

# Cloud-Native Solutions

**E**nterprises and government agencies can accelerate time to market for innovative software, take advantage of elastic infrastructure, and reduce operational costs by moving the right workloads to a cloud-native application platform.

## WHY CLOUD-NATIVE SOLUTIONS?

### Agile business requires modernization

The need to innovate new products and services quickly at scale, using a combination of integrated technologies, requires a modern approach.

The business goal of cloud-native is to enable organizations to rapidly deliver innovative software to end users in shorter times than ever before. This new velocity is often measured in multiple releases to production each day.



**Increase velocity**



**Take advantage of elastic infrastructure**



**Accelerate innovation**

### Scaled platforms mean better economics

Cloud environments demonstrate the promise of scaling and cost reduction, but moving applications to the cloud requires time and resources. Cloud-native platforms eliminate hardware and infrastructure constraints, allowing greater agility and automation to exploit the cloud.

When organizations build and operate in a cloud-native fashion, they bring new ideas to the market faster while also delivering robust scalability, health monitoring and dynamic provisioning for web-scale operations.

CGI helps organizations transform their application development capabilities to use cloud-native solutions to deliver new products and services at pace and scale.

We work with diverse teams—end users, business owners, industry experts, designers and technology experts—to develop services that users desire, are viable for the business and are technologically feasible.



## WHAT IS CLOUD NATIVE?

“Cloud-native” combines modern techniques (often including human-centered design, agile development and highly automated software build pipelines) with modern, cloud-centric architectures (such as microservices and containers).

Cloud-native application platforms, sometimes called platform-as-a-service (PaaS) offerings, enable rapid application development and deployment using cloud infrastructure, while also providing the robust scalability, health monitoring and dynamic provisioning required for web-scale operations.



## ENVISION A NEW WAY OF DEVELOPING CLOUD-NATIVE APPLICATIONS

CGI assists enterprises along every step of their cloud-native development projects—from analyzing the application portfolio through the strategy, setup, migration and implementation of the platform. We focus on helping to ensure our clients can start small and demonstrate value and scale quickly; invest in the right platform, tools and methods; change mindsets on how to develop cloud-native applications; and achieve disciplined operations.

### Key services include

**Cloud-native portfolio analysis:** structured analysis of existing application portfolios to determine which applications are suitable for transforming to cloud-native environments

- Portfolio assessment
- Application catalog development
- Development of subset of targets and good candidates
- SNAP analysis (application characteristic) for existing apps targeted for re-platforming
- Potential deep cost/code analyses
- Static code analysis to identify technology gaps or patterns

**Cloud-native design workshop:** human-centered design methods to design a minimal viable product (MVP) concept

- Design thinking workshop (1-2 days)
- Design thinking training

**Existing (brownfield) or greenfield cloud-native sprint:** migrating an initial set of representative applications, or developing an MVP for a new application

- Existing
  - Modernization roadmap for applications
  - Implementation of agile development to enable running on platform
  - Development of an agile backlog
  - Modernizing and migrating initial set of applications to run on cloud-native platform with minimal changes
  - Integration of existing applications and services with applications deployed to a cloud-native platform
- Greenfield
  - Initial cloud-native strategy and roadmap
  - Scoping and framing
  - Agile, cloud-native development of new applications

**Cloud platform setup & configuration:** implementing a cloud native-development platform and environment

- Platform evaluation and selection

## CASE IN POINT

A Fortune 100 retailer wanted to migrate a large number of in-store applications to a multi-tenant cloud-native environment and create a roadmap for application conversion. CGI assisted the client with platform and application migration that:

- Produced a modernization strategy informed by real work
- Established patterns for subsequent re-platforming work
- Provided guidance for next steps in the application modernization process, including an action plan detailing the approach and costs

The retailer's approach has allowed them to deploy applications to production **1,500 times a month**.

- Platform implementation (e.g., Cloud Foundry solutions including Pivotal Cloud Foundry, IBM BlueMix and open source Cloud Foundry, as well as Pivotal Container Services/PKS, Red Hat OpenShift, Kubernetes and other emerging cloud-native platforms)
- Tool ecosystem selection and setup
- Platform reliability engineering (PRE) operation of platform
- Creation of end-to-end software pipeline to manage (MVP)
- Cloud platform security audits

**Cloud-native transformation:** leading application transformation projects, managing application transformation programs, and scaling cloud-native adoption across the enterprise

- Operational hardening
- Platform operations scale-out
- Creation of multiple teams
- Training on cloud-native development
- Coaching around agile transformation
- Updating IT operations (model/governance)
- Application of solution templates/recipes to modernize applications
- Organizational change management

**Cloud-native production & scale:** managing the cloud-native platform, ensuring continuous patching, upgrades and maintenance at the highest level of security using best practices

- Platform monitoring tools/dashboards
- Platform product management
- Application portfolio pipeline management (patches/new releases)
- Implementation of new platform features
- Support for teams with market services
- Performance troubleshooting

**To learn more about opportunities to take advantage of cloud-native solutions, please contact us at [info@cgi.com](mailto:info@cgi.com).**

## ABOUT CGI

CGI helps large enterprises and federal, state and local governments become customer and citizen-centric digital organizations through our business and IT consulting and systems integration services. We apply expertise in cloud and hybrid IT to accelerate our clients' digital transformation journeys.