Navigating the Mobile Printing Landscape

In today's world, efficient printing must include mobile printing. Use this paper to find your way to an effective mobile printing platform that won't break your security or your budget.

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If you have spent any time looking for a mobile printing solution, you may have found yourself wishing for a map or a compass. You probably had a print software infrastructure that provided everything your users needed—then mobility came along. Now you are no longer sure you can find your way back home.

This paper will guide you through the confusing landscape of print software. It will help you understand your organization's new needs. Printing remains a crucial productivity tool, and that means IT departments must continue to deliver efficient printing capabilities.

In today's world, efficient printing must include mobile printing. Users want access to printing resources from all of their work devices, and mobile users are increasingly turning to consumer-based apps and other workarounds to meet their productivity needs.

At the same time, organizations need to ensure that printing—particularly mobile printing—does not jeopardize information assets. It is in everyone's best interest that printing options are both simple and secure. IT must act quickly to strike that balance.

This paper will also describe your major options and help you understand what kind of solution and vendor is right for you. You should not only be able to find your way back to the stable print infrastructure you once had, you'll also understand how to add mobile printing capabilities to that infrastructure without losing your users—or your budget—along the way.

Needs

Before you can select a mobile print solution, you should examine your organization's specific requirements. Consider the relative importance of access, ease-of-use and security to the organization so you can properly weigh your print software options.

Access

The mobile workforce is growing steadily, with experts predicting it will make up more than a third of all workers by 2017. To stay productive, this growing mobile workforce will need access to all the traditional files, tools and services the rest of the workforce uses; printing is just one of those services.

In 2012, 24 percent of mobile phone users and 32 percent of tablet users were printing from their devices, according to IDC. Yet that number should be much higher. Despite how easy modern smartphones and tablets make many tasks, IDC said that a surprising 50 percent of users don't know how to print from their devices. When Microsoft released Microsoft Office for iOS, the company issued an update just a month later. This new release included mobile printing, which was users' most requested feature. Users clearly want mobile printing.

Mobile printing access is the most challenging new access requirement, but it is just one facet of printer access to consider. Desktop users require the same access to printing. Most organizations have a broad range of printers, from recent desktop printers to copy machines to specialized poster printers. When considering access, you must think about how to provide access to all these different devices.

Ease of Use

Ease of use is not just an issue for end users. A good solution should be easy for IT to implement and maintain as well. For end users, print solutions should be simple. This is particularly true on mobile devices, where tackling configuration tasks is often cumbersome. To maintain maximum productivity, users should be able to access printers themselves, without helpdesk calls.

Maintaining IT productivity requires interoperable solutions. They should be easy to install and allow centralized management. This simplified management is crucial for small- and medium-sized organizations, which cannot afford dedicated print administrators, and for large organizations because they must limit the budget impact of supporting hundreds of users.

Security

According to the Ponemon 2014 Cost of Data Breach Study[1], the average cost of a data breach is now US$3.5 million. Print infrastructure is rarely the first thing security experts think about or discuss, but it is a very important part of overall security. As Quocirca[2] found, 90 percent of businesses admit they have experienced one or more print-related data breaches.

There are four different factors of print security you may want to implement. The first is directory integration. By integrating with your user directory, you can control access to print hardware. This is important because modern printers are rarely just printers. They are often shared, networked multifunction peripherals (MFPs) such as a scanner or fax machine as well a printer. Valuable information flows both in and out through these MFPs, and controlling access to them is crucial.

1 **www.ponemon.org/ blog/ponemon-institute- releases-2014-cost- of-data-breach- global-analysis**
2 **www.itproportal. com/2014/09/11/90- businesses-suffer- data-breaches-through- unsecured-printing/**

The next area of print security is known as either pull printing or follow-me printing. These features allow organizations to require a user be at the printer to receive a print job, so the document can't be picked up by anyone else. Pull printing or follow-me printing usually requires users to go to the printer and swipe an ID badge or enter a pin to receive their print job.

Third, a modern MFP often contains a hard drive, which can store data that someone outside your organization could later access. Unlike other security issues, this is not one that print software alone can solve. Securing these drives involves buying hardware capable of encryption, limiting access to hardware administration consoles, and having a proper end-of-life procedure so discarded hardware does not contain valuable information when you dispose of it.

Finally, mobility introduces its own security challenges in printing as it does in so many areas of IT. If IT does not provide a solution, mobility allows users to find their own, often unsecure, options. Even with an IT-sanctioned solution, IT must integrate that solution with mobile device management offerings to properly secure mobile printing.

Mobile Print Software Options

Mobile print software options fall into six main categories. You will find descriptions and pros and cons for each in the following pages, plus suggestions on which kinds of organizations may find each option attractive.

Software Infrastructure

Your software infrastructure is likely provided by Microsoft or Apple, and each of these vendors offer print software as well. Both companies understand operating systems and networks, and obviously have the capabilities to tie print software closely into their own platforms. However, neither provides comprehensive mobile printing.

Pros	Cons
■ Familiar products	■ Few mobile capabilities, if any
■ Strong enterprise credentials	■ Proprietary solutions that only work on a single platform
	■ High ongoing maintenance costs
	■ Basic printing capabilities only—little or no security, tracking and so on

Software infrastructure will provide sufficient printing for individuals and small organizations without mixed infrastructures. Organizations that require mobile printing will have to invest in new printers.

Hardware Vendors

Most of the vendors that sell you your printer will gladly sell you print software as well. This software ranges in capabilities. Certain vendors offer strong security, for instance, while others do not. Most of the major print hardware vendors understand the need for mobile printing and offer mobile printing solutions. These solutions usually require a print job go through a public cloud.

Pros	Cons
■ Strong enterprise credentials	■ Solutions work only with company's own hardware
■ Stable mobile options	■ Security varies
	■ Use of a cloud could violate certain regulations or data security policies
	■ Companies focus on hardware first and software second

If you're willing to stick with a single brand of printer, hardware vendors may offer a good option. If security is a concern for your organization, be sure to compare vendors very carefully.

Cloud Solutions

Cloud printing solutions allow users to send print jobs from devices of all kinds to any printer connected to the same cloud. The user does not have to install drivers or software, making these solutions very easy to use. These options provide support for mobile devices and good flexibility, but offer very little security. Cloud printing platforms come from different kinds of companies, such as cloud vendors, hardware vendors and so on, each with different priorities.

Pros	Cons
■ Easy to use	■ Limited security
■ Usually easy to set up (few or no drivers or other equipment needed)	■ Use of a cloud could violate certain regulations or data security policies
	■ Not all clouds are compatible with all hardware

Many of these offerings focus on personal use, which means they extend adequately for very small organizations, as long as those organizations are not in security-conscious industries. Any industry that needs to maintain tight control of data should look at other options. Larger organizations will find that their existing printers may not work with every cloud.

Serverless Solutions

In serverless printing, documents go directly from a user's computer to a printer. These solutions are often offered by print hardware vendors, and they usually work only with that vendor's printers. They are simple to install and maintain, but often limited in scope. Most importantly, these options work only with desktop computers and offer no mobile capabilities.

Pros	Cons
■ Lower installation and operational costs	■ No mobile printing
■ No risk of server crash shutting down printing	■ Difficult to track printing
	■ Solutions work with limited number of printers (usually five)
	■ Solutions work only with vendor's own printers

Serverless solutions are too small in scope for most organizations, though a small organization or team that only needs access to five printers would benefit from the easy installation and maintenance. Anyone looking for mobile printing will need to find other options, however.

Mobile Printing Apps

Like most apps, these are focused on the user experience and come from a wide variety of vendors, most of them startups. Startups are always at risk of failing or being purchased by larger companies with different priorities or plans, making this a dynamic and potentially unreliable area of the mobile print landscape.

Pros	Cons
■ Very easy to use	■ Often from inexperienced startups
	■ Some require printing to route through desktops
	■ Most have limited platform or device support
	■ Few security features

These are nice options for personal use, but they are unlikely to support the security most organizations need. Any organization that needs security, support for multiple device types and print tracking will have to be very careful in selecting a mobile app, and will likely find better options elsewhere.

Enterprise Print Appliance

Enterprise print appliances are software appliances that sit on top of an organization's existing infrastructure and offer printing that covers both desktops and laptops in addition to mobile devices. Most enterprise print appliances offer broad platform and device support, meaning they work with multiple operating systems and most print hardware. To print from mobile devices, users may have to download a mobile app that connects to the appliance. These appliances also tie into your directory, allowing you to monitor print access and perform limited auditing. For more robust accounting and tracking, you will likely need a print accounting solution (see the section "What About Print Accounting and Tracking?").

Pros	Cons
■ Broad platform support	■ Solutions require third-party integration for pull printing functionality
■ Broad device support	■ Users need a mobile client for full functionality
■ Self-service printing and software appliance design offers ease of use for both users and IT	■ Limited accounting and auditing
■ Directory integration	

This is the strongest option for most organizations. Although setting up an appliance doesn't always make sense for very small organizations, most others will benefit from the broad platform and device support.

What About Print Accounting and Tracking?
Though some of the print software mentioned in this paper offers limited tracking or auditing capabilities, for full print accounting or tracking you will likely need an add-on solution. These solutions can track how much your organization prints, who prints and can even tie into billing systems so you can charge departments or individuals for their printing. Print accounting solutions are platform neutral, and will work with the printers you already have.

You can use print accounting software as standalone print software. Unfortunately, they often require a central computer to control printing. Imagine a public library, where a single computer controls multiple public printers, allowing librarians to limit or monitor public use. While ideal for this use, only very small organizations will find accounting software viable as standalone printing solutions.

Instead, it makes sense to select your print software first, one that provides the basic capabilities you need. Then, add an accounting solution to provide any capabilities your platform is missing. When selecting print accounting software, be careful to select a solution that supports mobile printing. Not all of them do.

Conclusion

There is no perfect print software solution, but for organizations considering mobile printing, some options offer much better capabilities. Very small organizations in non-security conscious industries will have many good choices. For most others, an enterprise print appliance will likely be the strongest solution. By balancing access to both mobile and desktop users, ease of use for users and IT departments, and security for the organization, enterprise print appliances offer what you need in your printing environment today.

Regardless, the time is quickly coming in which IT will need to address the need for mobile printing or risk the cost of end users taking matters into their own hands. Users can unwittingly threaten the whole organization with mobile-enabled "stealth printers" they acquire on their own and put on the network, or by using unsanctioned apps that deliver print jobs via the public cloud.

You now have a better chance of navigating the world of print software and finding your way back to a stable print infrastructure that connects all your users, no matter where they are, and all their devices with all of your printers.

If you are interested in learning more about the options available to you, contact us today.

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