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WHITE PAPER:

DIGITAL EXPERIENCES IN 2022: A QSR'S GUIDE

A look at expanding use cases for digital signage, and the components, IT infrastructure and operational processes required to support them

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EXECUTIVE SUMMARY

Digital signage technology continues to evolve rapidly, with more solutions available at lower price points than ever before. Business applications of digital signage are also expanding, with more organizations leveraging the technology to address changing market conditions and customer demands.

More than a simple display for delivering marketing content, digital signage can be used to inform, delight and engage customers in new ways. It also plays a key role in streamlining business processes and creating a “frictionless” transaction environment.

Given the mission-critical nature of today’s digital signage solutions, it’s more important than ever to have a sound technology strategy. This technical guide provides insight into use cases, technology components, and infrastructure and operational requirements to help organizations get the most from their digital signage investments.

USE CASES

Traditionally, digital signage has been used to welcome visitors and market products. Savvy retailers figured out years ago that vivid, dynamic displays were more effective sales tools than printed signs. Networked digital signage also allows businesses to change content as needed and incorporate video elements that better engage customers.

Restaurants have been using digital signage in place of static menu boards. Digital menu boards allow restaurants to display multimedia content and change the content on the fly according to time of day, inventory, promotions, and other criteria. It saves the cost of updating printed menus and can boost sales by creating a more engaging customer experience.

Outdoor digital signage has become practical in recent years. Manufacturers have developed displays with sufficient brightness for outdoor conditions, with enclosures that protect against dust, water, and accidental contact. What’s more, the price of the displays has dropped significantly, and outdoor displays now have a longer lifespan.

The COVID-19 pandemic brought a rapid increase in the use of digital signage to enable communications around social distancing and to help minimize contact between customers and staff. Organizations in a

wide range of industries began deploying digital signs to guide customers through their facilities, communicate mask mandates and other policies, and explain procedures for curbside pickup, returns and other types of transactions.

Digital signage is also being integrated with other technologies to take temperatures and scan faces to detect mask wearing. Touchscreen and “touchless” kiosks and mobile apps can further increase safety by limiting person-to-person contact, and enhance efficiency and customer service by reducing the need for employees to handle repetitive, low-value tasks.

Employee-facing, back-of-house digital signage can engage, retain, and inspire employees. Employers are using digital signage to offer integrated, interactive, ROI-focused employee engagement for performance optimization, showing appreciation, reducing absenteeism, improving retention, mitigating risks, and contributing to a safer, more welcoming workplace.

Delivering Vital Information Provides Peace of Mind in a Post-Pandemic World

Customers and visitors want clear information quickly and with minimal physical interaction. Digital signage is a powerful tool that can deliver the right messaging in an engaging format. Displays should be large enough for easy viewing from a distance, and positioned in such a way as to discourage people from congregating in lobbies, customer service desks, and other common areas.

TECHNOLOGY COMPONENTS

Displays are the most visible component of any digital signage solution. Large-format displays are based on a variety of technologies, including LCD, LED, organic LED (OLED) and quantum LED (QLED). They are also available in a range of resolutions, from traditional 1080p high-definition (HD) to newer 4K models with 3401 x 2160 pixels. Commercial-grade displays provide flexible mounting options and the durability to withstand 24x7 operation in demanding environments.

Media players store content locally and connect to the displays for content playback. Consumer-grade options include PC sticks and Android- or Windows-based media boxes. These are inexpensive but may not have the processing power, durability or reliability needed for digital signage. Commercial-grade media players have faster processors, are constructed with higher-grade materials to withstand tough conditions, and have higher-quality components designed for constant use. These range from low-end units that can stream content to one or two displays, to high-end systems that can support video walls and interactive kiosks.

There are also displays with specialized chipsets built in, eliminating the need for an external media player. These System on Chip (SoC) solutions can reduce costs and power consumption and simplify installation and maintenance. However, they’re not right for every application.

Another critical component is a centralized content management system (CMS) that combines a content repository with software that enables the scheduling and distribution of content across multiple displays. The CMS should also allow the content to be customized according to location, time of day and other criteria. On-site CMSs require a server and storage to host the application and content. Cloud-based solutions eliminate the need for on-premises hardware and provide a more accessible and scalable solution that’s well-suited to geographically distributed implementations.

The Ecosystem Approach to Digital Signage

Designing and implementing a digital signage solution based upon discrete components can be time-consuming and difficult for organizations that lack specific in-house expertise. A better approach is to partner with a technology solutions provider that delivers digital signage as a complete ecosystem.

IT INFRASTRUCTURE

Few enterprise-ready digital signage systems operate in isolation. They must connect to the corporate network for the delivery of content and the monitoring, maintenance and management of the displays and media players. The network must have the bandwidth, performance, and reliability to support A/V equipment and applications.

Using the existing network infrastructure for digital signage minimizes the need to purchase additional network gear, run cabling, and manage and maintain a separate, dedicated network. If the network is not properly designed, however, content streams can hamper the performance of other applications and services. The network architecture must also be easy to manage across multiple sites to minimize total cost of ownership (TCO), and allow for the inevitable growth of the digital signage environment.

Providing connectivity via Wi-Fi enables more flexibility in the placement of equipment, but it can have serious drawbacks. Wi-Fi is a contentious medium, with devices competing for available bandwidth. Radio frequency (RF) interference can also be a problem in many facilities. A wired network is preferred for installations with dynamic content and more than a few displays.

A robust WAN architecture is also essential. Some locations may rely upon consumer-grade Internet connections for WAN connectivity, with no assurance of adequate bandwidth or availability. A flexible, reliable WAN with redundant Internet access can help ensure the WAN delivers the needed reliability and performance.

Digital signage devices and the networks they connect to should have robust security. After all, hackers have been known to hijack equipment and display inappropriate content. Worse, the digital signage equipment could give an attacker access to the corporate network if not properly secured. Network segmentation can help to contain an attack, while encryption can protect content and reduce the risk of a man-in-the-middle attack.

Benefits of a Managed Network Service for Digital Signage

Provisioning Internet connectivity and managing diverse equipment across geographically dispersed sites creates operational headaches. With a fully managed WAN, organizations can partner with one provider for all connectivity services across the environment. Best-in-class WAN solutions can also reduce costs and streamline deployment by incorporating WAN optimization, security controls and other features into a single appliance at each location.

ONGOING OPERATIONS

Digital signage is not a “set and forget” operation. Without proper maintenance, digital signage equipment will not perform up to expectations and deliver the expected return on investment (ROI). Blank screens, pixelated images and other problems will negatively impact the company’s brand and the customer experience.

Commercial-grade displays and media players are highly reliable, but any technology hardware can and will fail. Plus, digital signage equipment is exposed to many potentially damaging elements, including dust, moisture, bright sunlight, and temperature extremes. In high-traffic environments, there is also a significant risk that the equipment can be accidentally or intentionally damaged.

Ensuring the consistent operation of components requires around-the-clock monitoring, which can quickly become overwhelming in a large, multisite environment. When a device malfunctions, someone must go onsite to troubleshoot the problem, remove the device if it can’t be fixed, and handle repair or replacement. The cost and headaches increase if the device is in a distant facility. And, of course, there will be downtime. Even when there are no problems, the equipment should be inspected and cleaned regularly. Other ongoing requirements include software upgrades and security patches, which require careful testing and management to prevent configuration errors and incompatibilities.

Many in-house IT teams are unable to take on the burden of maintaining and supporting the digital signage environment. That’s why it makes good business sense to partner with a provider that specializes in end-to-end digital signage solutions. The provider can proactively monitor the entire network, including displays and media players, and dispatch technicians to troubleshoot any problems that can’t be resolved remotely.

CONCLUSION

Digital signage use cases are expanding, and the technology is becoming a mission-critical part of day-to-day business operations. IT leaders need to understand the components of the digital signage ecosystem, and the IT infrastructure needed to support them. It’s also important to recognize that digital signage requires ongoing monitoring, maintenance, and management, and that it will likely be necessary to dispatch technical personnel to remote sites to troubleshoot and replace equipment. Armed with this knowledge, IT leaders can help to develop a sound digital signage strategy and key partnerships that will maximize ROI and ensure a high-quality experience.

About SageNet

SageNet is passionate about trusted connections. The company believes that by creating, discovering and nurturing trusted connections with its customers, associates and community, SageNet enhances the world that connects us all.

As a leader in managed network and cybersecurity services, SageNet connects, manages and protects technologies and devices across the enterprise. SageNet’s collaborative approach provides peace of mind and systems-confidence that empowers an organization to focus on its core mission.

The company offers world-class service and support via its three US-based 24/7 Network Operations Centers (NOCs) and Security Operations Centers (SOCs), geographically-diverse teleports, a central National Logistics Center, multiple data centers, and a nationwide field service organization.

With a three-decade track record in managed services, SageNet boasts a long-term customer base that includes the nation’s largest retail, healthcare, financial, utilities and energy organizations. SageNet manages communications at more than 220,000 endpoints. Headquartered in Tulsa, SageNet has regional offices in Atlanta, Chicago, Philadelphia, Toronto and Washington D.C.