Signal Processors

MSC81x2 DSP High-Volume Packet Telephony Farm Card (81x2PFC-HV)

Overview

The MSC81x2 High-Volume Packet Telephony Farm Card (81x2PFC-HV) is a hardware evaluation platform designed for medium- to large-size integrated voice and data equipment. It is based on Freescale's MSC81xx family of DSPs based on StarCore™ technology and is designed to support up to 672 channels of high-density voice.

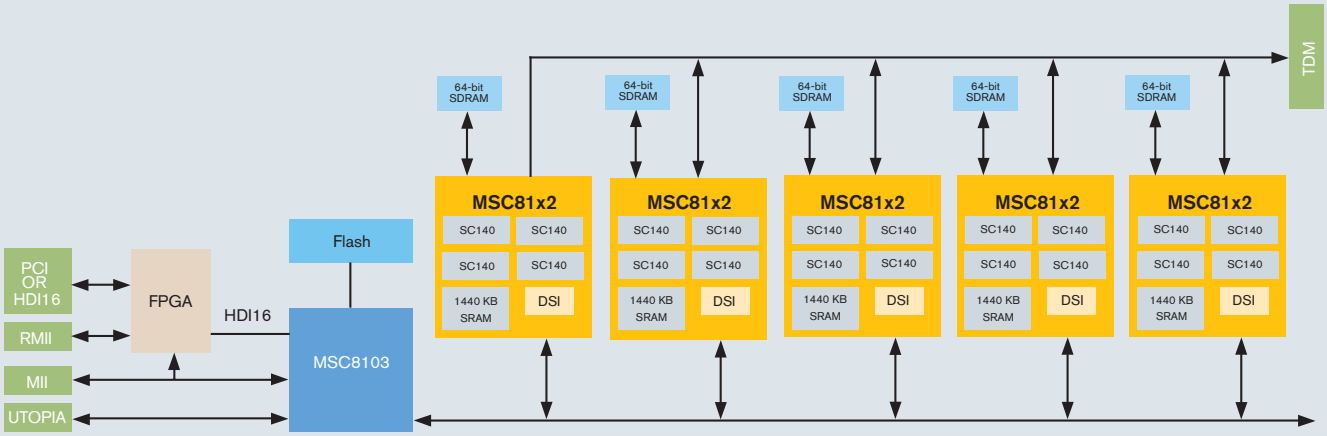
The 81x2PFC-HV is a Type 3 PCI Telephony Mezzanine Card (PT3MC) designed as a modular and scalable low-cost platform for multiservice media gateway and remote access concentrator systems. It is an ideal development system that designers can use to evaluate, develop, test and deliver telephony software on the Freescale MSC81x2 DSPs, offering them a significant time to market advantage, from start to finish.

Product Features

The 81x2PFC-HV DSP farm utilizes five MSC81x2 devices in a DSP farm and one MSC8103 to aggregate the data from the DSP array. The aggregator terminates the packet protocol and transfers media data to and from the DSP array through its 60x bus. The board can be configured to provide a PCI or HDI16 interface to a baseboard.

The 81x2PFC-HV interfaces with Freescale packet telephony-enhanced baseboards, such as the Smart Packet Telephony kit.

81x2PFC-HV BLOCK DIAGRAM



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Packet Telephony Systems—Putting It All Together

Freescale's capabilities to address the broad packet telephony market go beyond our leadership in optimum hardware products and solutions based on StarCore DSP core architecture, C-Port™ network processors and PowerPC® microprocessors. We also host a breadth of combined software leadership in both tool and application code support for these processors and sub-systems. This, coupled with our reusable peripherals and global support capability, positions Freescale as a leading supplier of comprehensive packages of integrated packet telephony semiconductor-based systems.

Package	8102PFC Channels
High-Density Voice	672
Premium Voice and Modem/Fax Relay	440
Full Universal Port	320
Modem	320

HARDWARE DESIGN SPECIFICATIONS

Characteristics	Specifications
Interfaces	PICMG 2.15 (PT3MC)
	MII/RMII
	UTOPIA
	TDM
	User-Defined
	PCI 2.2
	HDI16
	Serial Port
Connectors	4x Standard PTMC Connectors (EIA-700 AAAB)
	1x User-Defined PTMC Connector (EIA-700 AAAB)
	EONCE
	RS-232
Dimensions	PTMC Form Card (IEEE® 1386-2001)
Length	149 mm
Width	74 mm

MSC8103-Based Aggregation

One MSC8103 DSP communications processor with:

> 100 Base-T Fast Ethernet

> RMII Ethernet

> UTOPIA interface

> PCI or host interface to enable host control of aggregator via PTMC

> 32-bit PPC interface to the MSC81x2 DSI port for onboard data distribution to DSP farm

> Serial onboard

> 4 MB of Flash for system bootstrap

MSC81x2-Based DSP Farm

Five MSC81x2 DSPs each with:

> TDM interface (CT Bus)

> 32-bit DSI slave port interfacing to the MSC8103 PPC for data distribution

- DSI-asynchronous mode of operation

> 16 MB of 64-bit wide SDRAM

Related Documents

> Hardware Detailed Design Description

> Freescale Solutions for DSP Farm Aggregation

Learn More: For more information about Freescale products, please visit **www.freescale.com**.

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