



Kratos Introduces OpenSpace™ Virtual Network Functions for Earth Observation Satellite Missions

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Software Replaces Specialized Hardware Components and Can Be Service Chained for Dynamic Operations in the OpenSpace Platform

SAN DIEGO, Oct. 20, 2020 (GLOBE NEWSWIRE) -- Kratos Defense & Security Solutions, Inc. (Nasdaq: KTOS), a leading National Security Solutions provider, announced today the release of two new Virtual Network Functions (VNF) as part of its OpenSpace™ platform announcement. OpenSpace is a new model for space ground systems based on Software-Defined Networking (SDN) technology that enables satellite operators, Ground Station-as-a-Service (GSaaS) providers and others in the space services supply chain to create fully software-defined, dynamic ground systems.

OpenSpace VNFs are software applications that replace dedicated satellite hardware technology, such as modems and recorders and can run on commodity computer servers or in the cloud. Today, Kratos announced VNFs for transporting digitized IP packets more reliably, and for recording Earth Observation and Remote Sensing mission activity.

The OpenSpace WAN Transport Protector (OWTP) VNF assures the delivery of digitized IP packets across any potential impaired WAN links. The VNF protects application-specific data transfers against loss without the need for special router or network configurations.

The OpenSpace Stream Processor/Recorder (OSPR) VNF records satellite-based sensor telemetry data during a spacecraft pass, providing highly configurable options for CCSDS VCDU filtering and recording. The recording application supports real-time streaming and playback of downlink data and routing to other processing chains in real-time.

Last month Kratos debuted its first OpenSpace VNF, the **OpenSpace Receiver (ORX)** which performs wideband signal processing of 600 Mbps of throughput to support EO downlinks across several hundred MHz of instantaneous bandwidth. This is an unmatched level of digital signal processing in software.

VNFs and the OpenSpace Platform

OpenSpace VNFs do more than simply replace hardware with virtualized software components. Based upon open industry standards and SDN architectural principles, these VNFs can be connected together virtually to deliver an EO and remote sensing service without having to make changes at the hardware level. When used with the OpenSpace Controller and OpenSpace OpsCenter management capability, they can be orchestrated to form an end-to-end service chain to enable a fully automated EO sensing mission downlink from digitizer all the way to post satellite pass processing.

According to Greg Quiggle, VP of Product Management for Kratos Space, "The OpenSpace VNFs we are introducing today, along with the other OpenSpace platform components, especially the OpenSpace Controller, enable EO and Sensing mission operators to create a far more dynamic, flexible and scalable network operating environment that can respond to changes in demand, supply and threat by allocating resources on the fly to support multiple satellites, customers, orbits and payloads."

Microsoft is already using OpenSpace VNFs in its recently announced Microsoft Azure Orbital Ground Station-as-a-Service offering. According to Yves Pitsch, Principal Product Manager, Azure Networking at Microsoft, "OpenSpace's cloud-native infrastructure inside the Microsoft Azure footprint brings the flexibility our customers need in the face of increasing data demands from Earth Observation and Remote Sensing operations."

For more information about the OpenSpace platform and the products introduced in the OpenSpace family, visit: <https://www.KratosDefense.com/OpenSpace>.

About Kratos Defense & Security Solutions

Kratos Defense & Security Solutions, Inc. (NASDAQ:KTOS) develops and fields transformative, affordable technology, platforms and systems for United States National Security related customers, allies and commercial enterprises. Kratos is changing the way breakthrough technology for these industries are rapidly brought to market through proven commercial and venture capital backed approaches, including proactive research and streamlined development processes. At Kratos, affordability is a technology and we specialize in unmanned systems, satellite communications, cyber security/warfare, microwave electronics, missile defense, hypersonic systems, training, combat systems and next generation turbo jet and turbo fan engine development. For more information go to www.KratosDefense.com.

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undue reliance on any such forward-looking statements. All such forward-looking statements speak only as of the date they are made, and Kratos undertakes no obligation to update or revise these statements, whether as a result of new information, future events or otherwise. Although Kratos believes that the expectations reflected in these forward-looking statements are reasonable, these statements involve many risks and uncertainties that may cause actual results to differ materially from what may be expressed or implied in these forward-looking statements. For a further discussion of risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of Kratos in general, see the risk disclosures in the Annual Report on Form 10-K of Kratos for the year ended December 29, 2019, and in subsequent reports on Forms 10-Q and 8-K and other filings made with the SEC by Kratos.

Press Contact:

Yolanda White
858-812-7302 Direct

Investor Information:

877-934-4687
investor@kratosdefense.com



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