

NVIDIA Introduces Groundbreaking Camera Technology With Chimera -- World's First Mobile Computational Photography Architecture

Tegra 4 Family Delivers First Always-On HDR Photos and Video, HDR Panoramic and Tap-to-Track Capabilities to Smartphones and Tablets

SANTA CLARA, CA -- Forging a path for the next wave of advanced, consumer-focused mobile imaging experiences and applications, NVIDIA today announced new capabilities delivered by the NVIDIA® Chimera™ Computational Photography Architecture.

Available in the NVIDIA® [Tegra® 4](#) family of mobile processors, Chimera™ architecture offers a number of features never before available on mobile devices, including always-on high-dynamic range (HDR) photos and videos, HDR panoramic and persistent tap-to-track capabilities.

"We developed the Chimera Computational Photography Architecture to take mobile photography far beyond where it is today," said Brian Cabral, Vice President of Computation Imaging at NVIDIA. "We're enabling developers and users to not only use image processing to enhance their photos, but also use computer algorithms to create images no lens can capture alone."

Previous mobile device architectures have made it difficult to use the best tools for different parts of complex image processing. Chimera architecture removes those boundaries by providing the power to conduct nearly 100 billion mathematical operations per second to perform image processing, using computational techniques used in X-ray CT scanners, deep space telescopes and spy satellites.

First revealed at CES 2013, the architecture redefines mobile imaging with always-on HDR photos and videos. This allows camera users to instantly capture high-quality, HDR images similar to how the human eye sees the world -- in a vast array of locations and scenes, and under diverse lighting conditions.

Additional new features include HDR panoramic, which takes wide-angle, or "fish-eye," shots that normally require an expensive digital single-lens reflex camera. The Chimera architecture captures a scene while the camera moves -- from side to side, up and down *or* diagonally -- effectively "painting" a panorama in real time from many angles and in any order the user wants. In contrast, competing offerings must either be moved in one direction along a single horizontal plane, or require significant amounts of post processing -- taking up to 35 seconds -- to stitch together the panorama.

In another industry first, the Chimera architecture includes persistent tap-to-track technology, which allows users to touch the image of a person or object to focus on within a scene. The camera then locks in on that subject whether it moves or the camera is repositioned to a better angle, while maintaining proper focus. Persistent tap-to-track also adjusts the camera exposure depending on any movement, helping avoid under- or over-exposure of the image's subject or background.

NVIDIA Chimera is available as technology integrated into the Tegra 4 family, including Tegra 4 -- the world's fastest mobile processor -- and the new Tegra 4i -- the first integrated Tegra LTE processor.

Support from Leading Industry Players

Device makers can use the architecture to create differentiated imaging solutions to ship with their smart phones and tablets. The architecture also provides an application programming interface (API) that developers can use to create enhanced imaging apps for the growing Android mobile customer base.

Two important players in the camera imaging sensor market, Sony and Aptina -- with others to be announced -- have already added support for the Chimera Computational Photography Architecture. Sony's Exmor RS IMX135 13 MP sensor and Aptina's AR0833 1/3" 8MP mobile imaging sensor support Chimera architecture, bringing always-on HDR capabilities to market. Device makers can now adopt this technology into their Tegra 4-powered devices; dramatically enhancing their photo and video capabilities.

"NVIDIA's Chimera architecture with our AR0833 sensor delivers mobile customers an amazing photo and video experience," said John Gerard, Senior Director of Mobile Products at Aptina.

Chimera Computational Photography Architecture Key Features:

- First always-on HDR photos and videos
- First HDR panorama

- First persistent tap-to-track technology
- First single-flash HDR capture

Useful Links

www.nvidia.com/tegra

www.tegrazone.com

Tags/Keywords

NVIDIA, Tegra, LTE, smartphone, mobile, quad core, GPU, CPU, photo, HDR, TegraZone, Chimera

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Certain statements in this press release including, but not limited to, statements as to: the features and benefits of the NVIDIA Chimera architecture; and the effects of the company's patents on modern computing are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-Q for the fiscal period ended October 28, 2012. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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