Justin P. Rohrer and Geoffrey G. Xie

NPS Military Wireless Communications

{jprohrer, xie}@nps.edu

Goal: Provide continuous combat relevant situational-awareness in highly-dynamic environments by integrating conventional IP and Disruption Tolerant Networking (DTN) capabilities

NPS Approach:

- **Software:** Integrate DTN protocols in Linux-based IP router, to enable seamless handoff between IP and DTN

- **Hardware:** Build hardware platform using low-power, low-cost, COTS components

- **Capability:** 5 routable Ethernet interfaces; processor supports >2 Gb/s throughput

Prior Work:

- DTN concept originated in Interplanetary Networking protocol development (1990s)

- Adapted to many other settings (e.g. DARPA/BBN efforts)

- Enterprise-grade open-source IP routing capability built using Linux kernel

Messages forwarded from one DTN gateway to the next reach the destination even when an end-to-end connection is not feasible.

Winter 2012 Architecture Developed

Spring 2012 Testbed Deployment

Summer 2012 Field Testing