Service Definition G-Cloud 14

Lot 3: Cloud Support

Content

Introduction

This document presents Service Definitions with regard to advisory and implementation services offerings for Lot 3 - Cloud Support, on the Google Cloud Platform (GCP). Also included in the following sections are Delivery terms, which apply to all G-Cloud Services covered in this document.

In the context of our response to the UK Government G-Cloud procurement framework, references to "you" or "your" throughout this document specifically denote the Buyer, which refers to the entity or organisation engaging in the procurement process under the G-Cloud framework.

Delivery Terms

Service Locations

The service location for delivering Google Cloud services encompasses both on-site and remote options, ensuring flexibility and efficiency in implementation. On-site delivery involves our team of certified cloud engineers and consultants working directly at your premises, allowing for hands-on collaboration, in-depth assessments, and personalised support tailored to your specific environment and requirements. Since our team of experts are in different locations across the globe, alternatively, remote delivery leverages advanced technology tools, secure communication channels, and virtual collaboration platforms to seamlessly conduct delivery activities from remote locations. This approach ensures accessibility, scalability, and cost-effectiveness while maintaining high standards of service delivery, project management, and adherence to timelines and milestones outlined in the Implementation services contract.

Assumptions

- Buyer will provide mutually agreed upon personnel (IT, etc.) and resources (documentation, systems, etc.) in a timely manner as required for the scope of work of the engagement.
- Buyer Project sponsors will help resolve any issues or questions related to the work in a timely manner.

- Our team will provide the services in accordance with all applicable data protection laws and will use Buyer's data only as necessary to provide the services and for no other purpose.
- We do not warrant or otherwise represent the functionality of any third party vendor product used during an implementation project. Such representations must be provided by the respective vendor.
- Remote access capabilities will be requested as appropriate to facilitate tasks related to a project. The parties shall work together in good faith to determine necessary remote access requirements and Buyer shall provide a reasonable level of remote access capabilities. Buyer will ensure access to all needed systems for our team members.
- Buyer shall make available access for our resources to the systems, applications, and knowledgeable personnel during designated time frames. Such timeframes will be established during the project kick-off meeting. Failure to provide this timely access could delay completion of the services.
- With the exception of the Scan Tool discovery tools and services, Buyer will be responsible for coordinating any required efforts with other third parties required to perform the activities in scope of the engagement.
- Customer shall deliver policy or procedure documents relevant to the scope of work in a timely manner as requested.

Buyer Responsibilities

A buyer will be responsible for ensuring the following:

- Confirming VMs (Virtual machines) targeted for migration according to project schedule during the migration sequencing phase of the project.
- Buyer shall be responsible for addressing any internal dependencies (including, but not limited to, business approval, network and security approval) for migration execution in a timely manner.
- Buyer shall provide application stakeholder names, architecture diagrams, application test scripts, migration validation plans, etc. for applications slated for migration.
- Buyer shall be responsible for addressing any approvals necessary for the installation of the environment discovery (scanning) tool in a timely manner.
- Buyer technical resources and application owners shall be made available to the migration team for application assessment, testing, and migration activities as needed.
- Buyer shall assign a named Project Sponsor that will be working with our team on a

regular, timely basis.

- Buyer shall provide direct access to stakeholders who will participate in consultation sessions (user interview or playback sessions).
- Buyer failure to fulfil any of the responsibilities may result in the extension of the planned project timelines (adjustments). Any Adjustments will be subject to agreed Change Control Procedures.

1. Cloud Migration

Service Overview

Cloud migration on Google Cloud Platform (GCP) is the secure and efficient movement of your IT infrastructure, applications, and data from your current environment (on-premises or another cloud) to GCP. Leveraging GCP Migration Center, our team of experts will partner with you to assess your needs, craft a customised migration plan, and execute the migration with minimal disruption. This enables you to leverage the scalability, security, and cost-effectiveness of GCP to meet your evolving IT demands.

Features

Migration Center is a GCP tool that lets you estimate your cloud costs, scan and assess your infrastructure, and plan your migration without making changes to your applications or workloads.

Discover

The Discover phase in Google Cloud Migration Center is the initial step which aims to create a comprehensive inventory of the Buyer's on-premises or existing cloud environment. This inventory serves as the foundation for understanding the infrastructure and planning the migration process. It involves the following:

1. Data Collection: Migration Center offers multiple options for gathering information about your IT resources:
2. Discovery Client: This downloadable tool automatically scans your environment and collects configuration and performance data on servers, VMs, and databases.
3. Manual Upload: You can manually upload spreadsheets with detailed specifications of your infrastructure, including hardware, software, and storage details.
4. Third-Party Integration: Migration Center can integrate with existing infrastructure management tools (like RVTools) to import relevant data directly.

5. Data Analysis: Once collected, Migration Center analyses the data to identify and categorise your IT resources. This includes servers, virtual machines, databases, network configurations, and storage solutions.
6. Dependency Mapping (Optional): While not explicitly part of the Discover phase, Migration Center can start to identify basic dependencies between discovered resources during this initial analysis. This information becomes crucial in the subsequent Assessment phase for planning the migration sequence.

By the end of the Discover phase, Migration Center provides you with a clear picture of your existing IT landscape, laying the groundwork for further assessment and planning a successful migration to Google Cloud Platform.

Assess

The Assessment phase is the foundation of a successful Google Cloud migration using Migration Center. It's where you gain a deep understanding of your current environment and set the stage for a smooth transition. Here's a breakdown of the key activities in this phase:

1. **Inventory Analysis:** The first step involves conducting a comprehensive inventory analysis of the organisation's IT assets, including servers, applications, databases, and storage systems. This analysis helps in understanding the scope and complexity of the migration project.
2. **Workload Discovery:** Next, the assessment phase involves identifying and categorising workloads based on factors such as criticality, performance requirements, and interdependencies. This helps in prioritising workloads for migration and mapping out dependencies between different components.
3. **Performance Profiling:** Performance profiling is conducted to gather data on workload performance metrics, resource utilisation, and dependencies. This data is used to assess the impact of migration on performance and to identify optimization opportunities in the cloud environment.
4. **Cost Estimation:** A critical aspect of the assessment phase is estimating the costs associated with cloud migration and ongoing cloud operations. This includes analysing factors such as compute resources, storage requirements, data transfer costs, and licensing considerations to provide a comprehensive cost projection.

5. **Risk Assessment:** Risk assessment involves identifying potential risks and challenges associated with cloud migration, such as data security, compliance requirements, and application compatibility issues. Risk mitigation strategies are developed to address these challenges and ensure a smooth migration process.
6. **Readiness Check:** A readiness check is performed to evaluate the organisation's readiness for cloud migration based on technical, operational, and organisational factors. This includes assessing infrastructure readiness, skill gaps, and change management readiness to support the migration initiative.
7. **Business Case Development:** Finally, the assessment phase includes developing a business case for cloud migration, outlining the expected benefits, ROI analysis, and strategic alignment with business objectives. This business case serves as a foundational document to secure stakeholder buy-in and support for the migration project.

Plan

This phase is designed to build the foundational Google Cloud “landing zone” and set up migration tooling, POC, and migration scheduling.

1. Define the migration objectives, goals, and success criteria for the project, aligning them with business requirements and strategic priorities.
2. Conduct a thorough assessment of existing workloads, applications, and data to determine their suitability and readiness for migration to Google Cloud Platform (GCP).
3. Identify and map dependencies between workloads, applications, databases, and infrastructure components to understand interdependencies and potential migration challenges.
4. Estimate the projected costs of migration, including infrastructure provisioning, data transfer, licensing, and ongoing operational expenses, to develop a realistic budget and financial plan.
5. Conduct a risk analysis to identify potential risks, challenges, and mitigations strategies related to the migration, such as data security, compliance, performance, and business continuity.
6. Develop a migration strategy and roadmap outlining the sequence, prioritisation, and approach for migrating workloads to GCP, considering factors such as complexity, criticality, and impact on business operations.

7. Plan resource requirements, including human resources, skills, tools, and timelines, to ensure adequate support and alignment with migration objectives and milestones.
8. Develop a communication plan and engage stakeholders, including IT teams, business units, vendors, and executives, to ensure alignment, collaboration, and buy-in throughout the migration process.

Migrate

In this phase, in collaboration with the Buyer's teams, groups of identified applications are migrated to the cloud in "waves" (also known as lift-and-shift), from on-premises (or other clouds) Virtual Machines environment to Google Cloud Compute Engine as follows:

1. Utilise resources to execute the migration of servers to Google Cloud
2. Migrated servers will be hosted on the same operating system in the cloud as their current on-premises operating system
3. Follow the activities, phases, and architecture defined in the migration assessment and planning
4. Transfer and validate data in production and non-production
5. Perform testing of applications for availability/network connectivity, and security. Business functionality/UAT testing shall be the responsibility of the Buyer

Benefits

1. Comprehensive Assessment: The Google Cloud Migration Center provides comprehensive assessment tools to analyse existing workloads, dependencies, and infrastructure, ensuring a thorough understanding of the migration scope and requirements.
2. Best Practice Guidance: Leveraging the Migration Center's best practice guides and recommendations, organisations can follow industry-leading approaches to plan and execute a successful lift-and-shift migration to Google Cloud, minimising risks and ensuring optimal performance.
3. Cost Estimation and Optimization: The Migration Center offers cost estimation tools to calculate the projected costs of migration and ongoing operations in Google Cloud, enabling organisations to optimise resource allocation and budgeting for a cost-effective migration journey.

4. Automated Workflows: The Migration Center facilitates automated workflows and migration tasks, streamlining the migration process and reducing manual effort, ensuring efficiency and accuracy throughout the migration lifecycle.
5. Migration Tracking and Monitoring: Organisations can track and monitor the progress of their migration projects in real-time using the Migration Center's monitoring and reporting capabilities, allowing for proactive management and troubleshooting of migration challenges.
6. Training and Support: The Migration Center provides access to training resources, documentation, and support channels, empowering organisations with the knowledge and assistance needed to navigate the migration process successfully and leverage Google Cloud's capabilities effectively post-migration. In addition, we provide customised training to ensure practical hands-on enablement of the Buyer’s team.

2. Cloud Foundations

Service Overview

Our service will implement a Google Cloud Foundation environment for the Buyer. Our approach is to set up an environment based on Google Cloud recommended best practices for the Buyer to experience the Google Cloud sooner. Through engagement with the Buyer, we jointly document key decisions and design the production-level technical architecture. Using Infrastructure as Code, we adapt the Cloud Foundation environment to the Buyer's designed technical architecture.

Features

1. Technical Design Documentation of crucial decisions and the design of the Buyer's production-level technical architecture in Technical Design Documents, outlining the GCP architecture.
2. Foundational Setup Assistance: setting up foundational elements such as IAM (Identity and Access Management), project structures, and VPC/network configurations, aligning them with the insights gained from engaging with the Buyer's technical team and technical design documents.
3. First Mover Application Prioritisation: identify and prioritise the "first mover" applications, conducting assessments and capacity planning to ensure their readiness for migration to GCP, laying the groundwork for a seamless transition.
4. Migration Plan Development: in collaboration, develop a strategic plan for migrating an existing or demo application to GCP, leveraging best practices and tailored solutions to optimise the migration process.
5. Team Enablement and Training: create a comprehensive training plan to empower the Buyer's team with the knowledge and skills needed for a successful transition to GCP
6. Security Policy Application: robust security policies and protocols across the Buyer's GCP environment based on Google's recommended best practices.
7. Infrastructure as Code (IaC) Implementation: We leverage Terraform to automate, and streamline the deployment and management of the Buyer's foundational environment on GCP.

Benefits

1. Accelerated time to value with the ability to experience the Google Cloud sooner
2. A secured Google Cloud Foundation environment based on Google's recommended best practices.
3. Enhanced scalability, consistency, and efficiency while reducing manual errors and optimising resource utilisation through automation.
4. Compliance with industry standards and safeguarding data and applications from potential threats.
5. Team enablement for readiness and proficiency as the Buyer embraces the cloud environment.

3. Hybrid Cloud & Application Modernisation

Service Overview

To deploy the Google Hybrid Cloud solution based on GKE Enterprise, our team will collaborate with the Buyer's team through discovery and assessment, architecture design, deployment, integration, security, monitoring and training needs to deliver a comprehensive solution, tailored to the Buyer's needs and goals.

Features

1. **Discovery and Assessment:** understanding the Buyer's current infrastructure, applications, and business requirements. It includes assessing workloads for suitability and readiness for migration to GKE Enterprise.
2. **Architecture Design:** based on the assessment, a detailed architecture design is developed, outlining the deployment model, networking configurations, security policies, and integration points with existing systems.
3. **Deployment and Configuration:** the deployment phase involves setting up GKE Enterprise clusters, configuring networking, identity and access management (IAM), security controls, logging, and monitoring tools.
4. **Integration and Migration:** integration with existing on-premises infrastructure and cloud services is established, and migration plans for workloads are executed using best practices and tools provided by GKE Enterprise.
5. **Security and Compliance:** robust security measures are implemented, including encryption, access controls, network segmentation, and compliance with industry standards and regulations.
6. **Monitoring and Optimization:** Monitoring tools and processes are set up to ensure visibility into the performance, availability, and health of GKE Enterprise clusters. Continuous optimization efforts are made to improve efficiency and cost-effectiveness.
7. **Training and Enablement:** a training plan is developed to educate the Buyer's team on managing and operating GKE Enterprise effectively. This includes hands-on workshops, documentation, and support resources.
8. **Post-Implementation Support:** ongoing support and maintenance services are provided to address any issues, perform updates, and optimise the environment for evolving business needs.

Benefits

1. Integrate on-premises and cloud environments effortlessly with GKE Enterprise, enabling a unified and cohesive infrastructure.
2. Enhanced Security and Compliance through robust security measures and compliance with industry standards, protecting the Buyer's data and applications across hybrid cloud environments.
3. Scale resources dynamically and adapt to changing business demands, maximising efficiency and resource utilisation.
4. Streamlined and simplified management and operations with centralised controls, automation, and monitoring tools, reducing complexity and improving agility.
5. Optimised costs with efficient resource allocation, workload placement, and usage monitoring, ensuring cost-effectiveness and ROI for the Buyer's hybrid cloud deployment.

4. Cloud Security Posture Review

Service Overview

Elevate the security resilience of your Google Cloud Platform infrastructure with the guidance of Google's seasoned security specialists. Our team will conduct a comprehensive assessment of your current configurations and platform controls, delivering detailed recommendations and industry-best practices tailored to fortify your defences, minimise vulnerabilities, and proactively mitigate prevalent threats within your environment.

Features

1. Agree with the Buyer the scope of the cloud security posture review, including the specific Google Cloud Platform (GCP) services, resources, and environments to be assessed. This step involves identifying critical assets, compliance requirements, and security objectives to ensure a focused and effective review process.
2. Evaluate the configuration settings and security policies of GCP services and resources, such as Compute Engine instances, Cloud Storage buckets, IAM roles, and networking configurations. Assess adherence to security best practices, compliance standards (e.g., CIS benchmarks, GDPR, HIPAA), and GCP's security recommendations.
3. Review IAM roles, permissions, and access controls to ensure the principle of least privilege is followed. Evaluate identity and access management practices, including multi-factor authentication (MFA), service account usage, and role-based access control (RBAC) assignments, to prevent unauthorised access and data breaches.
4. Assess data protection measures, encryption practices, and key management processes within GCP. Evaluate encryption at rest and in transit, data classification policies, data loss prevention (DLP) controls, and compliance with data residency requirements to safeguard sensitive information and maintain data confidentiality.
5. Review monitoring and logging configurations using tools like Cloud Monitoring and Cloud Logging to detect and respond to security incidents effectively. Assess logging retention policies, audit logs, alerting mechanisms, and incident

response procedures to ensure timely detection, investigation, and mitigation of security incidents and anomalies.

Benefits

1. Enhancing risk identification by conducting a thorough assessment of configurations, policies, and access controls, the review helps identify potential security risks, vulnerabilities, and gaps in the Google Cloud Platform (GCP) environment.
2. Better compliance Assurance as the review ensures adherence to industry-specific compliance requirements (e.g., GDPR, HIPAA) and GCP's security best practices, helping the Buyer maintain regulatory compliance and avoid potential penalties.
3. Improved Security Controls by evaluating access controls, encryption practices, data protection measures, and monitoring/logging configurations, the review enables organisations to strengthen their security controls and minimise the risk of unauthorised access, data breaches, and cyber threats.
4. The review may identify opportunities to optimise resource utilisation, reduce security-related overheads, and improve operational efficiency within the GCP environment, leading to cost savings and better resource management.
5. Assessing incident response procedures, monitoring/alerting mechanisms, and logging practices, the review helps the Buyer enhance their incident detection, response, and mitigation capabilities, ensuring timely and effective responses to security incidents.
6. The review provides actionable recommendations, best practices, and guidance for ongoing security improvements, empowering the Buyer to continuously enhance their cloud security posture and adapt to evolving threats and challenges.