



Exceptional service in the national interest

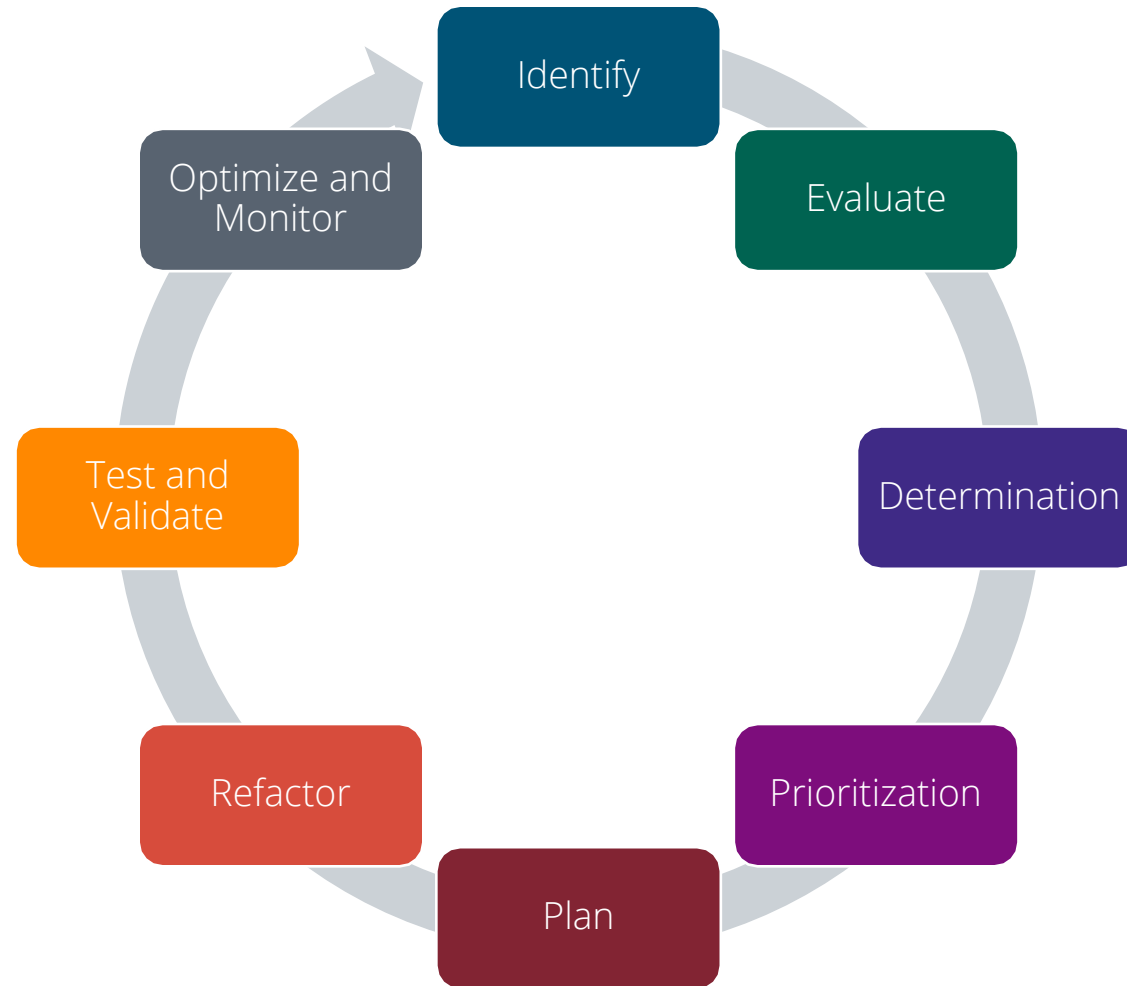
# GET YOUR APPLICATIONS READY FOR THE CLOUD

Application Rationalization

Valerie Silva, **Enterprise Cloud Services** | [vorsilva@sandia.gov](mailto:vorsilva@sandia.gov)



# APPLICATION RATIONALIZATION



# 1 IDENTIFY



## Industry

The first step is to identify which applications are suitable for migration to the cloud.

- Assess the business **value** of the application
- Technical **complexity**
- Potential **benefits** of migrating it to the cloud



## Sandia Enterprise Public Cloud (EPC) Team

Customers approach our team with an application they wish to move to cloud or build for cloud.

## 2 EVALUATE

### Industry

Before determining the best way to migrate an application, it is important to understand its current state. This includes assessing its architecture, dependencies, and performance.



### Sandia EPC Team

During a cloud consultation we help the customer:

- ✓ Evaluate current hosting model and architecture
- ✓ Internal/external dependencies
- ✓ Authentication method

## 3 DETERMINATION



### Industry

- Once the application's current state is assessed, the best migration strategy can be determined. If refactoring is the focus, it will be important to identify parts of the application that need to be re-architected and determine the most appropriate cloud services to use.



### Sandia EPC Team

- Refactoring is our main strategy.
  - ✓ Development teams will need to use modern authentication
  - ✓ Refactor to use Platform as a Service (PaaS) cloud offerings

## 4 PRIORITIZATION



### Industry

- Once the applications that are suitable for migration have been identified, prioritize them based on their business value and technical complexity.



### Sandia EPC Team

- We work with the customer on a consulting basis. We assess the solution and provide recommendations that will benefit the customer's migration to cloud.
- Complex solutions require additional time and analysis to determine if it is a good fit for cloud.

## 5 PLAN



### Industry

- Develop a detailed migration plan that outlines the steps needed to migrate each application, including timelines, resource requirements, and potential risks.



### Sandia EPC Team

- We work with the customer to determine the steps they'll need to take to migrate and ensure they are aware of risks or roadblocks.



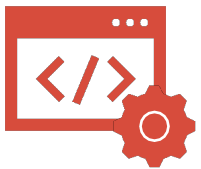
## 6 REFACTOR

### Industry

- The five R's are a critical part of the migration process, and involves re-architecting the application to take advantage of cloud-native features and services. This may involve breaking the application into smaller, more modular components, and leveraging cloud services such as containers, serverless functions, and managed databases.

### Sandia EPC Team

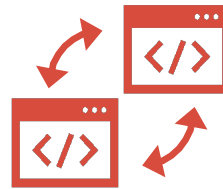
- We prioritize refactoring over re-architect, replace, rebuild, and rehost. Regardless of the current state of the app some level of refactoring may be needed.



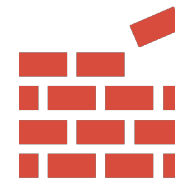
Refactor



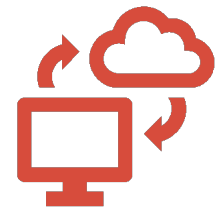
Re-architect



Replace



Rebuild



Rehost



## 7 TEST AND VALIDATE

### Industry

- Before deploying the migrated application to the cloud, it's important to thoroughly test and validate it to ensure it meets performance, security, and compliance requirements.

### Sandia EPC Team

- We require a solutions quality process to be completed which includes security testing, performance, and compliance requirements.



## 8 OPTIMIZE AND MONITOR



### Industry

- Once the application is deployed to the cloud, continue to optimize and monitor it to ensure it's performing as expected and delivering business value.



### Sandia EPC Team

- We work with customers to:
  - ✓ Optimize solutions
  - ✓ Enable application monitoring
  - ✓ Create notifications and alerting



QUESTIONS?