Versatile Network Switching

VNetS-3200 High-Bandwidth TSN Network Switch

Our next generation, state-of-the-art, ruggedized avionics high-bandwidth switch unit designed for safety critical applications when determinism matters

Picture subject to change
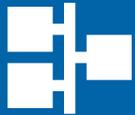
Flexible Network Configurations

- 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
- Ruggedized for Commercial or Military aircraft usage

Designed to Open Standards

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

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

Photo: USAF

geaviation.com

Performance specifications

Baseline Configuration

- 200Gbps non-blocking bandwidth
- 12x 10GBase-SR Fiber Optic ports
  - Option to upgrade to 25G
- 6x 10/100/1000Base-T copper ports
- 2x 10/100Base-T copper ports
- All ports MACsec encryption capable
- Trusted platform, including trusted boot
- 1PPS and 10MHz in and out
- 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) Grand Master Clock with Stratum 3E stability
- Full Layer 2 capability
- IPv4 layer 3 static forwarding/policing
- MAC Multi-Port Bridge & VLAN
- 28V Primary power input - Dual
- Optional High-Performance Processing
  - GE Developed System on Module
    - High performance FPGA fabric
    - Multiple processor cores

- Enables additional functionality – For example:
  - Cross Domain Solution for security
  - Health Management
- Aircraft dataloader
- ARINC 615A dataload
- NETCONF/YANG configuration for development

Tools

- GE Model Foundry System Architecture toolset
- Chronos TSN configuration tool
  - Full architecture generation and analysis
  - Graphical and Report outputs
  - Industry standard inputs as well as flexible inputs from modeling tools and manual input
  - Industry standard and flexible outputs

CHRONOS

Feature	Attribute
Size	LRU
Operational Temperature	-40°C to +85°C ambient
Altitude	TBD
Relative Humidity	>95%
Cooling	Convection
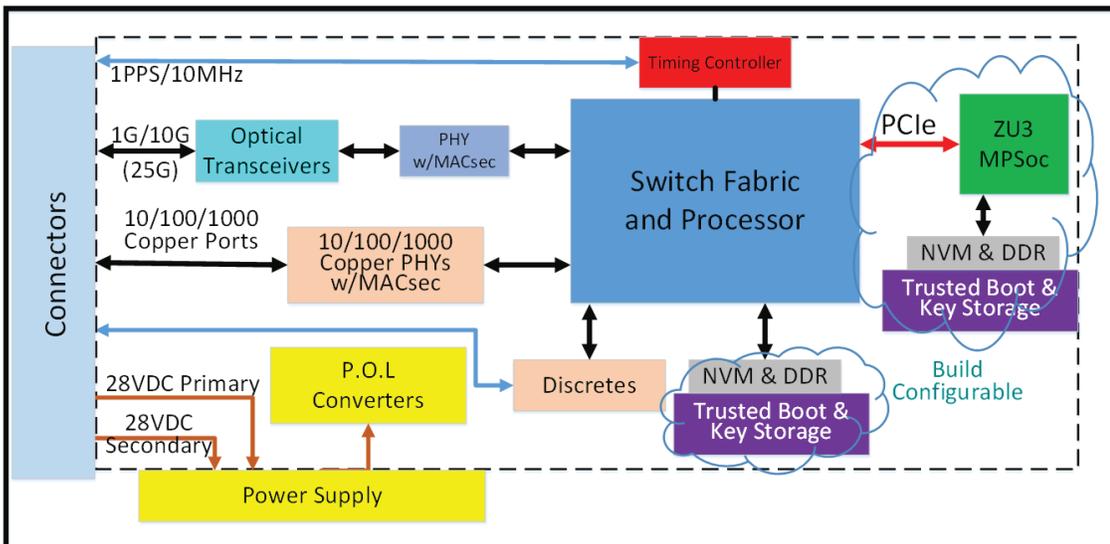
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