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) 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 >>

<table>
<thead>
<tr>
<th>Title</th>
<th>pdf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>8</td>
</tr>
<tr>
<td>Research Domain</td>
<td>24-</td>
</tr>
<tr>
<td>Current Nanosatellite Communication Standards</td>
<td>35-</td>
</tr>
<tr>
<td>page</td>
<td>thesis page</td>
</tr>
<tr>
<td>26</td>
<td>1-3 (optional)</td>
</tr>
<tr>
<td>40</td>
<td>12-17</td>
</tr>
</tbody>
</table>

Members

Faculty
- Dr. Justin P. Rohrer – GE-118
- 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
- Mr Chan, Jun Liang (FORNATL, SN) (Summer 2020)
- LCDR Harper, Benjamin (LCDR) (Spring 2020) – Effects of GPS error on geographic routing protocols
- LTJG Samuel Strelkoff (Fall 2019)
- Mr Michael Monahan (Summer 2020) – DTN Implementation measurement and instrumentation

Former
- LT Carlos Hargett (Spring 2019)
- Maj Unknown User (belogan) (Spring 2019) – SDN Automation of Distributed Firewalls
- 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
- Mr Dillon Glasser (Spring 2018) – Longitudinal Study of Large-Scale Traceroute Results
- LT Andrew Mauldin (Fall 2017) (With distinction, outstanding thesis, Grace Hopper award) – Comparative analysis of disruption tolerant network routing simulations in the ONE and ns-3
Robustness to Error in Transmission 60-65
37-42
Possible Solutions for Error Propagation 65-42-44
Goals for NERP Functionality / 71-82 48-59 (no Encryption Integration)
Overview of NERP Behavior
Packet Header Structure / 84-89 61-66
Packet Design
Reliability as a Data-loss Mitigation Method 96 73
NERDP System Evaluation 104-109 81-86
Integrity and Availability Vulnerability Assessment 111-112 88-89

- **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

© 2012–2018 TaNCAD Lab, page content by Justin P. Rohrer.