

Security and PCI Compliance for Retail Point-of-Sale Systems



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In the retail business, certain security issues can impact customer confidence and the bottom line—regulatory penalties, breaches, and unscheduled downtime. Retailers know they need to address these issues, but they often lack the budget for security solutions that come with increased labor costs and require system or network upgrades. In fact, the ideal security solution needs to extend the ROI of the existing IT infrastructure. Intel Security is able to offer a comprehensive approach to securing retail store point-of-sale (POS), also known as point-of-service, and back-office solutions across various platforms: legacy, end-of-life (EOL), or recently purchased. Our solutions are equally effective in environments where network bandwidth is constrained, purpose-built POS and back-office systems have limited resources, and frequent patching and updates are not an option.

Intel® Security solutions expand beyond retail stores, integrating a comprehensive security strategy for the entirety of the retailer's IT infrastructure, including stores, main offices, and supply chain assets across desktops, servers, network devices, and data. Intel Security achieves this by combining several core aspects of security, including discovery, management, threat intelligence, protection, monitoring, response, and audit within comprehensive solution suites. Intel Security can also work with existing qualified security assessors (QSAs) and/or offer consulting services and its own QSAs to help deploy and customize a personally crafted solution efficiently and effectively.

Unique Retailer Requirements

Retail IT infrastructure is complex and distributed. It includes stores with POS checkout terminals, self-checkout units, cash drawers, information/web kiosks, PCs, and back-office servers. These systems are generally connected to a main office, which includes desktops, servers, network devices, and data. In addition to the retailer's operational environment, there are increasing IT dependencies on supply chain relationships, ranging from wholesalers and distributors to manufacturers and suppliers.

Solution Brief

Retail organizations are concerned about striking a balance between reducing risks, reducing costs, and delivering optimized security to their constituents and customers. At the same time, they also want to improve the customer experience, reinforce brand identity, generate customer loyalty, and increase sales. There are two areas that make this balance particularly challenging for retailers—compliance mandates and today's resource-constrained retail environment.

- Compliance mandates:
 - Payment Card Industry Data Security Standard (PCI DSS).
 - PCI-related state legislation (Nevada, Washington, and Minnesota).
 - The European Union Privacy Directive.
- Today's resource-constrained retail environment:
 - Newer POS systems have the power, extensibility, and vulnerabilities of a PC.
 - Legacy and EOL systems are still very common and are needed to keep critical systems and services available while maintaining security.
 - Downtime must be minimized, and patches and updates are difficult across all retail stores.
 - Resources remain constrained in terms of IT staff, system resources, and network bandwidth.

Mandates

Problem

Retailers must be able to demonstrate PCI compliance within their stores across all IT systems that store, transmit, or track credit card data. This generally includes POS and back-office systems. Failure to comply with PCI requirements can result in penalties or sanctions from members of the payment card industry. In addition to PCI, there are several states with PCI-related legislation. Additionally, the European Union Privacy Directive has many controls that overlap with PCI requirements as they relate to the storage and transmission of credit card information. These mandates taken collectively amplify the need for retailers to be able to demonstrate compliance.

Solution

Purpose-built security solutions for retail store environments from Intel Security are focused specifically on security controls, reports, and dashboards for POS, back-office systems, and related in-store systems. Integrity control provides the security controls and reports for demonstrating compliance with PCI sections 10.5.5 and 11.5, which specify the use of file integrity monitoring. These integrity controls also help address other sections within PCI, including 1, 2, 6, and 8. Because many retail environments can't run anti-malware solutions on their in-store systems, Intel Security solutions can act as a compensating control for PCI anti-malware requirements accepted by QSAs.

Intel Security also offers log management and database security solutions. Log management is another PCI requirement relevant to in-store operations that is applicable to PCI sections 1, 2, 6, 7, 8, 10, 11, and 12. Databases are common within retail store back offices and tend to contain the most sensitive data. PCI controls for databases are relevant to PCI sections 1, 2, 3, 7, 10, 11, and 12.

Areas directly supported by McAfee® Integrity Control software, as well as Intel Security solutions for log management and database security, are highlighted in the PCI DSS requirements table below. While the solutions outlined are specific to a retailer's in-store environment, Intel Security has a complete range of IT security and compliance solutions and services that work together to address PCI requirements across the retailer's stores, main office, and supply chain. Intel Security also has consulting services with QSAs that can help design, deploy, and manage solutions for even the most complex retail environments and put in place solutions that will demonstrate PCI compliance while reducing risk, reducing operational expenses, and maximizing IT asset ROI.

Solution Brief

PCI DSS Requirements	McAfee Integrity Control	McAfee® Log Management Solutions	McAfee® Database Security
1: Install and maintain a firewall configuration to protect cardholder data.	X	X	X
2: Do not use vendor-supplied defaults for system passwords and other security parameters.	X	X	X
3: Protect stored cardholder data.			X
4: Encrypt transmission of cardholder data across open, public networks.*			
5: Use and regularly update anti-virus software.*			
6: Develop and maintain secure systems and applications.	X	X	
7: Restrict access to cardholder data by business need-to-know.		X	X
8: Assign a unique ID to each person with computer access.	X	X	
9: Restrict physical access to cardholder data.			
10: Track and monitor all access to network resources and cardholder data.	X	X	X
11: Regularly test security systems and processes.	X	X	X
12: Maintain a policy that addresses information security.		X	X

* Supported by additional Intel Security solutions.

The Modern Retail Environment and Resource Constraints

Problem

Retailers are upgrading their POS systems to take advantage of add-on modules that promise to build stronger ties to the consumer at the point of checkout. Not wanting to fall behind the competition in terms of features and functions and needing the broadest possible application support, retailers are moving to commercially popular operating systems and applications.

As purpose-built solutions, these POS systems and the back-office systems that reside at the remote stores are often resource constrained. They often have dial-up or low bandwidth connectivity to regional or main offices, and that bandwidth is primarily reserved for business operations, backups, pricing updates, new applications, order fulfillment, marketing pattern analytics, and other retail functions. These stores do not have local IT support and, generally, the retailers have such limited IT resources that they depend on third-party contractors to perform hands-on IT activities as needed. This results in an environment that is not well suited to downloading and installing patches for core operating systems, critical applications, or anti-malware .DATs. With a desire to get the most ROI out of their initial POS investment while at the same time achieving the benefits that today's solutions offer, many retail environments will also have a mix of current solutions with existing, legacy solutions—each with its own risks.

Solution

Intel Security solutions for in-store retail operations:

- Are not scan based, so they are not system resource intensive.
- Do not require .DAT downloads, so they are not network intensive and do not require frequent updates.
- Can be deployed and managed centrally by leveraging Intel® Security management solutions, reducing demands on IT staff.
- Can run on multiple platforms, including Microsoft Windows XPe (embedded), which cannot run traditional anti-malware.
- Reduce patch cycles for operating systems and applications and extend the life of legacy/EOL systems.
- Provide a broad range of protections from zero-day vulnerabilities and targeted malware to dynamic whitelisting authorized executables (drivers, Java, binaries) and blocking unauthorized user or browser installs.

Solution Brief

- Prevent malware from being installed through USB access.
- Prevent the installation and propagation of unapproved software.
- Prevent changes by unauthorized users.
- Provide visibility into changes across all POS and back-office systems.

While the most pressing area of focus for retailers are stores, retail infrastructures, are, of course, much more than this. As shown in Figure 1, retailers also have complex main offices that leverage mission-critical assets from accounting controls and enterprise resource planning (ERP) to loss prevention and inventory replenishment. Retailers also depend on interconnected supply chain management systems with suppliers, warehouse operations, and others. The complexity, criticality, and sensitivity of these environments are similar to those found in the financial industry and even government agencies. Unfortunately, in comparison, retailers generally have much smaller IT staff to manage their environment because of thin margins.

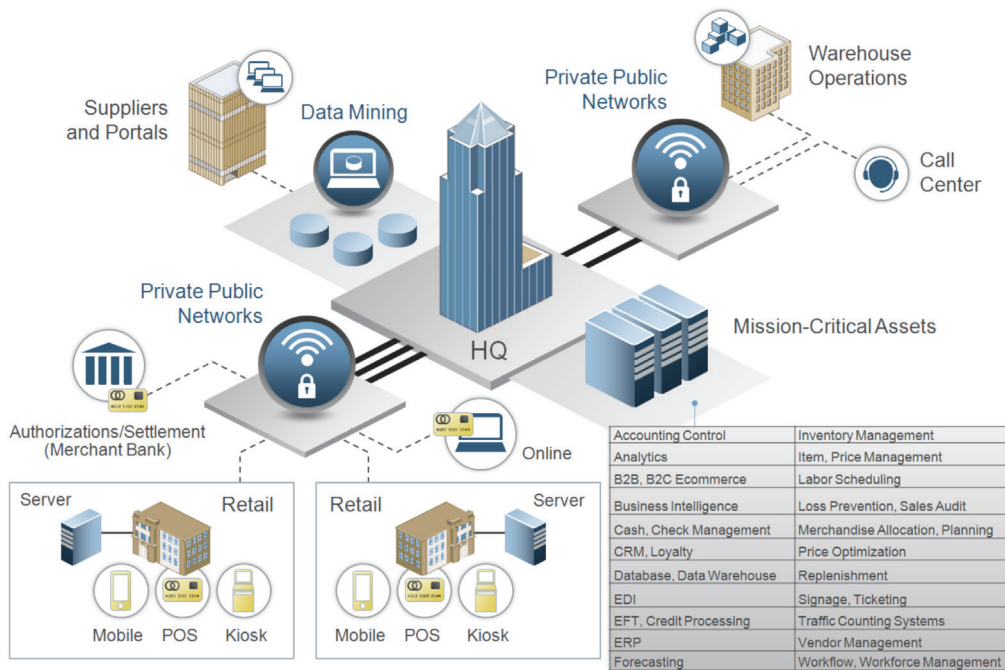


Figure 1. The interconnected retail environment.

Intel Security is unique in its ability to offer products, services, and added value through partnerships to address the complete spectrum of retailer needs across various mandates and security requirements. This is achieved by combining several core aspects of security, including discovery, management, threat intelligence, protection, monitoring, response, and audit within comprehensive solution suites. Intel Security solutions allow retailers to lower risk, reduce operational costs, demonstrate compliance, and maximize IT infrastructure ROI, so that retailers can focus on the business of doing business without additional staff or changes to systems or networks.

For more information about Intel Security solutions for security and PCI compliance for retail POS systems, please visit: www.mcafee.com/pci.

