Product Brief

PRA-210

Dual Intel® Xeon® Processor

40G ATCA Hub or Full Mesh Node Blade

Rev 0.7

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Summary:

JumpGen Systems' PRA-210 Processor Node/Hub Card is a high-performance 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 LC55xx 4-core processors with up to 2.13GHz clock rate, each processor can have up to 24GB of triple-channel 72-bit wide DDR3 ECC memory running at 1600 MHz. The Intel® Xeon® LC55xx processors are 4-core 8-thread processors with 256k of L2 cache per core and 8M of L3 cache.

The PRA-210 can be delivered in a configuration with two independent LC55xx processors or with the two processors tied together via the 4.8GT/s QPI Interface, thus operating as a single 8-core CPU.

The PRA-210 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).

The PRA-210 supports the following build options for the processor configuration:
• Two independent 4-core processors each with its own Platform Controller Hub (PCH)
• Two processors tied via fast QPI interface and functioning as a single SMP 8-core processor, with one common PCH

Features:

Central Processing Units (CPUs)	Two LC5518 / LC5528 Intel® Xeon® processors • Two LGA1366 sockets, supporting Xeon-class CPUs (see table below) all with 4x256k L2 cache, 8M L3 cache, HyperThreading, Turbo Boost, VT • Each CPU has 3 SO-RDIMM sockets for up to 24GB of DDR3-1600 memory w/ECC on triple channel x72 bus (total 48GB) • Independent or multi-CPU full SMP mode build option
I/O Platform Controller Hub (PCH)	Intel® BD3420 PCH
I/O Capabilities	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) • 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 Useable as a node board in a FULL MESH fabric up to 14 slots
Management	PICMG 3.0 Revision 3.0 compliant IPMI management Fulcrum ControlPoint switch management
LEDs	Mandatory PICMG 3.0 LEDs: • Blue hot-swap • Red Yellow and Green (controlled from IPMC) Each RJ45 has integrated Green Link and Yellow Activity LEDs
Environmental	Operating temperature range: 0 to 55 °C Humidity: 0 to 95% (non-condensing) • Worst-case power consumption : TBD
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

Intel® Xeon® Processor Options:

Processor Number	# of Cores	Core (GHz)	FSB (MHz)	TDP (Watt)	Process
LC5518	4	1.73	1600	48	45nm
LC5528	4	2.13	1600	60	45nm

Block Diagram: