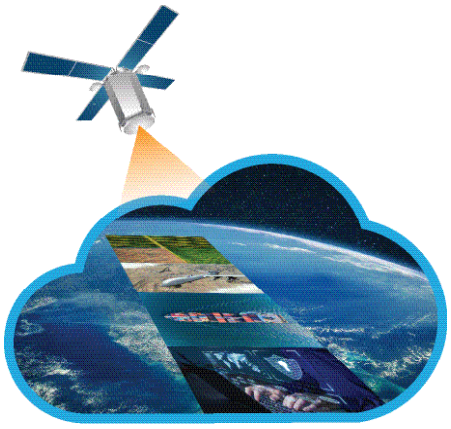
OpenSpace Platform - Earth Observation & Remote Sensing Ground System

High-throughput downlinks, TT&C, and orchestrated services for all satellites



The OpenSpace Platform powers Earth Observation and Remote Sensing applications.

With the increasing amount of information being collected and transmitted from the current and next-generation of Earth Observation (EO) and Remote Sensing (RS) satellites, there is increasing pressure for ground systems to become more agile, cost-effective, and scalable.

Virtual Ground for EO/RS

The OpenSpace Platform is the first fully virtualized and orchestrated satellite ground system that addresses the need for highly dynamic EO/RS services.

The OpenSpace Platform orchestrates the applications required to download large volumes of data on the fly during the short time periods when satellites are over the ground system. Platform capabilities are configured for precise mission needs. Once a pass is complete the resources used are returned to the compute pool. This allows for greater operational control of when, and where, EO/RS workloads are executed.

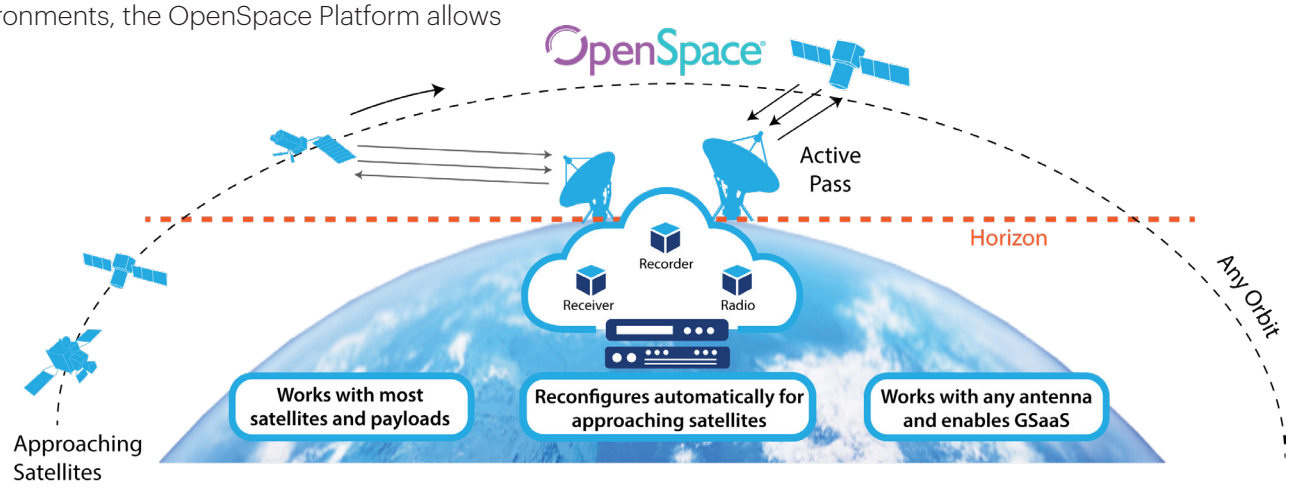
By using generic compute in public or private cloud environments, the OpenSpace Platform allows customers to deploy EO/RS workloads in concert with their other IT systems, avoiding the use of purpose built hardware that is more difficult to manage.

OpenSpace EO/RS Capabilities

The OpenSpace EO/RS capabilities include a fully virtualized Telemetry, Tracking, and Command (TT&C) radio, wideband receiver, and stream processor/recorder to support EO missions.

The OpenSpace EO/RS solution seamlessly integrates and automates the tasks of service delivery from end-to-end through the power of orchestration in a fully vitrual environment. The Platform supports the full operations lifecycle and does not require different systems for any of the stages of the operations lifecycle.

The OpenSpace Platform intelligently and automatically deploys EO/RS capabilities that can be activated, deactivated, configured and reconfigured in tandem with satellite operations to dynamically support changes in supply and demand.



OpenSpace ground systems use a software-defined approach to enable orchestrated multi-orbit EO/RS services that automatically reconfigure in anticipation of approaching satellites.

Automating OpenSpace EO/RS Capabilities

Deploying an OpenSpace EO/RS ground system enables customers to provide fully orchestrated TT&C, high-throughput wideband data downlink and packet processing of mission data.

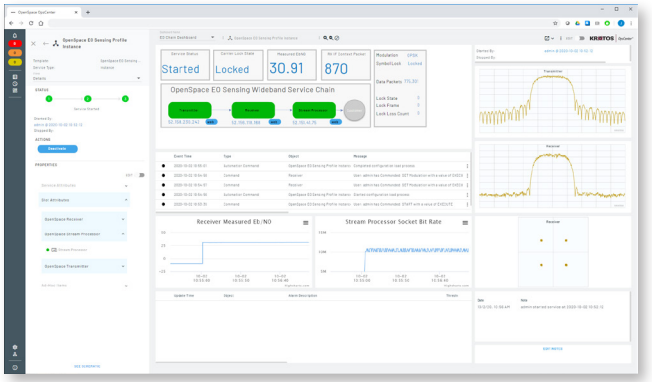
Virtual TT&C radios, wideband receivers, and stream/processing recorders are orchestrated in the OpenSpace Platform along with the automated configuration of physical functions such as digitizers and antenna control systems. This enables fully automated EO sensing mission services from the antenna all the way to post satellite pass processing.

OpenSpace EO/RS Ground System Advantages

- Accelerate Time to Download
  Rapidly reconfigure EO/RS radios, receivers and recorders between passes to maximize ground system throughput.
- Provide TT&C Capabilities
  Optimize satellite operations by providing RF signal processing for TT&C and narrowband payload missions. Configure virtual TT&C radios to automatically switch between and support multiple satellites and payloads.
- Scale on Demand with Growth
  Deploy more virtual EO/RS radios, receivers or recorders as demand grows, eliminating the need to over-provision the ground network.
- Deliver High Throughput for Downlinks
  Deliver more than a gigabit-per-second of downlink throughput running solely on commercially available, off-the-shelf x86-based compute without specialized hardware or enhancements.
- Support Fully Automated Mission Passes
  Integrate operational planning systems directly with the OpenSpace Platform by using a standardized API interface and automation capabilities. This integration enables service-layer processing or fully automated mission passes.
- Supports Full Operations Lifecycle
  The Platform supports the full operations lifecycle and does not require different systems for all stages including pre-launch, during launch and when the new service is fully operational.

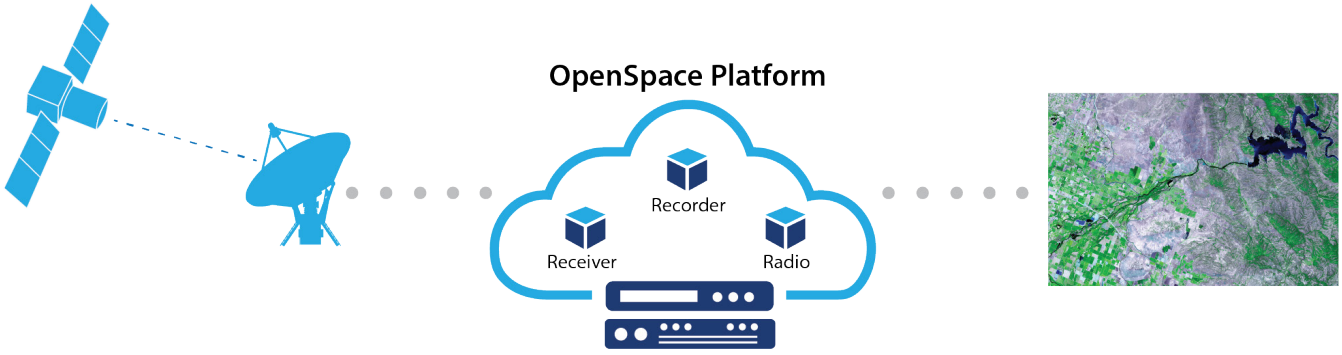
Monitor and Assure EO/RS Service Performance

The OpenSpace Platform provides unified managment and monitoring of EO/RS overall system health and uptime. It also displays alarms in a single dashboard to enable faster troubleshooting.



With the OpenSpace Platform, EO/RS system management, monitoring and alerts happen through a single dashboard.

The OpenSpace Platform also manages other ground system infrastructure including physical network devices and RF gateway components with virtualized infrastructure in a single solution.



In an EO/RS virtual ground system, RF is digitized and physical devices are replaced with virtual machines that consume digitized RF and can run on generic compute in a data center or cloud environment.

For More Information

To learn more about the OpenSpace Platform please refer to these additional resources:
Website: www.KratosSpace.com
Contact us: Space@KratosDefense.com

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