EBOOK

aptum

CLOUD IMPACT STUDY

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THE MODERNIZATION MINEFIELD

INTRODUCTION

The Modernization Minefield is the fourth and final report evaluating the findings of Aptum's 2021 Global Cloud Impact Study. The study surveys 400 senior IT decision-makers across the US, Canada and the UK, and reveals powerful insights into cloud adoption practices.

So far, the study has cross-examined the main drivers of cloud adoption with the obstacles to transformation. Reports two and three take a deeper look at security, compliance and governance issues and the cost implications of unplanned cloud projects, respectively.

The final section of the 2021 Global Cloud Impact Study evaluates organizations' approaches to modernization, adopting cloud-native technologies, and re-platforming applications hosted on-premises. The report concludes that a gradual and hybrid approach to modernization that considers legacy workloads and applications is essential for the best return on investment.

EXECUTIVE SUMMARY

As the disruptive effects of the pandemic begin to subside, the focus of the C-suite is shifting away from business continuity to business recovery. Chris Howard, Chief of Research at Gartner, explains the shift:

"The pandemic has wiped away the strategy for some leaders, but they've also garnered invaluable experience. Now it's time to bring together the executive team and use those lessons to reconfigure their business and operating models for a new reality."

Cloud technology has a pivotal role to play in the recovery process. According to Forrester Research, the global public cloud infrastructure market will grow 35 percent to $120 billion in 2021, as the cloud continues to "take center stage" in the recovery from the pandemic.

The upper echelons of organizations increasingly drive the growth of cloud adoption and transformation. As a recent KPMG study revealed, after reviewing the impact of cloud technology on the enablement of mobile working, employee productivity and budgets, CEOs are particularly enamoured by the promise of cloud in pursuit of modernization and recovery.

However, an aggressive top-down approach to cloud adoption may side-line the original recovery objectives and cause leaders to overlook critical strategies and technologies that are integral to modernization. **The Modernization Minefield** highlights these tools and techniques while evaluating organizations' decisions to host certain workloads in different environments. Finally, the report reveals how CIOs and IT teams can optimize their workloads in alignment with their business objectives.

HAS THE TIME TO RETIRE ON-PREMISES ARRIVED?

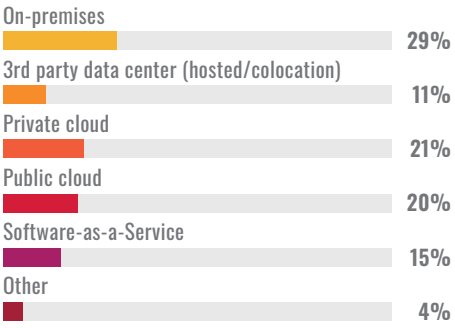
As explored in the first part of the Cloud Impact Study Report - Bridging the Transformation Gap - organizations recognize the benefits of cloud technology and are accelerating workload deployments in private and public cloud data centers as a result. However, a considerable number of workloads still remain in on-premises environments.

When asked about the location of nine application categories (Development, Operations, Human Resources, Customer Relationship Management, Bespoke Applications, Employee Productivity Applications, Websites, Disaster Recovery, and Backup), respondents said on-premises was the preferred hosting option for seven out of nine of these. See figures 1 – 9.

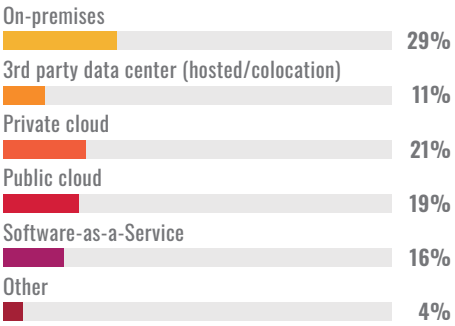
HOW ARE THE BELOW CATEGORIES CURRENTLY DEPLOYED ACROSS EACH OF THE FOLLOWING INFRASTRUCTURE ENVIRONMENTS IN YOUR ORGANIZATION?

*Based on 400 respondents.
Total 400 = 100%

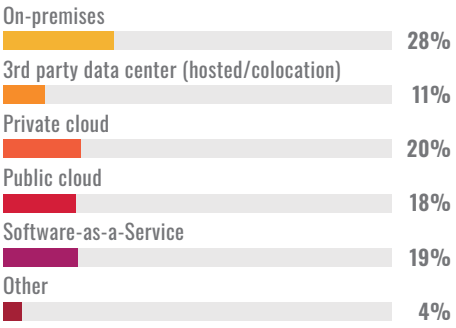
1. DEVELOPMENT ENVIRONMENT



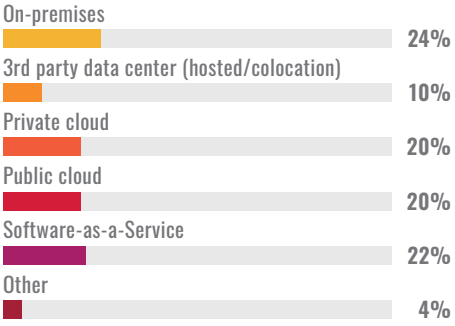
2. OPERATION SUPPORT SYSTEM/ BUSINESS SUPPORT SYSTEM (OSS/BSS)



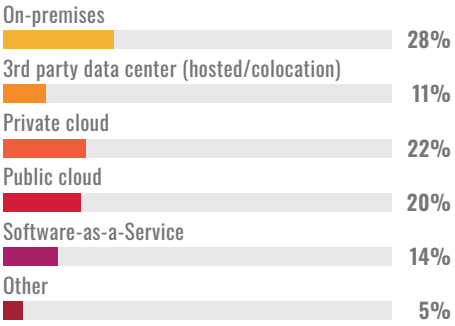
3. HUMAN RESOURCE MANAGEMENT (HRM)



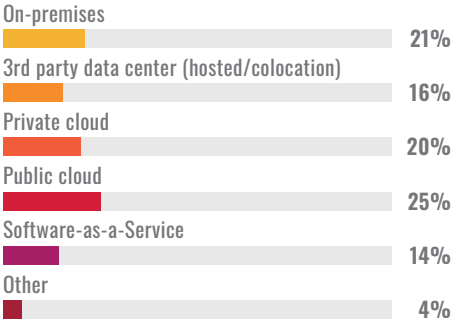
4. CUSTOMER RELATIONSHIP MANAGEMENT (CRM)



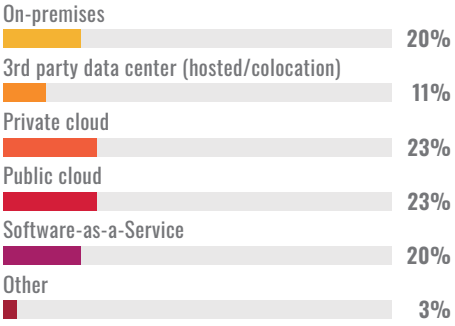
5. CUSTOM/BESPOKE APPS



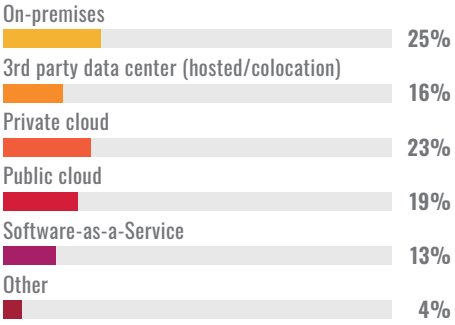
6. WEBSITES



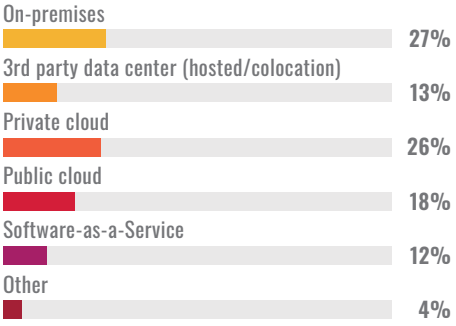
7. EMPLOYEE PRODUCTIVITY/COLLABORATION/EMAIL



8. DISASTER RECOVERY



9. BACKUP



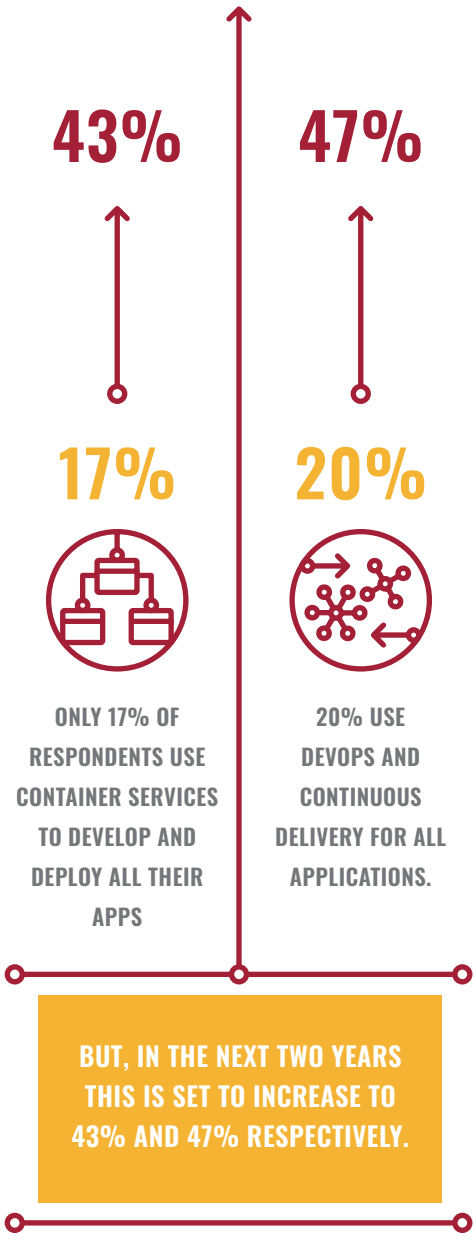
The hosting of Customer Relationship Management (CRM) and Human Resources (HR) applications on-premises is the most surprising of these results. Often these applications are part of wider enterprise resource planning (ERP) systems. ERP systems require a large amount of investment – both in terms of cash and human resourcing. Therefore, many organizations are reluctant to refactor CRM and HR applications to cloud infrastructure and are often eager to extend the life span of the software and hardware they are currently using.

Despite the prominence of cloud behemoths like AWS (Amazon Web Services) and Azure in media headlines, there are several use cases for on-premises hosting of workloads, besides maximizing ROI on legacy technology:

- Infrastructure will need to be located on-site for industries where hardware and data are tied to a specific location. This is often the case with manufacturing and logistics firms. Distributing technology across different platforms can slow down processing times and have knock-on effects on the supply chain.
- Similarly, organizations that rely on enormous quantities of data may decide to host most of their workloads on-premises. Extensive collections of data can take hours to move from one data center to the cloud. When applications are located closer to the data source, they can interact more effectively and efficiently with that data. This is particularly relevant for applications that rely on real-time user data interaction, high-speed analytics, or personalization.
- Re-platforming applications for cloud infrastructure can be highly complex due to legacy entanglements. If an application interoperates heavily with others that need to run on-premises, it also makes sense to host it and its database on-premises.

The cloud market is acknowledging these use cases: both AWS' Impulse service and Azure Arc are recognition that on-premises still serves a purpose for some enterprises.

However, only 39 percent are completely satisfied with their current rate of cloud transformation. Despite the continued utilization of on-premises hosting, respondents want to accelerate the deployment of workloads in cloud environments.



STIFLED AMBITIONS

Fifty-six percent of respondents report increasing business agility as a critical driver behind investment in cloud services. However, 59 percent of respondents agree that while cloud adoption has improved their organization's agility, they could be more agile still. In an era of recovery, agility and responsiveness are essential, and organizations recognize the role of the cloud in achieving that. So why are organization's struggling to unlock the additional business agility cloud services offer?

Respondents cite refactoring legacy applications as one of the top barriers to cloud transformation (35 percent), second only to security and compliance. Often this can be attributed to a lack of planning. Many organizations migrate pre-existing architectures to the cloud and run them unchanged in a virtual environment. This 'lift and shift' approach is assumed to reduce costs. In reality, it often fails to unlock all the benefits offered by solutions designed from the ground up for cloud environments (cloud-native). Ideally, the application architectures for cloud should differ from their legacy on-premises infrastructure. Not using the correct tooling can hinder the modernization process even further.

Marvin Sharp, VP Product and Strategy, Aptum explains: "Moving applications from on-premises to the cloud is not a simple case of virtualizing workloads in data center servers as opposed to on-site servers. To see efficient, agile, and profitable results, refactoring applications where appropriate is essential. If you do not modernize applications to make them cloud-native, costs can be far more unpredictable."

Less than half (46 percent) of respondents classify their use of cloud as advanced. This is defined as "most workloads are in the cloud and optimized for cloud deployment. Development uses container services and DevOps or is planned to in the next 12 months". Uptake in DevOps and container services is therefore not as widespread as once thought.

"The speed and automation of application deployment when using DevOps and container services plays a crucial role in helping organizations stay competitive. The faster updates that CI/CD facilitates allow businesses to launch new application features quickly. When a competitor releases an update with a new innovative feature, others can replicate it in a matter of days instead of weeks, so customers don't have to miss out because of their choice of provider. Additionally, bugs and vulnerabilities are identified and fixed at the earliest points in the software development lifecycle. This improves security and reduces downtime, which can end up costing organizations millions. By streamlining the testing process, the number of vulnerabilities will also be reduced."

– Marvin Sharp, VP Product and Strategy, Aptum

THE DEVOPS GAP

Tools like DevOps and container services can drastically improve the agility of an organization. They speed up application deployment times, improve productivity through continuous integration (CI) and continuous delivery (CD), enabling easy and frequent patching and minimizing production costs.

When delivery teams integrate code in a traditional software development environment, it is usually fraught with complications. For instance, when multiple developers work on multiple application features simultaneously, merging and testing all those updates can be highly manual and time intensive. Integrating new code can often take days with several fixes, which ultimately slows the delivery time.

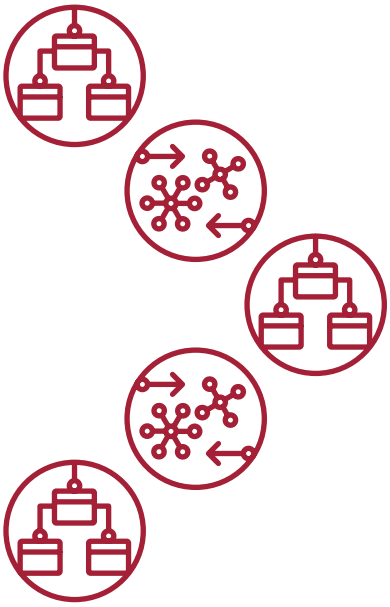
CI/CD automates many of the processes involved before deployment to speed up delivery times and reduce the risk of human error. CD ensures developers' changes to an application are automatically bug tested and uploaded to a live production environment by an operations team. CI helps merge code changes to a shared system more frequently and validate them through testing before passing through to CD. These processes continually repeat, so applications regularly update – sometimes every hour.

However, development and operations environments are yet to come together in a lot of businesses. Historically, application teams have avoided internal IT teams, only interreacting with infrastructure personnel to help with things such as security and networking. A disconnect between the goals of both teams can be the cause of applications staying on-premises.

Additionally, managing infrastructure from a DevOps perspective requires a diverse skill set, which is currently in high demand. Of the respondents, a lack of expertise was a problem for 26 percent transforming their IT for the cloud. DevOps engineers focus on the consolidation of the whole software development life cycle (SDLC). As such, they need to possess well-rounded expertise across virtualization, virtual machines, infrastructure, cloud, coding, containers, and CI and CD.

HYBRID MODERNIZATION

Despite higher-than-expected levels of on-premises hosting, survey respondents know the value of DevOps and container services in the modernization process.



RESPONDENTS THAT PLAN ON INCREASING DEVOPS AND CONTAINER SERVICES DEPLOYMENT ANTICIPATE THE FOLLOWING BENEFITS:

77%

INCREASED OPERATIONAL EFFICIENCY

59%

IMPROVED RESPONSIVENESS

58%

IMPROVED CUSTOMER EXPERIENCE

For the best results, DevOps should focus on the highest value applications. For example, as more organizations adopt a hybrid work policy, workforce and collaboration applications should be prioritized to be moved to the cloud with DevOps. As satellite offices and their infrastructure are stripped back and consolidated, there is less reliance on each specific location.

However, at the same time, business objectives need to be kept front of mind. It usually does not make business sense to sink further costs into applications that have just consumed investment on-premises, especially when servers have built-in resiliency and more extended maintenance agreements.

"A gradual hybrid approach to transformation that aligns with hardware lifecycles, budgets and business goals is crucial. It does not make sense to abandon a strategy that is working for some workloads to move everything to the cloud, for example. Prioritizing workloads that will perform best in cloud environments, and working with a partner with knowledge of both legacy infrastructure and cloud-native technologies, will optimize that approach."

– Marvin Sharp, VP Product and Strategy, Aptum

Seasoned expertise is required to know when it is best to use these tools, just as they are to know when not to use them. Sixty-nine percent of respondents who want to accelerate their cloud deployments realize they need help, which is crucial.

The cloud offers clear benefits for every company for certain business processes or applications. While there are still instances where legacy infrastructure is a better option, many companies are reducing their on-premises infrastructure, meaning cloud solutions will continue to increase in popularity. Wherever organizations host their workloads, they need to be in the right location for the right reasons. Modernization is a nuanced process, and it takes experience and expertise to understand and navigate those nuances.

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