



The role of cloud computing during COVID-19

Its importance in planning for the “new” future





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The Emergence of covid-19 and the subsequent enforcement of social distancing and “shelter in place” orders have resulted in a sharp rise in cloud computing usage, catering for the significant number of people who will be home-based over the forthcoming months.

Office buildings, schools, leisure centres, restaurants, and entertainment venues have all been abruptly shut down, which is unprecedented. This has led to a sudden increase in remote working, video conferencing, streamed video content, long-distance learning and online gaming – all of which relies on the power of cloud computing.

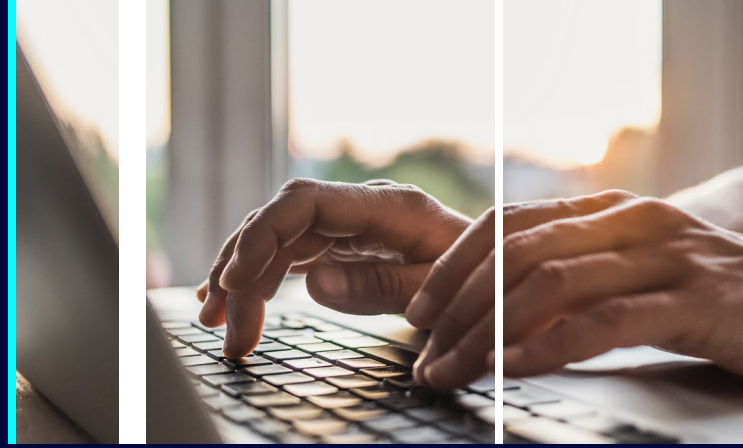
An increasing number of organisations that have relied mainly on face-to-face and in-store experiences, have been pushed into powering up and re-thinking their online presence using cloud computing to continue operating and staying connected with their customers.

These are currently testing times for organisations as they adapt to new ways of working, but concepts such as remote working and scaling out online businesses would have been significantly more challenging ten years ago when advanced cloud computing technology was not available. Here we take a look at the current situation of cloud computing in the context of COVID-19, and with one eye on the horizon we start looking forward in to the ‘new normal’ to provide some recommended tips on what you need to start doing with cloud to get ready for the post COVID-19 era.

We ask;

- In light of these dramatic changes, do traditional IT organisations need to start prioritising and accelerating the adoption of cloud services?
- How has cloud computing been addressing COVID-19 both from a business impact perspective but also directly with efforts to suppress the pandemic?
- How will the demand for cloud computing be impacted by the expected economic downturn?
- What do organisations need to start doing with cloud in terms of planning to get ready for the post COVID-19 era?

How traditional IT fares in a COVID-19 scenario



One of the clear benefits of cloud computing during this crisis has been its flexibility. Organisations can rapidly scale up computing and storage power during periods of unexpected demand, but can also quickly scale down during less busy periods – which is particularly useful for addressing temporary business closures as a result of COVID-19 where capacity may not be required for some time. The value of cloud flexibility has been well advertised for many years, but recent events are likely to make organisations re-think how they can accelerate plans for cloud adoption. Business leaders will now be prioritising how they can leverage cloud computing to support their cash flow position, either now or if a similar pandemic occurred again, thus providing them with the flexibility to reduce IT spending quickly in markets that are likely to decline temporarily over a period of months or possibly longer.

The other key benefit is that IT staff within an organisation no longer have to be physically present at a data centre facility, as this responsibility is offloaded to a cloud provider who can take care of the physical environment including installations, cabling and replacing hardware. This allows your IT staff to safely access applications and databases remotely during a pandemic. You can also take advantage of near-limitless and highly automated cloud computing and storage power from the leading hyperscale providers which include; AWS, Microsoft Azure, Google Cloud and Alibaba Cloud, all of whom have the financial scale, global reach and staffing levels required to keep up with the huge surge in demand right now for cloud-based services.

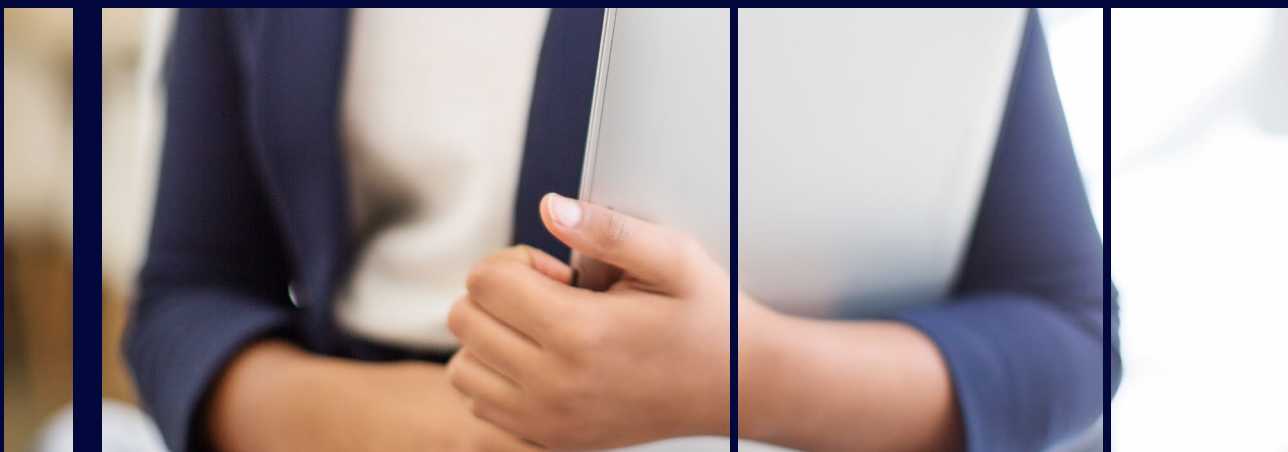
There have been some deployment related issues reported recently on Azure platforms in certain regions such as the UK, but overall the market has reported that the hyperscale cloud providers have stood up well. Each have provided separate statements insisting they are confident in meeting client demand for capacity in response to COVID-19, allocating additional resources to areas where it is urgently needed, as well as ensuring they keep their own staff safe and secure at this time. Microsoft responded by expediting the installation of significant new capacity to alleviate some of the strain on its platforms.



How cloud providers are directly supporting the fight against the pandemic with advanced, cutting-edge platform services

During the COVID-19 pandemic, cloud computing technology has been instrumental in providing a variety of solutions to support with development efforts in the search for vaccines, treatments and testing. The data scientist community have been leading the fight against the pandemic employing various solutions using AI and machine learning, but typically these rely on cloud computing as the advanced algorithms often require significant amounts of processing power to work effectively. The large hyperscale cloud providers have identified this need and are supporting international efforts by offering free tools, services and pledging funds during the crisis to help.

- Alibaba Cloud is providing a 'CT Image Analytics Solution' that can improve testing accuracy and detection efficiency for diagnosing COVID-19, using deep-learning algorithms trained by data in China. In addition, they are also offering an AI-powered computing platform and super-computing cluster for free to power global research institutions to accelerate viral gene-sequencing, protein-screening and other research in treating or preventing the Coronavirus.
- The United States' health protection agency Centres for Disease Control and Prevention (CDC) has launched a Covid-19 assessment bot powered by Microsoft's Azure-based Healthcare Bot service. The solution aims to provide citizens with medical information about the virus and how-to self-care to prevent health systems from being overwhelmed.
- Amazon Web Services (AWS) announced it was committing \$20 million for customers working on diagnostics solutions. The AWS Diagnostic Development Initiative is open to accredited research institutions and private entities using AWS to support research-oriented workloads for the development of Covid-19 testing and diagnostics. This allows AWS to support research-oriented workloads for the development of point-of-care diagnostic (testing that can be done at home or at a clinic with same-day results) and other diagnostic techniques.
- Rescale Inc in cooperation with Google Cloud and Microsoft Azure, announced a new program that immediately offers high-performance computing resources (HPC) at no cost to teams working to develop test kits and vaccines for COVID-19.



How cloud computing will face the expected economic downturn




Some may have raised questions around how the cloud computing market would handle its first period of expected economic downturn since the last recession in 2008 – which interestingly was the period that cloud adoption really started to take off and grow. According to the Wall Street Journal², Cloud-computing providers are emerging as among the few corporate winners in the coronavirus pandemic as office and store closures across the U.S. have pushed more activity online, and that trend is expected to be similar in the UK as well. According to a recently published report from IDC, investments in cloud infrastructure are projected to expand 10.4% in 2020 despite economic fall-out from pandemic¹. Public cloud investment is forecasted at 13.2% year-on-year growth from 2019 to 2020, and private cloud is forecasted to achieve 6.9%. Although demand is naturally expected to subside once the pandemic is over and social restrictions are lifted, it's unlikely that the levels will ever go back to how they were before – with increased remote working and boosted online presence amongst the majority of businesses expected to become the 'new normal'.

The efforts that have gone into the hyperscale cloud providers combating COVID-19 using advanced digital technologies such as AI, machine learning, analytics and bots services available on their platforms, have really helped illustrate the true power of cloud computing to the world when it is actually used to its full potential – and not just simply viewed as an infrastructure replacement for on-premise IT to achieve cost savings.

Virtual reality services are also available on cloud computing platforms (e.g. Azure Spatial anchors, AWS Sumerian) and a recent example of 17,000 doctors and nurses trained during COVID-19 using the Oxford Medical Simulation provides a great example of how this type of technology is currently supporting front line NHS services [3]. Digital tours are also increasing during COVID-19 with several museums and art galleries providing a fully immersive virtual reality experience and examples of property sellers adopting the same technique with virtual house and apartment tours.

There's no doubt that these examples – forced by events associated with COVID-19 – have propelled the awareness and use cases for these advanced digital technologies. The vast amount of media coverage and time people are spending reading about these stories online during the prolonged lockdown should inspire IT business leaders and ensure that these advanced digital technologies start to become more mainstream in the market - particularly as organisations seek to leverage these in the future to deliver differentiated digital experiences to users – or simply just to keep up with the competition!

All of this should result in sustained demand of cloud computing for the foreseeable future as it acts as a key enabler and foundation for digital strategies – very much like it became the de-facto IT and business strategy since the last great recession for start-ups such as Uber and AirBnB and enterprises in general more than a decade ago.

A man with a beard and short dark hair, wearing a white V-neck t-shirt, is smiling and looking down at a laptop. He is sitting at a desk in a home office. In the background, there is a bookshelf with various items and a potted plant.

Tips to get you “cloud ready” post COVID-19

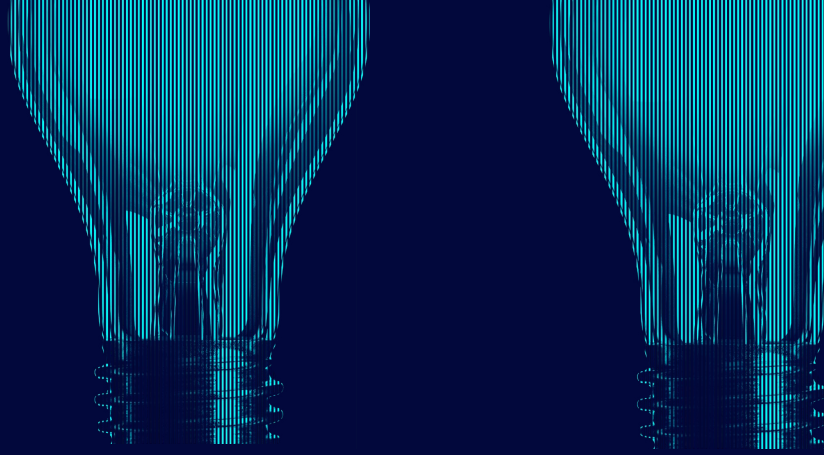
Once we finally get through this crisis, companies will need to start thinking about lessons learnt and how they can make themselves more resilient in the event of a similar crisis occurring again and ensure the necessary controls are put in place to safeguard their business in the future.

At the same time, business leaders need to start embracing the fact that society in general would have become accustomed to new ways of working which is going to heighten the reliance of cloud to power the next stage of technology solutions.

Furthermore, organisations need to think about how they can bounce back, which means remaining committed to continue exploring how they can leverage cloud as an enabler for their digital strategies to remain competitive, but doing so in a smart way that allows them to also navigate a path through any impending financial downturn.



Tips to get you “cloud ready” post COVID-19



☁️ **Adopt scalable infrastructure in response to a potential future pandemic**

- Plan to use scalable architecture to handle additional and exponential online traffic in a short period of time by either expanding on-premise workload capacity using public cloud services, or re-deploying workloads in public cloud
- Prioritise your workloads to anticipate and handle potential cloud resource shortages caused by unprecedented demand, based on importance to business operations, revenue and cash flow

↕️ **Manage financial challenges by using strategy for cloud adoption**

- Avoid a big bang approach for your cloud migration strategy if you can, devise an approach where you prioritise on quick wins – identifying those applications that will deliver the greatest business value in the shortest period of time in the cloud – and then once that is done move onto the next group of applications based on the same criteria
- This approach will break investment asks into smaller chunks rather than one complex business case, making it easier to accelerate exec approval

£ **Keep costs under control once in the cloud**

- It's important you have the right expertise that can advise which applications should go into what type of cloud to ensure it meets business needs on a per application basis and architected in a way that ensures it is fully optimised around cost, performance, compliance, resiliency and security
- Implement cloud governance as an on-going management task – and not a one-time event once you have migrated. This is particularly important for ensuring that your cloud spending doesn't spiral out of control once lines of business begin to leverage cloud resources

🎯 **Continue to stay focused on digital innovation using cloud**

- Tapping into the true potential of cloud computing using cloud-native infrastructure and platform services for AI, machine learning, data analytics and virtual reality etc is going to be critical for organisations to establish a competitive advantage as we enter the next phase of the digital revolution, accelerated by new ways of working and revised client expectations
- Agree and carve out a separate budget for research and development to accelerate proof of concepts using cloud innovation, making it separate from the day-to-day IT operations budget to minimise any financial risk or impact to BAU spending.



About the Author

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A highly experienced IT product leader. Subject matter expert in cloud, data centre, digital transformation and IT services markets. Track record of success stretching back more than 20 years at IT systems integrators, telcos and cloud-specialist managed services providers.



¹ IDC – EMEA Cloud IT Infrastructure Value and Share, April 2020 <https://www.idc.com/getdoc.jsp?containerId=prEUR246181320>

² Wall street journal - <https://www.wsj.com/articles/one-business-winner-amid-coronavirus-lockdowns-the-cloud-11585327905>

³ <https://pressat.co.uk/releases/17000-doctors-and-nurses-training-during-covid-19-using-virtual-simulation-technology-1c5fda8a99cf62cb2f2ca4f9b9506aef/>
<https://www.scientific-computing.com/news/cloud-providers-rally-against-covid-19>