

ComEth4682e

3U VPX 1/10/25/40/100 Gigabit Ethernet Switch and IP router

- 3U VPX
- Managed Layer 2+/3 switch
- VITA 65.0 SLT3-SWH-6F1U7U-14.4.14 (SOSA®)
- VITA 65.0 SLT3-SWH-6F8U-14.4.15
- Up to 57 ports - 24 optical ports (2 front MPO)
- 1GBASE-T (option), 1GBASE-KX, 10/25GBASE-KR, 40/100GBASE-KR4 (rear)
- Aligned with the SOSA® Technical Standard



Overview

The **ComEth4682e** is a 3U VPX Gigabit Ethernet switch leveraging a next-generation Ethernet switching SoC and multilayer fabric to deliver high-speed 10/40G and 25/100G connectivity for embedded systems.

Description

The **ComEth4682e** integrates a Layer 2/3 switch and a dual core ARM control processor. It provides switching at 1G, 10G, 25G, 40G, and 100G speeds, with support for virtually isolated Control and Data planes for secure 3U VPX deployments.

The **ComEth4682e** is available in 2 factory configurations:

- A SOSA-aligned configuration (compliant with VITA 65.0 SLT3-SWH-6F1U7U-14.4.14) incorporating a ground wafer separating Data and Control planes.
- A legacy VITA 65.0 configuration (compliant with VITA 65.0 SLT3-SWH-6F8U-14.4.15) which diverges from the SOSA-aligned version to offer one additional backplane port (replacing the ground wafer) and one additional 1GBASE-T port using the P2 Single-Ended signals.

This legacy configuration also supports the following VITA profiles by software reconfiguration:

- VITA 65.0 SLT3-SWH-8F-14.4.2
- VITA 65.0 SLT3-SWH-2F24U-14.4.3
- VITA 65.0 SLT3-SWH 4F-14.4.4
- VITA 65.0 SLT3-SWH 2F8U-14.4.5
- VITA 65.0 SLT3-SWH 6F8U-14.4.9
- VITA 65.0 SLT3-SWH-4F16U-14.4.13



Ethernet interfaces

Rear interfaces

- **SOSA-aligned configuration**
 - 6 Fat Pipes supporting 40G/100GBASE-KR4 on the backplane; each can be divided into 4 Ultra-Thin Pipes operating in 1GBASE-KX, 10GBASE-KR, or 25GBASE-KR
 - 7 additional Ultra-Thin Pipes supporting 1GBASE-KX, 10GBASE-KR, or 25GBASE-KR
- **Legacy VITA 65.0 configuration**
 - 8 Fat Pipes supporting 40G/100GBASE-KR4 on the backplane; each can be divided into 4 Ultra-Thin Pipes operating in 1GBASE-KX, 10GBASE-KR or 25GBASE-KR
 - 1 * 1GBASE-T port

Front panel interfaces

Front-panel interface build options are available for both the SOSA-aligned and legacy VITA 65.0 versions:

- No front panel interface
 - 1 * MPO interface providing 3 * 100GBASE-SR4 ^(*)
 - 2 * MPO interfaces providing 6 * 100GBASE-SR4 ^(*)
- ^(*) Each 100G port can be divided into 4 * 25GBASE-SR.

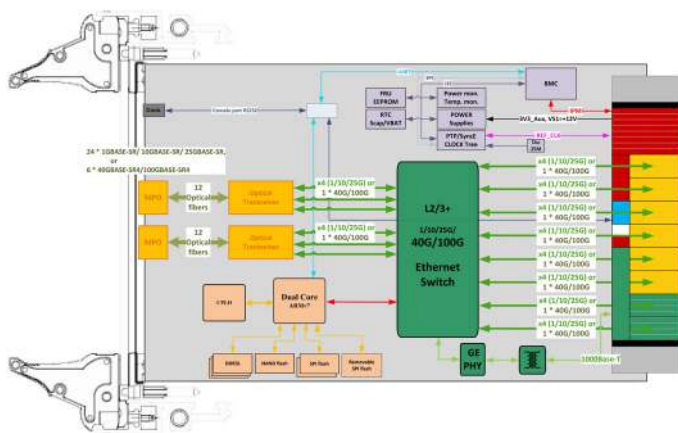
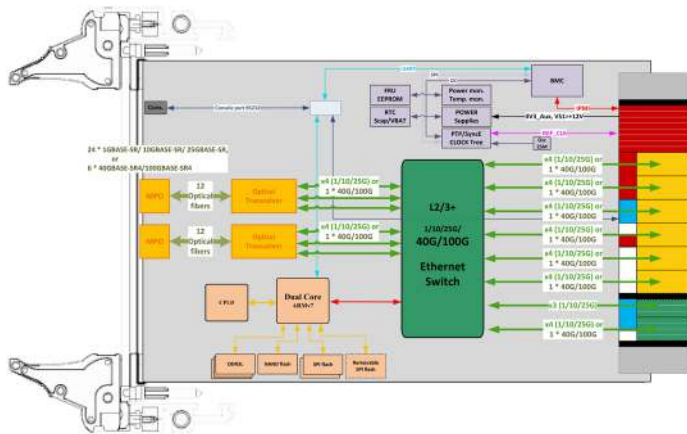
The **ComEth4682e** is available in two build configurations compliant with the following Slot Profiles:

- VITA 65.0 SLT3-SWH-6F1U7U-14.4.14
- VITA 65.0 SLT3-SWH-6F8U-14.4.15

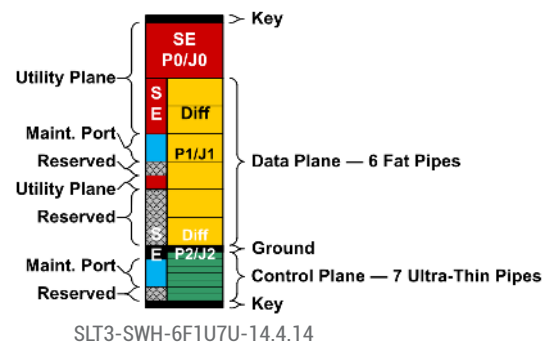
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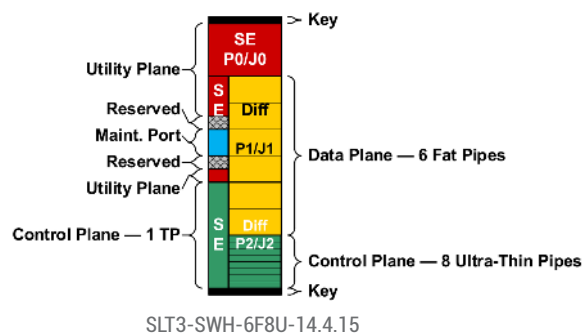
Block Diagram



The **ComEth4682e** is available in a version compliant with VITA 65.0 SLT3-SWH-6F1U7U-14.4.14 Slot Profile.



The **ComEth4682e** is available (build option) in a version compliant with VITA 65.0 SLT3-SWH-6F8U-14.4.15 Slot Profile.



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)
- PIM-SM (IPv4)

Miscellaneous

- 1 * console 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

Switch management

Switchware is a comprehensive switch management stack running on Interface Concept's Ethernet switch product line. It is running on the **ComEth4682e** 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)

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

The **ComEth4682e** also supports VPX System Management in compliance with VITA 46.11 and based on the Intelligent Platform Management Interface for sensor management (temperature, voltage), inventory management, system configuration, recovery and diagnostic management.

Rear Transition Modules

3U VPX Rear Transition Modules are available in air-cooled version (1.60" (8HP) pitch wide according to VITA 46.0).

RTM134-03:

- 10 * 1/10G SFP cages (*) – P1(DP01to DP03)
- 1 * RS232 Console

RTM134-04:

- 10 * 1/10G SFP cages (*) – P1(DP01to DP03)
- 1 * LVCMOS Console

RTM140-01:

- 6 * 40/100G QSFP cages (*) - P1/P2 (DP01 to DP06)
- 2 * 1/10/25G SFP cages (*) - P2 (DP08.2 to DP08.3)

RTM140-02:

- 6 * 40/100G QSFP cages (*) - P1/P2 (DP01 to DP06)
- 1*1GBASE-T Single-Ended (ETHBT)

(*) QSFP/SFP not included



RTM140

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.

For more information, please contact:



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