



## HKUST develops "multi-hop" Wi-Fi software

A research team at the Hong Kong University of Science & Technology (HKUST) has developed a multi-hop wireless mesh software to greatly improve the data access of Wi-Fi networks.

Current Wi-Fi networks suffer from limited coverage range, high interference and costly setup. In some harsh environments such as airports and container terminals, cabling is very costly or sometimes even impossible, making Wi-Fi access challenging. To overcome these problems, a team led by Prof Gary Chan, associate professor of the Department of Computer Science & Engineering at HKUST, invented and developed LaviNet (Lean Aviation Network), a software that enables adaptive and high-performance "multi-hop" Wi-Fi networking.

LAviNet implements a set of channel selection and routing algorithms which effectively avoid traffic congestion and reduce signal interference. It is said to increase user data rate by more than two times and signal strength by 100 times. LAviNet can be simply installed into most Wi-Fi access points and wireless routers without the need to replace existing infrastructure.

Work on LAviNet started in 2007. Through innovative applied research and feedback from actual implementation and deployment, the team has completed numerous trials and software improvements under real industrial settings to successfully bring LAviNet to commercial use.

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