SF-420

4U Rackmount Packet-Switched Blade Server

Features

- 4U, rugged 19-inch rackmount enclosure
- Seven hot-swappable Intel® Pentium® III 700 MHz server blades
- One built-in layer 3 switch blade
- Hot-swappable fans
- PICMG® 2.16/2.9 compliant
- Independent system node architecture
- 300 W ATX 1+1 redundant power supply
- Independent Chassis Management Module (optional)
- Designed for NEBS

CE UL cUL FCC

Introduction

The SF-420 Blade Server platform is an open standard system that complies with the following specifications.

- PICMG 2.0, R3.0 CompactPCI® Specification
- PICMG 2.1, R2.0 Hot-Swap Specification
- PICMG 2.16, R1.0 Packet Switching Backplane Specification
- PICMG 2.9, R1.0 IPMI System Management Specification

This CompactPCI platform contains seven server blades and one switch blade in a 4U enclosure. It also comes with leading-edge hot-swap and ESAN (Embedded System Area Network) technologies, making it ideal for carrier-grade telecom and Internet applications. It offers ultra-density, low power consumption, high computing performance, along with high reliability and availability.

The SF-420 is modular, scalable and easily developed, and is interoperable with third-party blades that comply with the PICMG specifications mentioned above.

The hot-swappable components include all parts that could possibly fail: server blades, power supply, fans, CMM, etc. With these hot-swap features, it provides redundant capability, simplifying replacement and minimizing service time.

A CMM (chassis management module) provides remote management functions for IT managers to monitor the health conditions of all components inside the chassis at any time and anywhere.

With integrated layer 2-3 switch blade and packet switch backplane, the SF-420 Blade Server routes IP signals across the internal backplane without complex traditional cables, saving time in set-up, maintenance and repair, and eliminating the possibility of unstable cabling.

Server Blade (MIC-3368)

The MIC-3368 series server board comes with Intel Pentium III low power 256 KB L2 cache, 512 MB memory with ECC and 30 GB HDD. The KB/Mouse and VGA ports are all located on the rear side, and can be easily connected to a KVM switch for system installation through the optional SCSI feature in the rear I/O card. The system can also connect to an external SCSI RAID, as a back end storage solution.

Switch Blade (MIC-8101)

The SF-420 Blade Server supports a PICMG 2.16-compliant switch blade, the MIC-8101 10/100 Ethernet (Layer 2-3) switch. This high-performance managed Layer 3 switch with 22 10/100 Mbps Ethernet ports and dual Gigabit Ethernet ports enables fast connection speeds and flexibility in a 6U CompactPCI board. The in-chassis switch minimizes external wiring and needs no extra rack height, thus improving density and reliability. The console is accessed through an RS-232 serial cable to configure the following management functionalities: SNMP, Telnet CLI and RMON. The MIC-8101 Ethernet switch routes and switches at full wire speed with its non-blocking architecture, and features sophisticated multicast protocols to limit unnecessary traffic.

Chassis Management Module (MIC-3924)

The built-in system management module is an OS independent hardware module that ensures system stability and real-time status. It monitors the chassis temperature, fan speed, and health of each server board. The users will be notified of any abnormal system operating condition, so they can take the necessary action to avert system failure. The built-in web-based administration interface allows monitoring of the system's operation from any place with Internet connectivity.

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System General Specifications

Slot	Switch blade	1	
	Server blade	7	
	CMM	1	
Cooling	Fan	1 (hot-swap, 163 CFM), 1 (hot-swap, 44 CFM)	
Power Requirement	Input	AC 100 ~ 240 V @ 47 ~ 63 Hz, full range (PFC)	
	Output	300 W ATX (1+1 redundant, 300 W/each)	
	Safety	CE, UL, TÜV, CB	
Environment		Operating	Non-Operating
	Temperature	0 ~ 45 °C (32 ~ 113 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	--	5 ~ 95 % @ 60 °C, non-condensing
	Vibration (5-500 Hz)	1.0 Grms	2.0 G
Physical	Dimensions (W x H x D)	440 x 177 x 340 mm (17.3" x 7" x 13.4")	
	Weight	20 Kg (44 lb)	
Compliance	Standard	PICMG 2.0, R3.0 CompactPCI Specification PICMG 2.1, R2.0 Hot-Swap Specification PICMG 2.16, R1.0 Packet Switching Backplane Specification PICMG 2.9 R1.0 System Management Specification	

Server Blade Specifications (MIC-3368E)

		MIC-3368E
Processor	CPU	Intel Pentium III low power (fanless)
	Max. Speed	700 MHz (100 MHz FSB)
	L2 Cache	256 KB
	Chipset	Intel 440GX
	BIOS	Award 2 MB Flash (remote setup, network booting optional)
Bus	Front Side Bus	100 MHz
	PCI	64-bit/33 MHz (data bus)
	PCI-to-PCI Bridge	Intel 21154 x1
SCSI Controller Support		Rear I/O
Memory	Technology	PC-100 SO-DIMM SDRAM with ECC support
	Capacity	512 MB
	Socket	144-pin SO-DIMM x2
On-board HDD	Form Factor	2.5" (IDE) 30 GB
Graphic	Controller	69030
	On-board Memory	4 MB VRAM
Ethernet	Interface	10/100Base-TX
	Controller	Intel 82559 x2
	Connector	RJ-45 x1
EIDE	Mode	ATA 33
PMC	Site	1 (2 if without built-in HDD)
	Interface	PCI Mezzanine (IEEE1386)
	Signal	5 V/3.3 V compliant
Front I/O Interface	LAN	1
	Serial	1 (RS-232, RJ-45 connector)
Operating System	Compatibility	Windows 2000/NT 4.0/XP, Red Hat Linux 7.2, Sun Solaris 8.0
Hardware Monitor	On board Controller	Winbond W83782D
	Monitor	CPU temperature, 3.3 V/5 V/12 V, fan
Watchdog Timer	Output	Interrupt, system reset
	Interval	Programmable, 0 ~ 63 sec.
Miscellaneous	Solid State Disk	CompactFlash (optional)
Physical	Dimensions (W x D)	233.35 x 160 mm (9.2" x 6.3"), 1-slot width
	Weight	0.7 Kg (1.54 lb)

Switch Blade Specifications (MIC-8101)

Power Consumption	Typical	+3.3 V	+5 V	+12 V
		6 A	4 A	20 mA
Electrical	Layer 2 Switching Function	22 10/100 Fast Ethernet ports to the mid-plane connectors		
		2 10/100 Fast Ethernet ports (RJ-45) on the front panel		
		Auto-negotiation function for 10M/100M speed, duplex (full and half) and flow-control		
		Auto polarity and auto MDI/MDI-X		
		8000 entry MAC address forwarding table		
		IEEE 802.3x-compliant flow control support in full-duplex		
		802.1D Spanning Tree/802.1Q tagged VLAN/802.1p priority		
		GARP VLAN registration protocol		
	Layer 3 Switching Function	Hardware-based Layer 3 IP switching		
		2000 entry IP address forwarding table		
		RIP-I/II routing protocol		
		IPv4/IGMPv2/DVMRPv3/802.1D frame/DHCP/BootP relay		
		PIM dense mode/IP multi-netting/IP fragmentation		
		Path MTU discovery		
		Wire speed IP forwarding rate		
Physical	Dimensions (W x D)	233.35 x 160 mm (9.2" x 6.3"), 1-slot width		
	Connector	J1~J5		
Compliance	Standard	PICMG 2.16, R1.0 Packet Switching Backplane Specification		
		PICMG 2.9, R1.0 System Management Specification		
Regulatory	CE			
	Safety	UL/cUL 60950, EN/IEC 60950, CB report Scheme		
	Emission	FCC Part 15 (subpart B), EN 55022, CISPR 22, Bellcore GR-1089		

Rear Transition Board

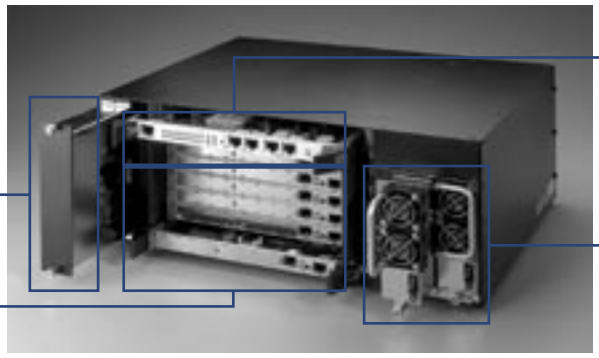
Part Number	Rear Panel						On-board Header						
	SCSI	KB & Mouse	COM2	LAN	VGA	USB	IDE	FDD	COM1	USB	CF	PIM	Parallel
RIO-3308C-A	-	1	1	2	1	1	2	1	1	1	1	--	1

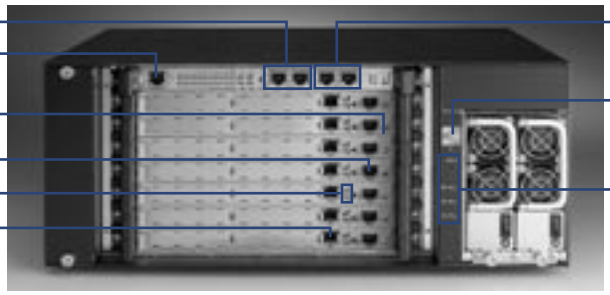
System Configurations

Part Number	CPU Board	RIO	SCSI (on RIO)	CMM	PCI-to-PCI Bridge
SF-420A-SN7F1	MIC-3368E-A	RIO-3308C-A	Yes	MIC-3924B	Yes

Ordering Information

Part Number	Descriptions
SF-420A-SN7F1	4U Blade Server with seven CPU boards built-in with 512 MB memory and 30 GB HDD, SCSI interface support on RIO, and one 10/100 Ethernet Fabric Switch, Advance Chassis Management Module





The web-based user interface allows users to set the alarm criteria, and select alarm outputs for each sensor input independently.