HANNON HILL

Why Companies Move to Cloud

A discussion of Cloud-deployed software and how it can help your company prepare for future success

Introduction

For years, transitioning to Cloud-based software has been on the minds of web administrators, IT security professionals, and CIOs. Experts on both sides of the Cloud versus on-premise debate compared costs, security capabilities, risks, and benefits of Cloud and premise-deployed software solutions with little agreement on which approach best suits organizations. While there's little consensus among these groups, many agree that Cloud-based solutions are bound to dominate the software landscape in the future. This foregone conclusion makes transitioning to Cloud all but inevitable for most organizations.

Despite Cloud's eventual dominance, some remain committed to premise-based deployments holding them, and their companies, back from better performance. As multifactor authentication, cloud-storage encryption, and redundant storage gateways become more common, Cloud-deployed solutions will continue to outperform premise-based software. Companies that delay cloud deployments risk more than the added flexibility, scalability and speed that Cloud offers—they risk being left behind by an ever-evolving tech landscape.

In this white paper, we will explore what companies gain by investing in Cloud. Along the way, we also dispel common misconceptions associated with Cloud and highlight ways to ensure that your transition to Cloud is smooth.

This white paper answers the following:

- What is Cloud and why is it better than on-premise?
- What factors influence how software should be deployed?
- How do the benefits and risks of deploying software in the cloud compare to on-premise solutions?
- What kinds of technology leverage the cloud?
- How does staying on-premise stymie organizations?

Chapter One: What is Cloud and Why Should I Care?

The concept of Cloud computing was explored as early as the 1960s. The practice of Cloud computing, however, came much later when users began moving away from installed versions of software (on-premise) to accessing it online through internet-based service providers (Cloud). These days, Cloud is everywhere and expected to continue transforming how companies and consumers use technology.

This chapter answers the following questions:

- What is Cloud?
- Why is Cloud better than premise?

What is Cloud?

Cloud, or Cloud-deployed software, references the delivery of any hosted service over the Internet. Cloud-deployed software solutions allow companies to use computing resources (virtual machines, servers, or applications) without the cost of on-site maintenance, storage, power or cooling.

- **Software as a Service**: software distribution model that allows third-parties to host applications and deliver them to users over the internet
- **Infrastructure as a Service:** provides virtual computing resources online, hosts users' applications and handles tasks like system maintenance, backup and resiliency planning
- **Platform as a Service:** delivers hardware and software tools over the internet, usually those associated with application development

Chances are, you are familiar with some of the more popular Cloud-based SaaS solutions like Salesforce (CRM), HubSpot (marketing automation), and GoToMeeting (meeting and webinar hosting). These, and other SaaS-based systems, allow for quick and easy onboarding, multi-device functionality, and flexible terms that allow companies to scale up or down as needed.

There are many other benefits associated with Cloud software, some of which we will discuss later. For now, let's review the main reasons many rate Cloud over premise-deployed solutions.

Why is Cloud Better Than On-premise?

Flexibility, scalability, and speed are some of the main reasons Cloud-deployed software solutions outperform premise-deployed systems. Companies enjoy fast, automatically-updated software without the day-to-day demands (and costs) of care, storage, and security. Cloud-deployed systems also offer more predictable costs than premise-based solutions and can include performance guarantees for things like uptime and system availability. These benefits have made more and more companies embrace Cloud-based software systems. Several reports indicate that IT departments around the world are embracing Cloud and plan to invest even more in Cloud deployments in the future.

The benefits of cloud computing drove significant gains in adoption in recent years. Experts anticipate even more growth as more companies realize the value of Cloud-deployed solutions. Despite this, some continue to doubt the viability of Cloud-based software systems citing concerns about costs, control, and security as reasons for the delay.

These questions are more than valid, as transitioning to Cloud requires both a financial and strategic commitment from those considering the proposition. Before we discuss some of the implications of transitioning to Cloud, let's review the risks and benefits of both deployment options.

According to various studies, by 2020 the cloud will:

- Reach $390 billion in global market revenue (Bain & Company)
- Hit $162 billion in spending worldwide on cloud or cloud-related services (Salesforce)
- Account for 56% of the market among enterprise companies (KPMG)

"We should now be comfortable with the reality that change will not stop, least of all the business, regulatory, and competitive aspects of building and deploying solutions"

-Thomas Fountain, CTO Pneuron

Chapter Two: Cloud v. Premise

Choosing the right deployment option can be a difficult choice for any organization. Several factors influence the decision, forcing heavy scrutiny of several details at once. In this section, we will discuss the main considerations companies review when making their selection. We will also discuss key benefits and limitations of deploying applications in Cloud, on-premise, or a hybrid architecture.

This chapter answers the following questions:

- What factors influence how software should be deployed?
- How do the benefits and risks of deploying software in the cloud compare with that of staying on-premise?

What factors influence how software should be deployed?

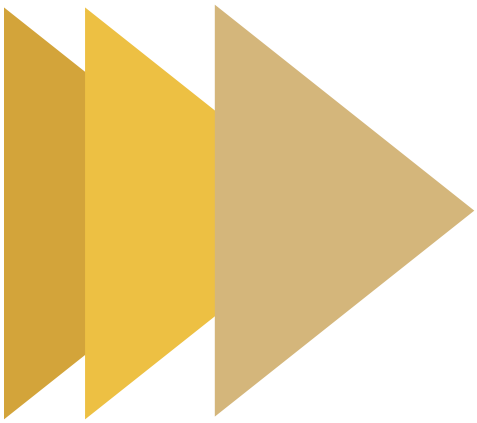
There is a lot to consider when determining how to integrate new software—most principally, the appropriate deployment method for it. Often, teams defer to strategic plans that govern when, how, and to what extent organizations will invest in new systems to achieve their goals. In other cases, individual departments review each solution individually to determine how best to leverage new features and gain more value. In either case, many companies assess how the new solution will impact each of the following before determining the deployment method for each new solution.

- Users
- Requirements
- Support
- Security

Factors influencing deployment options

Users:

End-users define the success of new software at any organization. Failure to recognize
and account for the needs of frequent users can result in poor adoption, missed value, and waste. Focusing on the features and functions that frequent users require can help companies identify the appropriate software for their company, and, in some cases, the appropriate deployment option.



Consider the rise of cross-functional teams. Cross-functional teams, teams comprised of individuals from different disciplines, are becoming increasingly common. Tech tools make cross-functional collaboration easier, giving rise to terms like MarTech (marketing + technology) and DevOps (development + operations). These teams may value having to the most recent versions of software systems, making on-premise deployments suboptimal, as web administrators must regularly check for and implement new versions to access the benefits of new features and fixes. Cloud-deployed solutions, on the other hand, are updated automatically, so when users access the system, they enjoy new features and improvements that make their job easier.

Features:

Typically, companies have long lists of required features and performance capabilities when seeking new software systems. These lists usually prioritize base functionality over many other considerations, including how the system will be deployed. Because many systems are offered in the Cloud and on-premise, some companies assume the difference between the two is nominal. It's not.

Although Cloud-deployed software systems have the same base features as on-premise solutions, many offer additional functions unavailable in installed versions. Companies that

choose Cloud deployments over premise, benefit by maintaining automatic access to new features that enhance the core functionality. This can be an important differentiator for organizations committed to using the latest and greatest technology to deliver superior experiences for customers.

More than 80% of organizations are following a Cloud First strategy, where priority is given to applications that can be purchased as a service or deployed in the cloud

-Forbes' 2017 report on the State of Cloud Adoption and Security

Support:

Implementing a new system is a major undertaking. Once the right solution is selected, teams must determine how it will be maintained and supported. Depending on the solution (open-source v. proprietary) and/or the support desired (tier-based, hour-based, or comprehensive), securing quality and product support can be challenging and expensive.

Once teams identify the right type of support for the company and system, they must also determine the best way to leverage product updates to get the most out of their software system. In both cases, choosing a Cloud-deployment makes maintaining and updating software systems easier for internal teams.

Maintenance

Every software system requires occasional fixes to operate appropriately. While many fixes can be handled by web administrators or internal developers, product support teams are essential for quick solutions to complex problems. Often, resolving issues for on-premise solutions usually means several email exchanges before issues are diagnosed, isolated, and fixed. Cloud-deployed software typically offers faster resolutions as it can be accessed remotely and solved in near real-time.

More insights from the 2016 Identity Theft Resource Center Data Breach Report:

Data breaches increased 40% from 2015 to 2016

Phishing attacks accounted for more than half of all data breaches in 2016

Data breaches impacting the business sector accounted for more than 45% of all data breaches for that year

Updates

Hosted solutions require company-initiated updates to access the latest features and fixes. If improvements are substantial, additional servers may be required to accommodate new system capacity and function. Teams must plan how and when to implement updates to avoid gaps in site functionality while managing other responsibilities.

Alternatively, Cloud-deployed software can be updated automatically, saving internal teams time and energy. These updates often include minor fixes that improve functionality and make the software easier to use overall.

Security:

Data security is a top concern for any company evaluating new software. A report tracking data breaches found that, "US companies and government agencies suffered a record 1093 data breaches," in 2016. This number represents Cloud-based and locally hosted software systems, demonstrating that the need for greater security extends beyond Cloud.

Although Cloud-based systems have been targets of some high-profile digital attacks, many are isolated incidents that say more about the need for enhanced security practices than the merits of Cloud. Software systems built with security in mind, regardless of how they are deployed, can protect companies from damaging digital

attacks. That said, companies that go with Cloud tend to enjoy added security that is uncommon with many locally-hosted systems.

Best practices

Software companies constantly research ways to improve products, both by engineering new features and adding ways to protect clients from cyber-security threats. When companies leverage software in the Cloud, they access benefits that would otherwise be unavailable. Consider the additional benefits commonly associated with Cloud-deployed solutions.

- Global-redundancy with multiple virtual servers in several locations
- Best-of-breed firewall protection
- Service-level guarantees for uptime, availability, encryption, disaster recovery and several other areas to ensure reliability and performance

Access to scarce data security resources

Although the need for tighter cybersecurity has never been greater, the amount of appropriately trained IT and cybersecurity professionals is severely lacking. According to the International Systems Audit and Control Association, there will be a global shortage of two million cybersecurity professionals by 2019. Companies that design and deliver enterprise software systems have the resources to invest in these professionals, while other, smaller companies may not have the budget to do so for internal positions. Deploying your software in the Cloud, especially as a part of a SaaS arrangement, provides your company access to these professionals without the burden [and rising costs] of keeping them on staff.

"The scarcity of security skills is also real, and is an issue for most organizations regardless of industry, country, or size. Increased use of public cloud services may alleviate the impact of security skills shortage, as organizations leverage the broad and deep security talent pools that are presented in most major cloud providers."

-Building Trust in a Cloudy Sky, sponsored by Intel Security and McAffee

How do the benefits and risks of deploying software in the cloud compare with that of staying on premise?

Cloud and premise-based deployments differ in a number of ways. In this section, we review the benefits and risks associated with each system, and briefly discuss how hybrid solutions are deployed to gain the best of both approaches.

Cloud:

Benefits

- Quicker and more predictive deployment time
- Use internal IT resources more strategically
- Standardized services that reduce defects
- Accessible from multiple devices, anywhere online
- No long term financial commitments
- Automatic updates

Risks

- Perceived dependence on third party
- Perceived lack of access to data
- Perceived lack of security

On-Premise

Benefits

- Control over security measures
- Total control over customization
- Complete access and control over all aspects of software system

Risks

- High costs of storage, energy, and maintenance
- Lack of access to latest technology/features
- System changes, like increased capacity and backups, can require substantial time and money

Hybrid

Hybrid Cloud architecture combines on-premise resources with Cloud-based solutions, be it software, hardware or some mixture of the two. Many companies take this approach when beginning to adopt Cloud-deployed software. Doing so allows them to leverage existing IT resources while enjoying the benefits of Cloud-based systems. In some instances, companies retain critical servers, data centers, switches, and other resources on-site and use the cloud for non-critical information

and systems. For more information about hybrid cloud architecture, read this piece from TechTarget.

Misconception	Reality
No control or access to company data	Companies retain control, access, and ownership of all company data while using software in the Cloud
Cloud-based systems are not secure	Software deployed in the Cloud is just as secure, if not more secure, than the average premise-deployed solution
Cloud-based systems eliminate jobs	Cloud-deployed solutions frees internal resources from completing trivial, routine tasks so they can focus on larger, more strategic initiatives that benefit their company

Chapter Three: Why embracing the cloud preps your company for success

Just over a decade ago, Cloud-computing was an idea entertained almost exclusively by leaders in technology. Today, Cloud is a familiar term with a growing list of companies and industries utilizing the technology. Those that do not delay the inevitable at their own detriment. Those that recognize the opportunity that new tech brings to their business tend to fare better than those that ignore its potential.

Embracing Cloud technology and determining how best to implement it will prepare your organization to take on even more change in the future. The sooner your team gains experience with Cloud, the better they will be at determining how to support your IT strategy. In this chapter, we will discuss how embracing Cloud helps companies prepare for future developments.

This chapter answers the following questions:

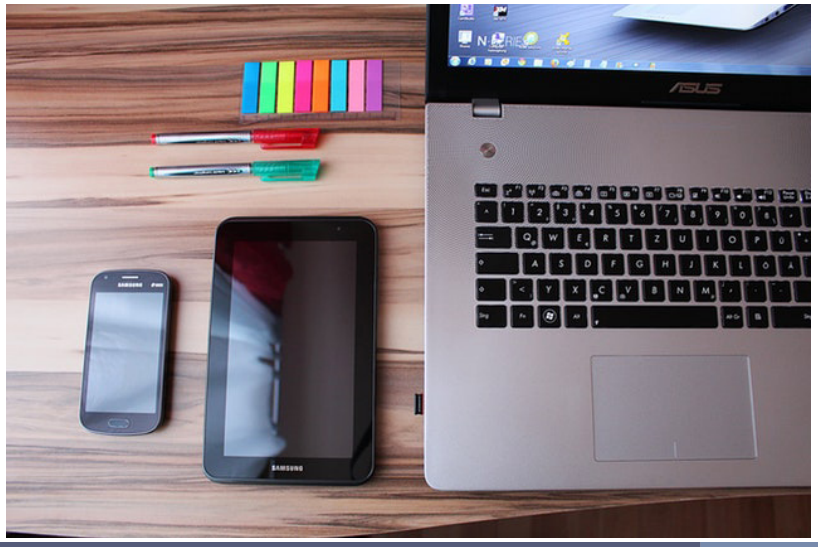
- What kinds of technology leverages the Cloud?
- How does staying on-premise stymie organizations?

Consider each of the following developments and how they changed business in the last ten years.

- **The iPhone:** In 2007, the iPhone debuted as a new force in mobile technology at a time when Blackberries were ubiquitous. Today, companies around the world use the iPhone (and similar devices) to check email, conduct research, and connect with prospects using mobile applications.

- **Tablets:** Amazon's Kindle hit the market in 2007 and Apple's iPad followed in 2010. Both products have enhanced a consumer's ability to take the Internet everywhere. This development changed marketing, business, and social interactions for many years to come.

- **Artificial Intelligence:** Officially, AI has been in development since the 1950s, but its ability to bring value to organizations and individuals has drastically improved within the last decade. AI is behind modern marvels like Google search, Amazon's recommendation engine and driverless cars.



What kind of technology leverages the Cloud?

Everything from Fitbits to Netflix leverage the Cloud in one way or another, which suggests that future advances in technology will also involve Cloud-based systems. According to TechCrunch, even software developers are shedding long-held preferences for local hosting in favor of Cloud-based alternatives, meaning new software systems are increasingly built in the Cloud.

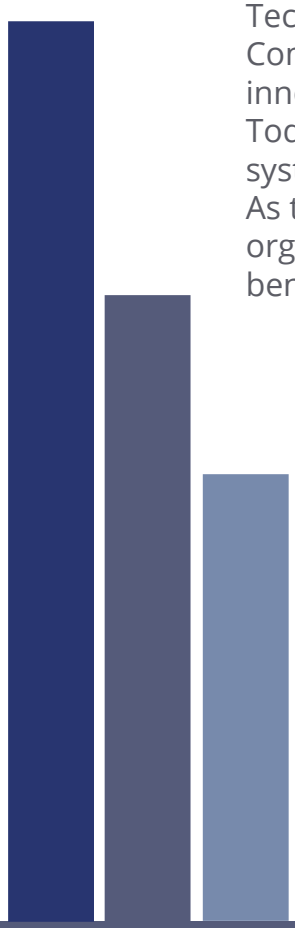
Regardless of your industry or business, your company is bound to integrate Cloud computing into your technical ecosystem in the future. The question is, how prepared will your team be for the transition?

Ask yourself:

- Where does cloud computing fit in my company's mid to long-term strategy?
- How prepared is my team to manage cloud-hosted systems?
- Which system is most appropriate for transition to the cloud?

How does staying on-premise stymie organizations?

Technology has changed virtually every aspect of our culture. Companies that resist or underestimate the power of technological innovation and speed, risk failure (see Blackberry's epic demise). Today, organizations that exclusively embrace on-premise software systems do so without risking much impact to their business. As technology continues to transform how work is done, these organizations will begin to see that embracing Cloud is not only beneficial, it's critical.



"The single biggest deployment mistake most organizations make is waiting"

-Tim Cuny, VOP of Solutions, CMI

Summary

The decision to move to Cloud is driven by many factors unique to an organization's needs, strategies and goals. Even still, Cloud-deployed solutions offer many benefits that on-premise deployments do not, revealing compelling reasons to consider transitioning to Cloud. As the technology supporting Cloud-based solutions continues to develop, Cloud will gain popularity and likely bring even more value to organizations that adopt it. As your company considers Cloud and how it fits within your corporate or IT strategy, remember what is risked when foregoing Cloud altogether.

- Limited access to regular updates and new features
- Increased spending on technical staff due to widening skills gap in IT and Cyber Security
- Missed opportunities to benefit from advanced digital security practices developed by industry-leading professionals
- Poor preparation for future transformational technologies

Ask yourself, how much longer can cloud-deployed software be avoided? If you're ready to move forward with a Cloud-based solution, do your research and develop a detailed transition plan to ensure that your cloud-deployed solution goes well.

About Cascade Cloud CMS

Cascade Cloud is Hannon Hill's premier, Cloud-based solution for content management. Cascade Cloud was developed to bring even more flexibility to the creation, management and syndication of web content. Cascade Cloud brings all the value of our award-winning premise-deployed solution with additional features to help clients achieve more. To learn more about Cascade Cloud, download this product sheet or contact us at info@hannonhill.com.

For more about Hannon Hill, visit www.hannonhill.com premise-deployed solution with additional features to help clients achieve more.

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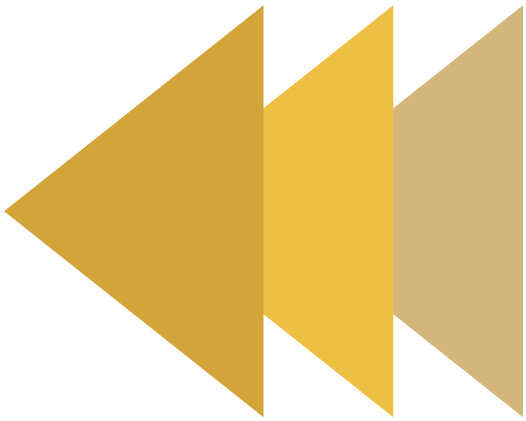

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