**Google Analytics Hub**

**1. Introduction**

Google Analytics Hub is a fully managed data exchange service built on BigQuery, allowing organizations to securely share, discover, and monetize datasets. It enables internal and external users to access shared data without duplicating it, ensuring data consistency and security.

**2. Key Features**

* Secure Data Sharing: Uses IAM roles and permissions to manage access securely.
* Data Exchange: A hub where datasets are published and subscribed to.
* Listings: Each dataset is a "listing" containing metadata, sample data, and access policies.
* Linked Datasets: A virtual representation of shared data, ensuring no physical duplication.
* Subscription-Based Access: Users subscribe to datasets in real-time instead of copying data via linked datasets.
* Access Control: Uses IAM roles and permissions to manage access securely.
* Monetization Capabilities: Charge external users per query or via subscriptions.
* Multi-Cloud Support: External users on AWS/Azure can query using BigQuery Omni.
* Integration with BI Tools: Connect shared datasets to Tableau, Power BI, and Looker.

**3. How Google Analytics Hub Works**

Inside the Organization (Internal Users)

* Data Owner Publishes Dataset in Analytics Hub from BigQuery.
* Internal Teams Subscribe to the dataset via Analytics Hub.
* Access Data Securely through BigQuery, Looker, or API.

Outside the Organization (External Users)

* Data Owner Publishes Dataset in Analytics Hub.
* External Vendor Requests Access via Analytics Hub.
* Access Granted Based on IAM: Read-only, query-based, or export access.
* Vendor Queries Data securely using API, BI tools, or BigQuery Omni. A diagram of a project

  AI-generated content may be incorrect.

**4. Secure Data Sharing and Access**

4.1 Internal Data Access Control

* Assign IAM roles: `bigquery.dataViewer` for read access.
* Users query directly in BigQuery UI or BI Tools.

4.2 External Data Access Control

* Google Account Authentication: Required for API and UI access.
* Multi-Cloud Access: Use BigQuery Omni for AWS/Azure queries.
* Export Control: Restrict data exports to maintain security.

4.3 Monetization & Usage-Based Pricing

* Enable billing per query or set a flat-rate subscription fee.
* Monitor usage with BigQuery billing reports.