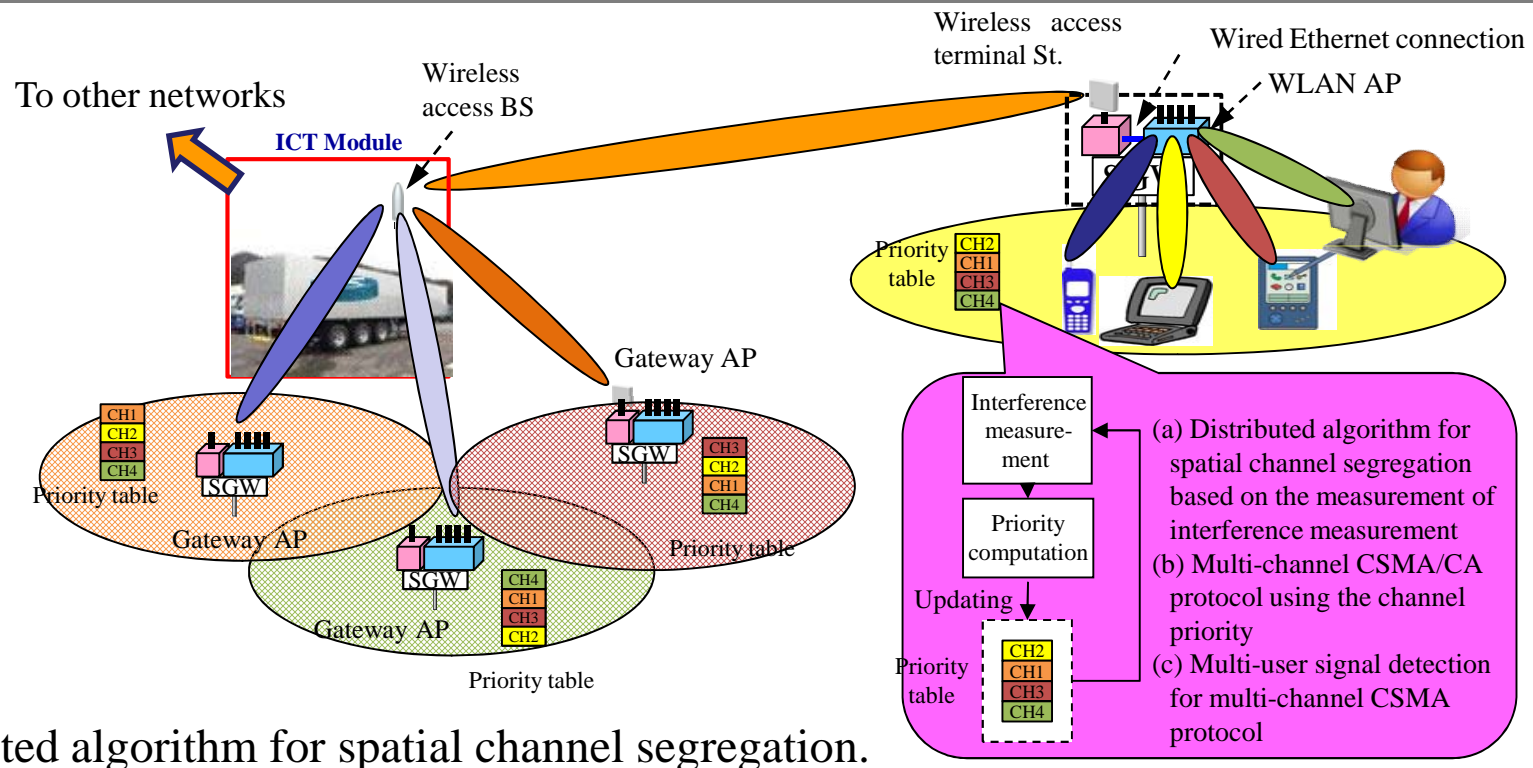# 適応型無線周波数リソース割当技術
Adaptive Frequency Resource Allocation Technique

In a disaster situation, speedy deployment of communication networks is required for providing fast and effective disaster information to people in disaster stricken areas. Wireless LAN network can be flexibly deployed in such situation. However, the same channel must be spatially reused due to the limited bandwidth and hence, the co-channel interference limits the communications quality. In this project, a distributed algorithm of spatial channel segregation adaptive to changing traffic conditions will be developed. In the adaptive distributed channel segregation algorithm, each WLAN access point (AP) periodically updates the channel priority table based on the past interference measurement and selects the least interference channel to use. In this way, the spatial channel distribution pattern is adaptively formed so that the co-channel interference which each AP suffers from adjacent APs can be minimized.

Distributed algorithm for spatial channel segregation.

(a) Distributed algorithm for spatial channel segregation based on the measurement of interference measurement

(b) Multi-channel CSMA/CA protocol using the channel priority

(c) Multi-user signal detection for multi-channel CSMA protocol