

Checklist: Secure Cloud Migration

A secure and successful cloud migration can be attributed to core foundational steps, which are often overlooked in an effort to rush to the finish line of cloud transformation. Get started on the right path with four essential milestone phases:

- Strategy
- Design
- Implementation
- Measurement

These phases ensure you establish a strategic and secure approach to undergo your cloud migration.

Phase: Strategy

The *Strategy Phase* establishes the essential foundational steps to effectively define and successfully execute your migration strategy.

STAKEHOLDER ALIGNMENT

Identify key stakeholders who are critical to the approval and/or execution of your cloud migration strategy. This will likely include IT, security, business unit, legal, finance and procurement.

Establish a core cross-functional team with documented roles and responsibilities. Core team should include functions listed as key stakeholders.

Document stakeholder requirements and desired outcomes.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

Define desired end state. This should include a fixed objective with short-term and long-term objectives required to reach the end state.

Identify KPIs that will be used to measure progress and success of your migration project. They can range from cost (e.g., labor, rearchitecting, time) and application performance (e.g., latency, throughput), to application availability (e.g., downtime) and server utilization. Best practice is to identify KPIs that can measure progress during and post migration.

TIP

Be sure the desired end state and objective align with overall business objectives. Failure to do so will result in scope creep and/or inability to effectively measure success of your cloud migration project.

SKILLS ASSESSMENT

Take inventory of internal resources and conduct a skills assessment. You may have a subject matter expert in a particular environment (e.g., *on-prem infrastructures*) whose skills don't translate to other environments (e.g., *AWS, Azure*)

Where skill gaps are recognized, identify what additional resources are needed, including outsourced tools, consultants, headcount and/or services that may be needed. Capture the cost of the additional resources in your budget.

BUDGET & COST

Identify and document all sources of budget. This may include budget dollars available from other departments and/or initiatives.

Estimate anticipated costs including time, labor, tools, 3rd party services, etc.

Assess if the available budget is sufficient to fulfill the goals previously documented.

CLOUD MODEL SELECTION

Identify the cloud model and infrastructure that will be adopted (public cloud, private cloud, multi-cloud, or hybrid). This model should align with your long-term business objectives.

- **Understand Shared Responsibility:** Take note of your responsibility within each model.
- **Conduct Research:** Leverage cloud resources to conduct research on the best model for your organization.
- **Identify Cloud Provider(s):** If utilizing public or multi-cloud infrastructures, identify the cloud provider(s) (e.g., *AWS, Azure, Google Cloud Provider*) that best align(s) with the use case(s) you are trying to address (e.g., *ecommerce in AWS, corporate systems in Azure*). Also consider what cloud provider aligns with previously conducted skills assessment, budget, and desired end-state.

COMMUNICATION

Communicate to the organization the plans to migrate, what to expect, and when they will see results. Highlight the benefits to be observed once cloud migration is complete. Communication will expand post-migration to share progress and status against KPIs.

Phase: Design

Often referred to as the *Planning Phase*, the *Design Phase* is where audit and documentation takes place. This step is key in redefining how existing processes and workflows work, so you can identify opportunities for more efficient and streamlined approaches to common processes. During this phase, you have an opportunity to modify and improve efficiencies so your infrastructure is in a better state than your current infrastructure. Take advantage of that — you do NOT want to bring the bad with you.

PROCESS AUDIT

Document workflows for your most critical processes.

Identify process inefficiencies and/or gaps.

Assess to which compliance or regulatory mandates need to be adhered during your migration process. This may include regulations such as PCI, HIPAA, NIST, GDPR, etc.

Document how workflows will work in new architecture and where workflow adjustment are required to align with new architecture. This is an opportunity to reimagine common processes and make improvements.

INFRASTRUCTURE MAP & WORKLOAD INVENTORY

Map existing infrastructure, including datacenters, applications, services, etc. This helps visually articulate the before-and-after to stakeholders and leadership.

Take inventory of workloads, including all applications and databases. A discovery tool may help with this step.

Rate each workload based on criticality to the business. As an example, you may categorize based on:

- **Critical:** Always-on services and/or components that cannot go offline because it would be detrimental to the business and/or processes.
- **High:** Interruption in service would be disruptive but not detrimental to business and/or processes.
- **Medium:** Disruption could create quickly-remedied inconveniences.
- **Low:** Little to no impact on the business and/or processes.

Identify which workloads should move to the cloud. If you have chosen a hybrid environment, determine which workloads make sense to leave on-prem.

SELECTING MIGRATION APPROACH

Determine which migration approach can best get your workloads securely and safely to the cloud: rehost (*lift and shift*), refactor (*rearchitect*), replatform (*start from scratch*). Each strategy will vary significantly in terms of scope of work, timeframe, and skillset required. You may need to revise existing processes.

MIGRATION TIMELINE

Establish a timeline for migration phases, including what gets moved and when it gets moved (see best practices in the Implementation Phase).

Ensure your timeline is realistic. Cloud migration can vary significantly (e.g., 3 – 18+ months).

TIP

Prioritize always-on services and components to ensure no disruption and/or impact to service or the customer experience.

Phase: Implementation

The *Implementation Phase* requires a structured approach to complete the migration process. It is best accomplished in three stages: staging, testing, and production. Ideally, use separate cloud accounts for each of the stages.

Understanding the three phases / environments:

- **Staging:** Also referred to as the development environment, this is the stage where you'll develop and/or rework your applications to run smoothly.
- **Testing:** Utilize this phase to perform load testing and QA. Check for latencies, disruptions, etc.
- **Production:** This is the final stage before deploying the applications in the new cloud environment. Move workloads and applications to production only when testing has proven successful.

Start with your development systems during the *Design Phase*, move to testing and then onto production.

Maintain each environment as you go and apply lessons learned from previous phases' environments.

Maintain the delivery pipeline through automation as you move towards production.

Phase: Measurement

In the *Measurement Phase*, tracking progress against goal achievement is crucial for demonstrating to the business that your cloud migration has been successful. The KPIs established in the *Strategy Phase* are communicated in this phase.

Establish executive dashboards to show progress to plan on a quarterly basis, including milestones and percent achievement of goals.

Make adjustments to your implementation if you are not tracking to plan on your metrics. This may include adjustments to schedule, budget, and/or timeline.

Post-migration, be sure to leverage the analytics available across your cloud environment to monitor status of the applications (e.g., *server utilization, throughput, etc.*).

Although no two cloud migrations are identical, follow best practices to help avoid the pitfalls other organizations have experienced. While this checklist does not address every aspect of cloud migration, it can guide you along a strong, solid path to successful cloud transformation.

Contact us at www.AlertLogic.com to speak with one of our cloud security experts and learn more.



Unrivaled Security for Your Cloud Journey.