SageNet

CONNECT | MANAGE | PROTECT

WHITE PAPER:

A Sure Sign

Extend the life of your digital signage solution with proper management and maintenance

EXECUTIVE SUMMARY

Retail, healthcare, education, financial services and public service organizations around the world spend more than $20 billion a year on digital signage technology. Protecting that investment requires ongoing maintenance and management.

Signage solutions comprise multiple components including high-definition flat-panel monitors, content and database servers, directional speakers and media players. Like any hardware with moving parts, this equipment will eventually deteriorate from repeated use. The failure of any of these components can lead to blank screens, garbled messages, loss of sound, poor image resolution and a variety of other issues that create a negative perception among viewers.

This whitepaper will explore some of the essential operational, management and maintenance requirements of digital signage, and the strains those tasks place on an organization's IT staff. It will also explore the role a managed services provider can play in using remote monitoring, management and maintenance services to help maximize return on investment and minimize total cost of ownership.

GETTING STARTED

Investing in quality components is an essential first step in crafting a reliable and effective digital signage solution. Commercial-grade hardware is built with heavy-duty parts that resist deterioration and contribute to longer lifespan. For example, commercial-grade screens feature enhanced glass and "anti-burn" algorithms to prevent the screen burn-in that creates permanent discoloration or ghost-like images. Commercial-grade screens also have extra fans and heat sinks to dissipate the heat generated during extended runtimes.

High-quality media players running full-featured content management software (CMS) will also contribute to long-term reliability. The software is used to create, modify and manage content, and media players deliver that content to your displays. While there are budget alternatives available, commercial-grade solutions offer important features such as the ability to support multiple screens with high-resolution video and web content. Because these systems are connected to the Internet, they create a potential attack surface. Commercial-grade solutions address this with built-in security features.

A System on Chip (SoC) solution is another option. With SoC technology, there's no need for a separate media player — specialized chipsets built into the display provide the processing power, memory, storage,

operating system and software. Benefits include lower costs, simpler installation, reduced power consumption and easier maintenance. While early smart displays were limited in terms of performance and features, the latest SoC platforms deliver the capabilities needed for many digital signage use cases.

In addition to choosing the right hardware and software, organizations must ensure that their network infrastructure can handle the extra load without disrupting normal workloads. An assessment from a qualified networking expert will help identify anything that could impact performance. For example, certain web browsers, device configurations, firewall policies or security settings on a shared network can potentially interfere with signage operations.

An assessment will also help define the hardware and software requirements. Content management software is typically licensed on a per-player basis, often allowing up to four displays to be connected to a single player. While maxing-out connections is often the most cost-effective approach, it may not always be feasible. Installation, mounting and cabling become more complex, and screen synchronization can sometimes be a problem. Additionally, there is the risk that one malfunctioning player will bring down four displays. These are issues that should be discussed thoroughly before implementation.

Be Prepared

SageNet's *SageVIEW* team, comprised of signage and networking professionals, conduct readiness assessments to help customers determine if their existing network infrastructure will enable optimal performance of a signage solution. In some cases, the most efficient approach may be to install a dedicated network for signage.

During the assessment process, the SageNet team works closely with customer stakeholders to identify design objectives, usage requirements and business goals, and then creates an implementation plan that meets those targets. SageNet can also run a pilot program to demonstrate the effectiveness of the proposed solution and ensure there are no technical limitations before going live.

sageVIEW™

MAINTENANCE

Even the most durable components require regular maintenance because they are meant to operate almost continuously under some pretty severe conditions. For example, indoor displays are set up in high-traffic environments where they can be accidentally (or intentionally) damaged by passersby. Outdoor displays are exposed to sunlight, extreme temperature, dust and moisture that can impair operation over time.

Here are just a few basic maintenance tasks that should be performed regularly:

- Power cords, video cables, and network cables should be checked regularly for loose connections or signs of wear and tear.

- Screens and other electronic components should be cleaned regularly. Dust buildup can severely reduce the lifespan of screens and media players by clogging data ports and vents and collecting on circuit boards, which can cause overheating and short circuits. Dust clinging to the screen can scratch the display, distort images and reduce brightness.

- Memory limitations can cause media players to malfunction, so it is a good idea to increase capacity with a memory card and to purge older content periodically.

While in-house staff can handle many basic maintenance tasks, some issues will require expertise and skillsets few organizations have. Malfunctions involving displays or media players frequently require an engineer or signage technician to go onsite and troubleshoot the problem. If it can't be fixed onsite, the technician will remove or replace the equipment and make warranty repairs.

Updating software is another critical maintenance task. Media players are essentially small computers that will require periodic operating system updates. Given the broad range of devices that can serve as your media player, this could involve either Windows, macOS, Linux, Android or iOS. In addition, vendors are continuously improving their CMS management and media player software with regular security updates and feature upgrades. New releases improve performance, boost security and provide new tools for creating dynamic visual communications.

Remote Maintenance

In addition to warranty work and nationwide break-fix services, the SageVIEW solution can deliver a variety of remote maintenance services to help customers keep their signage systems in good working order. Because networked displays have unique IP addresses, SageNet can access them remotely just like any other device on the network to perform troubleshooting, configuration updates and software upgrades.

MANAGEMENT

Beyond implementation, integration and regular maintenance, the ongoing management of digital signage can be a challenge. Ensuring the consistent operation of components requires around-the-clock monitoring of displays and media players, which can quickly become overwhelming for organizations that have dozens, hundreds or even thousands of digital signs. Other ongoing requirements, such as software and hardware upgrades, security patch management and content creation, will also place significant demands on staff.

With remote management, a qualified provider can proactively monitor a complete network, including displays and media players, from one dashboard that allows technicians to receive alerts if components aren't functioning properly. If issues can't be resolved remotely, a technician will be dispatched to evaluate the problem onsite.

Providers also can use remote access to pull logs, diagnostics, usage information and other reports from the system. In addition to generating real-time insights into component performance, this data can help organizations understand the overall effectiveness of their signage strategy. When evaluated against sales

and customer traffic information, signage data can illustrate what messaging is translating to improved sales, how displays are influencing traffic patterns and where maintenance issues arise most frequently. Such insights can be used to refine messaging and signage locations and can also contribute to smarter staffing decisions.

The creation and distribution of content is often the most vexing management challenge with digital signage. The need to continuously develop and publish engaging, current and relevant content can become an overwhelming burden. Too often, organizations launch campaigns with original content referencing current promotions, but then simply fail to update it until long after the information has become stale. Organizations that run out-of-date ads or uninspired messaging in a never-ending loop will not see the desired ROI from digital signage technology.

The messaging needs to look good, too. Few organizations have a digital experience expert on staff who understands how design elements such as aspect ratios, high-resolution imagery, typography and motion can influence messaging. Poorly designed content with pixelated and distorted images creates an amateurish look that will leave customers with a bad impression. To avoid this issue, organizations should establish a content creation manager or team to work with other departments to produce well-designed and up-to-date content that will have an impact on customers.

Content Management

SageNet offers customers a cloud-based content management solution that simplifies the creation and management of templates, and the scheduling, editing and publishing of content. The solution includes a variety of tools and templates that simplify the creation of fresh, dynamic messaging. Content is pulled from the content management host and delivered to displays according to the customer's desired schedule. The system enables dynamic scheduling of content based upon a variety of metrics, including sales targets, inventory and customer traffic.
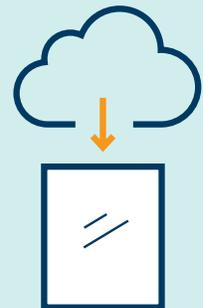
CONCLUSION

Digital signage is an effective way to reach audiences with highly targeted messaging that can be frequently updated, modified and rotated with minimal effort. Eighty percent of American shoppers say they have entered a store because a digital sign caught their attention, and forty percent say digital displays near the point of purchase have influenced buying decisions.

For maximum effectiveness and for investment protection, digital signage systems require ongoing management and maintenance of all the components. Regular physical maintenance will not only reduce premature equipment failure and maintain appearance - it can also dramatically reduce the need to dispatch remote personnel.

Bottom line: While the thought of launching a digital signage initiative is exciting, take the time to evaluate the long-term strategies that will keep the digital experience paying dividends for years to come.

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 Washington, D.C., Atlanta, Chicago and Philadelphia.