

## Application Note: OneTouch™ AT Cloud Service

The Fluke Networks OneTouch AT Cloud Service extends OneTouch AT Network Assistant troubleshooting capability with new visibility into network performance over time. A long-term view of network infrastructure, service and application performance is invaluable when troubleshooting unpredictable, intermittent problems that all too often occur when network support staff is away. Research shows that intermittent problems are some of the most difficult and time consuming problems to solve<sup>1</sup>. The Cloud Service also serves as a daily management and problem avoidance tool by facilitating identification of performance degradations that could adversely affect client devices and end users if left uncorrected.

The handheld OneTouch AT Network Assistant is the source of network performance data for the Cloud Service. See Figure 1. Version 3 software adds a new Trending feature to the tester. When in trending mode the OneTouch AT tester runs its network AutoTest repeatedly and autonomously without user interaction. The AutoTest runs, the test results are uploaded to the cloud and the AutoTest runs again. The user defines what test results are uploaded by customizing the AutoTest profile. An AutoTest profile is a set of individual tests used to mimic how a client device experiences the network, including network-hosted services and applications. An AutoTest profile can be very simple, in which case only a few test results are uploaded every trending cycle, or very complex, such that dozens of test results are uploaded every trending cycle. The user also defines how frequently the AutoTest runs and the duration of the trending session. Once these parameters are configured on the tester, the user simply launches the Trending process and then walks away.



Figure 1: OneTouch AT Network Assistant

Sequential AutoTest results uploaded to the Cloud Service are saved as a single session and are available for analysis. Test results are plotted on color-coded charts, making it easy to see performance irregularities over time. This long-term view of performance is ideal for troubleshooting intermittent problems that occur unpredictably. See Figure 2. View charts from a single test or view charts from multiple tests simultaneously, side-by-side, to identify correlated events - to understand whether the root cause of a slow file download is the LAN infrastructure or the leased WAN circuit for example. Use the Zoom feature to see performance details for an event within a narrower window of time. When zooming, all open charts zoom in unison and the y-axis scales automatically. Print a chart or download an image for documentation.



Figure 2: OneTouch AT Cloud Service

<sup>1</sup>Fluke Networks research survey of 197 network support professionals.

## An Example of a Typical Network Problem

An employee calls the help desk complaining about the network being slow. The reported symptom is a network-hosted application taking longer to respond than usual. This poor performance is sporadic and the responsiveness varies throughout the day, typical of an intermittent problem. The employee is using a Wi-Fi connected laptop PC. The help desk escalates the problem to the network support team, usually a technician or network administrator.

The first step is for the technician to verify the complaint. The technician could stand next to the employee and wait for the problem to reappear, assuming there really is a problem. This is not practical; even if the technician was on-site and had hours free to spend waiting on the problem's reappearance. A better approach is to configure a OneTouch AT tester to mimic the employee's laptop PC, including the most important network services and applications. See Figure 3. Setup the tester such that it connects to the same network as the PC and communicates with the same network services and applications as the PC, particularly the application the employee claims is responding slowly. Connect the OneTouch AT tester to the network near the employee's PC so that the wired and Wi-Fi network environment is the same. Set the Trending duration for 8 hours (the length of this employee's work day) and the interval for 1 minute (about the time it takes for the AutoTest to complete). See Figure 4. The technician launches OneTouch AT Trending and leaves. The tester begins its testing and uploading cycle.

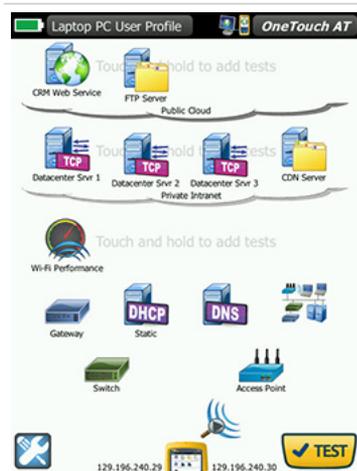


Figure 3: Test Profile

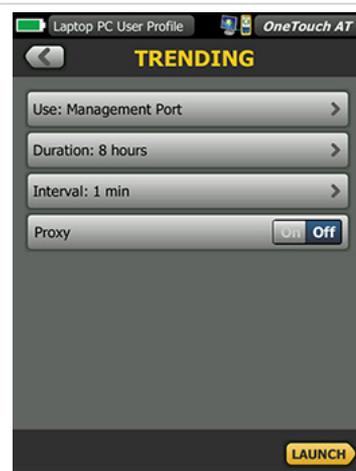


Figure 4: Trending

Sometime later the network technician opens a web browser on a PC or tablet and signs into the OneTouch AT Cloud Service. Since the results are available via the cloud, the technician is not tied to the tester nor restricted to testing within certain work hours. The technician can view test results anywhere there is an internet connection – their desk, on another site, at home, on the train – and at any time when it is convenient. See Figure 5.

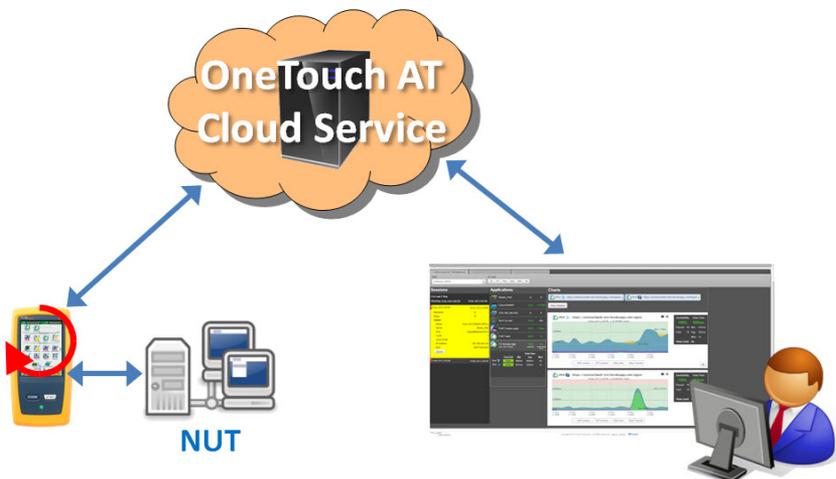


Figure 5: Results in the Cloud

The results from the trending session are displayed on the Cloud Service dashboard. The technician views performance results starting with the network application the employee initially reported as slow. See Figure 6. Application performance over the Wi-Fi network was notably degraded at a particular time, validating the employee's complaint. The technician uses zoom to view the time period of interest in more detail. The technician then views Wi-Fi network performance together with application performance. Performance test results are displayed graphically side-by-side. See Figure 7. The technician discovers a correlation between tests. When application performance slowed, Wi-Fi performance got worse. Wi-Fi retries increased, average transmit rate declined and channel utilization increased. In particular, non-802.11 utilization increased dramatically as indicated by the blue line. See Figure 8. The source of non-802.11 utilization is an electronic device that generates noise in the same wireless spectrum used by 802.11 Wi-Fi technologies (2.4 and 5 GHz). This noise interferes with Wi-Fi signaling and results in degraded Wi-Fi communications. To resolve this problem the technician needs to remove the interferer (typically a microwave oven, a wireless video camera or speaker, a cordless phone) or reconfigure the local AP to operate on a channel with less non-802.11 interference.



Figure 6: Wi-Fi and Wired FTP Performance Test Results

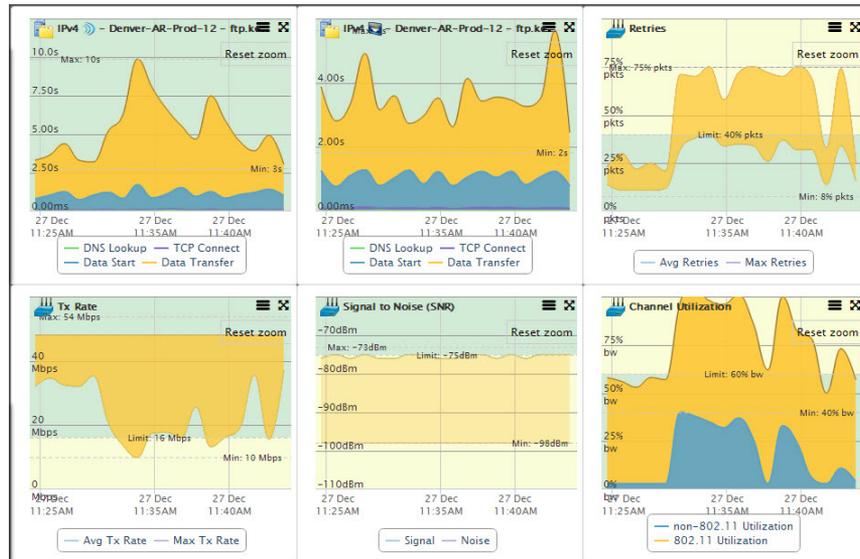


Figure 7: Event Correlation

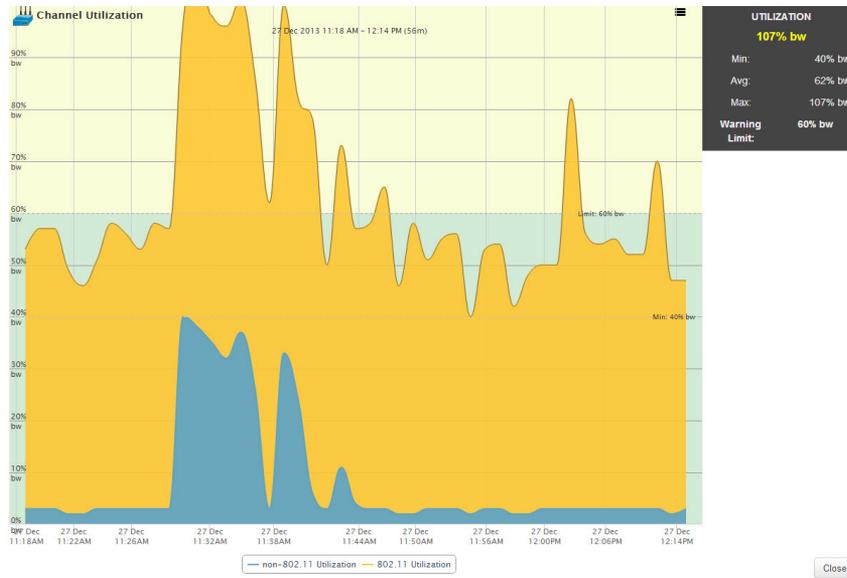


Figure 8: Root Cause Analysis

Using the OneTouch AT handheld tester, the Trending feature and companion Cloud Service the technician was free to leave the tester unattended and work on other projects while the Cloud Service was collecting results from the tester. The technician viewed the results where and when it was most convenient, using a web-connected PC or tablet. The technician successfully validated the employee's complaint, isolated the problem to the Wi-Fi network and identified the root cause as a non-802.11 interferer. This was the information needed to resolve this intermittent problem and close the trouble ticket.



### Daily Management Tool

The Cloud Service can also be used as a daily management and problem avoidance

## Cloud Service Accounts

Multiple OneTouch AT testers can be managed from a single Cloud Service account. View and share trended results from one or more testers with colleagues for collaborative troubleshooting and escalations. All OneTouch AT Network Assistant models, with version 3 software or later, feature trending of AutoTest results to the cloud.

Basic OneTouch AT Cloud Service is free. Basic Cloud Service enables storage of one trending session in the cloud. Gold Cloud Service enables storage of multiple trending sessions and is included with OneTouch AT Gold Support at no additional charge.

## OneTouch AT Cloud Service

Understand network performance over time from a client device perspective with the OneTouch AT Cloud Service. Troubleshoot unpredictable, intermittent problems that all too often occur when support staff is away. Identify performance degradations and proactively address issues before employees complain. View test results anywhere there is a web connection and at any time.

Visit Fluke Networks online to learn more about the OneTouch AT Cloud Service and the OneTouch AT Network Assistant.