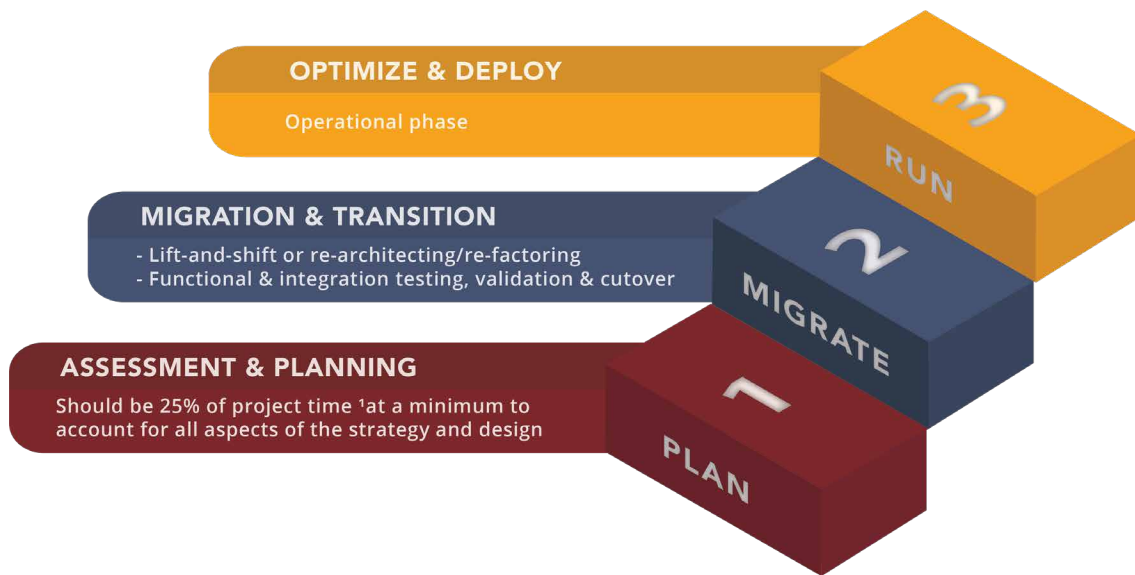


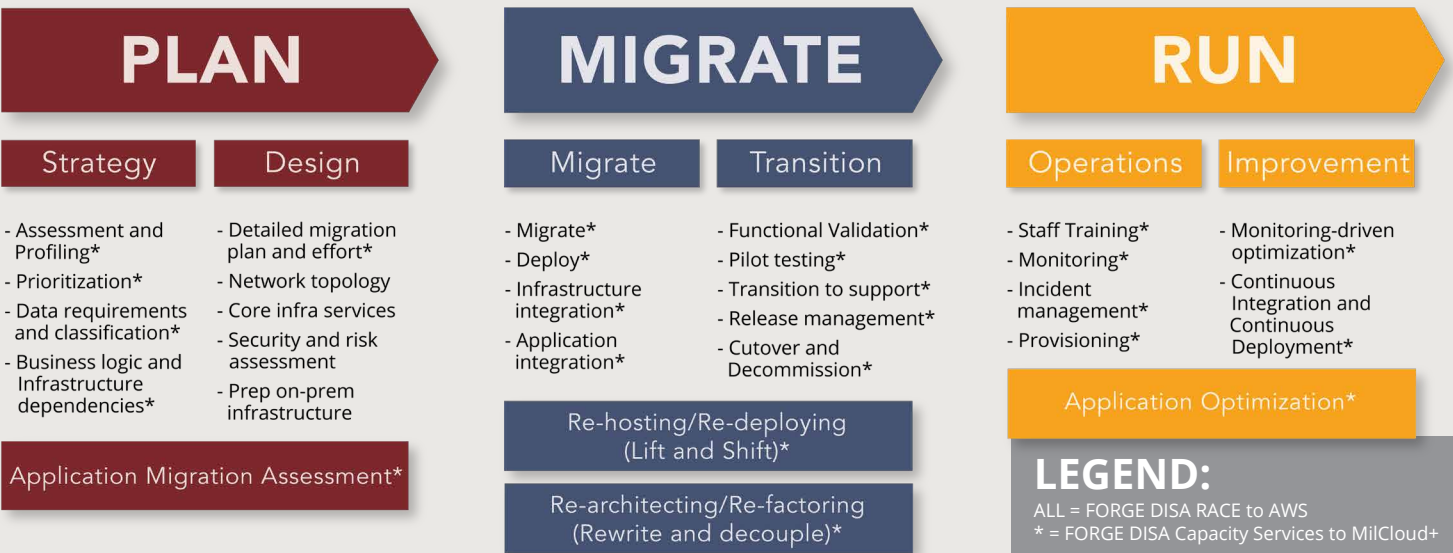


ICS Cloud Migration Project Planning Considerations

There are a number of steps involved for application migration projects. ICS models its migration based on AWS best practices (but are generic enough to work for any cloud environment). There are 3 main phases:



APPLICATION MIGRATION METHODOLOGY



¹ projects that expend less than about 20% of their time in the planning phase are twice as likely to have benefit problems as those that spent 25% to 30% planning

Application Migration Assessment

Before beginning the full assessment phase, the context of the application should be understood to not waste time/resources:

Suitable Candidates

- Applications that are run infrequently but require significant computing resources when they run.
- Applications that are run in a time zone different from where support IT personnel are located.
- Development, testing and prototyping of application changes, even if the final applications will be run on your own infrastructure.
- Service Oriented Architecture (SOA) applications.

Less-Suitable Candidates

- Applications that involve extremely sensitive data, particularly where there is a regulatory or legal risk involved in any disclosure. These will at minimum require special treatment if they are to be run in a cloud service.
- Applications now being run internally that are very performance-sensitive.
- Applications that require frequent and/or voluminous transactions against an on-premises database that cannot be migrated to cloud computing.
- Applications that run on legacy platforms that are typically not supported (or may not be supported in the long run) by cloud providers.

PLAN

Assessment and Profiling is the most important part to get right for re-factoring and/or re-architecting, which is why so much time is spent up-front.

- How the application is built and packaged
- How the code functions (profiling to find hotspots in functions/methods)
- How the app interacts with back-end functions
- How those data sources are structured & data migration requirements (incl. test data migration²)
- Security requirements
- External dependencies (sandbox testing³ in dev cloud to identify hidden ones)
- Architecture Performance profiles & determining horizontal scalability requirements
 - I/O, Mem, Cpu, burst rates, user load, network/bandwidth
- Number of environments, and which need to be cloud-based
 - Dev/Test/Integration/QA/IA/Perf/Pre-prod/Prod/DR

This will allow an understanding of the “cloud-readiness”, and whether the application is:

- Suitable for refactoring/rearchitecting
- Suitable for lift-and-shift
- Not suitable for cloud usage or not cost-effective without extensive rewrites

ICS must be prepared to frankly inform the PMO if the app is not suitable for migration to cloud.

Once the assessment has (rapidly) ascertained whether an application is a suitable candidate for cloud migration, the final steps in the planning stage can be completed:

- Creation of detailed migration plan and effort
- Topology Diagramming
- Cloud Services selection
- Prep infrastructure

² Always consider data migrations to be high risk operations when it comes to moving production data. Performance issues, extended delays, disruptions and unexpected downtime can cause significant losses in productivity. Planning is the most important part of any migration and is a critical part of any successful migration plan.

³ Testing is the best way to uncover application dependencies you might not have been aware of

MIGRATE

Migration & Transition

Migration steps constitute the block & tackle stage with the bulk of the project time (50-65%):

- Migration (lift/shift or refactor/re-architect)
- Deployment
- Infrastructure Integration
- Application Integration

Transition comprises the following steps:

- Functional Validation
- Pilot Testing
- Transition to Support
- Release Management
- Cutover and Decommissioning of on-premises infrastructure

RUN

Optimize & Deploy

Post-Migration steps cover the following for the operational personnel:

- Staff training
- Monitoring
- Incident Management
- Provisioning

If improvements and optimizations are desired as part of the process, this includes:

- Monitoring-driven optimizations
- Continuous Integration & Continuous Deployment enhancements

PLAN

Strategy

- Assessment and Profiling*
- Prioritization*
- Data requirements and classification*
- Business logic and Infrastructure dependencies*

Design

- Detailed migration plan and effort*
- Network topology
- Core infra services
- Security and risk assessment
- Prep on-prem infrastructure

Application Migration Assessment*

MIGRATE

Migrate

- Migrate*
- Deploy*
- Infrastructure integration*
- Application integration*

Transition

- Functional Validation*
- Pilot testing*
- Transition to support*
- Release management*
- Cutover and Decommission*

Re-hosting/Re-deploying (Lift and Shift)*

Re-architecting/Re-factoring (Rewrite and decouple)*

RUN

Operations

- Staff Training*
- Monitoring*
- Incident management*
- Provisioning*

Improvement

- Monitoring-driven optimization*
- Continuous Integration and Continuous Deployment*

Application Optimization*

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