

## Advanced Integrated Telemetry Engine™

- ⊕ Multiple dimensions of visualization capabilities
- ⊕ Buffer and Latency monitoring
- ⊕ NetFlow session-level forwarding status monitoring
- ⊕ Per flow ERSPAN capability monitoring

## Programmable Tunnel

- ⊕ Programmable parsing and editing capability
- ⊕ Cost effective and low power solution for vBRAS of edge computing

## Fixed and Low Latency

- ⊕ Proven Cut-through low latency technology
- ⊕ X-PIPE 1.0 technology to ensure the packet with high priority can obtain low latency performance

## Application

CTC5118	
√	Enterprise
√	Metro
√	Hyper Converged

## Physical facts

Package	FCPBGA 1043
Technology	28nm low power technology
Typical Power dissipation	16.8W

## Overview

The Centec® CTC5118 (TsingMa.CX) is a purpose built device to address the challenge in the recent network evolution such as Campus Networking and NB-IoT. To offer enhanced system function integration with lower system BoM cost, the CTC5118 family combines a feature-rich switch core and an embedded ARM A53 CPU Core running at 800MHz/1.2GHz. CTC5118 provides 180G I/O bandwidth.

The CTC5118 SerDes design is compliant with flexible I/O standards including 100BASE-FX/ SGMII / USXGMII/ QSGMII/ XAUI /XFI /SFI /10G-KR. With up to 48 ports of MGig downlink ports, and 10G uplinks.

Built on field proven Centec architecture, the 6<sup>th</sup> generation CTC5118 family provides highly optimized pipeline technology to address the Campus Networking and NB-IoT requirements for larger entry, lower latency and more flexible pipeline.

## Features

### Full-set of Layer 2 Switching

- ⊕ VLAN, MAC, LAG, broadcast storm control
- ⊕ VXLAN to the edge node
- ⊕ IEEE 802.1BR for Bridge Port Extension
- ⊕ DCB (PFC, ECN, ETS) feature set support for RDMA technology

### Full-set of Layer 3 Routing

- ⊕ Support ALPM algorithm for IPv4/IPv6 dual stack
- ⊕ Wire speed NAT / NATPT / NAT-PT forwarding
- ⊕ IPv4 and IPv6 conversion (6in4, 6to4,IVI, etc.)

### MPLS

- ⊕ LSP, L2VPN, L3VPN, L2VPN-L3VPN Gateway
- ⊕ Segment Routing

### Comprehensive OAM/APS feature

- ⊕ IEEE802.1ag CFM/ Y.1731-compliant Ethernet OAM
- ⊕ G.8031/G.8032-compliant Ethernet APS
- ⊕ G.8113.1 / G.8113.2-compliant MPLS-TP OAM
- ⊕ G.8131 and G.8132 compliant MPLS-TP APS
- ⊕ Automatic switching by BFD/OAM defect

### Telemetry

- ⊕ Buffer/Latency monitoring
- ⊕ Hardware support for NetFlow
- ⊕ ERSPAN (Ingress Timestamp and latency)

### Programmability

- ⊕ L2-L4 Programmable Edit
- ⊕ Programmable tunnel encapsulation/decapsulation

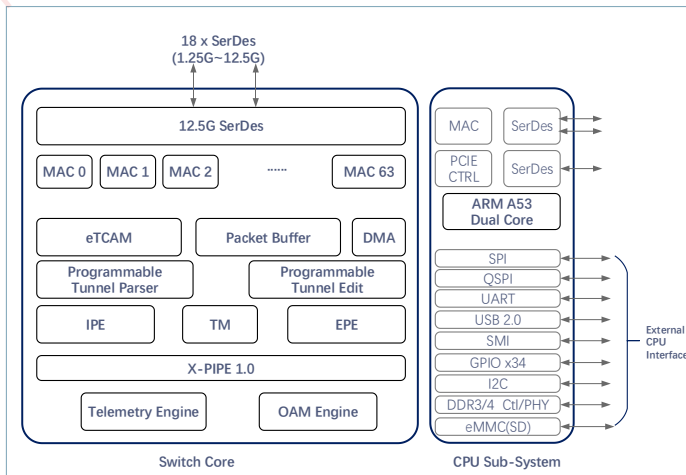
### Security and traffic management

- ⊕ VLAN / MAC / Port / IP binding
- ⊕ CPU traffic control preventing DoS attacks

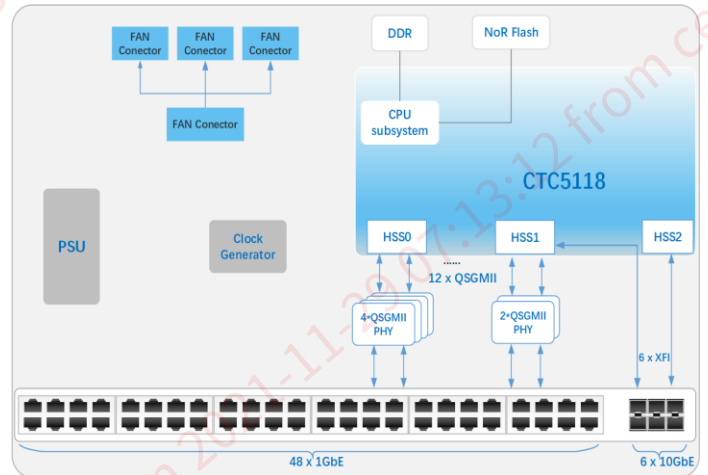
### Network time synchronization

- ⊕ IEEE 1588v2
- ⊕ Synchronous Ethernet

## CTC5118 Function Block



## Enterprise GE Pizza-box Application



Application	Typical Configuration
<b>1G Access</b>	24x 1G+4x 10G
	48x 1G+6x 10G
<b>2.5G Access/Aggregation</b>	16x 2.5G+2x 10G
<b>Chassis Management</b>	12x 1G/10G

## X-Engine™ Innovation

CTC5118 incorporates innovative X-Engine™, which includes OAM/BFD Engine, Telemetry Engine, and Wireless Engine to offer enhanced wire speed capabilities and higher levels of integration to meet the requirements for edge multi-service access scenarios and the converged network.

In Campus Networking, leveraging the Telemetry Engine, CTC5118 can provide the statistics of session-based service, packet-drop, as well as the stats data of the Max/Min latency and jitter. In Carrier Network, via OAM/BFD Engine, CTC5118 provides high-precision, multi-entry OAM and BFD sessions. In addition, CTC5118 offers RFC2544/Y.1564 and TWAMP solution for PTN/IPRAN.

## About Centec

Centec provides innovative switching silicon and whitebox solutions that improve SDN deployment. Centec is committed to empower SDN for carrier, enterprise and data center networks. Leveraging a high-performance open SDN architecture, Centec enables seamless migration from traditional L2, L3 and MPLS/ MPLS-TP architecture to the new SDN eras while solving SDN's biggest challenges. Centec and our customers are redefining the future of network switching.

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