



Trust. Value. Velocity

G-Cloud 15

System Migration to Cloud Service

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1. About Mastek

Mastek has been delivering Critical National Infrastructure programmes in the UK Public Sector for over a decade now. We are trusted with multiple contracts for the UK Government across Central Government, Health, Local Government, Policing, Public Protection and Defence. The majority of our national services are delivered in a context of high uncertainty and complexity while collaborating in multi-supplier environments.

While working for these large and complex public sector organisations, we have continuously refined our management, delivery and underlying processes to reflect key learnings from the sector:

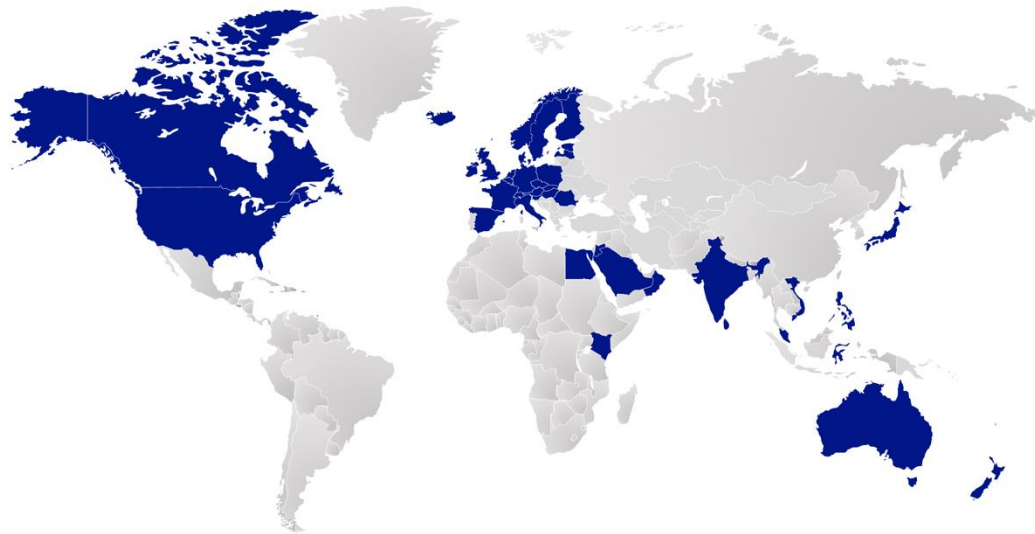
Working through a complex stakeholder landscape: We understand the importance of establishing effective communication channels, building trust and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is based on a deep understanding of stakeholder needs and requirements. We leverage our experience and expertise to design governance structures that promote transparency and accountability and use data-driven reporting mechanisms to ensure stakeholders have real-time visibility into project status and progress. At the Home Office, GDS, Ministry of Defence and NHS, we have a proven track record of working seamlessly with large stakeholder groups, including civil servants.

Standards, compliances: We comply with >20 policies and standards, including Government Digital Standards and Government CDDO Service Toolkit covering service standards, service manuals, TCoP, API technical and data standards. Our stringent governance, methods, playbooks and processes (manual and automated) span across service delivery phases, ensuring continuous compliance.

Policy-driven: Policies and procedures largely drive Public Sector organisations. We need to be Agile and flexible to meet demands for policy/regulatory changes, geopolitical events and ministerial commitments.

Culture: We adhere to the Civil Service core values of integrity, honesty, objectivity and impartiality. Key behaviours we promote stem from a combination of Civil Service and Mastek values. These include being passionate, accountable, sustaining predictable and repeatable outcomes, not transferring risk, transparent, leading to enable, acting with transparency, practising a no-blame culture and being flexible.

Mastek's global presence



Australia

Austria

Bahrain

Belgium

Brunei

Canada

Denmark

Egypt

Estonia

Finland

France

Germany

Hungary

Iceland

India

Indonesia

Ireland

Italy

Japan

Jordan

Kenya

Kingdom of Saudi Arabia
(KSA)

Kuwait

Latvia

Luxembourg

Malaysia

Netherlands

New Zealand

Norway

Oman

Philippines

Poland

Romania

Singapore

Slovakia

Spain

Sri Lanka

Sweden

Switzerland

United Arab Emirates (UAE)

United Kingdom

USA

Did you know?

75%

Around three quarters of Local Authorities in the UK who run Oracle have worked with Mastek on their digital transformation journey.

300,000 Users

Supported managing up to 750,000 logins per month to MOD through Identity and Access Management

Crime reduction

We designed, built and manage the UK's Strategic National DNA Database that helps Forensics and Law Enforcement Authorities investigate and stop crime

90% faster

We enabled the National Health Service (NHS) to drive 90% faster response times with a billion pharmacy prescriptions a year.

Technical Service Desk

We provide level 2 and ITSM support for the One Login service at Government Digital Service

22k

Our systems enable 22,000 schools to function efficiently every day of the year.

Healthcare and manufacturing

We delivered Finance, HCM and Supply Chain transformations for clients across health and manufacturing globally powered by Oracle Cloud

Transformation of trade

Transforming UK's trade with the EU and rest of the World by supporting Customs Declarations Services and its trade users.

99.99% Availability

We support the Home Office Biometrics (HOB) Platform, Having migrated it to an AWS platform.

Our digital and cloud services portfolio

Powered by Glide 4.0 and value-based delivery

Industry-aligned approach with business outcomes

Digital engineering and experience	• Cloud engineering and migration • Legacy modernisation • Low code / no code App Dev • DevSecOps • Enterprise integration	• MACH • Digital commerce • UX and CX • Platform engineering • Gen AI software development.
Oracle Cloud and enterprise apps	• Oracle Cloud applications • Oracle consulting • Oracle Cloud infrastructure	• Value-based delivery • Glide 4.0.
Data, automation and AI	• Cloud data modernisation • Business Intelligence and Analytics	• Data management • Intelligent automation • Data Governance.
Salesforce	• Sales Cloud • Service Cloud • Marketing Cloud • Industry Cloud	• Experience Cloud • Mulesoft.
Innovation labs and platforms	• Enterprise workforce scheduler • Connected enterprise • icx-Pro – intelligent part assistant	• iLeaseFinPro.
Cloud enhancement managed services	• Oracle managed services • Digital managed services • Commerce managed services	• Salesforce managed services.

Home Office Biometrics (HOB)

Public sector platform modelled 24x7 with 99.99% availability

Problem

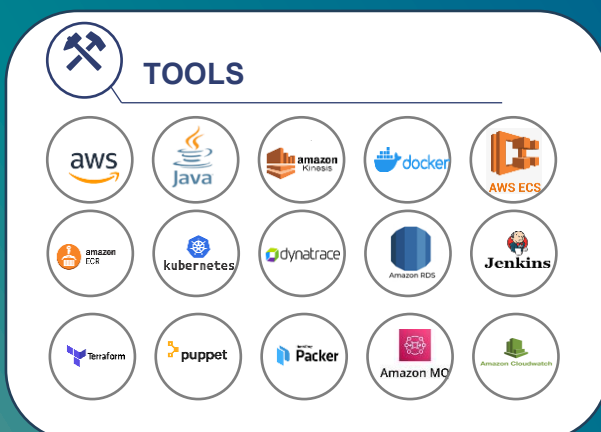
- Transition business-critical Platform services from incumbent supplier with minimal risk
- Migration from private cloud to AWS Cloud.

Solution

- Migrated the infrastructure from private cloud to AWS
- Embedding Kubernetes Containerisation
- Introduced Docker and fully-baked AMIs
- Supporting the platform's self-service functionality using Jenkins Jobs
- Applying security updates to the OS base images through pipelines
- Instituting automated patching and testing for infrastructure images
- Support of configuration, test and releasable artefacts through the pipeline.

Outcome

- **Zero impact** on live service
- **80% automation** of SIT
- Environment Provision **2 days to 1 hour**
- **5x scalability** in handling student BRPs
- Cost saving the authority circa **£9.5m/year.**
- Won the '**Best Use of Cloud Services**' award
- **35%** Incident Volume Reduction.



Government Digital Service

Problem

GDS initiated the One Login programme to create a single front door for identity verification and authentication, which could be adopted and scaled across all government departments. This would improve the user experience by providing the public with a single identification and verification service for the government, reduce costs as each department no longer required its own identity service and reduce identity fraud and identity-enabled crime.

GDS released a tender in June 2023 to provide a Technical Service Desk (TSD) managed service for the One Login service. This service would provide a single point of contact for level 1 and 2 service support as part of the wider support ecosystem. It would be provided in the UK and replace the incumbent's scaled-down non-ITIL-aligned break-fix service.

Solution

In September 2023, Mastek were successfully awarded the TSD contract to deliver TSD on behalf of GDS. GDS had an extremely aggressive programme driven by the onboarding of HMRC as a user, which was a major milestone planned for February 2024, migrating new and existing HMRC users to the One Login platform. The TSD service was expected to go live in November 2023. This was an extremely complex programme which, within this timescale, would deliver:

- The contact centre provider for level 0 directly facing the public
- The TSD supplier in place directly facing all government departments
- The TSD supplier in place providing L1 and L2 engineering support and monitoring
- Continued delivery on the One Login backlog of features
- Continued migration of smaller government departments to the platform.
- Delivery of a new ITSM toolset to be configured for use by GDS and the One Login programme, integrating level 0 to level 3 support
- Working as one team, Mastek quickly integrated into the programme, appointing the leadership team early in the engagement. We collaborated with GDS from the outset, ensuring we tailored the service to their expectations rather than delivering what was written in the contract.

Our leadership team consisted of:

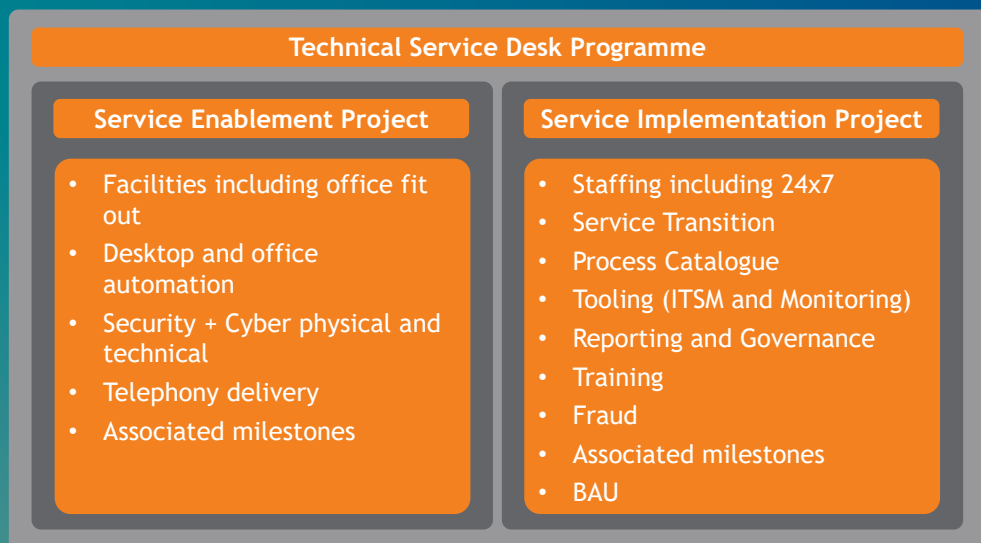
- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

Outcome

At its height, the programme team was circa 15 strong, covering programme/project delivery, PMO, architecture, fraud, security, support, omni-channel and quality assurance. The service team is currently in place providing circa 21 resources now covering end-to-end service management, service delivery and L1 and 2 engineering roles.

As the One Login migrations continue, Mastek is supporting Government departments onboarding to the platform as they transition into the new service and provide One Login a secure Technical Service Desk managed service with:

- Omni channel access for other government departments via telephony, email and web form
- Provision of L1 and L2 engineering support
- 24x7, 365 days a week cover
- 24x7x365 eyes on monitoring service
- Fraud detection and security, GDPR compliant
- End-to-end (L0-3) incident and problem management
- End-to-end 24x7 Major incident management (MIM)
- On-call/call-out engineering support, incident and MI management
- Adherence to stringent SLAs on incident response, call handling and fix times
- End-to-end monthly service reporting alongside TSD KPI and SLA reporting.
- A shift left culture and mindset, reducing the impact of service on product teams (L3)
- Support with service maturity in the programme, preparing GDS to run critical national infrastructure.



Internet-facing platform and applications for Army Digital Services

Developed mobile app and web app with 24*7 high availability

Problem

- New Defence Gateway Portal
- Combine all internet-facing applications into one
- Easy to use
- Enable easier access to the MySeries portfolio of products.

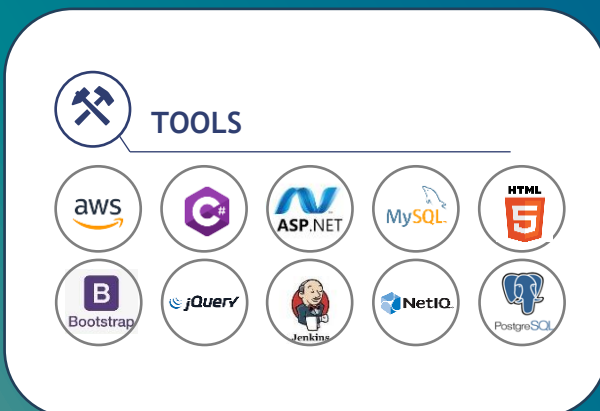
Solution

Designed and developed the following easy-use Progressive Web Apps:

- Defence Gateway Landing Page
- My Leave App
- My Expenses App
- My Health App
- My Details App
- My Appraisal App
- My Admin App
- COVID-19 Reporting Tool
- Commanders' COVID-19 Tool.

Outcome

- Delivered 20+ successful projects
- Deployment Automation
- £7.5m in savings annually
- Zero Downtime
- Environment creation in hours.



Delivered a platform for the Department for Health and Social Care

Delivered capability supporting 200k+ tests in a day,
traced millions of COVID-19 infections

Problem

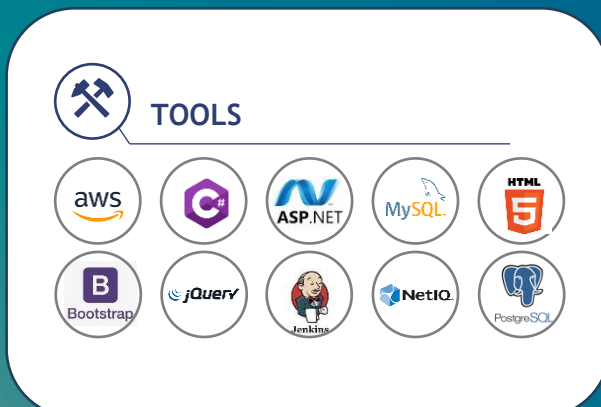
- Leveraging DevOps platform based on reusable GitHub, AWS and Azure DevOps Pipelines
- Introduce more flexible, scalable and reusable IaC capabilities
- Implement CI/CD pipelines.

Solution

- Uplifted from Cloud Formation into Terraform (IaC)
- Pre-built the AMIs using Packer, with automated security checks
- Immutable infrastructure, thus eliminating the risks of partial upgrades and patches
- Continual Cost Optimisation processes and other service functions, such as Change and Risk management
- Migrated into an organisation-wide collaboration toolset. This included Jira, Confluence, Trello, Miro, Teams, SharePoint, O365, Slack, etc.

Outcome

- 75% reduction in lead time due to pre-built AMIs
- Zero Downtime Deployments
- Delivered a Platform - Secured, multi-tenanted hosted on Azure and AWS in 5 weeks
- Cost reduction achieved through close monitoring of resource utilisation.



Mastek and Technology in the Public Sector

Technical Capabilities	Relevant Technology Capability	Mastek Scale
Software Development Continuous Integration, Platform - Other Products, Cloud Collaboration Tools		Software Engineering 2354 FTE
QA and Test ; API, Automated Functional and Compatibility, Accessibility & Performance		QA and Testing 774 FTE
Cloud Platforms Amazon Web Services AWS Microsoft Azure		Cloud Platforms 1046 FTE
Data BI/MI Components, Integration		BI and Visualisation 725 FTE
User-Centered Design		UCD 25 FTE
Office Automation Tools		Collaboration 4565 FTE

2. Summary

Mastek's **System Migration to Cloud Service** simplifies and accelerates your journey to the cloud.

We take a customer-centric, incremental value delivery approach to drive innovations and work collaboratively using flexible commercial models. We ensure the highest delivery performance, quality improvements and productivity by leveraging an expert mix of on-premise infrastructure and public, private and hybrid clouds.

Mastek's expertise and structured processes help you build a modern, secure solution in a multi-cloud environment, integrated with your traditional infrastructure, that realises your current and future business objectives.

3. Masteks Service

Mastek has extensive experience providing cloud migration services to our customers, enabling swift, secure and smooth transitions to hybrid/multi-cloud platforms.

Mastek has successfully supported customers in how they compete, create and capture value on their digital modernisation journey by designing robust, elastic and resilient cloud-native solutions using modern architecture patterns, such as microservices, MASA and event-driven architectures.

Mastek strengthens existing architectures by introducing AI-enabled platforms and automating decision-making workflows through cloud-native AI solutions. This is achieved with a business-centric approach, ensuring clear visibility of ROI across every level of the value chain.

Our System Migration to Cloud Services includes:

- Cloud advisory services.
- Capability assessment and setup of cloud operating model.
- Cloud migration.
- Cloud testing services.
- AI-enabled rapid assessment services for cloud migration.
- Technology-specific reverse engineering accelerators for legacy analysis.
- Cloud-native application development.
- Cloud managed services.
- Cloud governance, risk management and compliance.
- Cloud information security assessment.

Illustrated below is our proven process for System Migration to the Cloud:

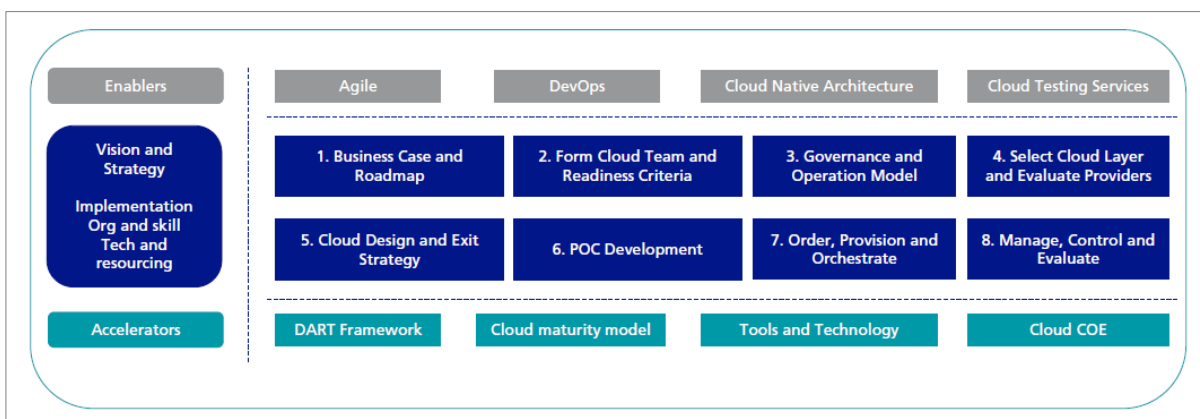


Figure 1: Proven process for System Migration to Cloud

- 1. Business case and roadmap:** Evaluate the existing baseline landscape, create the target landscape aligned with the business vision and strategy, create a business case and create a roadmap to transition from baseline to target landscape.
- 2. Form cloud team and readiness criteria:** Form the hybrid cloud team, capability maturity assessment and evaluate readiness criteria.

3. **Governance and operating model:** Implement the governance and operating model and select the governance, risk and compliance framework.
4. **Select cloud layer and evaluate providers:** Choose between IaaS, PaaS and SaaS cloud layers and evaluate multiple cloud service providers.
5. **Cloud design and exit strategy:** Formulate the cloud-native design and exit strategy.
6. **Proof of Concept (POC) development:** Build a POC and get approvals.
7. **Order, provision and orchestrate:** Order, provision and orchestrate the target workload to the cloud
8. **Manage, control and evaluate:** Manage, control and evaluate the target landscape, continuously improve for performance and cost optimisation.

The process is supported by the Migration framework illustrated below:

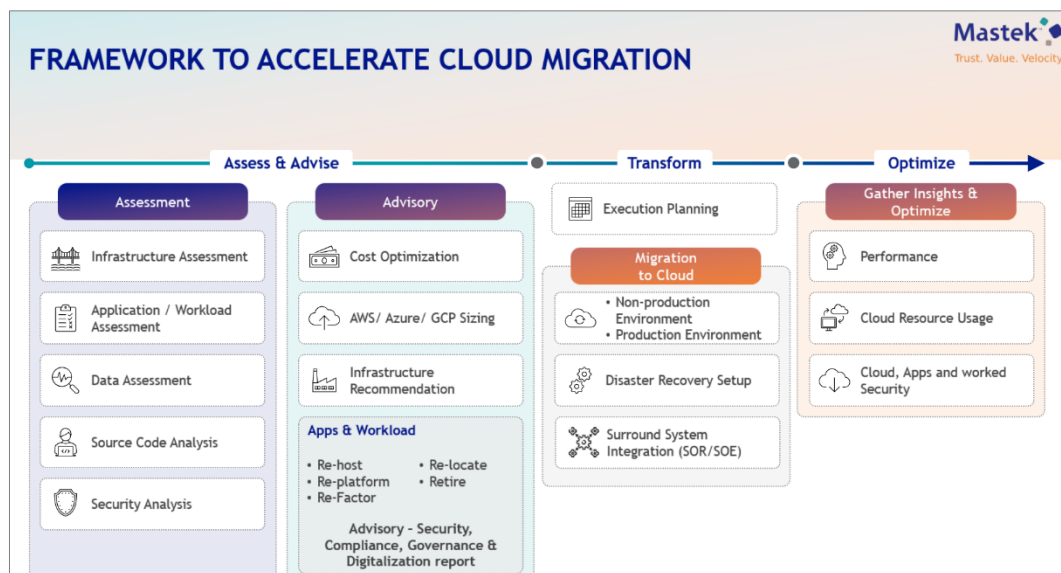


Figure 2: Migration Framework

4. Key Features

- **Cloud advisory services:** Our cloud advisory services use an Agile, collaborative approach augmented by industry-standard tools to help you identify potential cloud opportunities, develop a comprehensive strategy ensuring that IT properly aligns with your business vision, develop an implementation roadmap and design a cloud environment that is tailored to your business needs and appropriately accommodates future opportunities.
- **Capability assessment and setup of cloud operating model:** Brainstorming and mapping capabilities required to support outcomes, organising and engaging capabilities required to support outcomes, run and measure the capability maturity.
- **Cloud migration:** Benefit your cloud journey with our well-structured processes, capabilities and ecosystem for a swift, secure and smooth transition to hybrid/multi-cloud environments. We do not simply copy and paste; we develop an application disposition strategy across our application portfolio and select from rehost, re-platform, repurchase, refactor, retire, or retain options.
- **Intelligent Workload Assessment** using AI to analyse application dependencies and optimise migration paths.
- **Automated Migration Planning** leveraging machine learning for cost, performance and compliance optimisation.
- **Predictive Risk Analysis** to identify potential migration challenges and mitigate them proactively.
- **AI-Driven Resource Optimisation**, ensuring right-sizing of cloud resources for efficiency and cost savings.
- **Continuous Performance Monitoring** with AI-powered insights for post-migration tuning and governance.
- **Cloud testing services:** Testing of workloads migrated to the multi-cloud platforms.
- **Cloud-native application development:** Fully utilise the agility, scalability, resiliency, elasticity, on-demand and economies of scale benefits provided by cloud computing with our cloud-native services. We enable our clients' future roadmap by developing cloud-native applications on serverless platforms using modern architecture such as microservices and event-driven architecture.
- **Cloud-managed services:** These include day-to-day monitoring and management of cloud environments, including configuration management, performance management, cost optimisation and capacity management.
- **Cloud governance, risk management and compliance:** Set up the cloud governance, risk and compliance model and select the framework for it.
- **Cloud information security assessment:** We help clients assess security and risk tolerance, determine the right level of security for their cloud adoptions and design a comprehensive strategy and architecture to support their goals. Our assessment process is based on the most widely recognised standards, including ISO/IEC 27001, ISO/IEC 27017, ISO/IEC 27018, and GDPR.

5. Business Benefits

- Extensive experience in large-scale migration projects within the public sector.
- Managed risk for minimal interruptions to your business.
- Proven tools, methods and automation framework ensure accelerated and predictable outcomes.
- Flexible post-migration support levels tailored to meet business needs.
- Integrated monitoring across the hybrid cloud.
- Cost changes report enables visibility into spend across cloud services.
- Budget your OpEx with advanced altering to ensure you are in control.
- Faster Migration Timelines through automation and intelligent workload prioritisation.
- Reduced Costs by optimising resource allocation and eliminating inefficiencies.
- Improved Accuracy and Reliability with AI-driven risk prediction and error minimisation.
- Enhanced Scalability and Performance, ensuring cloud environments are right-sized and future-ready.
- Continuous Optimisation post-migration for sustained ROI and operational excellence.

6. Technologies and Vendor Support

#	Technologies	Vendor support
1	• Discovery and assessment tools • Cloud migration tools • IaaS • PaaS • Serverless • DevOps • Containers • Compute services • Database services • Network services • Manage/Monitoring services • Machine Learning services.	• AWS • Microsoft Azure • Oracle • Salesforce.

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