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**Intelligent Systems**

# Giving Customers What They Want: Security Plays a New Role

Faced with dramatic increases in connected, intelligent devices, security solutions are helping retailers not only mitigate traditional threats, but improve marketing and protect the brand



> Our goal is protecting your valuable data and protecting your privacy. We look into problems that we expect and try to solve them before they happen.[1]
>
> **—John Manferdelli**
> Senior Principal Engineer, Intel Secure Computing

Security has always been a critical part of the retail environment, but it's even more imperative now with the proliferation of digital technologies and connected devices. As retailers leverage the power and potential of interconnectivity to transform customer experiences, they must protect against fraud, theft, and hacking on a much larger scale: the store level, the device level, and the data level where massive amounts of information—including customer financials and promotional messages—travel across complex retail networks.

It's a huge challenge, particularly for marketers who historically have been uninvolved with security issues. But today's environment has changed the game. Whether it's video surveillance cameras that monitor inventory and customer traffic, digital signs and point-of-sale (POS) systems that display targeted messages and collect customer information, or tablets and smartphones used by sales associates and shoppers, increasingly connected retail systems and devices have opened new doors for marketers to engage customers and enhance the shopping experience. They've also added more levels of vulnerability, increasing the opportunities for illicit activity.

With this new responsibility to understand security, marketers must now work more closely with IS/IT experts when planning

and implementing their brand-engagement strategies. However, there's good news. New technology innovations built on Intel® architecture are extending security beyond its traditional role of surveillance and loss prevention into the realm of directly serving—even benefiting—marketing effectiveness and brand integrity.

## Intelligent Tracking, Intelligent Security

Security is a foundational element of today's technology innovations, considered the third pillar for both general computing (powerful, fast, secure) and intelligent systems design (connected, managed, secure). Though it's received less fanfare than its counterparts, security is commanding more attention as "connected everywhere" consumers expect retailers to personalize their experiences while simultaneously safeguarding their personal and transactional information.

According to Nikki Baird, Managing Partner of Retail Systems Research, the last frontier of customer insights is in the store with the bricks-and-mortar equivalent of online analytics—aggregated data about a massive number of shopping trips over time that can be segmented by behavior and demographics. By the end of 2013, she projects that "some few retailers" will implement this capability through traditional and new video analytics or other tracking technologies.[2]

The question for retail marketers is how to tap into the business intelligence that traditional and new security-related technologies provide, and use it to better understand customers, create new engagement opportunities, and increase sales.

Intel and the ecosystem are helping retailers solve this challenge by expanding the capabilities and benefits of both video surveillance technologies and device-specific technologies.

## Transforming Video Surveillance into Visual Intelligence

Today's video surveillance is much more than a security tool—it's a business intelligence tool. As Figure 1 shows, moving beyond the traditional core purpose of security and loss prevention, advances in video surveillance systems can also help retailers improve operations and marketing effectiveness. By taking advantage of the cameras already in place across primary merchandising areas, retailers can turn video footage into actionable insights (see sidebar).

For example, surveillance video can help determine the most effective scheduling of personnel or the most effective digital sign by viewing when the busiest times are in stores or at a particular counter or display. By analyzing surveillance video, retailers can determine customer spending habits and trends, and the best use of personnel.

## Security Innovations Built on Intel® Technologies

Combining anonymous video analytics, proprietary software algorithms, and the power of Intel® processors and technologies, solution providers are delivering retail systems that detect and interpret events in live video, helping marketers make strategic business decisions. Here are two examples:

LightHaus Logic has developed a solution that measures customer traffic patterns and dwell times in specific locations or in front of digital signs, even triggering the system to dispatch a sales associate when dwelling exceeds a pre-set amount of time—an indication that a customer may need assistance. The solution offers extensive data and reporting capabilities, including visualizations of historical in-store trends and real-time events across one or many store locations.[3]

ObjectVideo created a plug-and-play, open platform analytics solution that integrates into existing video surveillance systems, is interoperable with a wide range of retail systems and device types, and requires minimal IT resources to implement. Deployed in over 200 The Limited stores, the solution has helped the fashion retailer become more effective and profitable by improving customer service levels and appropriately staffing to accommodate peak shopping times.[4]

### WHAT VISUAL INTELLIGENCE MEANS FOR RETAILERS

Expanded video surveillance solutions present retailers with a huge opportunity to protect merchandise, customers, and employees from harm, and directly impact the bottom line, including:

- Improved merchandising effectiveness—by improving store layout based on traffic patterns and dwell times.

- Optimized operations—by analyzing and optimizing staffing levels based on peak shopping times.

- Increased sales—by effectively aligning in-store promotions based on target customers and behaviors.

- Enhanced margins—by dynamically changing promotions, messages, and pricing based on behavioral trends.



In-store Assistance and Staffing Needs
Retail Terminal
Traffic Patterns
Captured Data
External and Internal Signage
Product Aisles
IT Command Center
Business Intelligence

Data is captured using the cameras already in place across the retail store

Information flows to back-end systems, where it can be analyzed.

Data is turned into actionable insights, helping retailers optimize merchandising effectiveness, operations, and sales efforts.
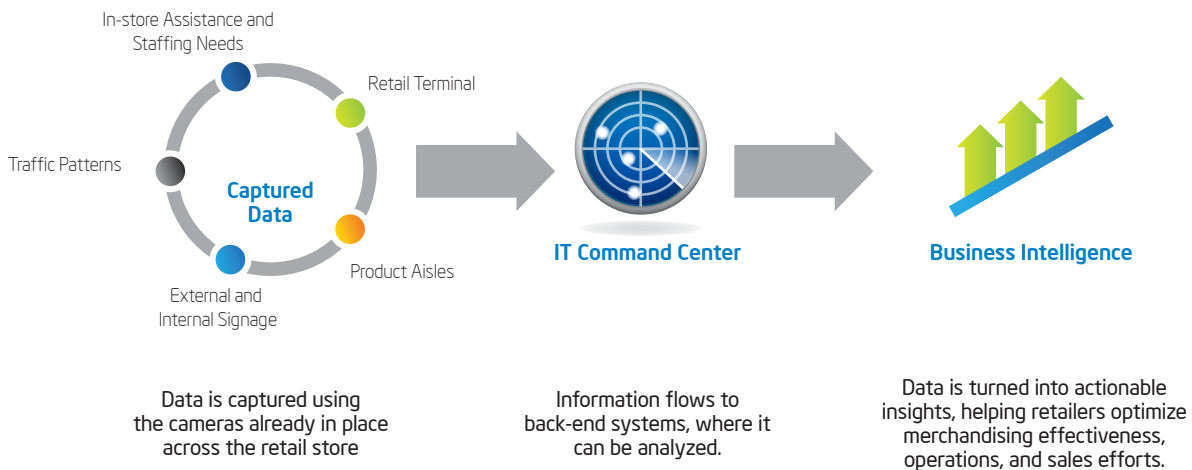
Figure 1. Expanding the Value of Video. Video surveillance systems play a dual role, providing traditional video security and business intelligence.

These and other solutions are being developed using Intel technologies and processor-based systems, including:

- Intel® Xeon® processors to increase retailers' ability to store, process, and protect consumer data, and the power and agility to analyze massive volumes of video data in real time.

- Intel® Core™ processors to run and coordinate complex computing tasks and stream HD video while reducing energy requirements.

- Intel® Atom™ processors to deliver right-size performance for kiosks and POS terminals.

- Intel® Active Management Technology,[5] a subset of Intel® vPro™ technology,[6] to monitor, repair, and protect networked video surveillance systems even when they're powered off, not responding, or have software issues.

### Protecting Device-Level Data and Privacy

Data is the lifeblood of business, and in recent years the data-exchange touch points have increased dramatically. According to John Boladian, Microsoft Marketing Director, there will be 50 billion networked devices by 2020.[7]

For retailers, this expansion encompasses a range of components including POS fixed-terminal and mobile devices, ATMs, digital signs, kiosks, and the tablets and smartphones carried by store associates.

With such massive amounts of proprietary and consumer-identifiable information traveling across the retail environment, security and privacy are of paramount importance particularly as malicious network attacks rise.

Breaches in security can result in billions of dollars in lost revenue, negative brand impact, and invasion of customer privacy, as underscored by Gary J. Davis, McAfee Director of Product Marketing: "You can have the best security model in the world, but you still have a risk.[8]"

### Intel and McAfee: Comprehensive Protection for Worry-Free Shopping Experiences

Intel technologies and McAfee solutions are enabling retailers to maximize the use of connected, intelligent systems and devices. Figure 2 shows how, working together, they create trusted customer experiences throughout the store, enable secure performance across devices, and make it possible to confidently implement the innovative capabilities that result in competitive differentiation. Refer to the sidebar for additional benefits.

- **Trusted and Enhanced Customer Experiences.** Combining comprehensive device and data protection, Intel technology and McAfee solutions help protect sensitive data—including customer transactions and retail system infrastructure—from the full range of threats including malware, content graffiti, account theft, data theft, system compromise, and provisioning. This helps retailers meet and exceed consumer expectations for trusted and engaging customer experiences.

- **Secure Performance without Sacrifice.** Security needs to be comprehensive and centralized, addressing critical threats without limiting performance, increasing IT resource costs, or sacrificing compelling customer experiences that give retailers their competitive edge.

### WHAT DEVICE PROTECTION MEANS FOR RETAILERS

Intel and McAfee solutions deliver a new level of security by combining hardware with software for safer computing experiences across clients, data centers, and the cloud, including:

- **Data and access protection**— helping protect your company's data and assets from unauthorized access.

- **Threat management**—helping protect your computing environment from malicious threats at the hardware, software, and network levels.

- **Monitoring and remediation**—helping manage your computing environment and keep it running smoothly.
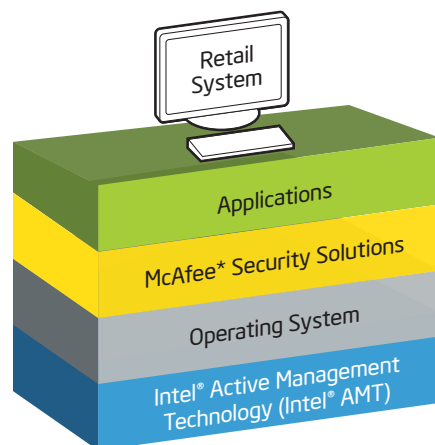


Figure 2. Intel and McAfee solutions address comprehensive system security and integrity, helping to safeguard customer-confidential and business-proprietary information against loss and unauthorized access.

Intel and McAfee deliver centrally managed solutions that provide comprehensive control across all POS and related infrastructure without inhibiting performance. Additionally, security extends beyond the operating system to integral hardware, networks, systems, databases, and applications, making it possible for operations to manage and scale deployment and marketing to optimize promotions.

### A Secure Future

Digital technology has opened many new doors for retailers, enabling immersive brand engagement and innovative customer experiences, but it's also multiplied the points of vulnerability for the fraud and theft of merchandise and proprietary data.

With the increased use, integration, and interconnection of intelligent devices and systems, security is even more imperative, particularly for marketers who, by working closely with IT groups, must incorporate security into their strategic marketing plans and—perhaps most challenging—figure out how new security solutions can deliver valuable customer insights.

Intel, working with the ecosystem, is assisting retailers in solving these complex challenges by developing retail security solutions that help keep people and merchandise safe, protect proprietary and customer-identifiable data, and deliver valuable business intelligence that can help optimize customer experiences and increase sales.

## For more information on Intel retail innovations, visit www.intel.com/content/www/us/en/retail/retail-innovations.

[1] Intel Corporation. *McAfee: Future of Secure Computing.* www.intel.com/content/www/us/en/intel-innovation/future-of-secure-computing-mcafee-video.html

[2] Retail Systems Research. *The last frontier of customer insights is in the store.* www.rsrresearch.com/2013/01/08/2013-the-year-of-measured-retail

[3] Intel Corporation. *Expanding the Business Relevance of Video Surveillance in Retail.* December 2009. www.intel.com/content/www/us/en/processors/core/multi-core-processors-solution-brief.html

[4] Intel Corporation. *Adding Intelligent Video Capabilities – Easily and Cost-Effectively.* September 2010. www.intel.com/content/www/za/en/intelligent-systems/digital-surveillance/ia-objectvideo-intelligent-video-brief.html

[5] Intel® Active Management Technology requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup and configuration. For more information, visit Intel® Active Management Technology.

[6] Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit: www.intel.com/technology/vpro.

[7] Digitimes. *Intel hosts Intelligent Systems Summit 2012 to showcase complete solutions with partners.* Nov 6, 2012. www.digitimes.com/supply_chain_window/ShowPrint.asp?datePublish=2012/11/06&pages=PR&seq=201

[8] Intel Corporation. *McAfee: Future of Secure Computing.* www.intel.com/content/www/us/en/intel-innovation/future-of-secure-computing-mcafee-video.html