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/](https://conferences.sigcomm.org/imc/2018/)) (Preprint available at: [https://arxiv.org/abs/1805.11308](https://arxiv.org/abs/1805.11308) [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)
- LT Carlos Hargett (Spring 2019)
- 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
- Mr Michael Monahan (Summer 2018) – DTN Implementation measurement and instrumentation

**Graduated**

- LT Ryan R. Ferrao (Spring 2018) (Outstanding thesis, Surface Navy award) – Masked underwater acoustic communication
- Mr Dillon Glasser (Spring 2018) – Longitudinal Study of Large-Scale Traceroute Results
Abstract

Research Domain

Current Nanosatellite Communication Standards

Robustness to Error in Transmission

Possible Solutions for Error Propagation

Goals for NERP Functionality (no Encryption Integration)

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 – 11 October: Paper (Hargett) 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

Team Calendars