Cloud Architecture on Azure

Solution Architect - SeoungHun LEE -

Intelligent Convergence
Solution Company

HANCOM
한컴MDS

Cloud

IaaS vs PaaS vs SaaS

On-Premises	Infrastructure as a Service	Platform as a Service	Software as a Service
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

You Manage   Other Manages

Cloud + Cloud

2016 Gartner Cloud Infrastructure as a Service

Figure 1. Magic Quadrant for Cloud Infrastructure as a Service, Worldwide

Source: Gartner (August 2016)

2017 Gartner Cloud Infrastructure as a Service
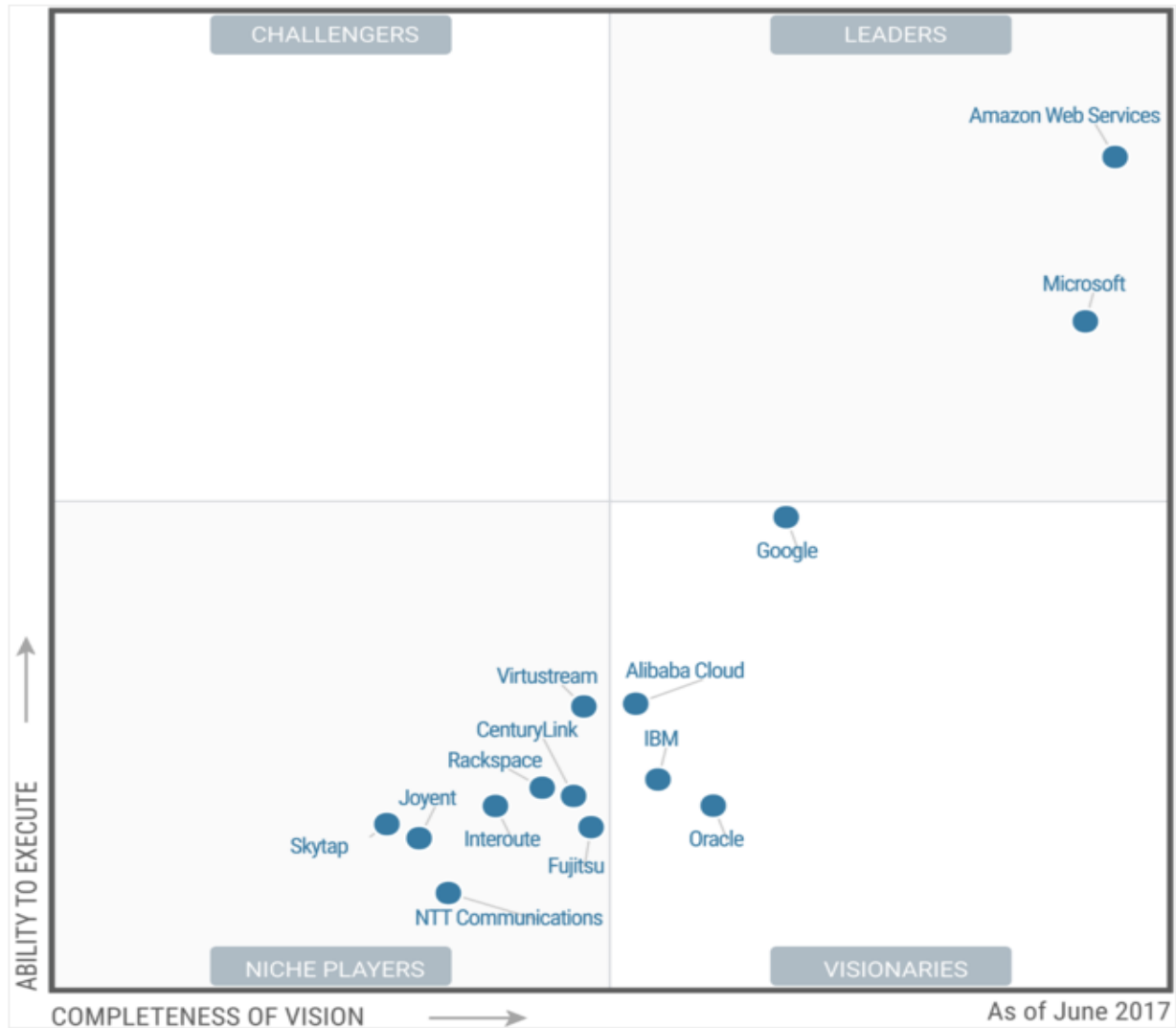
2018 Gartner Cloud Infrastructure as a Service

Figure 1. Magic Quadrant for Cloud Infrastructure as a Service, Worldwide

Datacenter Regions

Azure Regions

54 regions worldwide   **140** available in 140 countries

- West Central US
- West US 2
- West US
- US Gov Arizona
- US Gov Texas
- South Central US
- US Gov Iowa, Central US
- Canada East
- Canada Central
- North Central US
- US DoD East
- East US, East US 2, US Gov Virginia
- US DoD Central
- Brazil South

- Norway West
- West Europe
- UK West
- North Europe
- UK South
- France Central
- France South
- Norway East
- Germany West Central
- Germany North
- Germany Northeast
- Germany Central
- Switzerland North
- Switzerland West

- UAE North
- UAE Central
- West India
- Central India
- South India

- China North, China North 2
- Korea Central
- Korea South
- Japan East
- Japan West
- China East, China East 2
- East Asia
- Southeast Asia

- South Africa North
- South Africa West

- Australia East
- Australia Central, Australia Central 2
- Australia Southeast

Legend:
- ○ Available region
- ◌ Announced region
- ● Availability Zone(s) present

Amsterdam

Platform Services

Security & Management
- Portal
- Active Directory
- Multi-Factor Authentication
- Automation
- Key Vault
- Store / Marketplace
- VM Image Gallery & VM Depot

Compute
- Cloud Services
- Service Fabric
- Batch
- Remote App

Web and Mobile
- Web Apps
- API Apps
- API Management
- Mobile Apps
- Logic Apps
- Notification Hubs

Developer Services
- Visual Studio
- Azure SDK
- Team Project
- Application Insights

Hybrid Operations
- Azure AD Connect Health
- AD Privileged Identity Management
- Backup
- Operational Insights
- Import/Export
- Site Recovery
- StorSimple

Integration
- Storage Queues
- Biztalk Services
- Hybrid Connections
- Service Bus

Analytics & IoT
- HDInsight
- Machine Learning
- Data Factory
- Event Hubs
- Stream Analytics
- Mobile Engagement

Data
- SQL Database
- SQL Data Warehouse
- Redis Cache
- Search
- DocumentDB
- Tables

Media & CDN
- Media Services
- Content Delivery Network (CDN)

Infrastructure Services

Compute
- Virtual Machines
- Containers

Storage
- BLOB Storage
- Azure Files
- Premium Storage

Networking
- Virtual Network
- Load Balancer
- DNS
- Express Route
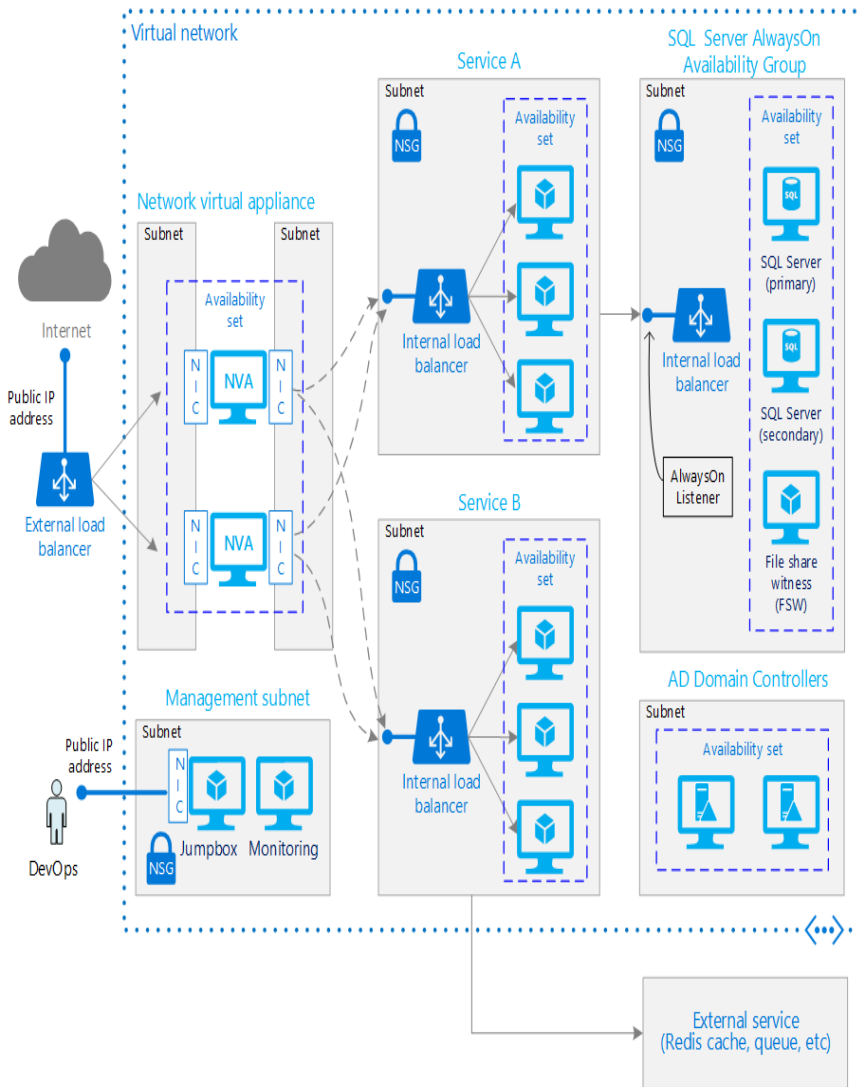- Traffic Manager
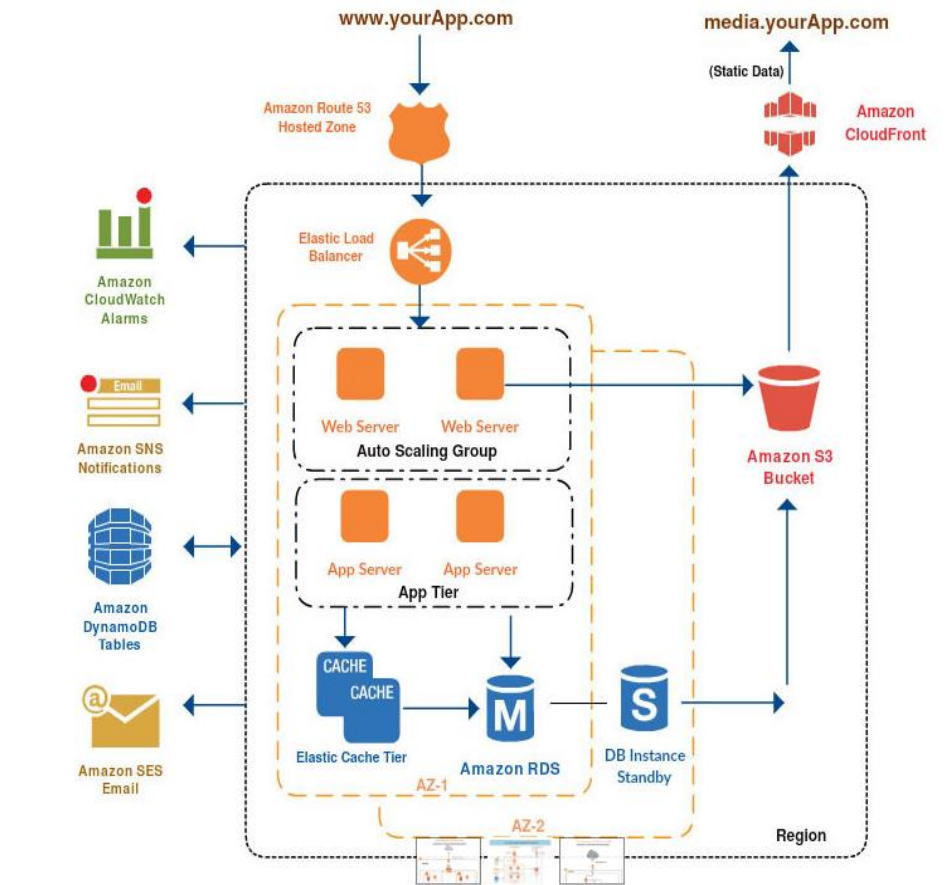- VPN Gateway
- Application Gateway

Datacenter Infrastructure

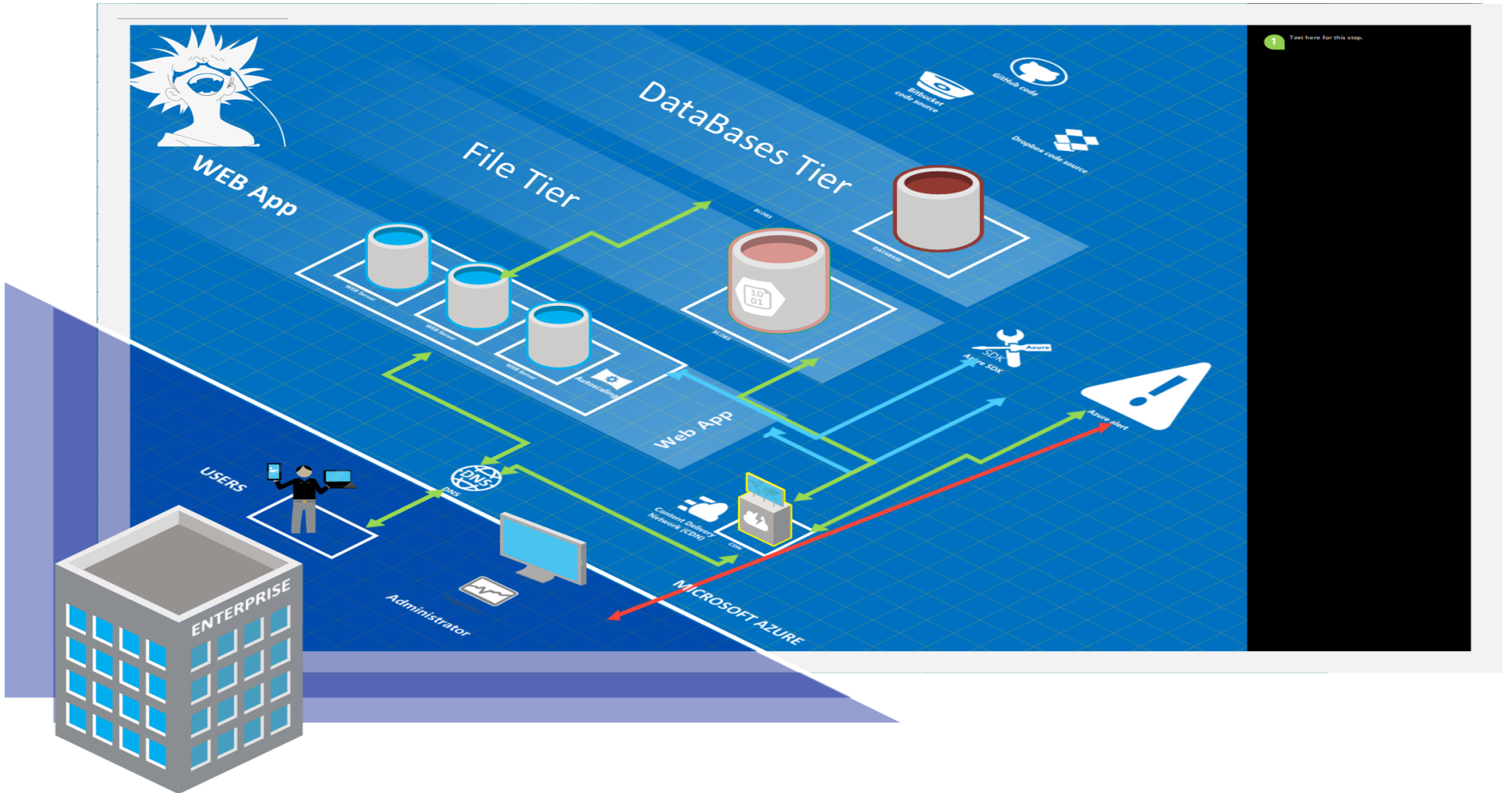# Compute options for all types of apps

Entry level
A | Av2

Burstable
B

General Purpose
D | Dv2 | NEW Dv3

Compute Intensive
F | NEW Fv2

Storage Optimized
L
NEW Lv2 (coming soon)

Memory Optimized
G | NEW Ev3 | NEW M

Graphics Intensive
NC | NCv2 | NV | ND
PREVIEW NCv3 | NEW NVv2 (coming soon) | NEW NDv2 (coming soon)

High Performance Computing
H
NEW Hv2 (coming soon)

Purpose-built SAP HANA
SAP HANA

Architecture

Azure VS AWS

Virtual network

Service A

SQL Server AlwaysOn Availability Group

Subnet — NSG — Availability set

Network virtual appliance

Subnet — NIC — NVA — NIC — Availability set

Internet

Public IP address

External load balancer

Internal load balancer

Subnet — NSG — Availability set

SQL Server (primary)

SQL Server (secondary)

Internal load balancer

AlwaysOn Listener

File share witness (FSW)

Service B

Subnet — NSG — Availability set

Internal load balancer

AD Domain Controllers

Subnet — Availability set

Management subnet

Public IP address

Subnet — NIC — NSG — Jumpbox — Monitoring

DevOps

External service (Redis cache, queue, etc)

3-Tier Auto-scalable Web Application Architecture

www.yourApp.com

media.yourApp.com

(Static Data)

Amazon Route 53 Hosted Zone

Amazon CloudFront

Elastic Load Balancer

Amazon CloudWatch Alarms

Email

Amazon SNS Notifications

Web Server — Web Server
Auto Scaling Group

App Server — App Server
App Tier

Amazon S3 Bucket

Amazon DynamoDB Tables

CACHE CACHE
Elastic Cache Tier

Amazon RDS

DB Instance Standby

Amazon SES Email

AZ-1

AZ-2

Region

2/3   Amazon 3-tier architecture diagrams drawn using Creately

Tweet   Like   CLOSE

HANCOM
한컴MDS

Azure 3 Tier PaaS Architecture

Azure 3 Tier IaaS Architecture
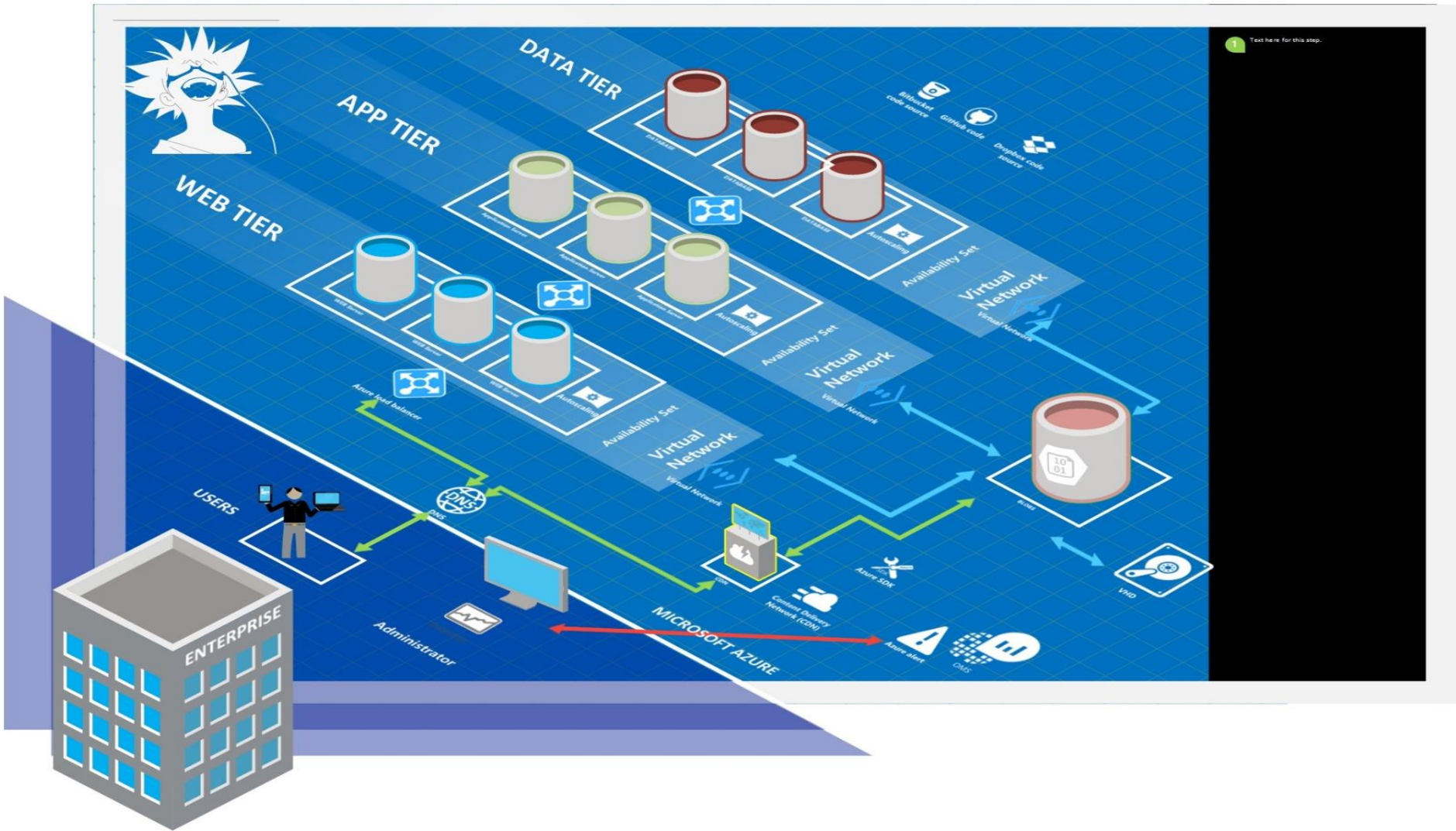
Azure 심장 제세동기 아키텍쳐
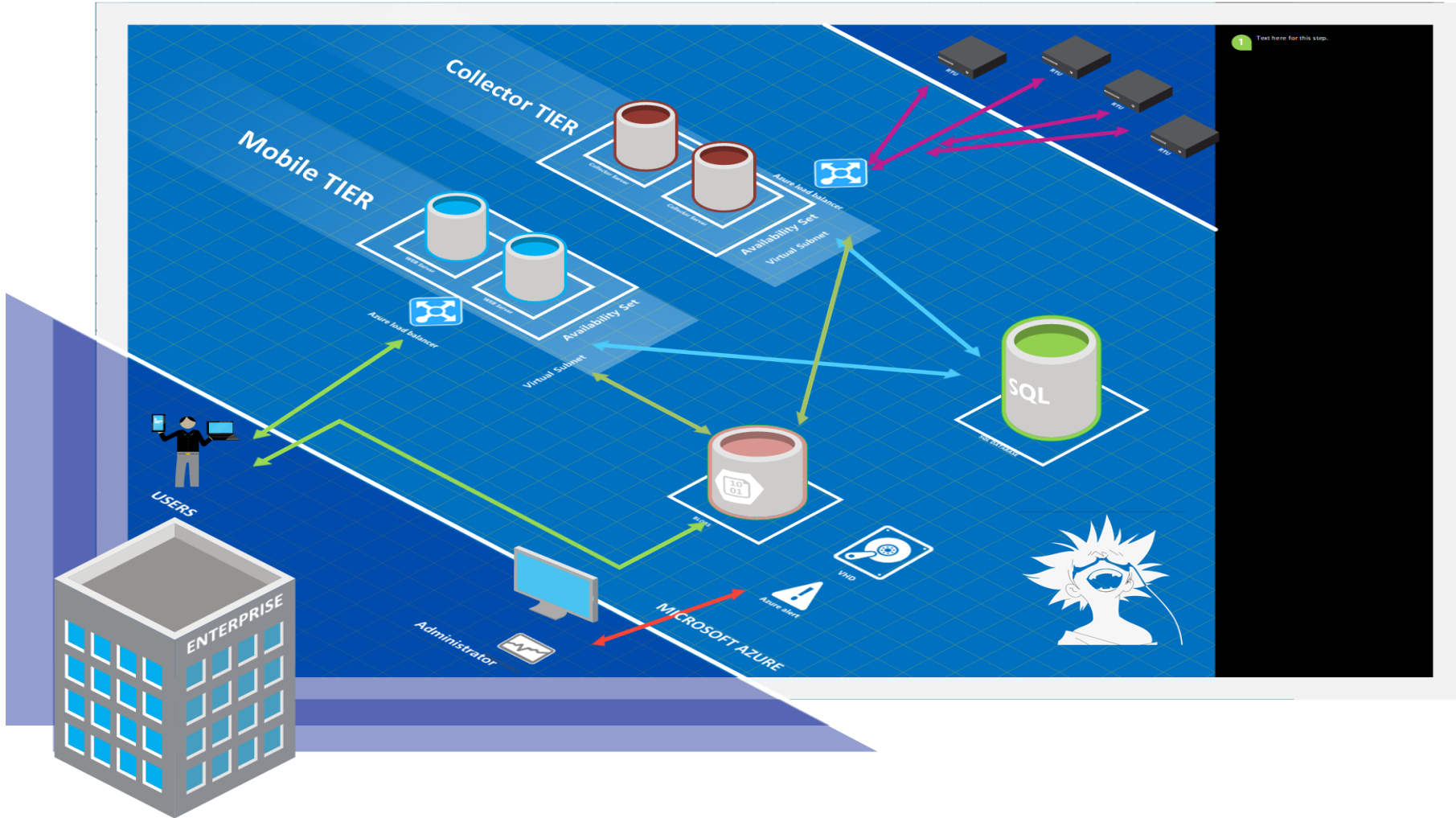
Azure 글로벌 지역 분산 처리 아키텍쳐
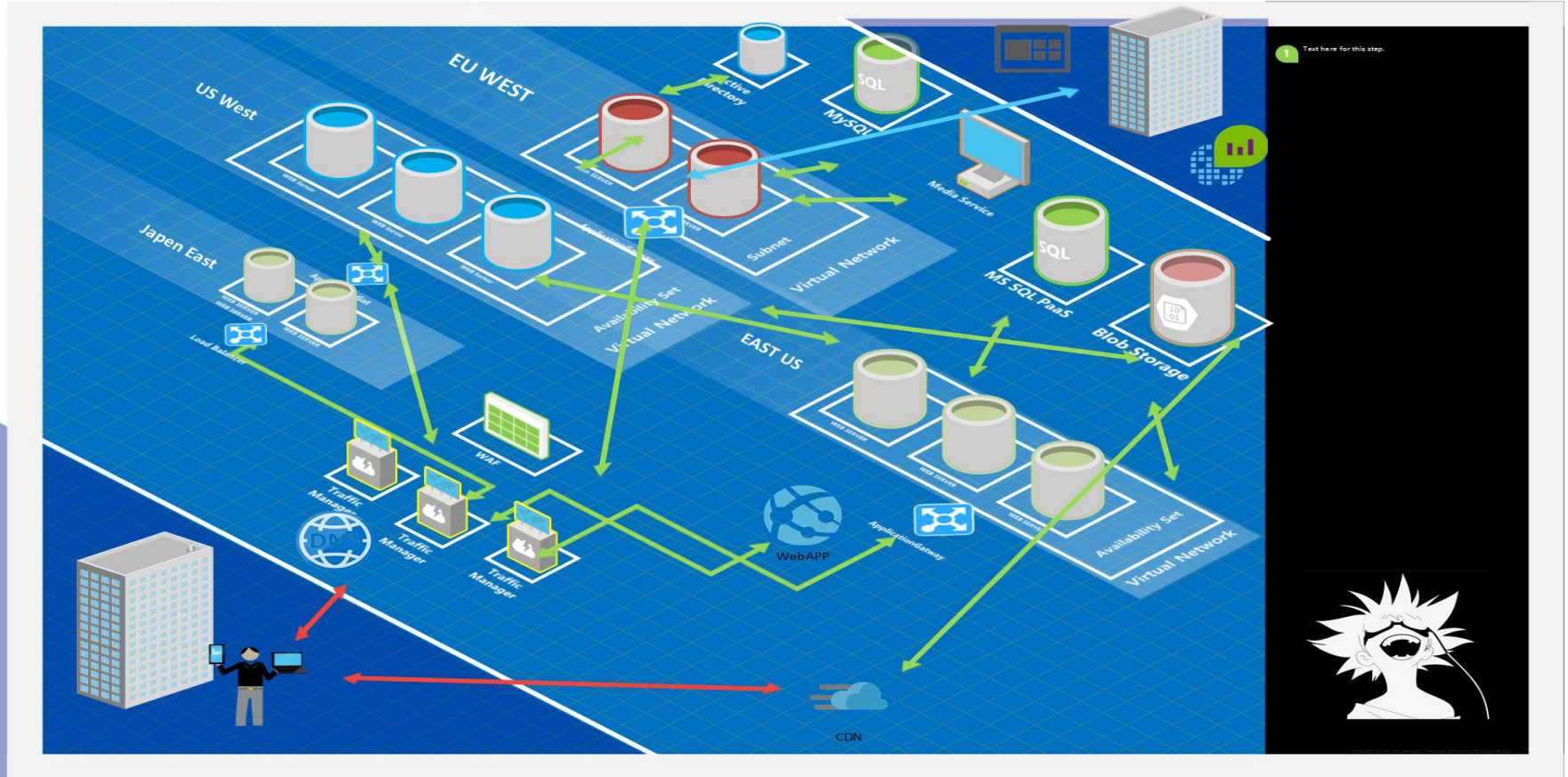
Azure IoT 태양광 인버터 발전 설계
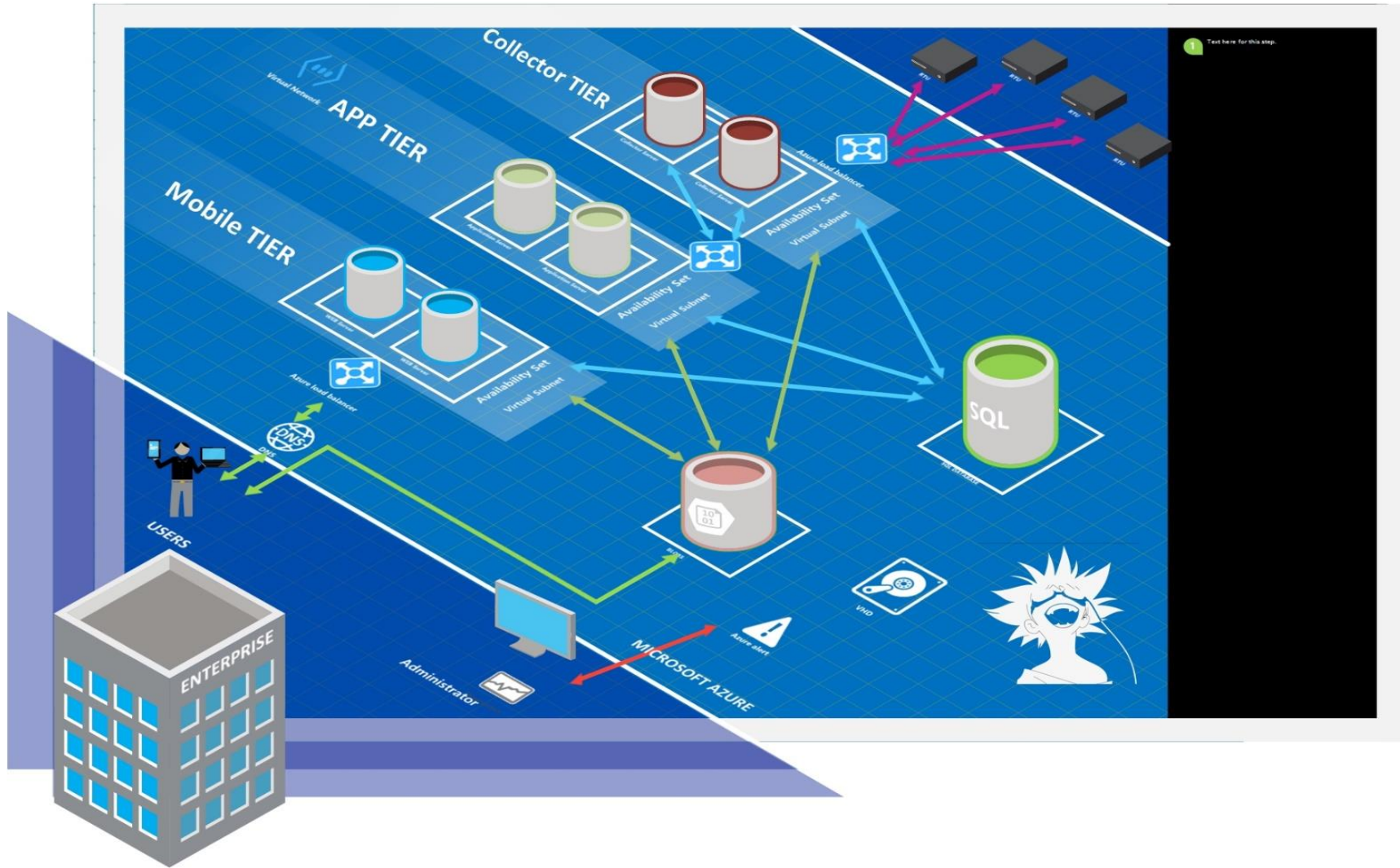
HIPPA (Security)
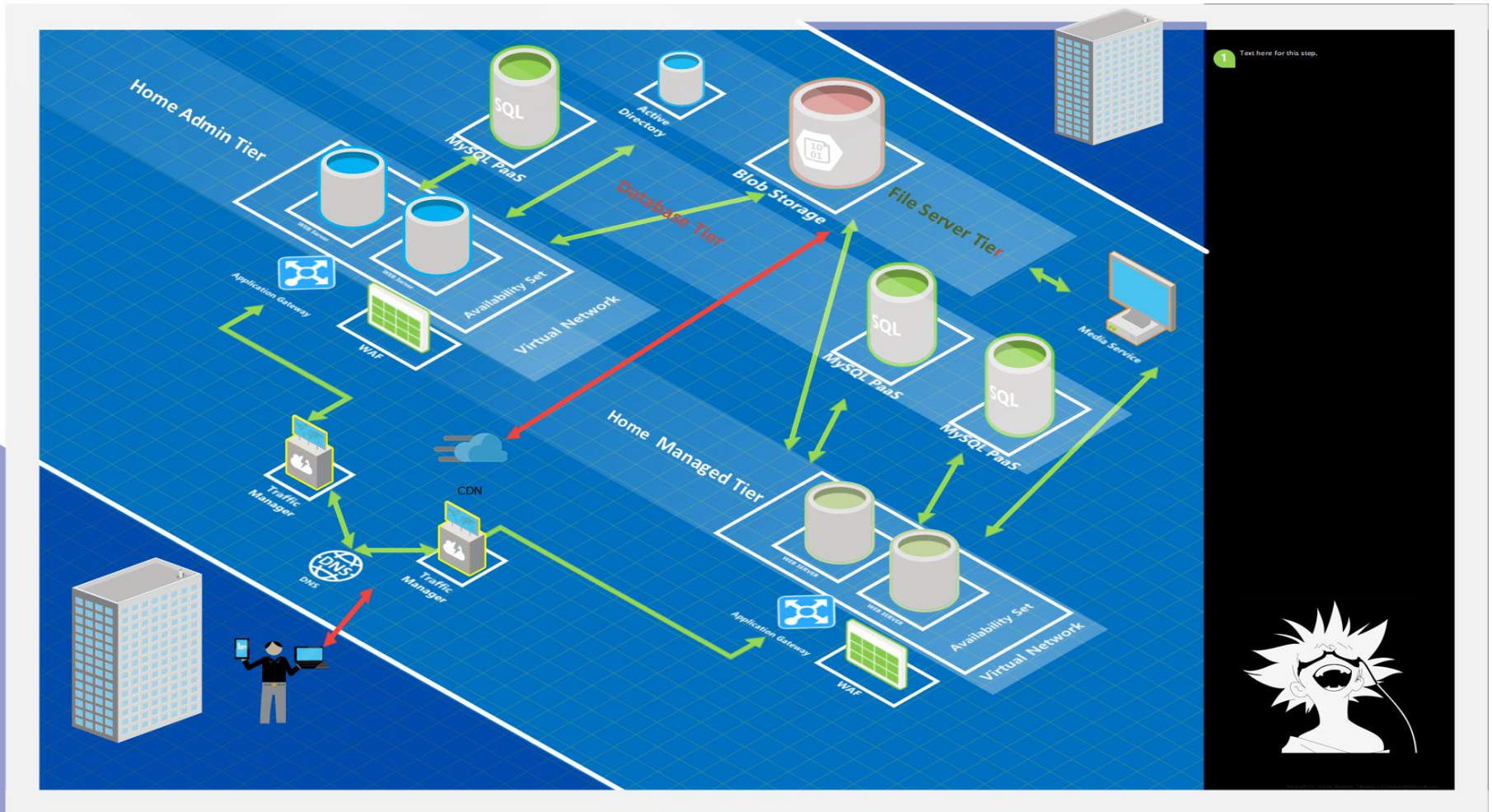
Elastic Massive Distributed Cloud Architecture

Azure Storage Account Demo

Thank you !