

# Microsoft Cloud Services

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Azure is a cloud computing platform and an online portal that allows you to access and manage cloud services and resources provided by Microsoft.

It was launched on February 1, 2010, significantly later than its main competitor, AWS.

Azure supports multiple programming languages, including Java, Node Js, and C#.

Another benefit of Azure is the number of data centers it has around the world

42 Azure data centers spread around the globe, which is the highest number of data centers for any cloud platform

Computing services, networking and storage

# Why Use Azure

- Application development
- Testing
- Application hosting
- Create virtual machines
- Integrate and sync features
- Collect and store metrics
- Virtual hard drives

# Enterprise Services

Azure is a virtualized infrastructure provides enterprise services like

- AppFabric

A virtualization service, creates an application hosting environment.

AppFabric is a cloud-enabled version of the .NET Framework.

Storage services

- A set of virtual machine instances called Compute.
- A cloud-enabled version of SQL Server called SQL Azure Database.
- A database marketplace based on SQL Azure Database code-named “Dallas.”
- An xRM (Anything Relations Management) service called Dynamics CRM based on Microsoft Dynamics.
- A document and collaboration service based on SharePoint called SharePoint Services.
- Windows Live Services, a collection of services that runs on Windows Live, which can be used in applications that run in the Azure cloud.

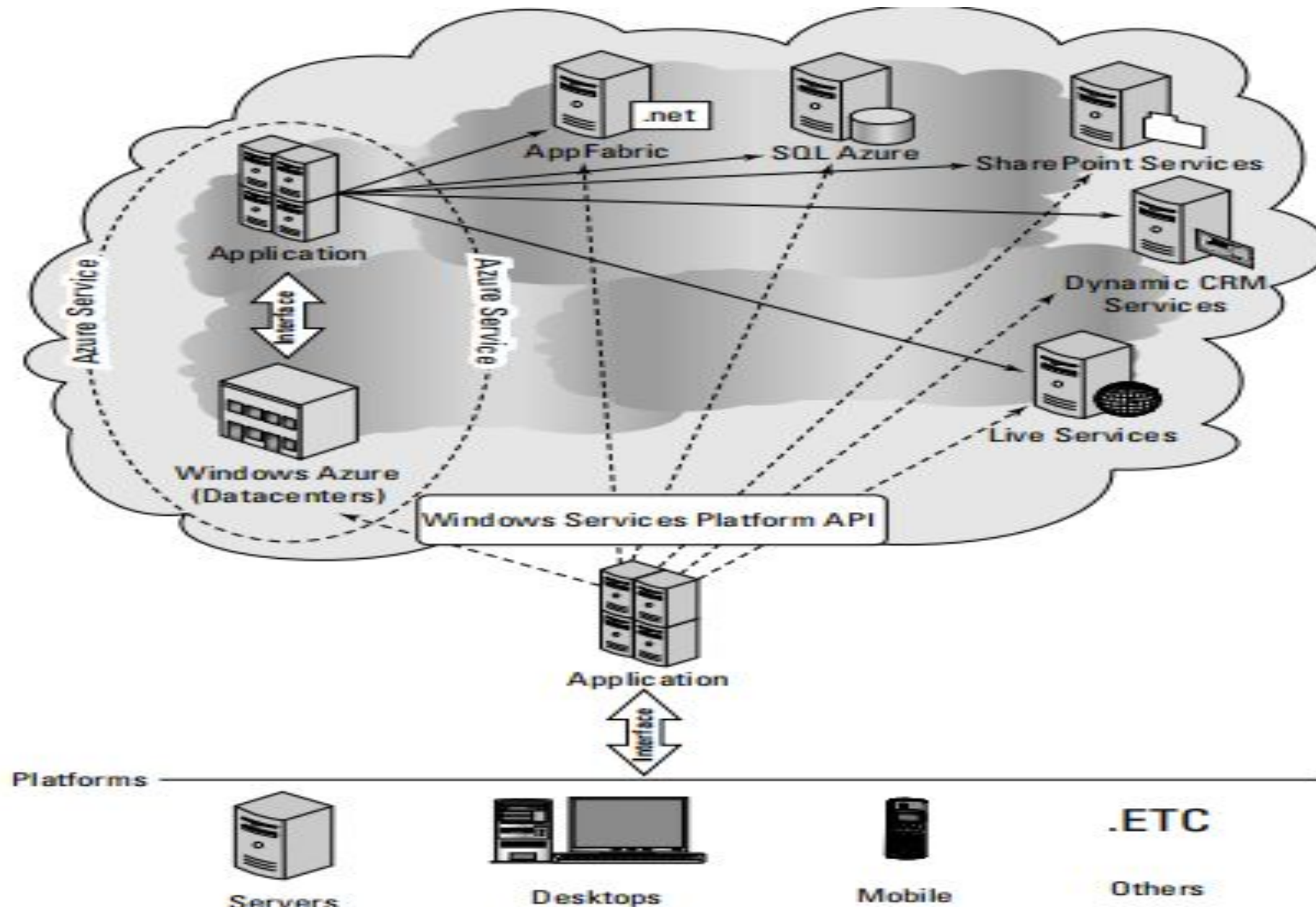
# The Windows Azure service

Windows Azure is a virtualized Windows infrastructure run by Microsoft on a set of datacenters around the world.

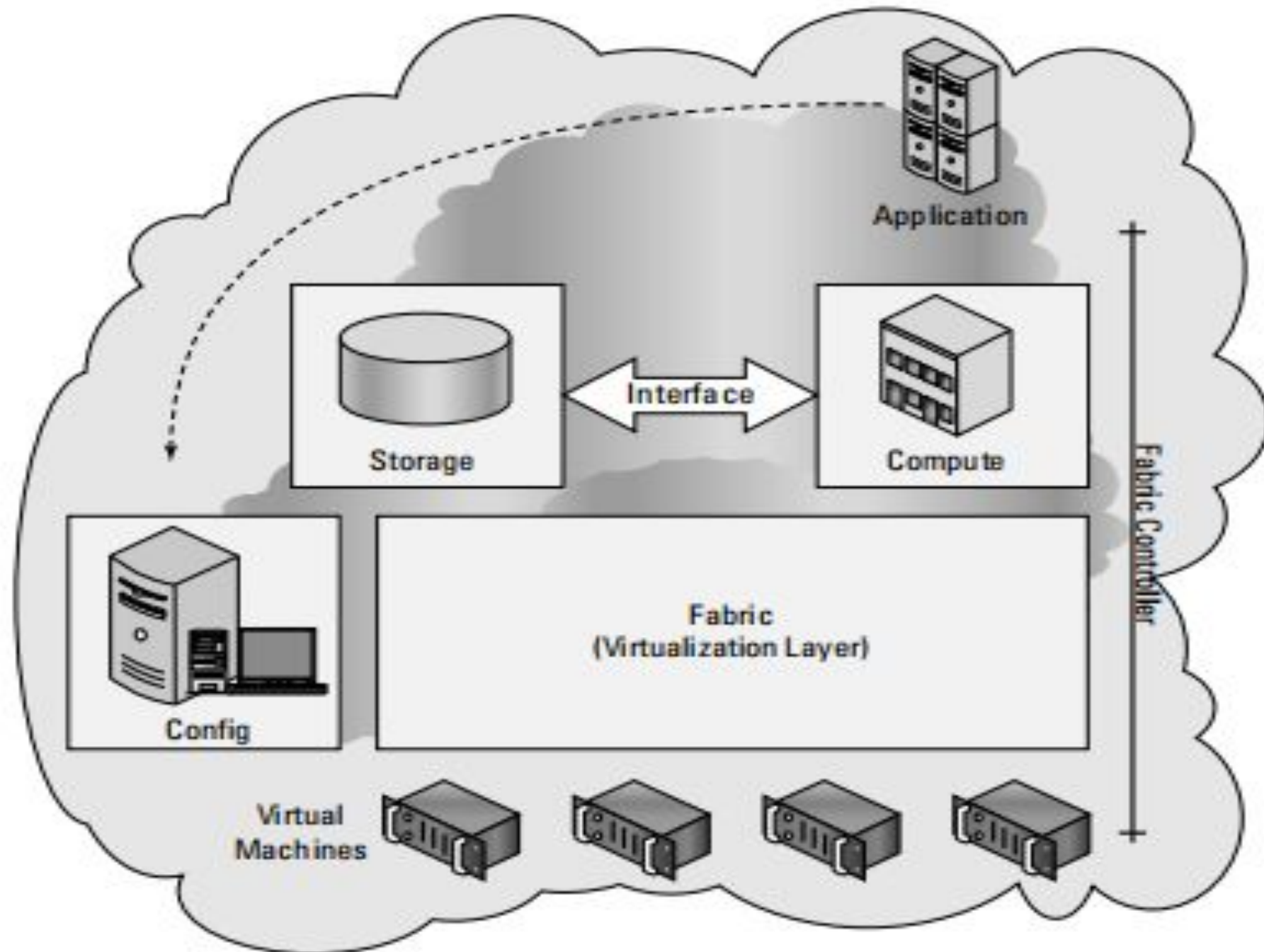
**Six main elements are part of Windows Azure:**

- ❖ Application
- ❖ Compute
- ❖ Storage
- ❖ Fabric - Hypervisor
- ❖ Config
- ❖ Virtual machines

# Microsoft infrastructure and a set of enterprise services.



# Microsoft - Creation of Virtual machine



# Microsoft AppFabric

a set of middleware technologies for Windows Server, released by Microsoft.

connection possible by performing network address translation, opening appropriate ports in any intervening firewalls.

services of AppFabric are:

- Service Bus
- Access Control
- Caching
- Integration
- Composite Application



# Microsoft AppFabric

## Service Bus Service

provides the functionality for secured connectivity and messaging between disconnected applications.

## Access Control Service

provides identity and access control to web applications and services. The support included for identity providers like Windows Live ID, Google, Yahoo, Facebook etc.

## Caching Service

provides a distributed, in-memory, highly available caching services.

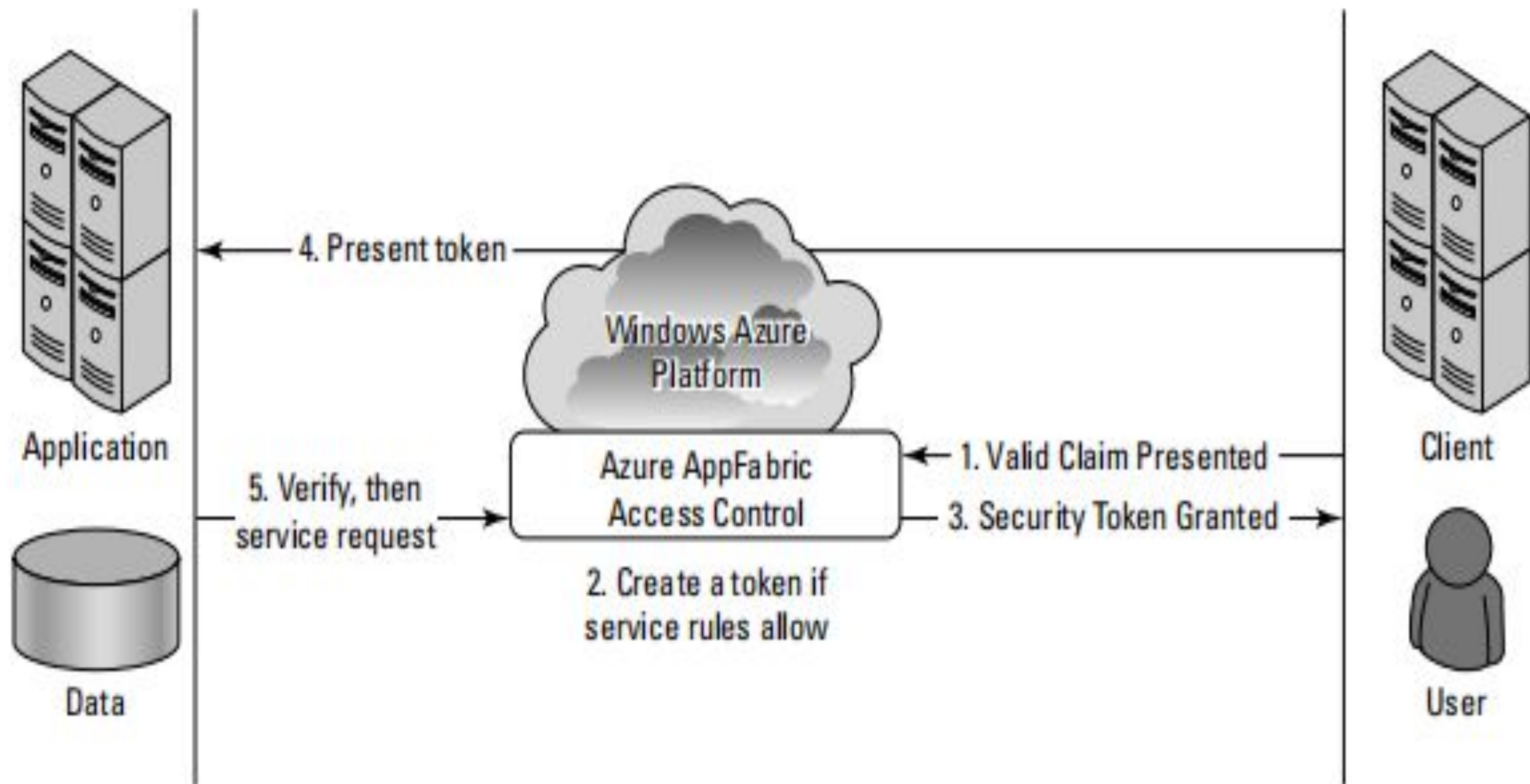
## Integration Service

BizTalk Server integration capabilities, integration patterns to ease development

## Composite Application Service

deployment of applications that use different Windows Azure services.

# Azure AppFabric service pathways

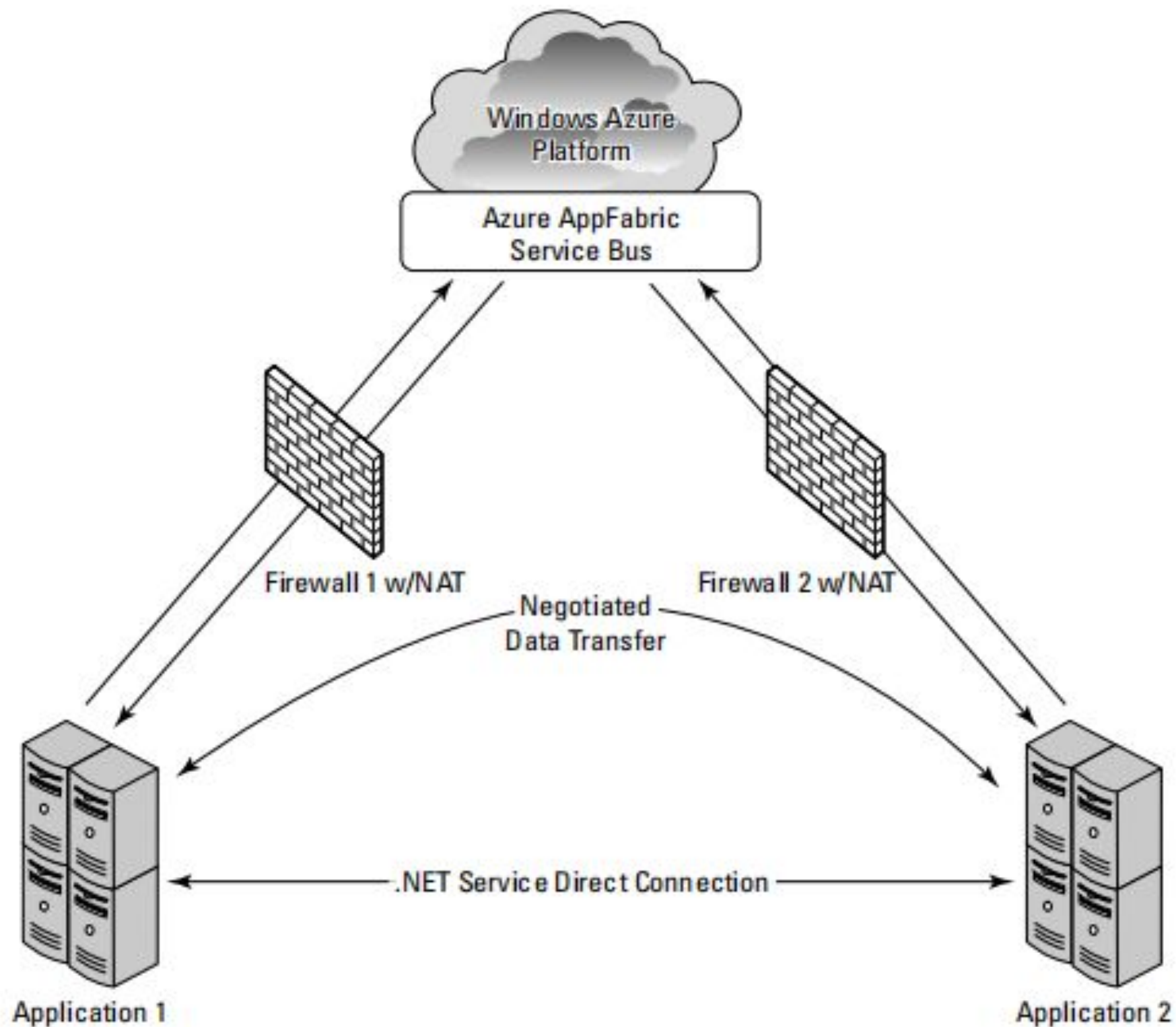


# Active Directory Federation Services

Access Control allows one application to trust the identity of another application.

1. The client requests authentication from Access Control.
2. Access Control creates a token based on the stored rules for server application.
3. A token is signed and returned to the client application.
4. The client presents the token to the service application.
5. The server application verifies the signature and uses the token to decide what the client application is allowed to do.

# Microsoft AppFabric



# Windows Live Services

Alerts

Contacts

Messenger

Photo Gallery

# Windows Live

- ❖ E-mail
- ❖ Instant Messaging
- ❖ Photos
- ❖ Social Networking
- ❖ Online Storage

# Messenger Connect:4 different methods

- ❖ Messenger Connect REST API Service
- ❖ Messenger Connect .NET and Silverlight Libraries
- ❖ Messenger Connection JavaScript Libraries and Controls
- ❖ Web activity feeds, either RSS 2.0 or ATOM

# Microsoft SQL Azure

a cloud-based relational database service that is based on Microsoft SQL Server.

this service was called SQL Server Data Service

Data stored in an SQL Azure database is accessed using the Tabular Data Stream (TDS) protocol.

Azure data is replicated three times for data protection and writes are checked for consistency.



# Windows Azure pricing

pay-as you-go model

Current pricing for Windows Azure is as follows:

- Compute: \$0.12 / hour
- Storage: \$0.15 / GB stored / month
- Storage transactions: \$0.01 / 10K
- Data transfers (excluding CDN): \$0.10 in / \$0.15 out / GB  
(\$0.30 in / \$0.45 out / GB in Asia)
- CDN data transfers: \$0.15 GB for North America and Europe  
(\$0.20 GB elsewhere)
- CDN transactions: \$0.01 / 10K
- A transaction is an application request.

# Azure charges are based on two different programs:

## Web Editions

Up to 1GB database = \$9.99 / month;

up to 5GB database = \$49.95 / month

## Business Edition

Up to 10GB database = \$99.99 / month;

up to 20GB database = \$199.98 / month;

up to 30GB database = \$299.97 / month;

up to 40GB database = \$399.96 / month;

up to 50GB database = \$499.95 / month

## Data transfers

\$0.10 in / \$0.15 out / GB (\$0.30 in / \$0.45 out / GB in Asia)

# Charges for Windows Azure Platform AppFabric:

## Access Control transactions

\$1.99 / 100K transactions

## Service Bus connections

\$3.99 per connection on a “pay-as-you-go” basis,

\$9.95 for a pack of 5 connections,

\$49.75 for a pack of 25 connections,

\$199 for a pack of 100 connections, and

\$995 for a pack of 500 connections

## Data transfers

\$0.10 in / \$0.15 out / GB (\$0.30 in / \$0.45 out / GB in Asia)

# Windows Live Home

the central access page or portal for the Windows Live suite.

- ❖ Launching other Windows Live services
- ❖ Viewing e-mail headers from Hotmail and private messages from other users
- ❖ Viewing activity of people you follow
- ❖ Displaying weather information and RSS feed updates
- ❖ Managing calendars and events
- ❖ Viewing photos
- ❖ Modifying profile and relationships

# Windows Live for Mobile

A number of Windows Live services that are specifically meant to be run on mobile devices or cell phones that it calls Windows Live for Mobile

- ❖ Windows Live Calendar Mobile
- ❖ Windows Live Contacts Mobile
- ❖ Windows Live Groups Mobile
- ❖ Windows Live Home Mobile
- ❖ Windows Live Messenger Mobile
- ❖ Windows Live Office Mobile
- ❖ Windows Live Profile Mobile
- ❖ Windows Live SkyDrive Mobile
- ❖ Windows Live Spaces Mobile

# Content Delivery Network

A geographically distributed network of proxy servers and their data centers

A content delivery network (CDN) refers to a geographically distributed group of servers which work together to provide fast delivery of Internet content.

Loading Internet content, including HTML pages, JavaScript files, stylesheets, images, and videos.