

Western Digital to Accelerate the Future of Next-Generation Computing Architectures for Big Data and Fast Data Environments

Company to Transition Consumption of Over One Billion Cores Per Year to RISC-V to Drive Momentum of Open Source Processors for Data Center and Edge Computing

SAN JOSE, Calif. & MILPITAS, Calif.--(BUSINESS WIRE)-- [Western Digital Corp.](#) (NASDAQ: WDC) announced today at the [7th RISC-V Workshop](#) that the company intends to lead the industry transition toward open, purpose-built compute architectures to meet the increasingly diverse application needs of a data-centric world. In his keynote address, Western Digital's Chief Technology Officer [Martin Fink](#) expressed the company's commitment to help lead the advancement of data-centric compute environments through the work of the RISC-V Foundation. RISC-V is an open and scalable compute architecture that will enable the diversity of Big Data and Fast Data applications and workloads proliferating in core cloud data centers and in remote and mobile systems at the edge. Western Digital's leadership role in the RISC-V initiative is significant in that it aims to accelerate the advancement of the technology and the surrounding ecosystem by transitioning its own consumption of processors - over one billion cores per year - to RISC-V.

This press release features multimedia. View the full release here:
<http://www.businesswire.com/news/home/20171128006255/en/>



As Big Data and Fast Data environments proliferate, they break the boundaries of traditional infrastructure and system architecture. The "general-purpose" technologies and architectures that have been in place for decades are reaching their limits of scalability, performance and efficiency. General-purpose workloads that are supported by general-purpose architectures typically have a uniform ratio of processing resources, such as operating system (OS) processing, specialty offload processing, memory, data storage and interconnect. As Big Data gets bigger and faster, and Fast Data gets faster and bigger, the "one size fits all" approach of general-purpose computing is failing to meet the increasingly diverse application workloads of our data-centric world.

Data-Centric Environments

Western Digital to Accelerate the Future of Next-Generation Computing Architectures for Big Data and Fast Data Environments (Graphic: Business Wire)

As the diversity of Big Data and Fast Data workloads expand, data-centric compute architectures will need the ability to scale resources independent of one another. The architectures for tomorrow will need to go beyond the limited, standard resource ratios of general purpose compute architectures and enable purpose-built solutions with data-optimized levels of OS processing, specialty processing, memory, storage and interconnect. The extreme data and compute workloads for analytics, machine learning, artificial intelligence and smart systems demand purpose-built environments.

"Western Digital is a leader in storage products and technologies, and we are now expanding that leadership to open, data-centric compute architectures," said Mike Cordano, president and chief operating officer, Western Digital. "RISC-V will allow the entire industry to realize the benefits of next-generation architectures while also enabling us to create more purpose-built devices, platforms and storage systems for Big Data and Fast Data applications. We are moving beyond just storing data to now creating entire environments that will enable users to realize the value and possibilities of their data."

Moving Compute Closer to Data

Western Digital is a leading provider of solutions to capture, preserve, access and transform data. RISC-V will enable the company to participate in, and leverage a broad community of inventors focused on bringing increasing amounts of

processing power closer to data. As we bring compute power closer to data, customers will be able to minimize data movement at the edge and within their data centers, optimizing processing that is based on location, workload or a time-value need.

Accelerating the RISC-V Ecosystem

To contribute toward the advancement and success of the RISC-V ecosystem, Western Digital plans to transition future core, processor, and controller development to the RISC-V architecture. The company currently consumes over one billion processor cores on an annual basis across its product portfolio. The transition will occur gradually and once completely transitioned, Western Digital expects to be shipping two billion RISC-V cores annually. The company is committed to advancing RISC-V technology for use in mission-critical applications so that it can be deployed in its products.

Western Digital is engaged in active partnerships and investments in RISC-V ecosystem partners. The company recently completed a strategic investment in Esperanto Technologies, a developer of high-performance, energy-efficient computing solutions based on the open RISC-V architecture. Esperanto, which is headquartered in Mountain View, Calif., includes a seasoned team of experienced processor and software engineers with the goal of making RISC-V the architecture of choice for compute-intensive applications, such as machine learning.

"The open source movement has demonstrated to the world that innovation is maximized with a large community working toward a common goal," said Fink. "For that reason, we are providing all of our RISC-V logic work to the community. We also encourage open collaboration among all industry participants, including our customers and partners, to help amplify and accelerate our efforts. Together we can drive data-focused innovation and ensure that RISC-V becomes the next Linux success story."

For further information on today's RISC-V announcement or to view a webcast replay of Martin Fink's keynote at the 7th RISC-V Workshop, visit <http://innovation.wdc.com>.

For more information on the RISC-V Foundation and the 7th RISC-V Workshop, visit <https://riscv.org>.

About Western Digital

Western Digital creates environments for data to thrive. The company is driving the innovation needed to help customers capture, preserve, access and transform an ever-increasing diversity of data. Everywhere data lives, from advanced data centers to mobile sensors to personal devices, our industry-leading solutions deliver the possibilities of data. Western Digital[®] data-centric solutions are marketed under the G-Technology[™], HGST, SanDisk[®], Tegile[™], Upthere[™] and WD[®] brands.

Forward-Looking Statements

This news release contains certain forward-looking statements, including statements regarding the RISC-V Foundation and its initiatives; our contributions to and investments in the RISC-V ecosystem; the transition of our devices, platforms and systems to RISC-V architectures; shipments of RISC-V processor cores; our market positioning, business strategy and technology development efforts; market trends and data growth and its drivers. There are a number of risks and uncertainties that may cause these forward-looking statements to be inaccurate including, among others: volatility in global economic conditions; business conditions and growth in the storage ecosystem; impact of competitive products and pricing; market acceptance and cost of commodity materials and specialized product components; actions by competitors; unexpected advances in competing technologies; our development and introduction of products based on new technologies and expansion into new data storage markets; risks associated with acquisitions, mergers and joint ventures; difficulties or delays in manufacturing; and other risks and uncertainties listed in the company's filings with the Securities and Exchange Commission (the "SEC"), including the company's Form 10-Q filed with the SEC on Nov. 7, 2017, to which your attention is directed. You should not place undue reliance on these forward-looking statements, which speak only as of the date hereof, and the company undertakes no obligation to update these forward-looking statements to reflect subsequent events or circumstances.

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