

Project Title

Network Coding for Next Generation Networks

網絡編碼在新一代網絡的應用

Person-in-charge

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Project Description

Network coding, a revolutionary technology co-invented by the person-in-charge in the 1990s, is widely acknowledged as a significant breakthrough in information sciences. Differing from conventional routing techniques, network coding combines incoming data packets into new ones for onward transmission to the subsequent node. This results in communication networks (including computer, wireless, satellite, and underwater networks) and data storage systems that are more efficient, resilient, and secure.



To realize the vast potential of network coding, through this project we will promote the adoption of network coding technologies and their practical application in real-world contexts. The project will primarily concentrate on the deployment of BATS in three critical domains: cellular networks, smart cities, and data centres. In addition to undertaking the necessary R&D, we aim to expedite the market introduction of our innovative products by collaborating with industrial partners. This will propel the evolution of communication networks and data storage systems towards enhanced efficiency, reliability, and security.

網絡編碼是項目負責人在 1990 年代共同發明的革命性技術，被廣泛認為是信息科學的重大突破。與傳統的路由技術不同，網絡編碼將接收的數據包重新組合成新的數據包，然後傳輸到下一個節點，令通信網絡（包括計算機、無線、衛星和水底網絡）和數據儲存系統更加高效、可靠和安全。

為了實現網絡編碼的巨大潛力，透過這個項目，我們將促進網絡編碼技術特別是 BATS 在各種系統的實際應用。我們將集中在三個關鍵領域：移動網絡、智慧城市和數據中心。除了進行所需的研發外，我們的目標是透過與產業合作，加速我們的創新產品的市場推出。這將推動通信網絡和數據儲存系統在提高效率、可靠性和安全性的方向發展。