

# Omada VPN Router with 10G Ports

MODEL: ER8411



## Highlights

- Dedicated Quad-core Cortex-A72 @2.2GHz CPU for outstanding performance
- 4GB DDR4 high-speed memory for high concurrent connections
- Equipped with 1 10G SFP+ WAN port, 1 10G SFP+ WAN/LAN port, 1 Gigabit SFP WAN/LAN port, 8 Gigabit RJ45 WAN/LAN ports
- Supports multiple VPN protocols including SSL VPN/ OpenVPN/ IPSec/ PPTP/ L2TP/ L2TP over IPSec, helping users to establish VPN connections more flexibly
- Supports up to 2,300,000 concurrent connections
- Abundant features including load balance, bandwidth control and access control
- Professional 4 kV lightning protection keeps your investments as safe as possible

# Omada Solution



## Hospitality

High Quality and Full Coverage Wi-Fi



## Education

High-Density Wi-Fi



## Retail

Social Marketing for O2O



## Office

Wireless and Wired Connections

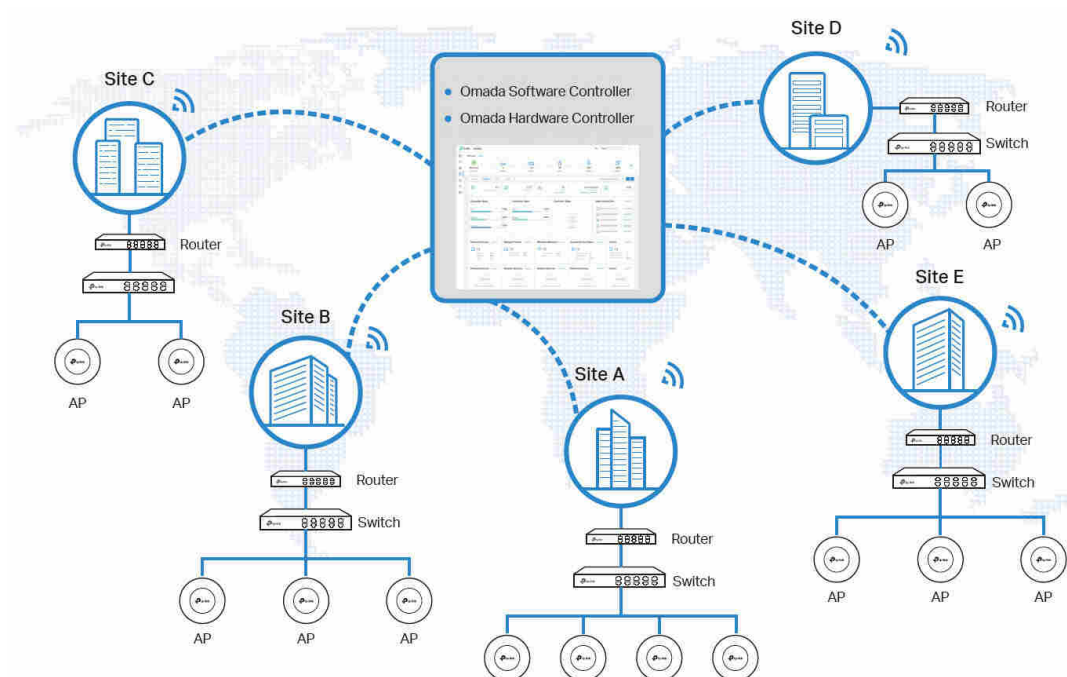


## Catering

Full Wi-Fi Coverage in High-Density Environment

## 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

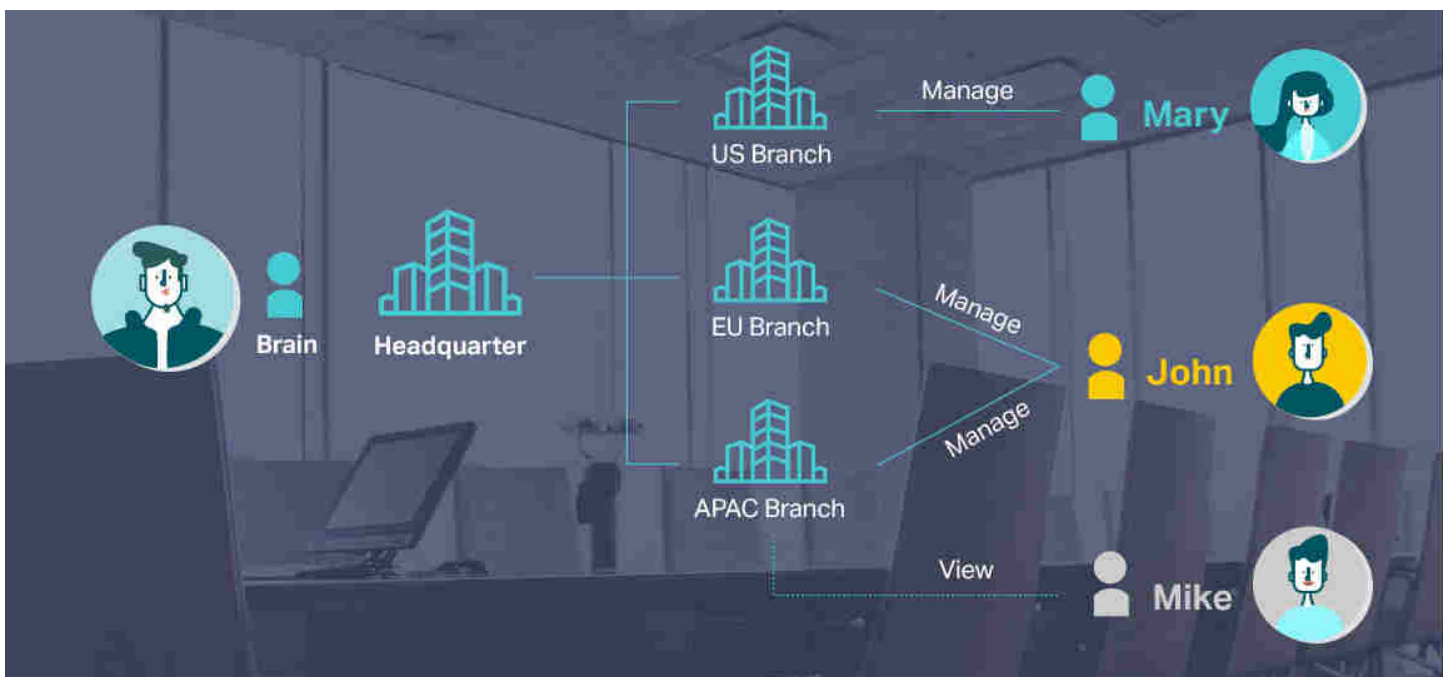
100% centralized cloud management of the whole network from different sites—all controlled from a single interface anywhere, anytime.



- ✓ No additional training needed
- ✓ Unlimited scalability
- ✓ Batch management
- ✓ Devices still work even when not connected to the Cloud

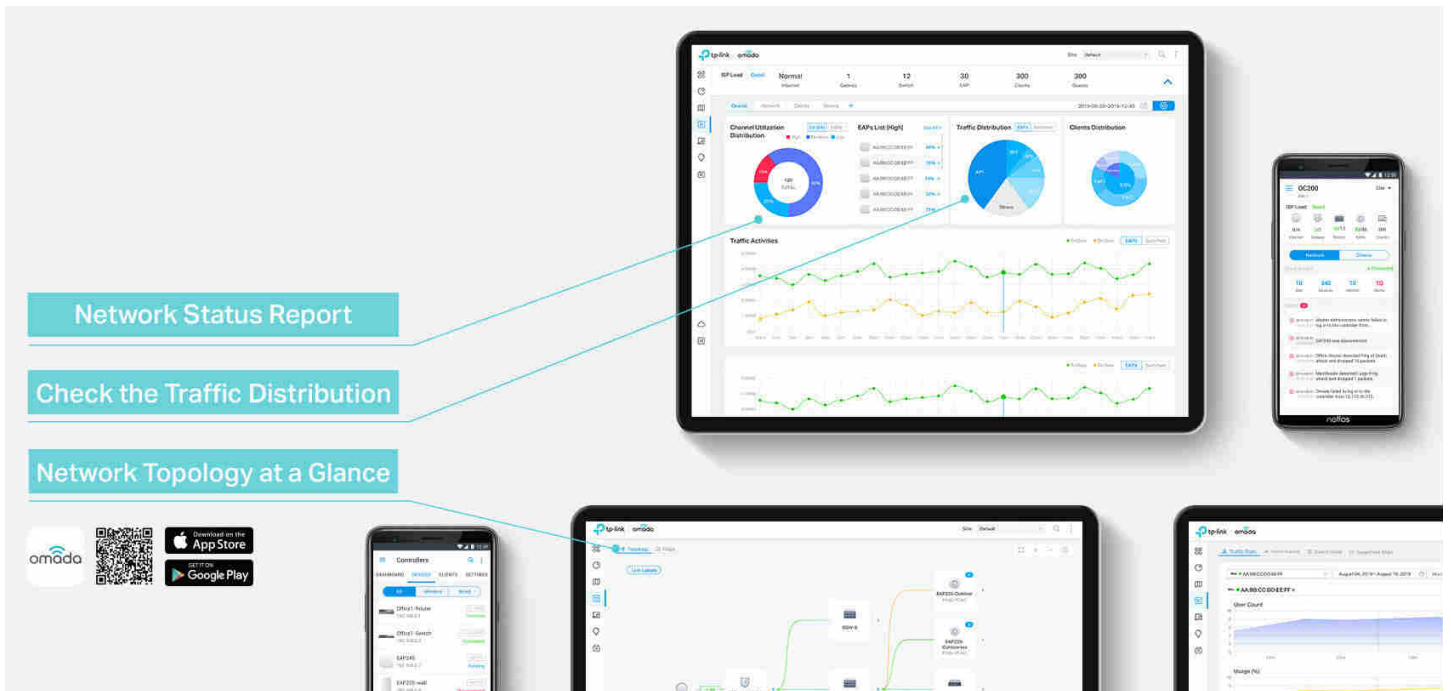
## Assign Different Management Roles

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.

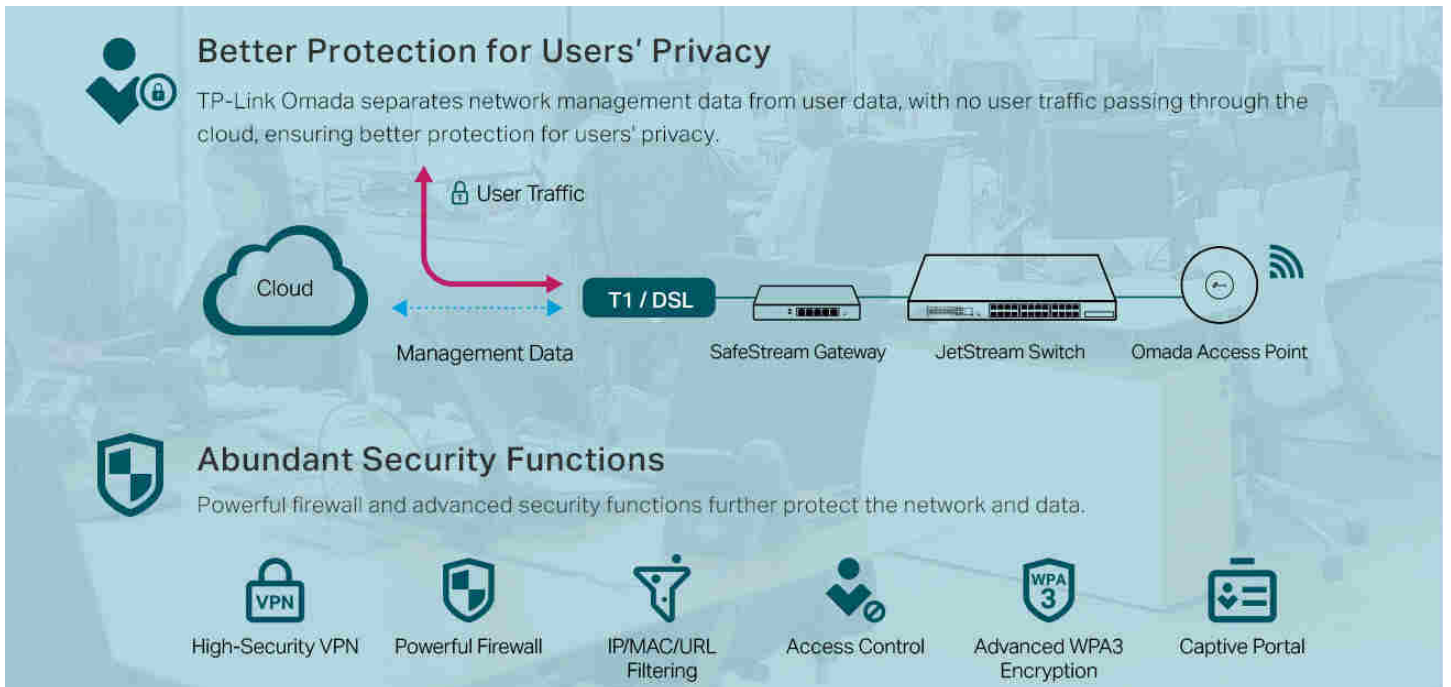


# Easy and Intelligent Network Monitoring


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



# Specifications

Model		ER8411
Product Picture		
Product Description		Omada VPN Router with 10G Ports
General	CPU	Quad-core Cortex-A72 @2.2GHz
	Interface	1 10G SFP+ WAN port, 1 10G SFP+ WAN/LAN port, 1 Gigabit SFP WAN/LAN port 8 Gigabit RJ45 WAN/LAN ports
	USB	2 USB3.0 (One supports LTE backup with LTE dongle)
	Network Media	10BASE-T: UTP category 3, 4, 5 cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 100BASE-TX: UTP category 5, 5e cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 1000BASE-T: UTP category 5e, 6 cable (Max 100 m)
	Button	Reset button
	Dual Redundant Power Supply	2 Fixed AC Power Supply
	Power Supply	100–240 VAC, 50/60 Hz
	Flash	4MB SPI NOR + 256 MB NAND
	DRAM	4 GB DDR4
	Surge Protection	4 kV surge protection
	FAN Quantity	2
	Max Power Consumption	26.36W (with USB3.0 connected) 19.12W (without USB3.0 connected)
	Dimensions ( W x D x H )	17.3 × 8.7 × 1.7 in (440 × 220 × 44 mm)
SDN Support	Hardware Controller (OC200/OC300)	Automatic Device Discovery Intelligent Network Monitoring Abnormal Event Warnings
	Software Controller	Unified Configuration Reboot Schedule
	Cloud-Based Controller	Captive Portal Configuration ZTP (Zero-Touch Provisioning) <sup>1</sup>

1. Zero-Touch Provisioning is supported only when using Omada Cloud-Based Controller.

Model		ER8411
Performance	Concurrent Session	2,300,000
	New Sessions /Second	20,000
	Static IP NAT Throughput (Upload / Download)	9445.82 Mbps / 9449.26 Mbps
	DHCP NAT Throughput (Upload / Download)	9426.83 Mbps / 9426.20 Mbps
	PPPoE NAT Throughput (Upload / Download)	9413.96 Mbps / 9102.01 Mbps
	L2TP NAT Throughput (Upload / Download)	4230.62 Mbps / 4169.53Mbps
	PPTP NAT Throughput (Upload / Download)	3933.86 Mbps / 3821.97Mbps
	64 Byte Packet forwarding rate (Upload / Download)	1080 Mbps / 1030 Mbps
	1,518 Byte Packet forwarding rate (Upload / Download)	9970 Mbps / 9970 Mbps
	SSL VPN Throughput	1511.10 Mbps
	IPSec VPN Throughput	SHA1-AES256: 2140.45 Mbps SHA2-AES256: 2080.20 Mbps
	L2TP VPN Throughput	Unencrypted: 5013.50 Mbps Encrypted: 2274.74 Mbps
	OpenVPN Throughput	1665.64Mbps
Basic Functions	WAN Connection Type	Static/Dynamic IP PPPoE PPTP L2TP 6to4 Tunnel Pass-Through Mobile Broadband: 4G/3G modem for backup via USB port
	DHCP	DHCP Server/Client DHCP Address Reservation Multi-IP Interfaces Multi-Net DHCP
	MAC Clone	Modify WAN/LAN MAC Address <sup>1</sup>
	IPTV	IGMP v2/v3 Proxy
	IPv6	WAN Connection
	VLAN	802.1Q VLAN

1. LAN MAC Address can be modified only in Standalone Mode.

Model		ER8411
Transmission	Load Balance	Intelligent Load Balance Application Optimized Routing Link Backup (Timing <sup>1</sup> , Failover) Online Detection
	NAT	One-to-One NAT <sup>2</sup> Multi-Net NAT Virtual Server Port Triggering <sup>2</sup> NAT-DMZ FTP/H.323/SIP/IPSec/PPTP ALG, UPnP
	Routing	Static Routing Policy Routing
	Session Limit	IP-based Session Limit
	Bandwidth Control	IP/Port-based Bandwidth Control Guarantee & Limited Bandwidth
VPN	SSL VPN	SSL VPN Server SSL VPN Client 500 OpenVPN Tunnels
	IPSec VPN	300 IPSec VPN Tunnels LAN-to-LAN, Client-to-LAN Main, Aggressive Negotiation Mode DES, 3DES, SHA1, SHA2, AES128, AES192, AES256 Encryption Algorithm IKE v1/v2 MD5, SHA1 Authentication Algorithm NAT Traversal (NAT-T) Dead Peer Detection (DPD) Perfect Forward Secrecy (PFS)
	PPTP VPN	PPTP VPN Server PPTP VPN Client (32) <sup>3</sup> 300 Tunnels (Shared with L2TP) PPTP with MPPE Encryption
	L2TP VPN	L2TP VPN Server L2TP VPN Client (32) <sup>3</sup> 300 Tunnels (Shared with PPTP) L2TP over IPSec
	OpenVPN	OpenVPN Server OpenVPN Client (10) <sup>3</sup> 110 OpenVPN Tunnels

1. The Timing mode in Link Backup is supported only in Standalone Mode.
2. One-to-One NAT and Port Triggering are only supported only in Standalone Mode.
3. ER8411 can work as a VPN client and can connect with up to 32 PPTP/L2TP VPN servers and 10 OpenVPN servers.

Model		ER8411
Security	Attack Defense	TCP/UDP/ICMP Flood Defense Block TCP Scan (Stealth FIN/Xmas/Null) Block Ping from WAN
	Filtering	Web Group Filtering <sup>1</sup> URL Filtering Web Security <sup>1</sup>
	ARP Inspection <sup>2</sup>	Sending GARP Packets ARP Scanning IP-MAC Binding
	Access Control	Source/Destination IP Based Access Control
Authentication	Web Authentication	No Authentication Simple Password <sup>3</sup> Hotspot (Local User / Voucher <sup>3</sup> / SMS <sup>3</sup> / Radius <sup>3</sup> ) External Radius Sever External Portal Sever <sup>3</sup> Facebook <sup>3</sup>
Management	Service	Dynamic DNS (Dyndns, No-IP, Peanuthull, Comexe)
	Maintenance	Web Management Interface Remote Management Export & Import Configuration SNMP v1/v2c/v3 Diagnostics (Ping & Traceroute) <sup>4</sup> NTP Synchronize <sup>4</sup> Syslog Support
Others	Certification	CE, FCC, RoHS
	Package Contents	ER8411, Power Cord, Quick Installation Guide, Rackmount Kit, RJ45 Console Cord
	System Requirements	Microsoft Windows 98SE, NT, 2000, XP, Vista™ or Windows 7/8/8.1/10 MAC OS, NetWare, UNIX or Linux
	Environment	Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F) Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F) Operating Humidity: 10% to 90% non-condensing Storage Humidity: 5% to 90% non-condensing

1. Web Group Filtering and Web Security are only supported only in Standalone Mode.
2. ARP Inspection is supported only in Standalone Mode.
3. The following web authentication methods are supported only in Controller Mode: Simple Password, Voucher, SMS, Radius, External Portal Sever, and Facebook.
4. Diagnostics (Ping & Traceroute) and NTP Synchronize are supported only in Standalone Mode



# Ordering Information

## Host Router

Model	Description
ER8411	Omada VPN Router with 10G Ports

## SFP/SFP+ Modules

Model	Description
TL-SM311LS	Gigabit SFP module, Single-mode, LC interface, Up to 20km distance
TL-SM311LM	Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance
TL-SM321A	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 20 km
TL-SM321A-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 2 km
TL-SM321B	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 20 km
TL-SM321B-2	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 2 km
TL-SM5110-LR	10GBase-LR SFP+ LC Transceiver, single-mode, LC connector, 1310nm, 10 km
TL-SM5110-SR	10GBase-SR SFP+ LC Transceiver, multi-mode, LC connector, 850nm, 300 m

## RJ45 SFP/SFP+ Modules

Model	Description
TL-SM331T	1000BASE-T RJ45 SFP Module
TL-SM5310-T	10GBASE-T RJ45 SFP+ Module

\* 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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