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The Space cybersecurity Framework : The OPS SAT Red Team approach

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The commercial opening of Space through private actors supported by states or not able the possibility put the space networks face to the effects of robustness to the service. To ensure the full delivery of a service, the hardening need to be improve by the networks Team : blue, purpose, and above all the red team. The work is supported by the Defence security certified in Space for the Space networks assessment to put in place a programme to evaluate and to test Space networks and improve their resilience to manage the mass-market application in New Space. And the offensive security certified in Space exist to think about the scenatios potentially applicable to disturb the functionalities of assets in Space delivering services for the ground segment. Through a reverse engineering of OPS SAT from ESA test by malware and the add-on of CAN anomaly detection scenario, the capabilities of Space Red team able to warn the preliminary design and the upload of software on board computer show the need to apply cybersecurity semantic framework like Sparta, Shield, MITRE, EMB3D or specific one linked with the mission.
source :
https://github.com/esa/nanosat-mo-framework
https://ingescape.com/fr/bibliotheque-open-source/
https://github.com/mguentner/cannelloni

Author: METMATI, Djamel

Presenter: METMATI, Djamel

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