



### PRODUCT OVERVIEW

The Marvell® Link Street™ family of low power Fast Ethernet (FE) switches provides industry-leading functionality and price-performance ratio for the cost-sensitive Small Office/Home Office (SOHO) gateway/switching market and enterprise desktop switching market. The Link Street 88E6063 device is a 7-port Quality of Service (QoS) switch integrating a high-performance switching fabric with four priority queues, a high-speed address look-up engine, five 10/100 Ethernet digital PHY ports, two MII ports, seven independent Media Access Controllers (MACs), Virtual Cable Tester™ (VCT) technology for advanced cable diagnostics, 1Mb of memory, and Spanning Tree support. Other advanced features include 802.1p/IPv4/IPv6 traffic classification, 802.1Q VLAN, extensive RMON counters and special power management techniques for lowest power dissipation. The 88E6063 switch has optimizations for faster packet routing and is an ideal product for low cost enterprise-class desktop switches, advanced broadband gateway routers and Multi-Tenant Unit (MTU) gateways.

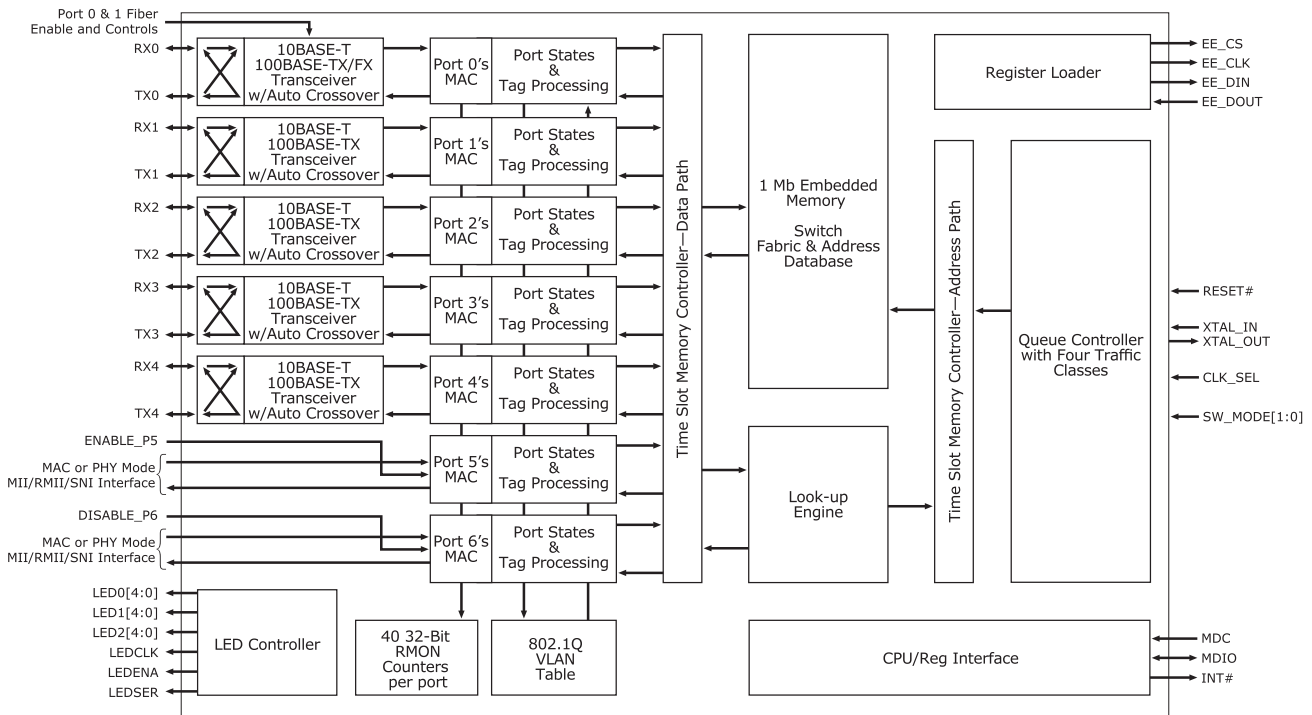


Fig 1. Link Street 88E6063 SOHO Switch Internal Block Diagram

### FEATURES

- Single-chip integration of a 7-port FE QoS switch
- Five integrated 10/100 Ethernet PHY ports and two MII ports
  - Two of the PHY ports can be configured as copper or fiber
  - Multi-mode MII interfaces
- Virtual Cable Tester™(VCT) technology
- Automatic MDI/MDIX crossover for 100BASE-TX and 10BASE-T ports

### BENEFITS

- Provides low power solution for advanced wireless and wireline gateway routers, enterprise desktop switches and MTU gateways
  - Support both copper and fiber connections
  - Provide design flexibility for connections to CPUs or external PHYs
- Advanced cable integrity diagnostics helps customers determine location of cable opens, shorts and impedance mismatch;
- Reduces costly phone calls to equipment manufacturers' support centers
- Simplifies networking installation
- Reduces costly support phone calls





## FEATURES

- High-speed switch fabric
  - Integrated 1 Mb on-chip memory
  - High-performance look-up engine with support for up to 2,048 MAC address entries with automatic learning and aging
- QoS support with four traffic classes
  - QoS determined by destination MAC address, port ID, IEEE 802.1p tags, IPv4 Type of Service (TOS), Differentiated Services (DiffServ), and IPv6 traffic class
- Port VLAN and 802.1Q VLAN support
  - 802.1Q VLAN support for up to 64 VLANs
  - 802.1Q VLAN processing per port and VLAN tagging and untagging
- Multiple address databases (up to 16)
- SNMP and traffic snooping support
  - Extensive RMON statistics counters
  - IGMP snooping (IPv4) and MLD snooping (IPv6)
- Supports a low cost 25 MHz XTAL clock source
- CMOS low power dissipation PAVE = less than 1W

## BENEFITS

- Provides true non-blocking switching performance
  - Reduces cost and enhances performance
  - Supports a large number of Ethernet nodes
- Ideal for supporting prioritized packet streams for time critical and multimedia traffic
  - Supports the most number of traffic priority schemes in its class
- Provides Layer 2 firewall protection
  - Support both port-based membership or 802.1Q VLAN-based membership schemes
  - Supports full IEEE 802.1Q VLAN features
- Allows packet routing without modification of the MAC address
- Enhances manageability
  - SNMP support for better network management
  - Allows better monitoring of traffic running on the network
- Helps to reduce overall Bill of Material (BOM) cost
- Eliminates expensive heatsinks or fans and permits the use of low cost and small enclosures

## APPLICATIONS

The Marvell Link Street family of products provides industry-leading functionality for low cost integrated switches. The 88E6063 switch's high integration, low power, and two extra ports save BOM costs and support many applications with few additional active components in a small footprint. The flexibility of the 88E6063 switch comes from its configuration options and integration. The device supports an optional EEPROM to override any desired QoS default settings. The 88E6063 switch contains PHYs, LED drivers, voltage regulator logic, QoS switch logic, and memory. The only active components required to implement a complete 88E6063 10/100 Ethernet switch are a 25 MHz crystal clock source and two low cost PNP transistors used by the 88E6063 device's voltage regulator to generate 1.5V and 2.5V from 3.3V.

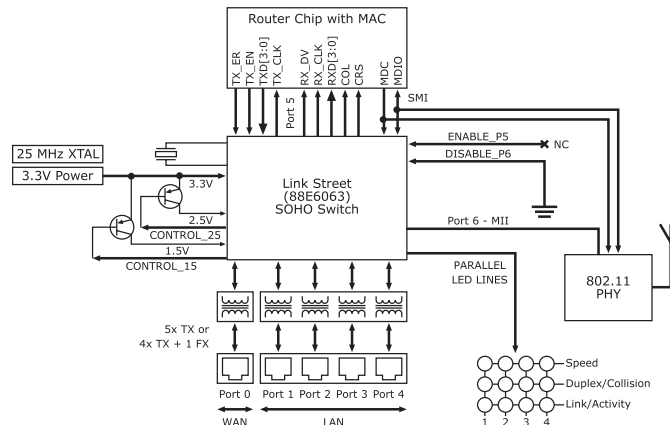


Fig 2. Firewall Router Application

**THE MARVELL ADVANTAGE:** The Marvell Link Street 88E6063 FE switch comes with a complete set of hardware and software development tools to assist network hardware engineers with product evaluation. Marvell's worldwide field applications engineers collaborate closely with network equipment vendors to develop and deliver new competitive products to market on time. Marvell utilizes recognized world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low cost total solutions.

For more information, visit our website at [www.marvell.com](http://www.marvell.com).



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