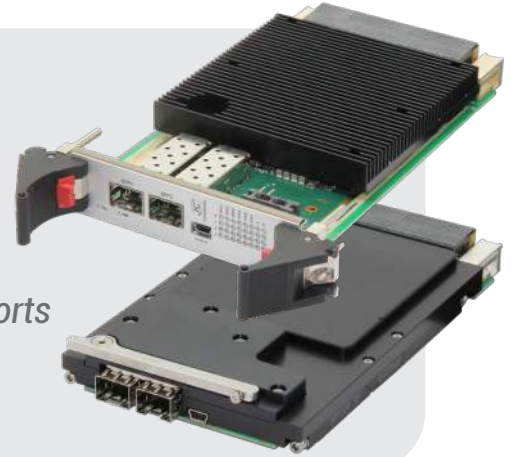


ComEth4582a

3U VPX 10/40 Gigabit Ethernet Switch and IP router

- 3U VPX
- Managed Layer 2+/3 switch
- VITA 65.0 SLT3-SWH-6F6U-14.4.1
- Up to 32 ports
- 1GBASE-KX, 10GBASE-KX4/KR 40GBASE-KR4 ports
- Expander board
- Aligned with the SOSA® Technical Standard



Overview

The **ComEth4582a** is a 3U VPX 10/40 Gigabit Ethernet switch, based on a new generation of multi-layer Ethernet matrix for high speed embedded interconnect applications requiring low-power 10G and 40G connectivity.

Description

The **ComEth4582a** integrates a Layer 2 (Ethernet) and Layer 3 switch, and a control processor to support virtually separated Control and Data Planes for highly secured 3U VPX systems.

The Ethernet packet processor, managed by the dual-core ARM processor, offers remarkable switching capabilities with 1G, 10G and 40G Ethernet configurations.

The **ComEth4582a** is available in two versions:

- The **ComEth4582a-010** and **ComEth4582a-020** versions are compliant with:
VITA 65.0 SLT3-SWH-6F6U-14.4.1 Slot Profile
- The **ComEth4582a-030** version is compliant with:
VITA 65.0 SLT3-SWH-6F1U7U-14.4.14 Slot Profile and is aligned with the SOSA® Technical Standard. (Sensor Open Systems Architecture).

Ethernet interfaces

Both **ComEth4582a-010** and **ComEth4582a-020** versions support up to 32 ports:

- 30 * 1GBASE-KX/10GBASE-KR ports⁽¹⁾ (P1/P2)
- 2 * front panel ports: SFP+ cages or on-board 1G/10G optical transceivers LC (build option)

⁽¹⁾ Note: ports can be merged by groups of 4 to support 40GBASE-KR4

The **ComEth4582a-030** version supports up to 31 ports:

10G/40G Data Plane

- 6 * Fat Pipe ports capable of 40GBASE-KR4/10GBASE-KX4 operation (P1/P2) ⁽²⁾

⁽²⁾ Note: each Fat Pipe can also be split into 4 * 10GBASE-KR/1000BASE-KX ports

10G Control Plane

- 5 * Ultra-Thin Pipe ports capable of 10GBASE-KR/1000BASE-KX operation (P2)

Front panel interfaces

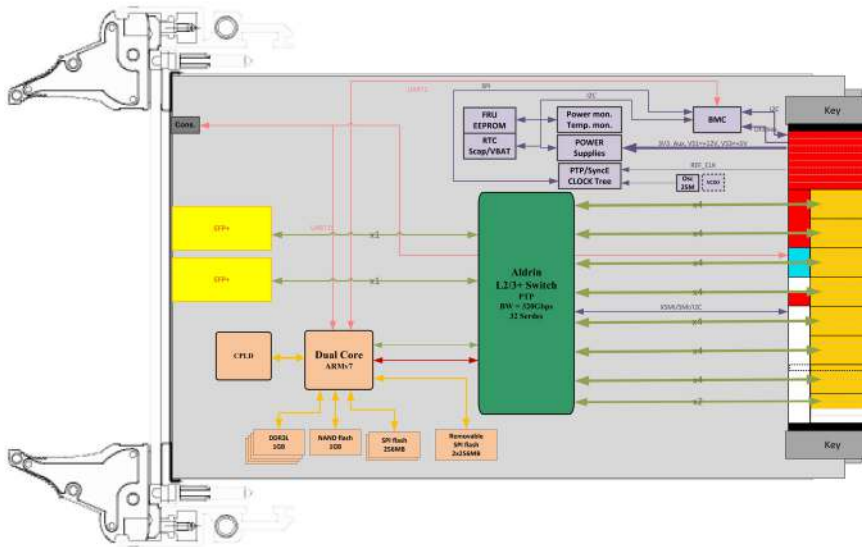
- 2 * ports on the front panel that can be either SFP+ cages or on-board 1G/10G optical transceivers (build option)

The **ComEth4582a** is compliant with VITA 46.0 standard. It is available in air-cooled (1") and conduction-cooled (0.8") versions.

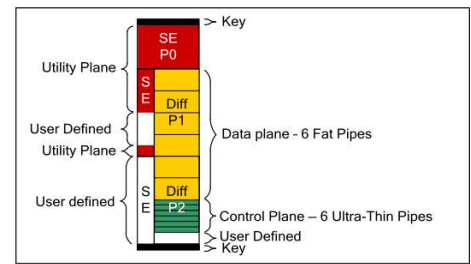
ComEth4582a

3U VPX 10/40 Gigabit Ethernet Switch and IP router

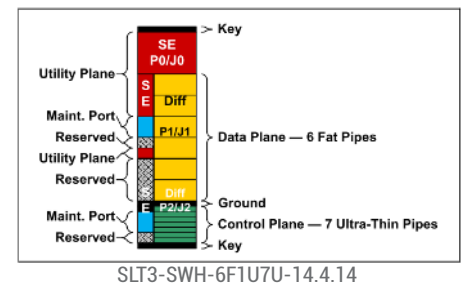
Block Diagram



The **ComEth4582a-010** and **ComEth4582a-020** versions are compliant with the Slot Profile SLT3-SWH-6F6U-14.4.1.



The **ComEth4582a-030** version is aligned with the SOSA® Slot Profile SLT3-SWH-6F1U7U-14.4.14. (Note that 5 of the 7 Control plane ports can be supported. Please consult us.)



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)

Miscellaneous

- 1 * RS232 port, front mini-USB or on P1 connector
- Status Led indicators (front)
- µ-controller for System Management (as per VITA 46.11)

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

ComEth4582a

3U VPX 10/40 Gigabit Ethernet Switch and IP router

Switch management

Switchware is a comprehensive switch management stack running on Interface Concept's Ethernet switch product line. It is running on the **ComEth4582a** 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)

Expander board

The expander board is a VPX 3U board which allows to transfer some rear ports of the **ComEth4582a** to the front of the equipment. Up to 6 expander boards can be attached to a **ComEth4582a** (custom backplane on request).



The **ComEth4582a** 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. IC's Switchware management application provides IPv6 support, RIPng, OSPF v3, VRRP, security features, configurable memory allocation, new status counters.

Two expander board versions are available:

- 4 SFP cages and 1 SFP+ cage
- 5 SFP+ cages

The SFP cage supports the following module types:

- 100BASE-FX, 1000BASE-T, 1000BASE-SX or 1000BASE-LX

The SFP+ cage supports the following module types:

- 1000BASE-T, 1000BASE-SX, 1000BASE-LX, direct attached cable (1G/10G speed) or 10GBASE-SR

Note: the 10G depends on the backplane speed capabilities

Real Transition Modules

The **RTM134** is a 3U VPX Rear Transition Module to be coupled with **ComEth4582a** Data Plane

RTM134 features:

- 10 * 10G SFP+ cages - P1 (DP01 and DP02 and DP03-0..1)
- 1 * RS232 Console
- 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 **ComEth4582a** Control Plane.

RTM23 features:

- 6 * 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	Standard	Extended	Rugged	AFT	Conduction-Cooled 71°C	Conduction-Cooled 85°C
Coating	Optional	Yes	Yes	Yes	Yes	Yes
Operat. Temp.	0°C to 55°C	-20°C to 65°C	-40°C to 71°C	-40°C to 85°C at the thermal interface	-40°C to 71°C at the thermal interface	-40°C to 85°C at the thermal interface
Rec. Airflow	(*)	(*)	(*)	(*)	-	-
Oper. HR% no cond.	5 to 90%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%
Storage Temperature	-45°C to 85°C	-45°C to 85°C	-45°C to 100°C	-45°C to 100°C	-45°C to 100°C	-45°C to 100°C
Sinusoidal Vibration	2G [20..2000]Hz	2G [20..2000]Hz	5G [20..2000]Hz	5G [20..2000]Hz	5G [20..2000]Hz	5G [20..2000]Hz
Random Vibration	0.002g2 / Hz [10..2000]Hz	0.002g2 / Hz [10..2000]Hz	0.05g2 / Hz [10..2000]Hz	0.1g2 / Hz [10..2000]Hz	0.1g2 / Hz [10..2000]Hz	0.1g2 / Hz [10..2000]Hz
Shock 1/2 Sin. 11 ms	20G	20G	40G	40G	40G	40G

(*) Grades and conditions are subject to availability according to IC products. Please consult us or refer to user manuals.

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