



NVIDIA Quad-Core Tegra 3 Chip Sets New Standards of Mobile Computing Performance, Energy Efficiency

Tegra 3's Fifth 'Companion' Core Enables Ultra-Low Power Consumption, While Advanced Quad-Core Processors Drive Record-Breaking Performance

SANTA CLARA, CA -- NVIDIA today ushered in the era of quad-core mobile computing with the introduction of the NVIDIA® Tegra® 3 processor, bringing PC-class performance levels, better battery life and improved mobile experiences to tablets and phones. The world's first quad-core tablet with the [Tegra 3](#) processor is the [ASUS Eee Pad Transformer Prime](#).

Known previously by the codename "Project Kal-El," the Tegra 3 processor provides up to 3x the graphics performance of [Tegra 2](#), and up to 61 percent lower power consumption. This translates into an industry-leading 12 hours of battery life for HD video playback.

The Tegra 3 processor implements a new, patent-pending technology known as [Variable Symmetric Multiprocessing](#) (vSMP). vSMP includes a fifth CPU "companion," specifically designed for work requiring little power. The four main cores are specifically designed for work requiring high performance, and generally consume less power than dual-core processors.

During tasks that require less power consumption -- like listening to music, playing back video or updating background data -- the Tegra 3 processor completely shuts down its four performance-tuned cores and, instead, uses its companion core. For high-performance tasks -- like web browsing, multitasking and gaming -- the Tegra 3 processor disables the companion.

"NVIDIA's fifth core is ingenious," said Nathan Brookwood, Research Fellow at Insight 64. "Tegra 3's vSMP technology extends the battery life of next-generation mobile devices by using less power when they're handling undemanding tasks and then ratcheting up performance when it's really needed."

The Tegra 3 quad-core CPUs are complemented with a new 12-core NVIDIA GeForce® GPU, which delivers more realism with dynamic lighting, physical effects and high resolution environments, plus support for 3D stereo, giving developers the means to bring the next generation of [mobile games](#) to life.

For the millions who play games on mobile devices, the Tegra 3 processor provides an experience comparable to that of a game console. It offers full game-controller support, enabling consumers to play games on their tablet or [super phone](#), or connect to big screen HDTVs for a truly immersive experience. It also leverages NVIDIA's award-winning [3D Vision](#) technology and automatically converts [OpenGL](#) applications to stereo 3D, so consumers can experience 3D on a big screen 3D TV (via HDMI™ 1.4 technology).

The Tegra 3 processor provides the industry's....

- Fastest web experience - with accelerated Adobe Flash Player 11, HTML5 and WebGL browsing, and an optimized Javascript engine
- Fastest applications - with blazing performance for multimedia apps, such as photo and video editing
- Fastest multitasking - for switching between common uses, such as playing music and games, and background tasks
- Fastest, highest-quality gaming - including new Tegra 3 processor-optimized NVIDIA [Tegra Zone](#)™ app games such as [Shadowgun](#), [Riptide GP](#), [Sprinkle](#), *Big Top THD*, *Bladeslinger*, *DaVinci THD* and *Chidori*.

Highlights / Key Facts:

- The Tegra 3 processor redefines power consumption and mobile-computing performance with:
 - The world's first quad-core ARM Cortex A9 CPU
 - New patent-pending vSMP technology, including a fifth CPU core that runs at a lower frequency and operates at exceptionally low power
 - 12-core GeForce GPU, with 3x the graphics performance of the Tegra 2 processor, including support for stereoscopic 3D
 - New video engines with support for 1080p high profile video at 40 Mbps
 - Up to 3x higher memory bandwidth
 - Up to 2x faster Image Signal Processor
- 40 games are expected to be available by the end of 2011, and over 15 Tegra 3 games are under development for [Tegra Zone](#), NVIDIA's free Android Market app that showcases the best games optimized for the Tegra processor.
- The Tegra 3 processor is in production. Developers can order the Tegra 3 Developer Kit to create applications for devices with Tegra such as tablets and super phones, at developer.nvidia.com/tegra.

Quotes:

NVIDIA, ASUS

- "The Eee Pad Transformer Prime is a category-defining product. Powered by Tegra 3, it launches us into a new era of mobile computing, in which quad-core performance and super energy-efficiency provide capabilities never available before. With Transformer Prime, ASUS has once again led the industry into the next generation."
- Jen-Hsun Huang, President and Chief Executive Officer, NVIDIA
- "Tegra 3 is a marvel. Its quad-core CPU, 12-core GeForce GPU and vSMP technology are revolutionary. We worked closely with NVIDIA to build the ultimate tablet -- the Eee Pad Transformer Prime -- that delivers a magical, uncompromised experience to consumers."
- Jerry Shen, CEO at [ASUS](#)

Key Game Developers

- "Thanks to Tegra 3's quad-core CPUs, *Shadowgun* looks and plays the best on Tegra. Consumers are going to love the quad-core *Shadowgun* version -- which features rag doll physics, console quality water simulation, particle effects, enhanced shaders, dynamic textures, and more."
- Marek Rabas, CEO of [Madfinger Games](#)
- "*Riptide GP* showed how Tegra brought mobile gaming on Android to new heights. Tegra 3's quad-core performance has allowed us to add a whole set of exclusive new features -- improved water visuals, splash effects, motion blur -- that pushes the experience to an entirely new level."
- Matt Small, Creative Director at [Vector Unit](#)
- "Working with NVIDIA makes the impossible possible. Our Tegra 3 optimized game *DaVinci THD* will look brilliant when it comes out, with mind-blowing 3D graphics and intuitive touchscreen interface. *DaVinci THD* will leverage Tegra 3 for its multi-threading capabilities, so we can scale across all four CPU cores and deliver the ultimate console-quality performance. As a result, *DaVinci THD* will be more realistic, interactive and challenging than anything we've done before."
- Kijong Kang, VP and Executive Producer at [Bridea Corporation](#)
- "Combining BitSquid's tech engine with Tegra 3's quad core architecture means a gaming experience like no other. Gamers are going to really see the next-generation gaming experience in *Hamilton's Great Adventure THD*."
- Martin Wahlund, CEO at [Fatshark](#)
- "With Tegra 3, NVIDIA has shattered the usual constraints on the quality of mobile device experiences. By enabling tablets and smartphones to operate at an exceptional level, it allows developers like Zen Studios to create console-quality experiences that can be enjoyed anywhere, anytime. The quad-core fueled graphics and physics in Zen Pinball THD are simply incredible and represent the premier mobile pinball experience. You can only get that on devices built on Tegra 3."
- Mel Kirk, Vice President of Marketing and Public Relations at [Zen Studios](#)
- "Quad-core chips are raising the stakes for mobile gaming. With Tegra 3, we can render even more content with better animations on *Bladeslinger THD* -- all while consuming less power. This is a recipe for all-day game play."
- Sam Williams, General Manager at [Luma Arcade](#)
- "Tegra 3 is making much more complex gaming environments possible on mobile platforms. Gamers are going to be amazed by the level of graphical detail and realistic physics that come through in quad-core enhanced games like *Soulcraft THD*."
- Karsten Wysk, CEO of [Mobile Bits](#)
- "As we've seen on *Big Top THD*, gaming performance on Tegra 3's quad-core architecture is unmatched. From the high quality shadows to improved tent animation and high-dive splash effects, Tegra 3's 12-core GPU delivers the best gaming experience and uses the lowest power you'll see on a mobile device."
- Robert Troughton, CEO at [Pitbull Studio Ltd.](#)
- "Tegra 3's quad-cores bring out the best in our Substance smart texturing engine. The CPU and GPU parallel processing allows mobile game developers to add never-seen animated visual effects and textures to their games, translating into an absolutely stunning visual experience on mobile."
- Sébastien Deguy, CEO and Founder at [Allegorithmic](#)
- "Tegra 3's quad-core processor and 12-core GPU allows developers to port PC and console game titles using BitSquid Tech for the same great experience on any device. From a hard-core gamer's customized PC to a phone or tablet with Tegra, you'll get identical game play and buttery smooth graphics, anywhere any time."
- Tobias Persson, Co-Founder and Rendering Architect at [BitSquid Tech](#)

- "We're excited to bring the definitive version of *Siegecraft* to Tegra 3. Its amazing graphics performance and quad-core scaling let us amp up the game to the max -- more physics, more units, more *Siegecraft*!"
- Benjamin Lee, Managing Director at [Blowfish Studios](#)
- "Thanks to Tegra 3's fantastic GPU performance we were able to use the same quality textures in *Zombie Driver THD* as on the PC. The outstanding quad-core CPU performance makes it possible to support Tegra game development in parallel to other high-end platforms."
- Pawel Lekki, Chief Operating Officer at [Exor Studios](#)
- "Quad-core technology has changed how we approach mobile game development. Tegra 3 helped us create *Jett Tailfin Racers THD* -- an eight-player game with the highest resolution textures, underwater caustics and anisotropic shading we've ever seen on a mobile device."
- Manny Granillo, President at Hoplite Research
- "Mobile gaming is about to take a huge leap forward with Tegra 3. Its GPU gives us access to higher-resolution textures and far better effects. And its four CPUs make *Euphoria*'s gameplay smoother, more interactive and quality that's close to a console."
- Keiichi Yano, Co-Founder and VP of Development at [iNiS](#)
- "It's incredible what Tegra 3's quad-core architecture brings to mobile gaming. As good as *Combat Arms* looks on a tablet, it looks 1000 times better when you connect it to your HDTV, strap on game controllers and sit back to enjoy a real 3D console-gaming experience with *Combat Arms: Zombies THD*."
- Albert Rim, CEO at [Nexon Mobile Corporation](#)
- "With the Tegra 3 processor, NVIDIA is once again painting new horizons for technology on wireless platforms. We're excited to see how the thousands of developers using Unity to create interactive 3D content will take advantage of the extra power that NVIDIA's quad-core technology provides."
- Tony Garcia, Vice President of Business Development at [Unity Technologies](#)
- "Tegra 3 is equivalent to a console game machine, and we believe devices with it will play an important part in next-generation games. We've been working on optimizing our cross-platform engine *Chidori* to fully support Tegra 3. To support Tegra 3's multi-core engine, we've optimized our 3D effect tool. And we've adapted our high-quality shader library, Aoi, to Tegra 3, allowing truly beautiful imagery."
- Katsunori Yamaji, CEO and Executive Producer at [Premium Agency Inc.](#)
- "By harnessing the strength of Tegra 3's 12-core GPU in our multiplatform middleware, game developers can easily port titles to Tegra 3 and achieve true console-quality graphics. Tegra 3's quad-core architecture and Orochi's multicore-enhanced, game-engine technology is going to spur the evolution of games on quad-core mobile devices."
- Takehiko Terada, President and CEO at [Silicon Studio Corporation](#)
- "We're totally pumped by the potential of Tegra 3's quad-core CPU and 12-core GPU. They'll bring console-quality experiences to mobile devices, and we're working to bring an amazing title to the Tegra platform. Stay tuned for our announcement of a great Tegra 3-optimized title in the coming months."
- Richie Casper, Creative Director at [Acquire Corp.](#)
- "NVIDIA's GPU architecture delivers the best gaming experience, bringing true console-quality games to mobile devices. Our *Lost Planet 2* test demo makes it clear -- the quad-core muscle of Tegra 3 brings hyper-realistic visuals, smooth frame rates and sharp images. The result is a whole new level of realism to content for smartphones and tablets."
- Jun Takeuchi, Deputy Head of Consumer Games at [Capcom](#)
- "Tegra 3 is a huge leap forward in mobile computing. Using its quad-core capabilities, we were able to improve all of *Sprinkle*'s visual effects, plus add a whole new layer of smoke simulation."
- Dennis Gustafsson, Co-Founder of [Mediocre](#)
- "We're floored by everything we've seen in Tegra 3. Its four cores, coupled with amazing graphics performance, will let us bring awesome gaming experiences to the Tegra platform next year."
- Carlo Perconti, CEO at [HyperDevBox](#)

Key Content Partners

- "Flash-based apps packaged with AIR allow content creators to deliver premium gaming and video experiences, while HTML5 apps built with PhoneGap enable fantastic, general-purpose mobile apps. We continue our close partnership with NVIDIA to ensure that these visually rich, highly-interactive apps can significantly benefit from Tegra 3's enhanced

CPU and GPU horsepower."

- Jennifer Carr, Senior Director, Business Development at [Adobe](#)

- "We've been developing multimedia applications on Tegra 3 for some time now. The quad-core processing muscle will allow some new apps and use-cases that consumers are going to love."
- George Tang, General Manager and VP of the Video and Entertainment Group at [ArcSoft](#)
- "Tegra 3's quad-core performance makes a huge difference for photo and augmented reality apps. Our *Photaf Panorama Pro THD* app runs more than 40% faster, and Face Costume gets over 60 percent speedup over comparable dual-core processors. Quad core opens up new possibilities for future application development, especially in the field of computer vision."
- Oren Bengigi, CEO at [Bengigi Studio](#)
- "Tegra 3 gives us the quad-core horsepower to really push the envelope on cool video editing effects, smooth video playback, augmented reality camera and other challenging applications. With Tegra 3, we're delivering real-time compositing and preview of simultaneous 1080p HD streams and graphics on a mobile device -- that's amazing."
- Alice H. Chang, CEO at [Cyberlink](#)
- "Seamless, compelling Augmented Reality (AR) experiences demand that all of the pieces of a mobile device work together. Metaio's AR software requires optimized mobile hardware to make the way we access digital information a more natural experience. Tegra 3 delivers the multi-core CPU performance required for advanced vision processing while bringing a tremendous boost in GPU performance. Working with Tegra's software stack will make it possible for us to utilize all of those capabilities towards building an Augmented World."
- Dr. Thomas Alt, CEO at [metaio](#)
- "Tegra 3's combination of HD video playback performance and extended battery life will give Netflix members a fantastic experience as they watch movies and TV episodes streaming from Netflix via their Android devices."
- Bill Holmes, Vice President of Business Development at [Netflix](#)
- "Tegra 3 gives us the horsepower we need to bring a PC-quality photo editing experience to mobile devices through applications like Snapseed, by Nik Software."
- Michael Slater, President and CEO at [Nik Software](#)
- "By collaborating with NVIDIA, we are able to bring advanced multi-touch and pen capabilities to the tablet market, providing the Android user with a smoother and richer user experience, and enhancing the tablet from a basic consumption device to one that offers more personal and creative capabilities. The processing strength provided by Tegra 3's additional cores will enable application developers to dedicate CPU cycles to UI processing and provide an enriched pen solution for artistic, enterprise and educational applications."
- Amichai Ben David, CEO of [N-Trig](#)
- "The tablet and mobile device market are exploding and productivity applications are central to this growth. As the most widely distributed mobile office software, we are excited to partner with NVIDIA to take advantage of the enhanced capabilities inherent in the Tegra 3 quad-core chip to bring continued innovation in the marketplace."
- David Halpin, VP of Engineering at [Quickoffice](#)
- "Splashtop plus Tegra 3 offers users an unparalleled cross-device experience. Splashtop enables sharing content among smart phones, tablets, and TVs, and combined with Tegra 3's quad-core processing muscle, it can support 30 frames-per-second video with extremely low latency -- perfect for games and multimedia!"
- Mark Lee, CEO and Co-Founder of [Splashtop](#)
- "WebGL is being rapidly adopted on HTML5-capable desktop, laptop and netbook systems, and now NVIDIA is helping to bring WebGL to Android. Tegra 3 delivers an incredible level of performance -- the four cores provide the multi-threading horsepower needed to drive a complete browser stack including highly interactive 3D."
- Ken Russell, Chair, [WebGL Working Group](#)
- "Tegra already provides the fastest platform for silky smooth magazine reading on Android. The quad-core capabilities of Tegra 3 will help us further accelerate and enhance the complete browsing, downloading and reading experience."
- Vandan Parikh, Director, Reading and Mobile Technologies at [Zinio](#)

Useful Links:

<http://www.nvidia.com/object/tegra-superchip.html>

www.tegrazone.com

developer.nvidia.com/tegra

<http://www.nvidia.com/object/tegra-asus.html>

About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) awakened the world to computer graphics when it invented the [GPU](#) in 1999. Today, its [processors](#) power a broad range of products from [smart phones](#) to [supercomputers](#). NVIDIA's [mobile processors](#) are used in [cell phones](#), [tablets](#) and [auto infotainment systems](#). [PC gamers](#) rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create visual effects in movies and design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with [high-performance computing](#). The company holds more than 2,100 patents worldwide, including ones covering ideas essential to modern computing. For more information, see www.nvidia.com.

Certain statements in this press release including, but not limited to statements as to: the impact, benefits and performance of NVIDIA Tegra 3 processors and related applications; 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 July 31, 2011. 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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