March 14, 2019

Switchtec™ Programmable PCIe Switches Bring Resource Pooling to China's Open Reference Design for Data Center Developers

Jointly developed Open Data Center Committee solution from Tencent and Inspur flexibly pools compute, storage and networking resources to improve total cost of ownership

CHANDLER, Ariz., March 14, 2019 /PRNewswire/ -- PCIe switches play a pivotal role in next-generation open hyperscale data center specifications now being embraced by developer communities around the world. Microchip Technology Inc. (NASDAQ: MCHP), via its Microsemi Corporation subsidiary, today announced its Switchtec™ PSX Gen3 PCIe programmable storage switches have been included in a reference design from Tencent that has been posted to the web site of the Open Data Center Committee (ODCC), a consortium formed by China's leading technology providers. An ODCC co-sponsor, Tencent has based the reference design on its T-Flex architecture that uses the switches to pool Non-Volatile Memory (NVMe) storage, Graphics Processing Units (GPUs), Network Interface Cards (NICs) and other resources, which improves configuration flexibility in high-performance I/O and storage designs and heterogeneous computing applications.

The T-Flex reference design featuring the Switchtec PCIe switch was jointly developed by Tencent and its partner Inspur, the top-selling server supplier in China. T-Flex uses the Switchtec PSX Gen3 96-lane PCIe programmable storage switch to enable flexible, high-density designs that combine performance and efficiency with more agile delivery of diverse resources. By bringing scalable I/O resource pooling to NVMe Solid State Disks (SSDs),

GPUs, NICs, and other PCI endpoints, the PSX PCIe switch enables a T-Flex system to deliver dynamic and flexible configurability while supporting different services with different hardware I/O performance requirements.

"Tier-one data center providers like Tencent are leveraging the capabilities that the Switchtec PCIe switches offer for enabling highly flexible compute and storage rack architectures," said Andrew Dieckmann, vice president of marketing and applications in Microchip's Data Center Solutions business unit. "The publication of this reference design by ODCC will enable ODCC members to readily adopt this architecture and leverage the benefits of a composable infrastructure."

"We're excited to use the Switchtec PSX Gen3 PCIe programmable storage switch in the T-flex program," said Herry Wang, Tencent Server Department Manager. "It is a low-power solution that enables superior signal integrity, supports native x2 port bifurcation and provides a flexible programmable interface. Additionally, the Switchtec ChipLink diagnostic tool features advanced debug capabilities that aided and simplified overall system development."

This is the second time the Switchtec Gen3 PCIe switch has been selected for an open reference design, in this case specifically for ODCC members. In 2017, the Switchtec PCIe Gen3 switch was incorporated into the Open Compute Project (OCP) Lightning (ST7200) reference design, which is also offered as a product by cloud-infrastructure provider Wiwynn for data center applications including enterprise storage systems, storage servers and Rack Scale Architecture infrastructure. The Switchtec PCIe switch enables a single-chip device in these applications to connect multiple PCIe NVMe SSDs while extending flexibility in the firmware to optimize the switch for specific application needs. The Switchtec PCIe switch enables high-density, high-port-count systems with differentiating features such as the ability to customize functionality for cloud applications.

When used in a T-Flex IO resource pooling system, the Switchtec PSX Gen3 PCIe programmable storage switch enables connection of up to 16 host servers. Each host server can connect up to of four downstream T-Flex boxes and each of these T-Flex boxes can contain up to four GPU cards supporting Artificial Intelligence (AI) computing. This means that one server can connect up to 16 GPU cards when connecting four T-Flex boxes.

Pricing and Availability
The Tencent T-Flex reference design is posted to the Open Data Center Committee (ODCC) website at: http://www.opendatacenter.cn/download/22 and available to ODCC members. Support is provided by Tencent and Inspur. For additional information regarding the Switchtec PSX Gen3 PCIe programmable storage switches, visit https://www.microsemi.com/product-directory/storage/4018-pcie-storage-switches, contact a Microchip sales representative or authorized worldwide distributor, or visit Microsemi's website. Products may be purchased at https://www.microsemi.com/product-directory/storage/4018-pcie-storage-switches#ordering, or by contacting an authorized distributor.

About Microsemi's PCI Express Product Portfolio
Microsemi is a premier supplier of high value-add PCIe products including the scalable, low power, high-reliability PFX family of PCIe Gen3 fanout switches, the programmable PSX family of PCIe Gen3 storage switches, the PAX family of PCI Gen 3 advanced fabric switches and the low power, multi-protocol, adaptive EQNOX™ family of signal conditioners with FlexEQ™ equalization technology supporting PCIe Gen3 and PCIe Gen2. Microsemi's

PCIe family is key to building low power and high-reliability data center, communications, defense and industrial servers; workstations; switches; routers; cellular infrastructure and test equipment. For more information about Microsemi's PCIe portfolio, visit https://www.microsemi.com/product-directory/storage/4346-pcie-gen3-switches.

About Microchip Technology
Microchip Technology Inc. is a leading semiconductor supplier of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 125,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at www.microchip.com.

Note: The Microchip name and logo and the Microchip logo are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. Switchtec, EQNOX, and FlexEQ are trademarks of Microchip Technology Inc. in the U.S.A. and other countries. All other trademarks mentioned herein are the property of their respective companies.

View original content to download multimedia:http://www.prnewswire.com/news-releases/switchtec-programmable-pcie-switches-bring-resource-pooling-to-chinas-open-reference-design-for-data-center-developers-300811305.html

SOURCE Microchip Technology Inc.