

A Powerful Solution for Building High-Performance, Low-Power, Cost-Effective Consumer Electronics

32/28nm SoC Platform Combines Next-Generation Processes with ARM Advanced Physical IP

Industry-Changing Collaboration Gives Customers Benefit of Proven Technologies to Build Highly Competitive Products

Fabless semiconductor companies wishing to build SoCs for advanced devices with unmatched performance and outstanding battery life at reduced costs now have an excellent solution. The Common Platform™ technology alliance has teamed with ARM®, the leader in advanced microprocessor and physical IP, to develop the **32/28LP High-Performance IP Platform**, a comprehensive 32/28nm design platform utilizing leading-edge process technology.

The competitive realities in the rapidly changing consumer electronics market give an edge to fabless companies that can offer better products, faster, at lower cost. The 32/28LP IP platform enables semiconductor companies to reduce time to market while leveraging the inherent advantages of designing for smaller geometries. Not a retrofit of an old architecture, this advanced platform has been tuned to deliver cutting-edge technology built on today's most sophisticated processes — including High-K Metal Gate (HKMG) — using the foremost IP from ARM.

Platform's Advanced Physical IP Takes Leading RISC Processors to a New Level

ARM is a market leader in embedded RISC microprocessor IP. With the new 32/28LP IP platform, ARM is providing its many partners with a high-performance, power-efficient RISC SoC platform. The platform includes optimized logic, memory and interface products achieving optimal power, performance and die area for the ARM Cortex processor family. This new 32/28LP IP platform leverages the capabilities of 32/28nm

process technology as well as low-power technology from both ARM and the Common Platform companies.

Common Platform 32/28nm HKMG Process

A critical element in this significant new mobile logic platform is the Common Platform 32/28nm HKMG technology. Based on an advanced, cost-effective gate-first approach that is ahead of other manufacturers, this breakthrough process technology overcomes the historical barrier of scaling, producing power and performance advantages. The 32/28nm high-k gate-first process is designed to provide a simpler, less time-consuming way for customers to migrate to HKMG technology from traditional Poly SION processes.

The collaboration on process design rules and cell architecture between the Common Platform foundries and ARM improves the management of performance, size and power efficiency.

COMPARING THE COMMON PLATFORM NEW 32/28NM HKMG PROCESS TO 45NM TECHNOLOGY:

- ▶ Up to 30% improvement in performance
- ▶ Up to 50% improvement in power management
- ▶ As much as 20-25% lower in standby power
- ▶ As much as 15-20% lower in active power
- ▶ Enables as much as 10-15% denser IP
- ▶ As much as 15-20% lower power leakage

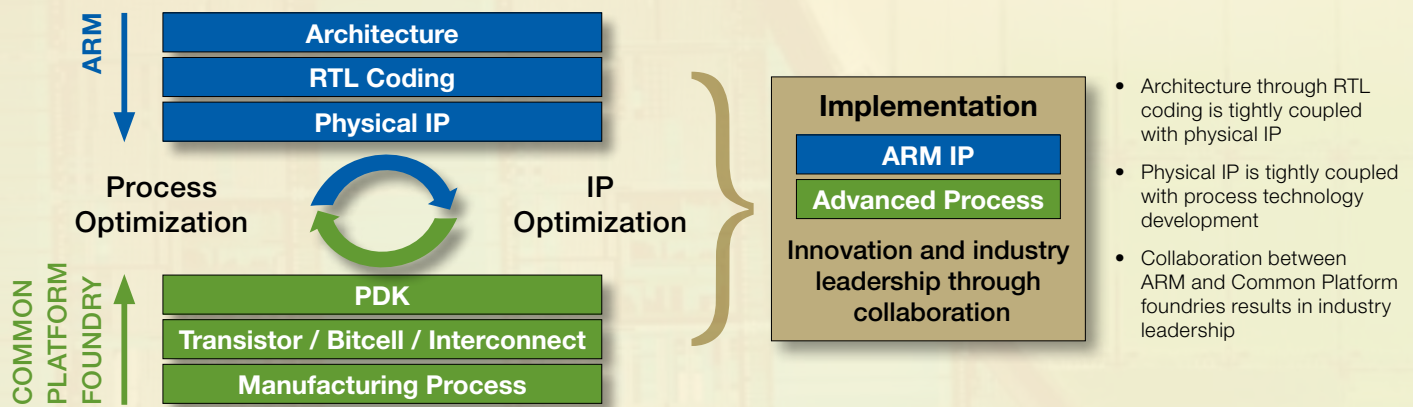
New Platform is Ideal for Next-Generation Digital Products

The new 32/28LP IP platform taps into longtime, industry-leading expertise in low-power technology, thus customers need not take the risk of new, unproven techniques. Utilizing this proven technology, the platform enables the development of advanced, energy-efficient, feature-rich digital products with extensive battery life for many embedded applications such as ultra-mobile, portable and consumer electronics.

Benefits for 32/28LP IP Customers

Common Platform customers receive free customer downloads from the ARM website of ARM 32/28LP physical IP including logic, memory and interface products that take full advantage of the 32/28LP HKMG process achieving optimal power, performance and area. ARM also makes available for licensing additional application-specific physical IP for the ARM Cortex processor family. The resulting products are manufactured in the chosen Common Platform 300mm wafer facility most convenient to each customer.

An Industry-Changing Collaboration



About the Common Platform technology alliance

IBM, Chartered Semiconductor Manufacturing and Samsung Electronics have forged a unique manufacturing collaboration featuring bulk CMOS 32/28nm, 45nm, 65nm and 90nm process technologies. By combining the expertise and research resources of all three companies and leveraging advances such as HKMG technology, 193nm immersion lithography and ultralow-k dielectrics, the Common Platform technology collaboration is able to accelerate the availability of leading-edge technology to foundry customers. The Common Platform model is supported by a comprehensive design-enablement ecosystem, enabling foundry customers to easily source their chip designs to multiple 300mm foundries with minimal design work and with unprecedented flexibility and choice.

About ARM

ARM designs the technology that lays at the heart of advanced digital products, from wireless, networking and consumer entertainment solutions to imaging, automotive, security and storage devices. ARM's comprehensive product offering includes 32-bit RISC microprocessors, graphics processors, enabling software, cell libraries, embedded memories, high-speed connectivity products, peripherals and development tools. Combined with comprehensive design services, training, support and maintenance, and the company's broad partner community, they provide a total system solution that offers a fast, reliable path to market for leading electronics companies.



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