



## iTN8800-E

iTN8800-E is a chassis-based IP/MPLS service access and aggregation device. The device provides E1, FE/GE, 10G, 25G and 100G interfaces in a 3U-height chassis with 10 slots for various types of service interface cards. It supports full redundancy for power supply and control unit. Together with Raisecom intelligent CPE, the whole access/aggregation solution is able to deliver and aggregate CE2.0 compliant services and MPLS VPN services on Raisecom unified service provisioning, monitoring and management platform. The solution is perfect for government/enterprise leased-line service delivery, 4G/5G mobile backhauling, Internet and Cloud connection, and campus networking. The support of high-speed interfaces and the support of IPv4/v6 dual-stack ensure the solution a future-proof investment for customers.



iTN8800-E-DC



iTN8800-E-NXU



iTN8800-A-RC1



iTN8800-A-RK4



iTN8800-A-RX4



iTN8800-A-RG8



iTN8800-E-RE16-BL

### Highlights >>

<b>Power Reliability</b>	Dual hot-swappable power supply with voltage/temperature monitoring
<b>Flexible Service Delivery</b>	Standard CE2.0 service (E-Line, E-LAN, E-Tree, E-Access) delivery VPWS, VPLS, H-VPLS, MS-PW, L3VPN, 6PE/6VPE services over MPLS EVPN over MPLS/SR on roadmap* CES over MEF, UDP/IP, MPLS-TP with SAToP and CESoP encapsulation Flexible traffic classification guarantees customer-defined service SLA
<b>Committed Network Resiliency</b>	Protection mechanism including switchport backup, IEEE802.1ax Link Aggregation, MC-LAG, ITU-T G.8032 ERPS, Static/dynamic IP FRR, TE/LDP/VPN/EVPN* FRR, VRRP, MPLS PW redundancy, MPLS TE hot-standby* guarantee network resiliency in chain, star, mesh, dual-homing and ring topologies
<b>OAM &amp; Hardware-based SLA</b>	Hardware-based IEEE802.1ag/ITU-T Y.1731 end-to-end CFM (CCM interval 3.3ms), hardware-based ITU-T Y.1731 end-to-end SLA performance monitoring with test result showing on user-friendly GUI BFD helps achieve fast fault detection for dynamic IP services and MPLS services Standard RFC2544, Y.1564 SAT tests for various types of services make service turn-up easier
<b>IPv4/v6 Dual-Stack</b>	IPv6 for management/services, 6PE/6VPE support help customers plan their future network evolution
<b>Synchronization</b>	SyncE and IEEE1588v2 ready for mobile backhaul*

\* Features that will be available in future release

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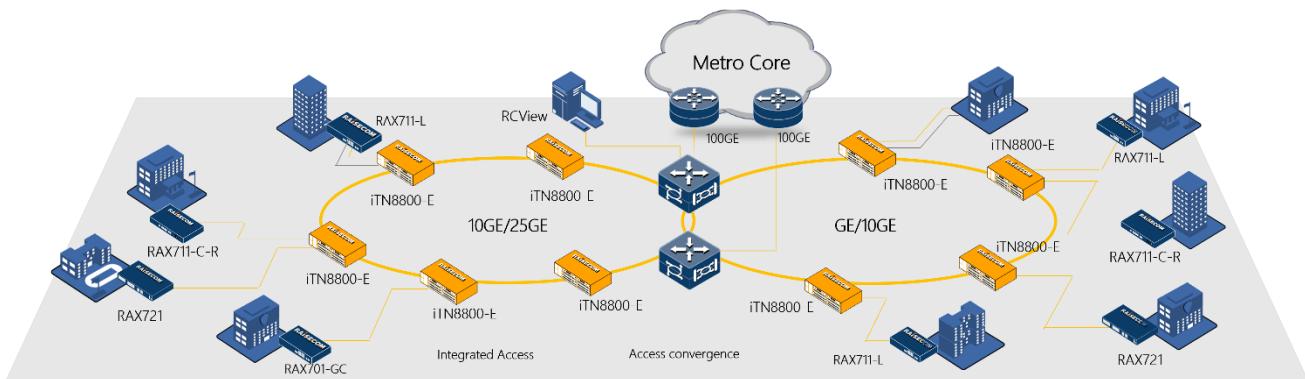
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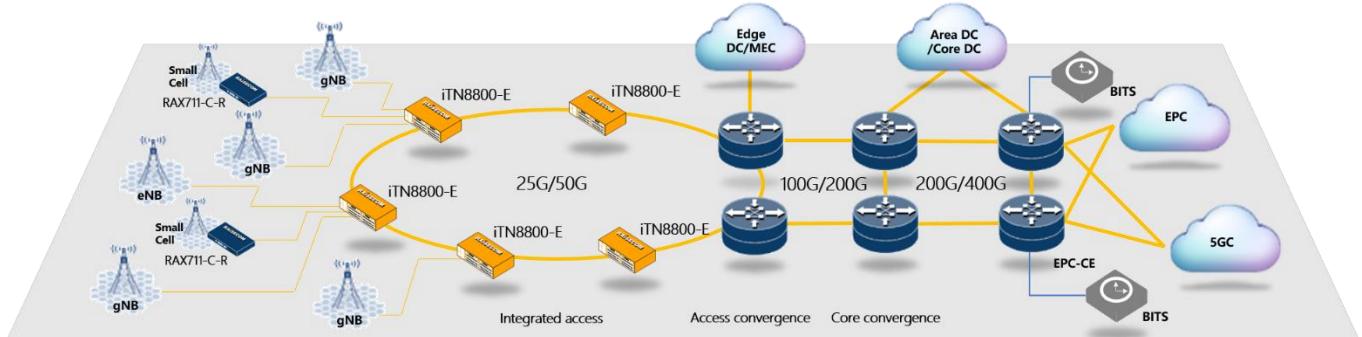
### Business Leased-Line Service Delivery

iTN8800-E working with Raisecom intelligent CPE RAX700 series can deliver 1G/10G standard CE2.0 E-Line, E-LAN, E-Tree and E-access services; VPWS, VPLS, H-VPLS, MS-PW, and L3VPN services over MPLS; 6PE, 6VPE over MPLS; EVPN\* over MPLS or SR\* and circuit emulation services over MEF, UDP/IP and MPLS-TP. The service delivery can be very flexible. ZTP and SAT help make service turn-up very efficient. Hardware-based CFM and SLA with result showing on GUI provides service providers an easier way to monitor and manage the services. Various fault detection and protection mechanisms guarantee high availability and stability of the services. The whole solution is fully managed on unified GUI-based NMS system with rich NBI options.



### New Generation Mobile Backhaul

MPLS L2VPN access to L3VPN, and L3VPN all-the-way are the common ways to carry mobile backhaul traffic when the mobile network is evolving to 4G and 5G. New technologies like EVPN\*, SR\* and SDN are also introduced to simplify the network, and optimize network agility and scalability in the 5G era. iTN8800-E supports these services with full flexibility, guaranteed SLA and high reliability, and its support of SyncE\* and IEEE1588 V2\* guarantees high-precise synchronization along the service delivery.



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### Key Features >>

Ethernet Service	<ul style="list-style-type: none"> <li>● MAC address table: 16K</li> <li>● Jumbo frame up to 9600 Bytes</li> <li>● 4,094 VLANs, IEEE802.1Q VLAN, IEEE802.1ad QinQ</li> <li>● Layer 2 control protocol (L2CP) handling</li> </ul>
IP Service	<ul style="list-style-type: none"> <li>● IPv4/v6 static routing</li> <li>● RIPv1/v2/ng, OSPFv2/v3, ISISv4/v6 and BGP4/4+</li> <li>● PMTU IPv4/v6</li> <li>● VRF Lite IPv4/v6</li> <li>● DHCPv4/v6* server, client, relay, snooping</li> </ul>
MPLS Service	<ul style="list-style-type: none"> <li>● MPLS L2VPN: VPWS, VPLS, H-VPLS, MS-PW</li> <li>● MPLS L3VPN</li> <li>● MPLS EVPN*</li> <li>● 6PE/6VPE</li> <li>● Inter-AS MPLS L2VPN Option A, B, C</li> <li>● Inter-AS MPLS L3VPN Option A, B, C</li> <li>● Static CR-LSP, LDP, CSPF, RSVP-TE, tunnel policy</li> </ul>
CES Service	<ul style="list-style-type: none"> <li>● E1 frame mode: PCM30, PCM30 CRC, PCM31, PCM31 CRC</li> <li>● PSN type: MEF, UDP/IP, MPLS-TP</li> <li>● Encapsulation: SAToP, CESoP</li> <li>● Clock: ACR, DCR, External</li> </ul>
Multicast	<ul style="list-style-type: none"> <li>● IGMP v1, v2, v3</li> <li>● IGMP Snooping, MVR, VLAN copy, Proxy</li> <li>● MLD v1, v2*</li> <li>● MLD Snooping*</li> <li>● PIM-SM and PIM-SSM IPv4/v6*</li> </ul>
QoS	<ul style="list-style-type: none"> <li>● Flexible traffic classification based on MAC, IP, port, VLAN, CoS, DSCP, etc.</li> <li>● Traffic policing</li> <li>● Hierarchical CAR</li> <li>● 8 local priority, 8 queues per port</li> <li>● WRED</li> <li>● Traffic shaping per queue/port</li> <li>● SP/WRR/SP+WRR queue scheduling</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>● Control card redundancy</li> <li>● IEEE802.1ax Link aggregation group, manual, LACP</li> <li>● Switchport backup</li> <li>● ITU-T G.8032 ERPS based on port or CFM, switchover time less than 50ms</li> </ul>

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	<ul style="list-style-type: none"> <li>● Loop detection</li> <li>● Ethernet fault propagation, MPLS PW fault propagation</li> <li>● IPv4/v6 ECMP</li> <li>● Static/dynamic IPv4/v6 FRR, TE/LDP/VPN FRR</li> <li>● VRRP</li> <li>● MPLS PW redundancy, MPLS TE hot-standby*</li> </ul>
OAM	<ul style="list-style-type: none"> <li>● IEEE 802.3ah EFM-OAM</li> <li>● IEEE 802.1ag/ITU-T Y.1731 CFM</li> <li>● ITU-T Y.1731 performance monitoring (LM, DM) for Ethernet and MPLS L2VPN</li> <li>● RFC2544 for Ethernet and MPLS L2VPN, Y.1564 for Ethernet, IP, MPLS L2VPN, MPLS L3VPN</li> <li>● TWAMP-Lite for Ethernet, IP, MPLS L3VPN*</li> <li>● Layer 2 loopback with MAC swap</li> <li>● MPLS ping and traceroute</li> <li>● BFD for interface, static routing, RIP, OSPF, ISIS, BGP, LDP, LSP, CR-LSP*, PW, MS-PW*, VRRP, FRR, PIM*</li> <li>● Dying Gasp in case of power failure</li> </ul>
Security	<ul style="list-style-type: none"> <li>● CPU CAR</li> <li>● CPU anti-attack</li> <li>● DHCPv4/v6* Snooping</li> <li>● ARP filter</li> <li>● ACL based on VLAN, CoS, MAC, Ethernet Type, IP or user-define</li> <li>● RADIUS, TACACS+</li> <li>● Storm control (broadcast, multicast, DLF)</li> <li>● Port-security MAC</li> </ul>
Maintenance and Management	<ul style="list-style-type: none"> <li>● Zero-touch provisioning based on standard DHCP</li> <li>● SNMP v1/v2/v3 based GUI management</li> <li>● Netconf, Telemetry*</li> <li>● CLI management by local CONSOLE, Telnet and SSHv2</li> <li>● KeepAlive, RMON, LLDP, Syslog</li> <li>● SFP digital diagnostic management (DDM)</li> <li>● CPU, memory monitoring</li> <li>● Voltage and temperature monitoring</li> </ul>
Synchronization	<ul style="list-style-type: none"> <li>● NTP, SNTP</li> <li>● SyncE*</li> <li>● IEEE1588 v2 TC, BC, OC*</li> </ul>

\* Features that will be available in future release

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### Specifications >>

Performance	Switching capacity: 320Gbps
Physical Interface	iTN8800-E-NXU  1 x CONSOLE (USB); 1 x NEG management port (RJ-45) 1 x EXT management cascade port (RJ-45) 2 x 1PPS+TOD I/O ports (RJ-45) 1 x 2Mbps/2MHz clock I/O port (RJ-45)  Service Interface Cards: Up to 2 x 100G or 8 x 25G Up to 28 x 10G Up to 48 x 1G Up to 96 x E1
Power Supply	Dual, hot-swappable DC DC: -48V, -40~-57V Power Consumption: ≤ 516W (full load)
Environmental	Operating: Temperature: -5~55°C Humidity: 10~90% non-condensing Storage and Transportation: Temperature: -25~60°C
Dimensions	444(W)mm x 220(D)mm x 132.5(H)mm
Weight	20Kg (fully equipped)

### Compliances >>

Standards & protocols	CE, UL, FCC compliance  EMC Class A  RoHS compliance  IEEE802.3, 802.3u, 802.3z, 802.3-2008  IEEE802.1D, 802.1Q, 802.1p, 802.1ad  IEEE802.1ax, ITU-T G.8031, G.8032  IEEE802.3ah, 802.1ag, ITU-T Y.1731  RFC5357  IEEE802.1AB  MEF6, 9, 10, 11, 13, 14, 16, 17, 20, 31, 36  MEF CE2.0 Compliance  RFC826, 768, 793  RFC792, 4443  RFC2131, 2132, 3046, 3315, 4649  RFC2328, 3630, 5187, 3101, 3137, 3623  RFC1195, 2966, 3567, 3277, 2763  RFC1771, 1772, 1997, 2439, 3065, 4271, 4273, 4760, 4893, 5575  RFC3031, 3032, 3034, 3035, 3036, 3037, 4182, 5036, 5462  RFC3209, 3473, 6511  RFC4447, 4448, 4761, 4762, 5659  RFC4090, 5286, 5883, 7130  RFC4377, 4378, 4379  RFC1112, 2236, 3376, 4605, 3618, 2362, 2710, 4541  IEEE1588v2  ITU-T G.8261, G.8262, G.8264
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### Ordering Information >>

Part No.	Description
iTN8800-E-DC	Standard 19'', 3U-high chassis with 2 redundant hot-swappable power supply modules, 1 intelligent hot-swappable fan module, 2 slots for main control cards, and 10 slots for service interface cards
iTN8800-E-NXU	Main control cards for iTN8800-E-DC, providing 1 x CONSOLE interface (USB), 1 x management interface (RJ-45), 2 x 1PPS+TOD I/O interfaces and 1 x 2Mbps/2MHz clock I/O interface
iTN8800-A-RC1	100G service interface card, providing 1 x 100G interface (QSFP28)
iTN8800-A-RK4	25G service interface card, providing 4 x 25G interfaces (SFP28)
iTN8800-A-RX4	10G service interface card, providing 4 x 10G/1G interfaces (SFP+/SFP)
iTN8800-A-RG8	1G service interface card, providing 8 x 1G interfaces (SFP)
iTN8800-E-RE16-BL	CES service card, providing 16 x E1 interfaces (2 E1 in one RJ-45)
RPD1751-48S48	DC power supply
FANS367	Intelligent fan module

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