

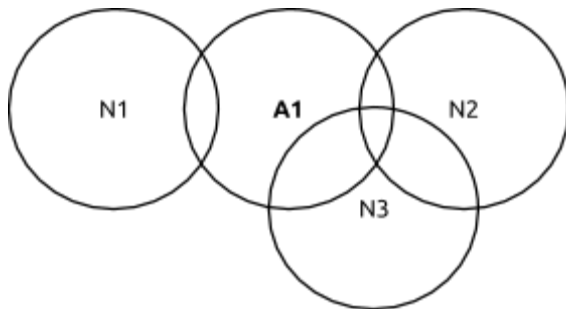
Scenario 1



The Hidden Node Problem

Setup and description

You create a wireless network station (A1) with one hidden node (N1) like this:



To avoid collision issues when communicating on a shared medium a media access control method called **CSMA/CA RTS/CTS** is used.

The hidden node problem occurs when collision avoidance is unable to cover all nodes in the respective area. For example, N2 is able to detect whether A1 or N3 are transmitting but it will not know of N1. Therefore **A1** is potentially receiving corrupted data when both N1 and N2 are going to transmit their data at the same time.

Test plan

You will figure out the optimal configuration of RTS/CTS thresholds in order to gain maximum performance in OpenWRT. After that compare your results with Ubiquiti's proprietary airMAX polling technology that implements **TDMA** in airOS.

Requirements:

- 4x TL-WDR4300 with OpenWRT (including iperf)
- 4x Ubiquiti Picostation M2-HP

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Results and interpretation