SiberCAM Ultra-2M

SCT2000

The SiberCAM™ Ultra-2M is the fastest, highest capacity ternary Content Addressable Memory (CAM) based Packet Forwarding Engine (PFE), offering the best price performance for multi-Gigabit/Terabit routers and multi-layer enterprise switches. It enables networking gear to satisfy present and future network bandwidth requirements, alleviating the bottlenecks in the Internet core and enterprise networks.

Based on a proprietary advanced ternary CAM architecture, the Ultra-2M improves the speed and efficiency of address table look-ups in switching and routing equipment, performing up to 100 million multi-layer, multi-protocol look-ups per second. With this ability to forward packets at wire speed, the Ultra-2M is the only solution capable of handling OC-768 (40 Gbit/s) and multiple OC-192 (10 Gbit/s) look-ups.

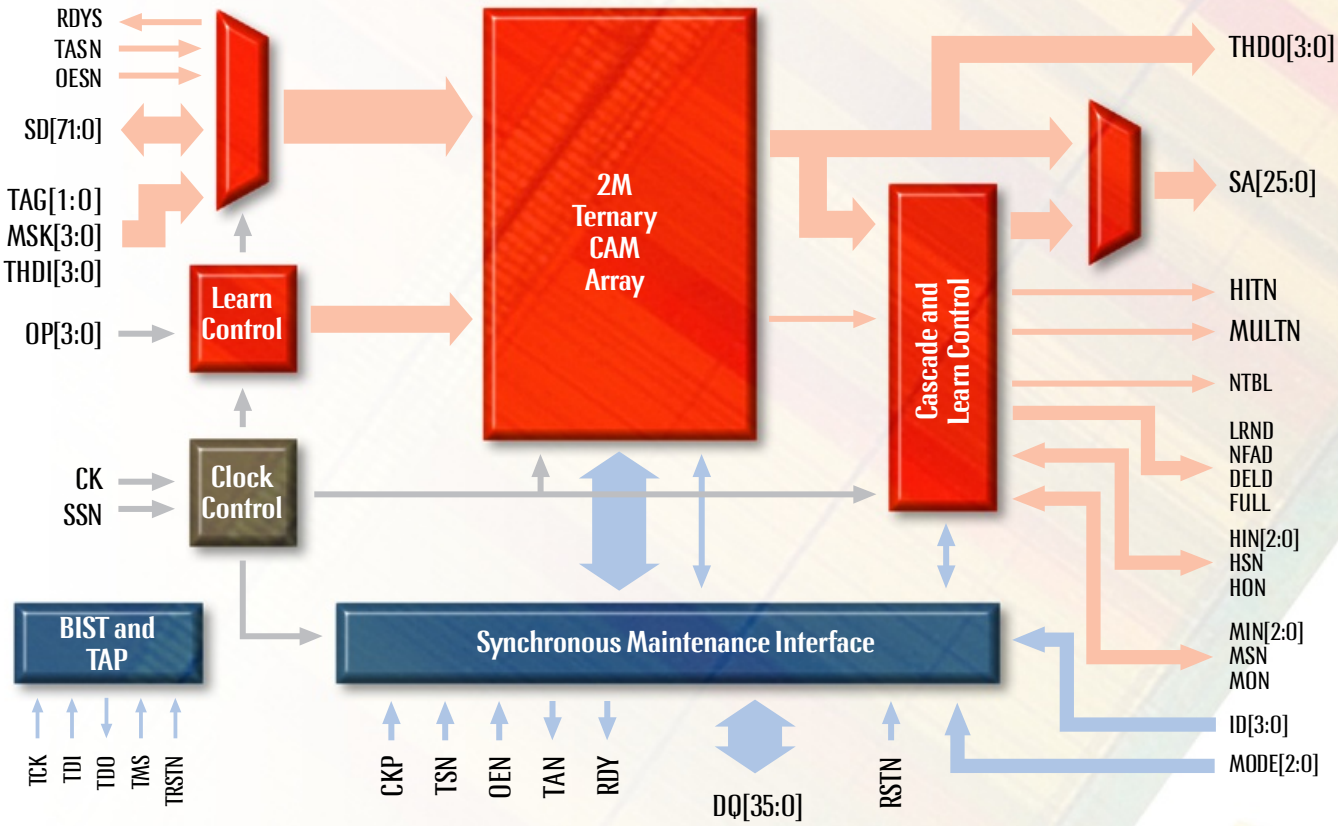
The Ultra-2M scales to meet connectivity demands by supporting full speed look-ups for 64K Layer 3 (IPv4) addresses. Sixteen Ultra-2Ms can be cascaded to support over one million IPv4 addresses in a single routing sub-system, with no search throughput performance penalty.

The Ultra-2M is the only CAM-based PFE to support fully configurable multi-layer forwarding through a unique memory architecture that accommodates varying entry widths. Entries from 36 to 288 bits can be dynamically and individually configured, enabling vendors to support both IPv4 and IPv6 address look-ups in a single chip.

The SiberCAM Ultra-2M provides a third port that uses a non-intrusive interleaving technique to allow routing table address updates to proceed without interrupting or suspending the search path. For applications where pin count is paramount, a pin efficient 2-port mode is also available.

- 2,359,296 bits true ternary Content Addressable Memory (CAM) storage
- Register Configurable as 8K x 288, 16K x 144, 32K x 72 , 64K x 36 or dynamically configurable 36-bit, 72-bit, 144-bit, and 288-bit entries
- 3-port interface for independent search and table management (2-port interface option)
- Up to 100 million look-ups per second throughput
- Glueless cascade support for up to 16 devices allowing scaling up to one million IPv4 addresses

SiberCore Technologies
SILICON SOLUTIONS FOR CYBERSPACE



Part Number

- SCT2000

Features

- 2,359,296-ternary CAM storage
- Register configurable as 64K x 36, 32K x 72, 16K x 144, 8K x 288, or dynamically configurable 36-bit, 72-bit, 144-bit, and 288-bit entries
- High-speed synchronous search port—18-bit, 36-bit and 72-bit bus support
- Search input at Single Data Rate (SDR) or Double Date Rate (DDR)
- 100 Million look-ups per second sustained search throughput
- Independent maintenance port for non-intrusive table update operations
- 16 programmable global search masks
- 16 programmable entry mask registers
- Automatic learning—Entry learned, next free address and entry deleted flags
- 4-bit programmable thread pipeline
- Glueless cascade support for up to 16 chips
- Simple synchronous maintenance port—36-bit and 18-bit bus support
- Built-in burst move operation
- IEEE 1149.1 JTAG TAP with BIST
- 1.8 V core supply (VDD); 3.3 V and 2.5 V I/O (VCC)

Applications

- Internet Core
  - Multi-Gigabit/Terabit Routers
  - Edge Routers
- LAN/Enterprise
  - Backbone Switch/Routers
  - Aggregation Routers
  - 10/100/1,000/10,000 Ethernet
- ATM
- Classless Inter-Domain Routing (CIDR)
- Longest Prefix Match (LPM)
- Class of Service (CoS)
- Quality of Service (QoS)
- Virtual Private Networks (VPN)
- Flow Classification
- Policy-based Networking
- Server Load Balancing

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