(intel®)

Intel® Architecture-based Smart Cell Reference Platform

**With Scalable Processing Capability based on the
Intel® Atom™ Processor C2000**

Mobile broadband continues to grow exponentially as consumers demand more and more bandwidth, prompting network operators to continually upgrade existing networks. These upgrades increasingly rely on new, innovative solutions within a trusted secure network—where many nodes collaborate with each other to optimize the user experience while managing the precious spectrum assets of the service provider. The solution requires "smart" small cells, with scalable processing capability that supports application processing at the edge of the network, closer to the subscriber, thus delivering a much richer user experience.

Intelligent Heterogeneous Network

Intel, along with an extensive ecosystem, is enabling a telecommunications industry transformation by providing an open standards-compliant solution within an easy-to-use development environment. The Intel® architecture-based smart cell reference platform lets customers develop smart cell solutions utilizing the Intel® Atom™ processor C2000 in a compact hardware design. The reference platform allows for up to four Intel Atom processor cores where applications such as content caching, security firewall and content management can be developed and demonstrated to customers. This capability is designed directly into the IP traffic flow of dual mode (LTE & WCDMA) or triple mode (LTE, WCDMA and Wi-Fi) base stations.

In addition to the Intel Atom processor C2000, Intel offers a range of products to support different classes of access networks:

- Cloud RAN (Intel® Xeon® processor)
- Macrocell (Intel Xeon processor)
- Enterprise small cell aggregators (Intel Atom, Intel® Core™ and Intel Xeon processors)
- Picocell (Intel Atom processor)
- IOT gateways (Intel Atom and Intel Core processors)

Reference Platform Accelerates Development

Service providers understand that a heterogeneous mobile access network is required to support customer demand. However, the question becomes: How to monetize these network upgrades? By utilizing open standards-compliant compute platforms, Intel helps unlock the promise of intelligent networks and maximize user experience while increasing revenue and reducing operational expenses for service providers.

Benefits include:

- A ready-to-use development platform with software, tools, documentation, and rich ecosystem support.
- Reduced time-to-market and project risk for smart cell solutions: developers can quickly tailor the prototype to meet network requirements and test it with their core network without having to wait for product to be designed, built and tested.

- Open standards-based hardware delivers flexibility, scalability and interoperability in the development environment.

- A rich set of capabilities from Intel and its ecosystem collaborators—including Saguna*, McAfee* and many others from the Intel® Network Builders program—provide content caching, quality-of-service management, security, and more.

- Value-added services, including virtualization, capacity, flexibility and security, can be easily added to the intelligent heterogeneous network.

Intel® Atom™ Processor C2000

Ideal for smaller footprint, thermally constrained communications and infrastructure systems, including fanless embedded designs, the Intel Atom processor C2000 features an out-of-order execution engine, outstanding power management capabilities, and enhanced security. The complete system-on-chip features a range of multicore processing capabilities (from two cores up to eight cores), TDP range of 7 W to 20 W, and high levels of I/O

and acceleration integration, resulting in a highly scalable single-chip solution. Additional features and benefits include:

- Multiple configurable options for memory with up to 1600 MT/s, one or two DIMMs per channel (up to two channels), and optional Error Correcting Code (ECC) memory.

- May be paired with the Intel® Data Plane Development Kit (Intel® DPDK) to improve packet processing speeds to handle increased network traffic data rates and associated control/signaling infrastructure requirements.

- Integrated Intel® QuickAssist Technology provides hardware acceleration to help improve cryptographic performance.

- A variety of integrated I/O interfaces enhances connectivity and eliminates the need for an additional chip, thus reducing board real estate and platform BOM costs:

  - Four integrated Intel® 10/100/1000/2500 Gigabit Ethernet controllers (MACs)

  - Four USB 2.0 ports, up to 16 PCI Express* Gen 2.0 lanes with four controllers

  - Up to four SATA Gen 2 ports, two SATA Gen 3 ports, and two UARTs

Unlock the Promise of the Intelligent Network

As consumers continue to demand more and more bandwidth, service providers will scramble to provide the richest possible user experience within the confines of available technology and opportunities for monetization. The Intel architecture-based smart cell reference platform brings value-added services, virtualization, capacity, flexibility and security to the network edge. The ready-to-use development platform with standards-based hardware, software, tools, documentation, and extensive eco-system support, provides a prototype to quickly develop, test and demonstrate the "Intelligent Network".

Available Q4 of calendar year 2014.
Please contact your Intel sales representative to order or for more information.

To learn more about Intel solutions for small smart cells and the heterogeneous mobile access network, please visit **www.intel.com/wirelessaccess**

(intel)