



## Broadcom Stingray SmartNIC Accelerates Baidu Cloud Services

March 31, 2020

### SmartNIC solution delivers unmatched levels of server performance and utilization

SAN JOSE, Calif., March 31, 2020 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced that its Stingray™ adapter, the industry's first 100G SmartNIC, is powering Baidu Cloud with unprecedented levels of performance, security and feature velocity while reducing service delivery costs. The Baidu Cloud team worked closely with Broadcom to deliver advanced cloud native applications, network function virtualization, and distributed security, leveraging the Stingray SmartNIC's programmability and extensive offload features for networking, storage and security.

As the demand for public cloud services continues to grow, hyper-scale data centers and cloud providers increasingly rely on multicore SmartNIC solutions to offload infrastructure services and workloads to maximize server utilization. The Stingray adapter's exceptional levels of integration, including eight ARM™ A72 CPU cores running at 3GHz, 300G of memory bandwidth and a market leading 100G NetXtreme® Ethernet NIC, uniquely enable it to meet the needs of fast-paced, innovative cloud service providers.

The Stingray adapter enables mega-cloud providers like Baidu to easily migrate server workloads to the SmartNIC while dramatically improving the performance of those workloads. Unlike traditional network adapters that rely heavily on host resources, the Stingray SmartNIC completely offloads the host by freeing up not only CPU cores but also invaluable memory and PCIe bandwidth. As well, its comprehensive security features, including silicon root of trust and a 100G hardware encryption engine, make it an ideal platform for distributed security applications.

"Baidu is partnering with Broadcom for its SmartNIC product offering," said Liu Ning, director of the Systems Department at Baidu. "Broadcom's Stingray allows us to offload network and storage workloads from expensive x86 CPU cores, while at the same time delivering strict secure separation between infrastructure workloads and customers' workloads. The powerful and flexible Stingray System-on-Chip allows us to easily deliver new features to our customers with unmatched feature velocity and cost savings."

"Running software defined services for storage and networking places an enormous strain on server CPUs, prompting data center operators to rethink their server architectures," said Dan Harding, vice president of marketing for the Compute and Connectivity Division at Broadcom. "These services require complex I/O processing, consuming up to 35 percent of server CPU and memory resources, degrading application performance and reliability. With Stingray, Baidu is able to move its I/O processing entirely off the CPU and onto the SmartNIC adapter, ensuring that its customer applications run unaffected by these essential but taxing workloads, making their data center more scalable, secure and cost-effective."

"The Smart NIC market is forecast to grow at a 40 percent CAGR and comprise a quarter of the Ethernet adapter market by 2023," according to Baron Fung, director of research at Dell'Oro Group. "High performance CPU-based Smart NIC solutions offer numerous flexibility and offload benefits over that of traditional NICs. Hence, Smart NICs such as Broadcom's Stingray are being adopted by leading cloud providers to accelerate service delivery and enhance their product offerings. According to Dell'Oro Group's 4Q19 Controller and Adapter report, Broadcom, with its Stingray Smart NIC, commanded the highest share of the Smart NIC market among Ethernet adapter vendors at the end 2019."

For more information on Broadcom's Stingray SmartNIC solutions, please visit:

<https://www.broadcom.com/products/ethernet-connectivity/smartnic>

#### About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom's category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to [www.broadcom.com](http://www.broadcom.com).

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Source: Broadcom Inc.