

Ittiam Unveils 60ms Ultra Low-Latency Streaming Systems for High Definition Video

Complete Software Systems to Serve Latency Sensitive Applications Ranging from Conferencing to Surveillance

Cheshire, UK, December 21st 2009 – Kane Computing is pleased to announce that Ittiam Systems has launched its suite of ultra low-latency streaming systems that can deliver an end-to-end latency as low as 60 ms for high definition video. Designed to cater to a wide range of real-time communication and fast response interactive video applications, these systems deliver full frame rate, high quality video at very low latencies.

Ittiam's streaming systems have been deployed in latency-critical applications including live communication, video surveillance, UAV navigation, interactive multimedia applications, collaborative medical devices and custom government and defense applications.

Ittiam's deep understanding of streaming technology and its scalable and extensible media system design have helped special custom applications achieve ultra low-latency. This performance is achieved in the presence of constraints created by the unique operations environment of the applications across various video compression standards – from MPEG-2 to H.264, without compromising on media-quality and quality of service.

These low-latency numbers are measured between video signal capture and video signal display and are realized on programmable systems-on-chip, utilizing Texas Instruments Incorporated (TI) DaVinci™ and OMAP™ 3 technologies, using standard operating systems on the ARM® such as Linux. Unlike ASIC platforms, these systems provide additional flexibility in signal processing for solutions with a wider set of video standards along with application specific customizations.

"TI's DaVinci and OMAP platforms provide the processing performance and flexibility for advanced video end equipments," said Jacob Alamat, DaVinci Technology Business Manager, TI. "When combined with this low-latency solution from Ittiam, our customers will be able to maintain image clarity with real-time performance, which is critical for their leading video products."

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Ittiam leverages its low-latency technology in its video conferencing, video surveillance and interactive multimedia applications. Ittiam's HD-Video Engine built on TI's TMS320DM646x, delivers an end-to-end latency of 60 ms for High Definition (HD) video streaming on LAN and a sub-50 ms latency for D-1 content. It includes optimizations and features specific to video communications to deliver high quality and reliable video at low latency over the internet and can cater to high end multi-processor HD video conferencing and video telephony applications.

Ittiam's low-latency server and client systems have been integrated into several custom aerial reconnaissance applications including multi-processor solutions. For government or defense video surveillance as well as interactive multimedia applications where response time is very critical, Ittiam's media systems support sub-frame encoding options like field-based and slice-based encoding and are also fine tuned for transmission over wireless channels.

"Low latency is the key to realizing real-time interactive multimedia applications," said Sattam Dasgupta, Vice President Media Streaming Business at Ittiam. "We are creating solutions for the rapidly evolving network video market."

The ultra-low latency system is realized by fully utilizing Ittiam's highly optimized codecs and device drivers, as well as improved system performance via efficient buffer-management, system scheduling, pipelining and multi-threading techniques in these media systems. Further, Ittiam's high performance video codecs also support various specialized video toolsets including low delay rate control, strict constant bit-rate and multiple forms of sub-frame encoding like row based slices to minimize the video processing as well as network transmission latency.

Ittiam's streaming systems also include methods like system level sub-frame CBR transmission, jitter adaptation, packet loss concealment, multi-prong AV synchronization and time scale modulation to minimize the effects of network transmission delays. Dynamic bandwidth adaptation through dynamic bit-rate, frame-rate and resolution also controls delays introduced by network congestion.

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Ittiam's suite of low-latency systems are available on multiple TI platforms including TMS320DM646x, TMS320DM36x, TMS320DM644x and OMAP35x and support multiple compression formats. They can be customized for deployment in WiFi, cellular or best-effort networks and can also be easily scaled and integrated into highly custom and specialized applications.

About Ittiam

Ittiam Systems Private Limited, headquartered in Bangalore, is a technology product company singularly focused on digital signal processing systems in media and communication. The company operates through its network of offices and representatives around the world. Ittiam's customers include Fortune 100 companies and are distributed across U.S., Europe, Japan and Asia. Since 2004 the company has been consistently rated as the 'World's Most Preferred DSP IP Supplier' in the annual surveys conducted by Forward Concepts Incorporated. In 2005 Ittiam had been selected by Red Herring into the top 100 private companies in Asia. In 2007, Ittiam received the NASSCOM India IT Innovation Award, a prestigious recognition of the company's innovative product designs. For more details, visit www.ittiam.com.

About the Texas Instruments Developer Network

Ittiam Systems is a member of the TI Developer Network, a community of respected, well-established companies offering products and services based on TI analog and digital technology. The Network provides a broad range of end-equipment solutions, embedded software, engineering services and development tools that help customers accelerate innovation to make the world smarter, healthier, safer, greener and more fun

About Kane Computing Ltd.

KCL (www.kanecomputing.co.uk) is a Texas Instruments Third Party Partner specialising in consultancy and advice on TI development tools/platforms and image processing applications. KCL offer the widest range of Texas Instruments DSP based hardware platforms, software libraries and tools in the UK as a result of their close relationship with TI and a range of other TI 3rd Parties. Based on 18 years of experience KCL understand what developers need and have the knowledge and resources to provide the correct solutions. KCL has a policy of continual improvement and operates its business in accordance with the requirements of ISO9001:2000.

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