

The Chartered Institute for IT

What DevSecOps can learn from Elon Musk

Joseph Bernie, Senior Solutions Engineer Paul Horton, Senior Solutions Engineer

osonatype









NOAA-19

8 different sensors - 8 different functions

- Advanced Very High Resolution Radiometer (AVHRR/3)
- Solar Backscatter Ultraviolet Radiometer (SBUV/2)
- Microwave Humidity Sounder (MHS)
- High Resolution Infrared Radiation Sounder (HIRS/4)
- Advanced Microwave Sounding Unit (AMSU-A)
- Space Environment Monitor (SEM-2)
- Advanced Data Collection System (ADCS)
- Search and Rescue Satellite-aided Tracking (SARSAT)



CubeSats

10 cm per side A mass of no more than 1.33 kg





















Open Source Components

90%

of an application is made up of open source components

21,000+

new versions of open source are released **per day** by suppliers (or project managers)



INCREASE IN DOWNLOADS

Year Over Year 2020 - 2021



SOURCE: 2021 STATE OF THE SOFTWARE SUPPLY CHAIN REPORT BY SONATYPE



Back to Satellites...















Mars Oasis









SPACEX





SPACEX













 (\bullet)









"a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high **<u>quality</u>**"









The state of being free from danger or threat.

Safety /ˈseɪfti/

The state of being protected from danger or harm



"a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high **<u>quality</u>**"





NODIS Library Program Management(8000s) Search



NPR 8705.2C Effective Date: July 10, 2017 Expiration Date: July 10, 2022

Requirements COMPLIANCE IS MANDATORY FOR NASA EMPLOYEES

Human-Rating Requirements for Space Systems

Responsible Office: Office of Safety and Mission Assurance

Table of Contents

NASA

Procedural

Change Log

Preface

P.1 PurposeP.2 ApplicabilityP.3 AuthorityP.4 Applicable DocumentsP.5 Measurement/VerificationP.6 Cancellation





"The space system shall provide the capability to sustain a safe, habitable environment for the crew."

"The space system should be inherently safe or designed to minimize risk (e.g., no exposed sharp edges, no exposed high temperature surfaces"





"The space system shall be designed to tolerate inadvertent operator action (minimum of one inadvertent action), as identified by the human error analysis, without causing a catastrophic event."





"The space system shall provide the capability to isolate and recover from faults identified during system development or mission operations that would result in a catastrophic event."





"The crewed space system shall provide the capability for autonomous operation of system and subsystem functions which, if lost, would result in a catastrophic event."





"The space system shall provide the capability to utilize health and status data (including system performance data) of critical systems and subsystems to facilitate anomaly resolution during and after the mission."







○ sonatype

Nexus automatically enforces open source policy and controls risk across every phase of the SDLC.









Any Questions?

Helpful Links:

BOM Doctor http://bomdoctor.sonatype.dev/

Free Developer Tools https://www.sonatype.com/products/free-developer-tools

Integrations https://help.sonatype.com/integrations