Moving Target Defense for Space Systems
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Overview

- Determine MTD effectiveness and cost for protecting non-IP C2 networks
- Experiment on networks used in satellite systems
- Randomize features (e.g. device address) to prevent adversary from conducting reconnaissance

Status

- Conducted first experimentation with MIL-STD-1553
- Prototype implementation using real hardware (AltaDt ENET2-1553)

Accomplishments

- Developed patent-pending MTD algorithm for use in non-IP C2 networks
- Successfully randomized addresses while calculating the 24th Fibonacci number

Next Steps

- Conduct experiment with "rogue" node attempting to disrupt Fibonacci calculation
- Use resilience metrics to determine cost of MTD usage

Randomized Array
n! possible orderings
for array of size n

MTD Frequency (# of frames)	Predicted Overhead (%)	Actual Overhead (%)
1	50.0	50.1
2	25.0	25.1
3	16.7	16.7
5	10.0	10.2
10	5.0	5.0
20	2.5	2.6
50	1.0	1.0
100	0.5	0.5