**Deploying Azure Protected Geo-Redundant Solution Having Path-based Routing**

Course-end Project 2

Designing Infrastructure Solutions on Azure

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# Problem Statement

The Tyrell Corp wants to build a highly secured Globally distributed application. This application serves two types of content: images and dynamically rendered webpages. As their user base comes from across the globe this must be geographically redundant. The design demands that it should serve its users from the closest (lowest latency) location to them. For distinction Tyrell Crop has decided that any URLs that match the pattern /images/\* are served from a dedicated pool of VMs that are different from the rest of the web farm.

Design the Load Balancing architecture for Tyrell Crop.

# Proposed Solution

Per the requirements above, I propose the following solution:

* Each region will consist of 2 VM pools, one for the web servers and a second for the image servers
* Web and image servers will be placed in separate availability zones within their respective regions to have some fault tolerance
* An application gateway in each region will be configured with a path-based routing solution to ensure anything with a “/images/\*” path will get routed to image servers
* Each application gateway will then be added to a traffic manager profile configured with Performance routing so that traffic will be routed to the appropriate region with the least latency

# Architecture Provisioning

## Virtual Machine

* Using the resource group, Tyrell\_App, provision 2 VMs in each region, one for the web server and a second to serve the images
  + Provision common nsg and vnets per region
  + Use custom script extension to programmatically install IIS post-deployment
  + Place web servers and image servers in separate availability zones within each respective region for fault tolerance
* RDP into image servers, create “images” folder under inetpub/wwwroot
* Upload some test images
* Configure IIS to allow directory browsing on the /images folder

## Application Gateway

* Create application gateway with 2 backend pools, one for the image servers and one for the web servers
* Add path-based routing rule to direct traffic bound to the /images folder to the image-backend pool

## Traffic Manager Profile

* Add a DNS name label to the application gateway public ip resources in order to be able to attach the application gateways to the traffic manager
* Create traffic manager profile and configure endpoints to target the application gateway public IPs