Kontron updates 10G and 40G ATCA® platforms for TEMs to build the 4G LTE EPC, IPTV and GPON infrastructure of 2012 and beyond

Telecom Equipment Manufacturers who start new system designs now on 10G/40G ATCA® can be ready within one year to provide carriers much needed fixed-mobile data-traffic relief

Barcelona, Spain, February 15, 2011 – Kontron today – after months of collaboration with TEMs to migrate to 40G-ready ATCA® platforms – officially announced the rollout of an updated program that features two new carrier-grade, 14-slot 10G and 40G ATCA® platforms: the Kontron Open Modular Core OM9141-10G and Open Modular Core OM9141-40G. Both platforms are integrated with new sophisticated and faster bladed data transport, switching and system management hardware that TEMs can use as a starting point to build multiple new equipment configurations using CPU, NPU, DSP, storage and even specialized 3rd-party ATCA-based line cards that meet the requirements for 3G/4G, LTE, WIMAX, GPON and IPTV network elements.

Open Modular Core Platforms are the result of Kontron's long-standing expertise in driving specifications and developing standard-based hardware components and integrated platforms for the telecommunications market. Each integrated Kontron Open Modular Core platform includes redundant power entry modules, cooling infrastructure with hot swappable redundant fans and 10GbE or 40GbE switching capabilities based on the Kontron ATCA® switch blades AT8910 and AT8940, each with platform synchronization interfaces. Also built-in is redundant Shelf Management with

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interoperability-tested Shelf Manager Cross Connects, as per PICMG® specification, and optional systems management functionality based on the COM Express® form factor which resides on the Kontron ATCA® switch blades AT8910/AT8940 for centralized system management with a standards-based HPI implementation. A telco alarm panel provides telecom grade external system alarm notification.

The range of applications to build systems based on the Kontron 10G or 40G Open Modular Core Platforms includes, but is not limited to – 3G/4G and LTE Network Elements; GPON/EPON and Optical Transport Network Elements; QoS and Test Platform Network Elements; Service and Content Delivery platforms with Security and DPI functionality.

Equipment vendors in the Deep Packet Inspection (DPI) market may wish to consider adding Kontron's new high performance, dual packet processor (L2-L7) 40G ATCA® blade AT8242 loaded with two OCTEON II™ MIPS64 32-core processors from Cavium Networks. Designed for complex networking functions, the OCTEON II processors combine over 85 L3-L7 application acceleration engines, virtualization features, 100Gbps of connectivity, and a new Real Time Power Optimizer™ that dynamically adjusts power depending upon the application-level processing requirement.

Marrying the only available open-standard 40G hardware with the needs of LTE EPC elements
While 4G LTE networks require significant bandwidth and latency capabilities, they also cause a total re-think of the financial parameters of system-level CAPEX and OPEX. Demand for these new networks is rising and, in turn, is imposing shorter than usual time to market schedules for telecom and network equipment vendors. Being able to outsource a core platform, rather than developing it in-house, proves to be a most attractive option.

The advantages of the Kontron 10G and 40G ATCA® platforms are clear when developers have the 'Freedom of Choice' to choose their hardware and software building blocks from an open standard ecosystem, and can realize new design projects – from inception to market rollout – anywhere between six and 18 months, depending on the application. Moreover, the ATCA® specification was conceived to support all-IP networks and, in the case of LTE, meets, among others, the following requirements: ease of scalability and extensibility; intrinsic low latency packet switching; IPv6 support; 10GbE and 40GbE backplanes for network processing; IPsec protection of the control plane and the user plane; MPLS support; Sync. E and IEEE1588 support; and dedicated or shared protection for (1+1,1:1, M:N).

On the clock with Ethernet – IEEE 1588 (PTP) and Synchronous Ethernet (SyncE)
New, all-IP mobile wireless network infrastructures are dependent on new ways to achieve network synchronization, such as Synchronized Ethernet, and it is primarily important for content delivery

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platforms that provide not only voice but audio, HD video and real-time streaming content of MMS (Multimedia Messaging Service) and MBMS (Multimedia Broadcast and Multicast Services). For LTE and the IP-based packet switched EPC, there are two available synchronization options – IEEE 1588 (PTP) and Synchronous Ethernet, both of which are supported on Kontron 10G/40G Open Modular Core platforms. 1588 (Precision Time Protocol) describes an hierarchical master-slave architecture for clock distribution, while SyncE brings synchronization to specific Ethernet applications which otherwise would be asynchronous.

Kontron Open Modular Core Platforms - architectural features

Both Kontron Open Modular Core platforms deliver high performance switching and routing, and provide support for 12x 40GbE nodes and one redundant hub meeting NEBS and ETSI standards. Additional highlights include:

- Up to 640 Gbps (Kontron OM9141-40G) non-blocking switching bandwidth
- Up to 320 Gbps (Kontron OM9141-10G) non-blocking switching bandwidth
- Separate switch silicon for Base and Fabric interface
- Support for 2x 40GbE Fabric Interface to the Rear Transition Module (RTM) which is also designed to support Synchronous Ethernet and IEEE1588
- Front panel connectors: 4x 10GbE SFP+ Fabric Interface and 4x 10GbE SFP+ Base Interface uplinks
- Rear panel connectors (RTM support):
  - 2x 1G SFP BI Interfaces
  - 4x 10G SFP+ FI Interfaces (AT8910)
  - 4x 10G SFP+ FI Interfaces + 1x 40G QSFP or 2x 40G QSFP (AT8940)
  - Telco PLL (incl. optional SyncE support)
- 13U high, 19" with brackets for 19" equipment practice
- 12 available slots for Node Blades and RTMs
- Dual Star Platform configuration with 1GbE Base Interface and 1,10 or 40GbE Fabric Interface support
- Front to rear cooling supports 300W per slot plus 35W per RTM
- 4x hot-swappable fans and front pluggable Air Filter with redundant presence sensor

Open Modular Core Platforms – switch management overview

Switch management is supplied by Broadcom FASTPATH packages and numerous Kontron extensions, which support switching, QoS, IPv4 and IPv6 routing, IPv4/IPv6 multicast routing and selected protocols, namely – Ethernet multicast switching protocols and functions (such as GVRP, GARP, RSTP, LAG, IGMP Snooping, DiffServ, ACL); IPv4 unicast and multicast routing, unicast forwarding protocols & functions (such as ARP, OSPF, VRRP, RIP); multicast forwarding protocols &

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functions (such as PIM-DM, PIM-SM, DVMRP, IGMP); IPv6 unicast and multicast routing; and, IPv6 unicast forwarding protocols and functions (such as discovery, OSPFv3, MLD, 6to4/4to6 tunneling).

These Kontron Open Modular Core platforms are targeted to host multiple applications using any specific mix of Kontron CPU, NPU and Carrier Blades, plus many PICMG® 3.0/3.1 compliant 3rd-party and, to some extent, even certain proprietary blades, all of which can be properly validated and integrated by Kontron platform architect teams.

Supporting Quotes

"There is no doubt that application-ready ATCA® platforms have a proven track record saving up to two and a half years of product development time," said Simon Stanley, Analyst at Large, Heavy Reading. "The introduction of 40G ATCA® platforms, such as the OM9141-40G Open Modular Core platform from Kontron, with support for 250-300 watts per slot, opens up new avenues to support applications that were not possible in the past."

"Kontron's success stems from its strong belief that timing is everything and knowing exactly when customers are truly ready for new technologies," said Dirk Finstel, CTO of Kontron. "While the last 18 months have been spent getting clients to initially migrate their 10G applications on 40G-ready ATCA® platforms, the time has arrived for them to finally integrate the new higher IO performing switch technologies."

Availability

OM9141-10G Open Modular Core   Q2, 2011
OM9141-40G Open Modular Core™   Q3, 2011
Kontron is available to further discuss details during Mobile World Congress,
at Booth 2A28 in Hall 2, on February 14-17, 2011.

For more information on the Kontron Open Modular Core platforms OM9141-40G, please visit:
http://www.kontron.com/products/systems+and+platforms/advancedtca+integrated+platforms/om914140g.html

For more information on the Kontron Open Modular Core platforms OM9141-10G, please visit:
http://www.kontron.com/products/systems+and+platforms/advancedtca+integrated+platforms/om914110g.html

For more information on Kontron integrated ATCA® platforms, please visit:
http://www.kontron.com/OCP

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About Kontron

Kontron is a global leader in embedded computing technology. With more than 30% of its employees in Research and Development, Kontron creates many of the standards that drive the world's embedded computing platforms. Kontron's product longevity, local engineering and support, and value-added services, helps create a sustainable and viable embedded solution for OEMs and system integrators. Kontron works closely with its customers on their embedded application-ready platforms and custom solutions, enabling them to focus on their core competencies. The result is an accelerated time-to-market, reduced total-cost-of-ownership and an improved overall application with leading-edge, highly-reliable embedded technology.

Kontron is listed on the German TecDAX stock exchange under the symbol "KBC". For more information, please visit:
http://www.kontron.com/

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