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The Cloud Solutions Primer

eBook



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Preface: A Change in the Weather

"I don't need a hard disk in my computer if I can get to the server faster… carrying around these non-connected computers is byzantine by comparison."

That's Steve Jobs, the former chairman of Apple. Not one to mince words, he declared his preference for cloud computing in 1997 – years before any version of the concept would be readily available to the public. And yet, here we are, a couple of decades later, and the cloud has become a facet of normal life.





Whether you know it or not, there's a good chance you use cloud services every single day. Your email is probably hosted in the cloud, for example. You may use a cloud storage service for personal files. There are several of them out there. It could even be argued that social media sites like Facebook, Twitter, Instagram and others are a form of cloud computing.

Like a dense, information-filled fog, cloud services have rolled into our lives, enveloping us in ways few would have imagined just a few years ago.

In this eBook, we'll define what cloud services are, explore the history of cloud computing, weigh the pros and cons of shifting your business storage to the cloud, and provide some tips for deciding which cloud services are the best fit for your organization.

Like the printing press or the internet before it, the cloud is changing the very nature of how we communicate. This eBook is your primer on what that means and how you can put the power of the cloud to work for you.



What Are Cloud Services?

You've almost certainly heard about cloud services. "The cloud" has become one of those buzzwords you're just as likely to hear mentioned at the water cooler as at a social gathering. Contextually, it's not too difficult to deduce that there's some connection between the cloud and the internet, but what *exactly* is the cloud?

Is the cloud a way to connect to the internet? Is it something that exists within the internet? Is it the internet, itself? Whatever it is, how do people use it? Why are people so fond of talking about it? And what do the various terms associated with the cloud mean? What's cloud computing? Cloud storage? Cloud services?

The Cloud Defined

We begin with the easiest term to nail down: cloud computing. Cloud computing refers to any time you access applications or data over the

internet. If you use an online word processor, like Google Docs, you're engaged in cloud computing. Cloud storage is storage that's not on your local machine. Photos stored online through services like Dropbox make use of cloud storage. Cloud services is a blanket term that refers to both cloud computing and cloud storage. The cloud, itself, is the non-local place where all that stuff – applications, services, files and photos – are stored.

If you run a program on your computer and it works without an internet connection of any kind, that's not a cloud service. However, if you use a program that's web-based, that's a cloud service. If you store something online, that's a cloud service. And if you launch a program locally on your computer but it reaches out to the cloud for information, that's a cloud service, too.

"52% of IT decision makers have no formal strategy for utilizing the cloud."

– TechTarget

Business Cloud Services

To this point, all of our examples have been of personal cloud services. There are some important distinctions to make about business cloud services. Business cloud services tend to get lumped into three main categories: Software-as-a-Service, Platform-as-a-Service and Infrastructure-as-a-Service.

SaaS

When software is delivered via the web, it falls under the umbrella of Software-as-a-Service. Businesses access the software by paying a regular subscription fee, by paying on-demand fees, or, in some cases, at no charge if the software has been monetized in other ways, like advertising.



One of the better known SaaS solutions also serves as an example of one of the first large-scale cloud services available for commercial use: Salesforce.com. Other notable inclusion are email services like Microsoft Outlook, productivity suites like Microsoft Office 365 and Google's G Suite, communication tools like Slack, and online storage options like Box and Dropbox.

The advantages of SaaS lie primarily in ease of use. SaaS solutions can be implemented quickly and easily as the backbone of the services are housed online. In many cases, there's nothing at all for users to install locally. As a result, mobile access is typically a breeze. Because data is stored online, collaboration is another emphasis for SaaS. Finally, there's no maintenance, no upgrades and no updates for users to deal with. SaaS services offer a "plug-and-play" solution for businesses.

However, if there's a need to access or analyze data quickly, SaaS may not be a good fit. And while security for well established SaaS offerings is solid, there are cases where regulatory requirements may make a SaaS solution impractical.

PaaS

PaaS is very similar to SaaS, but the target audience is a little different. Rather than offering web-based options for end users, PaaS solutions are geared more toward developers. The "platform" in the acronym is a place to build out web applications quickly and easily.

Amazon Web Services and Microsoft Azure are both excellent examples of the kind of innovative flexibility PaaS can facilitate.

PaaS solutions make a lot of sense when high levels of collaboration are needed to complete development projects. In fact, some industry experts expect PaaS to become the dominate software development platform within the next few years.

IaaS

Infrastructure-as-a-Service refers to network solutions that are provided remotely. These include servers and even operating systems accessed via the internet.

IaaS services are divided into three categories: the public cloud, the private cloud, and the hybrid cloud. The public cloud is a shared space, whereas the private cloud indicates dedicated resources. The hybrid cloud is, as the name would suggest, a blend of both public and private resources.

The chief advantage of IaaS is dynamic scalability. The ability to quickly scale resources to meet needs makes businesses more agile during growth periods and has the potential to be cost-effective. However, there is a slight negative impact to performance. If an organization requires the very highest levels of performance, on-premise infrastructure is generally preferred.

Putting It All Together

If all of that sounds like a lot to process, it is. Cloud computing is a rich field with a wide variety of options. To get a better picture of what's offered, let's begin by taking a step backwards.

In the following chapter, we'll look back on the history of cloud computing. Seeing how we got to where we are will give us a better idea of how to harness the power of the cloud today.





The History of Cloud Computing

The first notion of what we now call “the cloud” dates all the way back to the 1960s. Really.

Before there was any such thing as the internet, a man named J. C. R. Licklider was already conceptualizing a world wide computing network. While it sounds like something straight out of science fiction, he called his vision the “Intergalactic Computer Network.” The year was 1962, and his basic model was a rough blueprint for the internet as we know it.

In October of 1969, the ARPANET went live. Funded by the Defense Department, it was a primitive predecessor to the internet. While its top speed was archaically slow by our standards, it was ground-breaking at the time.

And then decades passed. We have to fast-forward all the way to the 1990s before anything like the cloud we’re familiar with appears on the horizon. Even then, it’s difficult to determine exactly when the term

"cloud" was first used. Conceptually, the term is common in science. It describes any large cluster of things that might look like a cloud from a distance.

In the mid-1990s, industry leaders began talking about the cloud as it relates to computing. By the first decade of the new millennium, the term had taken hold and began to work its way into more public circles.

The first well-known cloud solution to make waves was Salesforce.com, which launched in 1999. Salesforce.com showcased the impressive power and flexibility of cloud services by making top-tier CRM capabilities available to businesses of all sizes via a scalable platform. It also convinced decision makers that a web application could be reliable, useful and competitive.

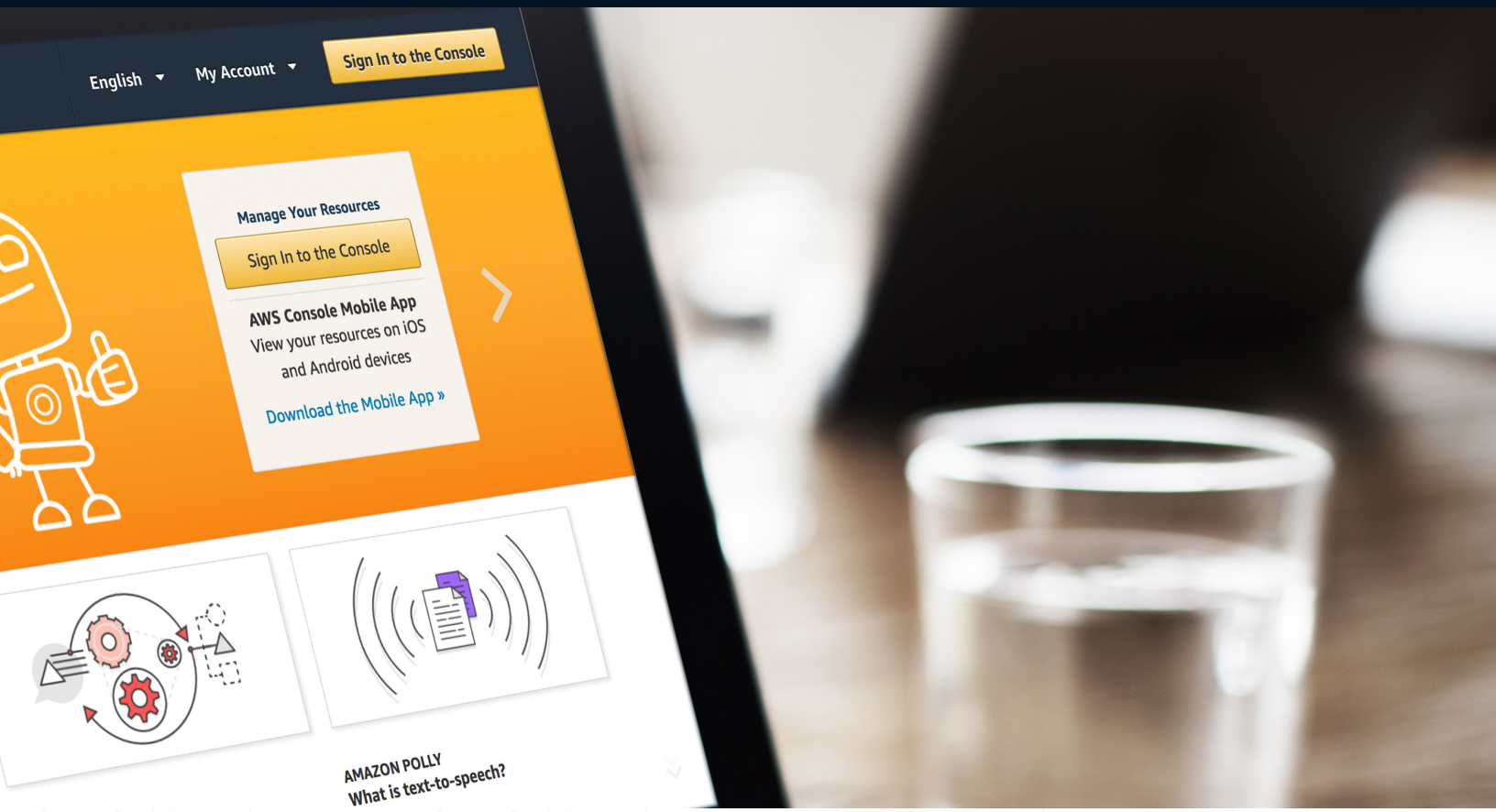




The next breakthrough was just a few years later when Amazon unveiled Amazon Web Services. Amazon expanded their offering in 2006, with the launch of its Elastic Compute Cloud. The floodgates were officially open. The current version of Amazon Web Services, referred to as "S3," offers services that include storage, networking, development tools, mobile tools, analytics and more.

With each step forward, cloud computing has evolved organically. Industry leaders continue to push the envelope, imagining creative ways to utilize new technology and ever increasing connection speed to meet business's needs. And that innovation shows no sign of slowing down.

Microsoft predicts 30% of its annual revenue will come from cloud-based software services by 2018. Currently, an estimated 37% of



SMBs use a cloud solution of some kind. It's expected that packaged software installed locally on users' machines will account for just 10% of enterprise-level software by 2019.

"37% of SMBs use a cloud solution of some kind."

– Insight

Clearly, the cloud is the future of business IT solutions. In the following chapter, we'll take a closer look at one of the more prominent cloud services: cloud storage.

What's So Great About Cloud Storage?

An increasing number of companies of all sizes are turning to the cloud to meet their business storage needs. According to Forbes, data storage and management is one of the driving forces behind business cloud adoption. In fact, 21% of companies cite data storage and management as a high priority for their overall cloud strategy.

It's easy to make the case for cloud storage. If you haven't considered it as an option for your organization to this point, this chapter will likely change your mind. The benefits are plentiful and the drawbacks few.

"21% of companies cite data storage and management as a high priority for their overall cloud strategy."

– Forbes

Let's explore the five biggest advantages of utilizing cloud storage at the SMB level.

1. Convenience

Perhaps the single greatest advantage of cloud storage is convenience. When documents, spreadsheets, reports and other data reside in the cloud, everyone in your organization has much better access to the data they need.

That benefits your organization in two ways.

First, collaboration gets a whole lot easier. Employees can work together on projects – within teams or across departments – without having to email the same file back and forth, hoping the version they just received is the most recent. Collaborative cloud-based services like Microsoft Office 365 even tracking changes made to documents in real time, making it easy to see who added what information, even as they're in the process of editing.

Second, mobility becomes a non-issue. Cloud storage turns any connected device into an extension of your computer. Your smartphone, tablet and laptop have access to the same information you rely on in the office. Forgot that important file but you're already in front of a client? No problem. Just download it from the cloud and you're good to go.



2. Security

Top cloud storage providers know that security is an issue. They understand that your data is important, and they're serious about keeping your files safe.

By contrast, the average SMB doesn't have the resources to provide the same level of protection for themselves that a cloud storage solution provides by default. Using a reputable cloud storage provider can actually improve your overall security. It's an easy way to tap into enterprise-level cyber protection without paying the kind of fees enterprise companies pay.

A word of caution here, though. Do your homework. Different cloud storage providers offer different levels of security. Make sure the one you choose is a good match for your organization.



3. Scalability

One of the potential downsides to keeping storage local is the fact that what seems like more than enough server space today may feel like far too little tomorrow. Think about it. How big was the hard drive on the computer you had *before* your current machine? The number of gigabytes (or terabytes) considered adequate is growing every day.



Cloud storage, on the other hand, is extremely scalable. Why shoulder the expense of an on-premise server (plus the cost of maintenance) only to replace it in a couple of years? Expanding your subscription as your storage needs increase is much easier.

4. Backups

Disaster recovery is an entirely different topic – so much so that it's worth noting, even before we get into the concept of backups, that using cloud storage does not, in and of itself, constitute anything close to a robust business continuity plan. There are many other essential considerations.

Backups are best thought of as a convenient side effect of a cloud storage solutions. Reputable cloud storage providers will, of course, backup the servers where your data is housed. That impacts your organization in two ways.

First, if your data resides on a server in the cloud, local hardware failure won't mean losing your data. Consider this scenario. Your billing department saves all invoicing records locally on their computers. One day, one of those computers gets hit with a virus. Poof. All that customer billing information is at risk. If, on the other hand, that data lives in the cloud there's a much better chance it's safe.

Second, even if the cloud storage provider experiences an issue with their servers, they've got a backup of your data. Again, that doesn't mean using cloud storage takes care of all your disaster recovery needs. It does not. But it does add some peace of mind.

5. Savings

There are a host of ways cloud storage might save your business money. (Note the word "might." We'll circle back around to it.)

Cloud storage options spare you the expense of purchasing or maintaining your own server. And then there's the increased efficiency you'll gain as a result of mobile access and improved collaboration. Cloud storage can have a real impact on your bottom line. If you invest further in the cloud, taking advantage of more than storage alone, those savings can easily add up.

However, whether or not your organization realizes any of those savings depends on the cloud services you choose. Making appropriate choices is the key, which is why we'll focus on how to determine the right cloud solutions for your company in the next chapter.





What Cloud Services Are Best for You

Businesses are moving to the cloud, and they're moving in a big way. The shift to cloud services during the next several years will impact up to $1 trillion in IT spending. The implications for the IT industry are significant, and the move will likely affect how you do business, too – even if you don't utilize the cloud at all today.

But don't rush right out and sign up with the first cloud services provider you can find. Before you make that leap, there are some critical questions you should ask.

"The shift to cloud services during the next several years will impact up to $1 trillion in IT spending."

– Gartner

What types of services do you rely on?

Do you use a CRM? Is storage a concern for you? Do your people work in a collaborative way? What's your current email solution?

There are almost certainly services you use right now that you could migrate to the cloud. Additionally, you may already subscribe to a handful of cloud services, but without an overarching strategy. Either way, it's a good idea to step back and take stock.

What could you do going *forward* to align your cloud strategy across the entire organization?

What current software solutions are you willing to replace?

What solutions do you use right now that aren't meeting your needs? In a perfect world, what would your organization's IT look like?

There are so many robust options available via the cloud, your dream suite might actually be possible. And if you're limping along with inadequate software right now, put that on the list of things to upgrade.



What does the deployment process look like?

What will it take to transfer your existing data to a new platform? What formats do you currently use for customer information, email, and file storage? What formats will you absolutely have to maintain if you migrate to the cloud?

Also give some thought to how migration would impact your organization. A big move is likely to slow things down temporarily. Don't schedule your deployment for your heavy season.

Would a hybrid cloud service best meet your needs?

Hybrid solutions are a mix of local services and cloud-based services. The flexibility of the hybrid option has made it quite popular, with 55% of companies opting for a mix of local and cloud-based solutions. Particularly if you have speed, privacy or regulatory requirements, a hybrid solution might make the most sense.



How "locked-in" will you be?

If a new cloud service doesn't work out for your company, what's your exit strategy? How easily will you be able to move to another service? And how long will you be locked into a contract with the first company?

Don't pull punches while doing research. Ask cloud providers the hard questions. Make sure you know what you're getting, and make sure you know what the process is for uncoupling, just in case.

What are your scalability options?

What if you subscribe to a set amount of storage space, and then run out? How easily can you add onto your subscription? And does the pricing adjust as you add services?

What if you remove a service? Will you get hit with any form of a cancellation fee?

Assume that your business isn't going to be static. Your goal is to grow. Plan for that growth by adopting a cloud strategy that allows for expanding service.

How secure will your data be?

Take a very close look at the SLA for any potential cloud provider. What's the guaranteed uptime, for example? Will your data be encrypted? What's the turnaround time on support tickets, especially if there's any kind of security issue?

Reputable cloud providers will go above and beyond to protect your data, but don't make assumptions. Make sure you know what level of security the providers you shop are willing to commit to.

Who needs access?

Some cloud services charge by the user, so be sure to take into account how many of your employees will need access. While it may be tempting to limit that number, don't handicap yourself. If everyone in your organization legitimately needs access, look for solutions that facilitate that within your budget.



How does cloud storage mesh with your current business continuity plan?

Offsite file storage and backup are natural partners. It's easy to pair the two. If you're considering cloud storage, this is a prime opportunity to capitalize on the common ground storage shares with business continuity.

Is there a cloud storage option that will fit well with your disaster recovery plan? If you have no disaster recovery plan, this is a great time to start putting one together.



Are there legal or regulatory requirements you need to keep in mind?

Depending on the specific kind of business you do, there may be legal and/or regulatory requirements for how you store data and what kind of cloud services you use. Do your homework. If you have any specific requirements, limit your search to providers who can guarantee compliance.

What's your budget?

Finally, what are you financial constraints? Be both realistic and growth-oriented. Don't allocate a budget so small that you simply can't meet your needs. At the same time, be savings-conscious as you shop. Cloud solutions can lower your IT expenses . . . if you pick them wisely.

CCS Technology and the Cloud

Developing a thorough cloud strategy is no easy task. It takes insight, knowledge, familiarity with available options and an understanding of your business goals. There's no simple three-step plan for getting you on the right track. If you want the advantages and potential savings of cloud solutions, you have to have a solid strategy.

Fortunately, you don't have to do that on your own. The team at CCS Technology has helped dozens of businesses make the leap to the cloud, and we can help you, too. We'll take the time to really understand how your organization functions, and then point you toward solutions that make sense. What's more, we can guide you through implementation, ensuring a smooth transition, as well.

If you're ready to take advantage of all the cloud has to offer, we're here. Contact CCS Technology today to find out we can help.

About CCS Technology

CCS Technology has one simple goal: to deliver IT support that's responsive, effective and convenient. Technology should make it easier to run a business, setting business leaders free.

Free to focus on your company's growth. Free to enjoy real work/life balance. Free from headaches and hassles.





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