FLUKE networks

OneTouch™ AT

Network Assistant

Based on a recent Fluke Networks' study[1], network professionals spend 25 percent of their time troubleshooting—that's time taken away from deploying new technologies and optimizing network performance. With most problems requiring an hour or more to solve, end-user productivity suffers across the enterprise.

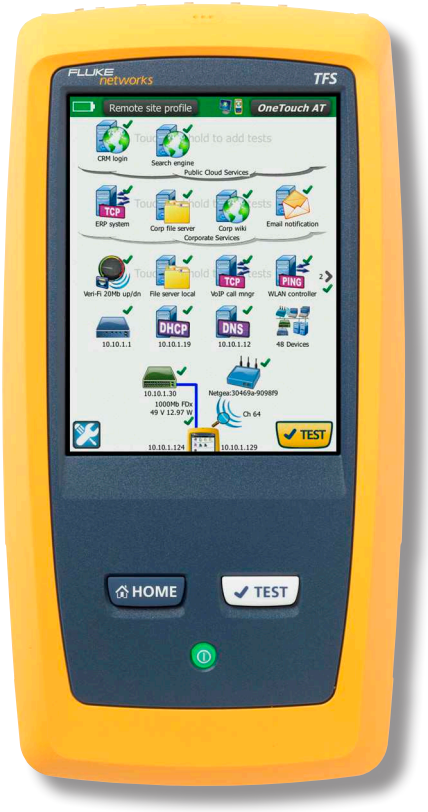
The OneTouch™ AT Network Assistant greatly reduces troubleshooting time through a streamlined, three-step approach:

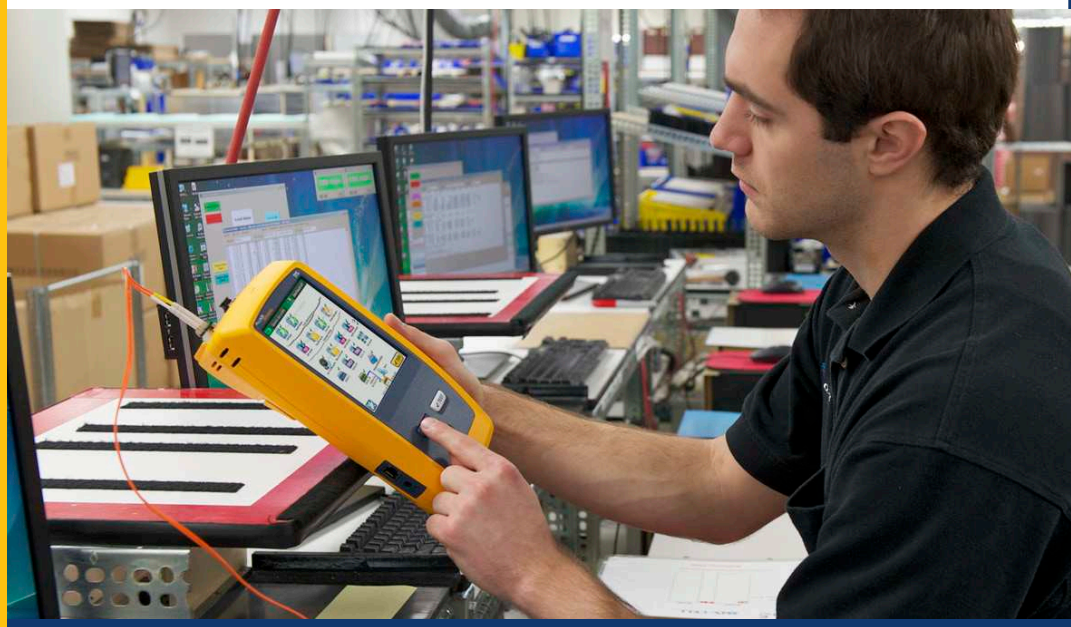
1. *The unique AutoTest replaces multiple tools and an hour of troubleshooting time—pass/fail analysis instantly identifies the most common problems from the end-user's perspective*
2. *A powerful set of network performance measurements—accessible through a graphical, touch-screen interface—to troubleshoot wired and Wi-Fi networks*
3. *Since 40 percent of problems span multiple organizations, it enhances team collaboration through a simple web-remote interface and easy-to-use inline packet capture capabilities*

By improving each step of the process, the OneTouch AT frees up nearly a week of time each month historically spent troubleshooting problems.[2] The OneTouch AT makes everyone in your organization —from novice technicians to seasoned experts—a more effective troubleshooter.

The OneTouch™ AT Network Assistant is an all-in-one Gigabit Ethernet troubleshooter for copper, fiber optic and Wi-Fi networks. It provides a client view of network performance so you can resolve problems fast and complete deployment projects on time.

- Deploy and troubleshoot networks and services faster and easier with a one touch AutoTest and an intuitive user interface
- Identify problem root cause by measuring the performance of essential network infrastructure and local or cloud-based services
- Increase network support staff expertise by establishing troubleshooting best practices based on network and user-specific AutoTest profiles
- Analyze copper/fiber and Wi-Fi networks with automated discovery, comprehensive sorting and deep-dive analysis tools
- Tap and capture traffic in-line between the client and the network for packet-level analysis
- Streamline collaboration using remote features—control, file access, webcam—accessible via PC, tablet and smartphone





One-touch troubleshooting of network performance from client to cloud

1. *A New Paradigm for Network Problem Solving, (Fluke Networks, 2012).*
2. *Ibid., 6*

OneTouch AT features

All-in-one

The OneTouch AT incorporates two 10/100/1000 Mbps RJ-45 Ethernet test ports, two 100/1000 Mbps SFP fiber optic transceiver ports and an internal 802.11 a/b/g/n dual band radio. Simultaneously test your wired Ethernet and wireless Wi-Fi networks and easily compare performance with side-by-side test results.

Understand performance from the client connection

Most network trouble tickets start where the client device is connected to the network—where the device could be a PC, IP phone, printer, POS terminal, industrial equipment controller or a medical imager. Common issues include "doesn't work," "can't connect," "files unreachable," "application unresponsive," and "the network is slow." The OneTouch assists you in troubleshooting these issues—or proving that the network is not the cause—by emulating the client device and measuring network performance.

Performance measurement from the cable to the cloud

The cause of a network problem can be elusive. The OneTouch AT identifies problem root cause by measuring and analyzing the performance of the critical network components: the network cabling, the delivery of Power over Ethernet (PoE), the connection to the nearest switch, the connection to the nearest access point, and the performance of key network services and server-based applications.

Copper and fiber optic cable testing

Understand cable performance by measuring twisted pair cable wiremap and length. Use cable identifiers and IntelliTone™ toning to locate and identify cables. Measure the optical power received through fiber optic links. Verify the cleanliness of fiber optic connections by viewing connector end faces with the optional FiberInspector™ USB video probe.

PoE testing

Verify the successful delivery of PoE with the TruePower™ load test. Measure PoE unloaded and under load. Emulate a 802.3at (PoE+) class 1-4 powered device and measure power up to 25.5 watts.

Wired and Wi-Fi client connectivity testing

Understand how a client connects to the wired infrastructure by testing the link between the client and the nearest switch, identifying the nearest switch, slot, and port and monitoring key switch port statistics. Understand how a client connects to the Wi-Fi infrastructure by testing the link between the client and the nearest access point, identifying the AP name, channel and security, observing the authentication and association process and monitoring key AP and network statistics.

Wired and Wi-Fi infrastructure testing

Discover the DHCP and DNS servers and the local gateway. Verify configurations and operations.

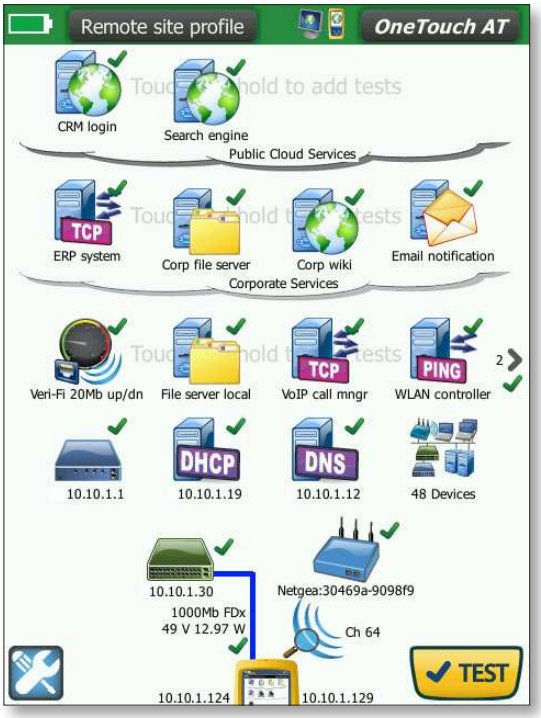


Figure 1. The AutoTest provides a comprehensive measurement of network performance from the end user point-of-view – from cable to services and applications

Figure 2. Analyze copper and fiber networks with automated device discovery, comprehensive sorts and deep-dive analysis tools.

Wired analysis

Automatically discovers copper and fiber-connected devices and key device properties. Sort by properties to obtain multiple views into the wired network. Select from among thirteen different sorts. For example, sort by IPv4 or IPv6 address to identify used and available addresses. Or sort by switch name/slot/port to understand where on the network devices are connected. Sort by discovered problems to quickly identify potential issues. Additional discovery-assisted analysis tools aid with troubleshooting and profile creation.

Wi-Fi analysis

Automatically discovers Wi-Fi devices and key device properties. Sort by properties to obtain multiple views into the wireless network. Select from among seventeen context-relative sorts. For example, sort by signal strength to troubleshoot Wi-Fi coverage issues. Sort by MAC manufacturer to discover Wi-Fi devices by type and to understand how they are connected relative to SSID, AP and channel. Sort by channel to identify channel spacing problems. Sort by authorization status to find potential security violations. Additional discovery-assisted analysis tools aid with troubleshooting and security enforcement.

Network service and application testing

Determine if a network service or server-based application is the root cause of a reported problem by measuring availability and responsiveness. Choose the performance test appropriate for your service or application: ping (ICMP), connect (TCP), web (HTTP), file (FTP), multicast (IGMP), video (RTSP) or email (SMTP). Touch the icon on the home page to get a detailed breakdown of application performance including DNS lookup time, server response time and data rate. The measurements are presented side-by-side for easy wired/Wi-Fi and IPv4/IPv6 performance comparisons. A few examples: ping your WLAN controller, connect to port 2000 on your VoIP call manager, download a page of an application with a web interface, upload or download a file from a server, subscribe to a multicast group, access video content from an on-demand streaming video server or email a text message to your mobile phone.

Test local and cloud-based services

Understand the performance of network services and server-based applications hosted locally in the datacenter, on a corporate intranet server or on a server reached via the public internet. Organize the tests by location by placing the test icon within the appropriate tier on the OneTouch AT home page. Measure service levels to the different tiers to spot problems.

Become a troubleshooting expert

Use the intuitive touch interface to create test profiles, or test scripts, tailored to your network, services, and applications. Create simple profiles with only a few tests or advanced profiles consisting of dozens of tests. You can build profiles to accommodate different types of users, devices, locations or technologies. Once created, profiles can be saved for quick and easy reuse later. Create a library of standardized profiles to elevate the troubleshooting know-how of network support staff and to establish best practices for faster, more productive troubleshooting.

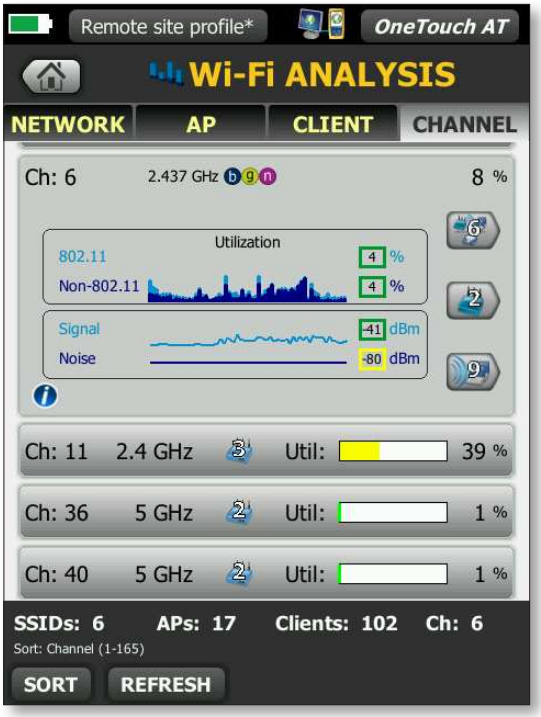
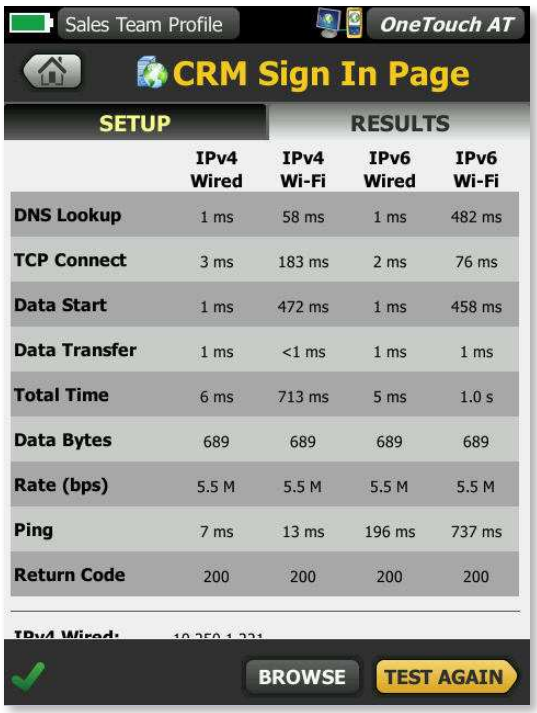


Figure 3. Visibility into Wi-Fi networks, access points, clients and channels



	IPv4 Wired	IPv4 Wi-Fi	IPv6 Wired	IPv6 Wi-Fi
DNS Lookup	1 ms	58 ms	1 ms	482 ms
TCP Connect	3 ms	183 ms	2 ms	76 ms
Data Start	1 ms	472 ms	1 ms	458 ms
Data Transfer	1 ms	<1 ms	1 ms	1 ms
Total Time	6 ms	713 ms	5 ms	1.0 s
Data Bytes	689	689	689	689
Rate (bps)	5.5 M	5.5 M	5.5 M	5.5 M
Ping	7 ms	13 ms	196 ms	737 ms
Return Code	200	200	200	200

Figure 4. Detailed breakdown of network service and application performance

Get answers in seconds

Test everything defined in a profile automatically with the one-touch AutoTest. As the AutoTest progresses from the physical layer, through the wired and wireless infrastructure, to network services and applications, clear pass/fail indicators appear next to the network element under test. Each network element—cable, switch, AP, service, application, Wi-Fi communication band—is represented graphically. A top-level pass/fail indicator provides the overall status at a glance. Touch an icon to get detailed performance information.

Prove that your Wi-Fi network is operating at peak levels

The unique Veri-Fi™ test provides comprehensive verification of the Layer 1 through 3 network infrastructure by sending test traffic between the OneTouch AT's wireless and wired connections. Measure throughput, loss, latency and jitter in upstream and downstream directions.

Solve complex issues

Capture traffic when a packet-level view is required to solve a network or application issue. Filter the traffic to capture what is most important. Export the capture file via the management port or SD card to your favorite protocol analyzer for decoding and analysis.

Tap into the relevant traffic easily

Use the built-in inline aggregating copper and fiber optic TAP to access the traffic running between the client and the network. Avoid the complexity, time and cost required to configure switch mirror ports or to install standalone TAPs.

Streamline collaboration

Collaborate with peers, consultants, integrators and vendors more effectively by sharing packet captures, screen shots and AutoTest reports. Remotely control and view the user interface and remotely access files using a PC, tablet or smart phone. Attach a web cam to the OneTouch AT to share a view of the test environment.

Troubleshoot your IPv6 network

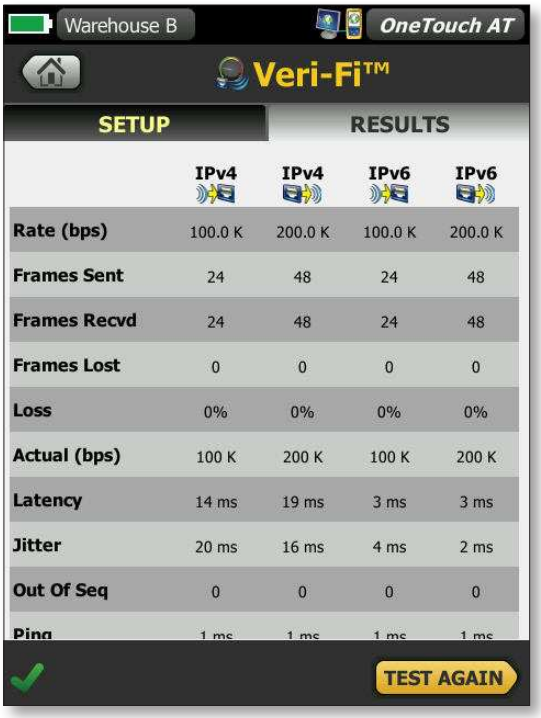
The OneTouch AT service tests support IPv6 so you can easily compare and contrast the performance for your IPv4 and IPv6 wired and wireless networks.

Save test results

Save the AutoTest results in a PDF report to share with colleagues or outside parties, for trouble ticket documentation, as a record of historical performance for benchmarking and as a certification report after a new infrastructure deployment.

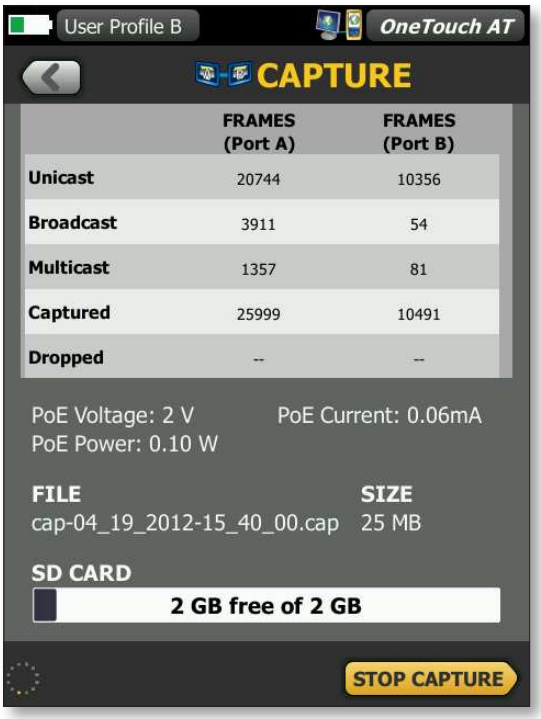
Purpose-built for field testing

The OneTouch AT is engineered specifically for network support professionals. Useful test and management tools include a web browser, Telnet/SSH client, cable toner, optional fiber optic connector inspection camera and webcam support. The durable platform provides years of reliable operation in tough environments.



	IPv4	IPv4	IPv6	IPv6
Rate (bps)	100.0 K	200.0 K	100.0 K	200.0 K
Frames Sent	24	48	24	48
Frames Recvd	24	48	24	48
Frames Lost	0	0	0	0
Loss	0%	0%	0%	0%
Actual (bps)	100 K	200 K	100 K	200 K
Latency	14 ms	19 ms	3 ms	3 ms
Jitter	20 ms	16 ms	4 ms	2 ms
Out Of Seq	0	0	0	0
Ping	1 ms	1 ms	1 ms	1 ms

Figure 5. Proof of successful Wi-Fi operation



	FRAMES (Port A)	FRAMES (Port B)
Unicast	20744	10356
Broadcast	3911	54
Multicast	1357	81
Captured	25999	10491
Dropped	--	--

Figure 6. Capture packets to solve complex issues.

Gold Support

Enjoy outstanding privileges to protect and add value to your OneTouch AT investment. They include unlimited 24/7 technical assistance, via phone or at our web support center. Repairs on covered items and "next day" dispatched loaner units for uninterrupted service. Free software upgrades. Scheduled annual performance verification service. Web-based training. Access to our extensive Knowledge Base library and Gold "Members Only" special prices and promotions. Some benefits are not available in all countries.

Technical Specifications

General	
Dimensions (with module and battery installed)	10.3 in x 5.3 in x 2.9 in (26.2 cm x 13.5 cm x 7.3 cm)
Weight (with module and battery installed)	3.5 lb (1.6 kg)
Display	5.7 in (14.5 cm) LCD with projected capacitance touch screen, 480 x 640 pixels
AC adapter	Input: 100-240 Vac, 50-60 Hz, 1.0 A
	Output: +15 Vdc, 2.0 A
Battery type	Lithium ion battery pack, 7.2 V
Battery life	Approximately 3-4 hours depending on type of usage, 4 hours to charge from 10% capacity to 90% capacity with the unit powered off
Memory	Internal: 2 GB shared between system and user files
	SD card: 4 GB, brand and model selected for optimal performance
	USB 2.0 type A port: for use with USB mass storage devices
Network analysis ports	Two RJ-45 10/100/1000BASE-T Ethernet
	Two SFP 100BASE-FX/1000BASE-X Ethernet
Management port	One RJ-45 10/100BASE-T Ethernet
Wi-Fi adapter data rate	802.11a: 6/9/12/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
	802.11g: 6/9/12/24/36/48/54 Mbps
	802.11n (20 MHz): MCS0-23, up to 216 Mbps
	802.11n (40 MHz): MCS0-23, up to 450 Mbps
Wi-Fi adapter operating frequency	2.412 ~ 2.484 GHz (Industrial Scientific Medical Band)
	5.170 ~ 5.825 GHz
Wi-Fi security	64/128-Bit WEP Key, WPA, WPA2, 802.1X

Environmental and Regulatory	
Operating temperature	32°F to 122°F (0°C to 50°C)
Battery charging temperature	32°F to 104°F (0°C to 40°C)
Storage temperature	-40°F to 160°F (-40°C to 71°C)
	-4°F to 122°F (-20°C to 50°C) for periods longer than 1 week
Operating relative humidity (% RH without condensation)	5% to 45% at 32°F to 122°F (0°C to 50°C)
	5% to 75% at 32°F to 104°F (0°C to 40°C)
	5% to 95% at 32°F to 86°F (0°C to 30°C)
Shock and vibration	Meets the requirements of MIL-PRF-28800F for Class 3 Equipment
Safety	CAN/CSA-C22.2 No. 61010-1-04, IEC 61010-1:2001
Operating altitude	13,123 ft (4,000 m), 10,500 ft (3,200 m) with AC adapter
Storage altitude	39,370 ft (12,000 m)
Pollution degree	2
EMC	EN 61326-1:2006

Certifications and Compliance	
CE	Conformite Europeene. Conforms to the requirements of the European Union and the European Free Trade Association (EFTA).
C US	Listed by the Canadian Standards Association.
N10140	Conforms to relevant Australian standards.

Ordering Guide

Model	Description
1T-1000	**OneTouch AT Network Assistant with the Copper/Fiber LAN option** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapter #1, RJ45 coupler, RJ45 patch cable, accessories pouch, carrying case, getting started guide, and resource CD with user manual
1T-2000	**OneTouch AT Network Assistant with Copper/Fiber LAN and Wi-Fi options** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapter #1, RJ45 coupler, RJ45 patch cable, external directional antenna with mounting clip, accessories pouch, carrying case, getting started guide, and resource CD with user manual
1T-3000	**OneTouch AT Network Assistant with Copper/Fiber LAN, Wi-Fi, inline, capture, and advanced test options** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapters #1 - #6, RJ45 coupler, RJ45 patch cable, external directional antenna with mounting clip, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, accessories pouch, carrying case, getting started guide, and resource CD with user manual
1T-3000-FI	OneTouch AT 1T-3000, plus FI-1000 FiberInspector™ USB video probe with video probe tips
1T-3000-CSA	OneTouch AT 1T-3000, plus ClearSight™ Analyzer Software on CD for decoding packet captures on a Microsoft Windows PC
1T-3000-OFP-QUAD	OneTouch AT 1T-3000, plus OptiFiber Pro Quad OTDR module, four launch cables (50 um SC/LC, 50 um SC/SC, 9 um SC/LC, 9 um SC/SC), two IBC fiber cleaners (1.25 mm, 2.5 mm) and an accessories carrying case
1T-3000-LRAT2KIT	OneTouch AT 1T-3000, plus LinkRunner™ AT 2000 Extended Test Kit
1T-3000-ACK-LRAT2	OneTouch AT 1T-3000, plus Network Tech Troubleshooting Kit with an AirCheck™ Wi-Fi tester and a LinkRunner™ AT 2000 tester
1T-3000-ESLSI-LRAT	OneTouch AT 1T-3000, plus an EtherScope™ LAN analyzer with Fiber and ProVision™/RFC2544 options, and a LinkRunner™ AT 2000 tester
1T-WLAN-OPT	OneTouch AT Wi-Fi upgrade option includes external directional antenna with mounting clip, and option activation instructions (for 1T-1000 models)
1T-IN-CAP-OPT	OneTouch AT inline and capture upgrade option includes wiremap adapters #2 - #6, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, and option activation instructions (for 1T-1000/2000 models)
1T-WLAN-IN-CAP-OPT	OneTouch AT Wi-Fi, inline and capture upgrade option includes external directional antenna with mounting clip, wiremap adapters #2 - #6, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, and option activation instructions (for 1T-1000 models)
1T-1000/GLD*	OneTouch AT 1T-1000, plus 1 year of Gold support
1T-2000/GLD*	OneTouch AT 1T-2000, plus 1 year of Gold support
1T-3000/GLD*	OneTouch AT 1T-3000, plus 1 year of Gold support
GLD-1T1000	1 year of Gold support for the 1T-1000 model
GLD-1T2000	1 year of Gold support for the 1T-2000 model
GLD-1T3000	1 year of Gold support for the 1T-3000 model
GLD3-1T1000	3 years of Gold support for the 1T-1000 model
GLD3-1T2000	3 years of Gold support for the 1T-2000 model
GLD3-1T3000	3 years of Gold support for the 1T-3000 model

**Only for sale in the United States*

Model Comparison Summary

Feature	1T-1000	1T-2000	1T-3000
Copper/Fiber LAN analysis	✔	✔	✔
Base service tests (ICMP, TCP)	✔	✔	✔
Wi-Fi analysis		✔	✔
Veri-Fi test		✔	✔
Packet capture			✔
Advanced tests (HTTP, FTP, IGMP, RTSP, SMTP)			✔

Visit **www.flukenetworks.com/OneTouchAT** for a complete listing of models, options and accessories

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Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to **www.flukenetworks.com/contact**.

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