

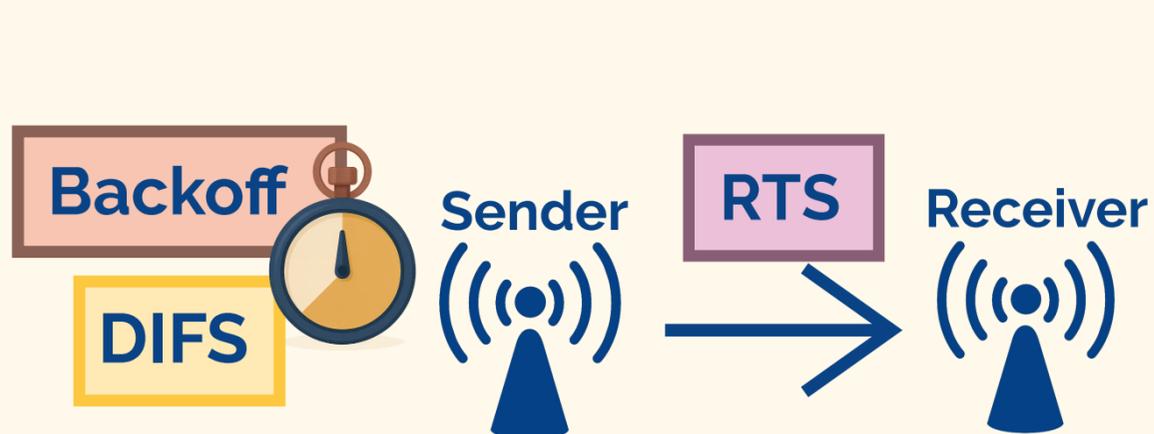
RTS/CTS vs CTS to Self

CWNA-109 Objective: 3.6.3/4

RTS/CTS is a protection mechanism in CSMA/CA that helps with hidden node problems and collision avoidance.

This example uses DCF for simplicity. Modern STAs usually use EDCA. (Some details omitted for brevity. Ex: NAV for each CTS/RTS. See sources for more info)

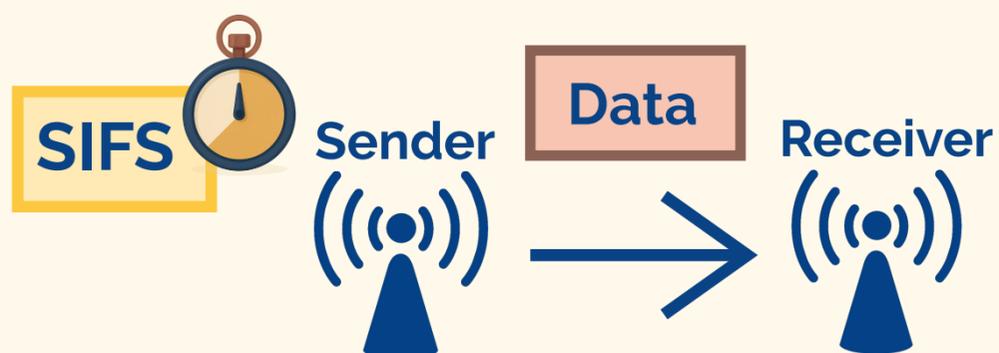
1. Sender STA performs checks for a busy PHY medium (CCA) or virtual medium (NAV timer).



2. The sender STA waits a DIFS. Once the backoff timer expires and the medium is still clear, it sends a RTS.

3. Other STAs that hear the RTS, will update their NAV timer.

4. The receiving STA waits a SIFS, then sends a CTS.



5. After a SIFS, the sender STA sends the data frame.

CTS-to-Self avoids using RTS frames. The STA (usually an AP), sends a CTS to its BSSID as the receiver. This decreases overhead, but can be less effective than RTS/CTS.