

WHITE PAPER

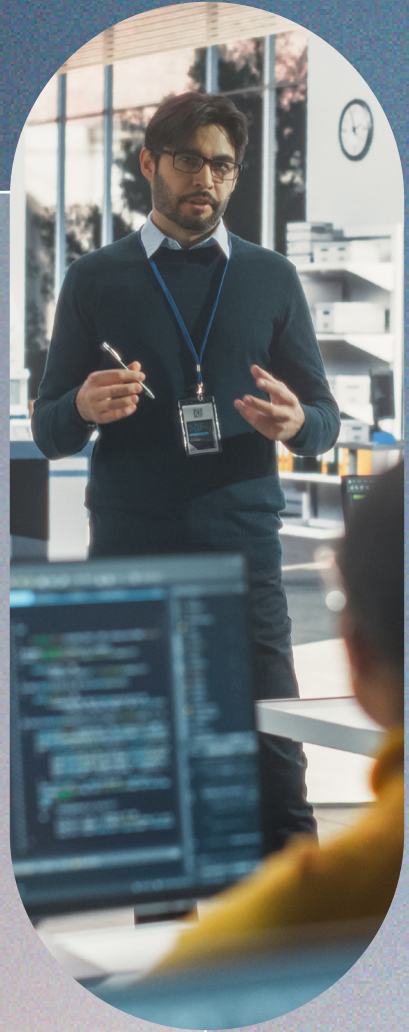
Mind ‘the cloud skills’ gap

How partnering with a specialist
Cloud Services Provider can help
your organisation to make its cloud
strategy a reality

WELCOME

White paper overview

In this article Cyberfort Cloud experts discuss the challenges organisations are facing in terms of having access to the right skills to make their cloud strategies a reality. The article discusses where the skills shortages are in the cloud, potential impacts and why partnering with a specialist Cloud Services Provider with specific skill sets could be the answer.



Understanding 'the cloud skills' gap

The Cloud computing market continues to grow at pace. Gartner estimates the Public Cloud market will grow over 20% in 2024 to \$678bn up from \$563bn in 2023 (1). Gartner are also forecasting the market will continue this exponential growth and by 2027 the Public Cloud market will be worth over \$1 trillion (2).

This growth is being fuelled by organisations seeing the value of cloud and looking to move even more workloads, data and applications as part of their cloud strategies. In addition to traditional reasons for moving to the cloud many organisations are now reviewing their cloud strategies to include provisioning to support their AI, IoT, and Edge Computing strategies.

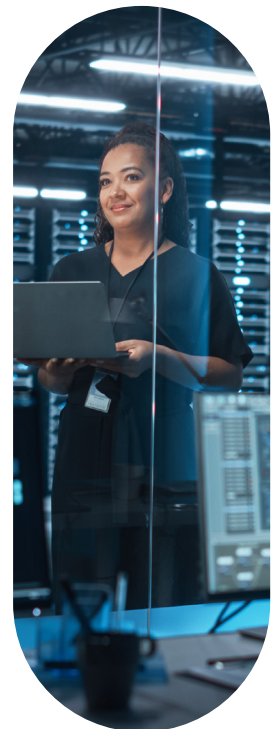
Having a great cloud strategy and understanding what you want to move from on – premises infrastructure is only one part of the puzzle. Organisations who are looking to the cloud for help to resource their AI, IoT, and Edge Computing programmes need to start thinking about the cloud skills they need.

A recent report in 2023 by Software One holding AG estimated 98% of organisations globally are already facing a cloud skills gap (3). 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Cloud Skills 2022 survey discovered that 44% of senior IT leaders describe 'finding qualified candidates to bring in as new hires as difficult' (4).

It isn't just finding the right candidates to fill roles which is proving difficult, organisations need to invest in employees so they can upskill in other technology areas. But this isn't cheap with it being estimated that it costs approx. \$5,000 per employee on average to upskill in a new technology area according to Pluralsight (5) not to mention the time the employee will be away from their day job whilst they are undertaking training. The same survey also identified that 68% of IT leaders believe their executive teams do not understand the true impact of the tech skills shortage on their organisation.

So, what is the result of all this? Based on the research and market feedback it is clear. If organisations are not already thinking about how to fill cloud skills gaps, they risk key strategic projects being abandoned, leaving themselves open to security breaches and may find themselves falling behind the competition as they will not be able to utilise new technologies such as AI, IoT, and Edge Computing for maximum impact.

Ultimately, if an organisation does not have the cloud right skills in place to help them extract value from new technologies which are reliant on the cloud, they risk being left behind in an ever-changing digital world.



Where are the current Cloud skill gaps and what is the impact on your cloud strategy?

Now we understand the challenge organisations are facing with the cloud skills gap, it is important to identify where the biggest potential impacts are. At Cyberfort we have witnessed over the past 12 months 5 key cloud skills gaps which are affecting organisations cloud programmes. Below we highlight each of the skill sets, the reasons why you need to address the skills gap and the potential impact it may be having on your organisation.

01

Cloud Architecture not being future ready as the right skills are not available and difficult to recruit



02

FinOps skills are no longer a 'nice to have' but a 'must have'



03

Infrastructure skills hold the key to unlocking cloud value



04

Security, Governance and Compliance skills need to be available and ready to respond



05

Data management skills can lead to improved cloud performance



01

Cloud Architecture not being future ready as the right skills are not available and difficult to recruit



Creating the right cloud architecture is crucial to how an organisations cloud strategy will perform both today and in the future. Skilled Cloud Architect professionals are in high demand and many organisations are struggling to recruit the right people for these roles. Without the right cloud architecture skills in place an organisation will not be able fulfil its strategic cloud goals. The impact of not having these skills available may mean an organisation is:



Unable to determine the different needs for cloud and manage its adoption.



Leaving itself open to cloud cultural change issues as changing employees roles and responsibilities when moving to a 'cloud first strategy' from on premises infrastructure can be difficult to manage without a skilled cloud professional available to explain and implement changes.



Not able to communicate and plan effectively with cloud providers and partners.



Unable to undertake design and planning for future cloud requirements resulting in migration strategies not being integrated with business objectives, security risks, disaster recovery measures not in place and compliance issues.



Incapable of developing their existing cloud architecture to improve workload, data and applications performance.



Cannot effectively manage and monitor cloud performance and take action to mitigate risks associated with cloud computing.

Based on the shortage of skilled cloud architects IT leaders need to develop a two-phase approach to tackling this challenge. They need to continue with their recruitment efforts to attract the right cloud architect talent to their organisation. But they also need to consider other options to fill this skills gap. Firstly, they need to review their talent management pathways and identify existing employees who could upskill into this role in the future. Secondly, they need to be working with their Cloud Service Providers to assess what skills they have available to help them overcome cloud architecture challenges in the short to medium term.

02

FinOps skills are no longer a 'nice to have' but a 'must have'



FinOps has had a significant amount of industry coverage in the past 12 months as part of organisations reviewing their cloud computing costs. Skills in the financial management area of cloud are in serious demand. Many organisations simply do not have access to, or the recruiting time available to hire dedicated finance managers for their cloud programmes. By not having Finance professionals who understand cloud computing and its associated costs the organisation is leaving itself open to:



Creating the wrong financial models for cloud, basing it on historical CAPEX models and not being able to change the mindset/approach to an OPEX finance model.



Being unable to evaluate the financial costs of moving different workloads to the cloud and forecasting the cost impacts as workloads scale in the cloud.



Not being able to control cloud consumption costs across the organisation as employees outside of the IT team start to use cloud for AI, IoT, Edge and Quantum computing.



Understanding how to change and adapt business cases based on changing cloud architectures, and supplier T&C's.



Inability to create a rolling 12-month cloud budget aligned to an organisations cloud objectives and undertake in depth analysis of cloud spend and where savings could be made to reduce cloud wastage.

As discussed FinOps is a hot topic in cloud due to rising costs and disaggregated spend across organisations due to different employees using cloud computing for their roles. Those responsible for the day to day running of cloud operations may not have the financial skills available to them in their organisation to plan ahead and make sure they are extracting full value from cloud investments. Immediate recruitment of a finance professional who fully understands cloud computing can be difficult and time consuming. At Cyberfort we believe the way to FinOps success should be incremental. For most organisations the best approach is to work on developing close relationships with their Cloud Service Providers asking them to help provide skills and expertise to drive value from their cloud strategy. Many Cloud Service Providers can for example help under pressure IT teams to understand their current cloud spend, create budgetary roadmaps for them to combat seasonal fluctuations in budgets and provide financial and reporting dashboards so reporting of cloud performance is easier in the short to medium.

03

Infrastructure skills hold the key to unlocking cloud value



When developing the right cloud environment for an organisation it is imperative to view it as an extended part of your organisations overall IT infrastructure. Cloud infrastructure professionals play a vital role in designing, managing, and optimizing cloud infrastructure and services, ensuring an organisation can harness the full potential of cloud technology. With cloud infrastructure skills in high demand organisations must address this skill area or could be:



Unable to take advantage of and unlock the potential of public cloud platforms like AWS, Azure, and Google.



Not able to respond to changing organisational demands for compute, storage, databases, and networking.



Finding it difficult to code and programme the cloud for their organisations requirements leading to inefficiencies and cloud wastage.



Missing out on the potential of DevOps professionals who can help with continuous integration, delivery, and deployment.



Suffering from being unable to communicate the changes the IT teams are making in cloud and the implications for the organisation.



In a reactive cloud state trying to play catch up with cloud requirements, usage and spend as AI, IoT, and Edge computing place high demands on infrastructure.

To fill this skills gap organisations must start to review their current cloud pressures on infrastructure, technology roadmaps and the overall objectives. Then review the current cloud infrastructure skills in their organisation. Many organisations will find themselves short of resource in this area due to the recruitment challenges already mentioned earlier in the article.

If knowledge gaps around your organisations cloud infrastructure do exist specialist Cloud Services Providers can be a viable option to fill this gap in the short/medium term. By using a specialist Cloud Services Provider for these skills your organisation can also benefit from wider industry and technology knowledge, training for existing employees and benchmark their cloud infrastructure requirements against the competition in the markets they operate in.

04

Security, Governance and Compliance skills need to be available and ready to respond



Within any cloud operating environment security, governance and compliance are always a crucial area to have the right skill sets available. If an organisation fails to have the right skills to address these areas, they leave themselves open to cyber-attacks, regulator intervention, fines and customer/employee complaints should data not be correctly stored, managed and maintained. If an organisation fails to address the skills gap in this area, they could find themselves:



Unable to create and maintain the right encryption and security models with data being used in different cloud environments.



Having employees accessing data and applications which are running in the cloud which they are not authorised to.



Not able store and manage data correctly leading to employee/customer complaints and regulatory fines.



Leaving their data in transit between different clouds open to attack.



Unable to test the resilience of different clouds when come under attack.



Be unable to report back to the board the risks associated with the cloud and how they plan to improve their overall cyber security posture.

As cloud has grown so have the demands for security, governance and compliance professionals. To try and alleviate the pressure in this area organisations must seek some form of help/guidance from a specialist 3rd party. This is one area where IT leaders cannot wait for recruitment to catch up. Instead, a practical approach to this is to ask existing Cloud Service Providers where the key risks are, identify what can be managed in house and then look for a short term outsourcing solution to fill the gaps.

05

Data management skills can lead to improved cloud performance



Data storage and management is one of the major reasons organisations have moved their infrastructure to the cloud. As volumes and use and of data explodes due to trends such as AI, IoT, and Edge Computing so have the demands for Data Management professionals. Many organisations are in a reactive mode to the usage of data especially as AI is now being used by employees outside of IT teams. As more and more data is produced, processed, changed and used making sure an organisations most valuable asset – its data, is safe, secure and compliant with industry regulations is skills gap which should be a top priority. It is a priority which should be shared between IT leaders and the boards of directors. If an organisation is unable to manage its data in the cloud correctly it may be storing up future challenges including:



Sensitive data being moved to cloud environments which may not have the right security measures in place.



Data compliance breaches in regulated industries. Leaving the organisation open to customer and employee complaints and potentially large fines.



Operational and performance issues of applications and access to data leading to a poor end user experience.



Overspending on cloud storage and compute as the more data which is stored in the cloud the more it could be potentially costing your organisation.



Potential risks with different users having access to and changing data on cloud platforms.



Inability to fully understand the data access which is needed to make AI effective.

Data as one of the key components of cloud will always need to be managed carefully. Data Management professionals are in high demand as they are responsible for all facets of data across an organisation. To make it easier in the short-term organisations should review and categorise their data and identify where the risks are in terms of data being used, where it is in transit and who is responsible for managing it. If skills gaps exist plans to recruit or engage a specialist 3rd party should be put in place to make sure the organisation is not at risk from regulatory bodies.

Developing the right approach to bringing Cloud skills into your organisation

Generally, there are 3 approaches to closing a cloud skills gap. Organisations can either Outsource to a specialist provider, try to Out Hire other organisations or Out Smart the competition by using automation and AI technologies for repetitive tasks. Each of these approaches has positive and negative consequences as we can see in the tables below.

Outsourcing

Positives



Industry knowledge which can help inform your overall cloud strategy.



Flexibility of resource and skills on demand to scale with fluctuations in cloud usage.



Cost savings and management by providing advice on current cloud models and providers.



Improved time management for your IT teams as the provider can undertake most of the day to day operational tasks.



Technology partnerships with major cloud providers means your IT team can be informed of any changes to terms, conditions and service levels ahead of time.

Negatives



Less control over your full infrastructure stack as the service provider will be managing most of the cloud operation.









Becoming over reliant on the cloud service provider could lead to a lack of focus on cross/upskilling existing employees.












Time taken to understanding your organisation and develop the right set of services you need.

Out Hire

Positives	Negatives
 <p>Those who you recruit into cloud roles will naturally become embedded in the company culture.</p>	 <p>Time to recruit specialist cloud skills can be lengthy. There is a shortage of skilled cloud professionals available in the market.</p>
 <p>Power of selecting the right candidates for your organisation’s requirements both today and in the future.</p>	 <p>Recruitment and training costs to attract new staff and make sure they adapt to your organisation can quickly ramp up if not managed correctly.</p>
 <p>Intimate knowledge of company technology stack and understanding where cloud computing plays in the organisations overall IT strategy.</p>	 <p>Retention vs the market – due to the demands for cloud professionals it is becoming increasingly difficult to keep hold of skilled cloud professionals. Many are being swayed by significant salary increases and benefits to move employers.</p>

Out Smart

Positives	Negatives
 <p>Increase talent attraction and retention by providing higher salaries and improved benefit schemes to keep hold of high performers.</p>	 <p>Resistance to change as some staff may not be willing/wanting to train in other technology areas outside of their day job.</p>
 <p>Address current skill gaps internally by providing training and qualifications which will benefit their careers. This is also cheaper than recruiting.</p>	 <p>Training costs for new technologies can be expensive. Budgets will need to be created and managed to enable employees access to the right courses and qualifications.</p>
 <p>Improved cloud adoption by cross/up skilling staff internally to use cloud tools available to them. Freeing up IT resource to focus on strategic programmes of work.</p>	 <p>Investments in new technologies may not be realised immediately as employees will need time to retrain and test their skills.</p>
 <p>Take advantage of new technologies by giving employees the opportunity to use, learn and manage other areas of the cloud. Resulting in improved organisational performance.</p>	 <p>Employee attrition once staff are trained/qualified in cloud technologies is a major risk. How do you ensure you realise the benefits of training investments in staff before/if they leave to another organisation.</p>
 <p>Invest in automation technologies to make repetitive tasks more efficient in how they are processed.</p>	

Taking a blended approach with Cyberfort

At Cyberfort we believe a blended approach looking at all 3 options is the right strategy for most organisations looking to fill their cloud skills gaps. 'Out hiring' and 'Out smarting' will require significant investments in time, money and effort. If IT leaders are looking at these two approaches they must think about the short/medium term impact to their organisations capability to deliver.

From what we have seen at Cyberfort in the market over the past 12 months cloud computing and filling the skills gaps in order to effectively extract true value from cloud investments is at a tipping point. AI, IoT and Edge Computing alongside the traditional reasons for putting workloads, data and applications into the cloud are resulting in cloud teams being under extreme pressure.

The main cloud skills strategy we are helping IT leaders with is providing outsourced secure cloud services supported by skilled staff to enable cloud programmes of work to continue in the short/medium term. Then we are working with our customers to develop a longer-term cloud strategy to make sure they have the resources on demand to enable them to be effective with their cloud programmes of work.

1 <https://www.gartner.com/en/newsroom/press-releases/11-13-2023-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-679-billion-in-20240>

2 https://emt.gartnerweb.com/ngw/globalassets/en/doc/documents/768816-the-future-of-cloud-computing-in-2027-from-technology-to-business-innovation.pdf?_gl=1*1275wnv*_gcl_au*MTA2NDE5NjlzOS4xNzE2OTc5Njk5LjIwODQ5OTYyNC4xNzE4MDkxMDY2LjE3MTgwOTEwNjY.*_ga*MTg5NzQxMzExNi4xNzE2OTc5Njk4*_ga_R1W5CE5FEV*MTcxODA5MDc5MC4xMS4xLjE3MTgwOTEwNjYyNDkuMC4w

3 <https://www.prnewswire.com/news-releases/cloud-skills-gap-causes-33-of-businesses-to-miss-financial-objectives-while-delaying-digital-transformation-projects-by-five-months-softwareone-survey-finds-301981804.html>

4 <https://www.spglobal.com/marketintelligence/en/news-insights/research/closing-the-cloud-skills-gap-a-perennial-problem-for-businesses>

5 <https://www.verdict.co.uk/upskilling-tech-workers-is-far-more-cost-effective-than-hiring-to-fill-skills-gap-report/>

Helping your business create, manage and deliver Secure Cloud services

Cyberfort Cloud

- Secure multi-tenant cloud
- Infinitely scalable
- Software-defined networking model
- Integrated backup included
- No ingress/egress charges
- Feature-rich optional native capabilities available

Private Cloud

- High performance dedicated platforms
- Compliant to regulatory & security requirements
- Proven technology stacks
- Secure UK Data sovereignty
- Tailored solutions
- Fully managed
- Certified engineers

Public Cloud

- Azure Managed Cloud
- AWS Managed Cloud
- Performance and cost optimised design & management
- Total cost of ownership calculations
- Build validation services
- Multiple billing options
- Flexible support levels from certified engineers

Hybrid Cloud


- Enterprise cloud
- Managed data protection
- Business continuity
- Managed connectivity
- Solution design
- Integrated platform with native Public cloud tooling and services



Cost certainty



Secure and compliant



Tailored cloud



High performance



Managed support



Skills on-demand

Cyberfort Secure Cloud Customers



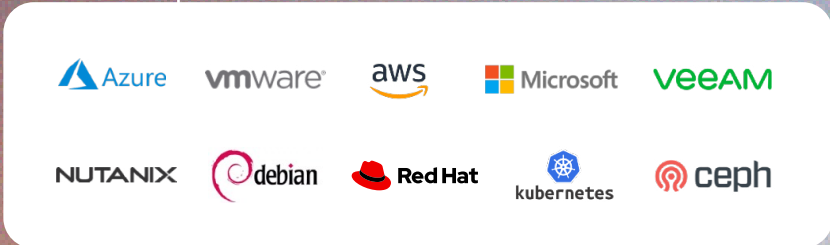
Helping your business create, manage and deliver Secure Cloud services

Market-leading Technology Partnerships

Infrastructure, networking and connectivity



Platforms, data management and storage



Security and management



Why should you partner with a specialist Cloud Services Provider to fill your skill gaps?

Many people reading this article will have outsourced IT projects and technology support to 3rd party providers. However not all 3rd party Cloud Service Providers are the same. IT leaders should start to evaluate their current 3rd party Cloud Service Providers and ask the following questions to decide if they are the right fit for their organisation and can provide the skills they need to undertake their key cloud programmes of work:

Key questions to evaluate your Cloud Service Provider Skill Sets

Does your existing Cloud Service Provider have the right certifications and standards in place for managing your cloud environment today and in the future?

When reviewing Public Cloud contracts, commercials & SLAs can your Cloud Service Provider give you access to knowledgeable professionals who understand the risks, security implications and management expectations?

Does the current Cloud Service Provider have the right skilled personnel available to work with your IT team to develop, review and refine your organisations technology and services roadmap?

Are staff available from your Cloud Service Provider to help your organisation improve reliability and performance of your cloud operating environments? Are they proactive in their approach or are they simply managing their contractual obligations?

Is the existing Cloud Service Provider aware of and can they provide access to the skills your organisation needs for data security, data governance and business policies you need to adhere to? Particularly in heavily regulated industries.

Is your Cloud Services Provider ready to help your organisation with data, applications and migration support?

Are you happy with the service dependencies and technology partnerships your current Cloud Services Providers gives you access to? And do they have the right skilled staff available to provide advice on where improvements can be made?

Do they have the skills available to help prevent vendor lock in and are they transparent with cloud exit planning?

Do they have recognised industry skills and a company profile which matches the existing culture of your IT team?

By asking these questions and assessing your Cloud Service Providers skills in the areas where you need to supplement your existing cloud team, you can quickly evaluate if they are the right fit for your organisation. It will also enable your organisation to start benchmarking their performance and identify if the skills they are providing are unlocking true value from the cloud.

CONCLUSION

Final thoughts

In this article we have identified the key challenges all organisations who have a cloud strategy are facing when it comes to finding the right skills to design and deliver their programmes of work. We have discussed 3 key approaches to filling the skills gap and provided advice on where to start with the right approach to addressing the cloud skills gap challenge. It is important for both IT leaders and C-Level executives to review their cloud investments from both a tools and technologies perspective and factor in a plan for how they can supplement their cloud teams with the right skills so they can extract the most value from their investments in this technology area.



Discover more about Cyberfort services

At Cyberfort we provide a range of customers with all-encompassing Cyber Security Services. We are passionate about the cyber security services we deliver for our customers which keeps their people, data, systems and technology infrastructure secure, resilient and compliant.

Our business offers National Cyber Security Centre assured Consultancy services, Identification and Protection against cyber-attacks, proactive Detection and Response to security incidents through our security operations centre and a Secure and Recover set of Cloud solutions which keeps data safely stored, managed and available 24/7/365.

Over the past 20 years we have combined our market leading accreditations, peerless cyber security expertise, strong technology partnerships, investment in our future cyber professionals and secure locations to deliver a cyber security experience for customers which enables them to achieve their business and technology goals in an ever-changing digital world.



For more information on our Secure Cloud and Cyber Security services please contact us at the details below:

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We look forward to working with you