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NPS IT Fly-in Team Reconnects Tsunami Survivors to the World

Wednesday, February 09, 2005

by *Barbara Honegger*

A survivors' camp and nearby grave registration center/morgue in the Thailand coastal areas hardest hit by the Dec. 26 tsunami were reconnected to the world only days after the disaster thanks to a fly-in wireless network team from the Naval Postgraduate School. Information Systems Department faculty member Brian Steckler headed the Coalition Operating Area Surveillance and Targeting System (COASTS) field experimentation research group that set up "hastily-formed wireless networks relinking the refugee camp near a resort area two hours north of Phuket Thailand (Khao Lok) and a Bhuddist Temple repurposed into the grave registration center and morgue in the nearby fishing village of Takua Pa to the Internet in early January.

At a "hastily-formed brief" and slide presentation on Feb. 3 at NPS, Steckler discussed their "hastily formed network" and played a rare video of the tsunami actually approaching and hitting the beach. He described the wireless network, and summarized both technical and non-technical lessons learned for future emergency humanitarian operations.

"The first thing that struck you was the phenomenal level of the devastation," said Steckler, who obtained the video taken by an amateur on a hill overlooking the bay where the giant wave killed thousands, including one of the Kingdom of Thailand's princes. "The tsunami wasn't so much a wave in the classic sense, as the entire ocean receded out to sea and then crashed back as a 30-foot wall of water. The best way to think of it is that it's like, the Colorado River's Class Five rapids but miles and miles wide. Every structure and system you can name was overwhelmed -- both civilian and military."

The team also included NPS's IT Support Group's senior network engineer J.P. Pierson, who canceled more than a week of his vacation to help with the effort, supported by Professor Alex Bordetsky, Maj. Carl Oros, and other faculty and students. Also participating in the planning, set up, and funding of the hastily-formed wireless networks in Thailand were Rajant Corporation, a U.S. based maker of 802.11 wireless network devices; Redline Communications, a Canadian maker of long-haul 802.16 wireless communications equipment; Cisco Corporation, which provided routers; the Royal Thai Armed Forces, which provided tactical support and customs assistance; Maj. Marc Anderson of the Joint U.S. Military Advisory Group Thailand, who translated and served as the DoD liaison; and numerous volunteers from the U.S., Great Britain, Ireland, Canada, Germany, Australia, and Thailand.

There were so many volunteers at one point, in fact -- a thousand in a camp housing only 4,000 refugees -- that their numbers actually interfered with getting the population back on its feet.

"That's just one of the many lessons learned from the disaster," Steckler said. "You can actually have too many volunteers and too many donations -- there was literally a mountain of donated clothes that took business away from the local population whose livelihood is based on selling clothing."

Based on their recent experience, a major new focus of the COASTS team is to pre-configure and prepare ready-to-go "Fly Away Kits" to set up rapidly deployed wireless networks for future emergency and humanitarian operations. "We're talking about two or three boxes and a few hundred pounds -- a stand-alone power source, solar or battery; satellite dish; modem; 802.11 wireless network gear; 802.16 beyond-line-of-sight antennas; routers; switches or connectors; uninterruptible power supply; generators; and software," Steckler said.

The COASTS humanitarian ops experience is also generating bigger waves across campus. The

Cebrowski Institute has announced that hastily formed networks will be a major research focus over the next two years.

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