

# 知 TKIP encryption method limits the wireless negotiation rate to 54Mbps

Wireless 余煌 2020-12-21 Published

## Problem Description

When using Wired Equivalent Privacy (WEP) or Temporal Key Integrity Protocol (TKIP) encryption configuration under the 802.11n protocol, the WiFi data transmission rate of the client device will not exceed 54Mbps.

The IEEE 802.11n draft prohibits the use of WEP or TKIP as unicast ciphers in high throughput mode. If these encryption methods (such as WEP, WPA-TKIP) are used, the data transmission rate will drop to 54Mbps. Ordinary wireless terminals that support the 802.11n protocol connect to AP devices that start WEP or TKIP without causing connection failure, which is in line with the IEEE802.11n draft.

## Solution

1. Wait for the possible 802.11n protocol upgrade.
2. Configure the configuration file of the WiFi client device and the related configuration of the AP device to ensure that the network adopts (WPA2-AES or WPA2-TKIP) security architecture. Alternatively, you can choose to configure an unprotected profile, but this is not recommended.

### Suggestion:

- It is not recommended to use only TKIP single encryption method, this encryption method limits the wireless negotiation rate to only 54Mbps!
- The recommended encryption method is set to RSN+CCMP. This encryption method can negotiate up to 866.7Mbps for 11ac dual-stream terminals! !

PS: The encryption mechanism of TKIP determines its maximum negotiated rate value, which is not the device side performance limitation~

### Configuration:

```
wlan service-template test
cipher-suite ccmp //recommend~
security-ie rsn
```

PS: What if there are some old terminals in the network that are not compatible with ccmp+rsn? You can configure both combination encryption methods to let the terminal auto-negotiation~

```
cipher-suite ccmp
security-ie rsn
cipher-suite tkip
security-ie wpa
```