

5th Generation Intel[®] Core[™] Processor Family

At the Heart of Next-Generation Retail Experiences

Today's retail customers expect their shopping adventures to be seamless with their lifestyle experiences. They respond to immersive imagery, seek out easily accessible and compelling information, and look for choices of simple and enjoyable checkout that unconditionally protects their personal information.

Behind the customers' shopping experiences, store and technology management continually need cost-cutting retail solutions that give their customers better experiences than the competition, while enabling IT to easily manage and protect retail technology from afar. And, with today's ever increasing scale of threats, uncompromised security across the entire transaction that supports speedy checkout and maintains high productivity is an absolute requirement. The 5th generation Intel[®] Core[™] processor family is designed to deliver retail experiences customers look forward to, while offering the best combination of performance, security, and manageability for today's retail devices.

Hardware-enhanced technologies in these latest generation Intel[®] processors are ideal for today's connected retail solutions, from Point of Sales (PoS) terminals to intelligent kiosks, digital signage, and more. Built-in manageability and security at the silicon level allow IT to trust that their retail devices start secure, run secure, and stay secure, remaining resilient and protected against threats and data theft. Enhanced Intel[®] HD Graphics gives customers more vivid experiences. And more performance at less power enables new retail designs to do more and cost less to run.

Highlights

Security: Strong, silicon-level security to help protect increasingly connected retail devices and their data from malware and theft without impacting customer experiences and employee productivity.

Manageability: Improved remote, out-of-band manageability for retail usages to help maintain a strong security posture and efficient, resilient operations that help reduce costs.

Rich Visual Experiences: New Intel HD Graphics—with Ultra HD 4K resolution support—delivers stunning and responsive imagery for immersive, big-as-life, in-store visual experiences.

Performance: Enjoy thin and light retail form factors with the performance of core processors at low power.

Compatibility: Designed to be drop-in compatible with 4th generation Intel[®] Core[™] processors, retail devices can be seamlessly upgraded to benefit from 5th generation enhancements and features.

Start Secure, Run Secure, Stay Secure

Built into 5th generation Intel Core processors, enhanced silicon-level technologies offer strong protection for a high level of trust in retail operations.

Start Secure with silicon-level anti-malware protection.

A suite of Intel® Platform Protection technologies deliver hardware-based boot integrity, BIOS protection, and platform resiliency.

- Intel® Platform Protection Technology with Boot guard measures and stores a known trusted execution environment, and verifies that it remains trusted each time the device boots. Boot Guard helps detect unauthorized code prior to bootup, before any anti-malware applications launches. It prevents operation if the original measurement has changed, either due to malware infection or purposeful jailbreaking by a sophisticated user. Boot Guard supports both discrete Trusted Platform Modules (TPM) and integrated TPMs to store measured boot information.
- Intel® Platform Protection Technology with BIOS Guard requires authenticated BIOS updates from the equipment manufacturer before writing new code to the BIOS. BIOS guard helps protect against emerging sophisticated BIOS attacks.

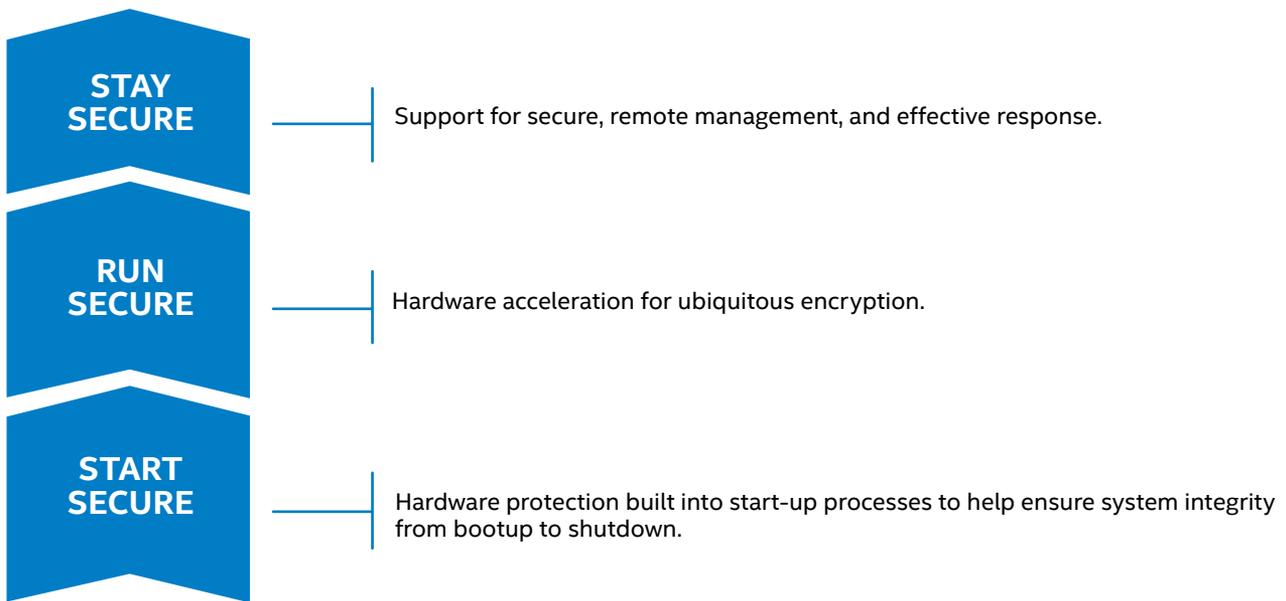
With these built-in technologies, 5th generation Intel Core processors help prevent corruption of retail devices and keep them safe.

Run Secure with hardware-based encryption acceleration.

Whether in transit or at rest, data is at risk when it is not encrypted with strong cyphers and hardware-safe keys. Traditionally, encryption tasks have impacted user productivity, leading companies to bypass encryption. Intel® Data Protection technology with Advanced Encryption Standard New Instructions (Intel® DPT with AES-NI) accelerates encryption and decryption in the silicon, minimizing productivity impact on users and shoppers. Many encryption vendors support Intel DPT with AES-NI, such as McAfee. Now, with Intel DPT with AES-NI, there's no reason not to encrypt data everywhere—during the transaction and after, when it is stored on disk. 5th generation Intel Core processors help keep sensitive company and customer data safe and secure.

Stay Secure with enhanced remote real-time manageability.

New threats appear daily, requiring IT to continually patch and update retail devices deployed across the company. Built-in automated and real-time remote manageability using Intel® Active Management technology (Intel® AMT) helps IT keep costs low while maintaining a strong security posture with resilient operations. Enhanced capabilities in 5th generation Intel Core processors with Intel AMT allow IT to blank the device's screen while remotely accessing it to protect against prying eyes—accidental and intentional. 5th generation Intel Core processors continue to help retailers lower total cost of ownership with remote manageability by minimizing truck rolls for maintenance.



See More and Show More with New Intel® HD Graphics

Stunning imagery and compelling information in high resolution can help prolong and improve the shopping experience for both customers and employees.

The WOW Factor. Excite shoppers and immerse them in a whole new level of Ultra HD 4K visual experiences from high-resolution digital signage throughout the store. 5th generation Intel Core processors with new Intel HD Graphics support 4K TVs and monitors, enabling stunning and responsive imagery that will amaze customers.

More information. Less hardware. 5th generation Intel Core processors simultaneously support three independent displays with greater resolution compared to previous generations of Intel Core processors. Retail devices with these new processors can offer innovative and versatile, multi-display device configurations—without additional discrete hardware—to make shopping and checkout easier and more enjoyable.

Improved, more efficient graphics performance. Using 14nm manufacturing and enhanced technologies, new Intel HD Graphics delivers these additional benefits:

- Significantly higher 3D graphics performance in the same thermal envelope enables smaller designs that offer improved visuals.
- Intel® Quick Sync Video hardware-accelerates transcode and video effects processing at lower active power, providing more efficient video processing.
- Shoppers can enjoy smooth, outstanding HD media playback thanks to visual quality and color fidelity enhancements in Intel® Clear Video HD technology.
- Equipment designers can integrate next-generation graphics APIs to create innovative, image-centric retail applications.
- Stores can improve video surveillance functions with devices that offer greater ability to decode and transcode simultaneous video streams.

Scale Up with Drop-in Compatibility

Besides delivering greater performance at lower power compared to 4th generation Intel Core processors, 5th generation Intel Core processors are pin-for-pin compatible to 4th generation. Equipment manufacturers can scale existing designs and support both legacy and new, rich retail applications simply by dropping in the latest generation processor.

Deliver New Retail Experiences

5th generation Intel Core processors are ideal for delivering new retail experiences for shoppers, store employees, management, and IT. Deeper security technologies, enhanced manageability, richer graphics support, higher performance at lower power, and drop-in compatibility enable smaller yet more powerful and versatile retail devices with the ability to immerse shoppers in a new level of vivid, rich imagery.



For more information on the 5th generation Intel Core processor family for retail, contact your Intel representative or visit www.intel.com/content/us/en/embedded/products/broadwell-u/overview.html

For details on technologies and other features of 5th generation Intel Core processor family, visit these resources:

General:

<https://www-ssl.intel.com/content/www/us/en/intelligent-systems/point-of-sale/retail-pos-intelligent-computing-technology-at-the-point-of-sale.html>

Intel® Platform Protection Technology with Boot Guard and BIOS Guard:

http://mobilecomputing.crn.com/pdf/SalesBrief_EnterpriseSecurity4thGenVProSecurity_IntelMcAfee.pdf

Intel® AES-NI:

<https://www-ssl.intel.com/content/www/us/en/architecture-and-technology/advanced-encryption-standard--aes-/data-protection-aes-general-technology.html>

<https://software.intel.com/en-us/articles/introduction-to-intel-aes-ni-and-intel-secure-key-instructions>

<http://www.mcafee.com/us/resources/misc/guides/quickstart-full-disk-endpoint-encryption.pdf>

Intel® AMT:

<https://www-ssl.intel.com/content/www/us/en/architecture-and-technology/vpro/vpro-technology-general.html>

<https://www-ssl.intel.com/content/www/us/en/architecture-and-technology/intel-active-management-technology.html>

<https://www-ssl.intel.com/content/www/us/en/retail/amt-embedded-host-based-configuration-video.html>

