



News Release

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FOR IMMEDIATE RELEASE

Embedded PC Leaders Introduce SUMIT™ Interface Specification

Advancement in board level architecture features easy connectivity and legacy I/O migration

Embedded Systems Conference – SV, San Jose, CA, April 15, 2008 – An eleven-company collaboration of board and I/O suppliers and component manufacturers, led by WinSystems, VIA Technologies, VersaLogic, Octagon, and Ampro, unveiled today details about the SUMIT™ interface specification aimed toward next generation, low power, expandable single board computers (SBCs). With a blend of high-bandwidth PCI Express™ lanes, USB ports, and lower speed multiplexed and serial buses, SUMIT can be added to a variety of board form factors, and is flexible and compact enough to meet a very broad range of application requirements. Unifying the expansion interfaces of many SBC form factors has the potential to consolidate I/O ecosystems, which could improve economies of scale for I/O. This announcement represents the biggest advancement in small form factor board architecture since PC/104 in the 1990's.

SUMIT is an electromechanical connectorization specification using two, 52-pin high-density (0.025" pitch) connectors with center ground blades for impedance, EMI, and DC ground return purposes. Each connector is optional depending on the target applications of a particular SBC. The SUMIT Type A connector contains one PCI Express x1 ("by one") lane, (3) USB ports with a global over-current signal, Low Pin Count (LPC) bus for expansion serial ports and other legacy I/O, SPI / uWire ("Microwire"), and a general-purpose I²C bus that is typically connected to SMBus for x86 chipsets. The multitude of low speed buses will enable a smooth transition away from the long-standing ISA Bus for much of the embedded market that uses simple I/O for switching on relays or low-rate data acquisition, for example. The SUMIT Type B connector adds another PCI Express x1 lane and a x4 ("by four") lane, primarily for storage / RAID, networking, video output or frame grabbers, high-speed acquisition, and scientific applications. There are three valid configurations known as SUMIT-A, SUMIT-B, and for both connectors, SUMIT-AB. Form factor details are distinct from the SUMIT connector and pinout details, and are therefore left to those respective specifications, for example Express104™ and Pico-ITX™ form factors.

“Embedded system designers are asking for simple, modular ways to embrace emerging high-speed I/O, yet without sacrificing connectivity to serial ports, A/D, and GPIOs,” said Bob Burckle, vice president, WinSystems. “Hanging multiple bus bridges, translators, and FPGAs off of a PCI Express lane to get to low-speed I/O is cumbersome, adding unnecessary risk, cost, power consumption, design and debug time, and board space usage.”

“The Small Form Factor area of the market appears to be one of the fastest growing segments, as evidenced by recent announcements,” said Colin McCracken, president, SFF-SIG. “The SFF-SIG provides an incubator organization structure under which specification sponsors can easily form a working group and develop solutions to their portions of this rapidly-evolving segment, with full access to broad inputs and reviews from the SIG’s diverse global membership. This is the optimum solution to a fragmented space.”

SUMIT maps well to the new single-chip chipsets from several manufacturers for sub-10 Watt designs, and closely follows the trend of replacing parallel interfaces with high-speed serial interfaces. Other expansion interfaces were defined principally for three-chip x86 solutions, but these don’t scale down to the low cost, space, and power that match today’s two-chip x86 platforms. For example, integrated chipset graphics are sufficient for all but the high-end applications. PCI Express is replacing parallel PCI, Serial ATA is replacing Parallel ATA (PATA, or IDE), and Gigabit Ethernet and USB 2.0 are gradually replacing serial ports and other cabled board-to-board or board-to-peripheral interfaces. Legacy peripherals are still pervasive in many applications, and SUMIT supports these by allowing external LPC-to-ISA bridges and LPC UART and Super I/O devices, with legacy interrupt support provided through the essential SERIRQ serial interrupt signal.

Testing the SFF-SIG incubator model, SUMIT has resulted from the close cooperation among SBC vendors, I/O vendors, chipset manufacturers, and integrators. Members gathered inputs from system OEMs about the types of I/O and performance levels that will be needed for next generation designs. Companies interested in lending their expertise to the SFF-SIG, or who are interested in the SUMIT specification may contact the SFF-SIG at info@sff-sig.org or visit the web site at www.sff-sig.org for details.

About the Small Form Factor SIG

The Small Form Factor Special Interest Group is an international organization devoted to identifying, creating, and promoting standards that help electronics system and device manufacturers and integrators move to small form factor technologies and building blocks in their products, and protect their investments. Benefits of small form factor products include smaller size, reduced power consumption (eco-friendly, “green” products), and greater reliability compared to larger legacy products.

The SIG's philosophy is to embrace the latest technologies, as well as maintain legacy compatibility and enable smooth transition solutions to next-generation interfaces. New technologies available to long-lifecycle system and device manufacturers include lower power and highly integrated processors, chipsets, and memory based on 90nm, 65nm, and 45nm processes, higher density connectors with improvements for ruggedness, compact storage devices, and space-efficient signal interfaces.

Companies that can benefit from SFF-SIG membership include board suppliers with existing small form factor specifications that they can shepherd through the SIG's adoption and standardization process, or companies who want to participate in the development of important new standards that shape the evolution of electronics systems, or who are planning to develop their own small form factor boards. OEMs and integrators who simply need to stay abreast of off-the-shelf board technologies or who want to have more control of their own destiny regarding boards are also welcome. Discussing trends with some of the sharpest minds in the industry can spark ideas that benefit individual members with their own product roadmaps.

There are two membership categories for the SFF-SIG. Voting members are involved in promoting, supporting, and developing specifications for small form factor boards, components, and systems. In addition, voting members review specifications that are submitted to the SFF-SIG for adoption. General members provide inputs directly to internal specification development, and can view these specifications prior to publication, but do not cast approval votes. For more information about the SFF SIG, please visit www.sff-sig.org or e-mail info@sff-sig.org.

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