RC551E-4GE Intelligent Ethernet Demarcation Device

Raisecom RC551 series is OAM-Compliant Intelligent Ethernet Demarcation Device (EDD) which serves as a service border controller located at the customer premises and owned by the service provider. EDD delivers managed converged services (voice, video and data) over VLAN in an access network or a metro Ethernet network. EDD offers considerable benefits to both carriers and their customers: end-to-end visibility and service control; SLA assurance and monitoring; multi-level Operation, Administration and Maintenance (OAM); security controls (protection against denial-of-service attacks); rate limiting; VLAN stacking, swapping and rewriting; priority queuing and the like. Raisecom RC551 series, both OAM and SNMP compliant Intelligent Ethernet Demarcation Device, with maximum interoperability, enables carriers and service providers to have a crystal-clear vision of their network and an easy convenient managed demarcation point.

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Feature

Network Interface Redundancy	- Link aggregation (1+1) based on 802.3ad - Dual homing (1:1), allowing RC551-4GE to be connected to two different upstream devices.
VLAN	4K active IEEE802.1Q VLAN VLAN forwarding, swapping, and stacking (Q-in-Q), flexible Q-in-Q
Port rate limiting	- Based on ingress and egress of each port, different increments at different rates: 64Kbps (0~1M)/1Mbps (1~100M)/10Mbps (100~1000M) - Port-based rate limiting - User Based Rate Limiting: rate limit each unique flow to an individual rate. for example, based on VLAN.
Flow control	IEEE802.3x standard flow control in full duplex mode and back pressure
Management	WEB/SNMP/Telnet/Console/OAM
OAM	*IEEE802.3ah:* - OAM discovery - Remote failure notification •Dying Gasp: power failure •Critical Event: voltage and temperature abnormal •Link Fault: link fault report of network site port - Remote/local loopback *IEEE802.1ag:* - Continuity Check Messages - Traceroute Messages - Loopback Messages *Y.1731:* Packet loss, jitter, delay (unidirectional and bi-directional) of EVC *Build-in RFC2544:*
SLA(Service Level Agreement)	These service parameters can be utilized to deine a SLA as follows: - Availability - Frame Delay - Frame Jitter - Frame Loss
QOS	- Up to 4 output queues - Strict Priority (SP), Weighted Round Robin (WRR), SP+WRR - Standard 802.1p class of service (CoS) and differentiated services code point (DSCP) field classification are provided, using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, VLAN ID, or Layer 4 TCP/User

Specification

Capacity	32MB SDRAM 4MB flash 512KB Bootrom 4K MAC address
Performance	Switching fabric 10Gbp
Management port	1 console (RJ45)
MTU	9K Bytes
Serial port configuration	9600bps/8bit/none parity/1 stop bit/none flow control
Port specification	10BaseT, RJ45, Cat3/Cat4/ Cat5 UTP 100BaseTX, RJ45, Cat5 UTP 1000BaseTX, RJ45, Cat5 UTP 1000Base-LX/BX/FX,LC fiber connector, single/multi mode
Fixed port	4 * 10/100/1000BaseT 2 * 100/1000Base-X SFP (both electric and optical SFP are available)
Dimension	260(W)*130(D)*38(H)mm
Weight	1.1kg
Power supply	AC: 90~264V, 47~63Hz DC: -36~-75V
Power consumption	≤ 10W (at max load)
Working ambience	Temp: 0~55 Celsius RH: 20~90% non-condensing
Storage ambience	Temp: -25~85 centigrade RH: 20~90% non-condensing

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	- Configurable control plane queue assignment allows service providers to assign control plane traffic to specific egress queue. - Priority queue rate limiting provides optional protection against lower priority queue starvation.
MIB variable rewriting	MIB variable rewriting allows master EFMOAM device to rewrite MIB variables of slave EFMOAM device
Ethernet Ring	- Raisecom Ethernet Ring is a proprietary protocol of Raisecom. It can not only prevent data loop from causing broadcast storm effciently when the Ethernet ring is complete, but also restore communication channels among nodes on the Ethernet ring rapidly (50ms) when a link is torn down - G.8031 and G.8032 - MSTP
Fault Management	RMON Detection Port mirror Digital diagnostic Temperature and Voltage monitoring Fault Pass Through Auto Laser Shutdown (ALS) IP Stacking
Temperature and Voltage monitoring	Real-time temperature and Voltage monitoring, alarm will be sent when exceeded a threshold
Fault Pass Through	Fault-Pass-Through is a troubleshooting feature that allows the EDD to monitor the optical link by shutdown the copper port if there is loss of signal on optical link
ALS	Auto Laser Shutdown enables the shutdown of optical TX signal when no RX signal detected to prevent hazardous laser radiation to personnel
IP Stacking	IP Stacking provides two IP addresses for both UNI (User Network Interface) and NID (Network Interface Device). One is for SNMP, the other is for integrated test of premise and carrier network by flexibly changing its IP address to communicate with tested equipment.
Non intrusive loopback	This loopback is different from the one in IEEE802.3ah or IEEE802.1ag. It is a non-service-affecting test in a multiservices Ethernet environment, which allows services to be separated and tested individually without affecting any of the services. Non intrusive loopback can be set based on: Port Port+CVLAN Port+MAC Port+SVLAN Port+CVLAN+SVLAN
User Management	Local management Tacacs+ Radius
System Management	Managed IP address DHCP client Backup and upgrade(bootrom, system file, configuration file, fpga file) Auto configuraiton Ping Telnet Traceroute Syslog SSH V1/V2 Telnet server Console SNMP server （V1,V2,V3） Trap Management keepalive

Compliance

Standards & protocols	• IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1p CoS Prioritization • IEEE 802.1Q VLAN • IEEE 802.1ad • IEEE802.3ad • IEEE802.1s • G.8031 • G.8032 • IEEE 802.3 10BASE-T specification • IEEE 802.3u 100BASE-TX specification • IEEE 802.3ab 1000BASE-T specification • IEEE 802.3z 1000BASE-X specification • IEEE802.3ah • IEEE802.1ag • ITU-T Y.1731 • IEEE1588 • 1000BASE-SX • 1000BASE-LX/LH • 1000BASE-ZX • RMON I and II standards • SNMPv1, SNMPv2c, and SNMPv3

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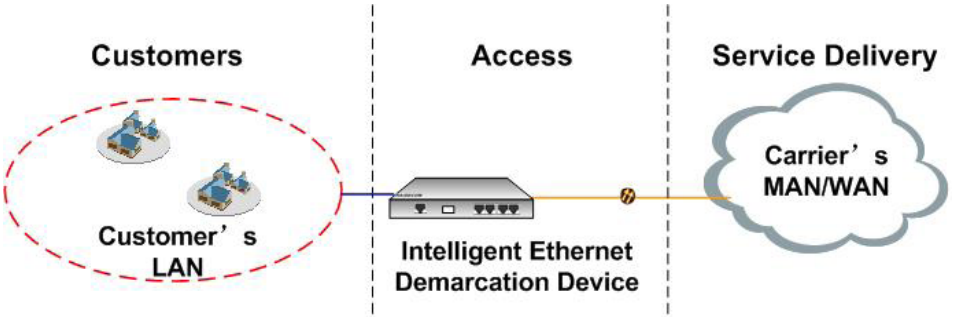
ACL	Support L2 - L7 packet ftering based on source MAC address, destination MAC address, source IP address, destination IP address, port, protocol, VLAN, VLAN range, MAC address range and illogical frames.

Typical Applicatioin



Ordering Information

Part number	Description
RC551E-4GE	Intelligent Ethernet Demarcation Device with 4*10/100/1000M electrical ports and 2*100/1000M fiber uplink ports
USFP-GB/M	1.25G, transmission distance 0.55km, multi mode SFP module
USFP-GB/S1	1.25G, transmission distance 15km, single mode SFP module
USFP-GB/S2	1.25G, transmission distance 40km, single mode SFP module
USFP-GB/S3	1.25G, transmission distance 80km, single mode SFP module
CSFP-GB/S	Rate: 1.25G, transmission distance: 40km, CWDM SFP optical module
CSFP-GB/L	Rate: 1.25G, transmission distance: 80km, CWDM SFP optical module
*There are two kinds of SFP modules for the optical port: USFP indicates normally used SFP module using standard 850nm/1310nm/1550nm wavelength; CSFP indicates CWDM SFP module using CWDM specific wavelength.	

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