



## **Mainframe Transformation and Application Modernization**

### **How to beat the odds and be successful in your mainframe to hybrid cloud journey**

Most enterprises with mainframes examine their environments in response to various business challenges. An essential approach to modernization is to adopt a “right application on the right platform” model. Every technology platform has capabilities and attributes that make them “best for purpose” for some applications, including mainframe, private and public cloud.

Digital transformation is complex, and the risk of failure is high for many reasons. First, mainframes typically host mission-critical applications that cannot fail. Second, modernization involves much more than just technology. In nearly all cases, processes and even culture must change.

Industry analysts estimate that between 70% and 95% of digital transformation projects fail.<sup>1</sup>

Successful mainframe transformation, application, and data modernization starts with a well-informed strategy using an iterative process to capture incremental value and build momentum. Having a partner in the journey who has the knowledge, expertise, and a broad ecosystem can accelerate success.

The level of change needed generates several requirements, including the need for new or changed skills, the need to get to and use data on the mainframe from other platforms, and other challenges including the need to implement more agile, integrated management and development processes like DevOps or DevSecOps.



**Modernizing on the mainframe, integrating with the public or private cloud, or moving off the mainframe, Kyndryl is with you at every stage of your transformation.**

### **Three key modernization motions**

Mainframe transformation and application modernization encompass more than just changes to applications. But the specific focus begins with applications because they enable business processes.

There are three high-level motions or patterns for mainframe application modernization.

- Modernize applications on the mainframe
- Modernize and move applications off the mainframe
- Modernize applications by keeping some on the mainframe, moving some off the mainframe and integrating them – typically hosted on the public cloud by providers like Azure, AWS, or Google.

Each of these motions must address the data requirements of the existing applications and take advantage of opportunities created through new and expanded use of the data.

Most enterprises will use a combination of these motions as part of their mainframe transformation for different application suites or on an application-by-application basis. Sometimes, corporate or business strategy will impact the choice, as will other challenges such as:

- Changes in availability of skills
- Requirements for capital or expense costs
- Requirement to increase flexibility, velocity, and agility of application enhancement and development
- Increasing requirements for broader data access
- Having tried, with limited or no success, to migrate applications and data between platforms
- A requirement to integrate the mainframe as a component of their existing IT ecosystem
- Familiarity with specific service, cloud, software, and hardware providers.

### **Elements of a mainframe transformation strategy**

Mainframe transformation and application modernization is a journey that can take several years, depending on the volume and complexity of the applications and data. Selecting the right platform for each application is aligning business and technical requirements inherent in the application with a technology platform's unique capabilities, attributes, and strengths while avoiding weaknesses.

The whole strategy must be aligned to business requirements and establish valued outcomes, focusing on how a strategically defined, to-be architecture and operating model can enable business results.

A high-level vision is the “right workload, right platform.”

## Lower-level approaches to mainframe application and data modernization can be grouped into three broad categories.

- “Modernize” approaches that require major changes to the code, such as containerization or refactoring.
- “Migrate” approaches focused on migration with minimal changes to the code, such as moving from physical servers to virtual servers or modernization of storage.
- Traditional approaches, such as replacing old code with packaged software.

Based on the strategy and criteria for selecting the best purpose destination for each application, each pass-through of the pre-defined iterative approach starts with an application or an application suite assessment. An initial, higher-level assessment of a broader range of applications can also be done to provide initial targets and prioritization for each iteration.

Step by step, the applications and data are examined to determine dependencies, technical debt, limitations (such as missing code), cost of ownership, skills required to maintain the code, etc. as well as how the application and data can best move to a landing zone in the defined, to-be architecture, on the mainframe or off the mainframe.

Kyndryl addresses four of the key challenges with mainframe to public cloud integration through providing offerings designed to satisfy the following use cases:



**Physical proximity** – Helping to empower customers with the ability to connect their mainframe systems to the public cloud through a secure connection that has highly available and high-speed dedicated bandwidth.



**Application integration** – Leveraging the power of the public cloud DevOps stacks along with mainframe-specific and open-source tools to enable engineers to plan work, collaborate, build code, and release applications, as well as manage the entire infrastructure “as code.” Open the mainframe to integration through the implementation of APIs.



**Data integration** – Addressing the need for data integration between cloud services and on-premises mainframe platforms to enable actionable insights from data and mitigate security risks associated with mishandled data movement off the mainframe.



**Management and automation integration** – Providing consolidated monitoring and automation across the entire infrastructure stack through the integration of capabilities from the public cloud provider and Kyndryl’s standard mainframe management platform.

## Why Kyndryl?

Kyndryl is uniquely prepared to help with your transformation as your trusted mainframe infrastructure, applications, and data management services provider and integrator. We are here to engage.

Relying on Kyndryl to provide a holistic approach, including consulting, implementation, and management services, allow you to focus on your core business and addresses modernization challenges. Kyndryl can manage all upskilling or right-skilling, fill staffing gaps and manage changes in the staffing footprint during and after transformation.

For new infrastructure or application management customers, we can kick-start your transformation and application modernization in parallel with your transition to our services. Kyndryl continues to be the global leader in mainframe managed services.

### For more information

Kyndryl continues to innovate with the vast experience and expertise in integrating the mainframe into the hybrid Cloud - continue to watch this space.

To learn more about Kyndryl advisory, implementation, application, infrastructure, and management services for IBM Z, IBM i, and for Cloud, please get in touch with your Kyndryl representative or Kyndryl Business Partner, or visit [kyndryl.com](https://kyndryl.com).



© Copyright Kyndryl, Inc. 2022

Kyndryl is a trademark or registered trademark of Kyndryl, Inc. in the United States and/or other countries. Other product and service names may be trademarks of Kyndryl, Inc. or other companies.

This document is current as of the initial date of publication and may be changed by Kyndryl at any time without notice. Not all offerings are available in every country in which Kyndryl operates. Kyndryl products and services are warranted according to the terms and conditions of the agreements under which they are provided.

The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

<sup>1</sup> [12 Reasons Your Digital Transformation Will Fail, Dr. Corrie Block, PhD, DBA, Forbes Council Member, Forbes online, March 16, 2022](#)

Let's talk →