



*Cloud Portal Office for Your Business*

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## Abstract

This white paper introduces the concept of cloud technology and discusses current trends in the use of cloud technology for business applications. It helps explain why companies should embrace cloud services as a part of the IT landscape and addresses key issues that should be considered as the transition is made, all within the context of Sharp's business product offerings. These include the Cloud Portal Office service and Sharp's full range of compatible AQUOS BOARD™ Interactive Display Systems and Sharp® multi-function products (MFPs).



## Executive Summary

Decision makers struggle with how to get started with a cloud deployment. A common starting point often includes cloud services that enable easy, secure sharing of information as well as provide a centralized, accessible content repository. This typically allows both traditional and mobile platforms to access the information, regardless of location. The competitive advantages in productivity gains as well as the cost savings make cloud based service a valuable component with an organization's IT platform.

## Introduction

According to International Data Corporation (IDC), “Cloud” is shorthand for accessing shared IT resources “on-demand” over the Internet. By leveraging economies of scale and broadband Internet access, the cloud provides a cost-effective platform to access a wide variety of computing resources and applications.

**Easy access to information—anytime, anywhere—is imperative in today’s competitive business environment, and has led to many businesses incorporating cloud services into their IT infrastructure.**

This rapid growth includes back office applications (e-mail, network monitoring, etc.) as well as front office applications (file sharing, document archiving, etc.) and has been fueled by both the need for scalability as well as an increasingly mobile workforce.

## Cloud Technology

Today, anyone with a computer or mobile phone has unrestricted access to multiple third-party cloud services. The upside: fast, easy file sharing. The downside: lack of business oversight.

Exactly who is storing, sending, viewing and printing documents? Is it someone inside or outside the company? What are these documents? Are they documents already in the public domain (e.g., sales brochures, manuals, etc.) or proprietary information (e.g., new product plans, contracts, financial reports, etc.), or somewhere in between? What happens if a person leaves the company? How are files recovered? Without a centralized license management system, there's no way to control user access, track usage or audit document-related activity.

A cloud platform or service can implement as a private (dedicated), a public (shared) or a hybrid (combination) solution. A private cloud is for "...the exclusive use of a single organization comprising multiple customers (e.g., business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises"<sup>1</sup>. This increases safety because the service is controlled by and dedicated to one organization, however it greatly adds to the cost, as there are few economies of scale and it is not a pay-as-you-go model. A private cloud implementation requires that you either purchase hardware and software licenses upfront or pay for a fixed amount of computing power and/or software licenses whether you use it or not.

On the other hand, a public cloud is hosted on shared resources. While instances are segregated logically, the actual hardware is shared. This enabled economies of scale because you pay for the computing power, and/or license that you actually use. And, typically there is no capital investment required for server hardware, software or maintenance and it provides the greatest flexibility in allowing companies to scale up or down as demand ebbs and flows.

## What is Cloud Portal office?

Cloud Portal Office is an award-winning public cloud service, providing much more than just on-the-go access to documents, along with the necessary account management controls. For any organization seeking to build a reliable, secure document collaboration and management infrastructure, while minimizing the IT cost and burden, Cloud Portal Office is a cost-effective alternative that improves employee and business efficiency, while also helping to protect information assets.



*"Outstanding Achievement  
In Innovation"  
Cloud Portal Office*

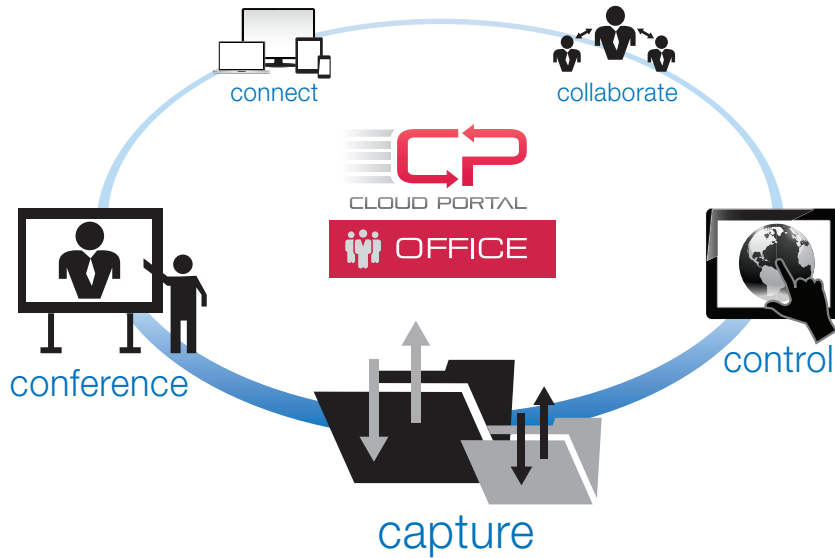
## How it Works

Both electronic files and paper-based documents are easily stored with the Cloud Portal Office system. The documents can be stored and retrieved through select Sharp MFPs, Sharp AQUOS BOARD displays and virtually any web-enabled computer, laptop, Android™ or iOS® smartphone or tablet. Essentially, this provides employees with convenient 24/7 access to business content, regardless of location or platform.

When Cloud Portal Office is integrated with Sharp AQUOS BOARD displays, documents are placed at the presenter’s fingertips. They simply sign in to access the meeting materials, slashing set-up time and keeping the focus on the discussion, and not the technology.

Readily-available information, and the ability to quickly store and distribute meeting notes, sets the stage for a successful presentation; no fumbling with a USB thumb drive or finding the right cables, connectors and power supplies. More importantly, it reduces the chances of unintentionally leaving behind files. With Cloud Portal Office Meeting Room’s unique functionality, when you sign out, access to your private files and login credentials are automatically cleared from the computer attached to the very public AQUOS BOARD display.

Sharp MFPs and AQUOS BOARD displays are intelligent office devices built with versatility in mind. While the AQUOS BOARD display leverages the operating system of the attached computer to either run or integrate seamlessly with other systems, Sharp MFPs achieve a similar level of flexibility through the Sharp OSA® development platform. This allows the MFP to be customized to address unique document workflow requirements as well as to integrate directly with cloud-based software services, such as Cloud Portal Office. You can easily scan and archive hard copy documents or retrieve and print electronic files. This integration allows you to combine both your electronic and hardcopy documents into a single repository.



Whether capturing and indexing documents at the Sharp MFP or desktop, conferencing at the AQUOS BOARD display, connecting “on-the-go,” or collaborating with team members, users can work smarter with the Cloud Portal Office service. Built for business, IT administrators can control access, manage users, reset passwords and more.

## Why Make the Move?

Supporting the ever-increasing trend of mobility in business, connecting to the cloud has never been more important. Cumbersome, error-prone paper filing and retrieval is replaced by electronic document management; Users can index (with metadata), search and share files with ease virtually anywhere. Moving to the cloud brings the benefits of streamlined deployment, flexibility to scale up or down as necessary, and minimization of IT burden.

To follow are some key questions that will help you uncover possible inefficiencies, thus offering potential cost savings:

- **Do employees use e-mail to send files back and forth during review and edit cycles?** Storing those files using Cloud Portal Office gives team members access to documents at any time, with automatic versioning to ensure identification of the most recent file. This eliminates confusion, and any possible risks associated with document inaccuracies, which may have legal or time-to-market implications. Additionally, Cloud Port Office Desktop is client software that automatically synchronizes the licensed user's files in the cloud and the Cloud Portal Office local folder on their Windows® or Mac® computer. This automatically updates both sets of files so that the user (or selected team members) have access to the latest edits virtually instantly, regardless from which device they access the files. This provides convenient off-line access when necessary and peace of mind that key files are essentially automatically backed-up.
- **Has mobility and access increased concern that team members might inadvertently share confidential information outside of the organization?** Are your employees using tablets and smartphones? How are they accessing business content on these devices? Are they using personal online sharing service accounts? Who are they sharing with? And if they were, how would you know? Cloud Portal Office is designed to allow for intra-company sharing as well as mobile access. The IT administration creates the users and employees can only share folders with users within the system. Of course, if you have trusted partners, you can use the send link feature for more controlled distribution of files externally. This allows for convenient file sharing across team members.

The ability to integrate paper documents into the system, with the included Cloud Portal Office Scan and Print capability will provide the added benefit of allowing you to save on shipping costs between locations for large paper-based documents.

**Sharp Cloud Portal Office** is a secure, cloud-based content management service.

It provides...

- Unified archival and back-up of both electronic and hardcopy documents
- Centralized user and license management
- Secure sharing across teams
- Streamlined meeting experience
- On-the-go, 24/7 access to mission-critical documents

**This results in...**

- More productive, collaborative project teams
- Reduced strain on IT resources
- Improved operational efficiency
- Easier access for employees to work from anywhere, anytime.
- Full integrated business platforms, including
  - PC/MAC computers
  - iOS/Android smartphones & tablets
  - Sharp MFPs
  - AQUOS BOARD Interactive Display systems

- **Has a traveling executive, sales representative or technician ever left a proposal, presentation or manual behind?** If someone isn't available to e-mail a file or send an overnight package, what do you do? Having access to an on-demand document repository offers peace of mind; No time is lost worrying about which file version you have.

**How long does it take to set up a meeting presentation?** Another benefit is less time spent getting ready for important meetings. Cloud Portal Office Meeting Room integrates your AQUOS BOARD display into the system. This allows for seamless access to presentation data or other meeting material, which enables you to focus on content delivery while demonstrating proficiency with state-of-the-art technology. More importantly, once the meeting has ended, simply log off and Cloud Portal Office Meeting Room will automatically remove your login credentials, along with access to your content.

- **Are filing cabinets, rooms or off-site archival facilities at capacity?** Daily handling of paper is one of the greatest inefficiencies within an office; Paper is easily lost, misfiled, damaged or stolen. By simply migrating paper into a digital workflow, businesses can greatly improve efficiency, and at the same time enhance compliance with increasingly stringent federal mandates governing information privacy. Plus, a cloud-based solution provides a low-cost, low-risk way to start, thanks to the ability to add capacity as adoption, and hence, demand grows organically.

## Will Cloud Technology Integrate with Existing IT Infrastructure?

Cloud technology is highly scalable, which is why businesses of all sizes are turning to secure one-stop collaboration and document management services, such as Cloud Portal Office. With support for virtually all existing computer and mobile device operating systems (e.g., Windows, Mac, iOS, Android), Cloud Portal Office is a ready-to-deploy service that leverages existing infrastructure. Cloud Portal Office can be accessed from a broad range of business devices, effectively integrating computers, smartphones and tablets, interactive display systems and MFPs through a single service.



As you consider deployment, it is best to engage your dealer or reseller to help you address the following considerations:

- **What is required in terms of internal resources and support?** There is no need for a dedicated server or server software installation and maintenance, reducing IT complexity and overhead. Further, Cloud Portal Office provides the business administrator(s) with full control over user access, while preserving content privacy. A key benefit of this centralized management is that it helps companies maintain control of their digital content and intellectual property, which is particularly important during personnel transitions.

Each user added to the service can intuitively manage the folders they create in their workspace. This includes creation, editing and deleting content as well as sharing access, through a range of privilege levels managed not only user-by-user, but also folder-by-folder.

- **Can adoption of cloud solutions degrade network performance?** Concerns over local network speed and overloaded provider systems are valid. However, the benefit of cloud deployment is that you are



leveraging massive off-site computer infrastructure. Specifically, Cloud Portal Office service is hosted on Amazon's cloud platform, with highly advanced network architecture for superior speed, data security and reliability. This means that Cloud Portal Office users enjoy maximum file transfer speeds and built-in redundancy for uninterrupted service, so organizational knowledge is available at all times.

## Are Cloud Services Secure?

The simple answer is yes. The real answer is that security is about risk and probability. So for most business documents (e.g., marketing collaterals, manuals, forms, presentations, purchase orders, invoices, etc.) where both the risk of damage from and probability of a potential breach are low, a public cloud solution, such as Cloud Portal Office, is a secure, cost-effective way to streamline workflow and increase competitive advantage. Further, choosing a collaboration and document management service designed for business can offer much greater security than letting employees use unmanaged personal accounts.



Cloud Portal Office leverages many of today's sophisticated security technologies, ensuring that the benefit of replacing on-site IT investments with this off-site service greatly outweighs any perceived risk. For example, all file transfers, regardless of user location or communication device, are through an encrypted connection, the same technology used to secure online banking and purchasing transactions. Visibility into stored content, in the remote case should a breach occur, is greatly reduced through encryption algorithms that prevent the viewing of the content without sophisticated encryption keys.

As you consider deployment, these are some other security measures you should look for:

- **Do you have a way to track who is accessing a document and when?** Cloud Portal Office's audit log enables the Business Administrator to track user actions with a time/date stamp, providing an audit trail of all user actions, and viewable via a standard Web browser. Additionally, users can subscribe to events for example, if a particular file has been updated or deleted and receive automatic notifications, if that event occurs. Multiple safeguards are in place to increase both information security and accountability.
- **What other security measures are taken to reduce risk?** Every authorized user of Cloud Portal Office must sign in (authenticate) before access to services is granted. Sign-in activity is tracked and logged. Further, after a designated number of failed sign-in attempts, the user account is temporarily disabled to protect against hacking. For added security, sign-in credentials and document files are stored separately. To ensure that you have a sense of the source or location of the potential breach, the IP address of the requestor is logged as well. Further, the IT Administrator at the company creates users and assigns licenses to ensure that sharing of company information stays within the company. Of course, at times there are trusted outsiders that could benefit from inclusion in this system. No problem; the IT Administrator can provide them with a license. But since it's a business account, the IT Administrator can extend or terminate the privilege at the company's discretion. The Administrator can also remotely wipe documents on a mobile device through MobileIron's "Retire Device" feature.\*

\* "Retire Device" feature is available directly through MobileIron, a third party solution provider. Any reference in this document to MobileIron and its services is for informational purposes only. Sharp does not make any warranty regarding MobileIron's products or services. To enable the MobileIron "Retire Device" service, your company must be a MobileIron customer and the CPO app must have been deployed to the user as a MobileIron managed app. When a mobile device is compromised or an end user separates from the company, a "Retire Device" event is sent to the mobile device by the MobileIron administrator. For more details and subscription information please contact Kate Dietrich of MobileIron at Phone: 650-605-7044, Email: kdietrich@mobileiron.com.

In addition to Cloud Portal Office's security architecture and countermeasures, system security is strengthened by the utilization of Amazon Web Services™ (AWS) as the underlying platform.

The IT infrastructure that AWS provides is designed and managed in alignment with best security practices and a variety of IT security standards, including Federal Information Security Management Act (FISMA), DoD Information Assurance Certification and Accreditation Process (DIACAP), Federal Risk and Authorization Management Program (FedRAMP) and FIPS encryption standards, to name a few.

For additional information on AWS security, please refer to Amazon's security documents here:  
<https://aws.amazon.com/security/>

## Summary

Today businesses are faced with the challenge of creating a flexible IT infrastructure that keeps pace with business requirements in the mobile era. In a world that is witnessing an explosive growth in both mobile device usage and cloud services, businesses that delay in responding to the seismic shift in technology are at a serious risk of being at a significant competitive disadvantage.

In this relatively new realm, decision makers may struggle with how to get started with a cloud deployment. A common starting point is to drive productivity with simple efficiency-enhancing services. One common starting point often includes cloud services that enable easy, secure sharing of information regardless of location. Another includes offloading document repositories to offsite services for greater efficiencies including convenient access, backup services and reducing support costs.

As discussed previously, organizations should also balance access and the associated productivity gains against perceived concerns over security and confidentiality. Regardless of your provider's implementation, the answers will vary from organization to organization, even department to department. One method to know if this is the right move for your organization is to consider a pilot program made up of several individuals. In consultation with your provider, you can identify the team(s) or project(s) that can benefit most from a service like Sharp's Cloud Portal Office.

Once deployed, the service can be expanded as your knowledge and comfort level grows. During that evolution, your existing investments in mobile devices, interactive display systems and MFPs are fully leveraged, maximizing return-on-investment and optimizing productivity with a cost-effective content management service – Cloud Portal Office.

## Questions & Answers

### Q1. What does Cloud Portal Office include?

A1. The Cloud Portal Office service is comprised of five key components:

1. **Cloud Portal Office:** Base name of the service, it is also used to refer to the service as it is accessed from most web browsers at [www.sharpcloudportal.com](http://www.sharpcloudportal.com).
2. **Cloud Portal Office Desktop:** This is a client utility designed to allow a licensed user to sync files between their computer and the cloud service. It is available for Microsoft® Windows 7 and later and Mac OSX 10.9 and later and can be downloaded from within the Cloud Portal Office service.
3. **Cloud Portal Office Mobile:** Native mobile applications that provide access to the service from tablets and smartphones. These applications are available for iOS and Android platforms, and can be downloaded from the Apple App Store<sup>SM</sup> and Google Play<sup>TM</sup>, respectively.
4. **Cloud Portal Office Meeting Room:** Designed for use with AQUOS BOARD Interactive Displays, this utility allows users to temporarily access their Cloud Portal Office My Docs folder. Upon sign-out, all user credentials and file access is automatically removed. This software is locally installed on the display's media player.
5. **Cloud Portal Office Scan/Print:** Available for any Sharp OSA v4.0 or later MFP, this provides a cloud-based service that allows licensed users direct access to the Cloud Portal Office service to scan and print files. No software is locally deployed.

### Q2. How much control do I have over sharing?

A2. With Cloud Portal Office you can customize how you share each folder and sub-folder. The share permission settings enable you to grant other users view, edit, delete and/or share privileges.

### Q3. Can I share files with people outside of my organization or with someone that does not have a license to Cloud Portal Office?

A3. Yes, you can share files with anyone you want by e-mailing a link to the file. File access is time based (4hrs., 24hrs., or 7 days), and can be revoked at any time.

### Q4. How do I access my files if I am unable to connect to the Internet?

A4. When enabled, Cloud Portal Office Desktop automatically keeps selected folders synchronized between the "Cloud" and "Synced" computers. This effectively creates an "on premise" version of stored content that can be accessed at any time; even in the event of a temporary service disruption.

### Q5. Can users print documents stored in a Cloud Portal Office folder?

A5. Yes. Printing is supported from the Cloud Portal Office website through standard browser printing. You can also pull print certain file types (PDF, XPS, TIF, and JPG) directly from compatible Sharp MFPs and with Sharpdesk® Mobile, printing from mobile devices is simple. Visit [www.sharpusa.com/documents](http://www.sharpusa.com/documents), Apple App Store<sup>SM</sup> or Google Play<sup>TM</sup> for information on Sharpdesk Mobile.

### Q6. Can one Cloud Portal Office user view, search or download another user's content?

A6. Though many users can share the same documents, one user can NEVER access another user's content, unless that user has been granted access through the share privileges. Users are even provided an activity log so that they track the activity on their content.

**Q7. What happens when an employee leaves the company?**

A7. Your designated Cloud Portal Office Business Administrator can access the License Manager to terminate access to the departing employee.

**Q8. Can my Sharp authorized dealer access my files?**

A8. No. Dealers do not have access to their customer’s content stored on Cloud Portal Office.

**Q9. How is the connection between the MFP, AQUOS BOARD display, mobile device, computer and Cloud Portal Office secured?**

A9. After indexing, each file is encrypted using a unique key. As an additional safeguard, the key itself is encrypted with a regularly-rotated master key. File transfer between the hardware and data center is encrypted using TLS protocols. The currently-supported versions are as follows:

- **MFP:** TLS v1 AES-SHA-256
- **AQUOS BOARD:** TLS v1.2 AES-256
- **Mobile Client (iOS):** TLS v1.2 AES-256
- **Mobile Client (Android):** TLS v1.2 AES-256
- **PC/Mac:** Subject to PC/Mac browser TLS capabilities up to AES-256

**Q10. Is a trial license for Cloud Portal Office Available?**

A10. Yes. Select Sharp MFPs will come with a bundled starter license. Those MFPs will come pre-configured with the Cloud Portal icon on the MFP’s home screen for quick access to your Cloud Portal Office account. The starter license includes all features of Cloud Portal Office for one (1) user, one (1) year with 1GB of storage. This license can be easily upgraded.

**Q11. Which Sharp MFPs support Cloud Portal Office? Are any options required?**

A11. The following Sharp MFPs support Cloud Portal Office and require the MX-AMX2 Application Communication Module, PS3 Expansion Kit and XPS Expansion Kit (additional memory may also be required).

The table below illustrates whether the required options come standard with the MFP or if they must be purchased. The table also indicates which MFPs come with a free starter license bundled with the MFP.

Model	Application Communication Module	PS3 Expansion Kit <sup>1</sup>	XPS Expansion Kit <sup>2</sup>	Bundled Starter License <sup>3</sup>
MX-C301W <sup>1</sup>	Standard	Standard	MX-PUX1	—
MX-2615N/3115N	MX-AMX2	MX-PK11	MX-PUX1	—
MX-3610N	Standard	MX-PK11	MX-PUX1	—
MX-2640N/3140N/3640N	Standard	Standard	MX-PUX1	Yes
MX-3050N/3550N/4050N	MX-AMX2	MX-PK13	—	—
MX-3070N/3570N/4070N	Standard	Standard	—	Yes
MX-4110N/4111N/5110N	MX-AMX2	Standard	MX-PUX1	—
MX-5111N	Standard	Standard	MX-PUX1	—
MX-4140N/4141N/5140N/5141N	Standard	Standard	MX-PUX1	Yes
MX-6240N/7040N	Standard	Standard	MX-PUX1	Yes
MX-6500N/7500N <sup>4</sup>	Standard	Standard	MX-PUX1	Yes
MX-C301W <sup>5</sup>	Standard	Standard	MX-PUX1	—
MX-M364N/M464N/M564N	MX-AMX2	MX-PK11	MX-PUX1	—
MX-M365N/M465N/M565N <sup>5</sup>	Standard	Standard	MX-PUX1	Yes
MX-M654N/M754N <sup>1</sup>	Standard	Standard	MX-PUX1	Yes
MX-M904/M1054/M1204	Standard	Standard	MX-PUX1	Yes

<sup>1</sup> Required for PDF / TIFF / JPG printing

<sup>3</sup> One (1) user / one (1) year / 1GB

<sup>5</sup> Genuine Adobe® PostScript® 3™ Standard

<sup>2</sup> Required for XPS printing, additional memory may also be required

<sup>4</sup> Not supported with Fiery® External Print Server MX-PE10

**Q12. Which Sharp AQUOS BOARD displays support Cloud Portal Office? Are any options required?**

A12. Cloud Portal Office Meeting Room supports AQUOS BOARD Interactive Display Systems connected to a Windows 7, Windows 8 or Windows 10 media player. In addition to direct access via Cloud Portal Office Meeting Room, user can also access their folders directly from Sharp Pen Software. Once the Meeting Room utility is installed, user can add the Cloud Portal Office icons to the Sharp Pen Software™ menu via the “customize toolbar” option under “settings”. This integration is compatible with Sharp Pen Software v2.6.2.12 or later.

**Q13. Which mobile devices and operating system versions are supported?**

A13. Cloud Portal Office supports any smart phone or tablet running the following iOS or Android OS:

- Apple iPhone / iPad: iOS 8.x and later
- Android Smart Phone / Tablets: 4.x and later

**Q14. Where can I find a Cloud Portal Office Mobile app for my smart phone?**

A14. Free Cloud Portal Office Mobile App downloads for smart phones and tablets are available through Apple App Store<sup>SM</sup> and Google Play<sup>TM</sup>.

**Q15. Are there any minimum computer requirements to run Cloud Portal Office Desktop software?**

A15. Yes. Cloud Portal Office Desktop is compatible with the following operating systems:

**Microsoft**

- Windows 7 and later

**Macintosh®**

- OS X® 10.9 and later

The minimum screen resolution is 1024 x 768, however it is recommended to use screens with a resolution of 1280 x 1024 and above.

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SHARP ELECTRONICS CORPORATION  
1 Sharp Plaza, Ste. 1, Mahwah, NJ 07495-1123  
1-800-BE-SHARP • [www.sharppusa.com](http://www.sharppusa.com)