



**Product Brief**  
**RPA-200**  
**Dual XLP Packet Processor**  
**40G ATCA Hub or Full Mesh Node Blade**  
**Rev 0.5**

## 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 XLP832 eight-core processors with up to 2GHz clock rate, the RPA-200 can carry up to 32GB of dual-channel 72-bit wide DDR3 ECC memory running at 1600 MHz per XLP processor.

The two XLP 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.

The RPA-200 supports a unique and powerful stacking option to extend this seamless connection to 4 XLP CPUs within a dual-slot ATCA space, and thus operate 4 XLP processors as a single very large CPU.

The Netlogic XLP832s are multi-core, multi-threaded MIPS64® processors with up to 40 Gbps 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, and 4 x 40GigE (or 4 x 10GigE).

## Features:

<p>Network Processing Units (NPUs)</p>	<p>Two Netlogic XLP832 Processors featuring eight 64 bit Processing Cores</p> <ul style="list-style-type: none"> <li>• Up to 2 GHz with 8MB L3 Cache</li> <li>• Up to 32GB of DDR3 memory w/ECC on quad channel x72 bus per XLP832 (total 64GB)</li> <li>• The two processors can be connected via ICI to act as single NPU</li> <li>• Stacking option extends ICI across two blades, connecting 4 processors.</li> <li>• Autonomous Network Acceleration Engine®</li> <li>• Autonomous Security Acceleration Engine®</li> <li>• Packet Ordering Engine (POE) @ 40 Gbps</li> </ul>
<p>I/O Capabilites</p>	<p>4 Front Panel SFP+ 10GigE sites from 40Gbps Switch          Front Panel QSFP 40GigE site from 40Gbps Switch          2 Front Panel 10/100/1000Baset-T RJ45 to 40 Gbps Switch          RTM support for 2 10/100/1000 SFP bays and 4 40G QSFP bays (or 4 10G SFP+ bays)</p> <ul style="list-style-type: none"> <li>• Compliant to PICMG 3.0 Revision 3.0</li> <li>• Useable for 14-slot chassis as a hub board</li> <li>• Useable as a node board in a dual star fabric</li> <li>• Useable as a node board in a FULL MESH fabric up to 14 slots</li> </ul>
<p>Management</p>	<p>PICMG 3.0 Revision 3.0 compliant IPMI management          Fulcrum ControlPoint switch management</p>
<p>LEDs</p>	<p>Mandatory PICMG 3.0 LEDs:</p> <ul style="list-style-type: none"> <li>• Blue hot-swap</li> <li>• Red Yellow and Green (controlled from IPMC)</li> </ul> <p>Each RJ45 has integrated Green Link and Yellow Activity LEDs</p>
<p>Environmental</p>	<p>Operating temperature range: 0 to 55 °C          Humidity: 0 to 95% (non-condensing)</p> <ul style="list-style-type: none"> <li>• Worst-case power consumption : TBD</li> </ul>

# Block Diagram:

