



Redefining your **print infrastructure** in the hybrid work era

Optimize your print infrastructure to support work today –
and the future.





Creating a digital-forward workplace is more important than ever

Unprecedented disruptions and a rapid shift to remote work have accelerated the need for robust and agile digital workplace technology that maximizes collaboration, enhances productivity, and enables seamless communication to support business continuity in today's world of hybrid work.

This new landscape presents opportunities to redefine how work gets done to enable organizations to quickly adapt to the ever-changing needs of the hybrid workforce. Investing in the right digital workplace technology is critical in optimizing your day-to-day business operations for better efficiency, and to support long-term business growth.

The move to hybrid work has transformed many workplace technologies and processes to cater to flexible and remote work, including office printing. Today, the need for seamless and remote print management infrastructure is an essential part of a successful digital workplace strategy, and organizations need to rethink the management and execution of their print environment to be able to support all working conditions today and in the future.

Investment priorities over the next three years

71% of CEOs plan on increasing investments in digital transformation.

61% of CEOs expect to invest in cost efficiency initiatives.

Defining the goals of adopting new workplace technology



Accelerating meaningful digital transformation

Business applications, connectivity and office print solutions are constantly evolving. However, making the right digital workplace investment requires a sound understanding of your employee and operational needs, as well as its alignment in supporting your business objectives. Choosing the right digital workplace solutions also need to consider ease of deployment, scalability and strong cyber security measures.

Providing employees with digital workplace solutions that are tailored to their work environment and needs encourages better collaboration and engagement. It also transforms your organization to be more digital-forward and set itself up to build an agile IT infrastructure that will endure and support changing working conditions.

Improve revenue growth

Many organizations find themselves with a need to conserve capital and underprioritize investments in digital workplace technology. However, the last few years have shown us that market, customer and employee needs are constantly evolving. Competitiveness for most businesses depends on their ability to keep pace with the rapid rate of technological change or risk lagging behind more nimble competitors.

Digitizing day-to-day business activities across the entire organization leads to better optimization of processes and workflows that result in greater productivity, drive innovation, operate more cost-effectively, improved customer experiences and positively impact the bottom line.

80%

of organizations that have completed digital transformation projects report increased profits.

85%

of organizations that prioritized digital transformation say they have increased their market share.



Leverage technology for a more sustainable business model

Employees today need instant access to efficient digital tools and applications to be able to stay productive while also expecting flexibility in where or how they work. But building the IT infrastructure required to support this new world of work may be overwhelming for most organizations — not only from a capital investment perspective but also from a time and bandwidth perspective. As a result, organizations may be inclined to continue using outdated or legacy systems and find ways to make them fit for hybrid work. These systems often rely on-premises applications and maintenance which put a strain on IT resources, especially with a distributed workforce.

In today's hybrid work, your technology infrastructure connects your people to each other and to the resources and information they need to do their work. Digital workplace solutions empower organizations to better manage processes, leverage data and analytics to gain insights on growth opportunities, and seamlessly integrate processes to support both in-office and remote employees. A digital-forward organization is also more agile to quickly respond to changing market needs, is better equipped to navigate uncertainty and mitigate risks, and create a more sustainable business model.

64% of employees would like to see their company invest in better technology.

A hybrid workforce empowered by cloud-based solutions

The shift from a remote to a hybrid workforce is the future of work. Using cloud technology is no longer optional – it's a necessity. Organizations are moving towards an "anywhere operations" model that allows them to produce, and deliver products and services from anywhere in the world.

Cloud-based solutions can help improve the productivity of your workforce and attract and retain top talent who expect to make use of the most current technology available. Moving to a cloud-based solution is a practical way for your organization to go digital and become future-ready. In addition, the responsibility for maintaining security, ensuring data backup, and developing a technology infrastructure that can grow with your organization is shifted from your IT team to the cloud service provider, freeing up your IT team to focus on more strategic priorities.



Leveraging cloud technology is a simple and powerful foundation for a solid digital transformation strategy

In remote and rapidly changing work environments, organizations can leverage the agility, scalability and automation of cloud technology; and forward-looking organizations are moving their IT services and infrastructure to the cloud.

Yet when it comes to an organization's print infrastructure, it often falls out of their cloud infrastructure strategy due to the assumption that migrating to the cloud is too complex, unsecured and would put a strain on IT and capital resources.

What is important to note is that on-premises and outdated print infrastructure are not sustainable and are costly to maintain. Organizations of all sizes should be able to securely manage and execute their print infrastructure from a cloud platform and eliminate the dependency on physical or legacy print infrastructure. This is especially true with hybrid workplaces as access to technology, including print devices, is important for employees to work, communicate and collaborate while being in different locations

Furthermore, many cloud print platforms feature advanced analytical tools and reporting, turning print data into valuable business insights. Although the type of data you target will depend on your business or operational goals, the real value of these data is that it can help inform strategy and decision-making to streamline operations, cut costs and meet its corporate sustainability goals. Ultimately, usage data and insights can be used to better optimize your print infrastructure more cost-effectively and create a positive impact on the bottom line.

Adopting cloud technology and moving to a cloud print infrastructure come with many benefits. However, organizations often struggle to successfully implement or are reluctant to get started for varying reasons.

Top cloud challenges in 2022

56%

lack of understanding of cloud security and compliance best practices as a major challenge.

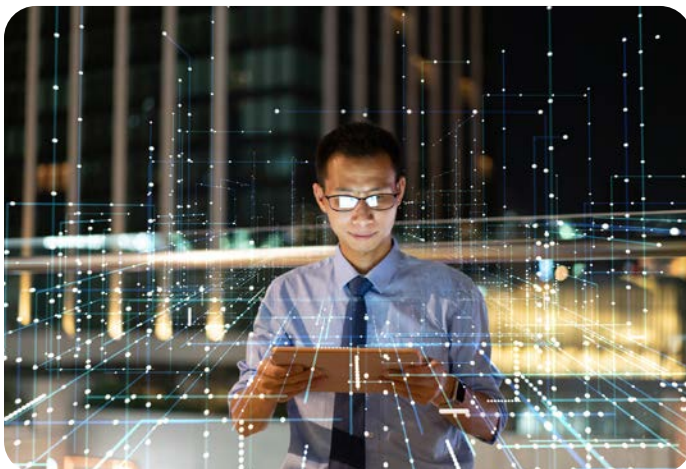
55%

lack of a clearly defined business case for the migration.

44%

insufficient planning

Cloud migration challenges and opportunities in 2022



For organizations looking to get started or enhance their current print infrastructure to migrate to the cloud, what are the key considerations for a successful migration strategy?

Getting started with modernizing print infrastructure

Identify the part printing plays in future growth

The very first step to modernizing and migrating your print infrastructure to the cloud is to understand the part it plays in future growth, and how it can help support your business transformation strategy. Important questions to consider include – how will it impact the operational productivity and enhance the user and customer experience? What are the technical risks involved, data centre redundancy measures, uptime guarantee in the event of a disruption? And last but certainly not least, how secure is the platform or service against cyber threats? Answers to these questions can provide insights into what you need from a cloud print service provider and their ability to scale with your changing needs as your business evolves.

Understand your current print challenges

Identify the challenges associated with your current print infrastructure and how it can be improved, optimized and support the needs of your hybrid workforce. Areas to explore are:

- User devices
- User work environment
- Network
- Print drivers
- Print Servers
- Printer access and locations

The role of the print server in supporting your hybrid workforce

Print servers are an integral part of an organization's day-to-day processes, especially in the traditional office setting. In a hybrid work environment, there are other factors to consider including a seamless remote printing experience regardless of network and location, as well as managing and monitoring print devices remotely. Having a sound understanding of the role of the print server to meet the needs of your hybrid workforce can help guide your assessment in choosing a cloud print infrastructure and service provider.

- **Printer deployment** – deployment is either done centrally by IT through a guided policy or enables self-service for users
- **Printer administration** – centralized management of printer ports, storage of print drivers, access control etc.
- **Group policies** – central management and configuration of users' settings and authentications
- **Queuing print jobs** – management of print jobs to accommodate large print volumes and requests for quick turnaround times
- **Print driver management** – print drivers are usually stored locally at the print servers and allow users access to download as and when required, and IT centrally manage print driver updates
- **Pull printing** – print jobs are sent to a print queue and prior to documents being released for printing, the user needs to first authenticate themselves at the printer



Consider the challenges of your IT resources

Do you currently monitor print-related maintenance issues across your entire organization on a continuous basis? Are you able to proactively keep all of your printer devices up-to-date and well-maintained? How much time does it take for your IT team to monitor and maintain all of your print devices? These are some questions to ask when trying to determine whether to keep your print infrastructure on-site or migrate to a comprehensive cloud print management platform.

You may also want to consider that traditional or legacy print infrastructure requires regular maintenance, and puts a strain on your IT resources to troubleshoot errors from print drivers and queue management – regardless of the size of your organization. Furthermore, your IT team can be bogged down with tedious maintenance tasks of keeping on track with system upgrades, patches, security and virus scanning, etc.

When looking for a cloud-based print management platform, partner with a provider that is able to manage and monitor your print infrastructure better than you can. Look for a service provider that can ensure a proactive approach to resolving print issues remotely and on-site, ultimately reducing downtime and improving the performance of your devices.

Network and security considerations

To help safeguard your data, documents and other proprietary information that will be shared over your cloud print ecosystem, ensure that your infrastructure includes:

- Swipe card or pin authentication
- Device data encryption
- Device port closures
- A system that overwrites latent data on your print devices' hard drives
- Continuous monitoring and patching of software and servers
- Continuous monitoring and configuration of security settings

If data privacy and security are concerns, transition to the Software as a Service model (SaaS) to help ensure that security features and patches are fully managed and always kept up to date. Specifically, look for a service that continuously monitors and updates the security configurations of your print devices, and performs third-party penetration testing on the service software and infrastructure. A cloud print service provider that offers this level of support should also provide 24/7 monitoring and alerting for more visibility into your overall print infrastructure.



Key areas of focus for a successful print migration to the cloud

Server architecture

Consider the ability to scale up and down according to business needs. Organizations should also factor in multi-tenancy requirements – which enables to share server resources.

IT administration

The key is to automate IT administration tasks that require minimum or no human intervention to mitigate the strain on your IT resources, allowing them to focus on more strategic priorities. Enable the ability for your IT teams to leverage a web-based management console providing an overview of all sites, printers and users from a single pane of glass. Your cloud print solution should also enable self-service for users to easily add devices or simplify the process of adding print devices by only displaying those available locally to them.

User experience

User adoption and change management is the key to ensuring an improved user experience. Better yet, IT teams need to ensure that users should have a seamless printing experience during the migration, with little to no frustration. Users should easily self-install a new printer or have access to secure mobile printing. Combined with pull printing, an organization can enable their entire user population to a single global print queue that caters to every device (regardless of manufacturer), in every site (regardless of network or even country).

Network and security

Ensure there are no single points of failure despite temporary interruptions to an internet connection, and moving to the cloud should enable customers to have a high availability architecture by default. Your new print platform must be able to control its bandwidth utilization, while delivering print jobs at a speed acceptable to users. It should also support true cloud identity management, enabling your organization to manage identity across multi-domain, multi-tenancy environments.

All effective print platforms should adhere to defined cloud security principles – ISO 27001 or SOC2 compliance. These standardized levels of security will likely require end-to-end data encryption.



The hybrid cloud platform

The hybrid cloud platform is an all-in-one cloud-hosted print solution that requires:

- No complex set-up
- No complex or expensive IT infrastructure requirements

A hybrid cloud combines the best of both worlds of on-premises private and public cloud hosting services. An organization benefits by keeping control over mission-critical data and applications as with an on-prem solution (private cloud), while leveraging off-premises resources (public cloud) for cost-effective long-term data storage, and shared access to powerful computing assets and services the organization could not implement as cost-effectively on its own.

Hybrid clouds offer flexibility to shift workloads between clouds and spin up new virtual assets as needs change over time. With the proper software tools in place to connect them all for efficient communications between each service, IT administrators can manage the entire cloud environment from a single pane of glass.

The primary driver behind the shift to a hybrid cloud strategy is flexibility. Flexibility to scale, move workloads, launch new applications, and quickly recover from service interruptions. Organizations have the flexibility to choose from several configurations including public cloud hosting, on-premises private cloud, or a hybrid of the two. Depending on your current and future business needs, it can also be easily scaled to adapt to your future cloud strategies.



A properly implemented hybrid cloud strategy brings the following benefits to an organization:

Customized environments

Organizations can select the environment that best suits their current applications to maximize accessibility and minimize costs.

Business continuity

Having some computing assets managed at off-prem data centres provides redundancies that protect data integrity and availability in the event of a natural disaster, cyber attack or service interruption. A hybrid cloud reduces risk and speeds recovery time should either the private or public cloud experience an outage for any reason, and eliminates the need for IT to perform regular backups and store copies of the entire environment.

Support for hybrid and remote workforces

Properly authorized employees have global access to information and can work from anywhere with an internet connection. Applications can be deployed, and updates can be rolled out to team members and devices wherever they are.

Cost reduction

Transferring some services and applications off-premises reduces internal costs and offers accounting advantages by reclassifying capital expenses (CapEx) as operational expenses (OpEx). It also enables organizations to reduce manpower expenses and maintenance costs related to upgrading on-prem hardware and servers. Further, a hybrid model requires much less on-prem, data centre space and infrastructure support compared to a strictly private cloud. That translates into thousands of square feet of data centre space and computing assets that need not be built, powered and managed by the organization.

Reduced maintenance and upgrades

Another labour and cost-saving advantage of a hybrid cloud is that the responsibility for maintenance and application upgrades is on the managed service provider (MSP), being part of the Service Level Agreement (SLA) package. The MSP is responsible for ensuring all applications, and cyber threat detection and prevention measures are up to date and running smoothly, alleviating the burden on in-house IT administrators.



Factors to consider when choosing your cloud print solution

- Cloud printing solutions come in varying forms and operating structures. 'Infrastructure as a Service' where the management and maintenance of the system are managed internally; or 'Software as a Service' (SaaS) where it can be managed from a single centralized location
- A good cloud printing solution should be able to accommodate both on-premises private and public cloud hosting services without sacrificing features and security
- Has the ability to support a mixed fleet of printers from all major multifunction printer (MFP) brands
- Security compliant with local and international laws/legislations, and clearly defines where data is located (i.e., data sovereignty law)
- Has the flexibility to allow you to quickly scale based on your changing operational needs and has monthly or annual subscription fee options that fit your OpEx budget

RICOH Print Management Cloud

Print Management Cloud (PMC) is a unique, all-in-one print infrastructure solution, enabling organizations of all sizes to benefit from the agility and innovation of cloud technology.

Designed for organizations looking to reduce their IT burden and cost-effectively realize the SaaS solution to manage their print infrastructure, our all-in-one hybrid print platform offers:

Serverless printing

Reduce the cost and complexity associated with a traditional print environment. PMC lessens the burden on IT, removes reliance on print servers, enables centralized management, and virtually eliminates common IT helpdesk pain points.

Single print driver

PMC offers a true single print driver that includes full finishing options for all the latest multi-functional devices, making it possible for everyone to print to any device, and helps improve employees' productivity while reducing maintenance and support.

One solution hosted anywhere

PMC can be delivered as a hosted SaaS offering or installed as an on-prem private cloud.

Automate administrative tasks

Enjoy hassle-free printing, with immediate end user fulfillment/device provisioning. There is no need to install and maintain multiple print drivers for all your different printers. PMC makes it easy to deploy and control the entire printing infrastructure from a single web-based interface.

Best-in-class security

PMC is designed to protect your data with features including end-to-end server to hardware encryption, user authentication, auditing functionality, and integration with cloud-based authentication.

PMC is ISO/IEC 27001 certified which includes SOC2 compliance as well as a commitment to continual maintenance and improvement to ensure what's secure today stays secure tomorrow. With Canadian data sovereignty, RICOH PMC helps protect your private and confidential information and avoids other countries from acquiring that data.

Multi-tenant platform

Create your own print environment on PMC multi-tenant platform, and replace existing Windows and Mac-based print infrastructure in less than ten minutes.





Empowering the future of the workforce

As businesses of all sizes reimagine the future of work, agility and flexibility are key drivers of building resilience and improving business continuity.

In today's hybrid work, shifting to a technology ecosystem that enables better workflow automation, seamless collaboration and efficient communication will support businesses for sustainable growth, drive productivity and support all working conditions today and in the future.

Despite impacting printing in the office, hybrid work won't signal the demise of office printers. Instead, the need for organizations to rethink how print is procured, monitored and managed is more important than ever before. But one thing is clear, just as every organization is unique, so are their print infrastructure requirements. There is no one-size-fits-all solution. The proper implementation of a cloud-based print strategy should be undertaken along with guidance from a partner who can help identify workload distribution priorities, build a roadmap for your digital transition, and streamline cloud services – all without compromising on security.

While workplace innovation has been happening for decades, never has it been at the speed and scale we have seen recently. As hybrid work pave the way for the future, Ricoh can support your digital transformation journey with solutions to help you redefine work and **change. For better.**

Discover how your organization can benefit from [RICOH Print Management Cloud](#) today.