Versatile Network Switching

VNetS-3320 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

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
- HOST Compliant
- 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

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Performance specifications

Baseline Configuration

- HOST Compliant 3U VPX
  - VITA 65 SLT3-SWH-2F24U
- 200Gbps non-blocking bandwidth
- 2x Fat Pipes, each configurable for four lanes of:
  - 1000Base-KX or 10GBase-KR
  - Optional MACsec encryption
- 24x Ultra-Thin Pipes:
  - 12x 1000Base-KX
  - 12x 1000Base-KR 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 Primary power input
- ARINC 615A dataload
- Optional NETCONF/YANG configuration for development use

<table>
<thead>
<tr>
<th>Feature</th>
<th>Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (L x W x H)</td>
<td>VITA 46 3U Compliant</td>
</tr>
<tr>
<td>Operational</td>
<td>-40°C to +71°C ambient</td>
</tr>
<tr>
<td>Temperature</td>
<td>TBD</td>
</tr>
<tr>
<td>Altitude</td>
<td>&gt;95%</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>Convection or Conduction</td>
</tr>
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<td>Cooling</td>
<td></td>
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</tbody>
</table>

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) Grand Master Clock with Stratum 3E stability
- Full Layer 2 capability
- IPv4 layer 3 static forwarding/policing
- MAC Multi-Port Bridge & 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 as well as flexible inputs from modeling tools and manual input
  - Industry standard and flexible outputs

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