NATIONAL CENTER FOR MANUFACTURING SCIENCES

Taurus teleSYS Inc.
Real-Time Simulation and Global Telecommunication Systems

Prove engineered control systems before they reach the ship

PROBLEM STATEMENT

- 40 years of Taurus Composite Test Device (CTD) emulation experience
- Department of Defense (DoD) and Department of Energy (DOE) nuclear-powered marine applications
- Result: form, fit, function and cyber-recovery (4F) for aging control computers
- Today and ahead: replace control systems without changing behavior as marine and micro nuclear power deploys at Army, Navy and Air Force facilities and in international marine propulsion

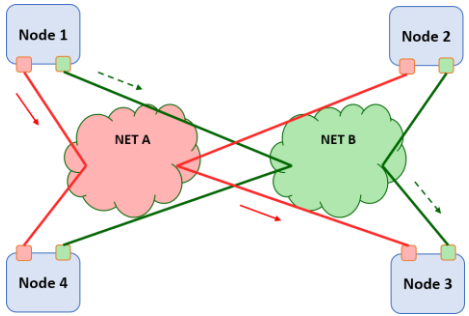
BENEFITS

- Defects found at the desk, not on the ship or pier
- Emulated ICS/OT integrated with physics models: condition-based diagnostics and human-inserted cyber-breach exercises
- Prototypical training simulators for operators and maintainers
- Control data keeps flowing when a network fails
- Cybersecurity Maturity Model Certification (CMMC) Level 2 change evidence from every test

TECHNOLOGY SOLUTION

- Emulated industrial control systems and operational technology (ICS/OT): plant physics and controller, regression-tested before installation
- Taurus Defined Network (TDN): two independent networks, no recovery time; proof of process funded by Taurus NuEnergy LLC (TNL) at its energy sites
- Form, fit, function and cyber-recovery (4F) on commercial boards
- Private artificial intelligence (AI) on a local computer; a person approves every change

GRAPHIC



Each message on Net A and Net B; the receiver keeps the first copy