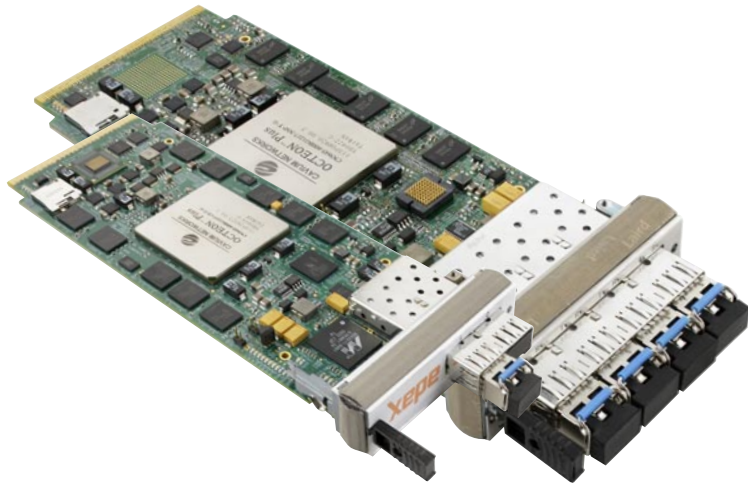


PacketAMC – User & Control Plane processing for LTE, 4G, NGMN and IMS networks



Overview

Adax's long experience in signaling reliability and performance is brought to bear on user and control plane applications for the All-IP Network with the **PacketAMC (PktAMC)**. The **PktAMC** provides front-end intelligent processing for Traffic and Bandwidth Management, QoS and Security on all Wireless applications, delivering a highly-available, high-performance, carrier-grade transport from the Edge to Core networks.

With a Cavium OCTEON Plus processor, front-end processing of the Layer 2 protocols can reside on the **PktAMC**, providing hardware acceleration of the basic Layer 2 switching, while higher-level functionality such as Advanced Layer 2 Switching and Routing, MPLS-TP, PBB-TE, QoS, Layer 3 Networking, High Availability and Management run on the **Adax PacketRunner (APR)**.

The Adax **PktAMC** is applicable in the broadest range of ATCA legacy and emerging network elements found in today's networks such as MSCs, MGWs, HLRs, x-CSCFs, HSSs, etc. The combination of the **PktAMC** and the **APR** delivers a 'foundation' for LTE, 4G, IMS, NGMN, VoLTE, UMA & Femtocell applications.

PktAMC Features

- ATCA Subsystem for LTE, 4G, IMS, NGMN, VoLTE, UMA & Femtocell applications
- High Performance Application Acceleration including:
 - Packet Processing
 - QoS Queuing, scheduling and very low latency for real-time traffic
 - IPsec, SSL, SRTP, WLAN and 3G/UMB/LTE security (including DES, 3DES, AES-GCM, AES up to 256, SHA1, SHA-2 up to SHA- 512, RSA up to 8192, DH, and KASUMI)
- Carrier Ethernet
 - MPLS-TP, LDP, RSVP-TE
 - PBB-TE
- High Performance hardware acceleration with Cavium OCTEON Plus 5645 and 5650

Configuration Options

- PktAMC4/4**
 - 4x 1GbE to the network; 4x 1GbE to the carrier
 - 4x PCIe lanes
 - Cavium OCTEON Plus CN5645, 10 cores at 600 MHz
 - 2 GB DDR2 Memory (4 GB upgrade option)
- PktAMC4/10**
 - 4x 1GbE to the network; 1x 10GbE XAUI + 2x 1GbE to the carrier
 - 4x PCIe lanes
 - Cavium OCTEON Plus CN5645, 10 cores at 600 MHz
 - 4 GB DDR2 Memory
- PktAMC10/10**
 - 1x 10GbE to the network; 1x 10GbE XAUI + 2x 1GbE to the carrier
 - 4x PCIe lanes
 - Cavium OCTEON Plus CN5650, 12 cores at 600 MHz
 - 4 GB DDR2 Memory
- PktAMC10/10M**
 - 2x10GbE to the network and 2xGbE to the carrier
 - 4x PCIe lanes
 - Cavium OCTEON Plus CN5650, 12 cores at 600MHz
 - 4GB DDR2 Memory

QuickPort: the Adax Development and Support Suite for the Cavium Processor

Adax **QuickPort** is a complete Linux development suite for the Cavium processor to assist you with porting your own or 3rd party applications to the PacketAMC. Adax has modified and enhanced the standard Cavium SDK (Software Development Kit) to greatly reduce your development time and cost, providing a fast time to market for your application. With Adax support, you will be up and running in record time and under budget as well.

Adax **QuickPort** provides:

- A pre-built kernel and Debian root file system
- Pre-installed Adax software such as Linux Streams (LiS), SIGTRAN, M2PA, M3UA and HDC3 and ATM4 board drivers
- A development environment
- Set-up instructions and support.

Pre-built content allows you to get the system booted and operational as quickly as possible. No need to build a kernel and root file system from scratch - Adax provides it along with the support you need. Netboot or MicroSD boot options are both supported.

Not only does the Adax PacketAMC take advantage of the on-board OCTEON Plus 56xx processor for its own applications, it puts the power of multi-core processing at your command!

The Adax Advantage

The **PacketAMC** together with the **Adax PacketRunner** ATCA carrier blade provides the high performance delivery of control and user plane services from one tightly coupled resource. Contention on the chassis backplane is removed, allowing multiple IP flows to be processed on the **APR**. Processed packets are then available for immediate transport to system application servers or the IP network.

Utilizing the embedded services of the industry-leading Cavium family of multi-core processors, the **PktAMC** and **APR** boards combine the best of both worlds. The **Adax** boards and Cavium OCTEON processors provide a high performance solution for signaling and other telecom applications. The Cavium multi-core MIPS64 processors are designed specifically for networking, security, and pattern matching (deep packet inspection) based applications. Dedicated security cores on the Cavium allow for efficient processing of both control and data plane flows and the tightly coupled design of the **PktAMC** and **APR** makes the most of chip-based intelligence by eliminating intermediary transport.

Applications

- LTE-SAE, MME
- Mobile Backhaul
- Femtocells
- FMC (Fixed Mobile Convergence)
- 4G Wireless MGW, MGC, RNC
- Session Border Controllers
- IP-transport aggregation and concentration
- Carrier Ethernet including MPLS-TP
- QoS
- Routing and Security acceleration
- Signaling and voice protection and enforcement
- Bandwidth Management
- IMS, SIP & Diameter Protocols
- RTP
- WiMAX
- IPTV, Video
- Traditional SS7 & SIGTRAN Signaling
- Signaling Gateway
- Voice Processing via I-TDM

About Adax Specializing in Foundations for the All-IP Network, Adax offers a complete set of I/O controllers, blades & signaling gateways for SS7, ATM & IP packet processing, signaling & interworking. Adax high performance products meet today's challenges of I/O scalability, cost effectiveness and high availability in LTE, 4G, NGMN and IMS networks.



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Technical Specifications

Standards

- AMC.0 R2.0 Advance Mezzanine Card Base Specification
- AMC.1 R2.0 PCI Express and Advance Switching AMC.1 Type 4
- AMC.2 R1.0 AMC Gigabit Ethernet AMC.2 Type 4 E2 or Type 5 E2
- IPMI v1.5
- IEEE 802.3
- Designed to meet Belcore GR-63-CORE

Configurations:

- **PktAMC4/4** - 4x 1GbE to the network; 4x 1GbE to the carrier
- **PktAMC4/10** - 4x 1GbE to the network; 1x 10GbE XAUI + 2x 1GbE to the carrier
- **PktAMC10/10** - 1x 10GbE to the network; 1x 10GbE XAUI + 2x 1GbE to the carrier
- SFPs supplied separately
- **PktAMC10/10M** - 2x10GbE to the network and 2xGbE to the carrier

Processor

- Cavium OCTEON Plus CN5645, 10 cores at 600 MHz
- Cavium OCTEON Plus CN5650, 12 Cores at 600 MHz

Ethernet Controller (excluding PktAMC4/4)

- Dual Gigabit Ethernet Controller Intel 82571EB
- PCIe 4-lane interface to Cavium Processor
- 2 1000Base-X (Serdes) interfaces to AMC connector

Memory

- DDR2 Memory support with ECC 800MHz data rate:
 - PktAMC 4/4: 2GB (4GB upgrade option)
 - PktAMC 4/10 + 10/10: 4GB 10/10M
- 128MB FLASH Memory
- MicroSD

Interfaces

- 2x RS232 via micro-interface
- 1x micro USB
- Optional Rear Transmission Module (RTM) for 4x 1GbE connection to PktAMC via Adax PacketRunner*

Power

- Payload power < 40W per bay

Electrical and Safety

Certified:

- US/16222/UL IEC 60950-1 (2005) Second Edition
- FCC Part 15B, Class A
- VCCI (Voluntary Control Council for Interference)
- EN55022:2006 +A1
- EN55024:1998 +A1:2001, +A2:2003

Designed to Meet:

- EN61000-4-2,3,4,6

Environmental Conditions

- Operating Temperatures -5C to 55C
- Storage Temperatures -40C to 65C
- Relative Humidity 10% to 90% (non-condensing)
- Vibration: Operating: 5-100Hz: 0.25G RMS, Passive: 100-500Hz: 1G RMS

Flammability

All components meet a flammability rating of UL 94-V0

Dimensions

- 181.5 x 73.8 x 18.96 mm, mid-size, single module

*Future release

PAMC 1111/8

All specifications are subject to change without notice.