



# Five Steps to a Successful Cloud Migration

Migrate your workloads for your next strategic move – from anywhere to anywhere with flexible, cost-effective and low-risk cloud migrations.



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# Introduction

The cloud has become a strategic tool and top priority for many organisations. It shouldn't just be a transformation of the IT department, but a company-wide initiative, providing much-needed agility and flexibility and enabling enterprises to meet the fluctuating demands of their market. The cloud delivers the capability required without risking business disruption, security, compliance or performance.

FORRESTER RESEARCH REVEALS

76%

OF ORGANISATIONS ARE INCLUDING MIGRATING APPLICATIONS TO THE CLOUD AS PART OF THEIR STRATEGY

Enterprises undertaking digital transformation are driving greater public cloud adoption. Delivering greater IT capacity, enhancing DevOps capabilities, mobility, Artificial Intelligence (AI) and Machine Learning and the Internet of Things (IoT) have been identified as the six major factors driving cloud adoption.

Forrester research reveals that 76% of organisations are including migrating applications to the cloud as part of their cloud strategy.\*

The initial stages of the journey are crucial. A change such as moving to the cloud requires internal support as well as external assistance. The team leading the transition to cloud needs to ensure expectations are managed and they deliver regular, transparent and open communication to the wider organisation. Failing this, IT leaders within an organisation may find themselves battling to secure funding or the support required to start the migration, or they may be left with results that don't match expectations.

\* Forrester Research: The State of Cloud Migration, Portability, and Interoperability, Q4 2017. Published 5 January, 2018



# The case for cloud

1. Cloud platforms, either private or public, offer higher availability and greater scalability. This enables companies to enhance their IT infrastructure as required and increase or adjust resources in line with business needs.
2. Reduced operational costs are often seen across the board when running services in the Cloud rather than on-premise. Upfront costs can also be avoided by paying only for the capacity used. Additionally, moving to the cloud brings savings with on-going maintenance and support. The cloud enables your IT team to focus on your business rather than managing infrastructure, software licensing and myriad of other items that come from owning your IT platforms.
3. Alongside cost savings, migrating to the cloud increases the resilience of your company. By improving the security of your data and ensuring long term accessibility of its storage. Your information is protected in the unfortunate case of impaired infrastructure. The cloud offers several choices and opportunities for security both of data and who has access, to what information and how they are able to interact with that information.
4. Having your applications in the cloud also removes the barriers of traditional communication. Organisations who have moved now leverage collaboration and company communication tools, software, apps, access to documents and databases from anywhere, at any time. Therefore making collaboration more effective and less subject to the vagaries of internal infrastructure.

The ability to integrate diverse services together in a single platform allows business to enhance collaboration, improve data and infrastructure security and redeploy limited assets – people, money, infrastructure and time – in a more purposeful and focused manner to drive the business' success.





# Five steps to a successful cloud migration

- 1** Develop the right strategy early
- 2** Determine suitable applications
- 3** Secure the right skills and resources
- 4** Migrate with data integrity in mind
- 5** Adopt an end-to-end approach



# Step 1

## Develop the right strategy early – taking a deliberate approach

You have decided to go to a cloud platform. You may have even chosen the platform provider you think is right for your business, but did you know that certain applications run better in certain clouds? That different cloud platforms have different ways of charging and some charge significantly more than others. How do you get your data into the cloud and more importantly how do you get it out if you find the cloud platform you chose is not right for your workload?

Then, if you feel you do have it all right, you have measured the costs, the platform, you have the right applications headed to the right provider, how do you make the migration with minimal downtime and risk to your business?

Given each of your applications are unique, migrating them to the cloud needs a considered strategy.

### SPECIFIC STRATEGIES

When choosing your specific cloud migration approach, researching the specifics and measuring the costs and suitability of each is essential. The implications for your broader data strategy and how this may impact your platform choice must also be considered.

### MIGRATION STYLES

- **Lift & Shift** is ideal when your migration to the cloud requires little or no changes to the application itself. The lift and shift method allows migration tools to complete programmed infrastructure conversions from on-premise to the cloud, or between clouds, autonomously.

Lift and Extend and 'Lift and Shift' are the most common approaches. In this case, you are rehosting the application in the cloud and at the same time making enhancements to the application to support your latest requirements. This approach has the versatility to be suitable for both custom and packaged applications.

- **Hybrid** is where the application is not physically moved to the cloud, however a cloud platform is aligned to enable 'bursting' for additional computing or storage in a time of need. For instance, if you are a retailer and your application is used for online sales, at certain times of the year your application will be under more stress than at other times. It is in these instances that using a Hybrid cloud solution will enable you to utilise additional resources without paying for them for the entire year.

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- **Rebuild for Cloud** is the final approach. Used primarily in circumstances where the application is of particularly high-importance or where a substitute, cloud-native, application may not be available or suitable. The undertaking of a re-write of the application is a time-consuming and likely expensive procedure. This strategy involves completely rewriting applications for cloud. The rebuild for cloud option is intended for customers whose applications are unable to adopt any of the other solutions however require the optimum performance that can only be reached by cloud migration.

## STRATEGY CONSIDERATIONS: MEASURING COSTS & EVALUATING SUITABILITY

- **Suitability of Technology:** Businesses need to contemplate the unfortunate scenario that certain applications, which the business may rely on, could fail if these technologies do not have a double in 'the cloud'. This may result in some applications being less suited to cloud or even that these applications become unusable or inoperative.
- **Licensing Implications** – There is often significant difference between the tools and licenses you need for an on-premise application and the ones you need to support the application in the cloud. Plan your migration so you are not falling afoul of your vendor's licensing programs.
- **Monolithic or microservices?** While this is not a choice you will likely make with your immediate application needs, it is a key consideration for you when you think about your longer-term requirements. The choice of either monolithic or microservice architectures is one that will determine your choice of platform provider. Each of the major public clouds uses a different micro-services model and this consideration may bring the need for more than one provider.

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Monolithic applications are suited to a straight 'lift and shift' migration where the target platform is largely a mirror of the current on-premise one. That said, as your applications expand in the cloud the use of microservices to provide a common set of reusable functions makes things easier to manage and gives the application the ability to scale more quickly as the deployment and testing requirements narrow to just the microservice that is being changed rather than re-testing the entire application.

- **Engagement vs Record?** Customers will need to determine the criticality of the system they are migrating. For instance, if the application holds critical customer data that may be subject to regulation, this 'System of Record' requires additional security and data management policies. These policies may mean that storage in the cloud is inappropriate or requires additional measures to preserve the data.

Equally, an application that does not meet the definition of a 'system of record' may need less security or less stringent data handling measures and thus may be relatively straight-forward to move to the cloud.



## Step 2

### Determine suitable applications

Cloud strategies require balance and clear instructions that guide cloud teams in their daily decisions. One of the most common balancing acts is the commitment to acquiring new applications or functionality versus modernising and moving existing ones. Successful cloud strategies explicitly identify their priorities, making a clear call on the amount of effort placed on each option to ensure time frames and spend match the impact.

Diligence must be undertaken when analysing portfolios of applications to guarantee the appropriate target model, be it cloud migration, hosting, outsourcing or on-premise. Thorough analysis of the architecture of the applications, the complexity of each and comprehensive planning prior to implementation can help provide insights.

#### CONSIDERATIONS FOR APPLICATION SUITABILITY

- Shelf life; Applications need to be assessed for longevity and whether the investment of moving to the cloud is worthwhile. If the application has legitimate use in the future, a lift and shift approach is valuable as this doesn't require the degree of expense that other strategies entail.
- Alongside the above consideration, the stage of the application life-cycle must be a factor. Those applications in the early stages of their development are easily ported to a cloud platform while those that are more fully functional and have been extended over time may be far more complex to migrate and, thus, require an alternate approach to the migration process.

- Approaching migration with a 'one size fits all' view must be avoided. Instead applications should be assessed individually using a selection or suitability criteria. Unfortunately, there is no technology yet to make this assessment. Where applications are not written for the cloud business may conclude it is either impossible, uneconomical or not technologically sound to reconfigure them.
- It is also possible that if applications are holistically unsuitable, they may need to be divided into parts and sectionally migrated. This will act to enrich performance, limit costly redesign efforts, consultancy fees and avoid violating licensing agreements.
- For those with international business models, in some cases the close geographic proximity of the cloud to the original application is paramount. This will often ensure the local compliance requirements that businesses often stand upon are met.

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# Step 3

## Secure the right skills and resources

It is essential that your choice of service provider has the right expertise and the technology to deliver a successful cloud migration. The team will bring skills from security, operations, sourcing and vendor management to task making the migration a seamless transition.

Alongside this external management, it is key to have internal contacts with specialised knowledge of application architectures to be able to inform real time decisions to reduce costs and be time effective.

- Assuming a public cloud platform is your target, public cloud expertise is the most essential component of your knowledge base. An extensive understanding of the cloud platform targeted for use will guarantee pre-existing services are utilised in place of custom design. This ensures the future upgradability of your application is not affected by customisations made to the applications.
- Application specific knowledge from a professional will ensure the least amount of rewriting for applications and minimal disruption to the architecture. A technical understanding of the code that makes up the applications and the engineering of how these work together is also critical.
- Owner input – business and application-specific knowledge regarding the performance, customisation, usage, and connectivity needs of the application should be made available for cloud professionals to work with. By gaining this knowledge from the original source, quality of service will be enhanced, and risk reduced.

- Security – Gartner research suggests that through 2023, at least 99% of cloud security failures will be the customer's fault.\* Thus, necessary frameworks must be put in place to ensure the application and its data are protected in the cloud.
- Experts with the latest development knowledge – By staying up to date with the latest market trends and any new developments that may arise during the project, the cloud migration team will be equipped with the most current of practices.
- References are crucial – As you move to the final choice of your migration partner, seeing and speaking to other organisations with a similar application profile is critical. Ensure that your partner of choice has successfully migrated applications in similar industries, of similar complexities and can demonstrate the use of automated tooling to reduce risk, time and expense for your cloud migration.

GARTNER RESEARCH SUGGESTS –  
THROUGH 2023, AT LEAST

99%

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\* Gartner research: Magic Quadrant for Cloud Access Security Brokers. Craig Lawson, Steve Riley. Published 29 October, 2018

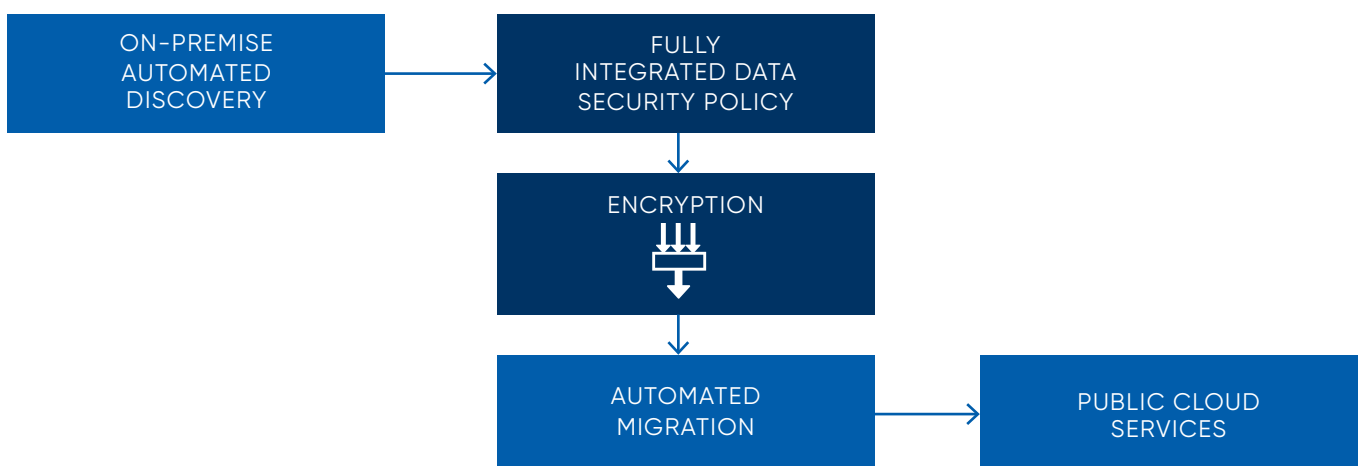


## Step 4

### Migrate with data integrity in mind

Data can be at risk during migration. The integrity of the data can be compromised in the event of an in-effective migration process or data may be exposed if the migration is not sufficiently secured. While automation is fundamental to a successful cloud journey, the use of automated tools must be managed in line with company security policies and may involve encryption of data as it moves from on-premise to the cloud. Combining automation with a clear view of data integrity is a critical element in a successful journey to the cloud. A major challenge during migration is to understand the sensitivity of the data and any risk of losing data

integrity. Post migration, organisations must validate their business processes and ensure that the cloud migration preserved the integrity of their company data. It is essential that your migration provider includes a full data security model for the data both during and post the migration. Look for an ISO27001 – Data Security certification as well as an in-house Cyber Security function from your partner to ensure data security is built in and not an afterthought to the migration process.





# Step 5

## Adopt an end-to-end approach

Interactive emphasises the importance of addressing all 5 steps to success from the beginning of the initial strategy to the implementation and continued maintenance of your newly migrated applications. By adopting this end-to-end approach, the migration will be of high quality and consistency, guaranteeing long term satisfaction for your business.

Factors to ensure a successful end-to-end approach:

- Forward planning for when existing application strategies aren't achieving the desired outcome, be it for infrastructure reasons, application unsuitability or data centre capacity, etc.
- Beware of the pitfalls of each migration strategy and choose the right one for your needs based on a thorough examination of the application.
- Be proactive in enhancing the skills and resources available to you. Re-educate and retrain staff to ensure the technical competency of those supporting your cloud migration.
- Measure the cost against the quality and be deliberate in decisions of strategy to consider what is right for your business on an application-by-application basis.
- Marry applications with the infrastructure they utilise and view these as a unified service.
- Applications must still be managed once they have been migrated to the new context of the cloud, ensure you have chosen a partner who can provide on-going cloud platform and application management services as required.



# Managing the risk of cloud migration

While there is strongly established purpose for moving to the cloud, there are also risks with this type of move. Some of these are considered below.

1. Some data is better kept on-premise. Your organisation may have additional obligations under law or by nature of the data you hold on your customers. This data may need to be retained on-premise to reduce the potential exposure from a breach in the cloud. Regardless of where your data is stored, you remain accountable to your customers and legislators for its safety and integrity. Ensure you know where your data is, who is holding it and what legal jurisdiction they are subject to.
2. There are many stories of 'cloud rebound' appearing where organisations have moved to the cloud without undertaking enough due diligence of the needs of the business or the individual application. The complexity of exiting from a public cloud platform and re-platforming the application is not inconsequential and the costs for such a process can be substantial.
3. Frequently, physical proximity, or the lack thereof, between data and the processing services can pose threat and slow operations. There is, then, a need to reconfigure the architecture and arrangement of such systems to ensure the satisfactory performance of your applications. This can be costly, time consuming and should be determined prior to migration.

4. There is added customer responsibility associated with cloud migration services. This can come in the form of demand management, lack of operational control and governance and compliance issues.

Despite these risks, the benefits from moving to the cloud are extensive. Choosing your cloud partner before you pick the platform can help ensure you have a positive cloud experience and navigate the various pitfalls listed above.

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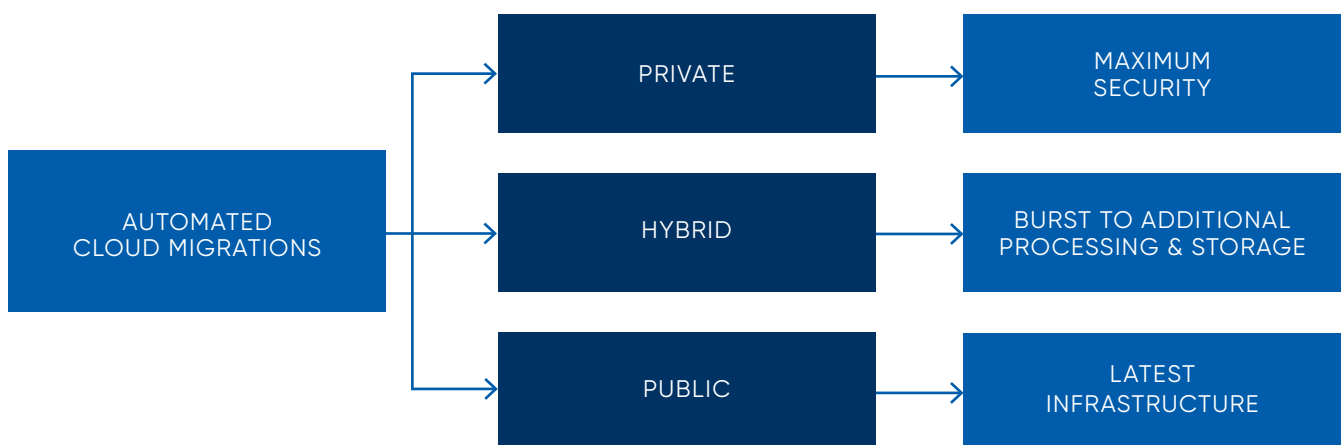
# Why migrate workloads with Interactive

Many businesses have a cloud adoption strategy, but struggle during actual migration because they lack a clear road map. Regardless of your cloud destination, and no matter the size and level of complexity, Interactive delivers accelerated cloud migrations to private, hybrid and public clouds.

Utilising an automated approach to application discovery, we remove the risk of missing a vital supporting component or that your application will not perform once in the cloud.

Post discovery, we again offer a highly-secure, fully-automated migration capability to your choice of cloud platform – public or private. We can also offer you a hybrid cloud capability allowing your applications the flexibility to 'burst' as needed for additional processing or storage power.

Taking an automated approach to application discovery and cloud migrations, can help reduce cost, improve reliability and productivity and ensure you are compliant across your enterprise.





With 30 years of data protection experience, ISO27001 certification and 24x7 local support, Interactive can support you every step of the way to the cloud.

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