

# Wi-Fi Network Testing and Monitoring

**Ensure consistent customer experience and exceptional service quality across managed Wi-Fi networks**

Wi-Fi access is a critical amenity for user experience today; it is found truly everywhere. Aside from being in homes and offices, Wi-Fi is available in department stores, hotels, arenas and even on buses and airplanes. Many times, wireless connectivity is the only option for accessing network services, making continuous testing and monitoring of these services that much more important. Assuring your customer exceptional Wi-Fi services is crucial in establishing a positive end user experience.

Netrounds' Wi-Fi testing and monitoring features allow you to automatically validate that managed Wi-Fi networks are properly working, both at the time of service launch and following any updates or changes. These features also enable you to:

- Find problems **before** users with active monitoring.
- Receive real-time alerts of Wi-Fi quality degradations.
- Instantly determine if problems experienced by Wi-Fi connected users are due to the Wi-Fi access network or to the fixed network; significantly reducing the issue resolution time.

In addition to the functionality of Wi-Fi, you can now test and monitor network services comprehensively from Layer 1 to Layer 7 with a single Netrounds test solution.

## Boost Your Business with Netrounds Wi-Fi Testing

Undiscovered faults and customer complaints are costly, so relying on end users to effectively monitor the quality of delivered services is not an economical practice, nor appreciated by your paying customer. By implementing a comprehensive active testing and continuous service monitoring solution such as Netrounds into your business structure, you can find and correct faults proactively, which will in turn enable you to:

- **Increase revenue** by improving customer satisfaction, **attract new customers**, and **reduce your churn rate**.
- Reduce operational costs by improving efficiency, implementing system optimizations, and cut down on costly field engineer visits.

## Wi-Fi Testing and Monitoring Capabilities in Detail

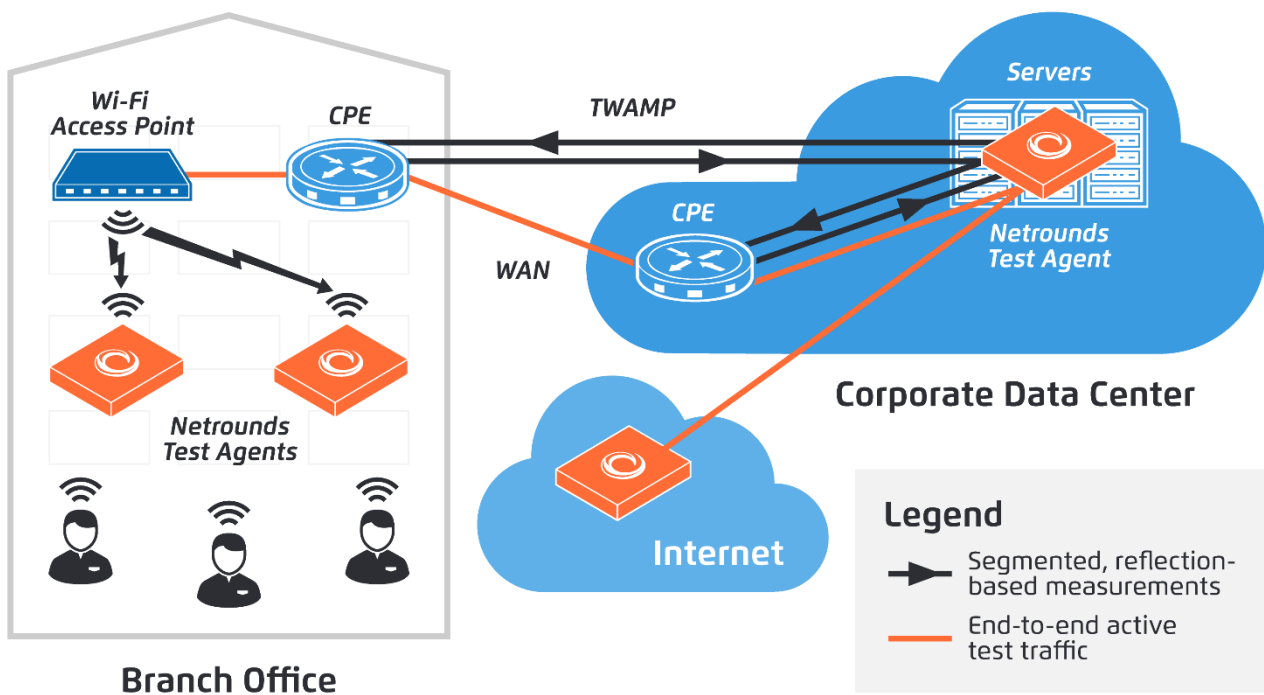
Netrounds can validate Wi-Fi networks built on any of the following standards: IEEE 802.11g, IEEE 802.11n, and IEEE 802.11ac. Within a network, you can verify the operation of:

- All SSIDs (for example: office network, guest network)
- All individual access points (APs)
- Different frequency bands (2.4 and 5 GHz)

Netrounds also allows you to ensure the proper functioning of your Wi-Fi networks in the presence of real user traffic:

- Can your network cope with TCP and UDP data transfer?
- Does your network effectively handle OTT video?
- Can your users surf the web satisfactorily?
- Do your users get fast response times from business support systems?

Continuous monitoring of the Wi-Fi network involves making sure that Wi-Fi signal strength, bit rates and retransmissions all function at a healthy level.



**Figure 1:** Example Wi-Fi deployment scenario for Netrounds active Test Agents.

Furthermore, Netrounds provides advanced Wi-Fi troubleshooting capabilities. This is achieved by remotely adjusting and subsequently testing various settings until you have determined the root cause of a problem (setting changes can be fully automated). For example, besides standards and frequencies, you may change:

## Key output metrics

### Wi-Fi Scanner

Network name (SSID)

BSSID of access point

Wi-Fi channel frequency

Wi-Fi channel signal strength

Authentication method in use

### Wi-Fi Logger

Received Signal Strength Indication

Tx bit rate, Rx bit rate

Tx MCS index, Rx MCS index

Guard interval

Number of transmit and receive MIMO streams

Tx retries

- Transmit (Tx) and Receive (Rx) Modulation and Coding Scheme (MCS) Index, governing data rates.
- Short Guard Interval – turning this on involves shortening the interval between information symbols from 800 ns to 400 ns; potentially increasing throughput.

## How Netrounds Wi-Fi Testing Works

To test and monitor Wi-Fi networks, a Netrounds Test Agent equipped with a Wi-Fi network interface card (NIC) is used.

The following task types are executed by Netrounds for Wi-Fi testing and monitoring:

- **Wi-Fi Scanner:** Scans for available Wi-Fi networks in the vicinity of the Test Agent and returns data on the networks found (see list of metrics on the left).
- **Wi-Fi Logger:** Logs parameters and metrics for a given Wi-Fi network.
- **Wi-Fi Switcher:** Allows you to change Wi-Fi interface parameters during the course of testing, thus allowing you to easily test multiple Wi-Fi networks and access points.

## Two Convenient Options for Getting Started Today

The Netrounds Wi-Fi Test Agent is available in two deployment options. The Wi-Fi Test Agent may be procured from Netrounds as a Preinstalled Test Agent on the HW Medium platform. It is built on x86 hardware and includes preconfigured Test Agent software for active testing and monitoring of 100 concurrent traffic streams with 3 × 1 GbE ports and a Wi-Fi interface.

You can also install Netrounds Wi-Fi capable Test Agent software on hardware of your own that is equipped with an Intel Wi-Fi NIC.

## Questions about this Feature Brief?

For more information on how Netrounds Wi-Fi testing and monitoring capabilities can enhance your network, please contact Netrounds Sales ([sales@netrounds.com](mailto:sales@netrounds.com)) or your authorized reseller, or visit our website at [www.netrounds.com](http://www.netrounds.com).