# LinkRunner AT Network Auto-Tester

## *Key features include:*

- *Multiple user-configured AutoTests*
- *Cable length measurement, fault location and fault type*
- *TruePower™ Power over Ethernet (PoE) measurement*
- *Ethernet speed and duplex verification at 10/100/Gigabit rates*
- *Twisted pair and fiber-optic link testing*
- *Nearest switch identification*
- *DHCP, DNS and Gateway connectivity tests*
- *Ping and TCP port connectivity tests to up to 10 user-selected targets*
- *Results saved on the tester or uploaded to the Link-Live Cloud Service with zero-touch*
- *Results, project and staff management using the Link-Live Cloud Service*
- *Packet reflection at rates up to 1 Gbps*

Network technicians and desktop support professionals are under ever-increasing pressure to deploy new infrastructure and ensure user satisfaction.

To address these challenges, LinkRunner™ AT Network Auto-Tester provides quick and complete copper and fiber-optic network connectivity testing. This rugged, handheld network tester speeds troubleshooting and reporting with a complete one-button AutoTest and zero-touch Link-Live cloud reporting. The AutoTest performs your required set of connectivity tests in 10 seconds, enabling you to quickly and accurately identify and solve network connectivity problems. Cloud reporting automatically uploads results to the Link-Live Cloud Service for project management and reporting.

The LinkRunner AT provides the answers you need to quickly troubleshoot connectivity problems:

- Am I following the best troubleshooting practice?
- Is this patch cable good? Where is the cable broken?
- Where does the cable from this jack terminate?
- Is this the correct switch and port? Is it delivering PoE power?
- What is the speed and duplex of my copper and fiber links?

In seconds, the LinkRunner AutoTest provides these answers and more on a brightly colored display that's easy to read under desks or outdoors. You can document your test results to prove the job's done right. With a six-hour battery life and rugged design, the LinkRunner AT Network Auto-Tester can work wherever and whenever you need it.

## LinkRunner AT Features

**Instant-on operation** — ready to run your first test in less than three seconds.

**Get answers fast** — user-defined AutoTest performs your required set of connectivity tests in seconds, enabling you to accurately and quickly identify and solve network problems. The AutoTest facilitates standardized troubleshooting by ensuring that everyone on the support team tests in accordance with the organization-defined, network-specific best practice. Create up to 10 AutoTest profiles for a variety of troubleshooting scenarios.

**Take control** — use the Link-Live Cloud Service to manage thousands of test results and multiple testers. Easily view and sort results. Organize results by job-specific folders. Tag individual results with detailed comments and images. Create professional reports customized with your logo and project specific information. Know who on your staff is testing what, where and when by assigning a tester to a technician.

**Verify connectivity at 10/100/1G over copper or 100/1G over fiber** — connect using copper or fiber, turn it on to see link status, connection type, signal strength and traffic.

**Nearest switch and VLAN information** — uses IEEE Link Layer Discovery Protocol (LLDP) plus the Cisco® and Extreme Discovery Protocols (CDP and EDP) to display the VLAN and nearest switch model, slot and port.

**TruePower™ PoE testing** — quickly validate PoE performance by drawing actual power up to the 802.3at standard 25.5W. Load the circuit to stress switches, cabling and patch panels, all while measuring the voltage and pairs being used. The ability to validate the TruePower delivery before installing cameras, AP's and phones ensures smooth deployment.

**802.1X authentication** — verify access to secure networks using 802.1X and MAC Access Control Lists (ACL). The included LinkRunner AT Manager software configures 802.1X EAP type, downloads certificates and enters passwords.

**Cable verification and toning** — check patch cables using the built-in wiremap port including pin-to-pin connection, or installed wiring for length, shorts, opens or split pairs. The optional office locator kit allows identification of up to six unique ports for documenting cable plants.

**IPv4/IPv6 ready** — supports both IPv4 and IPv6 networks.

**Key device and application availability** — in addition to ping, which is often blocked or disabled, the LinkRunner AT performs a TCP port open test to verify application connectivity to up to 10 user-defined servers using IPv4 and IPv6. Router, DNS and DHCP servers are reported.

**Document results** — Save test results locally on the tester or select the Link-Live Reporting Mode to have results automatically uploaded to the Link-Live Cloud Service. Results on the tester are downloaded to your PC and managed locally using the LinkRunner AT Manager PC application. Results uploaded to the cloud service are managed using any smart device with a browser and an internet connection.

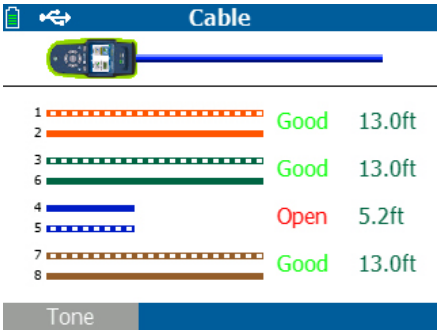
**Designed for field use** — six-hour Li-ion battery life, one-handed operation and a rugged design.

## LinkRunner AT Functions

### Cable Length
Measure the length of non-terminated twisted pair cables with TDR.

### Graphical Cable Wiremap
Find opens, shorts, miswires and split pairs on non-terminated cable with a WireView Cable Identifier or the built-in wiremap port.

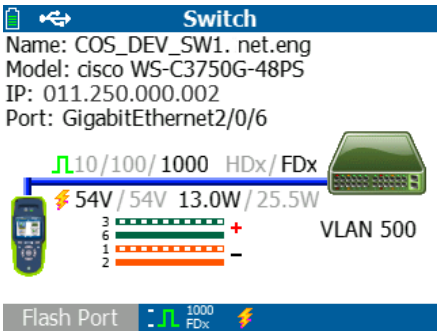
### Cable Location
Locate cable runs with toning, switch port discovery, switch port LED blinking and cable identification with up to six remote cable identifiers. Toning supports both analog and digital IntelliTone™ modes.



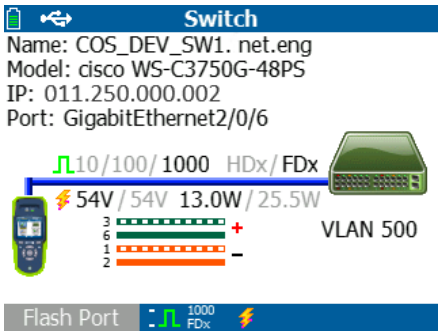

*Cable test showing pairs 4 and 5 are open.*

### Switch Information
LinkRunner AT decodes discovery packets to display critical, nearest-switch information including:

- Switch name and model
- IP address
- Port, slot and VLAN
- Duplex and speed (actual and advertised)
- Signal strength
- Connection MDI or MDI/X
- PoE voltage and power (actual and test limits)
- Graphical representation of power on pairs

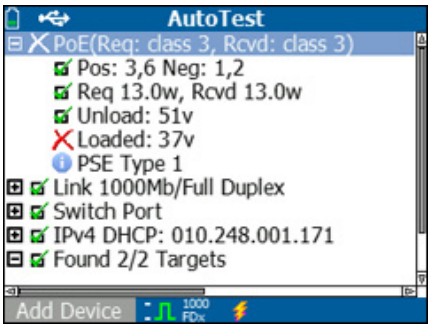



*1 Gigabit link on copper with PoE on port 6*



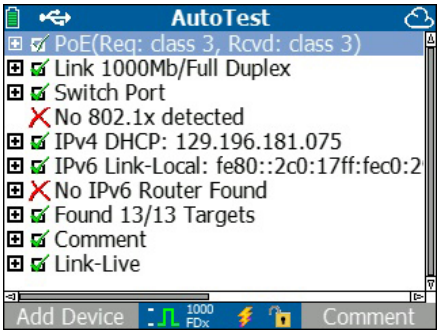

*1 Gigabit link on fiber on port 38*

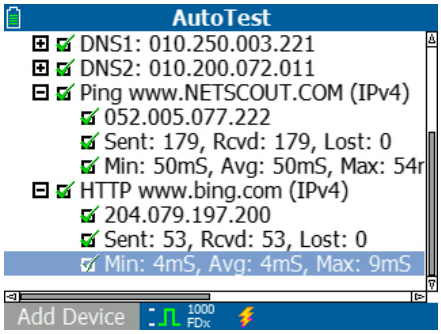
**TruePower™ PoE Loading**
Verify you are receiving the required current and voltage up to 25.5W to power your PoE enabled devices. The LinkRunner TruePower PoE loading draws actual power to verify that your PoE enabled devices will have the required power to function.




**AutoTest**
Verify enterprise connectivity in seconds with AutoTest. Standardize your set of critical network tests in profiles to run every time. Create, save and share up to 10 network and task specific profiles. Tests include:

- PoE (copper only) class
- Link speed and duplex (actual and advertised)
- RX pair and polarity
- 802.1x authentication
- Switch name, port, VLAN, model and IP
- DHCP auto-negotiation with subnet and DHCP server addresses
- IPv4 and IPv6 availability
- Ping and TCP port connectivity with lost and min, max and average speed

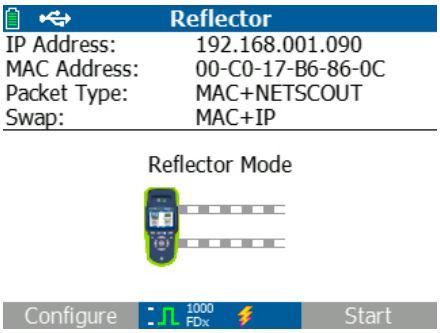


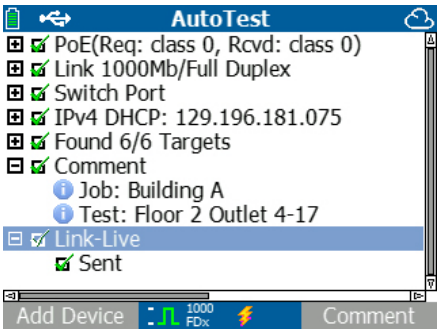

**Ping and TCP Port Connectivity**
Verify connectivity to key devices with ping and TCP connectivity testing. Devices automatically include a router, DNS server and DHCP server. Configure 10 additional devices to meet your requirements by URL or IPv4 / IPv6 address and optional application port number.

**Reflector**
The packet reflector mode allows use as a remote device during end-to-end network path performance testing to validate LAN and WAN throughput capabilities at rates up to 1 Gbps. The LinkRunner AT 2000 model supports packet reflection for multiple testers including:

- OptiView™ XG Network Analysis Tablet
- OneTouch™ AT Network Assistant



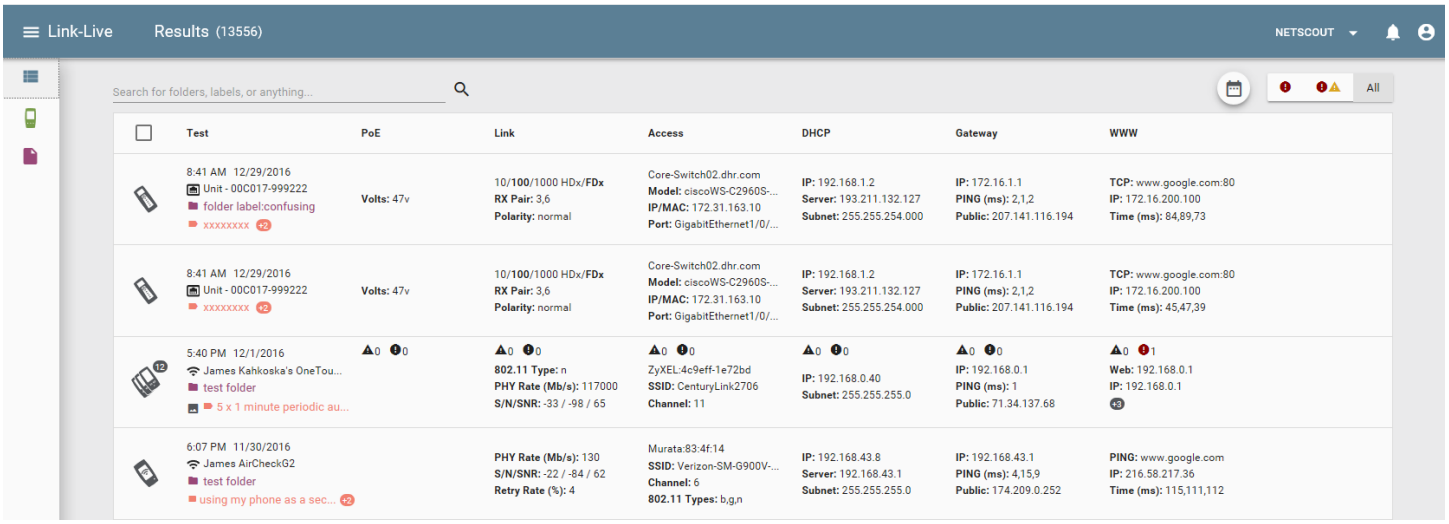

**Link-Live Reporting Mode**
Enable Link-Live Reporting Mode to have AutoTest results automatically uploaded to the Link-Live Cloud Service. This zero-touch reporting feature speeds and simplifies reporting and ensures that results are consistently saved. Append comments to each test result. You can even add an image to a test result — a photograph of the link under test for example. Results can be automatically saved to job-specific folders to simplify project management. Up to 10 results are held in memory in the absence of a network connection and uploaded later when a connection is available.



## RESULT MANAGEMENT OPTIONS

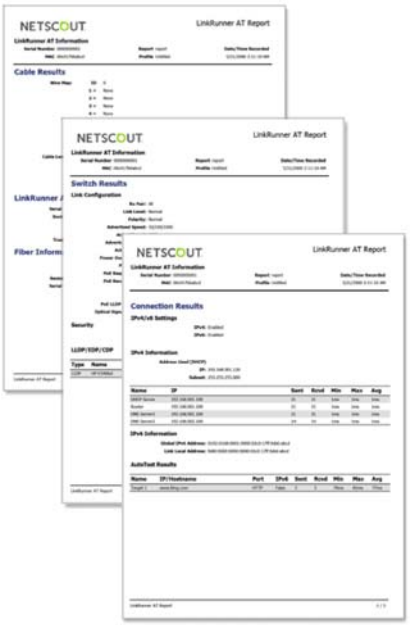
### Link-Live Cloud Service

Once the LinkRunner AT is connected to the Link-Live Cloud service, basic network connectivity test results are automatically uploaded to the dashboard for project management and reporting. This internet-hosted service is available from anywhere at any time using any device with a browser and internet connection. It is especially useful for managers of remote teams that need visibility to test results instantly. In addition, teams that utilize companions to the LinkRunner AT such as the LinkSprinter, AirCheck G2, or OneTouch AT have a single dashboard system to manage results from network connectivity tests.




*Link-Live dashboard*

## LinkRunner AT Manager Software




For AutoTest results saved locally on the tester via the Local Reporting Mode, the LinkRunner AT Manager Software facilitates management and analysis of test results, test reports and testers. LinkRunner AT Manager Software is an application installed on a Windows® PC.

LinkRunner AT Manager Software features:

- View test results saved locally on the tester
- Move test results from the tester to a local drive
- Generate reports in PDF, CSV and HTML formats
- Configure AutoTest profile
- Transfer AutoTest profiles between a tester and a local drive
- Capture screen images
- Update tester firmware

**Multiple language support**
LinkRunner AT fully supports multiple languages including English, French, German, Spanish, Portuguese, Russian, Japanese and Simplified Chinese. Multi-language support includes LinkRunner AT user interface, getting started guide, user manual and supporting LinkRunner AT Manager Software, help files and user reports.

**Gold Support**
Sign up for the Gold Support plan and enjoy unrivaled privileges that support and protect your investment. These include repairs and loaner equipment; unlimited technical assistance seven days a week, 24 hours a day via phone or our website support center; free software upgrades; unlimited web-based training; and access to our extensive Knowledgebase library. Some benefits are not available in all countries. See **enterprise.netscout.com/goldsupport** for more information.

## Model Comparison

| | Feature | LRAT-1000 | LRAT-2000 |
|---|---|---|---|
| Basic Test | 10/100/100 RJ45 interface | ✓ | ✓ |
| | Solicit PoE voltage (802.3af) | ✓ | ✓ |
| | Link/DHCP/gateway | ✓ | ✓ |
| | Nearest switch (CDP/LLDP) | ✓ | ✓ |
| | Ping/TCP Port single target | ✓ | ✓ |
| | Ping responder | ✓ | ✓ |
| UX | Color Display | ✓ | ✓ |
| | AA battery pack | ✓ | option |
| | Lithium-Ion rechargeable battery | option | ✓ |
| Cable Test | Length and distance to fault | ✓ | ✓ |
| | Flash switch port | ✓ | ✓ |
| | Integrated patch cable test | ✓ | ✓ |
| | WireView office ID/wiremap | option | ✓ |
| | Toning (analog and IntelliTone) | ✓ | ✓ |
| Configurable | Configurable PoE class (802.3at) | ✓ | ✓ |
| | Configurable link speed/duplex | ✓ | ✓ |
| | Configurable MAC address | ✓ | ✓ |
| | Configurable VLAN ID | ✓ | ✓ |
| | Configurable 802.1X security | ✓ | ✓ |
| AutoTest | Continuous testing w/stats | ✓ | ✓ |
| | 1 Ping/TCP target (up to 10) | ✓ | ✓ |
| | AutoTest profiles (up to 10) | ✓ | ✓ |
| Advanced | TruePower PoE load (25.5W) | | ✓ |
| | 100/1000 Fiber SFP interface | | ✓ |
| | Line rate packet reflector (1 Gbps) | | ✓ |
| | IPv6 support | | ✓ |
| Reports | Results saved locally on tester | 10 | 50 |
| | LinkRunner AT Manager PC Software | ✓ | ✓ |
| | Link-Live Cloud Reporting | ✓ | ✓ |
| | Link-Live Cloud Service | ✓ | ✓ |

## Technical Specifications

| | |
|---|---|
| **Environmental** | |
| **Operating Temperature and Relative Humidity** | 32°F to 113°F (0°C to +45°C)<br>Note: The Li-ion battery will not charge if the internal temperature of the tester is above 113°F (45°C) |
| **Operating Relative Humidity (% RH without condensation)** | 90% (50°F to 95°F; 10°C to 35°C)<br>75% (95°F to 113°F; 35°C to 45°C) |
| **Storage Temperature** | -4°F to 140°F (-20°C to +60°C) |
| **Shock and Vibration** | Random, 2 g, 5 Hz-500 Hz (Class 2) 1 m drop |
| **Safety** | EN 61010-1 2nd edition |
| **Safety** | EN/IEC 60825-1:2007, EN/IEC 60825-2:2004+ A1:2007 (LRAT-2000 only) |
| **Altitude** | 4,000 m; Storage: 12,000 m |
| **EMC** | FCC Part 15 Class A, EN 61326-1 |
| **Certifications and Compliance** | Conforms to relevant European Union directives<br>Conforms to relevant Australian standards<br>Listed by the Canadian Standards Association |
| **General** | |
| **Media Access: Copper** | RJ-45: 10BASE-T, 100BASE-TX, 1000BASE-T and PoE (IEEE 802.3af and 802.3at) |
| **Media Access: Fiber** | SFP Adapter Port supports 100BASE-FX and 1000BASE-LX/SX/ZX (LRAT-2000 Only) |
| **Cable Tests** | Pair lengths, opens, shorts, splits, crossed, straight through and cable ID |
| **Dimensions** | 3.5 in x 7.8 in x 1.9 in (8.9 cm x 19.8 cm x 4.8 cm) |
| **Weight** | 18 oz (0.5 kg) |
| **Li-ion Battery** | Removable, rechargeable li-ion battery pack (18.5 Watt-hrs). Typical operating life is 6 hours; Typical charge time is 3 hours |
| **AA Battery** | Removable AA battery pack. Typical operating life is 3 hours |
| **External AC Adapter/Charger** | AC input 90 to 264 Vac 48 to 62 Hz input power DC output 15 Vdc at 1.2 amps |
| **Display** | 2.8 in color LCD (320 x 240 pixels) |
| **Keypad** | 12-key elastomeric |
| **LEDs** | 2 LEDs (Link and Receive/Transmit indicators) |
| **Host Interface** | USB 5-pin mini-B |

| LinkRunner AT Manager Software | |
|---|---|
| Supported Operating Systems | Windows® Vista, Windows® XP, Windows® 7, Windows® 8, Windows® 10 |
| Processor | 400 MHz Pentium processor or equivalent (minimum); 1 GHz Pentium processor or equivalent (recommended) |
| RAM | 96 MB (minimum); 256 MB (recommended) |
| Hard Disk | Up to 500 MB of available space may be required |
| Display | 1024 x 768 high color, 32-bit (recommended) |

## Ordering Guide

| Model Number | Description |
|---|---|
| LRAT-1000 | LinkRunner AT 1000 tester with AA battery pack, 4 AA batteries, LinkRunner AT Manager Software CD, USB cable, Getting Started Guide, and soft case. |
| LRAT-2000 | LinkRunner AT 2000 tester with Li-ion battery, Wireview Cable ID #1, RJ-45 coupler, LinkRunner AT Manager Software CD, USB cable, Getting Started Guide and soft case. |
| LRAT-2000-KIT | Includes LinkRunner AT 2000 tester with Li-ion battery, Wireview Cable ID #1-#6, RJ-45 coupler, LinkRunner AT Manager software CD, USB cable, Holster, IntelliTone 200 Probe, and a deluxe carrying case. |
| LINKSOLUTIONS-KIT | Includes LinkRunner AT 2000 tester, two LinkSprinter network testers, LinkRunner AT holster and two LinkSprinter holsters. Note: Available only where LinkSprinter is sold |
| ACKG2-LRAT2000 | NETWORK TROUBLESHOOTING KIT. Includes: Aircheck G2 Wireless Tester, soft case, AC charger, USB cable, Quick Start Guide, external directional antenna, holster, automobile charger, LinkRunner AT 2000 tester with Li-ion battery, AC charger, IntelliTone PRO 200, Wireview Cable ID set 1-6, Large Folding Test Kit Pouch, holster, RJ-45 coupler, LinkRunner AT Manager Software CD, USB cable, Getting Started Guide, and a soft case deluxe duffle bag. |
| 1TG2-1500-LRAT2 | Includes a OneTouch AT G2 1500 and a LinkRunner AT 2000 tester for wired path performance testing up to 1G. |
| 1TG2-3000-LRAT2 | Includes a OneTouch AT G2 3000 and a LinkRunner AT 2000 tester for wired path performance testing up to 1G, and Wi-Fi up to 600 Mbps. |

| Accessories | Description |
|---|---|
| PWR-CHARGER | AC Charger replacement |
| WBP-LION-GREEN | LinkRunner AT Lithium-Ion Replacement Battery |
| LRAT-AA-GREEN | LinkRunner AT AA Battery Pack |
| LRAT-HOLSTER | LinkRunner AT Holster |
| SFP-1000SX | SX Gig Fiber SFP transceiver with DDM (850 nm, Multimode) |
| SFP-1000LX | LX Gig Fiber SFP transceiver with DDM (1310 nm, Singlemode) |
| SFP-1000ZX | ZX Gig Fiber SFP transceiver (1550 nm, Singlemode) |
| SFP-100FX | 100BASE-FX Fiber SFP transceiver with DDM (Multimode) |
| WireView 1 | WireView Cable IDs #1 |
| WireView 2-6 | WireView Cable IDs #2-6 |
| MS-AUTO-CHG | Auto Charger for Li-ion battery pack |

| Gold Support Options | Description |
|---|---|
| LRAT-1000-1YS | 1 year of Gold Support for LinkRunner AT 1000 |
| LRAT-1000-3YS | 3 years of Gold Support for LinkRunner AT 1000 |
| LRAT-2000-1YS | 1 year of Gold Support for LinkRunner AT 2000 |
| LRAT-2000-3YS | 3 years of Gold Support for LinkRunner AT 2000 |
| LRAT-2000-KIT-1YS | 1 year of Gold Support for LinkRunner AT 2000 kit |
| LRAT-2000-KIT-3YS | 3 years of Gold Support for LinkRunner AT 2000 kit |
| LINKSOLUTIONS-KIT-1YS | 1 year of Gold Support for one LinkRunner AT 2000 + two LinkSprinters |
| LINKSOLUTIONS-KIT-3YS | 3 years of Gold Support for one LinkRunner AT 2000 + two LinkSprinters |
| ACKG2-LRAT2000-1YS | 1 year of Gold Support for ACKG2-LRAT2000 |
| ACKG2-LRAT2000-3YS | 3 years of Gold Support for ACKG2-LRAT2000 |
| 1TG2-1500-LRAT2-1YS | 1 year of Gold Support for 1TG2-1500-LRAT2 |
| 1TG2-1500-LRAT2-3YS | 3 years of Gold Support for 1TG2-1500-LRAT2 |
| 1TG2-3000-LRAT2-1YS | 1 year of Gold Support for 1TG2-3000-LRAT2 |
| 1TG2-3000-LRAT2-3YS | 3 years of Gold Support for 1TG2-3000-LRAT2 |

For a complete listing of LinkRunner AT models and accessories, visit
**www.enterprise.netscout.com/linkrunner**