

RXNoE is a professional processor IP for network stacks, completely offload IGMP/TCP/UDP/ARP/ICMP/IP/MAC, and other functions, it can be applied to data storage, audio and video data transmission terminal, though it provides high bandwidth and low latency, high quality of the network data transmission service. the biggest processing capacity up to 10Gbps Bandwidth.

Functions

Global function

- * ARP request and reply
- * IGMPv1/v2/v3
- * ICMP ping
- * TCP protocol
- * UDP protocol
- * 10G XGMII Ethernet interface
- * 1G RGMII/MII Ethernet interface
- * 100M/10M MII/RMII
- * Register access interface
- * Customizable interrupt functionality
- * 1.2mm² on TSMC28nmHPM
- * Power consumption 0.18mW

key parameter

- * 16 ARP tables
- * 8 IGMP multicast IP
- * 8/16/256 TCP connections
- * Per conn 8KB txbuffer inchip
- * Per conn 16KB rxbuffer inchip
- * 2gap out of order receive
- * 8/16/256 UDP user
- * 8KB UDP txbuffer
- * 8KB UDP rxbuffer

TCP function

- * Per conn Server/Client
- * Connection normal/abnomral close
- * Connection half close and half open
- * ISN start number randomization
- * Automatic/configuration close the half close state
- * Connection reset automatically handles
- * Rx TCP checksum
- * MSS Tcp option
- * Persist Timer
- * Window Detection
- * Slow start and Congest mangament
- * Single/multi-pack retransmission
- * Timeout retransmission with index retreats algorithm
- * Maximum retransmission can be configured
- * Fast retransmission
- * Duplicate ACK can be configured
- * Out of order receiving and data rearrangement, supporting 2gap
- * keepAlive
- * Dynamic computing RTT

UDP function

- * Per conn Server/Client
- * UDP multicast or broadcast
- * UDP Tx/Rx checksum
- * Send in the actual message length
- * Support the MTU can be configured

ARP function

- * ARP request/reply
- * The ARP table item is refreshed automatically
- * ARP table item aging
- * Provide the ARP table entry access interface
- * ICMP ping

IGMP function

- * IGMPv1/v2/v3 request and reply
- * IGMPv2 delete
- * IGMPv2/v3 special group request&reply
- * Take the initiative to join the specified group
- * IGMPv3 state report
- * IGMPv3 specific source query response

System architecture

