Welcome to the TaNCAD Wiki!

The Tactical Networked Communication Architecture Design (TaNCAD) lab at NPS focuses on developing advanced network architecture, protocols, and test/analysis tools for challenged communication environments, particularly those found in the tactical domain. TaNCAD is based at the Naval Postgraduate School in Monterey, CA.

Research Projects

- Golocation-Aware DTN Routing
- DTN Technical Readiness
- USMC NOTM DTN Integration
- DTN-cum-IP Integration

News

IMC Accepts
Rohrer, Justin (CIV) posted on Jul 31, 2018
I am pleased to report that our IMC submission was accepted! (https://conferences.sigcomm.org/imc/2018/) (Preprint available at: https://arxiv.org/abs/1805.11308) This is a large-scale IPv6 topology mapping effort, aimed at understanding the effect of target selection on infrastructure discovery. Abstract: Existing methods for active topology discovery within the IPv6 Internet largely mirror those of IPv4....

Lab Meetings

Location: GE-B10

- 2018 – 06 December: Status updates
- 2018 – 29 November: Status updates
- 2018 – 15 November: Status updates
- 2018 – 08 November: Thesis (Strelkoff) and status updates. Relevant sections >>

Members

Faculty
- Dr. Justin P. Rohrer – GE-339
- Dr. Robert Beverly – GE-110
- Dr. Geoffrey G. Xie – GE-125

Staff
- Mr. Michael Monahan – IN-104
- Mr. Carl Prince – GE-120
- Mr. Riqui Schwamm – GE-237

Students

Current
- LTJG Samuel Strelkoff (Fall 2019)
- Mr Michael Monahan (Summer 2019) – DTN Implementation measurement and instrumentation
- LT Carlos Hargett (Spring 2019)
- Maj Logan, Brent (Maj) (Spring 2019) – SDN Automation of Distributed Firewalls

Graduated
- LT Jason Brown (Fall 2018) – Machine learning-based DTN routing
- LTJG Garret Walton (Fall 2018) – Rule-based training for reinforcement learning
- LT Kyle Hunter (Fall 2018) – IPv6 tarpit stickiness and scalability improvement
- LT Ryan R. Ferrao (Spring 2018) (Outstanding thesis, Surface Navy award) – Masked underwater acoustic communication
Abstract

Research Domain

Current Nanosatellite Communication Standards

Robustness to Error in Transmission

Possible Solutions for Error Propagation

Goals for NERP Functionality / Overview of NERP Behavior

Packet Header Structure / Packet Design

Reliability as a Data-loss Mitigation Method

NERDP System Evaluation

Integrity and Availability Vulnerability Assessment

• 2018 – 01 November: ITC paper presentation (Brown) and status updates
• 2018 – 25 October: IMC paper presentation (Beverly) and status updates
• 2018 – 18 October: MatPlotLib demo and status updates
• 2018 – 04 October: Status updates
• 2018 – 11 September: ns3 demo (Brown) and status updates
• 2018 – 04 September: mininet demo (Hunter) and status updates
• 2018 – 28 August: Status updates
• 2018 – 21 August: Screen demo and status updates
• 2018 – 14 August: Git demo and status updates
• 2018 – 31 July: LaTeX demo and status updates