



# OrbitSecure

Secure Space Command,  
Control, and Communication

## Benefits

- Secure Communications
- Enforce Need-To-Know
- Reduce Complexity
- Supply Chain Protection
- Protect Payloads
- No Hardware Crypto Required
- Low SWaP Constraints

## Extreme Key Agility

- Software defined security
- New keys every pass, multiple keys per pass, etc.
- Provides cryptographic compartmentation of individual collects inside existing data buffers and downlinks



## Maintaining Security in Hybrid, Multi-Party Launch Environments

There is a growing cyber risk to our global satellite network, due to:

- Complex supply chains, thousands of moving parts, some outside the USA
- Hosted payloads, shared space vehicle busses
- A growing reliance on third-party ground stations
- Human error, unpatched systems, misconfigured software, or insider threats

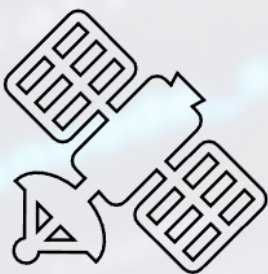
Any of these can result in the disruption of command, control, and communication, or worse – alter the functionality or sensor data of systems. In hybrid, multi-party environments, security can no longer be trust-based.





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## Introducing OrbitSecure

OrbitSecure is a light-weight solution designed to provide a software-only approach to ground and space platforms for assured command, control, and communication (C3) for hybrid space architectures over untrusted infrastructure. The OrbitSecure protocol features options for:

### CONTROL PLANE SECURITY

- De-trusting ground stations using distributed authority

### TEMPORAL SECURITY

- Keys or access are valid for only a single authorized pass preventing the use beyond intended scope.

### PROCESSING SECURITY

- Providing auditability and chain of trust for processing chains and the product distribution and derived products, etc.



## OrbitSecure is Unique

OrbitSecure leverages a unique combination of technology to provide strong assurances of authority, identity, as well as the flexibility to integrate with older systems on-orbit for years, or new systems yet to launch.





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To learn more about Orbitsecure or any of our secure communication and collaboration solutions contact us at [sales@spideroak-inc.com](mailto:sales@spideroak-inc.com).

## OrbitSecure Features

### NO KNOWLEDGE/END-TO-END ENCRYPTION

- Ensures no data is ever read by an unauthorized network device or human that happens to be in a communication path.

### POWERFUL POLICY ENGINE

- Ensures only authorized parties may command assets and only authorized parties may receive telemetry, data, or other data from those assets.

### IRREFUTABLE LOGGING

- Protects the management of spacecraft and payloads, such that authorized parties are granted the minimum privilege required for their duties.

### DISTRIBUTED LEDGER/BLOCKCHAIN

- A truly distributed system, OrbitSecure provides the unprecedented ability to share access and control of ISR assets with an inductive proof of channel identity, authority, and integrity verified by every agent in the system.

## Confidentiality, Integrity, and Authority

OrbitSecure is an unparalleled system for ISR collection security when managing spacecraft and payloads. It provides a first-of-its-kind cryptology solution for providing extreme key-management agility.

