

# MP3900X Series Aggregation Router

## Datasheet

### Overview


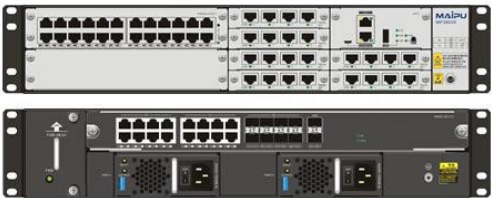
At the cloud calculation and mobile interconnection times with the fast increasing of the service traffic, the development trend of the customer service diversifying and network flattening makes the aggregation capability requirement of the network for the router higher. High reliability, high performance, high density, high security, and green are the urgent requirements of the customer for the aggregation router. Based on the customer requirements, Maipu launch the new-generation centralized service aggregation router MP3900X series.

MP3900X series aggregation router support four kinds of high-performance SPU module which integrates rich gigabit or 10 gigabit fixed WAN interfaces, customers do not need to configure additional WAN module; meanwhile, MP3900X uplink supports various mainstream WAN access link technologies, such as Ethernet, 3G/4G, E1/CE1, POS/CPOS and V.35 serial line.

MP3900X series aggregation router is the next generation version of MP3900 series which was widely deployed in many countries. It includes two models which are MP3900X-06, MP3900X-08.

MP3900X-06 supports 8\*Gigabit Combo WAN Interface,6\*RM2B Slots, Fixed Dual AC Power Supply.

MP3900X-08 supports 1\*SPU slot, 6\*RM2B Slots, 2\*RM3E Slots, 2\*Modular Power Slots, 1\*Fan Slot.

 <p style="text-align: center;"><b>MP3900X-06</b></p>	<ul style="list-style-type: none"> <li>● Fixed WAN: 8*GE combo (RJ45/SFP).</li> <li>● Extension Slots: 6*RM2B extension slots.</li> <li>● 2*AC power supply (RPS), 100V-220V 50Hz-60Hz.</li> <li>● 1*RJ45/Micro-USB console port.</li> <li>● Dimension (W*D*H): 442mm*380mm*44.2mm(1U).</li> </ul>
 <p style="text-align: center;"><b>MP3900X-08</b></p>	<ul style="list-style-type: none"> <li>● Modular design, flexible to meet network requirements.</li> <li>● Fixed WAN: integrated in SPU engine module:               <ul style="list-style-type: none"> <li>- SPU03: 2*GE combo (RJ45/SFP), 1*GE fiber SFP.</li> <li>- SPU05: 16*GE copper RJ-45, 8*GE fiber SFP.</li> <li>- SPU10: 2*10GE fiber SFP+, 16*GE copper RJ45, 8*GE fiber SFP.</li> <li>- SPU40: 4*10GE fiber SFP+, 4*GE copper RJ45, 4*GE fiber SFP, 4*GE combo (RJ45/SFP).</li> </ul> </li> <li>● Extension Slots: 6*RM2B extension slots, 2*RM3E slots</li> <li>● 2*Modular power slots (RPS), AC 100V-220V 50-60Hz or DC input</li> <li>● 1*RJ45/Micro-USB console port.</li> <li>● Dimension (W*D*H): 442mm*365mm*88.4mm(2U).</li> </ul>

# Highlights

Highlights	Benefits
Flexible uplink	<p>MP3900X-06 integrates fixed 8 Combo WAN ports, and 6 RM2B slots to support various WAN links such as SDH, TDM, Ethernet and 5G/4G mobile network.</p> <p>MP3900X-08 support four kinds of high-performance SPU module which integrates rich gigabit or 10 gigabit fixed WAN interfaces, customers do not need to configure additional WAN module; meanwhile, MP3900X uplink supports various mainstream WAN access link technologies, such as Ethernet, 3G/4G, E1/CE1, POS/CPOS and V.35 serial line.</p>
Extensible modular slots	<p>MP3900X series aggregation router is modular design which has enough expansion slots. The whole device supports 6/6+2 extended slots totally.</p> <p>The strong expansion ability can provide high-density access and protect customer investment. All the modules of MP3900X series support hot-swap.</p>
High performance	<ul style="list-style-type: none"> <li>● Multi-core high performance processor.</li> <li>● 10/100/1000M/10G high-speed ethernet port.</li> <li>● Built-in hardware acceleration engine, high encryption performance.</li> <li>● Maipu Express Forwarding (MEF) technologies, speeding up forwarding and processing of data packets.</li> </ul>
5G Ready	<p>The MP1900X/2900X/MP3900X series routers are built for future 5G networks, with higher throughputs with 5G NR. WAN networks are looking at wireless WAN as primary transports for different use cases for improved throughputs and latency.</p>
Rich software features	<ul style="list-style-type: none"> <li>● Support multiple WAN protocol: FR, SDH, TDM, DDR, PPPoE, EDP, DHCP, Static...</li> <li>● Support typical TCP/IP services: DHCP, DNS, NAT, GRE, L2TP...</li> <li>● Support advanced protocol, such as BGP, MPLS, VPLS.</li> <li>● IPv6 Ready, fully support IPv6 features.</li> </ul>
High reliability and business continuity	<ul style="list-style-type: none"> <li>● Redundant power supplies (RPS), support dual AC power or DC power (MP3900X-08 only).</li> <li>● Redundant WAN connection for failover protection and load balancing.</li> <li>● Dynamic failover protocols such as VRRP/VBRP, backup interface, track IP.</li> </ul>
Easy O&M	<p>Multiple management methods: standard SNMP monitoring and management, Web-based GUI, Cloud based management, traditional command line interface.</p> <p>In-built Embedded Event Platform (EEP), allow the customer to monitor critical event, and automatic execute pre-defined actions.</p>
Service convergence	<ul style="list-style-type: none"> <li>● Provide network security with integrated application inspection firewall.</li> <li>● High-performance VPNs: IPSec, DVPN, L2TP over IPSec.</li> </ul>
Security	<p>Built-in firewall features, stateful firewall, IPS, URL Filtering, VPN access.</p>
ZTP	<p>Zero-Touch (USB, DHCP, EDP...), easy for installation and configuration.</p>

# Product Specifications

## Hardware Specification

Hardware specification	MP3900X-06	MP3900X-08	
		SPU-03	SPU-05
CPU	1.2GHz 8 Core	1.2GHz 8 Core	1.2GHz 8 Core
Memory	2GB	2GB	2GB
Flash	8GB	8GB	8GB
Fixed WAN interfaces	8*GE combo (RJ45/SFP)	2*GE combo (RJ45/SFP), 1*GE fiber SFP	16*GE copper RJ-45, 8*GE fiber SFP
WAN Throughput	5Mpps	5Mpps	8Mpps
WAN Bandwidth	3.36 Gbps	3.36 Gbps	5.376 Gbps
NAT Session	2,000,000	2,000,000	2,000,000
Extension slots	6*RM2B	6*RM2B, 2*RM3E	
USB	1*USB2.0	1*USB2.0	
Console port	1*RJ45 console port	1*RJ45 console port	
Dimension (L*D*H)	442mm*380mm*44.2mm(1U)	442mm*365mm*88.4mm(2U)	
Power supply	2*AC power supply (RPS), 100V-220V 50-60Hz.	2*Modular power slots (RPS), AC 100V-220V 50-60Hz or DC 40-57V input	
Power consumption	≤60W	≤110W	≤120W
Working Temperature	0°C~45°C	0°C~45°C	
Humidity	Work humidity: 5%-85%/RH	Work humidity: 5%-85%/RH	
Weight	≤5KG	≤20KG	
Hardware specification	MP3900X-08		
	SPU-10	SPU-40	
CPU	1.2GHz 16 Core	1.2GHz 24 Core	
Memory	4GB	8GB	
Flash	8GB	8GB	
Fixed WAN interfaces	2*10GE fiber SFP+, 16*GE copper RJ45, 8*GE fiber SFP	4*10GE fiber SFP+, 4*GE copper RJ45, 4*GE fiber SFP, 4*GE combo (RJ45/SFP)	
WAN Throughput	15Mpps	45Mpps	
WAN Bandwidth	10.08 Gbps	30.24 Gbps	
NAT Session	2,000,000	2,000,000	
Extension slots	6*RM2B, 2*RM3E		
USB	1*USB2.0		
Console port	1*RJ45 console port		
Dimension (L*D*H)	442mm*365mm*88.4mm(2U)		
Power supply	2*Modular power slots (RPS), AC 100V-220V 50-60Hz or DC 40-57V input		
Power consumption	≤180W	≤200W	
Working Temperature	0°C~45°C		
Humidity	Work humidity: 5%-85%/RH		
Weight	≤20KG		

## Software Specification

Software features	
WAN Protocol	DDR, NDIS, PPPoE, Bridge Group, EDP, HDLC, FR
LAN Protocol	STP/RSTP/MSTP, MAC management, 802.1q VLAN, LACP, Loopback Detection, SPAN, LLDP, Port-isolate, Error-disable, ULFD, Port Security, QinQ, Voice VLAN
TCP/IP Protocol	DHCP, DNS, DDNS, NAT, NAT64, NAT66, NAT ALG, IPIP, GRE, L2TP/L2TPv3
IPv4 Routing protocol	Static, RIP, OSPFv2, IS-IS, BGP, Policy Routing, SR
IPv6 Routing Protocol	IPv6 Static, RIPng, OSPFv3, IS-ISv6, BGP4+, IPv6 Policy Routing, SRv6
IPv6 function	IPv4/IPv6 Dual-Stack, IPv6 ND, IPv6 PMTU, IPv6 ACL, ICMPv6, DNSv6, DHCPv6, GREv6
IPv6 Transition Tunneling	IPv6 over IPv4, 6to4, ISATAP
Multicast	IGMP v1/v2/v3, PIM-DM/PIM-SM, SSM, MVPN, NG MVPN, MSDP, MLD, IPv6 PIM, MBGP
VPN	IPSec, PKI, MPLS, VPLS, VPWS, L3VPN, OAM, 6PE, VRF, DVPN, VxLAN
MPLS	LDP, MPLS L3VPN, MPLS L2VPN, MPLST TE, IP FRR, LDP FRR, TE FRR
Security	ACL, SSH, CPU protection, Firewall, IPS, URL Filter, AAA, IKE, PKI, 802.1X, URFP
QoS	FIFO, PQ, FQ, WFQ, CBWFQ, LLQ, RSVP, CAR, H-QoS, traffic shaping, Rate Limitation
Reliability	Backup interface, VRRP/VRRPv3, VBRP, IPSLA, Track, BFD/BFDv6
Automation	ZTP, Netconf
Management & Monitoring	Keepalive, NTP, EEP, RMON, CWMP, CLI, SSH, HTTP/HTTPS, SNMP V1/V2/V3, Telnet, PING, Trace Route, Login, FTP, TFTP, SFTP, TR069, IP-SLA, Telemetry, IPFIX

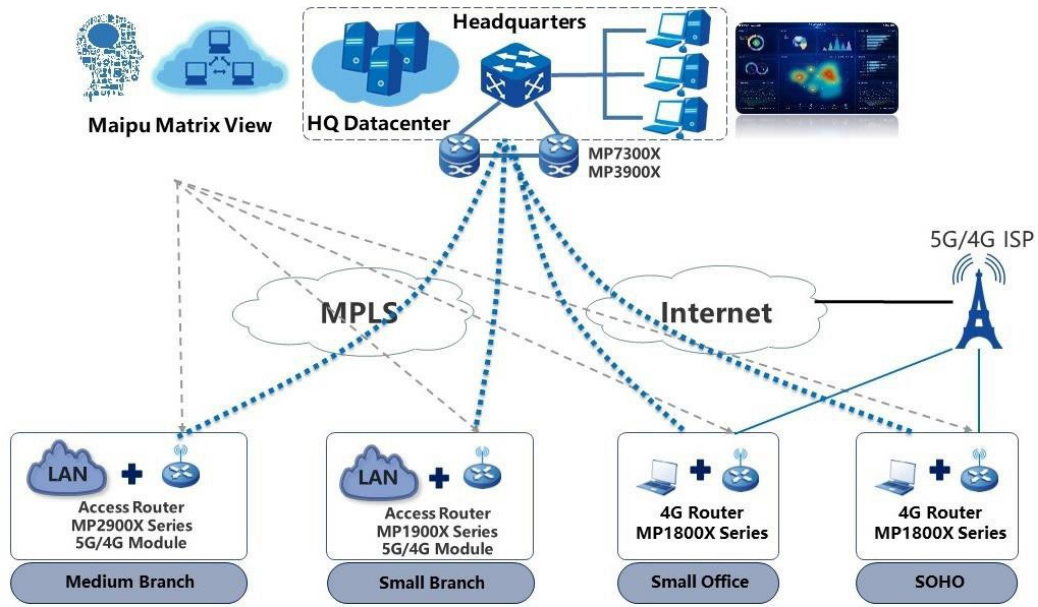
## Extension Modules

MP3900X-06 & MP3900X-08 RM2B WAN Module	
Modules	Description
RM2B-1POS-OC3	Single-port 155M non-channelized OC3 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-1POS-OC12	Single-port 622M non-channelized OC12 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-1CPOS-OC3	Single-port 155M channelized OC3 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4E1	Four-port non-channelized E1 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4CE1	Four-port channelized E1 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-2SA	Dual-port high-speed V35/24 serial WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4GET	Four-port gigabit ethernet copper interface module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4GEF	Four-port gigabit ethernet fiber WAN interface module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4G-LTE	E1 Version: Single 4G module, 1 sim slot, LTE-FDD (band: 1/3/5/7/8/20), TD-LTE (band: 40), WCDMA (band 1/5/8)
RM2B-4G-LTE-A	V2 Version: Single 4G module, 1 sim slot, LTE-FDD (band: 1/3/5/8), TD-LTE (band: 38/39/40/41), WCDMA (band b1/b8)
RM2B-5G-M	V2 Version: RM2B-5G-M, Single-port 5G card, support NSA and SA, support 5G n1/n28/n41/n77/n78/n79 band; LTE-FDD (Band: b1/b2/b3/b5/b7/b8/b20/b28), LTE-TDD:(Band: b34/b38/b39/b40/b41), WCDMA (band b1/b2/b5/b8)
MP3900X-08 RM3E LAN Module	
RM3E Module	Description
RM3E-24GETS	24-port 1000M gigabit ethernet electrical LAN module (Only Available in MP3900X-08)

# Application Scenario

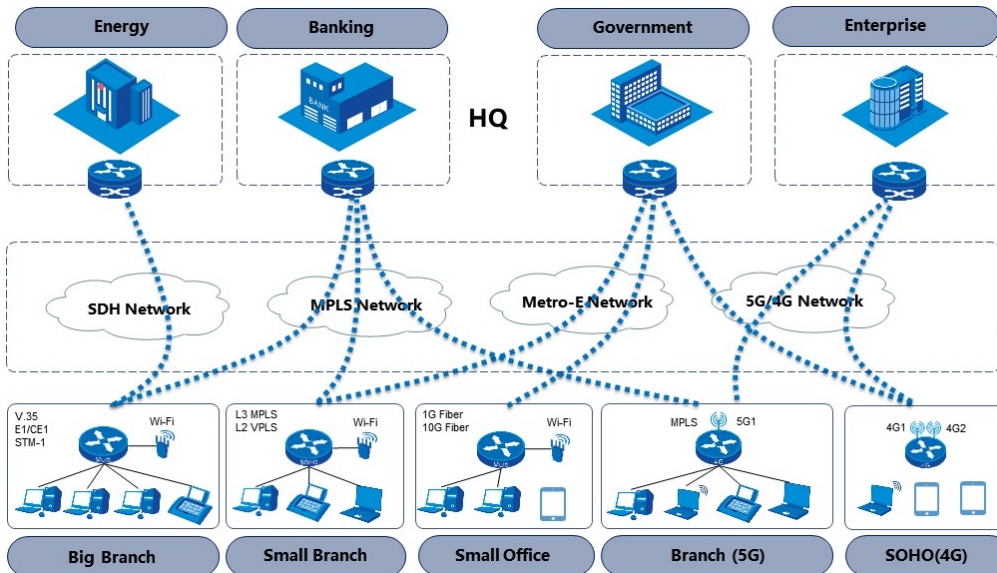
## Enterprise WAN Solution

Maipu can provide total solution of enterprise WAN network, MP1800X/1900X/2900X series access router is working at enterprise branch offices and supporting multiple physical links, such as MPLS links, Internet links, and 5G/4G mobile network links. MP3900X/MP7300X/MP7500X series aggregation router is working at enterprise HQ. Maipu Matrix View is SNMP centralized managed platform.



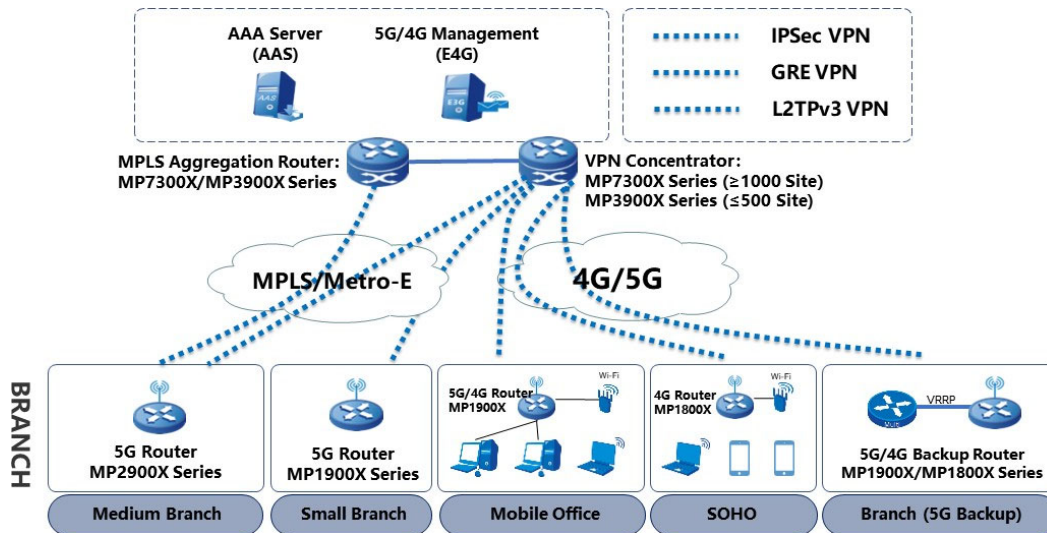
## ISP Managed Service

In this scenario, Maipu MP3900X series routers are used as enterprise HQ/Branch egresses gateway and support flexible WAN access, to support SDH, MPLS, Metro-E, and 5G/4G links, helping the customer reduce the OPEX, CAPEX and improve customer's network experience.



## Enterprise VPN Solution

Maipu MP3900X/MP7300X series provide various VPN access functions for communication between branches and headquarters over multiple physical links. Secure tunnels such as GRE, L2TP, IPsec, and DVPN tunnels can be set up between the HQ and branches for secure data access and transmission.



## Order Information

Router Host	
Host model	Description
<b>MP3900X-06 Host</b>	
MP3900X-06	MP3900X-06, 1*RJ45 Console, 1*USB Port, 8*Gigabit Combo WAN Interface, 6*RM2B Slots, Dual AC Power Supply
<b>MP3900X-08 Host</b>	
MP3900X-08-MF	MP3900X-08-MF Chassis, 2U height, 1*RJ45 Console, 1*USB Port, 1*Service Engine Slot, 6*RM2B Slots, 2*RM3E Slots, 2 Power Slots, 1 Fan Slot.
<b>MP3900X-08 Service Engine</b>	
RM3E-SPU03	RM3E-SPU03 Service Engine, integrated 2-port gigabit combo WAN interfaces and 1-port gigabit fiber WAN interface
RM3E-SPU05	RM3E-SPU05 Service Engine, integrated 16-port gigabit electric WAN interfaces and 8-port gigabit fiber WAN interfaces
RM3E-SPU10	RM3E-SPU10 Service Engine, integrated 16-port gigabit electric WAN interfaces, 8-port gigabit fiber WAN interfaces, and 2-port 10G SFP+ WAN interfaces
RM3E-SPU40	RM3E-SPU40 Service Engine, integrated 4-port gigabit electric WAN interfaces, 4-port gigabit fiber WAN interfaces, 4-port gigabit combo WAN interfaces, and 4-port 10G SFP+ WAN interfaces



MP3900X-08 Power Module	
AD250-1S005E-B	AC Power Module, 250W, 100-240V
DD250M-5S0N	DC Power Module, 500W, 40-57V
MP3900X-08 Host	
FAN-2B-01	Fan module for MP3900X-08
MP3900X-06 & MP3900X-08 RM2B WAN Module	
Modules	Description
RM2B-1POS-OC3	Single-port 155M non-channelized OC3 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-1POS-OC12	Single-port 622M non-channelized OC12 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-1CPOS-OC3	Single-port 155M channelized OC3 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4E1	Four-port non-channelized E1 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4CE1	Four-port channelized E1 WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-2SA	Dual-port high-speed V35/24 serial WAN module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4GET	Four-port gigabit ethernet copper interface module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4GEF	Four-port gigabit ethernet fiber WAN interface module (Available in Slot1~Slot4 of MP3900X-06)
RM2B-4G-LTE	E1 Version: Single 4G module, 1 sim slot, LTE-FDD (band: 1/3/5/7/8/20), TD-LTE (band: 40), WCDMA (band 1/5/8)
RM2B-4G-LTE-A	V2 Version: Single 4G module, 1 sim slot, LTE-FDD (band: 1/3/5/8), TD-LTE (band: 38/39/40/41), WCDMA (band b1/b8)
RM2B-5G-M	V2 Version: RM2B-5G-M, Single-port 5G card, support NSA and SA, support 5G n1/n28/n41/n77/n78/n79 band; LTE-FDD (Band: b1/b2/b3/b5/b7/b8/b20/b28), LTE-TDD:(Band: b34/b38/b39/b40/b41), WCDMA (band b1/b2/b5/b8)
MP3900X-08 RM3E LAN Module	
RM3E Module	Description
RM3E-24GETS	24-port 1000M gigabit ethernet electrical LAN module (Only Available in MP3900X-08)

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