. Four years ago, Ng helped jumpstart the field of artificial intelligence by using GPUs to build a network of artificial neurons. ♦