

NVIDIA Unveils AI Platform to Minimize Downtime in Supercomputing Data Centers

NVIDIA Mellanox UFM Cyber-AI Platform Detects Security Threats, Predicts Network Failures and Guides Predictive Maintenance

ISC Digital--NVIDIA today unveiled the NVIDIA® Mellanox® UFM® Cyber-AI platform, which minimizes downtime in InfiniBand data centers by harnessing AI-powered analytics to detect security threats and operational issues, as well as predict network failures.

This extension of the UFM platform product portfolio -- which has managed InfiniBand systems for nearly a decade -- applies AI to learn a data center's operational cadence and network workload patterns, drawing on both real-time and historic telemetry and workload data. Against this baseline, it tracks the system's health and network modifications, and detects performance degradations, usage and profile changes.

The new platform provides alerts of abnormal system and application behavior, and potential system failures and threats, as well as performs corrective actions. It is also targeted to deliver security alerts in cases of attempted system hacking to host undesired applications, such as cryptocurrency mining. The result is reduced data center downtime -- which typically costs more than \$300,000 an hour, according to research by ITIC.⁽¹⁾

"The UFM Cyber-AI platform determines a data center's unique vital signs and uses them to identify performance degradation, component failures and abnormal usage patterns," said Gilad Shainer, senior vice president of marketing for Mellanox networking at NVIDIA. "It allows system administrators to quickly detect and respond to potential security threats and address upcoming failures, saving cost and ensuring consistent service to customers."

Ecosystem Support

Organizations that have long been employing the UFM platform in their data centers have expressed strong interest in the latest offering.

Allan Williams, associate director of services and technology at the National Computational Infrastructure (NCI Australia), said: "NCI plays a pivotal role in the national research landscape. Our supercomputing infrastructure serves 5,000 researchers who use it for critical national and global activities. UFM enables us to effectively manage our supercomputers and to optimize performance. We look forward to utilizing the new capabilities of UFM Cyber-AI to enhance even further our supercomputing utilization and improve our return on investment."

Douglas Johnson, associate director of the Ohio Supercomputer Center, said: "We have been using the UFM platform for years in our InfiniBand data centers. UFM and the expertise from the Mellanox networking team have been fundamental ingredients in the management of our network and the stability we've achieved. We see great advantages in the UFM Cyber-AI platform."

Extending UFM Platform

The UFM Cyber-AI platform complements the UFM Enterprise platform, which provides network monitoring, management, performance optimization, configuration checks and secure cable management.

NVIDIA also added today a third member of the UFM family, the UFM Telemetry platform. This tool captures real-time network telemetry data, which is streamed to an on-premises or cloud-based database to monitor network performance and validate the network configuration.

Supporting Resources:

- Learn more about the [UFM Appliance product line](#).
- Learn more about [NVIDIA Mellanox Quantum™ HDR 200Gb/s InfiniBand Smart Switches](#).
- Learn more about [NVIDIA Mellanox ConnectX®-6 HDR 200Gb/s InfiniBand adapters](#).

About NVIDIA

[NVIDIA](#)'s (NASDAQ: NVDA) invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined modern computer graphics and revolutionized parallel computing. More recently, GPU deep learning ignited modern AI — the next era of computing — with the GPU acting as the brain of computers, robots and self-driving cars that can perceive and understand the world. More information at <http://nvidianews.nvidia.com/>.

1. ITIC 2020 Global Server Hardware, Server OS Reliability Survey — March 2020 <https://www.ibm.com/downloads/cas/DV0XZV6R>.

Certain statements in this press release including, but not limited to, statements as to: the benefits, performance and abilities of the NVIDIA Mellanox UFM Cyber-AI platform; the UFM Cyber-AI platform's ability to use a data center's vital sign to detect performance degradation, component failures and abnormal usage patterns, and it allowing system administrators to detect and respond to threats and address upcoming failures; organizations having strong interest in the UFM platform; the advantages in the UFM Cyber-AI platform; leveraging the capabilities of UFM-AI to improve supercomputing operations and protect compute and storage resources; and the benefits and performance of the UFM Enterprise platform and UFM Telemetry platform are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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