

Advantech Packetarium Platforms

Enhancing Packet Processing Capabilities

- ✓ 1U Packetarium™ Platform
- ✓ 3U Packetarium™ Platform
- ✓ 4U Packetarium™ Platform
- ✓ ATCA Packet Processing Blades



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Enabling an Intelligent Planet

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Advantech Packetarium : The Broadest Choice of NPU-based Platforms

Applications

Packetarium is a line of modular, scalable & customizable network servers for high-throughput packet processing applications. Working in unison with the world's leading silicon vendors such as Cavium and Freescale, Packetarium streamlines the integration of x86 and multi core Network Processor Unit (NPU) elements with the latest switching technologies to provide highly flexible system configurability.

The main applications in which the platforms are currently deployed include service edge nodes (SEN), radio access networks (RAN), data centers, content-aware applications/deep packet inspection (DPI), unified threat management (UTM), traffic management/quality of service (QoS), media gateways, application servers, IPTV, etc.



Packetarium™ Platforms

Advantech's Packetarium™ systems are available in multiple rackmount form factors as standard and customized platforms and share common design features in order to accelerate system design and maximize hardware and software re-use. The Packetarium™ product line is highly modular, scaling from 1U to 4U with a wide range of NPUs and core densities for the best in multi-10 GigE and GigE packet processing in homogenous or hybrid topologies.

Packetarium™ Card



Design & Manufacturing Services

Customization & Design Services

Advantech offers a wide range of Design & Manufacturing Services (DMS) for both standard and customized products to cater for the most stringent business-critical hardware requirements of the world's leading network equipment providers. Our services include:



NPU Platform Selection



Thermal Simulation



Flexible I/O Application



Safety/Reliability Test



Mechanical Design



System Integration



Longevity Support



Certification

Software Service Stack

Advantech is experienced in embedded software customization, including bootloader, operating system, middleware and high level 3rd party middleware integration.

	LTE MediaGW	Wireless Core Network	Security Appliance	IPTV MediaGW	Load Balancer
Application-Ready 3rd Party Middleware and Protocol Stacks		ATCA & uTCA HW Mgmt	Switch Mgmt Broadcom LVL7	Dataplane 6Wind	Turbo DPI Cavium
Unix-like OS Support		Linux standard kernel MIPS/PPC/ARM	Carrier Grade Linux Wind River PNE-LE	Wind River VxWorks	FreeBSD* MontaVista Linux*
Device Drivers for OS	Telco interface: 10Gb SPI 4.2, SPI 3, TDM/PCM, MDIO, SRIO			Peripheral interface: Memory, PCI, PCI-E, I2C, local bus..etc.	
	Proprietary : FPGA, CPLD, Proprietary interrupt				
Customized Firmware	SATA/SAS	WDT/HWMON		Mgmt LAN	Cavium SE
Customized Bootloader	U-boot	X86 BIOS	VxWorks Loader	Freescall LWE	NetOS
					MMC

Examples of Customer Application

★ Upon Request

1U Packetarium™ Platforms

SyncE

IEEE 1588



NCP-3105



1U eNodeB/NodeB Appliance

The NCP-3105 represents the entry level Advantech Packetarium™ Network Appliance. It integrates a single multi-core Packetarium™ network processing card for wire speed packet processing. The main carrier board provides four GbE RJ-45 / SFP dual-mode capable ports. Users can define either the RJ-45 or SFP as the default Ethernet interface. The RJ-45 ports also provide metallic bypass functions to ensure transmission in case of port failure. As for the power input, customers may choose either dual -48VDC or single full range AC power input. For time critical applications, NCP-3105 equips with optional precision clock synchronization mechanisms SyncE and IEEE1588v2.

SyncE

IEEE 1588

TurboDPI™



NCP-3110



1U Multi-10GigE DPI Appliance

The NCP-3110 integrates high-end multicore Packetarium™ network processing cards for wire speed packet processing. The system features two 10GbE fiber SFP+, eight 1GbE copper RJ45, 1GbE management port, two USB sockets, a console port and two extractable 2.5" SATA SSD/HDD bays. For packet processing applications, the NCP-3110 takes full advantage of the hardware pattern matching engine coupled with the latest Cavium TurboDPI™ technology. For time critical applications, the NCP-3110 can be equipped with optional precision clock synchronization mechanisms SyncE and IEEE1588v2.

Note : TurboDPI™ is a trademark of Cavium, Inc

3U/4U High-end Packetarium™ Platforms



NCP-5260



3U Hybrid (Intel® Xeon®+ NPU) Platform

The represents a new generation of hybrid system designs with Intel® architecture processing on the control plane, and Packetarium™ network processing cards for the data plane. It integrates up to two powerful, multi-core Packetarium™ network processing cards and accommodates up to sixteen x 10 GbE external interfaces. Each network processing card is linked by dual XAUI ports to a Broadcom 10 GbE switch which provides sixteen 10 GbE SFP+ ports. A SATA controller on the server board connects to two 2.5" SATA HDD slots.



NCP-7560



4U 8-way Network Processor Platform

The NCP-7560 integrates up to eight powerful, multi-core Packetarium™ network processing cards for wire speed packet processing providing up to 80 Gbps throughput. Each network processing card is linked by dual XAUI ports to a Broadcom BCM56820 10 GbE switch on the carrier board. The 10 GbE switch also provides six front panel 10 GbE SFP+ ports and sixteen GbE SFP ports via a Broadcom BCM56512 GbE switch. An onboard SAS controller connects to two advanced mezzanine card slots for SAS/SATA 2.5" storage.

Packetarium™ Card Selection

Advantech's Packetarium™ portfolio offers the widest choice of Broadcom, Cavium, Freescale and LSI cards enabling configuration flexibility and scalability to meet the requirements of the most demanding packet processing projects and application needs.



		NCPB-2310	NCPB-2305	NCPB-2306	NCPB-2320	NCPB-2110	NCPB-2410	NCPB-2210
Processor System	Processor	Cavium CN5650	Cavium CN6335	Cavium CN6645	Cavium CN6880	Dual LSI ACP-3448	Broadcom XLR732	Dual Freescale QorIQ P4080
	Max. Speed	800 MHz	1300 MHz	1300 MHz	1200 MHz	1800 MHz	1200 MHz	1500 MHz
	Processor Cores	12	6	10	32	4	8	8
System Memory	Memory Socket	4 x 240 pin DIMM slots	2 x 240 pin DIMM slots	2 x 240 pin DIMM slots	4 x 240 pin DIMM slots	4 x 240 Pin DIMM Slots	2 x 240 Pin DIMM Slots	4 x 240 Pin DIMM Slots
	Memory Type and Capacity	ECC registered DDR2 8 GB	ECC un-registered DDR3 16 GB	ECC registered DDR3 16 GB	ECC registered DDR3 32 GB	UDIMM 8 GB	ECC registered DDR2 4GB	ECC registered DDR3 16G
Boot Flash	Flash	Redundant NOR	Redundant NOR	Redundant NOR	Redundant NOR	Redundant NAND	Redundant NOR	Redundant NAND
	Flash Size	256 MB	128 MB	128 MB	256 MB	2 GB	1 GB	8 GB
Management Interface	UART Port	1	1	1	1	1	1	2
Interface	Logical Connection	Two PCIe x4 Two XAU1 One 100Base-T	One PCIe x4 One XAU1 or Four SGMII One 1000Base-T	One PCIe x4 Two XAU1 or Four SGMII One 1000Base-T	Two PCIe x4 Two XAU1 or Four SGMII One 1000Base-T	Two PCIe x4 Four XAU1 Two 1000Base-T	Two PCIe x4 Two XAU1 One 1000Base-T	Two PCIe x4 Four XAU1 Two 1000Base-T
SW Support	Bootloader	Cavium SDK 1.7.2 U-Boot	Cavium SDK 2.3 U-Boot	Cavium SDK 2.1 U-Boot	Cavium SDK 2.1 U-Boot	LSI Standard Bootloader	Netlogic XLR SDK	Freescale SDK 1.0 Uboot
	Operating System	WR Carrier Grade Linux	Debian Linux	Debian Linux	Debian Linux	LSI Standard OS	Linux Kernel 2.6	Freescale DPAA SDK 1.0
	TurboDPI™*	No	Yes	Yes	Yes	N/A	N/A	N/A

* Upon Request

ATCA Packet Processing Blades

TurboDPI™
ATCA-7310



ATCA-7410



Processor	Dual OCTEON II CN6880	Dual Broadcom XLP832/432
Max. Speed	Up to 1200 MHz	Up to 1600 MHz
Features	<ul style="list-style-type: none"> Dual Cavium Octeon II CN6880 with 32 MIPS64 cores Up to 64 GB DDR3 1066 MHz DIMMs; 32 GB for each CN6880 40 GbE (KR4) and 4x10 GbE (KR) FI support Dual Star routing support 8x 10GbE SFP+ and 4x 1GbE SFP Rear I/O support Switch management support on L2, QoS, Multicast (optional) 	<ul style="list-style-type: none"> Dual Broadcom XLP832 1.6GHz 8-core MIPS64 processors 32GB DDR3 1333MHz DIMMs; 16GB for each XLP832 40GbE(KR4) and 2x10GbE(KX4) FI support Dual-star topology support 4x10GbE or 1x40GbE RIO support Interlaken-LA to support TCAM (RTM option) Switch management support on L2, QoS, Multicast (SW options)

Note : TurboDPI™ is a trademark of Cavium, Inc

Global Access, Local Support



Regional Service & Customization Centers

China Kunshan 86-512-5777-5666	Taiwan Taipei 886-2-2792-7818	Netherlands Eindhoven 31-40-267-7000	Poland Warsaw 48-22-33-23-730	USA Milpitas, CA 1-408-519-3800
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Worldwide Offices

Greater China

China	800-810-0345
Beijing	86-10-6298-4346
Shanghai	86-21-3632-1616
Shenzhen	86-755-8212-4222
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Shing-Tien	886-2-2218-4567
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Osaka	81-6-6267-1887
Korea	080-363-9494
Seoul	82-2-3663-9494

Singapore

Singapore	65-6442-1000
Malaysia	1800-88-1809
Kuala Lumpur	60-3-7724-3555
Penang	60-4-397-3788
	60-4-397-4188

India

India	1800-425-5071
Bangalore	91-80-2545-0206

Australia

Australia	1300-308-531
Melbourne	61-3-9797-0100
Sydney	61-2-9477-2521

Thailand

Thailand	66-2-248-3140
Bangkok	66-2-248-3140

Indonesia

Indonesia	62-21-7690525
Jakarta	62-21-7690525

Europe

Europe	00800-2426-8080
Germany	
München	49-89-12599-0
Düsseldorf	49-211-97477-0

France

France	
Paris	33-1-4119-4666
Grenoble	33-4-7670-4700

Italy

Italy	
Milano	39-02-9544-961

Benelux & Nordics

Benelux & Nordics	
Breda	31-76-5233-100
Roosendaal	31-165-550-505

UK

UK	
Reading	44-0118-929-4540

Poland

Poland	
Warsaw	48-22-33-23-740/741

Russia

Russia	
Moscow	8-800-555-01-50
	7-495-232-1692

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