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HAVING A **SUCCESSFUL** **DATA MODERNIZATION** **STRATEGY**

Table Of Contents

Abstract	3
Introduction	4
A Holistic Approach To Modernization	5
Assess Migrating Data And Applications To The Cloud	6
Modernize the Application and Associated Data	7
Manage	8
How GoDgtl Collaborates With AWS	8

To optimize your cloud adoption and migration, **you must first assess and evaluate the readiness of your enterprise.**



Abstract

From quick provisioning of resources to pay-as-you-go infrastructure, the cloud brings an array of opportunities and benefits to businesses. For most enterprises, the cloud has become the preferred choice to launch new business apps and uncover new insights quickly at a lower cost. Many have already started migrating their apps and adopting Software-as-a-Service (SaaS) to future-proof their infrastructure and improve agility.

This paradigm shift has brought a renewed interest in modernizing IT with organizations looking to apply modern tools, processes, and knowledge into their application portfolio initiatives. While modernizing applications brings a host of benefits, organizations must establish enterprise-wide IT modernization strategies and follow best practices to achieve success. Although enterprises can carry out this modernization process on their own, there are chances that most will fail to take complete advantage of moving to the cloud.

For successful digital transformation and cloud modernization, support from a cloud vendor with a solid reputation can make a difference. Instead of a lift-and-shift strategy to move enterprise applications to the cloud, an experienced vendor will help establish a truly modern culture and processes with the organization. This approach helps businesses make the most out of their cloud investments by leveraging the key cloud benefits such as elasticity, resiliency, and flexibility.

At GoDgtl, we have partnered with AWS to help our clients transform and develop their modern cloud strategies. AWS, as an industry leader, delivers strong platform capabilities backed by industry experience and satisfied customers. This white paper sheds light on the knowledge and best practices that GoDgtl brings to the table to help enterprises successfully modernize their applications, data, and IT assets using the AWS platform.

Modernization Approach

Unlock value at every stage & accelerate:

- Assess readiness and portfolio
- Focus on replatform/refractor/replace
- Apply patterns & solutions with Time to Value
- Kick off modernization into high gear

Introduction

Modernization requires a holistic-dimensional approach to adopt and use new technology, deliver portfolios, applications, and infrastructure faster, and position organizations for scaling at an optimal price. It involves optimizing, maintaining applications, and operating within a modernized model without disruption. Furthermore, it requires that you simplify your business operations, architecture, and overall engineering practices. In short, modernizing applications can help you reduce cost, gain efficiency, and make the most of your existing investments.

Migrating applications to AWS by using the rehosting (lift-and-shift) approach doesn't automatically give you the benefits of the elasticity, resiliency, ease of deployment and management, and flexibility that AWS offers. In the same vein, it does not automatically modernize your culture and processes to enable high-performing software development. Modernization means taking your application environment in the form it is in today (most likely, legacy and monolithic) and transforming it into something more agile, elastic, and highly available. In doing so, you can transform your business into a modern enterprise.

To optimize your cloud adoption and migration, you must first assess and evaluate the readiness of your enterprise. After you assess the readiness of your organization, you can:

- **Select one or two applications.**
- **Modernize those applications so that you can maintain, extend, deploy, and manage them in a way that meets the current and future needs of your business.**
- **Establish a foundation for modernization through the hands-on experience you gained in the previous two steps.**

In this phase, you can create a complete modernization solution by determining the supporting infrastructure, application middleware, middleware services (such as databases, queuing software, integration software, and other technologies), and other components.

The iterative approach to application modernization discussed in this white paper can be divided into three high-level phases:

1 ASSESS

2 MODERNIZE

3 MANAGE

These three phases are discussed in more detail at a later stage in this white paper.

A Holistic Approach To Modernization

The journey of application modernization is an incremental effort that involves:



Making data-driven decisions to analyze legacy and cloud workloads



Evaluating processes to move to the cloud



Integrating new functionalities such as containers, serverless technologies, and modern databases to support emerging technologies like Artificial Intelligence (AI), Internet of Things (IoT), and Machine Learning (ML)

Continuous modernization across all areas of an organization is the key to success. For unlocking the full value of modernization, your strategy should focus on understanding choices and tradeoffs and the ability to combine and connect enterprise, differentiated, undifferentiated, and commodity applications. The process begins with an application assessment to align with business outcomes and allows enterprises to deploy and manage applications optimally.

Today's enterprises might not be able to adapt to new and changing business models if their legacy systems include complexities and inefficiencies that result in the following:

LACK OF AGILITY,

where they cannot react quickly to changing business and market demands

LACK OF FLEXIBILITY,

where they cannot make necessary changes to applications

LACK OF SCALABILITY,

where they cannot introduce new application features or extend existing features that involve new users or capacity

LACK OF PERFORMANCE,

when the application doesn't perform to the desired standards and metrics

1 ASSESS



Assess Migrating Data And Applications To The Cloud

The first step in an organization's modernization journey is to analyze the existing application portfolio, carefully assess systems that need to be modernized, and build and execute a technical solution for application modernization by using the right strategy. In this phase, you can use an application modernization questionnaire to assess and rationalize the applications portfolio and determine the business, functional, technical, and financial significance (the strategic value) of applications in the portfolio. This will help you determine how well the organization can support the future state of the architecture when it is built. **Some common activities related to this step include:**

ASSESS APPLICATIONS THROUGH FIVE LENSES:

- Strategic or business fit
- Functional adequacy
- Technical adequacy
- Financial fit
- Digital readiness
- Identify the applications that need extensive data migration.
- Clarify the scope and volume of data to be converted

THE OUTCOMES FROM THE ABOVE ACTIVITIES INCLUDE THE FOLLOWING:

- Application modernization blueprint
- Technical and functional architecture of the target state for one or two applications
- Strategic or business fit
- Functional adequacy
- Technical adequacy

2 MODERNIZE

Modernize the Application and Associated Data

During this phase, you determine the project goals and resource requirements and build the implementation roadmap. The goal is to revitalize your applications using a modernization program that creates a modern and agile application architecture.

The main activities in this phase include:

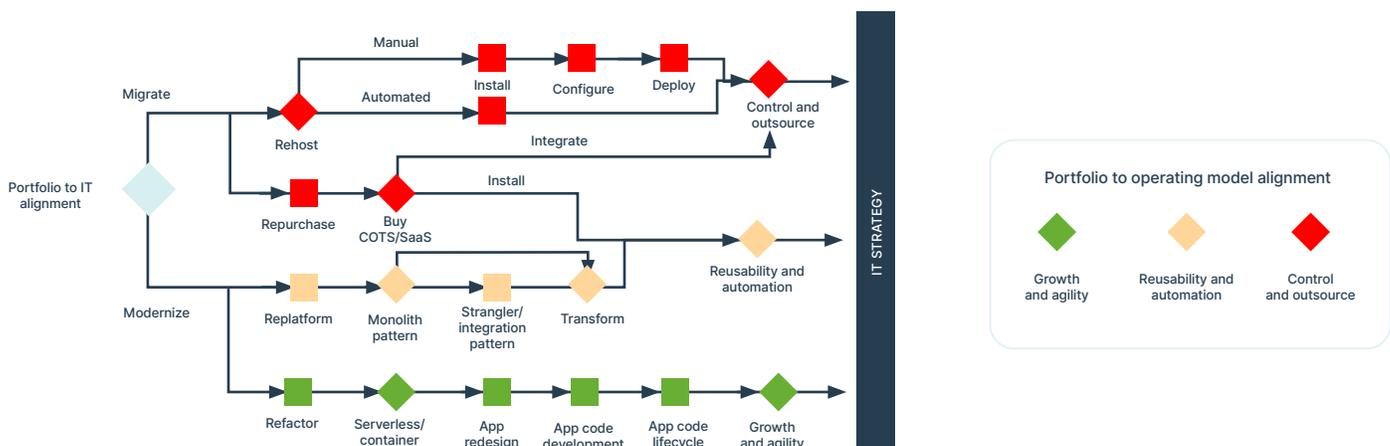
- Determining the milestones for converting your applications' source code and data
- Completing the mapping of all operational areas to ensure that the required standards and procedures for operating and administering the new target environment are addressed
- Implementing an infrastructure solution that can address your reliability, accessibility, and growth requirements by using cloud-native approaches and the best-of-breed languages and frameworks

Create a Scalable Modernization Roadmap

Develop a roadmap to scale and accelerate your modernization efforts, improve developer productivity, and innovate rapidly. The core team splits and seeds new teams to scale your organization's capabilities and services across multiple engineering teams focused on business outcomes. By employing the split-and-seed approach over time, your organization can take on more development and accelerate the velocity of modernization.

In addition, the modernization roadmap should outline a pragmatic and continuous approach to application modernization with clearly defined patterns such as event-driven, strangler, domain-driven designs, decomposition, modern database options, and so on. The roadmap should include a decision tree matrix (as shown in the following diagram) to identify a component of an application and move it to a managed service (such as a database service) with no changes to business logic. It should also identify an application component to make code-level changes to improve performance, scalability, manageability, reliability, and resource usage (as shown in the example below).

Migration and modernization decisions



3 MANAGE



Manage

Relearning efforts are embedded in all modernization activities to give you a detailed understanding of application characteristics and reduce any risks that subsequent modernization efforts might cause. However, application workloads still need to exploit platform services so that application teams can understand and optimize the runtime characteristics of their workloads.

This means that application teams should treat the operational features of modernized applications like all other application features and microservice operations effectively to become part of the engineering process.

Embracing this DevOps culture in cloud-native operations as a part of building a Site Reliability Engineering (SRE) capability in an organization is essential to successful modernization adoption. **The management phase includes all the elements of effective change management, program management, quality assurance, and service excellence.**

How GoDgtl Collaborates with AWS

GoDgtl brings a team of experienced cloud experts who work directly with AWS to bring value and real solutions for your cloud projects. With direct access to AWS resources and in-house cloud consulting talent, GoDgtl is ready to guide you through your cloud journey, regardless of where you are on that path. Whether it is more knowledge-based information on cloud topics such as security, governance, and compliance, or basic cloud migration aspects, or even if an assessment is needed, GoDgtl can provide a roadmap for your path to project completion and success.



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