



Trust. Value. Velocity

G-Cloud 15

Modernising Cloud Agnostic Hybrid iPaaS
Integration

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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:

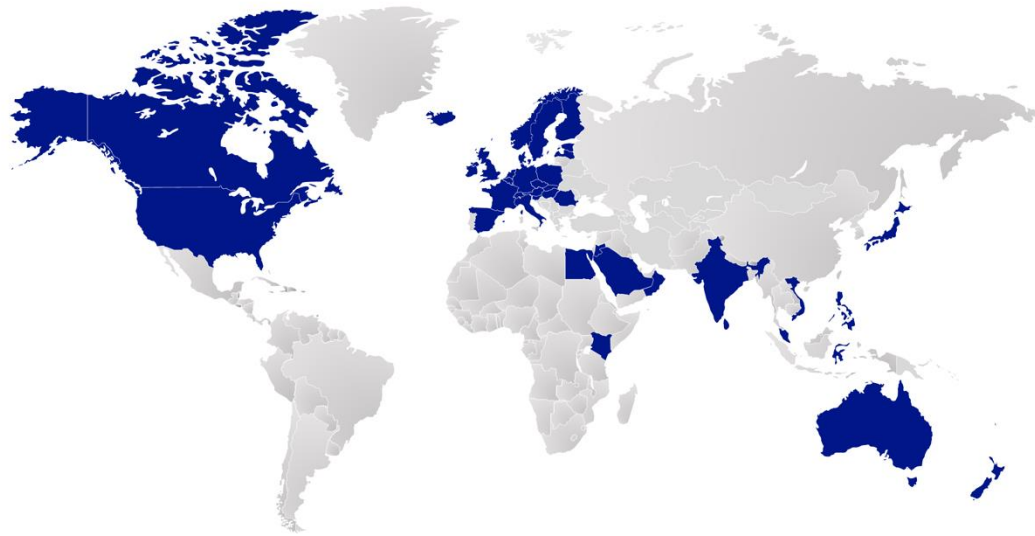
Working through a complex stakeholder landscape: We understand the importance of establishing effective communication channels, building trust and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is based on a deep 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 (both 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, being transparent, leading to enablement, 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:

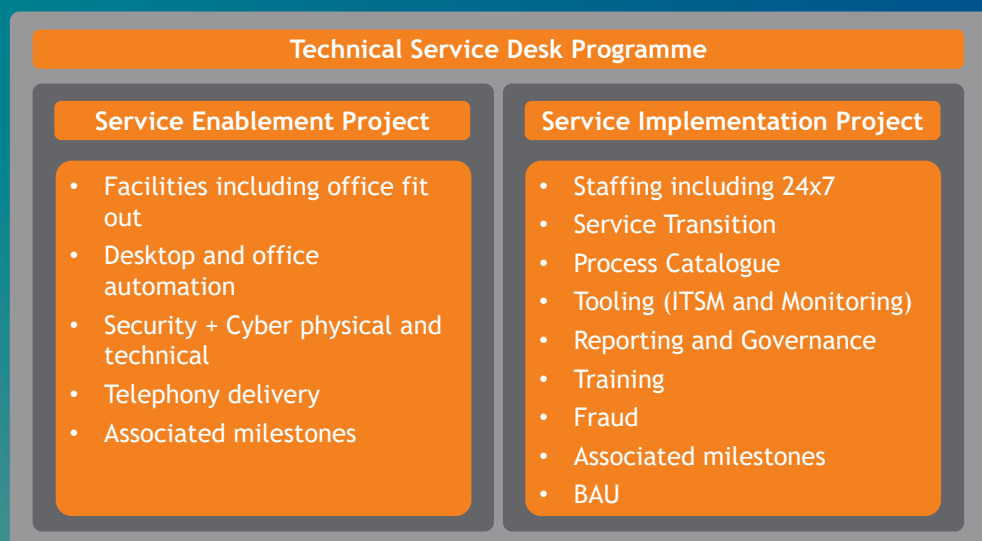
- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

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.

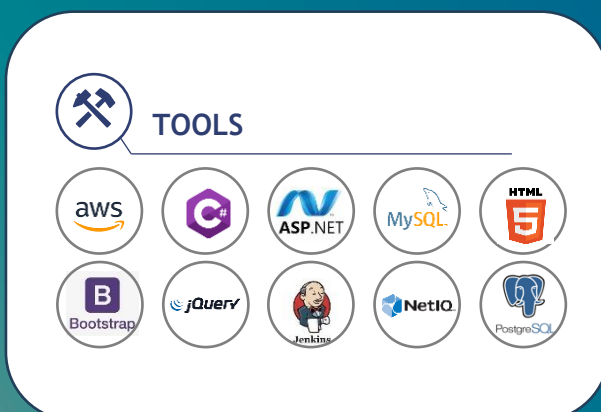
Solution

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

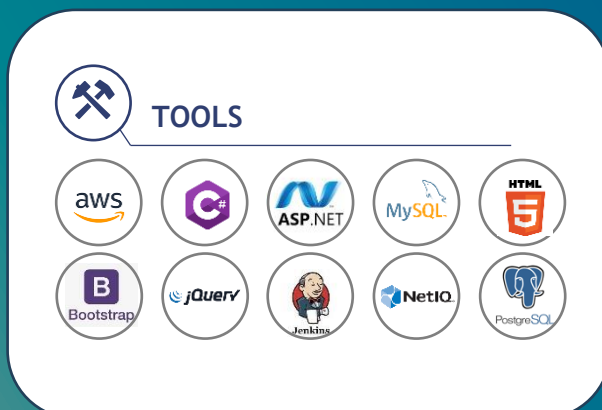
- Leveraging DevOps platform based on reusable GitHub, AWS and Azure DevOps Pipelines
- Introduce more flexible, scalable and reusable IaC capabilities
- Implement CI/CD pipelines.

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

Modernising Cloud-Agnostic Hybrid iPaaS Integration is Mastek's advanced service offering, designed to enable seamless, secure and scalable integration across diverse cloud and on-premises environments.

This service empowers organisations to unify data, applications and processes, leveraging a vendor-neutral and future-ready hybrid Integration Platform as a Service (iPaaS) approach. By adopting cloud-agnostic principles, enterprises can accelerate digital transformation, reduce integration complexity and ensure interoperability across legacy and modern systems. The solution is engineered for rapid deployment, robust governance and continuous innovation, supporting mission-critical business objectives and regulatory compliance

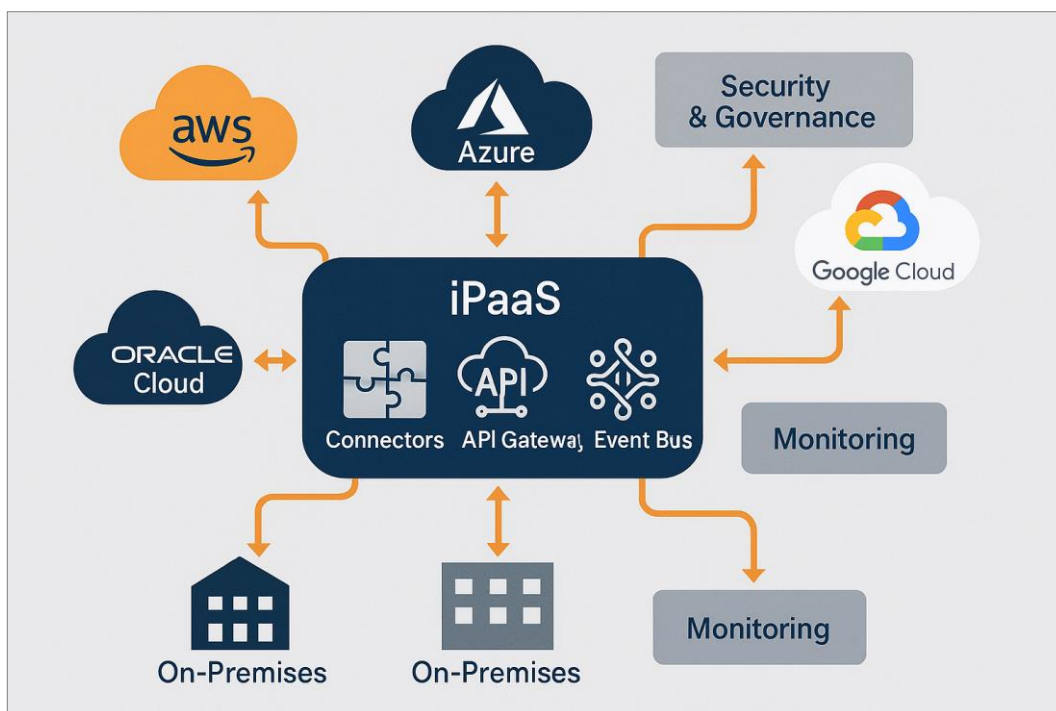


Figure 1: Modern Hybrid iPaaS Integration

Modernising Cloud-Agnostic Hybrid iPaaS Integration enables UK public-sector organisations to unify applications, data and processes across multi-cloud (Azure, AWS, Google Cloud, Oracle Cloud) and on-premises estates with vendor-neutral integration patterns. The service provides a future-proof integration fabric using API-led, event-driven and streaming approaches, with security-by-design and governance embedded throughout. It accelerates digital programmes by standardising connectivity, reducing legacy complexity and enabling rapid, resilient change at scale, while aligning with UK regulations and public sector controls (e.g., UK GDPR, ISO 27001, NCSC Cloud Security Principles).

Outcomes: faster delivery of new capabilities, measurable reliability and performance, improved interoperability, reduced technical debt and transparent compliance posture

3. Masteks Service

Mastek's Modernising Cloud-Agnostic Hybrid iPaaS Integration service delivers a comprehensive framework for enterprise-wide connectivity, enabling organisations to orchestrate integrations across public, private and hybrid clouds, as well as on-premises assets. The service includes:

- End-to-end integration architecture design, assessment and modernisation.
- Implementation of cloud-agnostic connectors, APIs and event-driven workflows.
- Automated data mapping, transformation and synchronisation across heterogeneous platforms.
- Secure integration lifecycle management with embedded governance and monitoring.
- Migration and remediation of legacy integration solutions to modern, scalable iPaaS platforms.
- Continuous support for emerging technologies (AI/ML, IoT, edge computing) within integration flows.
- Stakeholder co-creation workshops to align integration strategy with business outcomes.

3.1 Discovery and Assessment

- Current-state mapping: catalogue integrations, endpoints, queues/topics, ETL jobs, schedules, security controls, SLAs and operational runbooks across cloud and on-prem.
- Integration health check: reliability (MTBF/MTTR), throughput/latency baselines, error taxonomies, resiliency patterns (retry/circuit breaker) and observability gaps.
- Risk and compliance scan: data sensitivity classes, encryption posture (in transit/at rest), identity and access (RBAC/ABAC), auditability and alignment to UK requirements.

3.2 Target Architecture and Roadmap

- Hybrid iPaaS reference architecture: API Gateway, Event Bus/Streaming, Integration Connectors, Transformation services, Secrets/Key management, Observability and Policy enforcement.
- Pattern library: API-led orchestration, Pub/Sub, Saga and CQRS, CDC (change data capture), batch offloading, scheduled jobs and file-based bridging where mandated.
- Governance model: versioning and lifecycle (OpenAPI/AsyncAPI), semantic naming, re-use catalogues, approval flows and quality gates (security, performance, operability).

3.3 Migration, Modernisation and Remediation

- Legacy uplift: move SSIS/ETL/file-drops/point-to-point links into managed connectors, APIs and event streams; replace brittle cron/scheduled jobs with managed orchestrations.
- Coexistence: phased cut-over with dual-run, idempotent processing, back-pressure handling and schema evolution strategies to minimise live risk.
- Resilience engineering: bulkheads, retries with jitter, dead-letter queues, circuit breakers and compensating transactions for long-running workflows.

3.4 Platform Engineering and Automation

- Pipelines: CI/CD templates for connectors, APIs and integration packages; policy-as-code for linting, security scans and compliance checks at build time.

- Observability: golden dashboards (availability, error budgets, latency percentiles, throughput, backlogs), distributed tracing for cross-cloud hops and synthetic probes.
- Cost and sustainability (FinOps + GreenOps): right-sized resources, autoscaling, data egress minimisation and carbon-aware scheduling where supported.

3.5 Security, Compliance and DR

- Security hardening: mTLS, OAuth2/OIDC, JWT validation, KMS/Key Vault integration, secrets rotation, payload signing and PII masking.
- Compliance artefacts: DPIA templates, audit trails, immutable logs and evidence packs for assurance reviews; alignment to UK GDPR, ISO 27001 and NCSC guidance.
- BCP/DR: multi-region deployment, RPO/RTO objectives per integration, runbooks and chaos drills for failover and recovery.

3.6 Operate, Support and Continuous Improvement

- Run-ops: 24×7 monitoring, incident response and SRE practices; SLOs and error budgets agreed with business owners.
- Service management: ITIL-aligned processes integrated with public-sector demands; proactive defect reduction by trend analysis.
- Evergreen: backlog grooming for connector/API reuse, retiring unused flows and periodic architecture fitness-function reviews.

4. Key Features

- **Cloud-Agnostic Integration Framework:** Supports all major cloud providers (AWS, Azure, GCP, Oracle Cloud) and on-premises systems.
- **Hybrid Connectivity:** Enables seamless integration between cloud and legacy environments, supporting hybrid business models.
- **API Management and Orchestration:** Centralised API gateway, lifecycle management and policy enforcement.
- **Event-Driven Architecture:** Real-time data exchange and process automation using event streams and messaging.
- **Low-Code/No-Code Integration Tools:** Accelerates development and reduces technical barriers for business users.
- **Security and Compliance:** Built-in encryption, identity management and audit trails for regulatory adherence.
- **Scalable Microservices:** Modular integration components for rapid scaling and adaptability.
- **Monitoring and Analytics:** Advanced dashboards for integration health, performance and business impact.

5. Business Benefits

- **Accelerated Digital Transformation:** Rapidly connect disparate systems to enable new business models and innovation.
- **Reduced Integration Complexity:** Simplifies architecture, lowers maintenance costs and minimises technical debt.
- **Vendor Independence:** Avoids lock-in, providing flexibility to switch or combine cloud providers as needed.
- **Enhanced Data Quality and Accessibility:** Ensures consistent, reliable data flow across the enterprise.
- **Improved Security and Compliance:** Protects sensitive data and meets regulatory requirements.
- **Operational Agility:** Enables faster response to market changes and evolving business needs.
- **Future-Proof Architecture:** Supports integration of emerging technologies and evolving standards.
- **Stakeholder Alignment:** Drives collaboration between IT and business teams for outcome-driven integration.

6. Technologies, Languages, Methodologies and Vendor Support

#	Technologies	Languages	Methodologies	Vendor Support
1	Azure Logic Apps, AWS Step Functions	Python, Java, C#	Agile, DevOps, CI/CD	Microsoft, AWS, Google
2	MuleSoft, Dell Boomi	JavaScript, Go	API-First, Microservices	MuleSoft, Dell, Oracle
3	Apache Kafka, RabbitMQ	SQL, Scala	Event-Driven, DataOps	Confluent, Red Hat
4	Google Cloud Dataflow	Node.js, .NET	Low-Code/No-Code, BPMN	Google, IBM
5	Oracle Integration Cloud	PL/SQL, Shell	Integration Lifecycle Mgmt	Oracle, SAP
6	WSO2, SnapLogic	Groovy, PHP	Security and Compliance	WSO2, SnapLogic

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