GUIDE TO THE CLOUD

Cloud Ready

CLOUD READY

TOSHIBA'S GUIDE TO THE CLOUD

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INTRODUCTION:
THE CLOUD

The way we work is changing

Fewer employees now spend the bulk of their working hours sitting behind an assigned desk on company premises, using a company PC. Instead, they're out making customer visits, attending conferences, visiting regional company outposts or simply working from home. Business is now mobile.

When workers are out of the office, they're exercising more choice in the applications and devices that they use for business. They're using smartphones, tablet computers and laptops for work – whether provided by employers, or their own devices – and accessing Internet-based applications and information that lives 'in the cloud'. They rely on these technologies for personal use, so why shouldn't they be equally useful in their working lives too?

Problems arise, however, when it comes to accessing some of the vital documents that they need to get work done. While smartphones and tablets are constantly evolving, printing options are either non-existent or extremely limited.

Cloud printing tackles this challenge by providing employees with on-demand printing using a networked device, regardless of the user's location. It can also enable them to scan and capture documents on 'cloud-ready' printers and multi function products (MFPs) and upload them to the cloud, where they can be accessed, edited or printed by authorised colleagues or simply stored for future use.

It's the combination of proven cloud technologies and the latest printing systems. Read on to find out more about what cloud printing could allow your business to achieve.

THE CLOUD:
EXPLAINED

These days, it seems that everyone's head is in the clouds

Cloud computing is changing the way we use computers at home and increasingly, for work, too – but the hype this technology trend has generated along the way can be overwhelming.

That puts business leaders in a tricky spot. In economically challenging times, they can't afford to ignore the promise of big business benefits that can be delivered by cloud computing. Nor can they afford to bet the IT budget on a leap into the unknown.

In order to demystify the cloud, Toshiba has produced this simple guide to cloud computing for business leaders: explaining what it is, where it might apply in their own business and, if they did decide to implement it, what they might hope to achieve.

What is the cloud, anyway?

In simple terms, the cloud is a collection of computing functions that are hosted off-site (hence the 'cloud'), provided as a service and accessed over the internet.

These functions typically include externally hosted technology services, ranging from full enterprise application suites to raw processing power and storage capacity. What all these services have in common is that customers pay to access them via the Internet and only pay for what they use. Costs are typically calculated on a per-user (software), per-hour (servers) or per-gigabyte (storage) basis.

When extra resources are needed they are easily acquired, and the fee for using the service rises. When they're no longer required, they can be 'switched off' and the fee drops.

During a particularly busy period, for example, a company might need extra customer-service agents to use its cloud-based customer relationship management (CRM) system. Using what is termed 'software-as-a-service' (SaaS, for example Microsoft® Office 365), extra users can simply be added to their CRM system, which in turn will be reflected in their monthly bill.

Or it may need more server power to prop up its online commerce site. Or it might need more storage space to keep documents relating to a specific project or promotion. Both of these services can be provided by an infrastructure-as-a-service (IaaS) provider.

Somewhere in the middle lies platform-as-a-service (PaaS) – a stack of software and hardware to underpin an entirely new application that software developers can build and run entirely in the cloud.

The variety of computing services that now exist in the cloud is already vast and is growing every day.

THE CLOUD:
WHY IT MATTERS

But why does the cloud matter?

For businesses, the impact of cloud computing is the transformation of corporate IT from the mysterious domain of in-house specialists to a utility service that is supplied 'on tap' by a third-party provider. In other words, it becomes a utility, like electricity or gas.

There are many benefits to this approach. A major one is cost. Cloud computing shifts large, upfront capital expenditure (capex) on new software and systems into predictable, flexible operational expenditure (opex).

The fact that there is no software to install and no on-premise servers and storage systems to purchase, power, patch and back up, brings other benefits too.

Electricity bills for powering and cooling servers are reduced, with a resulting decline in a firm's environmental impact. Management of IT services and the protection of corporate information becomes the responsibility of the cloud provider. In-house IT teams are freed from day-to-day systems administration tasks, in order to focus on new strategies to deliver real business benefits to their employer.

Where a company uses SaaS for its software needs, it can always be sure it's running the latest version, because updates are added automatically by the provider, as soon as they are available.

There are consequences for end users, too, because computing resources residing in the cloud can be accessed via a simple web browser, from pretty much any device that they have to hand. Whether they're in an airport departure lounge, a hotel lobby, a conference centre or their own home, the applications and information that they need are right there at their fingertips.

It's true that some business leaders still have concerns over cloud computing, and in particular, the levels of data security offered by these services. Why should they trust a third party to host their organisation's sensitive data and protect it from unauthorised views?

It's a question of selecting the right provider, with the right skills, technologies and accreditations in place to demonstrate a robust response to current security threats. In fact, by applying a rigorous selection procedure, many cloud customers end up with better data security than they could ever achieve using the resources they have available in-house.

THE CLOUD:
BENEFITS AND ISSUES

Business benefits at-a-glance

Using cloud computing, a business can:

1. Eliminate the upfront costs of technology, by paying only for the IT resources needed, on a pay-as-you-go basis.

2. Reduce (or eradicate) reliance on in-house IT systems, which can be costly and time-consuming to maintain.

3. Delegate data security to a trusted provider with the skills to apply the most stringent measures available.

4. Offer staff more flexibility and improve their productivity, because vital applications can be accessed from anywhere, via a web browser.

5. Take advantage of the latest products and technologies available, as updates to applications are added automatically by the provider as soon as they are ready.

Concerned about cloud security?

If so, you're not alone. Survey after survey shows that, among existing and prospective cloud customers, security is the biggest concern and the biggest barrier to adoption.

IT decision-makers are right to worry. They have, after all, a duty to protect their organisation's sensitive, business-critical data and, if they decide to place that data in the hands of a third party, they need to be 100% confident that the provider will deliver robust user-access controls, encrypt data in transit and protect it from viruses and hackers. They need a provider that will keep its promises when it comes to the availability of the service and that understands the compliance pressures faced by individual customers in areas such as data protection.

Yet as more and more organisations adopt cloud computing, many find that the security delivered by their cloud provider meets – or even beats – their requirements, according to the 2012 Global Information Security Survey from management consultancy firm PricewaterhouseCoopers (PwC). This poll of more than 9,600 security and IT leaders worldwide found that 41 percent of respondents had implemented some form of cloud computing. Of these, more than half (54 percent) said that the technology has actually improved their organisation's security.

CLOUD-READY PRINTING:
SET YOUR DOCUMENTS FREE

When a document lives in the cloud, it has the freedom to be wherever it's needed

That's important, because in a world of remote and mobile working, the employee who needs that document could be almost anywhere, using almost any device to access it.

In fact, some employees may not have a dedicated desktop PC at all. It's more likely that they use a laptop in a variety of locations, supplemented by a smartphone or tablet when they're on the move. Increasingly, they're not solely using devices allocated to them by their employer, but also their own iPhone®, Android® handset or tablet computer.

If they just want to view a particular document, that's fine. If they need a physical hard copy, they're in trouble. What if they are at the airport, for example, and need to print off their itinerary or flight details? Or in their hotel room, wanting to do a final check on a print-off of tomorrow's PowerPoint® presentation? Or at a customer site, where they've just won a new deal, and the customer is waiting to review and sign the contract form?

While smartphones and tablets are constantly evolving, the printing functions many currently offer are either non-existent or extremely limited.

That can be a problem for the remote worker. If the document that they need is sitting on another device, far away, they cannot move forward. But if that document can be accessed via the cloud, and printed off at their current location, then there's no obstacle to getting on with the business at hand.

At the same time, what if the documents they create and use on their travels – meeting notes, maps or expenses forms – could easily be uploaded to the cloud, ready to be accessed again from any device and instantly available to their colleagues and managers?

These are the ideas behind cloud printing: on-demand printing, for any content, using their own device from any location.

CLOUD-READY PRINTING:
WHEREVER, WHENEVER

Toshiba is cloud-ready

Cloud printing is a reality today for Toshiba customers, thanks to new services designed to link cloud computing, printing and scanning – and mobile devices.

Go mobile

Through Toshiba's membership of the Cortado Cloud Printing Alliance, we support secure on-demand mobile printing from iPad®, iPhone, BlackBerry®, Android or Symbian® devices.

At the heart of the alliance is Cortado Workspace®, a cloud-based document management service. When users download the Cortado Workplace® app from an app store onto their mobile device, they've got round-the-clock access to files and documents, regardless of file type and without needing access to a PC.

The user simply logs on with their web-enabled mobile device, searches for the document they need, then uses any printing device installed on an available Wi-Fi network to print it out. Because this is a cloud service, all the drivers required to print are stored within the Cortado Hosting Centre.

They don't even need to turn on a computer. Any printers available for use are identified and drivers made available automatically. Printing takes place directly on a printer or MFP connected to their mobile device by Wi-Fi or Bluetooth®. And all mainstream file formats are supported, including Excel® spreadsheets, PDF's, PowerPoint presentations and a wide range of image formats.

Get connected

Toshiba has also developed a set of 'connectors' that allow users to scan and upload documents directly from web-enabled Toshiba MFPs to popular email, messaging, document creation and sharing applications. Once scanned and captured at the MFP, the documents are routed by these connectors, across the cloud, to the user's account in Microsoft® Exchange, Microsoft® SharePoint® or Google Docs®.

For example, one connector establishes a secure connection between a cloud-ready MFP and an organisation's Microsoft Exchange server. Users can then send email securely through the MFP with the appropriate IT policies implemented – and the message even appears in the user's 'sent items' folder.

Or the arrival of a document uploaded into SharePoint, the content management and search application, might kick-start an automated workflow. In the case of a new contract, for example, a purchase order could be uploaded by a sales executive from an MFP at a remote location and instantly forwarded to the finance department at head office for processing.

Another connector allows users to upload documents directly into Google Docs, where documents, spreadsheets, presentations and images can be shared and edited in collaboration with others.

All these approaches combine security with convenience. Because of the security and business-rules layers already built into Exchange, SharePoint and Google Docs, administrators can manage file sharing permissions to control who sees what, and document owners can share and revoke file access at any time.

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Mobile Printing TOSHIBA

CLOUD-READY PRINTING:
HOW IT WORKS

Share and edit documents
A set of 'connectors' allow users to scan and upload documents directly from web-enabled MFPs to Microsoft Exchange, Microsoft SharePoint or Google Docs to share with colleagues for comment, editing and approval.

Integrate documents into your workflow
Once uploaded to the cloud, documents can be incorporated into a workflow that reflects a key business process. So orders can be automatically processed, sales enquiries fulfilled, orders raised or invoices issued.

Find printers near you
After downloading a dedicated app, a user simply logs on with their web-enabled mobile device, searches for the document they need and any printing devices on an available Wi-Fi network or nearby Bluetooth connection are automatically identified.

Access your files securely
Any documents put into the cloud can be accessed and viewed on a wide range of devices – whether traditional PCs or mobile devices such as tablets or smartphones. Various levels of security help to keep your documents safe, backed-up and protected from prying eyes.

Upload your files

The 'On' and 'Off' Ramp
Users can scan documents on 'cloud-ready' MFPs and upload them to the cloud, where they can be accessed, edited or printed by authorised colleagues or simply stored for future use.

Download your files

Remote access to the cloud

Print and collect
Cloud printing provides workers with 'on-demand' printing, using a networked device, regardless of the user's location. Printing takes place directly on a printer or MFP connected to their device by Wi-Fi or Bluetooth.

BUSINESS BENEFITS:
CLOUD-READY PRINTING IS…

More convenient

Whether they're working from home, a client site or another location entirely, cloud printing gives employees access to immediate, on-demand printing and scanning of documents.

More eco-friendly

At Toshiba, we're all about safeguarding the future, which is why our MFPs and related solutions are engineered with sustainability in mind. All our MFPs comply with strict environmental regulations and the carbon generated in their manufacturing and shipping to a customer site is offset. Our Energy Star® compliant MFPs feature cutting-edge functionality that helps reduce environmental impact while, with cloud printing, documents are only printed when they're needed, leading to less duplication.

More cost-effective

The speed at which your company can make decisions has a direct impact on its finances. When decisions are deferred or delayed because a vital document is not immediately available, business processes grind to a halt, time and money is wasted, and the company loses a bit of its all important competitive edge. With cloud printing, documents are instantly available when they're needed, resulting in better productivity and faster decision times.

More secure

Many managers worry over the security of cloud computing. At the same time, how often are sensitive printed documents left out in public on printer trays or forgotten in the back of taxi cabs? The truth is that cloud services offered by proven, trusted providers such as Microsoft, Google and Cortado all offer higher levels of document security than many companies manage to achieve in-house, especially those with limited IT skills on hand. With cloud printing, businesses can keep electronic documents secure in password-protected online repositories, right up until the point that they're needed, reducing the potential for loss or theft.

CONCLUSION:
GETTING READY FOR CLOUD PRINTING

Five key steps for preparing for cloud printing

As we have seen, cloud printing has the potential to release company documents from the constraints of physical location and access device. It's an appealing proposition for many. But how can they get from where they are today to embrace cloud printing?

The truth is that it's likely be an incremental journey for many organisations. Few, after all, have the time or the money right now to rebuild their company-wide printing fleet from scratch. But the move to cloud printing does not need to be daunting, nor does it require large investments in time and money.

It could be as simple as installing a single, cloud-ready MFP at your business premises, or moving to a comprehensive Managed Document Services supplier that designs, manages and maintains your entire printer fleet.

Regardless of approach, a little consideration is needed in order to identify pain points and opportunities for quick wins with cloud printing. It's time to start laying the groundwork.

Here are five key steps for companies preparing for cloud printing:

1-5

1. Talk to your employees

Do they regularly experience problems accessing important documents when they're away from the office? In which particular locations/situations do they regularly need to print or upload documentation? What do delays in accessing the right documents cost your business, in terms of lost productivity and slower time-to-market?

2. Audit your printer fleet

What do you have today? Many companies find they have a baffling array of old and new equipment from different manufacturers, high consumable costs (for paper, toner, ink) and no centralised management of devices. An audit by Toshiba Managed Document Services can help them identify areas of unnecessary waste. From there, they can start to rationalise device allocation, cutting costs and environmental impact along the way, and deploy new technologies – such as cloud printing – in the places they're needed most.

3. Identify use-cases for cloud printing

Which areas of your business would benefit the most from being able to use documents in the cloud? Which employees are most reliant on printed documents when away from the office? In which departments are document costs particularly high?

4. Choose the right provider

Remember that, with cloud printing, you are looking for the best combination of modern cloud services and cutting-edge printing technology. The best provider will need to demonstrate a strong understanding of the cloud as well as an established network of technology partners in this area.

5. Start to deploy

Small pilot studies in specific areas of the business, or for particular classes of user, are often the preferred approach. Successful early projects in cloud printing create momentum for larger scale roll-outs in future. Implementation shouldn't cause too many headaches, due to the fast provisioning times and low cost of entry associated with cloud services.

GLOSSARY:
THE TECHNICAL TERMS

Capital expenditure (Capex):
Funds used by a company to acquire or upgrade physical assets such as property and equipment.

Cloud/cloud computing:
Externally hosted technology services – software, hardware and storage – that customers use on a pay-as-you-go basis.

Customer relationship management (CRM):
A suite of software applications that support all aspects of a company's interactions with its customers, including marketing, sales and service/support.

Energy Star:
An independent, internationally recognised standard for energy-efficient products, ranging from office equipment in businesses to household appliances such as washing machines.

Google Docs:
The search engine company's cloud-based document storage facility for documents, spreadsheets, drawings and presentations.

Infrastructure-as-a-service (IaaS):
Servers or storage accessed from a cloud provider, typically measured on a per-hour and per-gigabyte basis, respectively.

Microsoft Exchange:
Microsoft Exchange is the company's platform for email, calendaring and unified messaging.

Microsoft SharePoint:
Microsoft Office SharePoint is the company's server product for content management and enterprise search.

MFP:
A multi-function product that combines printing, scanning, faxing and copying capabilities in a single device.

Operating expenditure (Opex):
The expenses that a company incurs in the course of producing goods or services.

Platform-as-a-service (PaaS):
A software/hardware stack provided to developers by cloud providers for the purpose of building and running new applications.

Software-as-a-service (SaaS):
Applications accessed from a cloud provider, which levies a per-user, per-month subscription fee.

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