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Mobiveil



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The annual listing of 10 companies that are at the forefront of providing Semiconductor Tech consulting/services and transforming businesses

Mobiveil

Offering High-quality Silicon IP Cores, Platforms and Value-added Services

Semiconductor devices are the foundation of modern electronic products that have revolutionized the way we live and work. With the pace of innovation in design automation and exponential improvement in manufacturing, semiconductor designs are miniaturized at an accelerated pace, making electronic products smaller and smarter than its previous generation product. This is made possible by integrating many complex electronic functions in a single semiconductor device controlled by onboard processors. Such highly integrated devices are called System on a Chip (SOC). And Semiconductor IP cores are the re-usable building blocks of standard functions and interfaces that are used to accelerate the development of these complex SOC devices. Today it is hard to imagine that a semiconductor design team able to develop a complex SOC device without integrating semiconductor IP cores acquired from independent IP vendors. Thus, the semiconductor IP vendors have become a critical part of the semiconductor supply chain.

With decades of experience in delivering high-quality, production-proven, high-speed serial interconnect Silicon IP cores, and IP enabled engineering services, Mobiveil, a swiftly growing technology company, has put together an impressive array of Silicon Intellectual Properties (SIP) and platforms for applications in data centers, 5G, AI/ML, and the IoT markets. "As a company, we specialize in offering design IP blocks, application specific platforms and value-added services. We help accelerate all aspects of semiconductor and hardware design," mentions Ravi Thummarukudy, the CEO at Mobiveil.

The methodology Mobiveil uses for accelerating the product development is a unique one. Mobiveil has developed a number of application platforms typically embedding the re-useable IP cores in an FPGA (Field Programmable Gate Array) along with fully functional hardware and operational firmware. For instance, to enable the transition of storage devices from SATA-based mechanical drives to NVM Express-based solid-state devices, Mobiveil has launched its NVM Stor-Ultra platform that offers high-performance SSD solutions with its UNH certified NVMe controller IP (UNEX). The UNEX controller significantly improves random and sequential performance by reducing latency

and handling all data transfer through dedicated NVMe aware DMA. Mobiveil offers two varieties – one based on ARM and the other based on RISC-V CPU architecture. This platform approach has drastically cut down the SSD controller development time for many customers worldwide.

Similarly, the company caters to the Industrial IoT and wireless communication sectors as well. Mobiveil continuously upgrades its silicon IP and application platform to newer versions of standards and regularly participates in industry compliance events to provide stable, high-quality designs for its clients. Clients can then customize and add more features in software with support from Mobiveil and move to production in half the time that is normally taken for similar development. What makes the company unique in this scenario is its ability to configure the IP cores to match the customer's exact requirement guaranteeing its clients performance, quality, and product differentiation.

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The latest IP core in their fast-growing portfolio is CXL (Compute Express Link) Controller named COMPEX. CXL is the new industry standard for high bandwidth, coherent, and low latency options for data center interconnect. Built upon PCIe (peripheral component interconnect express), it helps interlink the CPU, GPUs, AI, and FPGA based application accelerators in the data center. With its advanced connectivity, CXL can appropriately address the high-performance computational workloads across AI and ML applications. COMPEX controller supports all CXL device types and host mode making it suitable for early adopters of CXL technology.

With a strong team and a long-drawn experience and expertise around semiconductor, board, and firmware, Mobiveil has made a substantial mark on the industry, with its biggest market in the US, followed by China, India, Korea, Israel, Europe, and Japan. For the foreseeable future, the company will be developing newer IP cores, application platforms, and reference designs complemented by value-added services for scaling its business and overall leadership.

Ravi Thummarukudy

