FULCRUM microsystems

Monte Carlo

Product Brief — FocalPoint 1G/10G Ethernet Switch Reference Design

The compact and complete single-board reference design for the FocalPoint® 10G Ethernet Interconnect can be used to rapidly and exhaustively evaluate the performance and flexibility of the FocalPoint FM4224 switch / router, either in a test environment or a live datacenter network. The platform contains 20 10GBase-T interfaces plus four SFP+ interfaces in a 1U rack-mountable chassis, and can be ordered with software installed and ready to run.

The Monte Carlo Reference Design contains a Freescale 8543 control processor, which can be used to program the platform for a variety of configurations, and provide health and activity information as requested. The platform also contains Fulcrum's TestPoint™ software, which operates on Linux 2.6 embedded operating system.

Reference Design Highlights

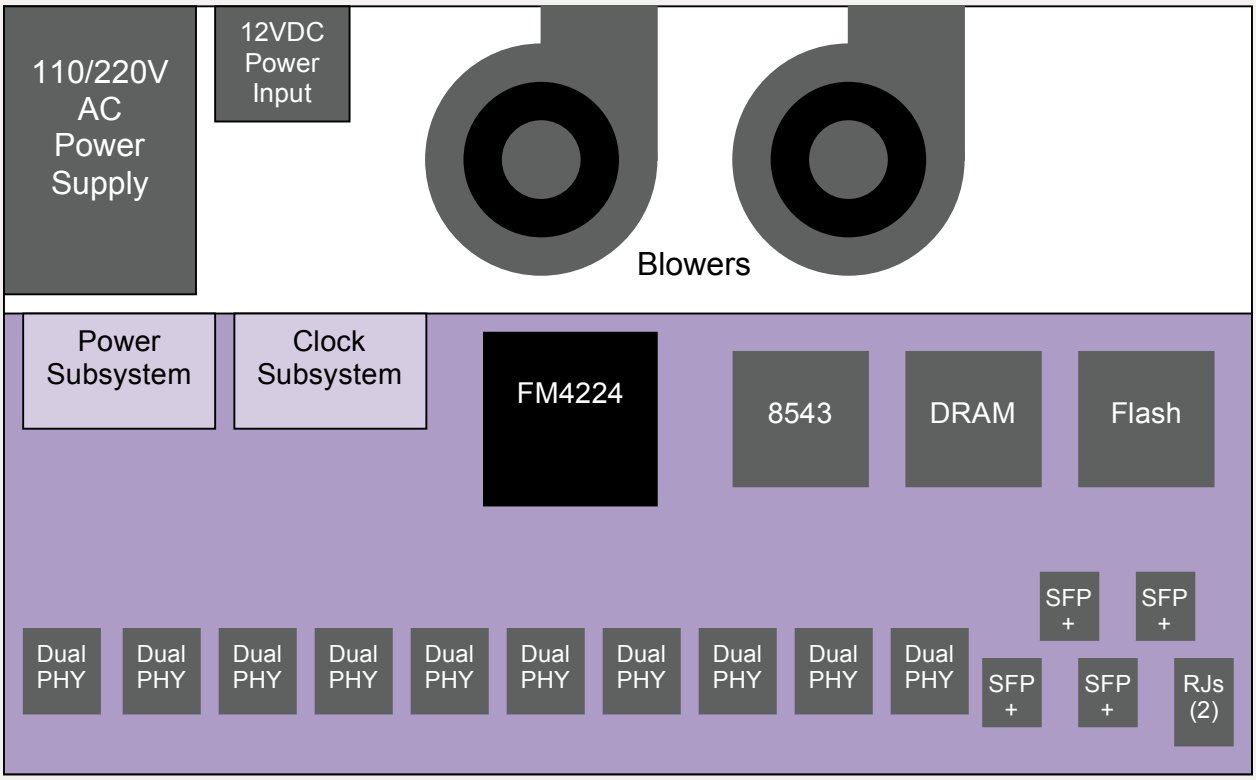
- **Thoroughly evaluate the devices** with any traffic and load pattern, and any number of active interfaces. With 10GBase-T interfaces, the platform is easily connected to external testers and analyzers (operating at either 10/100/1000 or 10G rates), as well as computing and storage systems via a variety of NICs and HBAs.
- **Evaluate other hardware elements**. Leverage the unparalleled performance of the Monte Carlo platform to establish the baseline for testing NICs, servers, and storage sub-systems in live clustered configurations.
- **Accelerate software development** by leveraging the full-featured platform for software design and test – prior to the availability of system hardware.
- **Accelerate hardware development** by leveraging the design of the platform to kick-start a custom design. Design files and documentation are available to assist the hardware designer in getting to market quickly.
- **Test networking features**, which include: MAC-based switching and IP routing, class-based Pause, VLANs, spanning tree, link aggregation, ACLs and statistics.

Flexible Programming Options

- **Multiple connectivity options** are supported, including a terminal directly attached to a console port, via a TELNET session, or over a network via an Ethernet "BaseT" interface.
- **Embedded operating system**, Linux 2.6, loaded on a Compact Flash card offers users broad flexibility in tools, development platforms, available software modules, and code reuse.
- **TestPoint**, Fulcrum's proprietary configuration scripting tool, automates production test and static configuration of FocalPoint devices in embedded applications, using simple PERL scripts.
- **Intelligent API and Drivers** provide a sophisticated abstraction layer for interfacing to TestPoint software, as well as other applications, and provide a consistent view of all FocalPoint devices -- regardless of port configuration and supported features.

FocalPoint 1G/10G Ethernet Switch Reference Design

Monte Carlo Architecture



The Monte Carlo platform is a complete system reference design that contains a 110/220 VAC power supply, a 12 VDC power input, and a highly-integrated single-board design that, combined, provides up to 24 10 Gigabit Ethernet ports in a compact 1U rack-mountable form factor. LED indicators and front-panel control ports provide visibility into the status of, and management control over, the system.

Reference Design Components

The Monte Carlo Reference Design is available for ordering as follows:

- **Platform with 10GBase-T interfaces**
  Monte-Carlo-01 (FM4224)
  24-port 1G/10G Ethernet switch reference design housed in a 1U 19" rack-mountable chassis that contains 20 10GBase-T plus four SFP+ interfaces.

Note: The Monte Carlo platform ships from the factory with TestPoint software installed.

Dimensions and Power

- System: 17" (w) x 19" (d)
- Main board: 16.7" (w) x 9.6" (d)
- Power: 350W power supply

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