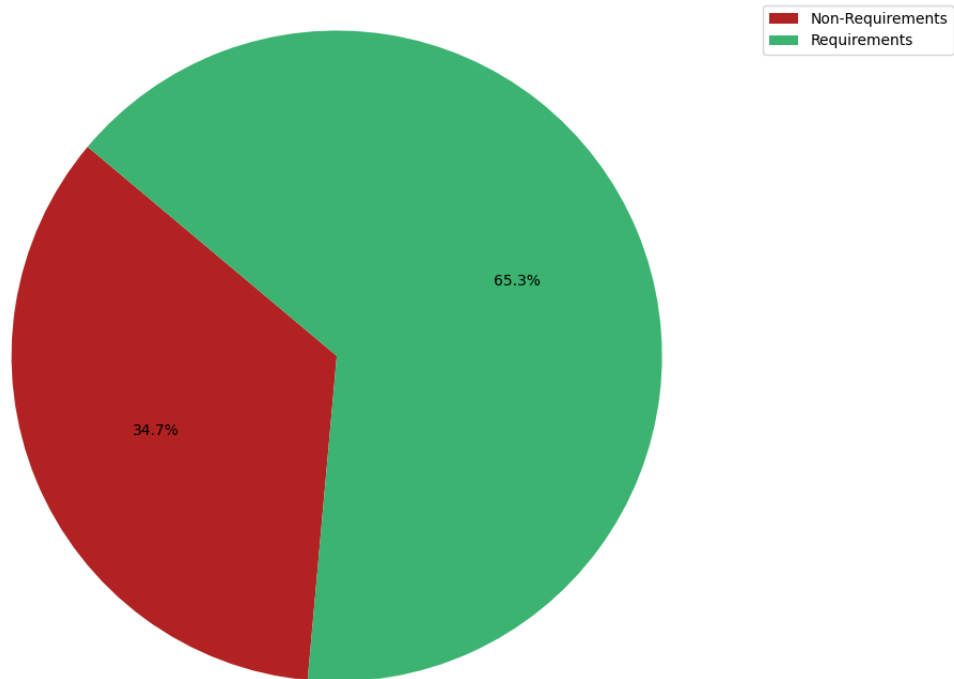
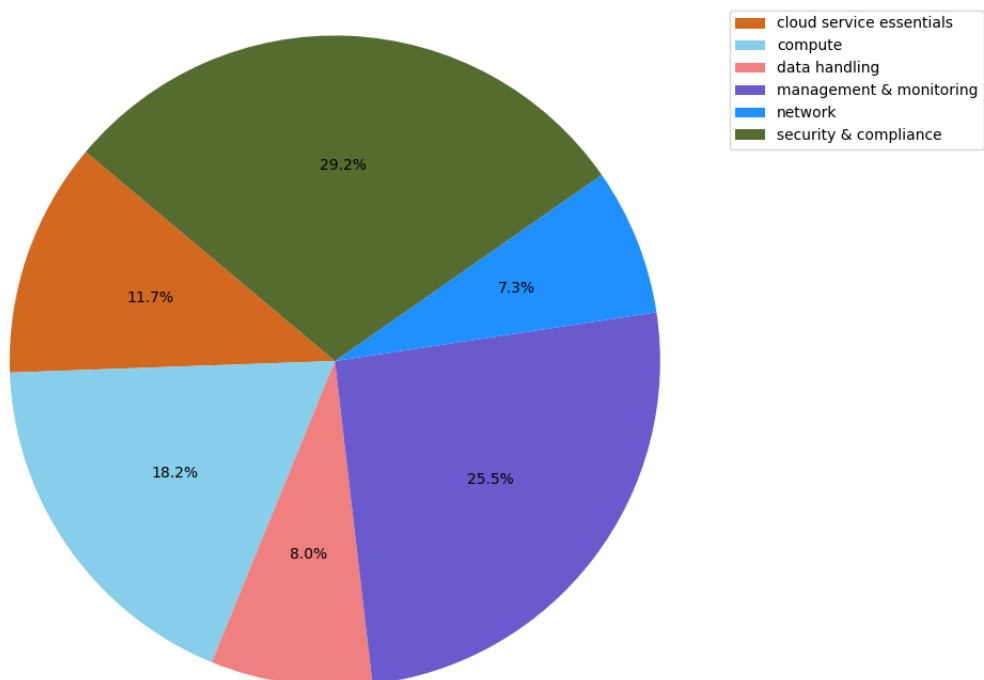


Cloud Requirements Specification Report

A) Requirements VS Non-Requirements



B) Cloud Service Requirements



C) Refinement of Cloud Service Requirements

- 1) The following requirements were extracted for main category "Compute":
 - 1.1) Cloud features for subcategory "Resource types" are listed below:
 - 1.1.1) Virtual Machine (7)
 - 1.1.2) Containerization (3)
 - 1.1.3) Serverless (2)
 - 1.2) Cloud features for subcategory "Elasticity" are listed below:
 - 1.2.1) Scaling (8)
 - 1.2.2) Load Balancing (4)
 - 1.3) Cloud features for subcategory "Host provisioning" are listed below:
 - 1.3.1) Auto-Provisioning (1)
- 2) The following requirements were extracted for main category "Data handling":
 - 2.1) Cloud features for subcategory "Data storage" are listed below:
 - 2.1.1) Data Storage (5)
 - 2.2) Cloud features for subcategory "Database systems" are listed below:
 - 2.2.1) Relational Database (4)
 - 2.2.2) NoSQL Database (2)
- 3) The following requirements were extracted for main category "Network":
 - 3.1) Cloud features for subcategory "Infrastructure" are listed below:
 - 3.1.1) Local Network (6)
 - 3.2) Cloud features for subcategory "Services" are listed below:
 - 3.2.1) Firewall (3)
 - 3.3) Cloud features for subcategory "Metrics" are listed below:
 - 3.3.1) Latency (1)
- 4) The following requirements were extracted for main category "Security & compliance":
 - 4.1) Cloud features for subcategory "Identity & access management" are listed below:
 - 4.1.1) Core IAM (3)
 - 4.2) Cloud features for subcategory "Data protection" are listed below:
 - 4.2.1) Data Security (6)
 - 4.2.2) Encryption (6)
 - 4.2.3) Confidentiality (1)
 - 4.3) Cloud features for subcategory "Threat management" are listed below:
 - 4.3.1) Vulnerability Assessment (1)
 - 4.3.2) Threat Detection (1)
 - 4.3.3) Cyber-Attack Protection (5)
 - 4.4) Cloud features for subcategory "Regulatory compliance" are listed below:
 - 4.4.1) Compliance & Standards (15)
 - 4.4.2) Sustainability (2)
- 5) The following requirements were extracted for main category "Management & monitoring":
 - 5.1) Cloud features for subcategory "Monitoring & analytics" are listed below:
 - 5.1.1) Infrastructure Monitoring (6)
 - 5.1.2) Dashboard (4)
 - 5.1.3) Log Management (2)
 - 5.1.4) Audit Trail (5)
 - 5.1.5) Alert (5)

5.1.6) Reporting (1)

5.2) Cloud features for subcategory "Financial" are listed below:

5.2.1) Budget Management (2)

5.3) Cloud features for subcategory "Interoperability" are listed below:

5.3.1) System Integration (6)

5.3.2) APIs (4)

6) The following requirements were extracted for main category "Cloud service essentials":

6.1) Cloud features for subcategory "Performance management" are listed below:

6.1.1) Availability (3)

6.2) Cloud features for subcategory "Infrastructure management" are listed below:

6.2.1) System Isolation (1)

6.2.2) Multi-Region (3)

6.2.3) Redundancy & Replication (4)

6.2.4) Data Center (2)

6.3) Cloud features for subcategory "Backup & recovery" are listed below:

6.3.1) Backup System (1)

6.3.2) Disaster Recovery (2)

D) Cloud Providers Feature Mapping

Category: Compute

Feature: Virtual Machine

AWS: EC2
Google: Compute Engine
Azure: Virtual Machines

Feature: Containerization

AWS: ECS, EKS
Google: Kubernetes Engine
Azure: Kubernetes Service (AKS)

Feature: Serverless

AWS: Lambda
Google: Cloud Functions
Azure: Functions

Feature: Scaling

AWS: EC2 Auto Scaling, EC2
Google: Cloud AutoScaling, Compute Engine
Azure: Virtual Machine Scale Sets, Virtual Machines

Feature: Load Balancing

AWS: ELB, EC2
Google: Cloud Load Balancing, Compute Engine
Azure: Load Balancer, Virtual Machines

Feature: Auto-Provisioning

AWS: CloudFormation
Google: Deployment Manager
Azure: Resource Manager

Category: Data handling

Feature: Data Storage

AWS: S3 (Simple Storage Service)
Google: Cloud Storage
Azure: Blob Storage

Feature: Relational Database

AWS: RDS, Aurora
Google: Cloud SQL
Azure: SQL Database

Feature: NoSQL Database

AWS: DynamoDB
Google: Firestore
Azure: Cosmos DB

Category: Network

Feature: Local Network

AWS: VPC
Google: VPC
Azure: Virtual Network

Feature: Firewall

AWS: Network Firewall
Google: Cloud Firewall
Azure: Firewall

Feature: Latency

AWS: nan

Google: nan

Azure: nan

Category: Security & compliance**Feature: Core IAM**

AWS: IAM

Google: Cloud IAM

Azure: Azure Active Directory (AD)

Feature: Data Security

AWS: Macie

Google: Sensitive Data Protection

Azure: Azure Information Protection

Feature: Encryption

AWS: Key Management Service

Google: Cloud Key Management Service

Azure: Azure Key Vault

Feature: Confidentiality

AWS: Secrets Manager

Google: Secret Manager

Azure: Azure Key Vault (Secrets)

Feature: Vulnerability Assessment

AWS: Inspector

Google: Security Command Center

Azure: Azure Security Center

Feature: Threat Detection

AWS: GuardDuty

Google: Security Command Center

Azure: Azure Security Center

Feature: Cyber-Attack Protection

AWS: Shield

Google: Cloud Armor

Azure: Azure DDoS Protection

Feature: Compliance & Standards

AWS: Artifact

Google: Compliance Reports Manager

Azure: Azure Compliance Manager

Feature: Sustainability

AWS: The Cloud - Amazon Sustainability

Google: Google Cloud Sustainability

Azure: Azure Sustainability

Category: Management & monitoring**Feature: Infrastructure Monitoring**

AWS: CloudWatch

Google: Cloud Monitoring

Azure: Azure Monitor

Feature: Dashboard

AWS: CloudWatch (Dashboards)

Google: Cloud Console

Azure: Azure Portal

Feature: Log Management

AWS: CloudWatch (Logs)
Google: Cloud Logging
Azure: Azure Monitor Logs

Feature: Audit Trail

AWS: CloudTrail
Google: Cloud Audit Logs
Azure: Azure Audit Logs

Feature: Alert

AWS: CloudWatch (Alarms)
Google: Cloud Monitoring Alerts
Azure: Azure Monitor Alerts

Feature: Reporting

AWS: Cost and Usage Report
Google: Data Studio, BigQuery
Azure: Power BI

Feature: Budget Management

AWS: AWS Budgets
Google: Google Cloud Billing
Azure: Azure Cost Management + Billing

Feature: System Integration

AWS: AWS AppFlow
Google: Apigee Integration
Azure: Azure Logic Apps

Feature: APIs

AWS: AWS API Gateway
Google: Apigee API Management
Azure: Azure API Management

Category: Cloud service essentials**Feature: Availability**

AWS: Elastic Load Balancing, EC2 Auto Scaling, Route 53 Health Checks
Google: Cloud Load Balancing, Managed Instance Groups, health checks
Azure: Azure Load Balancer, Virtual Machine Scale Sets, Azure Service Health

Feature: System Isolation

AWS: Amazon VPC, AWS Direct Connect
Google: Cloud VPC, Dedicated Interconnect
Azure: Virtual Network, ExpressRoute

Feature: Multi-Region

AWS: Global Accelerator
Google: Cloud Interconnect
Azure: ExpressRoute

Feature: Redundancy & Replication

AWS: Amazon S3 Cross-Region Replication, RDS Multi-AZ
Google: Cloud Storage Multi-regional
Azure: Azure Storage Geo-Redundant Storage

Feature: Data Center

AWS: AWS Regions and Availability Zones
Google: Google Cloud Regions and Zones
Azure: Azure Regions and Availability Zones

Feature: Backup System

AWS: Backup

Google: Backup and DR Service

Azure: Backup

Feature: Disaster Recovery

AWS: Elastic Disaster Recovery

Google: Backup and DR Service

Azure: Azure Site Recovery