



Product Brief
RPA-200
Dual XLP Packet Processor
40G ATCA Hub or Full Mesh Node Blade
Rev 0.9

Summary:

JumpGen Systems' RPA-200 Processor Node/Hub Card is a high-performance network processor AdvancedTCA™ blade designed for use in ATCA systems and compliant with PICMG 3.0 Revision 3.0 single slot form factor standards. Featuring two NetLogic XLP4xx or XLP8xx processors with up to eight-cores (each up to 1.6GHz clock rate), the RPA-200 can carry up to 16GB of dual-channel 72-bit wide DDR3 ECC memory running at 1600Mbps per XLP processor (for a total of 32GB per board).

Two XLP8xx processors can be operated as a single large CPU by virtue of Interchip Coherency Interface (ICI) seamless connections, ensuring chip-to-chip coherency, and global shared memory and I/O resources. This feature is unavailable with XLP4xx processors.

The NetLogic XLP4xx and XLP8xx processors are multi-core, multi-threaded MIPS64® processors with up to 40Gbps bulk encryption (DES / 3DES, AES 128/192/256, ARC4 and others) via 10 high-speed crypto cores and integrated security acceleration (RSA / DH Exponentiation for SSL / IPsec). The RPA-200 is ideal for security applications in wireless and wireline access points, switches, routers, radio network controllers, media gateways and video processing.

The RPA-200 supports the following I/O Options:

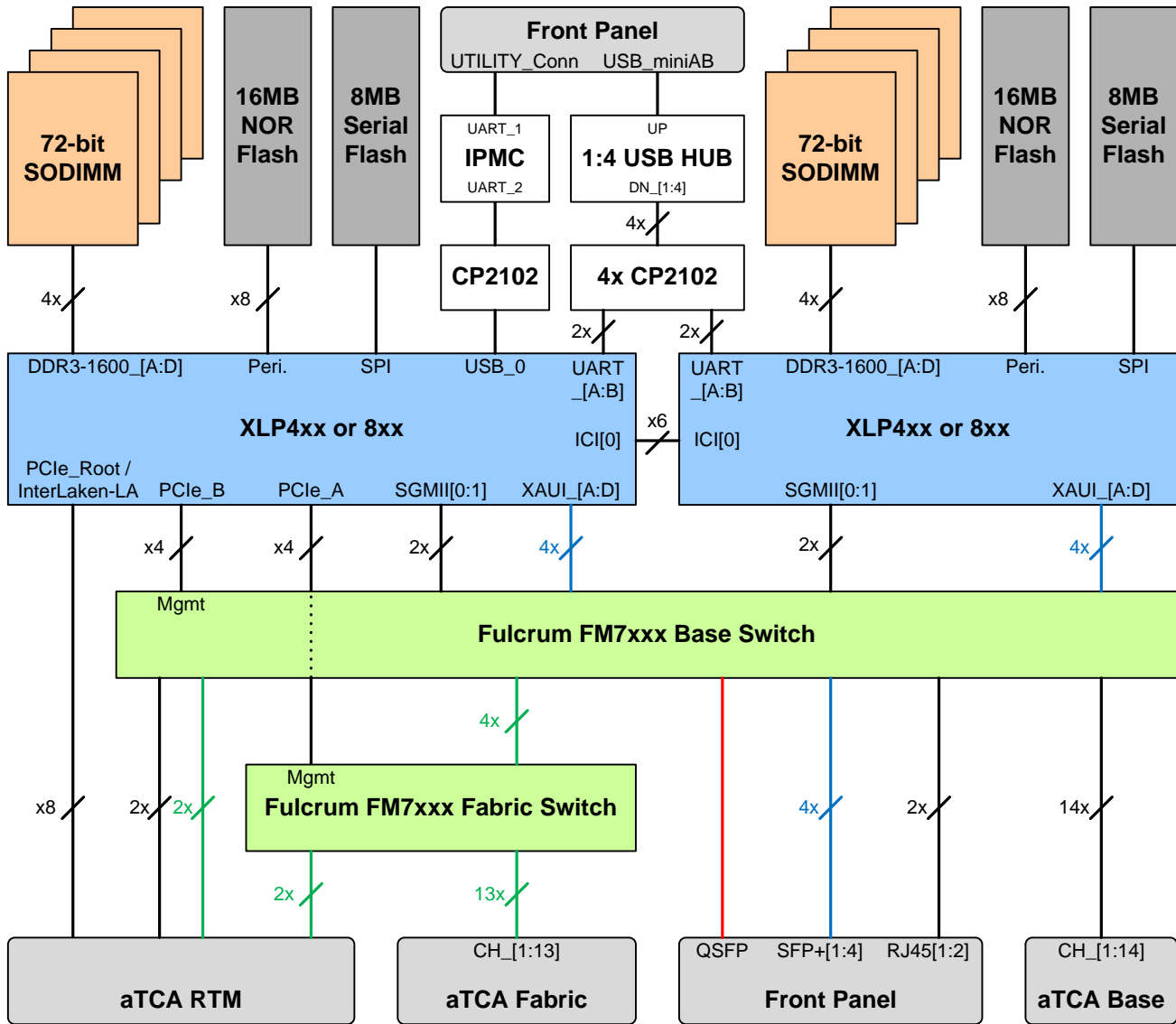
- Node Board – **Full-Mesh supporting 14 40GigE fabric slots** (also useable as a dual-star node board), 2 base ports, optional RTM with 10x 1GigE SFP bays.
- Hub Board – supporting 13 40GigE fabric slots, 13 1GigE base slots, 1 GigE to Shelf Manager, and RTM featuring 2 x 1GigE, 4 x 40GigE (or 4 x 10GigE) and x8 Interlaken-LA interfaces.

Features:

<p>Network Processing Units (NPUs)</p>	<p>Two NetLogic XLP4xx or XLP8xx Processors featuring 64-bit Processing Cores</p> <ul style="list-style-type: none"> • XLP4xx Series options: XLP408, XLP416, or XLP423 • XLP8xx Series options: XLP816, XLP832 • EC4400 processing cores • Up to 8 cores per processor with 4 NXCPUs per core (up to 32 NXCPUs) • Up to 1.6 GHz with 8MB L3 Cache • Up to 16GB of DDR3 memory w/ECC on quad channel x72 bus per processor (total 32GB) <p>Two XLP8xx processors can be connected via ICI to act as single NPU</p> <p>Autonomous Network Acceleration Engine[®]</p> <p>Autonomous Security Acceleration Engine[®]</p> <p>Packet Ordering Engine (POE) @ 40 Gbps</p>
<p>I/O Capabilities</p>	<p>4 Front Panel SFP+ 10GigE sites from 40Gbps Switch</p> <p>Front Panel QSFP 40GigE site from 40Gbps Switch</p> <p>2 Front Panel 10/100/1000Base-T RJ45 to 40 Gbps Switch</p> <p>RTM support for 2 1GigE, 4 40/10GigE interfaces</p> <ul style="list-style-type: none"> • Compliant to PICMG 3.0 Revision 3.0 • Useable for 14-slot chassis as a hub board • Useable as a node board in a dual star fabric or FULL MESH up to 14 slots <p>RTM support for PCIe or Interlaken-LA for TCAM or KBP applications</p>
<p>Management</p>	<p>PICMG 3.0 Revision 3.0 compliant IPMI management</p>
<p>Software</p>	<p>NetLogic Microsystems XLP SDK</p> <ul style="list-style-type: none"> • Linux Distribution • Lightweight fast path executive • Debug and development tools • Example software and benchmark code <p>Other Linux distributions supported, contact your sales representative for details</p> <p>Fulcrum FocalPoint API for switch management</p> <ul style="list-style-type: none"> • Includes TestPoint CLI and sample applications
<p>LEDs</p>	<p>Mandatory PICMG 3.0 LEDs:</p> <ul style="list-style-type: none"> • Blue hot-swap • Red Yellow and Green (controlled from IPMC) <p>Each RJ45 has integrated Green Link and Yellow Activity LEDs</p>
<p>Mechanical and Environmental</p>	<p>Standard 8U single-slot (6HP) front board and RTM</p> <p>Operating temperature range: 0 to 55 °C</p> <p>Humidity: 0 to 95% (non-condensing)</p> <p>Worst-case power consumption : TBD</p>

Regulatory	Designed and manufactured to meet the following requirements: FCC Class A / CE / IEC 60950 / NEBS Level 3 Company will get certifications as required to meet specific customer requirements
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Block Diagram:



- 40Gbps
- 40/10/1Gbps configurable. One 40/10Gbps port can be configured as 4 1Gbps ports.
- 10Gbps

The maximum bandwidth per FM7xxx switch is limited at 640Gbps.