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Azure based Development,
Modernization, Migration

Why use Azure

- Save cost on windows servers, Linux servers
- Save cost and time on SQL maintenance with Azure SQL or Managed SQL
- Save cost from overprovisioned infrastructure with Azure Dynamic scaling
- Save cost on file storage with Azure Blob storage
- Improve scalability with Azure PaaS services
- Improve Availability with Azure PaaS services
- Make workloads resilient
- Setup Disaster recovery
- Improved security with Azure built in security solutions

Migration options/stages

- Rehost
 - Just move the on premises apps to cloud VMs as is
- Refactor
 - Make small changes to take benefits of cloud services like App Service, Blob, Key Vault etc.
- ReArchitect
 - Create a new application using cloud services like AKS, Functions, Logic Apps
- Optimize
 - Monitor using Azure monitor and find, implement optimization opportunities

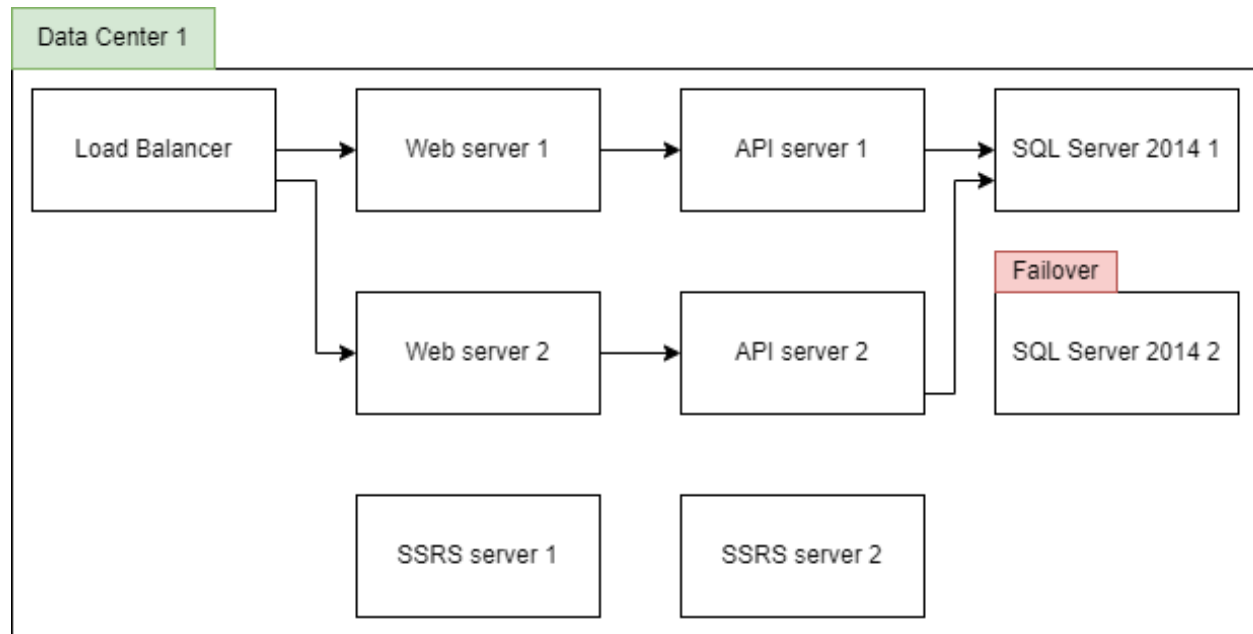
Use cases

- Websites hosted in IIS on prem server to Azure VM IIS
- IIS hosted website to Azure PaaS services
- On prem SQL db to Azure SQL
- Files stored on prem to Azure Blob storage for cheap storage
- On prem VMs/physical servers to Azure VMs
- Under utilized extra servers vs Azure dynamic scaling
- Open source dbs (mysql, postgres) on prem vs Managed on Azure
- Real time data processing
- Analytics

Azure Services used in case studies

- App Service
- Functions
- SQL Managed Db
- AKS – Azure Kubernetes service
- Service Fabric
- CosmosDb
- Blob
- AD B2C – Active Directory B2C
- API Management
- Azure Key Vault
- Express Route
- Service Bus
- Redis cache
- ACR – Azure Container Registry

CS1 - On Premises data center hosted App



Challenge

-Cost effective scalability

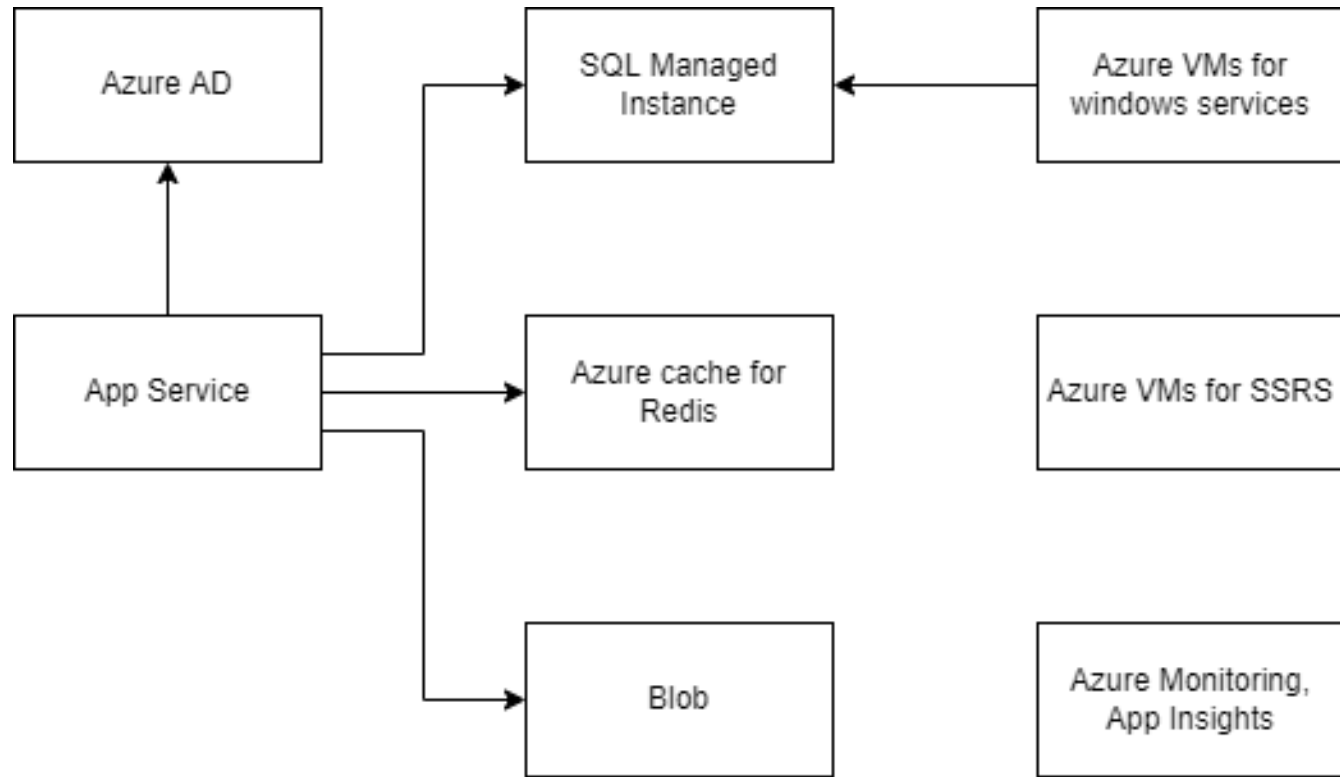
Limitations

-Windows services needed to be kept as is

Data Center 2

same setup for
business continuity

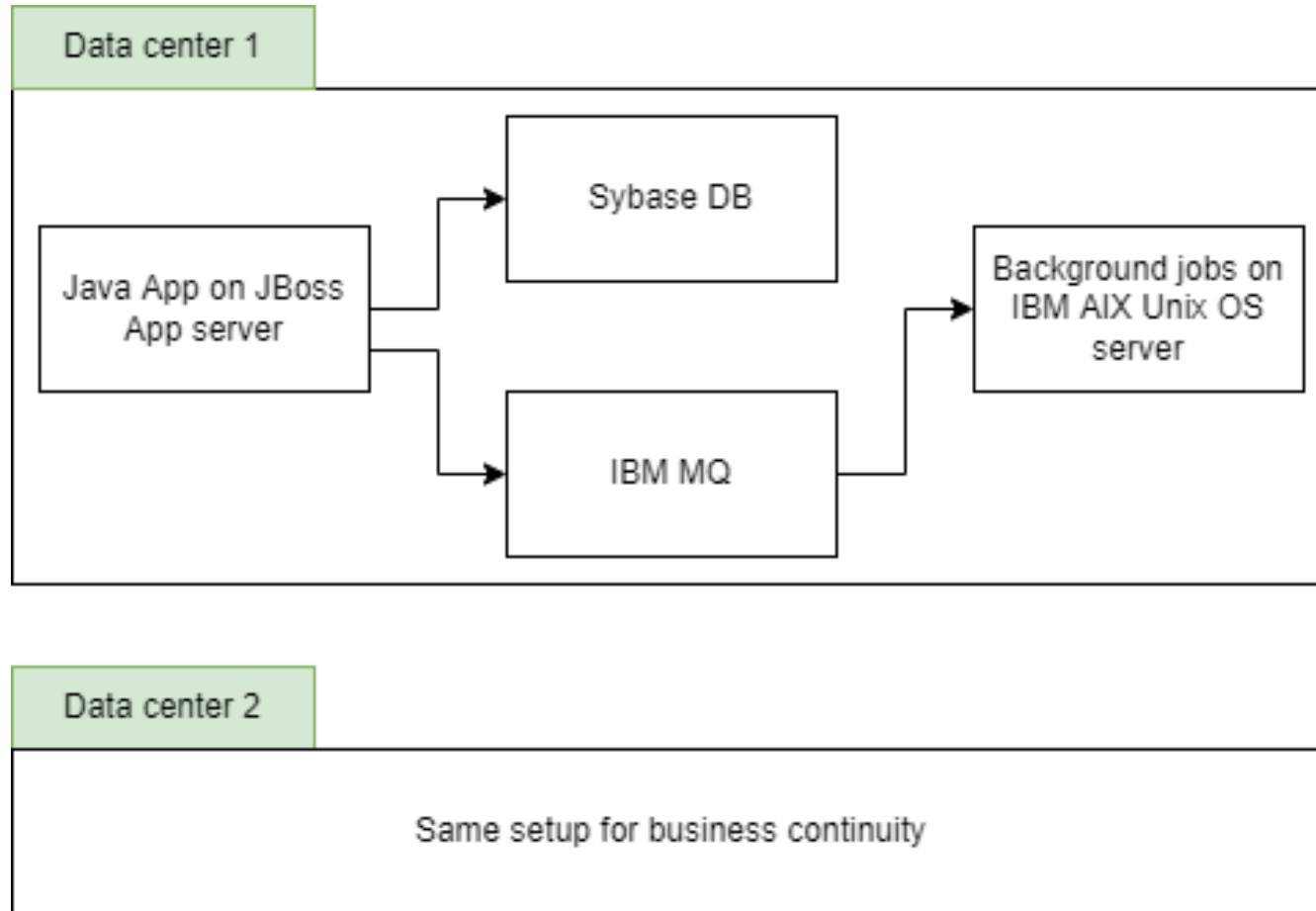
On Azure



Benefits

- Dynamic and easy scaling with Azure App services
- With Managed SQL server, there is no need to upgrade or maintain the sql server
- Cheap storage with Azure Blob
- Windows services are ported as is to Azure VM
- SSRS are ported as is to Azure VM

CS2 – On premises data center hosted App



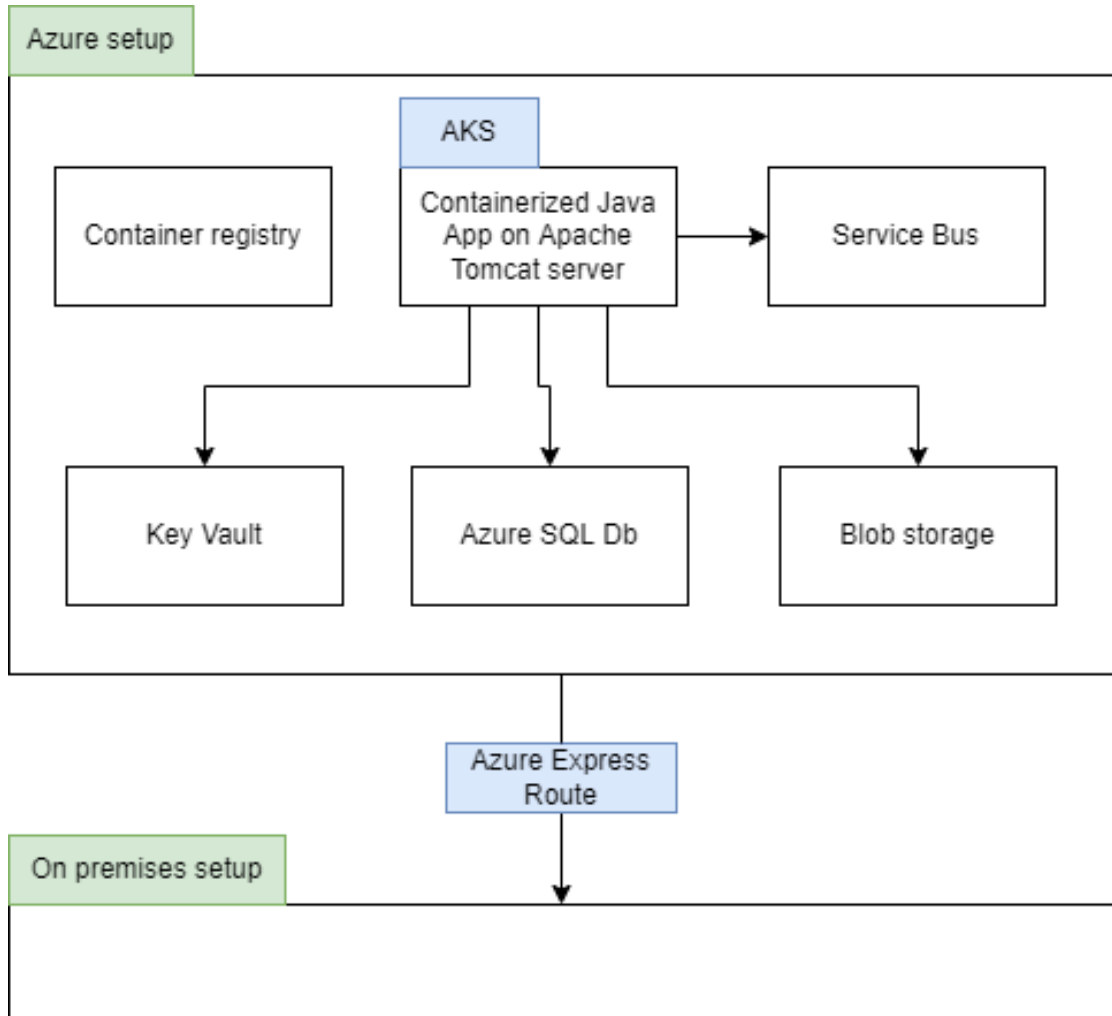
Challenges

- Unpredicted traffic spikes
- Underutilized infrastructure

Limitations

- Some parts of system cannot be ported to cloud due to dependency on premises components

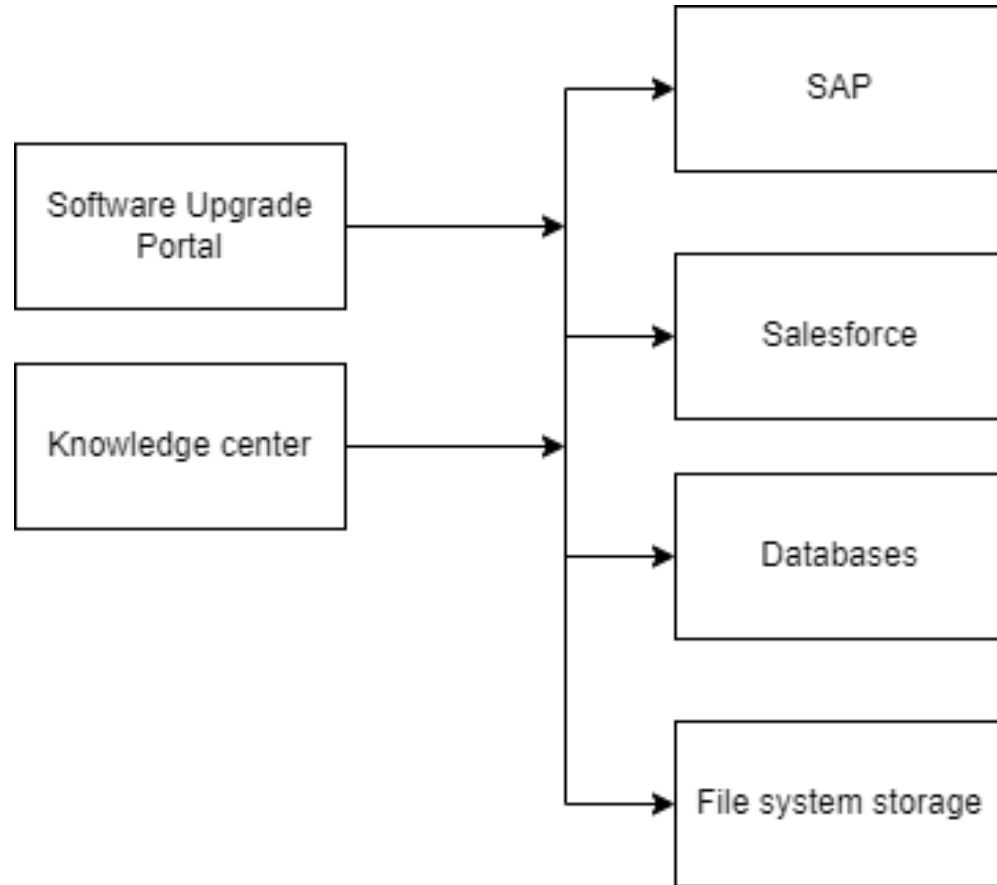
On Azure



Benefits

- Dynamic scaling with Azure Kubernetes service instead of overprovisioned on premises servers
- Move from Paid JBoss EAP server to open source Apache Tomcat based Container
- Move from Sybase to Managed Azure SQL db, no maintenance required
- Azure express route allowed secure, fast, private communication with dependent on premises components
- No installation and maintenance of IBM MQ, instead used PaaS service ServiceBus

CS3 - On Premises data center hosted App



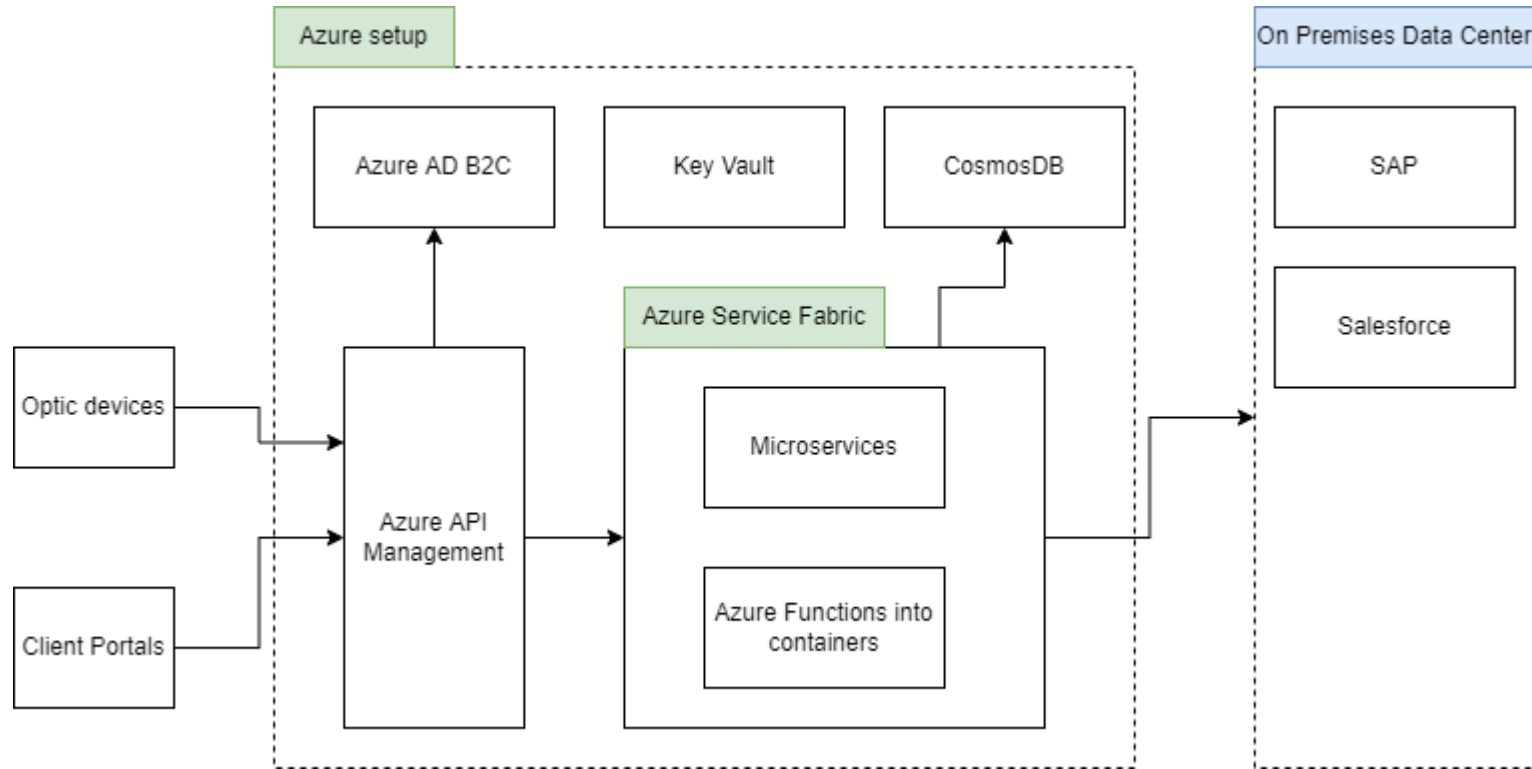
Challenge

- Cost effective scalability
- Different user credentials for different client facing applications like software upgrade, learning center etc.

Limitations

- Integration with different on premises systems like SAP, Salesforce is required

On Azure



Benefits

- No infrastructure management with Service Fabric based microservices
- Stateless loads with Azure functions and Stateful loads with Service Fabric based services
- Single sign on with Azure AD B2C for all customer facing applications
- API Access and throttling with API Management
- Dynamic and easy scaling with Azure functions to millions of messages per day coming from devices and client portals
- Secure key storage with Azure Key Vault



Thank you !