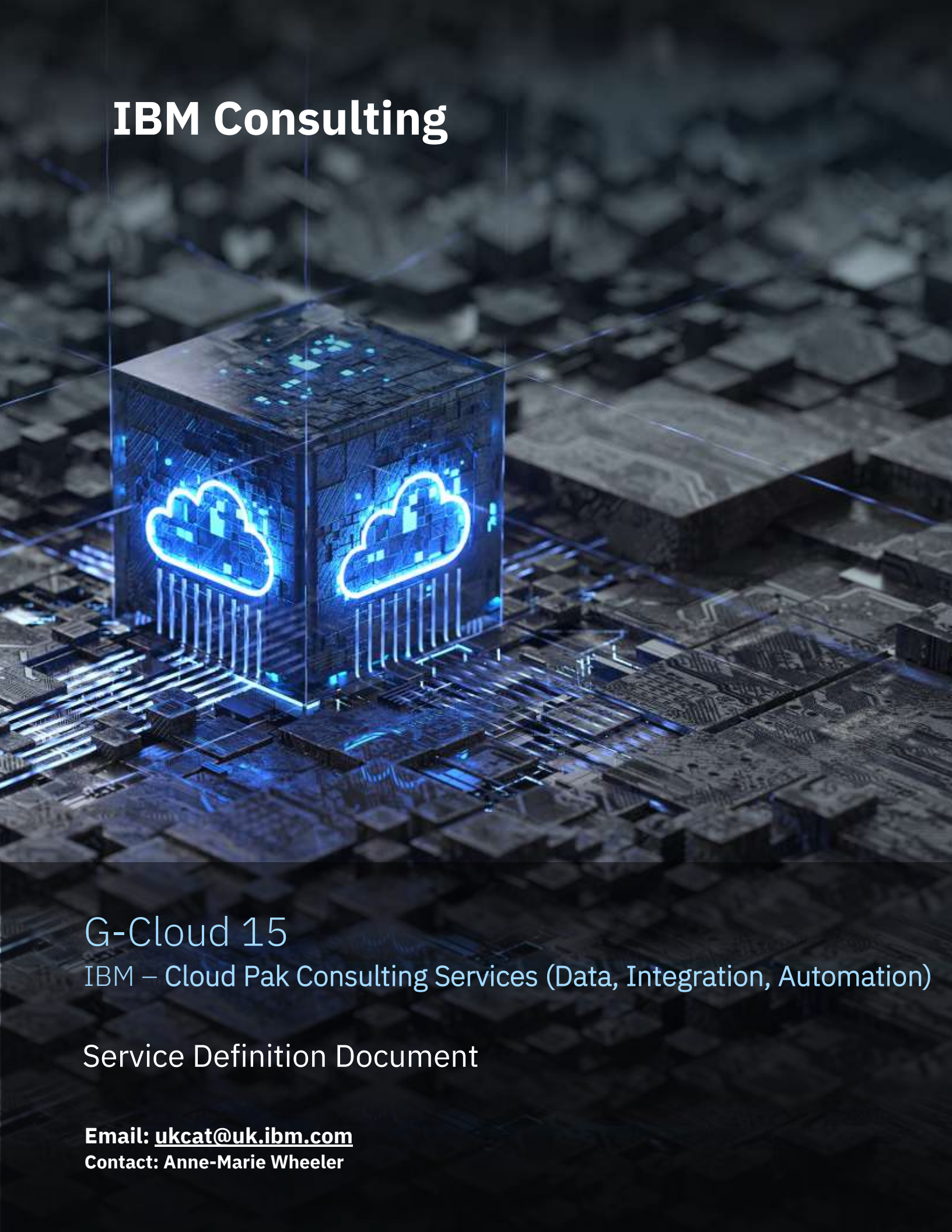


IBM Consulting



G-Cloud 15

IBM – Cloud Pak Consulting Services (Data, Integration, Automation)

Service Definition Document

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IBM Migrate, Modernise and Manage Applications Using IBM Cloud Paks and OpenShift

Key Features

- Proven experience of application modernisation, data migration and management within complex infrastructure architectures
- Standard migration patterns based on the Six Rs':
 - Retire Retain Rehost
 - Re-platform Re-purchase Re-architect
- Closed-loop AI automation to support multiple integration styles (IBM Cloud Pak for Integration – CP4I)
- Unlock business data silos and expose assets as APIs,
- Seamless connectivity between cloud and on-premise applications with in-flight data integrity protection
- Simplified deployment and maintenance of enterprise-grade private clouds for VM and container-based applications
- Pre-integrated, containerized software and solutions to streamline modernisation from the data center to the edge
- Predictive enterprise capabilities through data collection, organisation, and analysis across all types and locations (IBM Cloud Pak for Data – CP4D)
- Intelligent workflows powered by AI and machine learning (IBM Cloud Pak for Automation – CP4A)
- Enhanced security posture with risk and compliance management without moving data (IBM Cloud Pak for Security – CP4S)
- Application and data architecture rationalisation for simplified cloud operations
- AI-powered application discovery and tooling for cloud portfolio migration insights
- DevSecOps and shared services for consistent, efficient, and portable applications
- OpenShift Kubernetes orchestration for container management at scale
- Phased modernisation roadmap to minimize operational impact
- Ongoing management and monitoring to ensure maximum availability and SLA compliance
- Accelerated delivery and reduced risk through IBM's cloud expertise and proven methods

Benefits

- Accelerated migration of large-scale legacy applications and data using IBM's global migration factories
- Comprehensive Cloud Application Portfolio Analysis to define modernisation scope, roadmap, and business case
- Cloud-agnostic services optimized for OpenShift and IBM Cloud Paks (Integration, Data, Business Automation, Security, and AIOps)
- Lower project and operational costs through automation of infrastructure and processes
- Reduced technical debt and operational risk by migrating legacy applications to modern platforms
- DevSecOps pipelines ensuring consistent compliance with government security standards
- Enhanced user experience through improved application stability, scalability, and seamless integration
- Unified integration tools to connect applications and data across any cloud or on-premises environment
- Enterprise-grade, cloud-native technologies from IBM and its ecosystem partners
- Advanced data and AI capabilities leveraging IBM Watson® for cross-industry and vertical AI applications to accelerate your AI journey
- Improved productivity and quality of outcomes for employees and customers alike
- Integrated security orchestration to identify risks, automate responses, and strengthen protection
- Faster go-to-market agility with on-demand environments and shorter development cycles
- Cultural and skill transformation through IBM Garage's co-creation approach

Key Differentiators

- Unmatched experience in resiliency, security, and compliance, with hundreds of clients successfully engaged on their cloud journey with IBM
- Globally distributed workforce of cloud-trained professionals, supported by a comprehensive suite of market-leading tools
- Deep enterprise expertise, offering solutions that simplify complexity and address the most challenging transformation needs



IBM Migrate, Modernise and Manage

Applications Using IBM Cloud Paks and OpenShift: Addressing Business Needs

We collaborate with you to meet your business requirements by leveraging our extensive industry and technical expertise, proven tools, and structured methodologies to deliver digital-ready

IBM's **Migrate, Modernise, and Manage** approach using Cloud Paks accelerates the development of a future-ready enterprise, optimising costs and reducing technical debt.

IBM offers the skills, methods, and tooling necessary to modernise legacy and mainframe applications, align IT with business objectives, lower operating costs to free capital for innovation, and strengthen the overall application security posture



How do we Migrate to Cloud from a large complex legacy estate operating highly critical services?

Many organisations struggle with limited application knowledge, capabilities, and tools, which impacts their ability to successfully implement a secure migration and modernisation plan.

IBM helps you define and execute your journey from legacy to cloud using a range of AI-driven and market-leading application modernisation tools, including **ADDI, CAST, DevOps Commander, Red Hat Application Migration Toolkit, and Pathfinder**. These tools assess the application codebase and validate IT and business requirements to co-create the most suitable migration and modernisation strategy.

Our approach includes **cloud security enablement** based on industry-leading practices, regulatory standards, and compliance requirements.

Key challenges faced by clients include:

Speed of modernisation not keeping pace with business objectives.

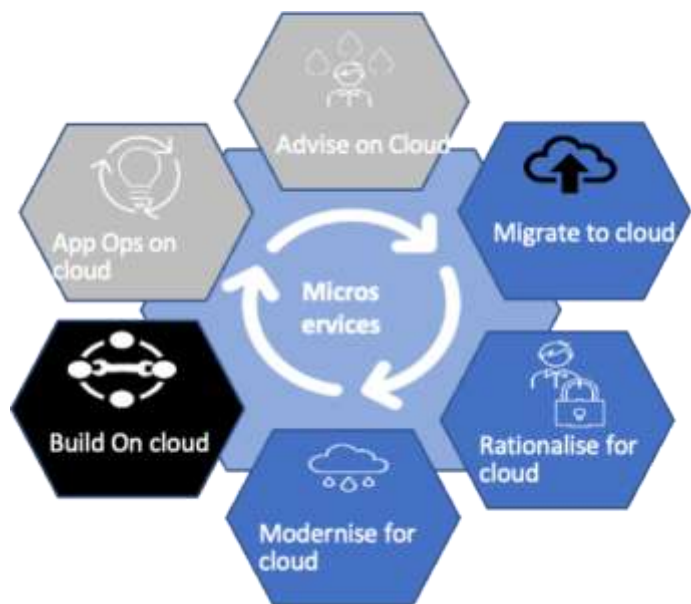
Scalability limitations due to the complexity of application landscapes, which hinder integration between legacy and modern systems.

IBM provides the necessary skills and introduces new ways of working by co-creating, co-executing, and collaborating with client teams. Our modernisation approach efficiently transforms applications and data, enabling customer-centric innovation and delivering exceptional client experiences.

IBM Migrate, Modernise and Manage

Applications Using IBM Cloud Paks and OpenShift: Service Definition

We deliver a comprehensive migration and modernisation service designed to maximise the value of your cloud transformation journey. Our approach combines industry-leading tools, proven methodologies, and deep technical expertise to ensure a secure, efficient, and future-ready transition.



IBM Cloud Modernisation

An in-depth analysis of applications at the code level identifies dependencies and determines the level of remediation required. The results of this analysis, combined with any new business requirements, are used to develop a detailed design for the modernised application. This process includes code conversion, containerisation, remediation, and new development as needed.

In addition to Modernisation Discovery, IBM conducts Design Thinking workshops with IT

and business teams to identify enhancement opportunities. These insights inform detailed blueprints, and execution plans for the modernised application.

IBM Cloud Migration

Migrating applications to modern cloud platforms consists of:

- Enabling them to run on current and supported operating platforms, middleware, and databases.
- Redeploying them to the target cloud on OpenShift using a deployment pattern that provides targeted performance.

Each application is assessed in detail to determine changes that need to be made to prepare it for the new platform. An efficient **Factory approach** is used to accelerate migration execution, leveraging the **IBM Garage Method for Cloud** and associated automation toolsets.

IBM Cloud Rationalisation

Rationalisation for Cloud simplifies the application estate, including data migration, archiving, and decommissioning at end of life, using repeatable and scalable methods, tools, and accelerators.

- **Data Migration:** Moving required data from source systems and securing it in the archive solution. This includes all ETL actions, as well as making the data and associated schema available for search and reporting capabilities.
- **Archive and Decommission at End of Life:** Defining the right archive strategy and solution in line with Information Lifecycle Management policies to deliver cost benefits through application decommissioning and ending both licenses and contracts.

IBM Migrate, Modernise and Manage Applications Using IBM Cloud Paks and OpenShift: IBM Approach

We bring the advantage of extensive experience working with some of the world's largest organisations, transforming complex and critical services in a cloud-agnostic manner. Our approach is built on robust methods, proven processes, and personalised engagement



We focus on your business needs and on building trusted, long-term relationships, underpinned by industry-leading experience and capabilities. Our goal is to ensure you gain maximum value from every engagement and achieve outcomes that matter for your organisation.

Our extensive experience in multiple public cloud and mainframe migrations, combined with deep expertise in Cloud Pak deployment and OpenShift, enables us to deliver a truly cloud-agnostic approach for all your cloud transformation needs—both now and in the future.

IBM Migration Factory modernises workloads safely and securely, leveraging automation to accelerate execution and reduce risk:

- **Continuous Discovery** – Monitors changes, schedule impacts, and prioritisation.
- **Multi-cloud by Design** – Built on Red Hat OpenShift to enable seamless workload mobility.
- **Automation and Orchestration** – Accelerates migration, reduces risk, and integrates DevSecOps.
- **Migration Squads** – Scalable teams that drive end-to-end migrations using a consistent methodology.



IBM Migrate, Modernise and Manage Applications Using IBM Cloud Paks and OpenShift

Why IBM?

Experience

We have delivered major transformations to multi-cloud environments for Fortune 500 companies, including migrations to AWS, Azure, IBM Cloud, Google Cloud, and private clouds built on Red Hat OpenShift.

Complexity

We have successfully executed significant migrations involving thousands of applications.

Expertise

Our global team of cloud consultants and experts brings deep experience across IBM Cloud, Red Hat, AWS, Azure, Google Cloud, and more.

Our Principles in Delivery

The principles guiding how we think and act in delivering value to clients include:

- Building long-term client relationships based on innovation, trust, and service excellence.
- Using **Design Thinking** and agile approaches to frame and execute client change programs.
- Infusing cognition and emerging technologies into client enterprises and core processes.
- Exploiting hybrid multi-cloud solutions to support evolving client processes.
- Developing and deploying world-class talent.
- Applying consistent, modern methods and tools—continuously reviewing and refining to accelerate value delivery.
- Thriving in engagements driven by globally dispersed, multi-disciplined teams using our suite of collaboration tools

Gain agility and flexibility, accelerate AI and automation and confidently innovate with IBM Cloud Paks

Cloud Pak for Data (CP4D)

A modular set of integrated software components for data analysis, organisation, and management. Predict outcomes faster using a platform built with data fabric architecture.

Cloud Pak for Business Automation (CP4BA)

A modular set of integrated software components, built for any hybrid cloud, designed to automate work, and accelerate business growth.

Cloud Pak for AIOps

Transform IT operations (ITOps) across a changing landscape with an AIOps platform that delivers visibility into performance data and dependencies across environments. Embrace artificial intelligence, machine learning, and automation to help ITOps managers and Site Reliability Engineers (SREs) address incident management and remediation.

Cloud Pak for Integration (CP4I)

A hybrid integration platform that applies the functionality of closed-loop AI automation to support multiple styles of integration. CP4I software unlocks business data silos and assets as APIs, connects cloud and on-premises apps, and protects in-flight data integrity with enterprise messaging.

Cloud Pak for Network Automation (CP4NA)

An intelligent cloud platform that enables the automation and orchestration of network operations so CSPs and MSPs can transform their networks, evolve to zero-touch operations, reduce OPEX, and deliver services faster.

Cloud Pak for Applications (CP4Apps)

An end-to-end hybrid cloud application platform providing ultimate flexibility for deployments, building new cloud-native applications, and refactoring or re-platforming existing applications.

Cloud Pak for Security (CP4S)

A platform that quickly integrates security tools and generates deeper insights into threats across hybrid, multi-cloud environments.



IBM Migrate, Modernise and Manage Applications Using IBM Cloud Paks and OpenShift: Value Proposition

IBM Cloud Paks: Helping Clients Move More Workloads, Faster, to Cloud and AI

IBM Cloud Paks™ provide developers, data managers, and administrators with an open environment to quickly build new cloud-native applications, modernise or extend existing applications, and deploy middleware consistently across multiple clouds.

IBM Cloud Paks™ give developers, data managers and administrators an open environment to quickly build new cloud-native applications, modernise/extend existing applications, and deploy middleware in a consistent manner across multiple clouds.

IBM Cloud Paks include:

- **IBM Cloud Pak® for Data**
- **IBM Cloud Pak® for Integration**
- **IBM Cloud Pak® for Business Automation**
- **IBM Cloud Pak® for Watson AIOps**
- **IBM Cloud Pak® for Security**

These solutions deliver IBM enterprise software and open-source components in secure, easily consumable packages that can run anywhere.

IBM Cloud Paks provide:

IBM is committed to delivering enterprise software across its portfolio for modern cloud environments. IBM Cloud Paks offer enterprise container software that is pre-integrated for cloud use cases in production-ready configurations, enabling quick and easy deployment to Kubernetes-based container orchestration platforms.

Key capabilities include:

- Containerised IBM middleware and open-source components

- Consistent added capabilities for deployment, lifecycle management, and production-quality services such as logging, monitoring, version upgrades and rollbacks, vulnerability assessment, and testing
- Certification by IBM to run on Red Hat OpenShift, providing full software stack support, regular security updates, compliance, and version compatibility
- Resiliency, scalability, and integration with core platform services, including monitoring and identity management

IBM Cloud Paks deliver the flexibility and robustness required to accelerate AI adoption, automation, and innovation across hybrid and multi-cloud environments.

Garage Method for Cloud

The **IBM Garage Method for Cloud** is a curated collection of practices and workflows designed to help organisations rapidly design, build, deploy, and scale innovative solutions.

This method leverages **Enterprise Design Thinking**, **Lean Startup**, and **agile DevOps** principles to enable continuous design, delivery, and validation of new functionality.

Containerisation

Containerisation enables agility, scalability, and portability of workloads, resulting in increased speed and efficiency during cloud transformation.

This innovation has delivered the following quantifiable benefits during a cloud migration for a leading UK bank:

- **Reduced remediation effort for application layer components** – Cutting end-to-end migration timelines by up to **35%**.
- **Rapid application infrastructure scalability** – Adding containers with minimal effort by replicating application images across new VMs.

- **Portability across environments and cloud providers** – Minimising future remediation for infrastructure and framework currency, enabling faster upgrades and lower costs when changing providers.

Garage Method for Cloud Toolkit

The **IBM Garage Method for Cloud toolkit** is a suite of integrated tools and assets with a scalable, flexible architecture supported by an analytics engine and automation. It helps clients accelerate their transformation journey to a multi-cloud environment.

This toolkit supports cloud transformation by accelerating adoption through automation for greater efficiency and deeper analytical insights, improving decision-making and delivering benefits such as:

- Up to 40% reduction **in time and effort to process new sources of information.**
- Up to 25% reduction **in errors from manual migration activities.**
- Up to 25% **reduction in time and effort required for migration tasks.**

Migration Factories

Our Migration Factories provide a comprehensive design and delivery engine to drive cloud adoption, ensuring scalability, consistency, and efficiency throughout the migration process.

The approach encompasses people, processes, and tools, and includes:

- Core services that help clients transform applications and infrastructure to cloud.
- Common services such as solution design, architecture, and Design Thinking, applied as appropriate for client delivery.
- Factory operations services to support delivery, including talent and skill management, capacity management, and financial operations.

IBM Migrate, Modernise and Manage Applications Using IBM Cloud Paks and OpenShift.

Cloud migration can modernise workflows, improve performance, and reduce the workload for system administrators. If you are undecided about moving your applications to the cloud, consider the following benefits



Agility – Provide IT resources on demand, enabling users and business groups to access what they need rapidly without acquiring and deploying new hardware.

Scalability – Avoid purchasing equipment to anticipate usage spikes. Cloud providers bill only for resources used, allowing you to accommodate unexpected surges or seasonal patterns.

Cost Control – Gain visibility into how cloud costs are allocated and manage them effectively.

Cloud Agnostic – Building on Red Hat OpenShift enables a cloud-agnostic approach, allowing workloads to move to the most appropriate cloud provider while maintaining the same capabilities in your own data centre.

Ease of Maintenance – Eliminate time-consuming tasks such as pushing updates, patching servers, and provisioning hardware. Free IT administrators to focus on strategic projects while infrastructure maintenance is handled by the cloud provider.

Security – Benefit from physical data centre security combined with advanced software security measures. Maintain flexibility to manage security levels and choose from a variety of security options.

About IBM

Supporting Government

We help government organisations in the UK and worldwide deliver and transform essential public services. Our teams are passionate and proud to support you in making a real difference in people's lives.

Government Services Supported by IBM

	Defence and Intelligence
	Public Safety and Policing
	Healthcare
	Life Sciences
	Tax and Revenue Management
	National Infrastructure
	Social Care & Education
	Works and Pensions

The challenges we address for clients are complex and cannot be solved by technology alone. They require a partner who offers deep industry expertise and builds a relationship of trust

IBM combines the portfolio, people, and purpose needed to meet today's enterprise demands. Every day, we manage and deliver complex programs for government clients—where success has a wide-reaching impact on citizens and national services.

We provide access to industry experience, insight, and technology capabilities to deliver and operate secure, scalable, optimized, and highly available services for government.

We support you by bringing:

- **Industry Expertise** – Professionals who understand public services, apply innovation to business processes, and bring valuable industry insights
- **Trust and Security** – Protecting sensitive data and deploying new innovations responsibly
- **Innovative Technology** – Expertise in AI, blockchain, 5G, automation, IoT, cybersecurity, and quantum—delivered in a hybrid cloud environment
- **Experienced Services Professionals** – Supporting strategy, innovation, and transformation across processes, applications, and cloud infrastructure.
- **Global Alliances** – Strategic partnerships with the world's leading technology vendors.

About IBM

This is IBM in the UK

We have worked together with organisations in the UK for over 100 years, with a rich history of joint innovation and achievements, built on trusted relationships



Cloud Together, IBM and Red Hat are working to deliver the world's only next-generation hybrid multicloud platform Economy IBM has been integral to the UK economy for >100 years, and is one of its largest tech employers R&D In the UK alone, IBM invests £170 million in R&D each year Quantum IBM Q, the world's most advanced quantum computing initiative for commercial use, is being used by CERN Environment IBM's focus on sustainability began in 1971 with our first environmental policy	Changing the world IBM was awarded World Changing Company of the Year 2019 by Fast Company Royal recognition 29 UK IBMers received honours from the Queen for contributions to tech and society Diversity IBM won the Global Diversity Award 2019 and the ENEI's Gold Standard Graduates IBM is committed to developing future talent – we are Target Jobs' Graduate Employer of the Year 2019 Volunteering IBM dedicates >20,000 volunteering hours every year for a better society	Tech talent IBM runs P-TECH schools in 18 countries, helping >100,000 students build skills for careers of the future Inventors IBM UK is home to many Master Inventors, with >250 patents filed last year alone
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