

ComEth4590a

3U VPX Dual-Plane 40 Gigabit Ethernet Switch

- 3U VPX
- Switching for 2 independent domains
- VITA 65.0 Slot Profile SLT3-SWH-6F1U7U-14.4.14
- Up to 34 ports
- 1GBASE-SX, 10GBASE-SR (front)
- 1GBASE-KX, 10GBASE-KX4/KR, 40GBASE-KR4 (rear)
- Aligned with the SOSA™ Technical Standard



Overview

The **ComEth4590a** is a high performance ruggedized dual plane 3U VPX Layer 2/3 Ethernet switch, developed in alignment with the SOSA™ (Sensor Open Systems Architecture) Technical Standard.

Description

The **ComEth4590a** integrates two sets of independent layer 2 (Ethernet) and layer 3 switches & control processors to support physically separated Control and Data Planes for highly secured 3U VPX systems.

These two Ethernet packet processors, managed by the Dual core ARM processors, offer remarkable switching capabilities with 1G, 10G and 40G Ethernet configurations.

The **ComEth4590a** is available as a conduction-cooled type 1 plug-in unit compliant with the VITA 48.2 standard (version without front panel optical ports).

It includes a secondary side cover and supports 2 Level Maintenance (2LM) environments.

Ethernet interfaces

10G/40G Data Plane Switch:

- 6 * Fat Pipe ports capable of 40GBase-KR4/10GBase-KX4 operation [VPX backplane P1/P2]

note: each Fat Pipe can also be split into 4 10GBase-KR/1000Base-KX ports*

- 2 * optional Front Panel optical ports supporting 10GBase-SR or 1000Base-SX

10G Control Plane Switch:

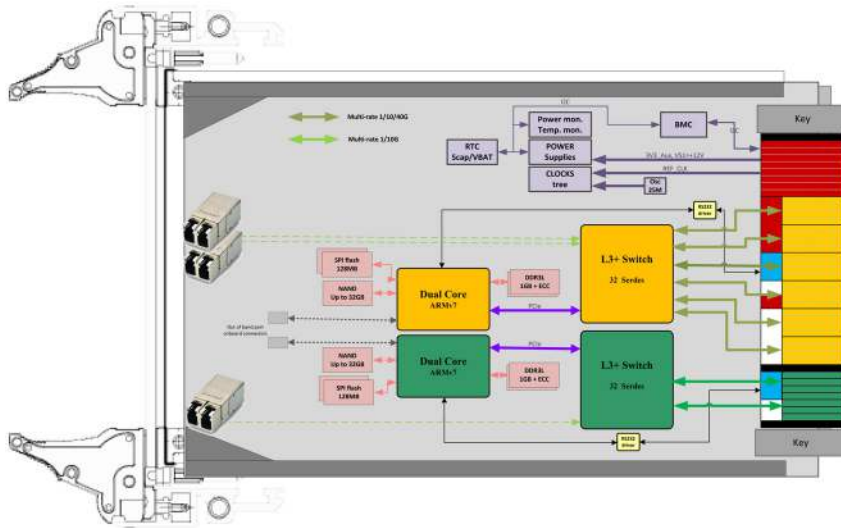
- 7 * Ultra-Thin Pipe ports capable of 10GBase-KR/1000Base-KX operation [VPX backplane P2]

- 1 * optional Front Panel optical port supporting 10GBase-SR or 1000Base-SX

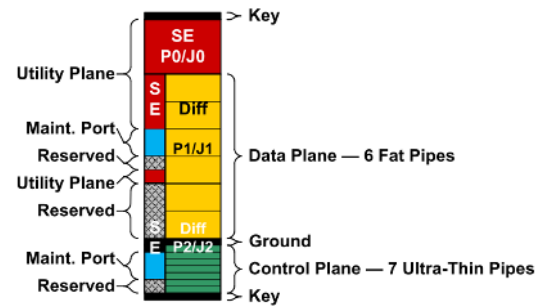
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Block Diagram



The **ComEth4590a** is compliant with VITA 65.0 Slot Profile SLT3-SWH-6F1U7U-14.4.14.



Main features

Layer 1/2

- Speed, duplex, auto-negotiation, flow control and power management on all ports
- VLAN support / 802.1Q tagging
- Port mirroring
- Port rights management
- Static MAC address list
- Static IPM address list
- Port static authentication
- IEEE 802.1X authentication
- Ingress filtering
- Storm prevention
- QoS on all ports
- Ingress / egress access lists
- Rate limiting
- QoS remarking
- Static trunking / LACP
- STP / RSTP
- IGMP/MLD snooping

Security Management

- Login/password, key or certificate authentication
- Secure switch management by HTTPS, SSH or SNMPv3
- 802.1X port-based authentication

QoS

- Layer 2 802.1p User Priority tagging
- Layer 3 IP DSCP (Diffsev)
- Access Control Lists (L2, L3, L4)

Multicast

- IGMP snooping (v1, v2, v3)
- MLD snooping (v1, v2)

Layer 3

- ICMP
- Proxy-ARP
- DHCP-relay
- NAT
- IPv4 routing (unicast/multicast)
- Static IP routing (unicast and multicast)
- RIPv1, RIPv2 (IPv4)
- RIPng(IPv6)
- OSPFv2 (IPv4) / OSPFv3(IPv6)

Others

- PBIT results
- Temperature information
- CPU load
- Switch state
- Global and detailed ports statistics
- VLANs statistics
- Bridge egress, ingress and RMON statistics
- Ingress and egress access lists statistics
- Rate limiting statistics
- Queues and ingress buffers counters
- IGMP snooping state by
- VLAN and by port
- MAC address table access
- IPM address table access
- STP/RTSP state
- 1588-PTP-Transparent mode

Switch management

Switchware is a comprehensive switch management stack running on Interface Concept's Ethernet switch product line. It is running on the **ComEth4590a** on-board processor and supports a rich set of Layer 2/3 features controlled through the following interfaces:

- Graphical User Interface (GUI)
- Command Line Interface (CLI)
- SNMP (v2c or v3)

The **ComEth4590a** also supports VPX System Management in compliance with VITA 46.11 and based on the Intelligent Platform Management Interface (IPMI v1.5) for sensor management (temperature, voltage, current), inventory management, system configuration, recovery and diagnostic management.

Rear Transition Modules



The **RTM22** is a 3U VPX Rear Transition Module to be coupled with the **ComEth4590a** Data Plane

The **RTM22** features:

- 8 * 10G SFP+ cages - P1 (DP01 and DP02)
- 1 * RS232 or LVCMOS console port
- 1.60" (8HP) pitch wide according to VITA 46.0
- available in air-cooled version



The **RTM23** is a 3U VPX Rear Transition Module to be coupled with the **ComEth4590a** Control Plane

The **RTM23** features:

- 7 * 10G SFP+ cages - P2 (CPUTP0x and CSUTP01)
- 1 * RS232 or LVCMOS console port
- 1.60" (8HP) pitch wide according to VITA 46.0
- available in air-cooled version

Grades

Criterion	Coating	Operation Temperature	Rec. Airflow	Oper. HR% no cond.	Storage Temperature	Sinusoidal Vibration	Random Vibration	Shock 1/2 Sin. 11ms
Conduction Cooled 85°C	Yes	-40 to 85°C at the thermal interface(+)		5 to 95%	-45 to 100°C	5G [20..2000]Hz	0.1g2 /Hz [10..2000]Hz	40G

(+) Temperature grades are subject to availability according to IC products. Please consult us.

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