May 23, 2005 07:45 AM US Eastern Timezone

IDT Supports Data Rates Exceeding 10 Gbps with Next-Generation Flow-Control Management Multi-Queue Devices

SANTA CLARA, Calif.--(BUSINESS WIRE)--May 23, 2005--
High-Performance, Multi-Queue Devices Increase Ease of Use by Adding More Queuing Flexibility, Higher Storage Density and Support for Quality of Service in Next-Generation Platforms
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IDT(TM) (Integrated Device Technology, Inc.) (Nasdaq:IDTI), a leading communications IC company, today introduced a new family of flexible 10 Gigabit per second (Gbps) Multi-Queue(TM) flow-control (FCM) ICs. The new devices offer up to 10 Mbits of storage density and support high-speed operations exceeding 10 Gbps, utilizing clock rates up to 166 MHz DDR (Double Data Rate). Configured with the x40 bit data bus, these Multi-Queue flow-control devices offer a high data throughput of up to 13.3 Gbps. Additionally, the devices support the Quality of Service (QoS) needs of next-generation, high-throughput platforms, such as W-CDMA base stations, large-scale data acquisition systems, high-speed image processing equipment and 10G/1G Ethernet switch/routers, including emerging Jumbo packets as large as nine Kilobytes.

"In delivering greater queuing flexibility, higher storage density and faster data rates, our new Multi-Queue flow-control devices offer a sophisticated solution to support the changing data buffering needs of our customers," said Michael Olsen, product director for the IDT flow-control management division. "As data communications networks become faster and more complex, IDT is committed to helping designers solve the challenges that emerge at these high speeds. With today's announcement, we now offer a complete portfolio of Multi-Queue flow-control devices ranging in density from 0.5 Mbits to 10 Mbits and offering clock rates up to 166MHz DDR."

Rich Wawrzyniak, senior analyst at Semico Research, added, "Within the high-performance realm of networking and data-communications systems, packets as large as 9,000 bytes are becoming more commonplace, and systems architects are challenged to process the data as efficiently as possible. Capable of 13.3 Gbps operating speeds, the IDT Multi-Queue flow-control devices not only buffer data, but also solve many of the data-flow-control issues that emerge in 10 Gbps and above communications equipment designs."

Enhancements to Next-Generation IDT Multi-Queue Flow-Control Devices

For this new generation of devices, IDT doubled the performance, enhanced the switching flexibility and deepened the queue sizes to create a robust data-buffering solution. The x40 bit read/write bus operating at 166 MHz DDR provides more than 10 Gbps data rate for high-performance queuing. For systems running at 10 Gbps or higher, designers can use the new Multi-Queue flow-control devices for prioritization and QoS on ingress or egress. Further, because of the high throughput supported by the Multi-Queue flow-control devices, customers could use these devices with only one queue, much like a large, DDR first-in, first-out (FIFO) memory device, to support very fast buffers in the data stream.

Increasing queuing flexibility and enabling easier implementation for data packets, IDT has added a unique feature mode that allows users to monitor any of the pins on a given packet and gives the designer time to react to any indication, such as customer-definable end of packet (EOP). Further, the Multi-Queue flow-control devices are flexible enough to remember the EOP mark and ensure no data is lost when the queue is accessed again.

The new Multi-Queue flow-control devices have an internal phase-locked loop (PLL) that enables the device to offer a source synchronous output read clock (Echo clock) that center aligns the output

read data for downstream devices. The Echo clock decreases read data access time to 0.5ns and allows the Multi-Queue flow-control devices to operate at high DDR frequencies to meet 10 Gbps line rates.

Building on the innovative architecture of the 4-Mbit Multi-Queue flow-control family, the new devices also deliver the same value-added features including: bus matching; frequency matching; configurable queuing; user-selectable I/O; programmable empty, partially empty, full and partially full flagging; and "mark and re-write" and "mark and re-read."

Other technical highlights include:

-- Electrical compatibility to the 802.3ae XGMII specification for passive interconnection to 10G Ethernet devices.

-- Programmable default queue settings of 128, 64, 32, 16, 8 or 4 symmetrical queues allows for simple start-up configuration. Programming allows any number of queues up to 128.

-- 1.8-volt core helps conserve power in power-hungry, high-speed applications.

-- Available expansion to any number of queues and any number of chips. Eight devices is typically the limit for a bus loading application allowing 2000 queues and 80 Mbits of buffering.

Pricing and Availability

IDT offers a comprehensive family of 10 Gbps Multi-Queue flow-control devices, providing flexible interfaces, port-selectable bus widths, voltages and speeds. Pricing for the new Multi-Queue flow-control family ranges from $81.50 to $105.00 each in high-volume OEM quantities. Additional product information can be found on the IDT Web site at http://www.idt.com/products/fcm.html.

Part Number	Technical Specifications	Package Type	Production Available	Price/Qty. at 10k Units
72P51777L7-5BBI	10-Mbit storage density; 1.8V core; 133MHz DDR	376-PBGA	June 2005	$105.00
72P51777L6BB	10-Mbit storage density; 1.8V core; 166MHz DDR	376-PBGA	June 2005	$99.50
72P51777L7-5BB	10-Mbit storage density; 1.8V core; 133MHz DDR	376-PBGA	June 2005	$94.75
72P51767L7-5BBI	5-Mbit storage density; 1.8V core; 133MHz DDR	376-PBGA	June 2005	$89.50
72P51767L6BB	5-Mbit storage density; 1.8V core; 166MHz DDR	376-PBGA	June 2005	$85.50
72P51767L7-5BB	5-Mbit storage density; 1.8V core; 133MHz DDR	376-PBGA	June 2005	$81.50

Flow-Control Management ICs

As a leading provider of innovative products for the communications market, IDT continues evolving its distinctive competencies in integrating advanced memory and logic architectures, creating a new category of value-added semiconductor solutions called flow-control management (FCM) devices. FCM products provide access and/or queuing for data streams between subsystems and explicitly assist with additional functions, such as policing, shaping, scheduling or directing the data. FCM devices have extensive impact in communications subsystem designs and also provide benefits in medical, video and data acquisition applications. The devices replace traditional methods of managing the flow of data within a system -- previously accomplished with multiple ASICs, FPGAs and external SRAM, DRAM or FIFOs. The IDT FCM portfolio consists of devices that execute packet exchanging, queuing and multiplexing functions.

About IDT
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