Google Cloud: Innovating for the Future - Our 5-Year Strategic Outlook

Our 5-year product strategy is centred on empowering your organisation's digital transformation through continuous innovation, a commitment to openness, and a deep understanding of enterprise needs. We are focused on providing a comprehensive and future-proof platform that allows you to build what's next, leverage the full potential of your data, and operate with agility and security. Key pillars of our strategy include the pervasive integration of **Artificial Intelligence (AI)** and **Machine Learning (ML)**, advancing **data analytics and database capabilities**, championing an **open cloud ecosystem**, delivering **industry-leading security**, and fostering **developer productivity**.

Standards Compliance and Target Directions

Google Cloud is committed to upholding the highest standards of security and compliance to build trust and meet your regulatory needs.

- **Current Stance:** We maintain a comprehensive suite of certifications and attestations, including global standards like ISO/IEC 27001, ISO/IEC 27017, ISO/IEC 27018, SOC 1/2/3, PCI DSS, and FedRAMP, as well as industry-specific and regional compliance offerings. Our Compliance resource centre provides extensive documentation.
- **Target Directions (5-Year Outlook):**
    - **Proactive Adaptation:** We will continue to proactively adapt to new and evolving global, regional, and industry-specific standards and regulations.
    - **Transparency and Tooling:** Expect enhanced transparency in our compliance posture and more sophisticated tools for customers to manage their own compliance obligations on Google Cloud.
    - **AI and Data Governance:** A growing focus will be on standards and frameworks related to AI ethics, responsible AI, and data governance, ensuring our AI offerings are built and can be used in a trustworthy manner.
    - **Confidential Computing:** Continued investment in Confidential Computing to provide verifiable assurance that data is protected while in use.

Key Development Environment Directions

Our strategy is to provide developers with a productive, flexible, and AI-enhanced environment to build, deploy, and manage applications efficiently.

- **Current Stance:** We offer a rich set of tools including Cloud Code for IDE integration (VS Code, JetBrains), Cloud SDK, Google Kubernetes Engine (GKE) for container orchestration, Cloud Run for serverless applications, and Firebase for mobile and web app development. Gemini Code Assist is already transforming developer productivity.
- **Target Directions (5-Year Outlook):**
    - **AI-Powered Development:** Deeper integration of generative AI (like Gemini) across the entire development lifecycle – from design and coding to testing, deployment, operations, and security. Expect more "agentic" development experiences where AI proactively assists.
    - **Application-Centric Cloud:** A continued shift towards application-centric management, allowing developers to focus on application logic rather than underlying infrastructure. Tools like Application Design Centre and Cloud Hub will mature.
    - **Serverless and Kubernetes Evolution:** Continued innovation in serverless (Cloud Run, Cloud Functions) and managed Kubernetes (GKE) to offer greater scalability, efficiency, and ease of use, especially for AI/ML workloads.
    - **Open and Interoperable Tooling:** Ongoing commitment to open-source contributions and ensuring our development tools work seamlessly across hybrid and multi-cloud environments.
    - **Integrated DevOps/DevSecOps:** Enhanced, integrated tooling for automated security, testing, and CI/CD pipelines built directly into developer workflows.

Future Modules and Functionality

Google Cloud's roadmap is driven by customer needs and technological advancements, with a strong emphasis on AI, data, and industry-specific solutions.

- **Current Stance:** We continuously release new services and features across our portfolio, from infrastructure and networking to data analytics, AI/ML, and application modernisation. Major announcements are often made at events like Google Cloud Next.
- **Target Directions (5-Year Outlook):**
    - **Pervasive AI/ML:** Expect AI/ML capabilities to be embedded more deeply into existing services and for new AI-driven solutions to emerge, simplifying the adoption of AI for various business problems. Vertex AI will continue to be a cornerstone, with advancements in foundation models, MLOps, and tools like Vertex AI Search and Conversation.
    - **Data Cloud Innovations:** Continued leadership in data analytics and databases with enhancements to BigQuery, Spanner, Cloud SQL, and our data lake solutions. Focus will be on unified data management, real-time analytics, and making data more accessible for AI.
    - **Industry Solutions:** Expansion and deepening of our tailored solutions for key industries (e.g., retail, healthcare, financial services, public sector, manufacturing), incorporating industry-specific data models, compliance, and AI capabilities.
    - **Sustainability:** Growing portfolio of tools and capabilities to help customers understand and reduce the carbon footprint of their cloud workloads.
    - **Next-Generation Infrastructure:** Ongoing enhancements to our global infrastructure for better performance, reliability, and efficiency, including advancements in custom hardware (TPUs, DPUs).

Key Application Directory, Server, Database, and Operating System Support Directions

Our goal is to provide a flexible and robust platform that supports a wide range of enterprise workloads and modernisation efforts.

- **Application Directory:**
    - **Current Stance:** Services like Resource Manager allow for organising resources by project and folder, with emerging capabilities for application-centric management.

    - **Target Directions:** Enhanced capabilities for defining, managing, and governing applications as cohesive units, simplifying discovery, cost management, and policy enforcement across complex application landscapes.

- **Server (Compute):**
    - **Current Stance:** A comprehensive portfolio including Compute Engine (VMs), Google Kubernetes Engine (GKE), Cloud Run (serverless containers), Cloud Functions (serverless functions), and specialised workloads like Batch.
    - **Target Directions:** Continued investment in all compute models to offer optimal price-performance, scalability, and integration. Expect more sophisticated autoscaling, right-sizing recommendations (potentially AI-driven), and advancements in confidential and secure computing options. Support for emerging hardware architectures.

- **Database:**
    - **Current Stance:** A rich set of managed relational (Cloud SQL, Spanner, AlloyDB) and NoSQL (Firestore, Bigtable, Memorystore) databases. Strong partnerships, such as Oracle Database@Google Cloud, extend customer choice.
    - **Target Directions:**
        - Further integration of AI/ML into database services for intelligent optimisation, anomaly detection, and natural language querying.
        - Enhanced multi-cloud and hybrid database solutions, allowing seamless data integration and management across environments.
        - Continued focus on performance, scalability, and enterprise-grade reliability and availability, including advanced disaster recovery options.
        - Simplified database migration services and tools.

- **Operating System:**
    - **Current Stance:** Support for a wide variety of public OS images (Linux distributions, Windows Server) on Compute Engine, with options for

custom images and Bring Your Own License (BYOL). Regular updates for security and performance.
    - **Target Directions:** Continued broad support for popular enterprise operating systems. Enhanced security features at the OS level, integrated with Google Cloud's security services. Optimised OS images for specific workloads (e.g., AI/ML, high-performance computing).

Acquisitions and Mergers as They Relate to Product Strategy

Our acquisition strategy is focused on accelerating innovation, acquiring top talent, and enhancing our ability to solve critical customer challenges.

- **Current Stance:** Google Cloud selectively acquires companies that align with our strategic priorities and can be effectively integrated to deliver enhanced value to our customers. A recent example is the agreement to acquire Wiz to bolster cloud security and multicloud capabilities.
- **Target Directions (5-Year Outlook):**
    - **Strategic Tuck-ins:** We will continue to pursue acquisitions that complement our organic development efforts, particularly in high-growth areas like AI/ML, cybersecurity, data analytics, and industry-specific solutions.
    - **Integration for Value:** The primary goal post-acquisition is the seamless integration of technology and teams to enhance our existing product portfolio and deliver new capabilities quickly.
    - **Customer Benefit Focus:** Acquisitions will be driven by the potential to provide significant benefits to our customers, whether through new functionalities, improved security, or simplified operations.
    - **Ecosystem and Openness:** Acquired technologies will generally be integrated in a way that supports our commitment to open standards and an open cloud ecosystem.

Roadmap for Data Mesh and Domain-Oriented Architecture Capabilities

Google Cloud is well-positioned to support customers adopting data mesh and domain-oriented architectures, enabling decentralised data ownership with centralised governance.

- **Current Stance:** Services like **Google Cloud Dataplex** provide an intelligent

data fabric that allows organisations to discover, manage, monitor, and govern their data across distributed data domains (data lakes, data warehouses, databases). BigQuery enables federated queries and data sharing. Our resource management hierarchy (folders, projects) allows for domain-based organisation.

- **Target Directions (5-Year Outlook):**
    - **Enhanced Dataplex Capabilities:** Continued evolution of Dataplex with richer features for data product creation, self-service data access, federated governance, and comprehensive metadata management, further simplifying the implementation of data mesh principles.
    - **Data Product Lifecycle Management:** Tools and frameworks to better support the lifecycle of data products, from creation and publication to discovery, consumption, and retirement.
    - **Decentralised Ownership with Centralised Governance:** Strengthening the tools that enable domain teams to own and manage their data, while providing central IT/data governance teams with the visibility and controls needed for security, compliance, and quality. This aligns with the Google Cloud Well-Architected Framework's emphasis on decoupled architectures.
    - **Interoperability and Standardisation:** Focus on APIs and standards that facilitate easier sharing and consumption of data products across different domains and potentially across clouds.
    - **Data Culture Enablement:** Providing guidance, blueprints (like those in the Cloud Architecture Centre), and best practices to help organisations with the cultural and organisational shifts required for successful data mesh adoption.

The recent Google I/O announcements directly reinforce Google Cloud's 5-year strategic outlook, particularly the pillars of pervasive AI/ML integration and fostering developer productivity. The demonstrated performance gains from the new TPU v6 (Trillium) align with Google Cloud's commitment to providing next-generation infrastructure for AI workloads. Furthermore, the emphasis on simplified AI integration, enabling developers to build AI-powered applications with significantly less code, directly supports the strategy of an AI-enhanced development environment. These advancements exemplify Google Cloud's dedication to continuous innovation, empowering organisations to leverage the full potential of their data and operate with agility in the age of AI.

By focusing on these strategic areas, Google Cloud aims to be the most trusted and innovative partner for Epworth's journey to digitisation and beyond. We are committed to

a transparent roadmap and will continue to share updates on our progress and future directions.