

FORTRA



GUIDE (Alert Logic)

Secure Cloud Migration



Key to a secure and successful cloud migration is following core foundational steps, which often are overlooked in a rush to the finish line of cloud transformation. Make sure you're on a successful path by following the four essential cloud migration milestone phases:

- Strategy
- Design
- Implementation
- Measurement

Phase 1: Strategy

The strategy phase establishes the essential foundational steps to effectively define and execute your migration strategy.

Stakeholder Alignment

- Identify key stakeholders who are critical to the approval and/or execution of your cloud migration strategy. This likely will include IT, security, business unit, legal, finance, and procurement.
- Establish a core cross-functional team with documented roles, responsibilities, and functions listed as key stakeholders.
- Document stakeholder requirements and desired outcomes.

Goals and Key Performance Indicators (KPIs)

- Define the desired end state including a fixed objective with short- 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. A best practice is to identify KPIs that can measure progress during and post migration.



TIP – Be sure the desired end state and objectives 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-premises infrastructures) whose skills do not 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. Capture the cost of the additional resources in your budget.

Budget and Cost

- Identify and document all budget sources. This may include budget dollars available from other departments and/or initiatives.
- Estimate anticipated costs including time, labor, tools, and third-party services.
- Determine if the available budget is sufficient to fulfill the identified goals.

Cloud Model Selection

- Identify the cloud model and infrastructure you will adopt (public cloud, private cloud, multi-cloud, or hybrid). Ensure the model aligns with your long-term business objectives.
 - Conduct research: Leverage cloud resources to conduct research on the best model for your organization.
 - Identify cloud provider: If using public or multi-cloud infrastructures, identify the cloud provider (e.g., AWS, Azure, Google Cloud) that best aligns with the use case you are trying to address (e.g., ecommerce in AWS, corporate systems in Azure). Consider what cloud provider aligns with identified skills assessment, budget, and desired end state. You may need to identify more than one cloud provider if you have multiple use cases.
 - Understand shared responsibility: Take note of what your responsibility will be within each model.

Communication

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

Phase 2: Design

Also 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 can 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 to the cloud.

Process Audit

- Identify key stakeholders who are critical to the approval and/or execution of your cloud migration strategy. This likely will include IT, security, business unit, legal, finance, and procurement.
- Establish a core cross-functional team with documented roles, responsibilities, and functions listed as key stakeholders.
- Document stakeholder requirements and desired outcomes.

Infrastructure Map and 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. Consider using a discovery tool for this step.
- Rate each workload based on business criticality. 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 are going with a hybrid environment, determine which workloads should remain on-premises.

Selecting Migration Approach

- Determine which migration approach is best to transition your workloads securely and safely to the cloud: rehost (lift and shift), refactor (rearchitect), or replatform (start from scratch). Each strategy varies significantly in terms of scope of work, timeframe, and skillset required. Once you select a migration approach, 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 implementation phase).
- Ensure your cloud migration timeline is realistic (e.g., can vary from 3 - 18+ months).



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

Phase 3: Implementation

The implementation phase requires a structured approach and is best accomplished in three stages: staging, testing, and production. Ideally, use separate cloud accounts for each of the stages.

- Understand the three stages/environments of implementation:
 - **Staging:** Also referred to as the development environment, this is where you will develop and/or rework your applications to ensure they run smoothly.
 - **Testing:** Use this phase to perform load testing and QA. Check for latencies, disruptions, etc.
 - **Production:** In this 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 to production.
- Maintain each environment as you go and apply lessons learned from previous stages' environments.
- Maintain the delivery pipeline through automation as you move toward production.

Phase 4: Measurement

In the measurement phase, tracking progress against goal achievement is crucial for demonstrating to the business that your cloud migration has been successful. During this phase, KPIs established in the strategy phase are communicated.

- 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 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, following best practices helps avoid the pitfalls other organizations have experienced. While this guide does not address every aspect of cloud migration, it can direct you along a strong path to successful cloud transformation.

For more information or to speak with one of our cloud security experts, please visit [alertlogic.com](https://www.alertlogic.com).

FORTRA

Fortra.com

About Fortra

Fortra is a cybersecurity company like no other. We're creating a simpler, stronger future for our customers. Our trusted experts and portfolio of integrated, scalable solutions bring balance and control to organizations around the world. We're the positive changemakers and your relentless ally to provide peace of mind through every step of your cybersecurity journey. Learn more at [fortra.com](https://www.fortra.com).