A Z U R E   H E R O E S

A Z U R E   F R O N T   D O O R   V S   A Z U R E   A P P L I C A T I O N   G A   B A L A N C E R   V S   C O N T E N T

1/29/2019   5 Comments

First of All Let's understand each service:

Azure Front Door: Microsoft Azure Front Door (AFD) is a service that offers a single global entry point for customers accessing web apps, APIs, content and cloud services. Through a single pane of glass and global infrastructure, AFD enables Azure customers to build, manage and secure their global applications and content. In other words Azure Front Door Is a global load balancing, but it is doing more by enhancing performance

- *Cloud native integrated*
- *Enables real-time hyperscale for single domain microservice apps where DNS traffic management cannot*
- *Provides applications with premium edge performance acceleration and caching via Microsoft's unique global WAN*
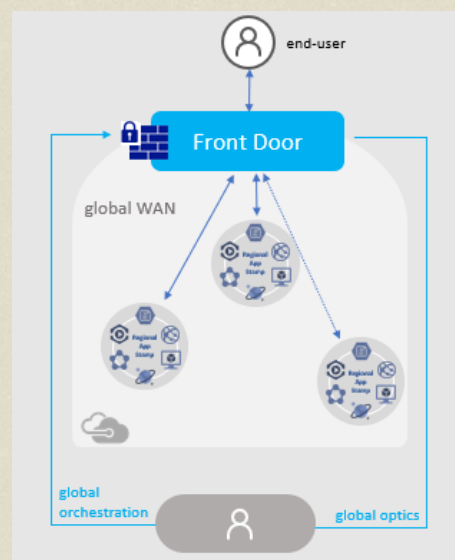- *Customers get a single pane of glass for service orchestration and global traffic optics*

Main Feature:

- *Accelerate application performance: Front Door ensures that your end users promptly connect to the nearest Front Door POP (Point of Presence)*
- *Increase application availability with smart health probes*
- *URL-based routing: Route Matching*
- *Configure Azure Front Door Service to either direct each web site to its own backend pool or have various web sites directed to the same backend pool*
- *Cookie-based session affinity*
- *(SSL) termination*
- *APP layer security*
- *Support IPv6 and HTTP/2*

**Application Gateway:** Application Gateway uses Azure Load

Balancer at the transport level and then applies the routing rules to support layer-7 (HTTP) load balancing.

Application Gateway currently supports the following:
1- HTTP load- balancing
2- SSL termination
3- Cookie based session affinity

The primary use cases for Application Gateway are :

1. If your application requires session affinity as an example the clients want to reach same backend virtual machine.
2. If your web servers do not want to handle the SSL overhead and you require the manage the SSL termination at the gateway.
3. If your application requires multiple HTTP request on the same TCP connection to be load balance on the different backend virtual machines
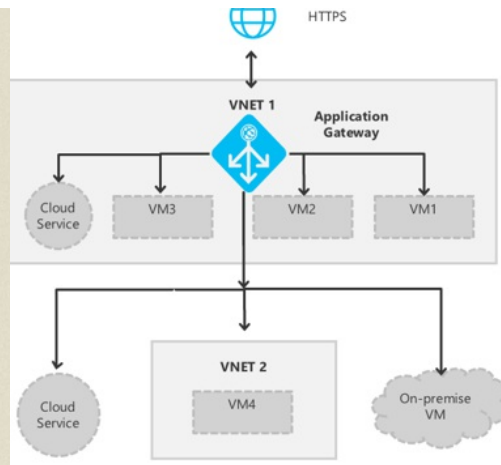
Connectivity Options

- *VMs in same VNet*
- *VMs across connected VNets*
- *Cloud services*
- *Hybrid connectivity to on premises VMs*
- *External servers*

Azure Traffic Manager: Load Balancer for geographically distributed Datacenters. Azure Traffic Manager uses DNS to redirect requests to an appropriate geographical location endpoint. Traffic Manager does not see the traffic passing between the client and the service. It simply redirects the request based on most appropriate endpoints
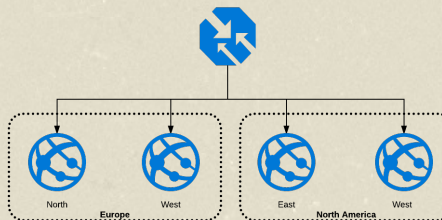

Use case: load between two endpoints where your first endpoint is in Azure and second endpoint placed in on-premise datacenter.

Content Delivery Network (CDN): A content delivery network (CDN) is a system of distributed servers (network) that deliver pages and other Web content to a user, based on the geographic locations of the user, the origin of the webpage and the content delivery server.
Mechanism: Servers nearest to the website visitor respond to the request. The content delivery network copies the pages of a website to a network of servers that are dispersed at geographically different locations, caching the contents of the page. When a user requests a webpage that is part of a content delivery network, the CDN will redirect the request from the originating site's server to a server in the CDN that is closest to the user and deliver the cached content. CDNs will also communicate with the originating server to deliver any content that has not been previously cached
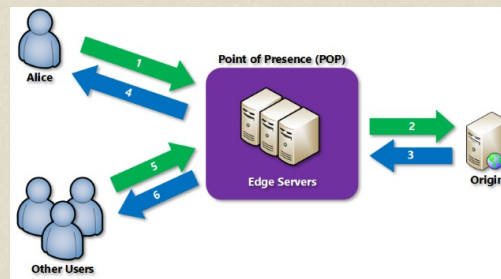
You can use Azure **Traffic Manager** with Azure **CDN** to load balance among multiple CDN endpoints for failover, geo-load balancing, and other scenarios. In a typical failover scenario, all client requests are first directed to the primary CDN profile; if the profile is not available, requests are then passed to the secondary CDN profile until your primary CDN profile is back online. Using Azure Traffic Manager in this way ensures your web application is always available
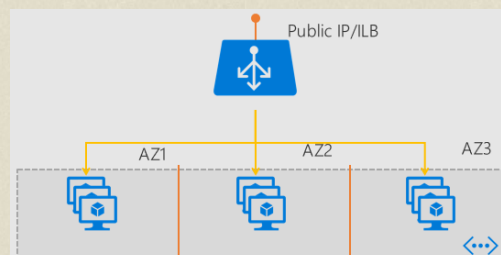
Azure Load Balancer: Azure LB is similar to Windows Server Load balancer Feature, but in a more classical sense as it can be used balancing load for VMs in the same way we were using

traditional load balancers with our on-premise servers. Now since Azure load balancer is designed for cloud applications it can also be used to balance load to containers and PaaS applications along with VMs.

Azure Load Balancer can be used in two configuration modes:

- **External** — *Public load balancing*
- **Internal** — *Internal load balancing*

LB Main Feature

- *Up to 1000 backend VMs*
- *High availability through regional anycast IPs – single IP across availability Zones*
- *Drastically simplified NVA Resiliency – HA Ports*
- *Extensive health and diagnostic metrics*

Finally, we can say that the services are broken into two categories

1. Global load balancing services: such as Traffic Manager and Front Door distribute traffic from your end users across your regional backends, across clouds or even your hybrid on-premise services. Global load balancing routes your traffic to your closest service backend and reacts to changes in service reliability or performance to maintain always-on, maximal performance for your users.

Regional load balancing services: such as Standard Load Balancer or Application Gateway provide the ability to distribute traffic within virtual networks (VNETs) across your virtual machines (VMs) or zonal service endpoints within a region.
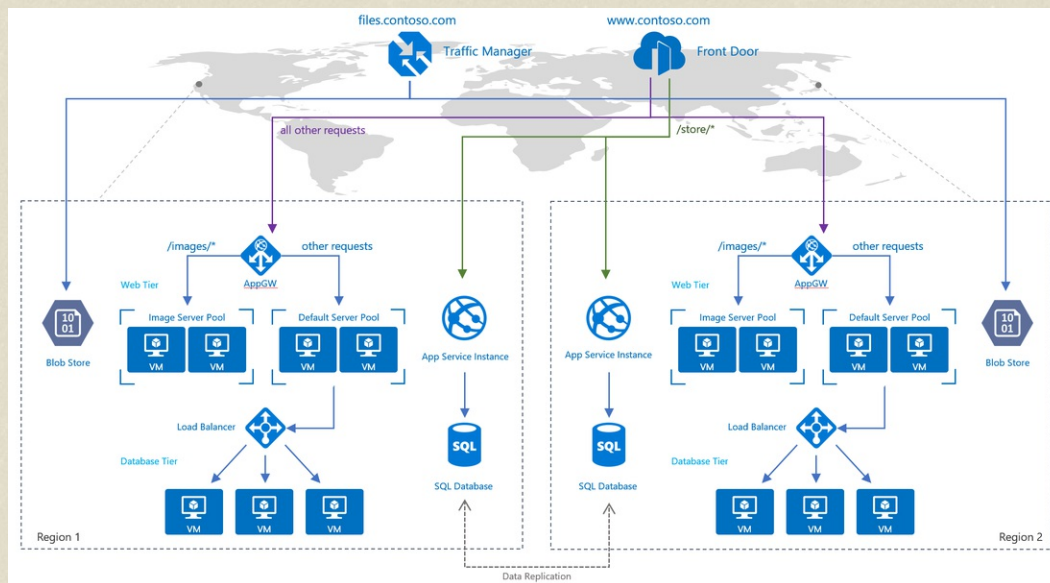
Combining global and regional services in your application provides an end-to-end reliable, performant, and secure way to route traffic to and from your users to your IaaS, PaaS, or on-premise services. In the next section, we describe each of these services.

AZURE SERVICE	OSI layer	WHAT	Use Case
Azure Front-Door	Front Door works at **Layer 7** or HTTP/HTTPS layer and uses anycast protocol with split TCP and Microsoft's global network for improving global connectivity	Cross-region redirection and availability	http://Cloud.com → Network.cloud.com → storage.cloud.com → PaaS.cloud.com
Traffic Manager (TM)	N.A	Cross-region redirection	http://Cloud.com

	DNS Routing	and availability	➔ Network.cloud.com
			➔ storage.cloud.com
			➔ PaaS.cloud.com
Azure Load Balancer (ALB, ILB)	Load Balancer Works at **Layer 4**	In-region scalability and availability	PaaS.news.com ➔ AppGw1 ➔ AppGw2 ➔ AppGw2
Azure Application Gateway (AppGW)	APP Gateway works at **Layer 7**	URL/content-based routing and Load Balancing	cloud.com/recent updates cloud.com/IaaS cloud.com/blogs
VMs	N.A	Web servers	IIS, Apache, Tomcat

5 Comments

Mick Fedrol   1/31/2019 06:08:05 pm

Nice Blog, Useful article

Reply

Ahmad Taifour   2/2/2019 01:09:02 am

finally I found a blog which is explaining all,,I will use it to do a presentation for our CTO

Reply

جمال بن حميده   2/2/2019 01:09:50 am

حلوه

Reply

Taher Kh   2/12/2019 04:32:43 pm

Waaaaw very useful

Reply

Sharad Agrawal ↗   8/26/2019 09:56:13 pm

Here is a new guidance that we published on which load balancer or load balancing configuration to pick on Azure - https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/load-balancing-overview. Please share your feedback.Thanks

Reply

L E A V E   A   R E P L Y .

Name (required)

Email (not published)

Website

Comments (required)

☐ Notify me of new comments to this post by email

Submit

AZURE SHERPOERSTUEFRROŒRBST

About   Contact
Blog   Support Ticket