Here is a Product Requirements Document (PRD) for a Google Cloud Infrastructure Modernization Accelerator Suite.

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### Product Requirements Document: Google Cloud Infrastructure Modernization Accelerator Suite

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# 1. Executive Summary

This document outlines the requirements for the **Google Cloud Infrastructure Modernization Accelerator Suite**. This suite will be a collection of integrated tools, templates, and best practices designed to simplify and expedite the migration and modernization of on-premises and multi-cloud infrastructure to Google Cloud. The primary goal is to **reduce the time, cost, and complexity** associated with cloud adoption, enabling customers to realize the benefits of Google Cloud's scalable, secure, and innovative platform more quickly. By providing a prescriptive and automated path, we will lower the barrier to entry for enterprises, improve their success rate, and drive deeper adoption of Google Cloud services.

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# 2. The Problem

Many enterprises struggle with migrating and modernizing their IT infrastructure. The process is often slow, expensive, and fraught with risk. Key pain points include:

- **Complex Discovery & Assessment:** Difficulty in accurately inventorying existing infrastructure, understanding application dependencies, and determining the best migration strategy (e.g., Rehost, Replatform, Refactor).
- **Skill Gaps:** In-house teams often lack the specialized expertise in Google Cloud architecture, security, and automation required for a successful migration.
- **Security & Compliance Risks:** Ensuring that the new cloud environment meets stringent

security and regulatory compliance standards from day one is a major challenge.
- **Slow & Manual Provisioning:** Manually setting up landing zones, networking, and identity and access management (IAM) is time-consuming, error-prone, and inconsistent.
- **Cost Overruns:** Poor planning and inefficient execution frequently lead to unexpected costs and budget overruns.

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# 3. Product Vision & Goals

**Our vision** is to make Google Cloud the easiest and fastest platform for enterprises to modernize their infrastructure. We will achieve this by providing a "golden path" accelerator that automates complexity and embeds best practices directly into the customer's cloud adoption journey.

## Objectives and Key Results (OKRs)

- **Objective 1: Accelerate Customer Time-to-Value.**
  - **KR1:** Reduce the average time for landing zone deployment from weeks to under one day.
  - **KR2:** Decrease the planning and assessment phase of a migration project by 40%.
- **Objective 2: Increase Migration Success Rate.**
  - **KR1:** Reduce post-migration support tickets related to configuration errors by 60%.
  - **KR2:** Achieve a 95% success rate for automated workload deployments using our templates.
- **Objective 3: Drive Google Cloud Service Adoption.**
  - **KR1:** Increase the adoption of key services like Google Kubernetes Engine (GKE), Cloud SQL, and BigQuery by 30% within accounts using the accelerator.

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# 4. Target Audience & User Personas

Our primary users are technical professionals involved in cloud adoption projects within mid-to-large enterprises.

- **Persona 1: Cloud Architect (Priya)**
  - **Role:** Designs the overall cloud strategy and architecture.

    - **Needs:** A reliable, secure, and repeatable way to deploy foundational cloud infrastructure (landing zones). Needs tools to assess existing workloads and map them to appropriate Google Cloud services.
    - **Frustrations:** Inconsistent manual setups by different teams, and ensuring security policies are enforced everywhere.
- **Persona 2: DevOps Engineer (David)**
    - **Role:** Implements and manages the cloud infrastructure and CI/CD pipelines.
    - **Needs:** Pre-built, customizable Infrastructure as Code (IaC) templates for common application patterns. Wants to automate as much of the deployment and management process as possible.
    - **Frustrations:** Writing boilerplate code for every new project and troubleshooting environment drift.
- **Persona 3: IT Security Manager (Susan)**
    - **Role:** Ensures the cloud environment adheres to company security policies and industry regulations.
    - **Needs:** Pre-configured security controls, compliance blueprints, and automated guardrails to prevent misconfigurations.
    - **Frustrations:** Lack of visibility into security posture and the difficulty of enforcing policies consistently across a dynamic cloud environment.

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# 5. Features

The accelerator suite will be composed of three core pillars: Assess, Mobilize, and Operate.

## Pillar 1: Assess - Discovery & Planning Toolkit

- **Must-Have:**
    - **Automated Discovery Tool:** An agentless tool to scan on-premises and multi-cloud environments to discover VMs, applications, and their dependencies.
    - **TCO & ROI Calculator:** A web-based calculator that provides cost estimates for running workloads on Google Cloud compared to on-premises, including migration costs.
    - **Migration Strategy Recommender:** An engine that analyzes discovered workloads and suggests the optimal "6 R's" migration path (Rehost, Replatform, etc.).
- **Should-Have:**
    - **Dependency Visualization Map:** A graphical interface showing the relationships

between servers and applications.

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### Pillar 2: Mobilize - Automated Landing Zone & Workload Deployment

- **Must-Have:**
  - **Landing Zone Automation Engine:** A guided wizard in the Google Cloud Console that deploys a secure, production-ready foundation using Terraform. This includes VPC networking, IAM roles, logging, and billing setup.
  - **Terraform Template Library:** A repository of version-controlled, customizable IaC modules for common workloads (e.g., 3-tier web app on GKE, data warehouse with BigQuery).
  - **Security & Compliance Blueprints:** Pre-configured sets of policies (Organization Policies, Firewall Rules) that map to common standards like CIS, PCI-DSS, and HIPAA.
- **Should-Have:**
  - **Integration with CI/CD tools:** Native integration hooks for Jenkins, GitLab CI, and Cloud Build to trigger deployments from the template library.

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### Pillar 3: Operate - Governance & FinOps Dashboards

- **Must-Have:**
  - **Governance Guardrails Dashboard:** A central dashboard in Cloud Console to visualize compliance status against selected blueprints and alert on policy violations.
  - **Cost Optimization Recommender:** Proactively scans for idle resources, recommends rightsizing for VMs, and suggests cost-saving opportunities like Committed Use Discounts.
- **Could-Have:**
  - **Automated Remediation:** The ability to automatically fix certain types of policy violations (e.g., disable public IP on a VM).

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## 6. Non-Functional Requirements

- **Security:** All components must adhere to Google's internal security standards. All code and templates must be scanned for vulnerabilities. Customer data must be encrypted at rest and in transit.
- **Scalability:** The solution must be able to handle discovery and deployment for

enterprises with thousands of servers and applications.
- **Usability:** The user experience must be intuitive. The guided wizards and dashboards should be accessible to users with intermediate Google Cloud knowledge, without requiring deep expertise.
- **Extensibility:** The Terraform templates and deployment scripts must be modular and well-documented to allow for easy customization by customers.

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# 7. Success Metrics

- **Adoption:** Number of unique customers deploying a landing zone via the accelerator per month.
- **Engagement:** Number of workload templates deployed from the library.
- **Impact:**
  - Average time from project start to first workload deployment.
  - Customer satisfaction score (CSAT) for the accelerator suite.
  - Percentage reduction in "high severity" security misconfigurations detected by Security Command Center for customers using the suite.