

DUMBO IV: An Emergency Communication Network

Kanchana Kanchanasut
School of Engineering and Technology
Asian Institute of Technology (AIT), Thailand

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Abstract: In this talk, I will describe an evolution of a post disaster emergency network project called DUMBO (Digital Ubiquitous Mobile Broadband OLSR) started off in 2006 by adapting mobile ad hoc networks to serve under challenged conditions. Since then, we have made many adaptations to incorporate vehicles and apply DUMBO to vehicular networks. More recently, it was decided to use DUMBO to provide Internet services to remote communities while its primary function to serve as an alternative network remains intact.

With the challenged conditions, network connectivity is intermittent leading to network partitions to take place. We introduced Delay Tolerant Network (DTN) -OLSR to DUMBO to allow data transfer to take place whenever the partitioned networks can communicate. Under this framework, we are currently working on using drones as DTN bundle messenger to take DTN bundle from one partition to another. I will discuss a few scenarios which we are working on.



Biography: Professor Kanchana Kanchanasut was honoured with the Jonathan B. Postel Service Award for pioneering Thailand's Internet on November 2016. She is the first Thai national to be inducted into the Internet Hall of Fame by the Internet Society on August 2013. She was named in the 'Pioneer' category, which recognizes individuals who were instrumental in the early design and development of the internet. Prof. Kanchana was among the Thai Internet pioneers who brought the idea of electronic mail and the Internet to Thailand in the late'80s. She has since maintained her interests in the Internet through her research works with current interests in challenged and emergency networks, digital media communication and tele-education. She is actively involved in the Internet development in the region paying particular attention on the human resource development issue.

Dr. Kanchana earned her PhD in Computer Science from the University of Melbourne and her BSc from the University of Queensland, Australia.

Prof. Kanchana is currently a Research Professor and former Director of the Internet Education and Research Laboratory (intERLab), and has served as the Vice President for Research at the Asian Institute of Technology (AIT), Thailand, where she is also a Professor in Computer Science and Information Technology at the AIT's School of Engineering and Technology. In addition, she is the Vice Chairman of Thai Network Information Center Foundation.