



GE Aerospace

VNetS-3320

High-Bandwidth TSN Network Switch Card

Next generation, state-of-the-art, ruggedized avionics Ethernet switch card designed for safety critical applications when determinism matters

Designed to Open Standards

- HOST Compliant
- IEEE 802.1 Time-Sensitive Network (TSN)
- IEEE P802.1DP/SAE AS-6675 TSN Aerospace Profile
- IEEE 802.3 Standard for Ethernet

Multiple Form Factors

- Ruggedized for Commercial or Military aircraft usage
- Lab evaluation unit available

Flexible Network Configurations

- Switching core fabric provides a superset of switch functionality to support the widest possible range of customer applications
- Deterministic or non-deterministic network protocols
- Ethernet ports configurable to bandwidth needs
- Supports redundant outputs for improved availability
- Can drive external fiber optics or copper PHYs



Representative picture, subject to change

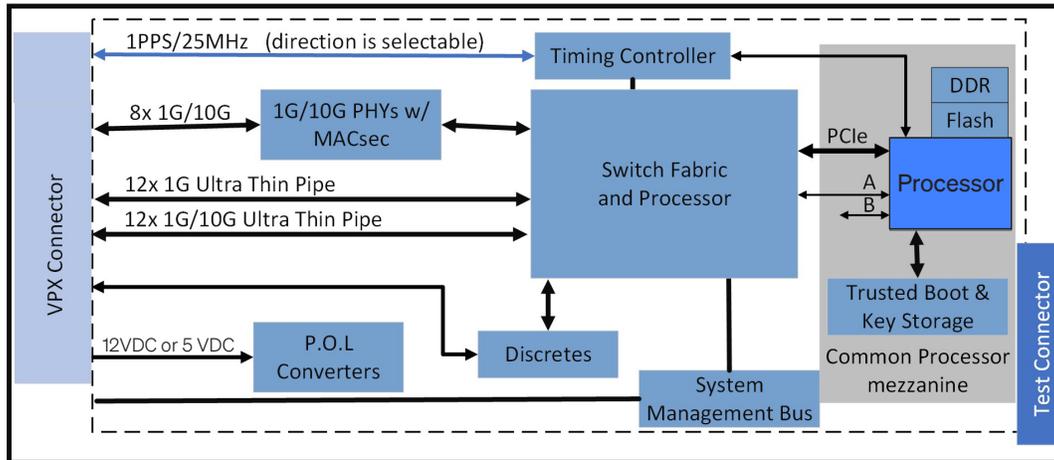


Critical Functionality Inherent to Design

- Extensive traffic policing, segregation and priority mechanisms
- Ports can be used as mirror ports, flight test interfaces, or a variety of other functions
- Grand Master Clock functionality is able to sync to an external 1PPS GPS input or simulate a 1PPS output

Configuration Simplified

- Extensive TSN toolset for configuration of the switch & Network
- Delivered in pre-configured state <or> user configured during integration
- GE also offers a complete architecture and configuration toolset which includes networking (TSN, ARINC 664, Ethernet), ARINC 653 compute resources, and programmable Remote Data Concentrators



NOTE: Switch must be configured to not exceed 200Gbps non-blocking bandwidth



CHRONOS
Time-Sensitive Networking Toolset

Specifications

Physical Characteristics

VITA 46 single 1 slot 3U compliant

Baseline Configuration

HOST compliant 3U VPX

Configured as SLT3-SWH-32U

2x Fat pipes, each configurable with four lanes of

- 1000Base-KX or 10GBase-KR
- Optional MACsec Encryption

24x Thin Pipes

- 12x 1000Base-KX
- 12x 1000Base-KX or 10Gbase-KR

Geographical Address Position Inputs

Non-volatile memory write protect

1x 1PPS bidirectional in/out-selectable

1x 25MHz bidirectional in/out selectable

5V or 12V primary power input (build selectable)

ARINC 615A data load

Optional NETCONF/YANG configuration for development use

Features

Deterministic Ethernet

- IEEE 802.1 Time-Sensitive Networking (TSN)
- IEEE P802.1DP/SAE AS-6675 TSN Aerospace Profile
- IEEE 802.1AS high accuracy generalized Precision Time Protocol (gPTP)

Can be disciplined by external GPS or A-PNT

Supports certification to Design Assurance Level (DAL) A

- DO-254 and DO-178C

Grand Master Clock with Stratum 3E stability

Full Layer 2 capability

IPv4 Layer 3 static forwarding/policing

MAC Multi-Port Bridge and VLAN

- 802.1D, 802.1P, 802.1Q

Tools

GE Model Foundry System Architecture toolset

Chronos TSN configuration tool

- Full architecture generation and analysis
- Graphical and report outputs
- Industry standard inputs with flexible inputs from modeling tools and manual input
- Industry standard and flexible outputs

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GE Aerospace

3290 Patterson AVE SE, Grand Rapids, MI 49512

www.geaerospace.com

Inquiries: networking@ge.com