Executive Summary

Due to budget pressures, nonprofit organizations often lag behind commercial retail companies when it comes to the adoption of new technologies. However, nonprofits — especially those organizations with a retail component to their operations — have many of the same requirements as for-profit companies, including the need to engage with customers and protect payment data while fostering productivity and collaboration among users. Technology investments can actually help nonprofits save money, by streamlining complex processes, cutting costs and providing organizations with new revenue streams.

Before investing in new technologies, nonprofits must ensure their back-end IT infrastructure is capable of supporting new demands. The technologies that can enhance customer experience, improve sales and boost efficiencies can't do their job if they're not supported by the right network and data center investments.

Nonprofits must also ensure that front-end solutions integrate effectively with back-end systems and that every element of the IT environment aligns with their security needs.
The Promise of Next-Generation Technology

Just as technology has transformed the way people buy goods and services, IT improvements can also create tremendous value for nonprofit organizations with a retail component. It’s true some of the specific considerations around technology differ between commercial retailers and nonprofits, but many similarities remain.

For example, a museum is not as susceptible to the “showcasing” phenomenon (in which shoppers use their mobile devices to compare prices online while shopping in-store) in the way that big-box retailers are. A trip to the museum can’t be purchased on Amazon with same-day delivery, after all. However, museums (as well as zoos, nonprofit thrift shops and other organizations) can certainly benefit from sophisticated point-of-sale systems, data analytics, digital signage and other tools that commercial retailers rely on. Although visitors to an art museum are unlikely to take out their cellphones at the ticket booth and comparison-shop Van Gogh exhibitions, they may stay home if the museum does not use technology to provide displays that are more interactive and engaging.

According to the 2015 Nonprofit Technology Staffing and Investments Report from The Nonprofit Technology Enterprise Network, almost 13 percent of nonprofits consider themselves as “leading” tech innovators for whom technology is recognized as an investment in the organization’s mission. All others ranked themselves at lower levels of IT adoption, including a full 50 percent that defined themselves as “operating,” a level characterized by merely “keeping up” with stable infrastructure and technology policies.

Organizations that reach the “leading” level, the report’s authors write, become more nimble and proactive, anticipating and even driving sector trends.

Point of Sale

A new generation of networked POS technologies has arrived to make payments faster, easier and potentially more secure for both consumers and sellers.

A modern, networked POS system enables a high level of control over retail operations, increasing efficiency and boosting profits. POS systems are useful for processing exchanges and generating sales reports, as well as collecting valuable customer information. Something as simple as the ability to capture customer information, such as email and physical mailing addresses, can be hugely beneficial. With limited marketing budgets, many nonprofits reach out to their customers and volunteers directly. Sophisticated POS systems can make it easier to gather the information necessary to do so. Also, POS data enables organizations to better understand their customers — for example, by allowing them to recognize emerging patterns detailing when certain buyers are most likely to make a trip to the museum or make a purchase from a nonprofit storefront.

POS systems also bring a store’s staff in contact with customers. If the transaction is positive, the customer generally

Mobile POS and Fundraising

In addition to facilitating retail transactions, mobile point-of-sale (mPOS) solutions have a number of benefits when used for fundraising. These include:

- **INSTANT TRANSACTIONS**: Instead of asking donors to make pledges in person, via mail or over the phone, nonprofits equipped with mobile POS devices can simply swipe donors’ credit cards. This speeds up the giving process, eliminates unfulfilled pledges and can help reduce costs for postage, phone bills and staff time.

- **HUMAN INTERACTION**: When asked for a donation by an enthusiastic volunteer or dedicated staff member during a face-to-face encounter, donors may feel motivated to give more than they would over the phone or in response to a mailing. Even some commercial retailers have reported increased sales when switching to mPOS systems.

- **EMAIL RECEIPTS**: Nonprofits can automatically generate electronic receipts for donations and email them to givers, helping to both reduce paperwork and provide a convenience to donors.

This also allows the nonprofit organization to capture the donor’s email address for future communication and fundraising.

- **REDUCED PAPER**: The electronic nature of mPOS solutions reduces paperwork, helping to save organizations time and money, and also makes their operations more sustainable.

- **CASHLESS (AND CHECKLESS) DONATIONS**: A donor may forget to bring his or her checkbook to a benefit dinner, and a person asked to make a small donation at a rally or a road race may not have cash at the time, but most people bring a credit card or debit card with them everywhere.

- **SECURITY**: Often, data from mPOS transactions is stored and managed in the cloud, meaning that organizations need not worry about stolen donor data if a device is misplaced. An mPOS solution should support the PCI DSS Point-to-Point Encryption (P2PE) program. End-to-end encryption ensures that data is scrambled upon receipt and remains so throughout its journey on an organization’s IT systems.
In 2015, hackers used the Utah Food Bank’s donation webpage to gain access to the names, physical addresses, email addresses and credit card numbers of more than 10,000 donors. “Notifying the affected donors and paying for their credit monitoring comes at a big cost to your organization,” noted a nonprofit insurance company in its report on the breach. “But what’s worse is the long-term effect the event might have on future donations if people don’t feel safe using your website.”

Omnichannel and Collaboration

Omnichannel marketing and collaboration solutions incorporate a complex mix of technologies, tactics and customer preferences, and are becoming an integral part of the relationship between nonprofits, their customers, donors and volunteers. Taking advantage of online and mobile shopping platforms, social media services, websites, digital signage, instant messaging and a variety of other channels, organizations can now reach out to these communities in an almost endless number of ways, both online and onsite.

Cutting-edge mobile payment technologies are a particularly important part of omnichannel marketing. These payment forms have already begun to penetrate the commercial retail market in a significant way, and consumers are growing accustomed to them. (About 20 percent of iPhone owners use Apple Pay, for example, and market research suggests that more than half of omnichannel retailers will launch mobile payment initiatives by 2018.) By accepting mobile payments, nonprofit retailers can keep pace.

Many nonprofit organizations are already using collaboration solutions. Tools such as Office 365 and Dropbox are being widely adopted by organizations across a number of industries, allowing users to store, share and collaborate on work documents, and the nonprofit sector is no exception. Depending on eligibility, some nonprofits can receive certain versions of Office 365 free of charge from Microsoft. The software suite includes online versions of popular Office programs such as Word and Excel, a corporate social network to help users collaborate across departments and locations, instant messaging and web conferencing tools.

Customer Engagement Center

Recent decades have seen call centers morph into contact centers and, more recently, customer engagement centers. The name changes are more than superficial; today’s multichannel customer engagement center is designed to serve customers in the ways they prefer rather than forcing them to adapt to an organization’s technology.

Customer engagement solution providers, such as eGain, offer automated solutions that make it easy for customers to navigate websites while giving organizations the ability to interact with customers and donors via a unified communications platform that supports phone, email, instant messaging, online chat and other communication channels. Although nonprofits typically have a different set of concerns from commercial retailers for their contact centers, it is important that organizations provide their customers, visitors, volunteers and donors with an easy-to-use system that will both help to answer questions and drive engagement.

Big Data Analytics

Customers are prized because they buy things and provide a revenue stream. Yet they also generate another important, but often overlooked, benefit: information. The massive amounts of data customers produce as they search for, learn about, discuss, review and pay for products provides nonprofits with valuable insights, as long as the organization has the right tools and approaches to make the most of this valuable asset. Data is considered the new currency for the nonprofit segment.
Customer-supplied data gives nonprofits’ retail arms numerous ways of understanding shoppers’ habits and preferences via multiple digital touch points — from mobile purchases to social media interactions — that previous generations of retailers could only dream about. Yet massive amounts of unstructured customer-supplied information — Big Data — pouring into a data center becomes useful only when it is organized and then transformed into knowledge upon which decisions can be made. A new generation of analytical tools helps users make sense of the unstructured data gleaned from social media feeds, blogs, videos and numerous other sources to expand customer intelligence.

Forward-thinking organizations understand that Big Data doesn’t flow in only from customers. Users, suppliers, branch stores, transportation carriers and a wide range of other sources likewise generate massive amounts of actionable data. In the past, it was often difficult to sift through massive data sets generated by organizations and in turn provide useful reports to content-area experts. Today, self-service analytics tools such as Splunk can eliminate the bottleneck by providing users with customized dashboards that allow them to analyze data at their own pace. According to Gartner, most organizations will have access to these self-service tools by 2017.

Many organizations take advantage of customer relationship management analytics software. These solutions can deliver customer intelligence that gives nonprofit retailers a powerful weapon to increase sales.

Analytics software also enables retailers to easily build and share reports and analyses based on current and historical data. The insights can then be used to identify trends (at a store, regional, district or company level) regarding labor costs, schedule accuracy, workforce efficiency and more.

Beyond the typical retail uses of a CRM system, nonprofits often use these tools to manage donations, memberships, volunteer programs, grants, petitions and surveys.

Fewer than half of nonprofits use donor data for potential marketing and fundraising opportunities. Organizations that fail to utilize data are likely missing other benefits of data analytics, including improving budgeting and forecasting, simplifying enterprise reporting, streamlining regulatory compliance and improving internal operations from staffing to asset management.

Mobility and Apps

Just as most commercial retailers are using mobile apps to drive sales and engage customers, many organizations are creating customized apps to connect with customers, donors, employees and volunteers. While commercial retailers frequently use mobile beacons to deliver product coupons to their customers’ mobile apps, nonprofits can get more creative (and less commercial) by allowing museum visitors to download audio tours through an app or giving zoo and park attendees access to videos of animals in the wild. Nonprofits can also use their mobile apps to push out special offers from their cafes and gift shops; however, many organizations primarily use their apps to enhance the customer experience.

The Metropolitan Museum of Art in New York City, for example, offers a free mobile app that lists museum events, allows visitors to purchase tickets in advance, provides users with an “Artwork of the Day” feature and identifies “must-see” works (giving interesting tidbits about the sculptures and paintings and plotting them on a map of the museum). The institution even lets its hair down a bit with a Staff Picks feature called “Met-staches” — a sampling of works depicting “the Met’s choicest moustaches, from stately to scruffy.” Such features may seem frivolous, but some organizations have found that they can strengthen their relationships with visitors, customers and donors.

Inventory Management

Nonprofit retailers are increasingly investing in software and infrastructure to better align and automate the management and distribution of goods. Tracking product demand via inventory management systems, based on data fed in from networked POS systems, mobile payment technologies and other
sources, offers a more precise method for ordering, storing and restocking merchandise.

With radio-frequency identification technology, for example, retailers can ensure real-time visibility into the number and types of products that are available across locations, creating an enhanced experience for consumers as they shop across channels. RFID helps in-store users to better track and update inventory, allowing team members to keep a pulse on what products, sizes, colors and styles are available in-store.

RFID tags can also track the assets of nonprofit organizations. For example, museums often own many more items than they can display at once, and an electronic inventory tracking system can help curators to quickly find any item they want to incorporate into a new exhibit.

Inventory management systems also can be integrated with workforce management solutions to optimize the number of staff needed to handle new tasks. These include ship-from-store service chores, where items must be pulled from the shelf, boxed and put out for courier pickup and delivery.

Digital Signage
Digital signage allows nonprofit retailers to reach customers with carefully tailored, dynamic messaging. Compared with boring, static signs that need to be reprinted regularly, digital signs save time, energy and other resources while delivering exciting, high-impact messages.

Digital signage complements marketing and merchandising strategies to enhance the customer’s shopping experience, build loyalty and boost sales. Digital signage can provide relevant information to an audience near the point of sale, enabling retailers to generate higher brand awareness and boost their sales. By selling advertising space and time to suppliers and other businesses, a growing number of organizations are using digital signage to provide a new revenue stream.

Because of the flexible nature of digital signage, it is particularly valuable in spaces with rotating exhibits, or where multiple types of events (including fundraisers, civic events and rental parties) might be staged within the span of just a few nights.

Social Media
Information obtained from social media sources, including Facebook, Twitter, YouTube and similar services, helps nonprofit retailers better understand current and potential customers, including their motivations and preferences for buying and using specific types of products.

Social media channels bring customers into stores and can be used to present videos, podcasts, webinars and other informative content.

Many nonprofits have already forged one-on-one connections with their customers, donors or members through direct mail. This remains a viable strategy for many organizations, but younger people are increasingly responsive to electronic communication, and social media engagement provides an inexpensive method of connecting with people directly.

Demographics, consumer income and specific tastes drive demand. The financial health of these organizations depends on efficient procurement and effective merchandising — using technology helps improve their bottom line.

The Need for a Robust IT Infrastructure
To effectively implement all the technologies that are now essential to remain competitive, nonprofit retailers must have a powerful, reliable back-end infrastructure. Without a robust support platform, a nonprofit won’t be able to maximize its investments in next-generation IT.

Networking
Networks have become the nonprofit retailer’s central nervous system, delivering essential data to systems, users, suppliers, stores, branch offices and customers. Organizations without fast, efficient and reliable wired and wireless networks operate at a disadvantage.

A nonprofit retailer’s enterprise network must fully support machine-to-machine communication, interconnecting POS systems, digital signage, inventory tracking technologies (such as RFID readers), mobile devices and an ever-expanding array of other technologies as well as to provide the security necessary to protect the organization’s assets.

The more demands that a nonprofit places on its network in terms of data and users, the more bandwidth it needs to ensure adequate performance. A bandwidth-strained network wastes both time and money, leading to frustrated users and customers who must cope with slow and unreliable performance. To ensure adequate bandwidth, the organization must estimate current needs under various conditions as well as likely future demands.

As wireless networks become faster, more reliable and increasingly secure, many nonprofit retailers are turning to the technology for general business use as well as to provide Wi-Fi service to customers. A wireless network is generally less expensive to deploy and maintain than a wired network because it eliminates the need to install costly cables throughout offices and stores. The emerging 802.11ac standard offers speeds approximately three times faster than its predecessor, 802.11n.

4 out of 10
The number of consumers who are open to purchasing any type of product online²

Data Centers
Data centers are evolving rapidly as cloud computing continues to virtualize a growing number of IT resources, including servers, storage and even network components. Although the conventional data center is far from dead, a growing number of nonprofit retailers are transitioning toward less expensive, more compact facilities that make maximum use of several rapidly maturing cloud technologies.

Cloud-based models: Many IT operations traditionally located inside data centers are now moving into provider-hosted cloud environments. Software as a Service (SaaS), for example, is a popular cloud delivery model with a track record extending back over a decade. With SaaS, virtually any type of application can be hosted by a vendor or service provider and made available to users via the Internet. The prime benefit to SaaS is that it frees the organization from complex software and hardware management.

Infrastructure as a Service (IaaS) is another popular cloud delivery model. IaaS allows nonprofit retailers to gain maximum flexibility and agility in the utilization of IT hardware resources, such as servers and storage systems, which are hosted by an offsite provider. The approach enables nonprofit retailers to rapidly deploy or even open several new stores, supply solutions that meet new requirements and pay for resources as needed.

Converged infrastructure: Some nonprofit retailers are turning to the converged infrastructure model as a platform on which to build their data centers. A converged infrastructure integrates multiple IT technologies, such as servers, storage, networking equipment and software applications into a single, comprehensive solution.

Many organizations find value in the simplicity of a converged infrastructure, integrated by a single vendor or built according to a vendor’s predesigned templates, as opposed to conventional IT infrastructures that are assembled from multiple vendors’ products. Converged infrastructure solutions also simplify hardware repairs, software updates and many other routine data center operations, because a single party handles all technical support activities. Converged infrastructures are often deployed in the form of a modular data center, featuring preinstalled server racks and other IT equipment, designed for easy drop-off and deployment.

Disaster recovery and business continuity: Every nonprofit retailer needs a disaster recovery/business continuity plan to protect its IT infrastructure—including servers, networks, devices, data and connectivity—at an alternative site after a major system disruption caused by fire, flood, earthquake or any other type of natural or man-made calamity. After successfully transferring systems, the goal is to recover, restore and test affected systems, ultimately placing them back in service.

According to the Federal Emergency Management Agency, recovery strategies should be developed to anticipate the loss of one or more of the following system components:
- Data center environment (including a secure computer room with climate control and backup power supply)
- Hardware (networks, servers, desktop and notebook computers, wireless devices and peripherals)
- Connectivity to a service provider (such as fiber, cable or wireless)
- Software (such as email, enterprise resource planning and office productivity applications)
- Data

Overcoming Technological Challenges
Every system, regardless of its purpose or scope, must be carefully planned, fully tested and intelligently deployed. Detailed planning and thorough testing ensure that a new system meets its performance goals and is fully compatible with the current IT infrastructure and existing business processes. Problems, when they arise, must be dealt with quickly and logically in cooperation with the system’s vendor and other relevant partners.

Planning and testing: Project planning begins as soon as the nonprofit retailer identifies the need for a specific solution, such as the installation of a digital signage system. All key stakeholders should be involved in the planning to ensure that current and future needs are addressed across the board.

Once planning begins, the next step for many nonprofits is finding a knowledgeable technology partner to work with. A partner must have the insight and experience to guide the project through to its successful deployment. Working in close
collaboration, the organization and technology partner jointly define the project’s requirements, goals and deadlines.

Integration: To reduce the possibility of creating disruptions, a newer technology must be compatible and where appropriate integrated into the organization’s existing systems. Front-end retail solutions, such as POS stations and self-service kiosks, must be fully supported by the nonprofit retailer’s back-end technology, including servers, storage systems, wired and wireless network infrastructures, together with software such as an enterprise resource planning solution.

Hardware and software compatibility issues are a leading cause of integration problems. It is not unusual for a nonprofit to implement new software or hardware only to discover that it is not compatible with the existing IT infrastructure, or that current systems are not robust enough to support it. The organization must then allocate additional workforce and financial resources to an unanticipated data center upgrade. Nonprofits can avoid this unpleasant surprise by working closely with a technology partner and vendors to determine software requirements long before deployment.

Failing to accurately anticipate future demands on the back-end infrastructure created by emerging technologies, as well as trends ranging from rising sales volumes to expanding databases, can lead to performance issues that slow down business processes and can potentially anger customers. Careful planning can help an organization avoid such problems.

Security: Virtually every technology a nonprofit retailer adopts creates a new security concern. Websites, wired and wireless networks, mobile devices, payment systems, and other digital platforms and services must be protected against internal and external threats. Attackers will take advantage of any security oversight or loophole to target an organization, potentially creating significant financial and reputational damage to the parties affected.

Numerous high-profile system breaches at organizations of all sizes have made data security a top priority. Since 2005, the San Diego–based Privacy Rights Clearinghouse has recorded more than 100 breaches at nonprofits, involving more than 2 million records.

To protect data, nonprofit retailers should never store credit card information in the front end of a POS system, where it is vulnerable to being hacked. If a payment system stores credit card information in the cloud, it should be protected by a provider that uses security certificates.

Nonprofit retailers should also ensure that payment card information goes directly from the card reader to the payment processor. A device running point-to-point encryption will ensure security by transmitting encrypted card data straight to the payment processor. A retailer that stores any payment card information needs to tokenize the data.

Tokenization creates a unique encrypted token the first time a card is swiped. When the customer returns to make another purchase, the token will be charged rather than the credit card, precluding the need to reswipe or send it to the processor. Finally, it’s important to take full advantage of POS security features designed to thwart identity theft.

Network security technologies: Because attackers routinely use networks as pathways to compromise servers, POS systems, mobile payment platforms (such as smartphones) and other connected devices, nonprofit retailers should take steps to protect their network infrastructure.

Firewalls, particularly next-generation firewalls (NGFWs), are important network safeguards. NGFWs, which are essentially integrated network security platforms, use advanced technologies such as website filtering, intrusion prevention algorithms and deep packet inspection to protect networks against attacks and infiltration.

Other important network security steps include the deployment of commercial anti–malware protection tools (including security and incident event monitoring) and implementation of a vulnerability management program. Nonprofit retailers also should invest resources into employee training in security practices as well as the creation of an incident response team that can immediately react to intrusion alerts.

Fortified network and device access and authentication tools are also essential to prevent an attacker from directly accessing POS systems and other devices, either from the Internet or from within a retail store. Servers, POS systems and other key IT assets also must be physically secured to prevent both unauthorized access and tampering.

To prevent malware from entering the enterprise network via smartphones and tablets, a mobile device management (MDM) solution should be a part of an overall network security policy. Internet-connected devices on an organization’s network endpoints now include notebooks, smartphones, tablets, RFID and barcode readers, and POS devices.

Although mobile connectivity empowers success, data becomes even more vulnerable when it’s on the go. A 2015 study by IBM and the Ponemon Institute reveals that 67 percent of companies allow workers to download nonvetted mobile apps on their devices, thereby creating a pathway for hackers to steal business data.

To block this threat, a nonprofit should not give enterprise network access to mobile devices unless they (and their users) comply with the organization’s security policies. Smart organizations understand that effective security technologies

and practices — combined with written security policies that are updated on a regular basis — are worth the extra cost and effort. Tech research firm IDC predicts that retail enterprises will cut their exposure and loss over the coming year, even as cyberattacks increase, by adopting intelligent sense-and-respond security strategies.

**Payment card security:** Compliance with the Payment Card Industry Data Security Standard (PCI DSS) is essential for all organizations that accept payment cards, whether online or offline, because it provides the best approach for keeping customer payment card data secure. PCI DSS was created jointly in 2004 by four major credit card companies: Visa, MasterCard, Discover and American Express.

The standard specifies a minimum set of requirements for protecting cardholder data that may be enhanced by additional controls and practices to further mitigate risks. PCI DSS applies to all entities involved in payment card processing, including merchants, processors, acquirers, issuers and service providers, and all other entities that store, process or transmit cardholder data.

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**CDW: A Nonprofit Partner That Gets IT**

Demographics, consumer income and customer tastes drive demand. The financial health of nonprofit organizations depends on efficient procurement and effective merchandising, and using technology helps improve the bottom line. In this environment, emerging technologies and services promise to help nonprofit retailers open the door to new customers while building stronger and deeper bonds with existing customers.

CDW is ready to help nonprofit retailers transform exciting new technologies into a tactical advantage. From inventory management and other back-end systems to mobility platforms, storefront technologies and customer experience solutions, CDW provides nonprofits of all sizes with the integrated solutions and services necessary to attract new shoppers, expand engagement and drive revenue. The retail revolution has started. Don’t get left behind.

To learn more about CDW’s solutions and services for nonprofits, visit CDW.com/nonprofit

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**The CDW Approach**

**ASSESS**
Evaluate business objectives, technology environments and processes; identify opportunities for performance improvements and cost savings.

**DESIGN**
Recommend relevant technologies and services; document technical architecture, deployment plans, “measures of success,” budgets and timelines.

**DEPLOY**
Assist with product fulfillment, configuration, broad-scale implementation, integration and training.

**MANAGE**
Proactively monitor systems to ensure technology is running as intended and provide support when and how you need it.

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**You and CDW**

**HP**
HP enables retailers and hospitality operators with the tools they need to empower their employees with the broadest portfolio of in–store solutions from traditional point–of–sale to mobile. HP has what you need to personalize the experience and keep your customers coming back.

**Cisco Meraki**
Cisco® Meraki® provides powerful and intuitive centralized management via the cloud, while eliminating the cost and complexity of traditional onsite wireless controllers.

**Apple**
Apple® offers a substantial lineup of mobility products to meet your organization’s needs — including the iPad®, iPhone®, iPod touch®, MacBook Air® and MacBook Pro® products. Apple’s products offer easy, secure integration into existing environments while providing great productivity and ease of use to your workers.

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