



Emphasizing the greater focus on **Industrial and Defense** grade products and solutions delivered from this Business Unit, **Video Networking Systems and Solutions (VNSS)** BU has now been renamed as **Industrial and Defense Solutions (IDS)**. With the new identity, we will continue to deliver world class, high performance, robust, inter-operable, readily adoptable technology and products for video streaming and recording that meet the needs of our customers across In-Flight Entertainment, Surveillance, Enterprise, Medical and Defense market segments.

Product Highlights

[Ultra Low Latency](#)

[Multimedia Platform with SDK](#)

Technology Highlights

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[HEVC / H.265](#)

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[Mobility Extension for Industrial Video](#)

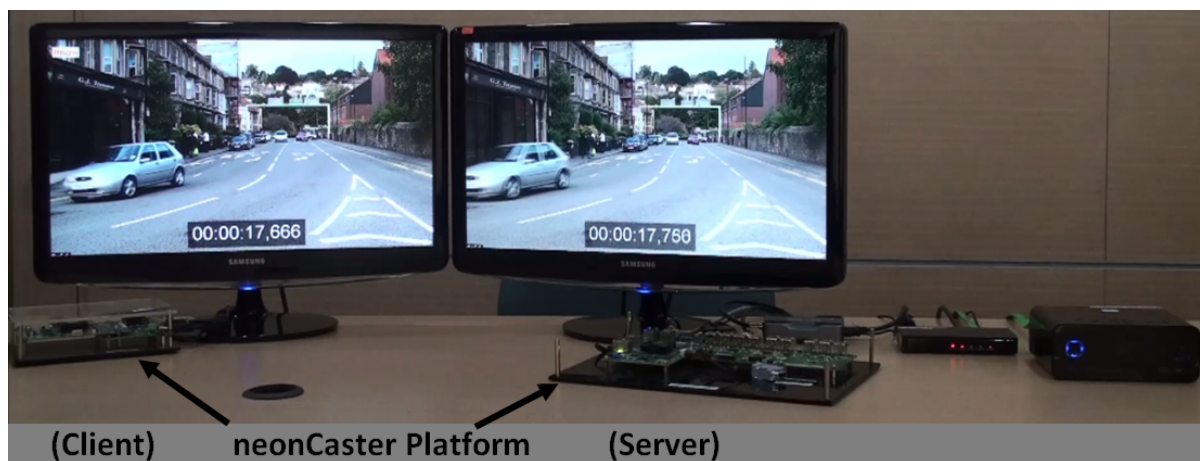
Product Highlights

Experience Ultra-Low Video Latency

Ittiam's Low Latency SDK (LL SDK) now delivers full HD (1080p60) Video at ≤ 50 ms glass-to-glass latency and enables OEMs to significantly improve the user experience for real-time interactive applications such as vision guided systems, unmanned vehicle navigation and remote computing. The Low Latency solution consists of a Server SDK and a Transcoder SDK completed with Client SDK on embedded devices as well as Android / iOS devices. The SDKs are available on Texas Instrument's DM816x platform and on [Ittiam's neonCaster Gen II](#) (a powerful and versatile hardware platform based on TI's DM816x), and can be readily ported to other DM816x based platforms. For availability on other / custom platforms, please contact mkt@ittiam.com.

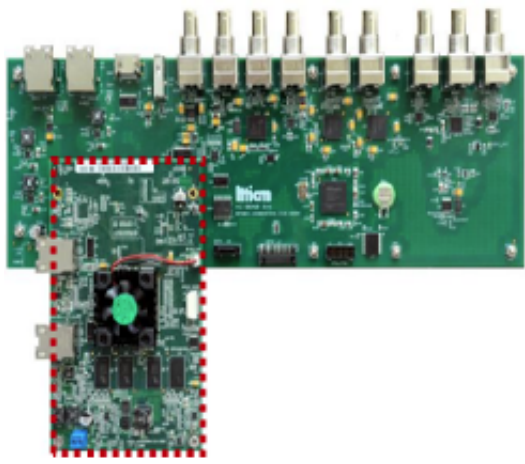
Highlights

- Glass-to-Glass Latency ≤ 50 ms for 1080p60
- LL SDK Server and Client on TI DM816x Platform
- LL SDK Server and Client on Ittiam's neonCaster Gen II
- LL SDK Client on Android and iOS



Looking to build high performance multimedia systems for Industrial & Defense applications? Reduce time-to-market with Ittiam's multimedia platform solution!

Ittiam's [neonCaster hardware platform](#), based on TI's DM816x processor, coupled with Ittiam's Video Networking / Low-Latency SDK will help to significantly reduce time-to-market and overall cost of product development. Available with 'Standard' and 'Advanced' feature sets, Ittiam's Video Networking SDK on neonCaster hardware platform comes pre-configured as Server, Player/Client, Recorder, Transcoder and in Hybrid configurations.



Highlights

- Configurable and scalable architecture
- Industry-best channel density for HD encoding, decoding and transcoding on a single processor
- Suitable for creating high-performance cost-effective Industrial & Defense grade multimedia solutions

Technology Highlights

Addressing Content Security

Distribution of video over network is faced with security and piracy challenges. To overcome them, Ittiam's Video Networking SDK now integrates standards based encryption and decryption algorithms (AES-128 and RSA) that enable secure transmission and content protection. The solution comprising of Server SDK and Client SDK, available on embedded devices and Android / iOS devices will enable end-to-end content security. This solution has applications in Enterprise Streaming, Video Surveillance and In-Flight Entertainment.

In addition to security and piracy concerns tamper proofing is an important requirement in applications such as Video Surveillance. Ittiam offers robust digital watermarking solutions that will enable identification of any attempt to tamper the video.

HEVC on your mind?

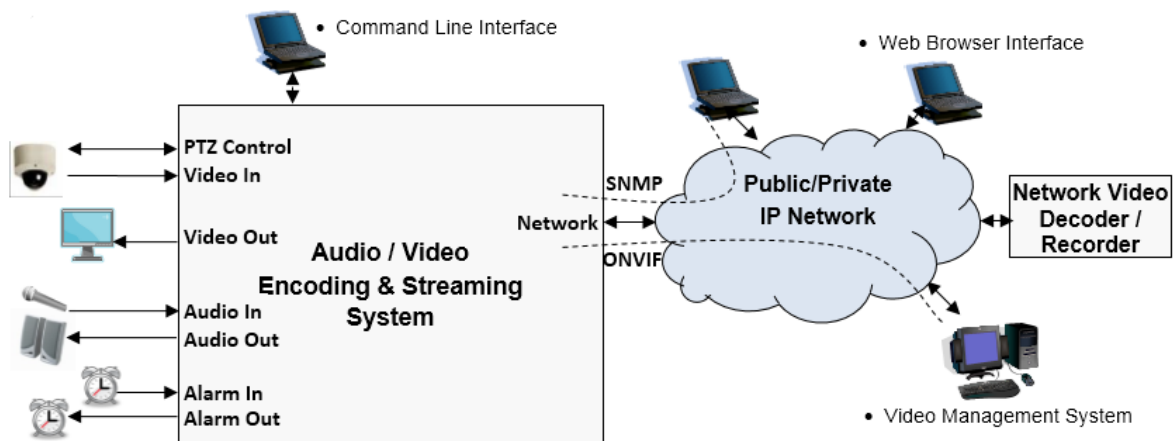
Ittiam now offers Player/Client SDK with support for [High Efficiency Video Codec \(HEVC / H.265\)](#), enabling reception and playback of video up to 4K. This Player SDK is available on ARM based platforms making it viable for adoption of HEVC in low power embedded devices, tablets and smart phones, supporting Android and iOS.

Case Studies

Industrial-grade Turnkey System Solution

A European surveillance major was looking for a partner to design, develop and manufacture a robust, multi-channel, multi-format, feature-rich audio/video encoding & streaming system for use in transportation surveillance. This product, in its deployment is required to operate 24x7, reliably, in stringent environmental conditions, without need for operator intervention.

As a turnkey solution provider Ittiam was responsible for complete system design and development (hardware and software), environmental compliance (temperature, mechanical, EMI/EMC) and volume manufacturing. Ittiam worked closely with the customer through various stages of realizing the complex product, ensuring customer requirements, careabouts and concerns are well addressed. Ittiam had most of the necessary building blocks – in terms of software IP for audio/video codecs, media engine, streaming protocols, application framework, hardware and system design expertise which helped in significantly reducing the product realization timelines and time-to-market. Same design from the first design cycle could go for volume manufacturing.



“Complex specification has become a truly professional and versatile video product. It has been a pleasure to work with such an innovative and dedicated design group of Ittiam” – **Product Manager, Customer Organization**

The rich set of product features are enabled by Ittiam's Video Server SDK which encompasses a high

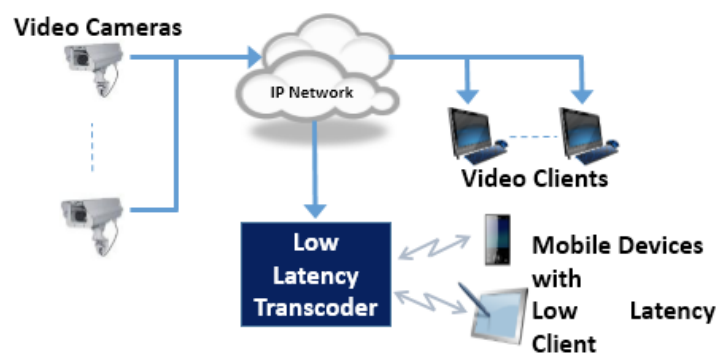
performance media system with system management toolsets. The media system delivers multi-channel, multi-format audio and video through high quality, high performance codecs integrated into its optimized framework. The media system includes advanced features such as media encryption and digital watermarking algorithms to aid content security. The system management toolsets enable further security features such as tamper detection and user authentication that allow to maintain the content integrity. Features such as fail-safe field firmware upgrade which are part of system management toolset have helped in making the system robust and reliable.

Two variants of this product are currently in production with several thousands of units already shipped and deployed in the field across major cities in Europe by transportation authorities.

Enabling Mobility of Industrial Video Applications

Leveraging the growing usage of smartphones and tablets, the customer wanted to provide a mobile interface to their existing application. Low end-to-end video latency and high video quality were deemed as critical elements to make this mobility extension effective. By understanding the customer's application and relying on its pre-built IPs Ittiam was able to offer a technologically advanced and attractive solution to meet this objective.

Built on Ittiam's Video Networking SDK (VNSDK) and Low Latency SDK (LLSDK), the adaptive streaming solution consists of a low latency transcoder coupled with low latency video player to enable wireless transmission of high quality video at low latencies. This will enable the users to view and control the application on these portable device seamlessly, increasing the reach.



"Ittiam came up with a very rich technical solution to the problem statement. The solution proposal was well thought through to cover the edge cases and the timelines were made aggressive by leveraging existing IP. I find Ittiam team very knowledgeable, professional, sincere and pleasure to work with." – Sr. Engineering Manager, Customer Organization



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