

# **Thailand Rural Wireless Broadband Access Initiative**

By

Kanchana Wanichkorn, Ph.D.  
National Electronics and Computer Technology Center (NECTEC)  
Bangkok, Thailand

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## **Abstract**

The emergence of a global "information society" has made access to information and telecommunication services a crucial driver for economic, social, and cultural development of the country. While we begin to see a roll-out of broadband multimedia services in large cities, there remain many areas in rural Thailand that have no access to even basic telephony service. This, thus, threatens to broaden the digital gap between the information "haves" and "have-nots" in Thailand.

Recent advance in digital wireless technologies and availability of unlicensed bands of spectrum have made wireless access a new option for low-cost telecommunication services in rural areas. New generations of wireless access technologies such as IEEE 802.11b/g (WiFi) and IEEE 802.16 (WiMax) are capable of delivering not only good-quality digital voice service but also broadband Internet access service. However, deployment of such schemes to cover a large rural area requires proper planning and refinements.

Recognizing the potential of these new wireless technologies to bridge the digital gap in Thailand, the Rural Wireless Broadband Access Initiative led by the National Electronics and Computer Technology Center (NECTEC) aims to develop a model for rural wireless broadband access community network. A team of NECTEC researchers and engineers is currently developing a wireless broadband access solution capable of providing digital voice and high-speed Internet access services based on Voice over Internet Protocol (VoIP) and NECTEC proprietary WiFi/WiMax derivative technologies. In partnership with local communities and other interested parties, the initiative will launch a pilot program for the provision of VoIP and wireless broadband Internet access services in target rural communities. The initiative seeks to gather feedback from the communities on the need for and interest in broadband connectivity as well as identify key success factors for sustainable services.

This paper describes the initiative's action plan and recent field trial activities using NECTEC-developed schemes and equipment prototypes.