

Satellite Operations Simulator for Cyber Exercises (SatOpSim)



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INTRODUCTION

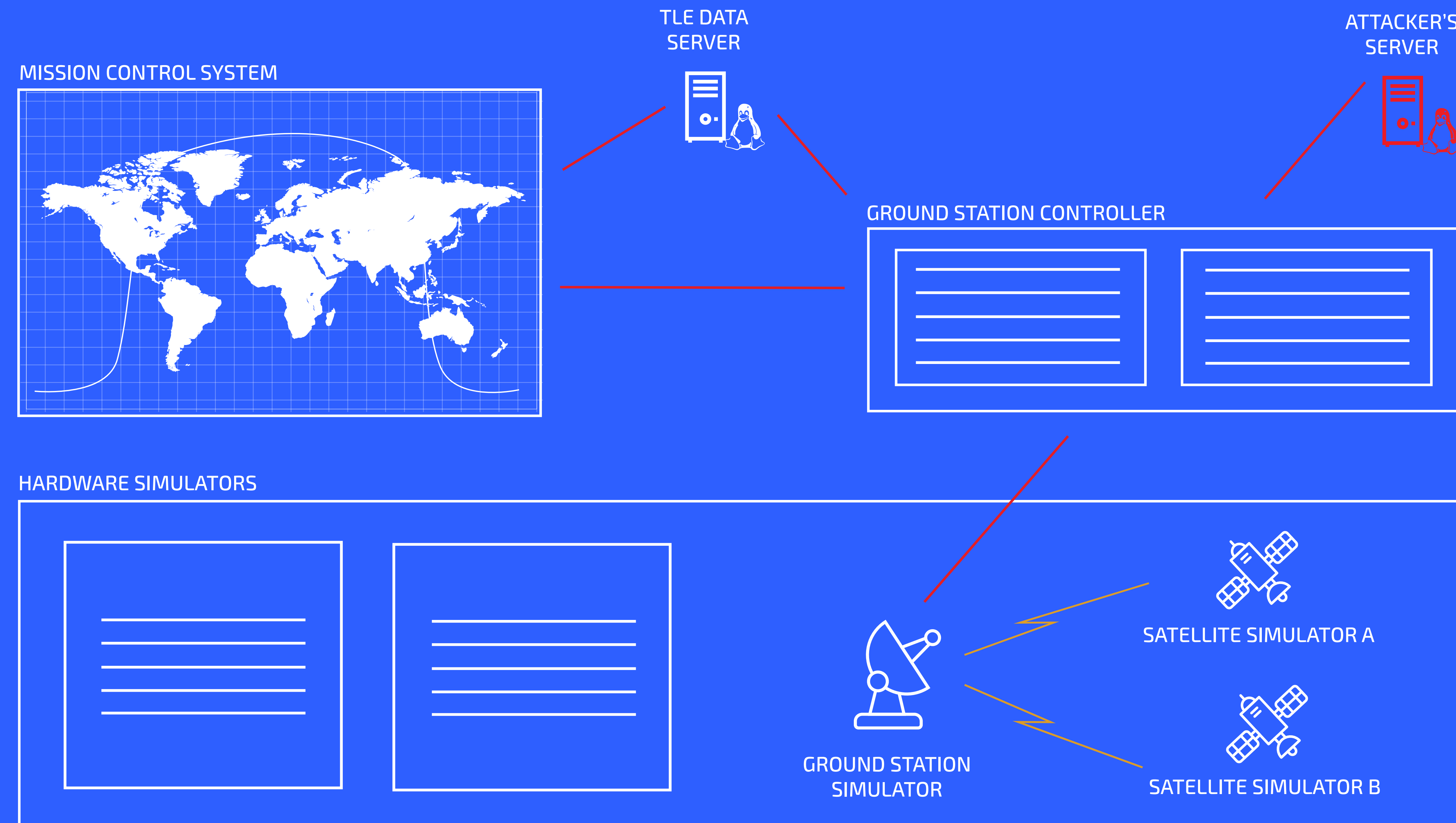
- SatOpSim is a virtual simulator for satellite operations deployed in a cyber range, an environment for cyber exercises, testing and validation
- It enables cyber exercise participants to simulate attacking and defending a satellite mission, expanding their cybersecurity skills into the space domain
- SatOpSim is designed to empower development, testing and validation of satellite communication systems in controlled environments

ADDITIONAL APPLICATIONS FOR THE SATOPSIM

- Developing and testing of
 - communication protocols
 - ground station network management
 - satellite fleet management and optimisation
 - operational procedures
- Cyber security trainings
 - forensics collection and analysis
 - securing satellite ground segment
- Satellite operator trainings

TARGET AUDIENCE

- SatOpSim main areas of application are in cyber defence and space
- Cyber exercise providers and participants
- Satellite operators
- Space agencies
- System integrators
- Ground station network operators
- Hardware manufacturers



SATOPSIM COMPONENTS

- TLE Generator
- TLE Server
- Mission Control System
- Ground Station Controller
- Contact Scheduler
- Hardware Controller
- Ground Station Hardware Simulator
- Satellite Simulator
- EO Image Provider

EXAMPLE OF A LIVE FIRE CYBER EXERCISE

- Task driven incident response & investigation on live-fire environment
- Allow Red Team to get a foothold into the environment, monitor the escalation of privileges and collect indicators of compromise (IOCs) and other data
- Detect, collect and share information about Red Team activity such as tools, methods/practices/techniques, target machines target attack chain

