National Aeronautics and
Space Administration

EXPLORE
SCIENCE

Cybersecurity/Encryption

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A little about me

Ph.D. in Information Security

LCDR in the US Navy Reserve / Information Warfare

DoD/Intel

Semi-retired Professor

New to NASA

Information Security at SMD

Guiding Principle: "We are in the business of science"

Major Areas of Effort for Small Sat Projects:
- Project Protection Plan (PPP)
- Authorization To Operate (ATO)
- Common Mission Infrastructure

Small Satellite Cybersecurity

Do we need cybersecurity on small satellites?

If so, what kind of cybersecurity? Encryption?
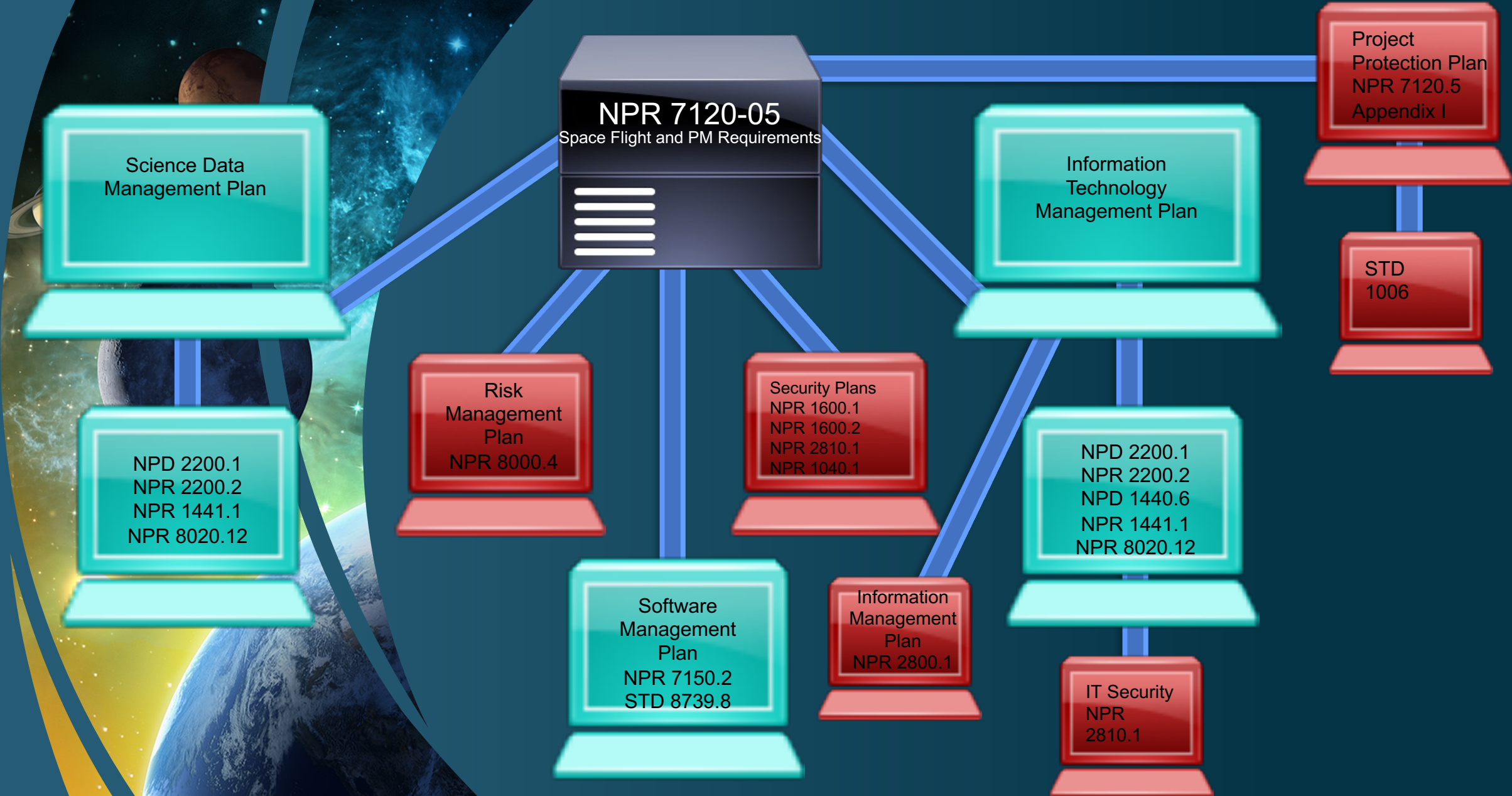https://youtu.be/qwC7Kgj87T0?si=rVS-M-43FJwC39AZ

Small Satellite Cybersecurity

Compliance vs Risk Paradigm

SMD Information Security Policy Applicability Listing

NPR 7120-05
Space Flight and PM Requirements

Science Data
Management Plan

Project
Protection Plan
NPR 7120.5
Appendix I

Information
Technology
Management Plan

STD
1006

NPD 2200.1
NPR 2200.2
NPR 1441.1
NPR 8020.12

Risk
Management
Plan
NPR 8000.4

Security Plans
NPR 1600.1
NPR 1600.2
NPR 2810.1
NPR 1040.1

NPD 2200.1
NPR 2200.2
NPD 1440.6
NPR 1441.1
NPR 8020.12

Software
Management
Plan
NPR 7150.2
STD 8739.8

Information
Management
Plan
NPR 2800.1

IT Security
NPR
2810.1

Small Satellite Cybersecurity Way Forward

Work at NASA specific to small satellite security processes:

Tailored/Template System

Risk Based System

EXPLORE
together