

# Omada Gigabit VPN Router

MODEL: ER605 (TL-R605)



## Highlights

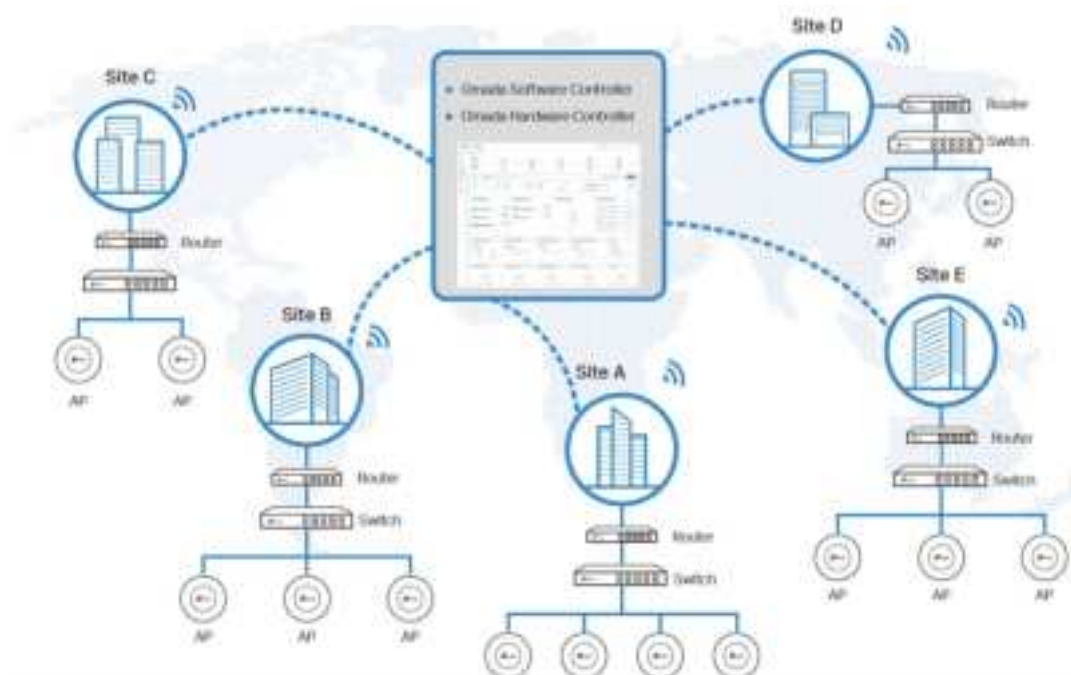
- 1 Gigabit WAN port, 1 Gigabit LAN Port and 3 Gigabit WAN/LAN ports provide high-speed wired connectivity
- Supports multiple VPN protocols, including IPSec, L2TP, PPTP and OpenVPN. Up to 20 IPSec VPN tunnels, 16 L2TP VPN tunnels, 16 PPTP VPN tunnels, and 16 OpenVPN tunnels are simultaneously supported
- SPI firewall and DoS defense protect your network from most known Internet attacks
- Professional 4 KV lightning protection keeps your investment safe and sound

# Omada Solution



## Software Defined Networking (SDN) with Cloud Access

Omada Software Defined Networking (SDN) platform integrates network devices, including access points, switches and gateways, providing 100% centralized cloud management. Omada creates a highly scalable network—all controlled from a single interface. Seamless wireless and wired connections are provided, ideal for use in hospitality, education, retail, offices, and more.



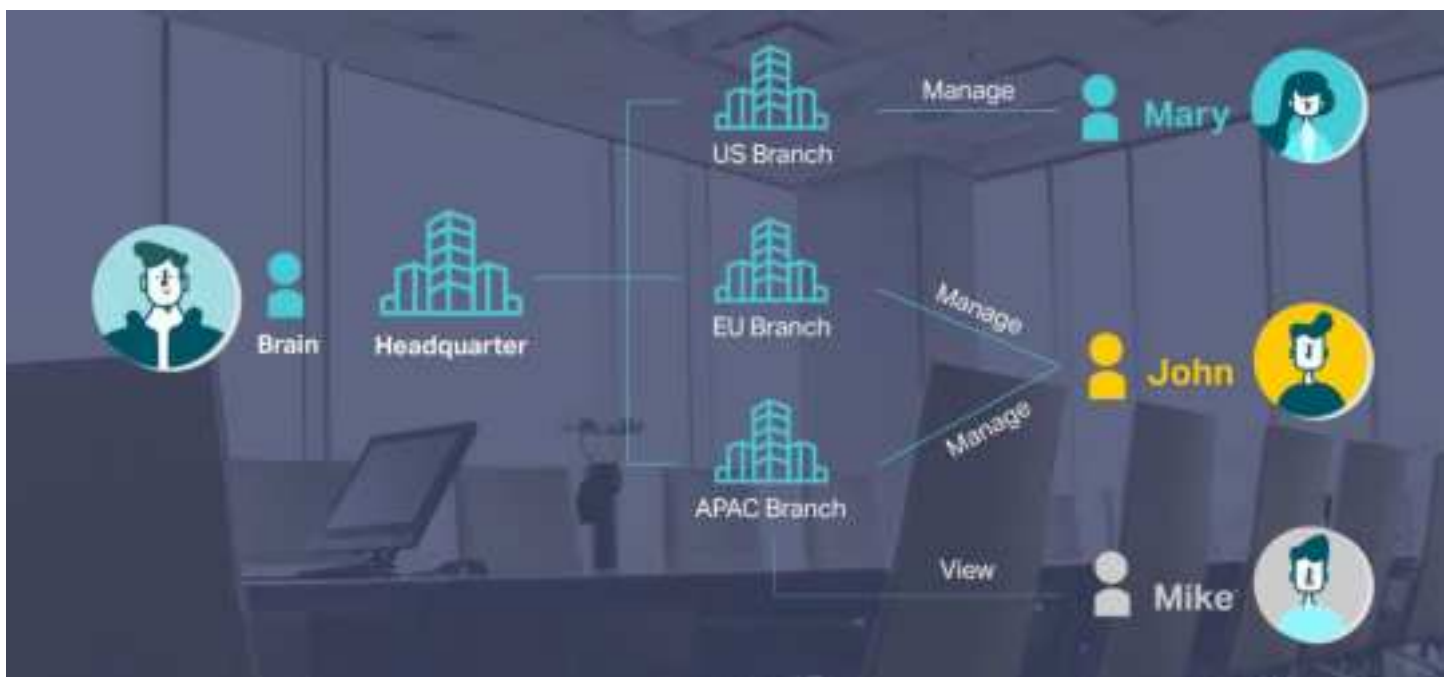
## Hassle-Free Centralized Cloud Management

100% centralized cloud management of the whole network from different sites—all controlled from a single interface anywhere, anytime.



## Assign Different Management Roles

Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.

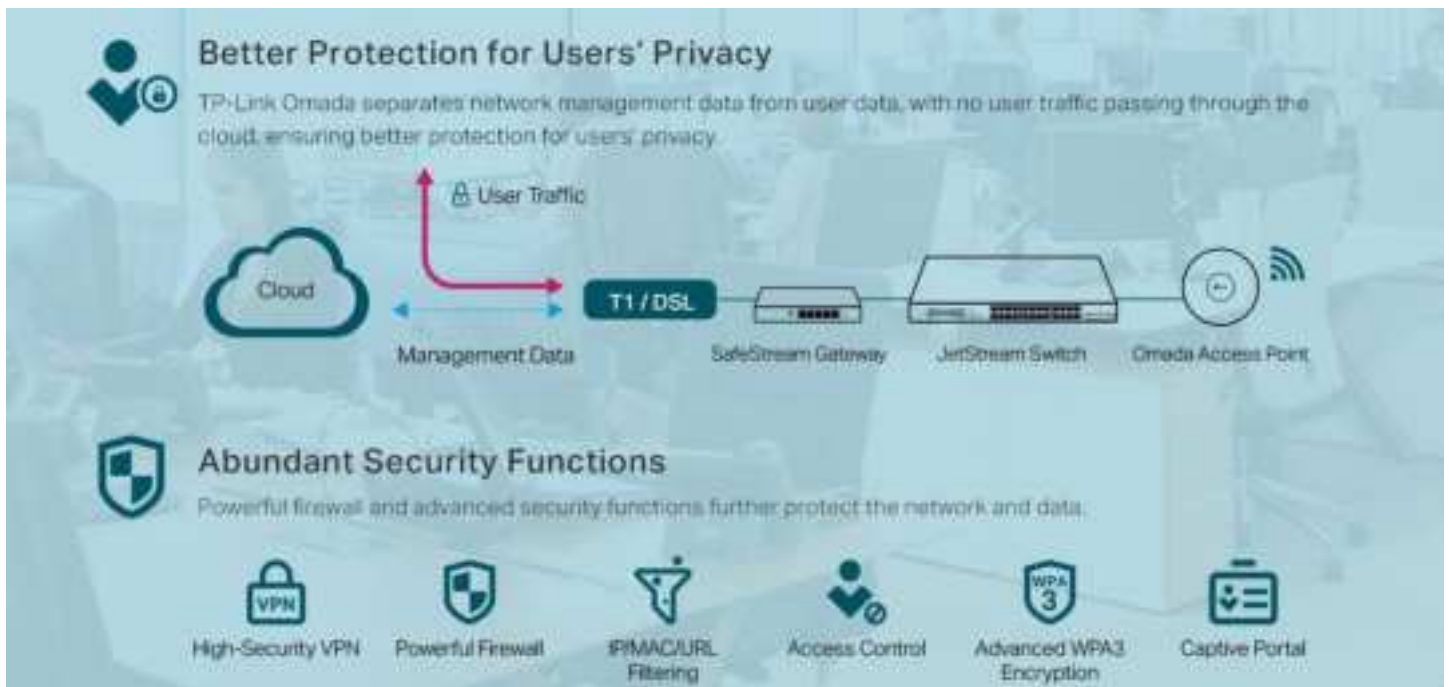


## Easy and Intelligent Network Monitoring

The easy-to-use dashboard makes it easy to see your real-time network status; check network usage and traffic distribution; receive network condition logs, abnormal event warnings, and notifications; or even track key data for better business results. Network topology helps IP admins quickly see and troubleshoot connection at a glance.



## Comprehensive Protection for the Whole Network



# Product Features

## High-security VPN Capabilities

ER605 (TL-R605) supports multiple VPN protocols (IPSec, L2TP, PPTP, and OpenVPN) and can handle IPSec/PPTP/L2TP/OpenVPN pass-through traffic as well. It also features a built-in hardware-based VPN engine allowing the router to support and manage up to 20 LAN-to-LAN IPSec, 16 L2TP, 16 PPTP, and 16 OpenVPN connections. Advanced VPN features include: DES/3DES/AES128/AES192/AES256 encryption, MD5/SHA1 authentication, Manual/IKE v1/v2 key management, and Main/Aggressive negotiation modes.

## Abundant Security Features

For defense against external threats, ER605 (TL-R605) features SPI Firewall function. Additionally, it can automatically detect and block Denial of service (DoS) attacks such as TCP/UDP/ICMP Flooding, Ping of Death and other related threats. Moreover, this router provides IP/MAC/Domain name filtering functions, which forcefully prevent attacks from intruders and viruses. For applications such as FTP, TFTP, H.323 and RTSP which are not well compatible with NAT, ER605 (TL-R605) offers administrators one-click enable of ALG choices corresponding to the above four mentioned applications.

## Safety Minded Enterprise Investments

Professional lightning protection technology is designed to prevent electrical surges from penetrating the interior of the electrical equipment and is discharged harmlessly into the Earth. This router is designed to prevent lightning up to 4 KV in well-grounded connection conditions. This feature ensures that networking infrastructure investments remain as safe as possible from one of mother nature's more violent situations.

# Specifications

| Model               |                                   | ER605 (TL-R605)                                                                                                                                                                                                                     |
|---------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Picture     |                                   |                                                                                                                                                   |
| Product Description |                                   | Omada Gigabit VPN Router                                                                                                                                                                                                            |
| Hardware            | Standards and Protocols           | IEEE 802.3, IEEE802.3u, IEEE802.3ab, IEEE 802.3x, IEEE 802.1q<br>TCP/IP, DHCP, ICMP, NAT, PPPoE, NTP, HTTP, HTTPS, DNS, IPSec, PPTP, L2TP, OpenVPN, SNMP                                                                            |
|                     | Interface                         | 1 Gigabit WAN port<br>3 Gigabit LAN/WAN ports<br>1 Gigabit LAN port                                                                                                                                                                 |
|                     | Network Media                     | 10BASE-T: UTP category 3, 4, 5 cable (Max 100 m)<br>EIA/TIA-568 100Ω STP (Max 100 m)<br>100BASE-TX: UTP category 5, 5e cable (Max 100 m)<br>EIA/TIA-568 100Ω STP (Max 100 m)<br>1000BASE-T: UTP category 5, 5e, 6 cable (Max 100 m) |
|                     | Button                            | Reset Button                                                                                                                                                                                                                        |
|                     | Power Supply                      | External 9 V/0.85 A DC Adapter                                                                                                                                                                                                      |
|                     | Flash                             | 16 MB SPI                                                                                                                                                                                                                           |
|                     | DRAM                              | 128 MB                                                                                                                                                                                                                              |
|                     | LED                               | PWR, SYS, WAN (Link/Act), LAN (Link/Act)                                                                                                                                                                                            |
|                     | Dimensions (W x D x H)            | 6.2 × 4.0 × 1.0 in (158 × 101 × 25 mm)                                                                                                                                                                                              |
|                     |                                   |                                                                                                                                                                                                                                     |
| SDN Support         | Hardware Controller (OC200/OC300) | Automatic Device Discovery<br>Intelligent Network Monitoring<br>Abnormal Event Warnings                                                                                                                                             |
|                     | Software Controller               | Unified Configuration<br>Reboot Schedule<br>Captive Portal Configuration                                                                                                                                                            |
| Performance         | Concurrent Session                | 25,000                                                                                                                                                                                                                              |
|                     | New Sessions /Second              | 2,400                                                                                                                                                                                                                               |
|                     | Static IP NAT Throughput          | Upload: 936.7 Mbps<br>Download: 940.1 Mbps                                                                                                                                                                                          |
|                     | DHCP NAT Throughput               | Upload: 941.1 Mbps<br>Download: 940.5 Mbps                                                                                                                                                                                          |
|                     | PPPoE NAT Throughput              | Upload: 940.1Mbps<br>Download: 939.6 Mbps                                                                                                                                                                                           |
|                     | L2TP NAT Throughput               | Upload: 781.2 Mbps<br>Download: 708.4 Mbps                                                                                                                                                                                          |
|                     | PPTP NAT Throughput               | Upload: 826.4 Mbps<br>Download: 607.1 Mbps                                                                                                                                                                                          |
|                     | 66 Byte Packet forwarding rate    | Upload: 1,308,139 pps<br>Download: 1,308,140 pps                                                                                                                                                                                    |
|                     | 1,518 Byte Packet forwarding rate | Upload: 81,067 pps<br>Download: 81,063 pps                                                                                                                                                                                          |
|                     | IPSec VPN Throughput (AES256)     | 41.5 Mbps                                                                                                                                                                                                                           |
|                     |                                   |                                                                                                                                                                                                                                     |

| Model           |                     | ER605 (TL-R605)                                                                                                                                                                                                                                                                                         |
|-----------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Performance     | L2TP VPN Throughput | Unencrypted: 748.7 Mbps<br>Encrypted: 15.0 Mbps                                                                                                                                                                                                                                                         |
|                 | PPTP VPN Throughput | Unencrypted: 719.0 Mbps<br>Encrypted: 72.0 Mbps                                                                                                                                                                                                                                                         |
| Basic Functions | WAN Connection Type | Static IP<br>Dynamic IP<br>PPPoE<br>PPTP<br>L2TP                                                                                                                                                                                                                                                        |
|                 | DHCP                | DHCP Server<br>DHCP Address Reservation<br>Multi-IP Interfaces <sup>1</sup><br>Multi-Net DHCP <sup>1</sup>                                                                                                                                                                                              |
|                 | MAC Clone           | Modify WAN/LAN MAC Address <sup>2</sup>                                                                                                                                                                                                                                                                 |
|                 | IPTV                | IGMP v2/v3 Proxy                                                                                                                                                                                                                                                                                        |
|                 | IPv6                | Developing <sup>3</sup>                                                                                                                                                                                                                                                                                 |
|                 | VLAN                | 802.1Q VLAN                                                                                                                                                                                                                                                                                             |
| Transmission    | Load Balance        | Intelligent Load Balance<br>Application Optimized Routing<br>Link Backup (Timing <sup>4</sup> , Failover)<br>Online Detection                                                                                                                                                                           |
|                 | NAT                 | One-to-One NAT <sup>5</sup><br>Multi-Net NAT<br>Virtual Server<br>Port Triggering <sup>5</sup><br>NAT-DMZ<br>FTP/H.323/SIP/IPSec/PPTP ALG,<br>UPnP                                                                                                                                                      |
|                 | Routing             | Static Routing<br>Policy Routing                                                                                                                                                                                                                                                                        |
|                 | Session Limit       | IP-based Session Limit                                                                                                                                                                                                                                                                                  |
|                 | Bandwidth Control   | IP-based Bandwidth Control                                                                                                                                                                                                                                                                              |
| VPN             | IPSec VPN           | 20 IPSec VPN Tunnels<br>LAN-to-LAN, Client-to-LAN<br>Main, Aggressive Negotiation Mode<br>DES, 3DES, AES128, AES192, AES256 Encryption Algorithm<br>IKE v1/v2 <sup>6</sup><br>MD5, SHA1 Authentication Algorithm<br>NAT Traversal (NAT-T)<br>Dead Peer Detection (DPD)<br>Perfect Forward Secrecy (PFS) |
|                 | PPTP VPN            | PPTP VPN Server<br>PPTP VPN Client (10) <sup>7</sup><br>16 Tunnels<br>PPTP with MPPE Encryption                                                                                                                                                                                                         |

1. Multi-IP Interfaces and Multi-Net DHCP are supported only in Controller Mode.
2. LAN MAC Address can be modified only in Standalone Mode.
3. IPv6 is being developed and will be updated in the following software versions.
4. The Timing mode in Link Backup is supported only in Standalone Mode.
5. One-to-One NAT and Port Triggering are only supported only in Standalone Mode.
6. IKE v2 is supported only in Controller Mode.
7. ER605 can work as a VPN client and can connect with up to 10 VPN servers.

| Model          |                             | ER605 (TL-R605)                                                                                                                                                                                                                    |
|----------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VPN            | L2TP VPN                    | L2TP VPN Server<br>L2TP VPN Client (10) <sup>1</sup><br>16 Tunnels<br>L2TP over IPSec                                                                                                                                              |
|                | OpenVPN <sup>2</sup>        | OpenVPN Server<br>OpenVPN Client (10) <sup>1</sup><br>16 OpenVPN Tunnels                                                                                                                                                           |
| Security       | Attack Defense              | TCP/UDP/ICMP Flood Defense<br>Block TCP Scan (Stealth FIN/Xmas/Null)<br>Block Ping from WAN                                                                                                                                        |
|                | Filtering                   | Web Group Filtering <sup>3</sup><br>URL Filtering<br>Web Security <sup>3</sup>                                                                                                                                                     |
|                | ARP Inspection <sup>4</sup> | Sending GARP Packets<br>ARP Scanning<br>IP-MAC Binding                                                                                                                                                                             |
|                | Access Control              | Source/Destination IP Based Access Control                                                                                                                                                                                         |
| Authentication | Web Authentication          | No Authentication<br>Simple Password <sup>5</sup><br>Hotspot (Local User / Voucher <sup>5</sup> / SMS <sup>5</sup> / Radius <sup>5</sup> )<br>External Radius Sever<br>External Portal Sever <sup>5</sup><br>Facebook <sup>5</sup> |
| Management     | Service                     | Dynamic DNS (Dyndns, No-IP, Peanuthull, Comexe)                                                                                                                                                                                    |
|                | Maintenance                 | Web Management Interface<br>Remote Management<br>Export & Import Configuration<br>SNMP v1/v2c/v3 <sup>6</sup><br>Diagnostics (Ping & Traceroute) <sup>7</sup><br>NTP Synchronize <sup>7</sup><br>Syslog Support                    |
| Others         | Certification               | CE, FCC, RoHS                                                                                                                                                                                                                      |
|                | Package Contents            | ER605 (TL-R605), Power Adapter, RJ-45 Ethernet Cable, Quick Installation Guide                                                                                                                                                     |
|                | System Requirements         | Microsoft Windows 98SE, NT, 2000, XP, Vista™ or Windows 7/8/8.1/10<br>MAC OS, NetWare, UNIX or Linux                                                                                                                               |
|                | Environment                 | Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F)<br>Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F)<br>Operating Humidity: 10% to 90% non-condensing<br>Storage Humidity: 5% to 90% non-condensing                   |

1. ER605 can work as a VPN client and can connect with up to 10 VPN servers.
2. OpenVPN is supported only in Controller Mode.
3. Web Group Filtering and Web Security are only supported only in Standalone Mode.
4. ARP Inspection is supported only in Standalone Mode.
5. The following web authentication methods are supported only in Controller Mode: Simple Password, Voucher, SMS, Radius, External Portal Sever, and Facebook.
6. SNMP v3 is supported only in Controller Mode.
7. Diagnostics (Ping & Traceroute) and NTP Synchronize are supported only in Standalone Mode.

\* Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: [www.tp-link.com](http://www.tp-link.com).

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