

How should companies in Luxembourg adopt the cloud?



WHITEPAPER

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Introduction

In today's dynamic Luxembourg business landscape, the compelling advantages of cloud computing services have emerged as a transformative force for organizations. Nowadays, companies start to be aware of the numerous benefits of cloud computing services, especially in terms of cost optimisation, boosted seamless collaboration, enhanced security, availability and durability, as well as the automation of workloads.

As businesses embark on the journey toward embracing the cloud environment, strategic considerations come to the forefront. Chief Information Officers (CIOs) play a pivotal role in shaping this transformation, devising cloud adoption frameworks that serve as a guiding beacon for cloud architects, IT professionals, and business decision-makers.

The essence of a cloud adoption framework lies in its ability to facilitate a structured and successful transition, leveraging a defined methodology, tools, guidance, and narratives to surmount common challenges during the cloud adoption journey. Below is an example of Microsoft Azure Cloud Adoption journey:



Essential Questions

for companies in Luxembourg

Even though there are summarised steps for a cloud migration, organizations are still confronted with a series of essential inquiries that underpin the roadmap to a new hosting infrastructure. Addressing these fundamental questions lays the foundation for a well-informed and strategic approach to cloud adoption:

- Are your cloud adoption activities compliant with the regulations of Luxembourg?
- What are the motivations and the long-term vision of moving to the cloud?
- What are the outcomes expected from the move to the cloud?
- What cloud topology is best for the company?
- What are the dependencies of the applications and the infrastructure?
- What applications can run on what cloud?
- What database can run on what cloud, and if they can be moved to PaaS, or change providers?
- What data governance framework should be applied to secure data?
- Is the company ready for the cloud?
- Etc.

Luxembourg has its uniqueness due to strict regulations for various industries including finance institutions, companies in this market should conduct additional compliance assessments before the start of the cloud adoption journey.

To help better answer the questions above, this whitepaper looks into **6 major pillars of actions** (Compliance, Strategy, Assessment, Design & Planning, Transition, Operations) that are unneglectable for a Luxembourgish organisation adopting the cloud. It also explains the importance and key milestones, offers best practices, and lastly dives into the cloud transition phase that essentially determines the efficiency of the new cloud environment after migration.

Compliance

Collect, document, analysis and reporting of your cloud adoption

Due to the nature of an organisation's industry and business, certain may be regulated by regulators in terms of their operations related to the IT security and choices of service providers. Typically, in Luxembourg, the compliance of GDPR and CSSF circulars, and the soon-comes-to-force DORA (Digital Operational Resilience Act), CIOs should take extra considerations before getting started with the cloud adoption activities.

A regulatory filling is expected by the regulator from the organisations adopting cloud computing, which explicitly explains technical inputs, and an analysis of risks and legal. In order to realise the filling, various information should be collected and documented, which provides the traceability by the regulator.

Understanding the complexity of the regulatory filling, Telindus provides services of compliance assessment and reporting led by specialists.

Strategy

Define the business case and clarify expected outcomes

Cloud technology has revolutionized the way businesses operate, offering unprecedented scalability, flexibility, and cost-efficiency. However, the advantages of cloud adoption are not exclusive to IT departments.

Organizations can ensure a seamless and efficient transition to the cloud, aligning needs, benefits, and responsibilities across departments with a well-documented cloud adoption strategy that encompasses various business units, operational teams, and stakeholders, by outlining key milestones and recommended approaches.

There are 4 typical milestones that should be achieved under the context of cloud adoption strategy:

- Define and document the motivation behind cloud adoption.
- Document the business outcome expected of this move.
- Evaluate financial considerations to make your IT cost structure more flexible and build a business case
- Understand technical flexibility, efficiencies, and capabilities.

A critical aspect of a successful cloud adoption strategy is involving a diverse range of stakeholders. This includes subject matter experts, product owners, operational teams, business unit leaders, and executives. By conducting workshops and discussions that span beyond the IT realm, organizations can gather aligned information and perspectives to shape a holistic strategy.

Telindus, with its experience in facilitating cloud adoption for organizations in Luxembourg, offers Cloud Strategy Definition Services. These services provide a strong foundation for organizations to initiate their cloud migration journey with confidence.

Assessment

Document the “AS-IS” State and map the gap to the expected outcomes

To ensure that migration planners can make well-informed decisions, minimize risks, and uphold service level agreements post-cloud migration, it is advisable to conduct cloud assessments. These assessments provide a comprehensive “AS-IS” analysis of the organization before migration, serving as a foundation for developing a practical and logical migration roadmap and plan.

There are four key assessments that are recommended:

IT and application infrastructure assessment:

The cloud application and infrastructure assessment involve scanning the customer’s environment to comprehensively map all IT resources within the organization. This includes identifying their inter-dependencies. Based on this assessment, proposals are made to migrate specific work packages to the chosen cloud platform within a structured migration roadmap. This assessment not only helps organizations understand their IT landscape but also assists in estimating the effort required for a successful migration.

Organisational readiness assessment:

The organizational assessment focuses on non-technical elements that are integral to a successful transformation. This evaluation covers governance and operational models, existing processes and workflows, technical skill sets within the organization, compliance regulations, project management frameworks, and the availability of resources. By addressing these aspects, the organization can better prepare for a seamless transition to the cloud.

Application rationalization assessment:

The application rationalization assessment explores into the current lifecycle stage and cloud readiness of individual applications. This assessment often involves conducting workshops to identify and document workloads, as well as use cases in various business scenarios. A thorough code review is performed to assess the cloud readiness, security measures, API management, and integration aspects with other applications at the application level.

Data maturity assessment:

The Data Maturity Assessment evaluates the policies and practices in place for secure data management within the organization. Even in the absence of formal data governance policies, there are inherent data governance practices within IT operations, particularly in terms of IT security. This assessment helps organizations understand their data management practices and identify areas for improvement.

Telindus provides the above-mentioned assessment services by introducing industry-proven frameworks and methodologies.

Landing Zones & Roadmaps

Deploy landing zones and define migration roadmaps

To guarantee the scalability, flexibility, and cost-efficiency required for a seamless cloud adoption, enabling organizations to effectively respond to evolving customer demands, partner collaborations, and product innovation, a series of pivotal milestones must be accomplished before commencing the migration process:

- **Design & implementation of the cloud landing-zone (platform or applicational-level):**

Building upon the insights garnered from assessments, the design and implementation of a cloud landing zone stand as the inaugural step in the journey of cloud adoption. This landing zone, established either at the platform or application level, serves as the initial entry point into the cloud environment. It is a meticulously crafted multi-account setting, facilitating the rapid onboarding of diverse workloads and teams by offering well-structured isolation.

- **Develop application modernisation /migration designs and transition plans:**

The cloud fundamentally transforms the way applications are conceived, designed, and secured. In many instances, applications are deconstructed into smaller, decentralized services that communicate through APIs or asynchronous messaging mechanisms. To embrace this paradigm shift, IT operations must diligently craft and implement plans for application modernization and migration. This is especially critical at the outset of the cloud adoption journey.

- **Develop and document the data governance framework:**

Post the implementation of a cloud infrastructure, organizations frequently experience substantial alterations in their data workflows, storage mechanisms, and data processing procedures. To uphold the security and compliance of sensitive data, establish scalable and secure data workflows and databases, and streamline the transition from data to actionable insights, meticulous planning is essential. Organizations should focus on developing a robust data governance framework to navigate these changes effectively.

- **Creation of a migration roadmap:**

In line with the outcomes derived from cloud assessments and collaborative workshops, a meticulously detailed migration roadmap must be crafted. This roadmap serves as a guidepost, outlining the architectural design complete with schemas, proposed migration processes, required products and subscriptions, prerequisites, and sequential steps of the migration journey.

Addressing concerns related to team skill readiness and optimal allocation of IT resources, Telindus offers cutting-edge cloud enablement services. Leveraging extensive industry experience in cloud adoption, Telindus provides customers with best practices that ensure a successful transition to the cloud environment. This service offering not only alleviates customer burdens but also instills confidence in the cloud adoption process.

Transition

Migrate or Modernise?

The implementation of cloud technology involves a multifaceted process encompassing intricate stages related to procedures, tools, applications, and skill sets. Regardless of whether it pertains to migrating applications, databases, infrastructure, or workloads to the cloud, this transition necessitates expert knowledge and systematic approaches for organizations to seamlessly and securely shift to the cloud environment.

The cloud transition phase initiates after the establishment of a well-defined technical landing zone and the creation of a migration roadmap. Often referred to as the migration phase, this stage is more comprehensive than a simple migration procedure. Microsoft outlines four key transition processes, each with distinct objectives, solutions, and benefits:

- **Migrate:** Migration is when workloads are moved to the cloud
- **Modernise:** Modernisation enhances workloads to achieve higher efficiency, velocity and reduce cost
- **Innovate:** Innovation is when the cloud-native technologies are adopted to develop business solutions
- **Relocate:** Relocation is when certain workloads are relocated to other cloud service regions

A frequently deliberated question concerns whether to migrate on-premises applications first or prioritize their modernization. The decision hinges on the organization's cloud adoption objectives and the significance of applications and workloads. Both choices can be advantageous: migration offers cost savings with relatively minimal effort, while modernization leads to increased productivity. It's also noteworthy that certain legacy applications might not be suitable for direct migration, and in some cases, even modernization might not be cost-effective due to their traditional design.

Transition

Migrate or Modernise?

Organizations often adhere to the 6R strategy, which delineates various paths for cloud transition. The acronym 6R encompasses re-host, re-platform, repurchase, retain, retire, and re-factor. Each path necessitates distinct technical proficiencies and calls for varying service delivery methodologies:

Re-host

Commonly known as a lift-and-shift migration, this approach involves relocating an existing asset to the chosen cloud provider with minimal architectural modifications. However, not all legacy applications can be re-hosted efficiently, necessitating development effort.

Re-factor / Re-architect / Re-build

This path varies based on the requirements to retain an existing application or service during migration. It could encompass activities like code refactoring, workload redesign, or the development of new code based on cloud-native methodologies. The skillset required for cloud-native or cloud-friendly applications differs from that of traditional 3-tier apps, thus necessitating a prepared IT team.

Re-platform

This involves optimizing applications during migration, often involving changes in hosting type or database provider. The technical effort required can differ based on the cloud providers' specifications.

Repurchase

Termed "drop and shop," this involves switching to a different product, which might require ending existing licenses and adapting services to new platforms or offerings. Compatibility of the new products with the existing and target cloud environment is crucial for seamless usability.

Retain

Certain workloads and applications might stay on-premises due to business decisions or regulatory requirements. Nevertheless, their integration into the broader workload and application environment significantly impacts the overall efficiency of the cloud ecosystem.

Retire

Adopting a lifecycle approach towards application and dataset management, this path identifies assets and services that can be archived or turned off. This aids in budget savings and redirecting focus towards core opportunities. Retiring involves comprehensive documentation and potential workload redesign to ensure a smooth transition.

Telindus supports you with transition services encompassing infrastructure, applications, and data, guided by an agile methodology.

Operations

Governance, Management and Security

Executing a successful cloud strategy necessitates meticulous planning, preparedness, and implementation. However, it's the continuous operation that generates tangible business results. In the absence of a robust plan for ensuring dependable and well-organized management of cloud solutions, these endeavours will yield minimal value. Equally crucial is the establishment of governance and security protocols that evolve alongside the progression of cloud adoption.

Effective management of operations should be rooted in business commitments, with dedicated investments allocated for each workload. Notably, a managed baseline must be formulated, encompassing clearly defined classifications, tools, and process requirements. Cloud governance establishes parameters that guide the company's trajectory throughout this journey. The introduction of cloud technology necessitates an update of the corporate policy to encompass both on-premises and cloud-based IT environments.

A governance model within the Cloud Adoption Framework centres on the development of corporate policy and the Five Disciplines of Cloud Governance: Cost Management, Security Baseline, Resource Consistency, Identity Baseline, and Deployment Acceleration.

Security operates as a distinct organizational discipline and a facet that is integrated into or layered upon other disciplines. Three prevalent security concepts and guidelines are frequently adopted during cloud migration: Zero Trust, The Open Group, and the NIST Cybersecurity Framework.

Security initiatives must align with and be shaped by a dual focus on facilitating business operations while ensuring security. Consequently, involving stakeholders from various departments is imperative to achieve alignment in terms of priorities, processes, and risk frameworks.

Telindus offers managed services and training programs to guarantee efficient and secure cloud operations.

Conclusion

As the cloud computing era takes centre stage, organizations must equip themselves with a strategic roadmap for success. The decision to embrace cloud technology is not merely an IT endeavour; it is a profound organizational transformation that demands a holistic approach. This whitepaper serves as an invaluable compass, steering businesses through the intricate voyage of cloud adoption. By harnessing the four pillars of action and leveraging best practices, organizations can embrace cloud technology not just as a technological shift, but as a strategic imperative to redefine their operations, enhance collaboration, fortify security, and achieve unparalleled agility and efficiency in an ever-evolving digital landscape.



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Cloud Adoption & Transition Services
<https://www.telindus.lu/en/cloud-adoption-transition-services>