

Cloud Print Services Landscape, 2024

How cloud adoption is driving print infrastructure modernisation



Executive summary

As the era of hybrid work becomes embedded, organisations are increasingly focused on digital transformation and the need to build a resilient IT infrastructure capable of adapting to the future. For many, the cloud has underpinned this journey, with its high availability, flexibility, and scalability helping businesses become more agile, while simultaneously helping them build resilience through advanced data compliance and security. The cloud can also help organisations manage both financial and environmental costs more closely than is possible when operating a traditional on-premise environment.

Cloud-based print management can reduce the burden on IT teams and lower both financial and environmental costs associated with procuring and managing print servers. Conventional print management typically relies on on-premise print servers and incurs a high IT administrative burden to manage driver installation, device configuration and compliance, device monitoring, reporting and management, server and queue management, firmware updates, and app deployment and maintenance. However, a cloud-based model removes the need for many of these tasks. As in-house teams work towards full digitisation, they will be grateful for any efficiencies to lessen the responsibilities placed upon them.

Although many organisations believe the cloud to be more secure than an on-premise environment, some consider security concerns to be the main barrier to cloud print adoption, along with unclear cost benefits and doubts about functionality and performance. Many are increasing their print server fleet simultaneously with their move to cloud services, which suggests hybrid models will become dominant in the immediate future.

Most print manufacturers and ISVs offer cloud-based solutions and services to cater for the different public, private, and hybrid cloud approaches customers are pursuing. Cloud print services and solutions encompass serverless printing, cloud-based print management and remote monitoring, and hybrid cloud print management platforms, which may be managed internally or by third-party managed print services (MPS) providers. Cloud print services may also include other adjacent services and solutions around digitisation, workflow, security, and collaboration.

This report highlights key market trends for cloud print services, covering offerings from both manufacturers and independent software vendors (ISVs). It draws on primary research conducted by Quocirca in 2024.

Key findings include:

- **The cloud print market is characterised by a diverse range of offerings from print OEMs and ISVs.** In Quocirca's assessment of the cloud print services market, which includes the major MPS providers, Xerox is considered to have the broadest cloud print services portfolio, covering secure print and capture along with comprehensive reporting for both enterprises and SMBs. Other vendors in the leadership category include Canon, HP, Konica Minolta, Lexmark, and Ricoh. Major players include Brother, Kyocera, Sharp, and Toshiba.
- **Cloud print management solutions have been widely adopted and will continue to grow.** According to Quocirca's latest research, 69% are already using a cloud print management solution, rising from 55% in 2023. The majority continue to operate a hybrid cloud environment, with 74% saying they manage their print environment using a mix of on-premise and cloud. Although just 4% say they manage their print environment fully in the cloud now, this rises to 18% believing that their print environment will be fully in the cloud by 2026.
- **IT admin tasks associated with traditional print driver deployment is a major challenge.** Overall, 49% indicate that the IT administration burden is the top challenge, followed by the complexity of print driver deployment (42%). Security risks are also a key challenge, with 38% indicating that potential security risks due to outdated drivers not being updated are a concern, rising to 43% among organisations with over 1,000 employees. For providers, taking on as much of this burden as possible and removing it from the organisation's IT team will be seen as positive across the board.
- **Despite the transition to the cloud, many are deploying more print servers.** Despite the tangible benefits of reducing or eliminating print servers, only 14% of organisations are doing so. Overall, 58% of

organisations plan to increase the number of print servers in the coming year, rising to 71% in the US and 68% among those working in finance organisations. Companies that consider print critical or very important are more likely to be increasing the number of print servers than those less reliant. The need to support a more distributed workforce may be leading this increase in print server deployment as more workgroup printers are introduced, although this will create challenges for IT teams, especially around administration, managing complexity, and security. It is apparent that providers are not positioning cloud-based solutions strongly enough – and this may have long-term consequences as more of an organisation's overall IT platform moves to the cloud.

- **Organisations operating a multivendor fleet are more likely to have increased the number of print servers.** In this study, 73% of respondents indicate they operate a multivendor fleet. Over two-thirds of these (68%) have increased their print server volume, compared to just 34% of those using a standardised fleet. Although this reflects the traditional on-premise model of managing a multivendor fleet, 53% of those operating a multivendor fleet say their top print management challenge is IT administrative burden, compared to 43% operating a standardised fleet. This should be seen as a major opportunity for providers: lowering the IT administrative burden is a way of freeing up IT staff's time to work on areas that add to an organisation's overall value.
- **Security is the top barrier to cloud print management adoption.** Overall, 32% of respondents say protecting corporate data is a top concern, rising to 37% in the US and 41% in the industrials sector. This is slightly lower than seen in 2023, in which 36% cited security as a barrier. Functionality is the second most prevalent concern, with one-quarter (25%, rising to 30% in France and 28% for larger organisations) citing this as a barrier, and lack of demonstrable cost savings and impact on performance come in joint third place overall (24%, respectively). Providers do not seem to be getting messages across as to how much better the cloud can be in managing security through managing zero-day threats more effectively, or how data sovereignty can be more easily managed through cloud policies.

Contents

Executive summary.....	2
Vendor landscape – Cloud MPS vendors	5
Vendor profile: Ricoh.....	6
Buyer recommendations.....	8
Supplier recommendations.....	9
About Quocirca.....	11

Vendor landscape – Cloud MPS vendors

Quocirca’s vendor landscape for the cloud print services market includes the major MPS providers offering cloud-based services (Figure 1). Independent software vendors (ISVs) have not been included in this vendor landscape. This evaluation of the cloud print services market is intended as a starting point only. Please note that Quocirca’s scoring is based on an unweighted model, and prospective buyers should use this as guidance alongside the more detailed vendor profiles to assess suppliers based on their specific requirements.

Quocirca has based this landscape on vendors’ completeness of offerings and strategies across the following key areas:

- **Overall cloud strategy and vision.** The comprehensiveness of the vendor’s cloud strategy, the quality of its overall value proposition, and its future roadmap.
- **Maturity of offerings.** How long the vendor’s cloud print services offering has been established in the market.
- **Geographic reach.** A vendor’s geographical reach, either via direct engagement or through the channel.
- **Breadth and depth of service offering.** Provisioning, deployment, and implementation of cloud-based print services, as well as support for hybrid cloud models.
- **Multivendor support.** Support for a mixed-fleet environment.
- **Digital workflow automation.** Adjacent cloud-based services to optimise print and digital workflow automation.
- **Cloud security and zero trust.** Approach to zero-trust and cloud security models.
- **Analytics and reporting.** The breadth and depth of capabilities to provide analytics and reporting.
- **Channel tools.** Flexible cloud platforms to support channel partners.

Vendors are categorised as:

- **Market leaders.** Vendors that lead the market in both strategic vision and depth of service offering. Leaders have made significant investments in their service portfolio and infrastructure, and are supported by strong delivery capabilities.
- **Major players.** Vendors that have established and proven offerings on a regional basis, and may be more focused on a single brand environment.

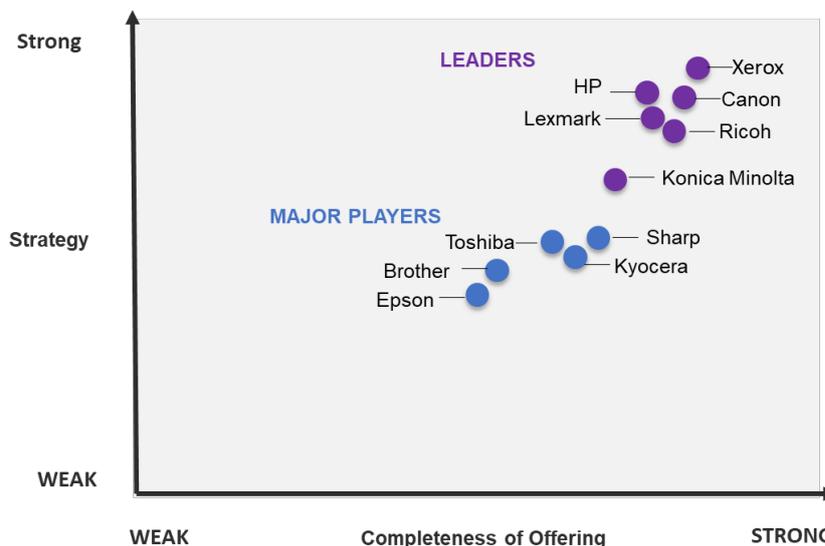


Figure 1. Quocirca Cloud Print Services Landscape, 2024

The Quocirca Vendor Landscape is a graphical representation of Quocirca’s opinion of the market and is based on Quocirca’s scorecard methodology. This information is provided as a visual representation only and should be combined with other sources to determine the suitability of any vendor. Quocirca does not endorse any vendor, product, or service. Information is based on the best available resources and opinions that reflect judgement at the time. All opinions are subject to change. Where a vendor does not submit a survey, Quocirca bases positioning on analyst knowledge.

Vendor profile: Ricoh

Quocirca opinion

Ricoh is positioned as a leader in Quocirca's assessment of the Cloud Print Services market in 2024. Ricoh offers a comprehensive portfolio of cloud print services that enables it to deliver public, private, and hybrid hosting options with either Ricoh-developed solutions, which give the best experience on Ricoh devices, or those of strategic partners for mixed vendor fleets.

The global RICOH Smart Integration platform was launched in 2018, and RICOH CloudStream in 2021. At the beginning of 2024, Ricoh USA introduced the IoT Command Center, a comprehensive platform that monitors and manages connected devices. Key features and capabilities include device status reporting and monitoring, remote device configuration, and remote device control.

Ricoh's strategy is to offer flexibility, scalability, and simplicity in the cloud print architecture, its administration, the commercial model, and the range of associated services. The vendor is driving innovation in its products and services to ensure it delivers seamless cloud-based print and capture with robust security, as well as an efficient intuitive employee experience, as demand from customers looking to transition to the cloud continues to increase.

Cloud printing now forms an essential part of its core managed print service. In the Americas and EMEA, Ricoh MPS includes options for monthly device-based subscriptions that combine print hardware with cloud print and capture solutions, cloud device management tools, end-to-end management services, onboarding, implementation, support, and analytics. In the past year, over one-third of all SMB customers had a cloud print solution sold alongside a Ricoh MFP, and following a campaign of training and enabling channel partners with cloud print and capture solutions, in FY23 Ricoh doubled the sales of RICOH Smart Integration through its channel.

Of note is Ricoh's focus on customisation and integration. With RICOH Smart Integration, customers can tailor the cloud print solution to their specific needs and integrate it with other systems and workflows.

Ricoh also has a strong focus on security and is committed to implementing security by design, which ensures information security from the planning and design stages. Its cloud print solutions include a range of security features, such as user authentication, encryption, and secure printing, and it offers a range of additional services that help businesses improve productivity and reduce costs. It has established in-house regulations based on ISO/IEC 27034-1 and is working on early response to vulnerabilities based on ISO/IEC 29147/30111, an international standard for vulnerability countermeasures, such as alerting the status of response to vulnerabilities with risk of high cyber-attack.

RICOH Streamline and RICOH CloudStream offer additional security features, such as vulnerability audit services, remote management, and auto-updates for device certificates, settings, and firmware, as well as options for data masking in reports.

Product overview

Ricoh offers three proprietary cloud print solutions, as well as third-party ISV platforms, enabling it to tailor the approach and experience for different customer segments.

RICOH Streamline NX

This offers an advanced suite of features and capabilities, including device monitoring and management, enterprise output management, secure print release, user authentication, rules-based printing, mobile printing, quota and payment services, job accounting, and analytics. Aimed at the midmarket and enterprise sectors, Ricoh Streamline NX is sold as a device-based perpetual licence plus M&S, with options for different features (base, print, scan). It will move to a subscription licence in the second half of 2024.

RICOH Cloud Stream

Designed to meet zero-trust requirements, RICOH CloudStream is a global cloud print platform with a multi-tenant SaaS option or options for private and public deployments. It is sold as a fixed-term subscription, licensed by device, with options for core, enhanced, and device management. Customers benefit from multivendor support for print and scanning management, and device management can be performed remotely, allowing for status monitoring, remote firmware updates, policy management, and device settings changes without having to send engineers on site. Additionally, reporting and dashboard features, such as auditing, print usage, and power usage, enable admins to effectively monitor and optimise the print environment.

RICOH Smart Integration (RSI)

RSI is aimed at the SMB and partner channels and provides cloud-based apps and document workflow integration across devices. Apps connect printing devices to third-party cloud services, making information instantly accessible, ready to use and share. RSI includes an advanced cloud capture service, which leverages AI with key value pair data extraction and validation to intelligently route documents. As it can capture from Ricoh devices, PC, and email, it can be used in any workplace environment or on any device to enhance document capture and workflow. RICOH Smart Integration is sold as an annual subscription by device, with options for different packages and apps.

Key differentiators

- **Comprehensive cloud portfolio.** Ricoh's offering includes print management, device management, capture and workflow, enterprise output management, mobile printing, quotas, budgeting, and payment services.
- **Flexible deployment options.** The RICOH CloudStream platform is positioned across all channels. A key differentiator is its flexibility and scalability enabling customer choice across multi-tenant public cloud services. It offers options for pure cloud, five regional data centres, or gateways for local networks, or in a more controlled single-tenant deployment, on-premise, private, or public cloud environments.
- **Global multivendor cloud platform.** RICOH CloudStream provides customers with a seamless workplace print and capture experience on Ricoh devices, as well other brands in a mixed-fleet environment, in any region globally.
- **Global Solutions Support Centre.** This offers enhanced SLAs and services for international and global customers, in addition to local in-language teams, providing a complete cloud-managed print service.
- **Customisation and integration.** With the RICOH Smart Integration platform, which provides cloud-based apps and document workflow integration across devices, Ricoh enables customers to tailor the cloud print solution to their specific needs and integrate it with other systems and workflows.
- **Robust security.** Ricoh solutions support zero-trust architecture, high availability, and remote management.

Buyer recommendations

The market has been going through a complex period, with a mix of proprietary print management systems mainly using on-premise platforms now beginning to move over to a more standardised cloud-based platform. However, this does not mean a full cloud-only platform will be right for everyone. The key is to find a platform that meets your organisation's needs now, but that also has the flexibility to change to meet future needs – and adapt to changes in future technologies.

Although many organisations will still have dependence on print management software installed on physical on-premise servers, many should now be finding ways to migrate away from such systems toward something that is more flexible. Serverless platforms, whether via public cloud or on-premise virtualisation, make particular sense to SMBs, as well as to larger organisations looking to minimise the number of print servers they are operating.

The cloud print services market continues to evolve. There is a move away from cloud-based systems, with only a low amount of per-device functionality via early-generation universal print drivers, to ones where the default functionality is almost equivalent to that obtained via complex and hard-to-maintain dedicated drivers. This is then leading to better support for mixed printer fleets and freeing up IT administrators to concentrate on adding value to an organisation's business. However, buyers must ensure that the solution chosen is suitable for the organisation's needs.

- **Evaluate functionality carefully.** There may be significant disparities between on-premise and cloud print management solutions. Ensure that prospective solutions can deliver the features you need, such as pull printing, analytics, and reporting.
- **Explore the differences between on-premise, hybrid, and fully cloud.** On-premise solutions are expensive in both direct costs and ongoing management. However, although a full cloud-based platform may offer fixed pricing and lower needs for administration, it may not meet the organisation's needs around security and data sovereignty. For many organisations, this will result in the use of hybrid solutions, with some parts of the print environment managed on-premise and others in the cloud.
- **Compare universal and dedicated print drivers.** Historically, universal print drivers have only provided basic functionality across a printer fleet – even where it is a standardised fleet. Organisations often had to implement dedicated drivers to support the advanced functions of the more complex MFPs. Now, however, universal drivers are improving and beginning to compare favourably against dedicated drivers. Buyers must evaluate what they require and ensure they get what they need.
- **Factor document security demands into decision-making.** Buyers should look for data encryption throughout the whole print management process. Alongside this, they should also evaluate information protection support such as data leak prevention (DLP) and digital rights management (DRM). These are unlikely to be included in the basic product, and therefore buyers need to ensure that third-party solutions can be easily integrated into the print management system.
- **Implement output security tools.** Buyers need to ensure that any chosen solution also allows for user authentication at any device using smart card release or other forms of near-field communication (NFC)/Bluetooth, biometrics, or PIN printing. This not only provides increased information security, but also cuts down on paper and toner/ink wastage.
- **Adopt identity access management and multi-factor authentication.** Identity management is becoming a much stronger focus for many providers, with integration into existing identity access management (IAM) systems on offer. Buyers need to ensure that a chosen solution allows such systems to be directly integrated.
- **Ensure zero-trust support is available.** The print environment must now be seen within the broader area of IT and information management. As the attack surface offered by intelligent devices both in the home and at the office increases, printers are increasingly being targeted as a means of accessing an organisation's network. Buyers must ensure that any chosen system fits within their organisation's security posture and existing security tools – not just for now, but also for the future. Zero-trust architectures are

designed to create a cohesive security approach – buyers should ensure that any solution fits in with such an approach.

- **Analyse reporting and analytics capabilities and integration.** Print management solutions offer extensive reporting on printer utilisation, device performance, consumables usage (toner and paper), and service information. With print devices now being sophisticated internet of things (IoT) devices, there is a growing need to ensure that data can be aggregated via other systems. Buyers should evaluate solutions as to their integration with traditional business intelligence tools, along with advanced reporting around environmental analytics and user behaviour.
- **Seek clarity over pricing models.** Pricing models for cloud print management software platforms should be considered, as these can vary. Some providers offer per-device, per-user, and per-queue models. This can have an impact depending on how many users or devices are deployed, particularly where hybrid working needs to be taken into account. Buyers need to ensure that flexibility as to increasing or decreasing numbers of devices or users, as well as fluctuations in throughput, are allowed for.

Supplier recommendations

The cloud has continued to become more mainstream – although some users have found that their approach was ill-considered, and ‘cloud repatriation’ (a move back to on-premise) has occurred in a few cases. To cover all bases, a mixed capability of equally functional cloud and on-premise solutions will allow customers to move along the cloud journey at their own pace – even retreating from the cloud if they feel that they made the wrong decision. Suppliers of cloud-based print services and solutions should consider the following:

- **Offer education and consultancy to address buyer uncertainty.** Print buyers have not historically been general IT buyers. As such, the print environment has been slower than other areas of IT infrastructure in its move to the cloud. Increasingly, print is being seen as part of IT, and this is accelerating the migration of print to the cloud. This must be a wakeup call to the channel to ensure that MPS solutions are fit for the cloud – or are cloud-native. Customers do still need educating on why a move to cloud-based MPS makes sense – arguments around availability, more manageable costs, and better updating of available functionality should be used as preliminary discussion points with any customer (or prospect) still wary of such a move.
- **Adapt solutions to customer cloud preferences and maturity.** Few organisations are operating on a single-cloud platform. Due to the nature of providers setting up on different underlying cloud architectures, most organisations will be using multiple different platforms. Although the ultimate goal around cloud usage may be a hybrid or single-cloud model for organisations, those selling cloud-based print management solutions must recognise that each variant of the cloud offers its own advantages and obstacles to adoption. Standardisation on how MPS services operate will make interoperability across such disparate clouds easier.
- **Ensure security is adequately addressed.** Cloud security is still not fully trusted by end users – even though the majority of cloud platforms have demonstrably better levels of security than most on-premise platforms. Providers must be able to address such perceptions and demonstrate (via use of security standards such as ISO:27001) that the solution is highly secure and meets all their needs.
- **Look to integrate with existing security platforms.** Building all security into an MPS solution is both ill-advised and expensive. Identity access management (IAM) and security information and event management (SIEM) systems are already widespread in the market, offering mature security solutions. The channel should look to integrate into systems that are already strong in the enterprise environment, such as Okta and Ping Identity for single sign-on (SSO)/IAM and Cisco Splunk, LogRhythm, and Fortinet for SIEM systems. At a minimum, multi-factor authentication (MFA) systems should be implemented, preferably using biometrics or mobile device-based apps.
- **Accelerate the move from a traditional to a consultative mind-set.** The future of the channel is no longer a transactional model that depends on the customer acquiring new devices or automatically renewing maintenance annually, but one that works with the customer to uncover extra areas where more value-

add can be built in over time. Successfully working with customers in this manner will lead to extra revenue accruing for the provider.

- **Look outside print-specific offerings to adjacent services.** Alongside cloud-based print management services, providers should look at other workplace services, particularly in the areas of collaboration, videoconferencing, managed desktops, and workflow. These can be low-hanging fruit where good margins can be made. Working with other suppliers in areas such as managed security and other managed IT services is also possible.

About Quocirca

Quocirca is a global market insight and research firm specialising in the convergence of print and digital technologies in the future workplace.

Since 2006, Quocirca has played an influential role in advising clients on major shifts in the market. Our consulting and research are at the forefront of the rapidly evolving print services and solutions market, trusted by clients seeking new strategies to address disruptive technologies.

Quocirca has pioneered research in many emerging market areas. More than 10 years ago we were the first to analyse the competitive global market landscape for managed print services (MPS), followed by the first global competitive review of the print security market. More recently Quocirca reinforced its leading and unique approach in the market, publishing the first study looking at the smart, connected future of print in the digital workplace. The [Global Print 2025 study](#) provides unparalleled insight into the impact of digital disruption, from both an industry executive and end-user perspective.

For more information, visit www.quocirca.com.

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