

# Flexcomm FIDS42MS1

## Hardware Platform for Firewall, VPN and other Embedded System

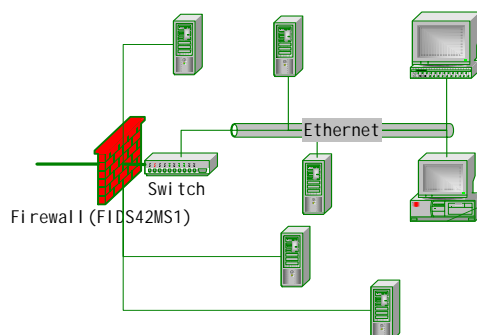


### Product Overview

Designed to be secure, reliable and manage able, FIDS42MS1 Platform combines RT OS and a purpose built compact hardware platform based on Intel IXP425 network processor. Flexcomm designed FIDS42MS1 with IDE, USB master, RTC to satisfy the requirements of Firewall, VPN, Residential gateway, Set top box, Integrate access device etc. at the satellite corporate office or enterprise application level.

### Application Example

#### Firewall, VPN, Access or Residential Gateway



FIDS42MS1 provides four 10/100 Ethernet interfaces for firewall. Two of them are IXP425 NPE directly out, other two of them are PCI interfaced MAC. At the same time, FIDS42MS1 provides one IDE interface through PCI

interfaced chip-PROMISE.

A 533M IXP425 provides high MIPS for OS/ Protocol stack/ Application etc. On-chip DES/ 3DES module of IXP425 is a good choice for IPsec feature.

### FIDS42MS1 HW Features

- 533/266 MHz IXP42X network processor
- 8/16 Mbytes flash
- 128/256 Mbytes SDRAM
- 1/2 RS232 Control ports
- 2 10/100M Ethernet interfaces on the two NPEs of IXP425
- 0/2 10/100M Ethernet interfaces on PCI bus
- 1/2 IDE interfaces
- 1 PCI slot and one PMC interface
- RTC
- Power (voltage:5V ± 5 % , Current: 5A ATX and power supply can be bought from market directly, if customized, must provide 5V, POW\_ON and GND)

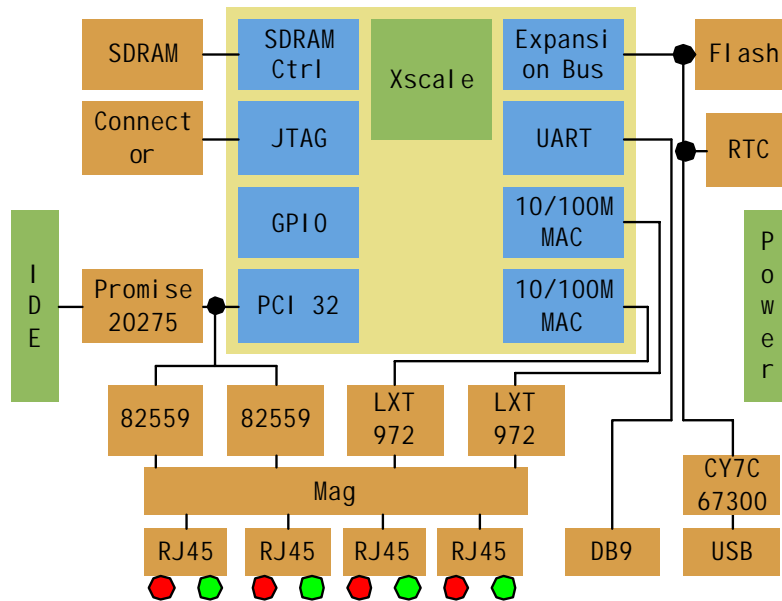
### Software Components of FIDS42MS1 SDK

- BSP/ Drivers for RT Linux and VxWorks
- Montavista Linux 3.0(2.4.18 kernel)
- Reference Design(Firewall and VPN)
- Documents about hardware configure, reference design, user manual.
- Intel Encryption module supporting DES/3DES encryption arithmetic for VPN application.

### Physical Description

Description	Specification
Physical Dimensions	14.7cm x 21.9cm
Power	8 Watts (max.)
Operating Tem	0° to 50° C
Storage Tem	-20° to 60° C

## Block Diagram



## Benchmarking (RFC2544)

Testing environment:

- 1) SmartBits 600
- 2) FIDS42MS1 Xscale finishes Ethernet frame RX/TX through two NPEs
- 3) Test setting

<b>Test duration (sec):</b>	10	<b>Number of pairs:</b>	1
<b>Minimum frame size (bytes):</b>	64	<b>Initial rate (%):</b>	100.00
<b>Maximum frame size (bytes):</b>	1518	<b>Step rate (%):</b>	10.00
<b>Step frame size (bytes):</b>	Custom	<b>Resolution rate (%):</b>	None

4) Testing result

	64	128	256	512	1024	1280	1518
<b>Throughput</b>	100%	100%	100%	100%	100%	100%	100%
<b>Latency (uS)</b>	105.20	103.50	105.20	104.60	106.90	105.90	104.50
<b>Frame Loss Rate (Packet)</b>	0	0	0	0	0	0	0
<b>Back-to-Back frames</b>	1488100	844590	452900	234960	119730	96150	81270

## Features and Benefits

Features	Benefits
<b>FIDS42MS1</b>	
Intel®IXP425 network processor	A flexible and intelligent network processor
Flash	8 MB FLASH (up to 32M)
SDRAM	128 MB SDRAM (up to 256M)
Intel 82559 Fast Ethernet Multifunctional PCI Bus Controller	Debugging port or network traffic port
Front panel	Reset LED, 2NPE Ethernet ports / two 82559 Ethernet port and their LEDs

IDE	Promise 20.275 support PCI-IDE
USB	CY7C 67300 support master mode
<b>FIDS42MS1 SDK 1.0</b>	
BSP/ Drivers for RT Linux and VxWorks	RedBoot is a standardized embedded debug and bootstrap solution
Encryption module for VPN application	Intel Encryption module supporting DES/3DES encryption arithmetic for VPN application.
Montavista Linux 3.0	2.4.18 embedded kernel
Documents	About hardware configuration, reference design, user manual.

## Flexcomm Access

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