Microsoft Azure – Getting Started

FOUNDATIONAL CONCEPTS

Overview

Why you should care about the cloud

How to get started with Azure

What are regions, and why they are important

What solution we'll build in this course

Why You Should Care About the Cloud

Elements of the Cloud Computing Model

Elasticity
- •Dynamically adjust to service demand
- •Short-term strategy

Scalability
- •Vertical and horizontal
- •Long-term strategy

Pooling
- •Compute, storage, network
- •Services "on tap"
- •Pay only for what you use

Provisioning
- •Self-service
- •RBAC

Cloud Infrastructure Models

Public

All services exist in the Internet

Multi-tenancy

Azure

Private

All services exist in the private network

Complex

System Center, Azure Stack

Hybrid

Secure, private connection between public and private clouds

VPN or ExpressRoute

Cloud Delivery Models

SaaS

Software-as-a-service

Target: customer

Office 365

PaaS

Platform-as-a-service

Target: developer

Azure App Service

IaaS

Infrastructure-as-a-service

Target: sysadmin

Azure Virtual Machines

How to Get Started with Azure

What is Azure Datacentre?

Azure Datacentre

Azure datacentres are unique physical buildings—located all over the globe—that house a group of networked computer servers.

Azure global infrastructure is made up of two key components—physical infrastructure and connective network components. The physical component is comprised of 160+ physical datacentres, arranged into regions and linked by one of the largest interconnected networks on the planet.

What are Regions?

Azure Regions

An Azure region is a set of datacentres, deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network.

With more global regions than any other cloud provider, Azure gives customers the flexibility to deploy applications where they need. An Azure region has discrete pricing and service availability.
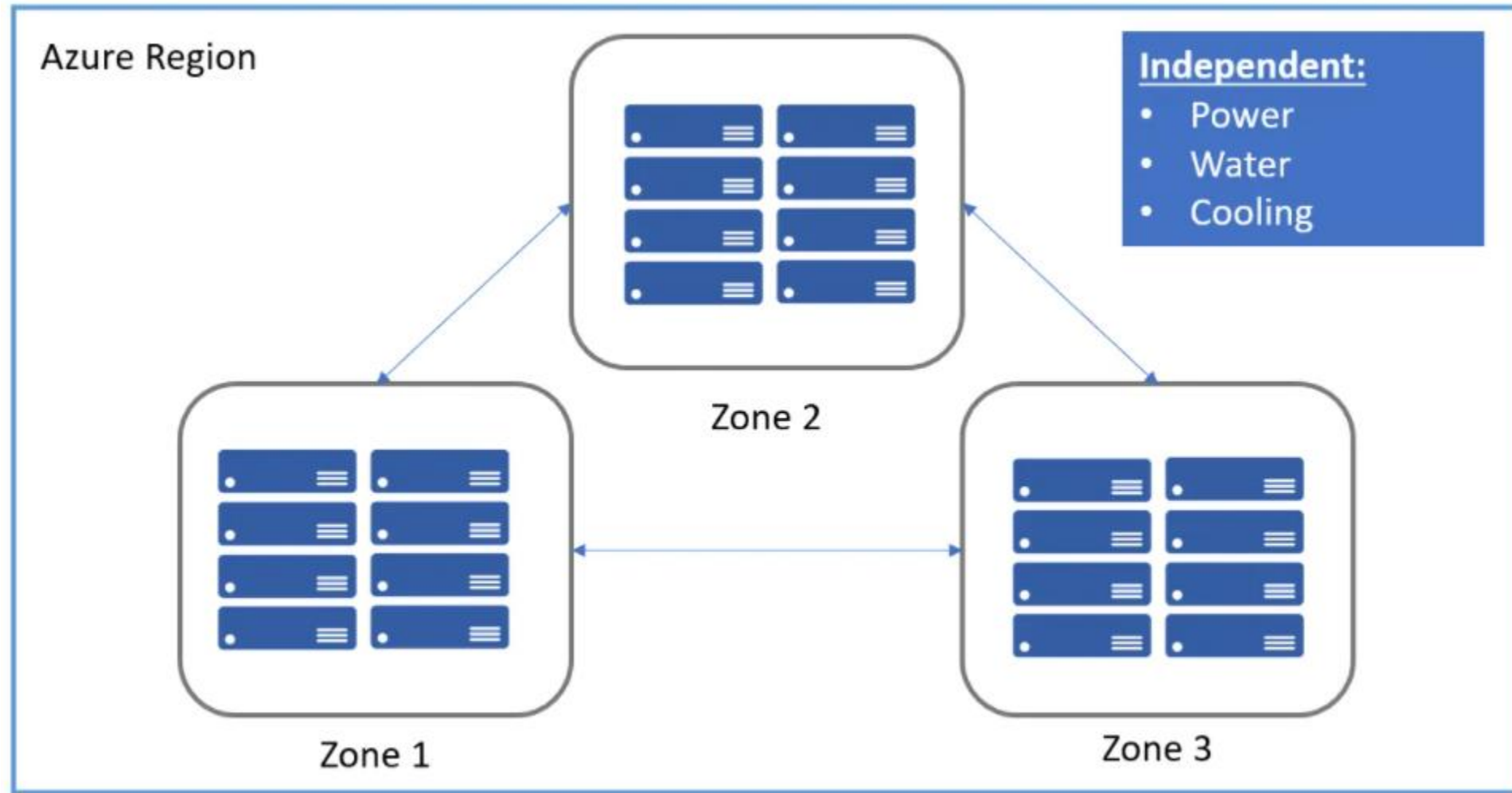
Azure Regions

30 regions, with 8 on the way

What are Azure Availability Zones?

Availability Zone

Unique physical locations within a region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking.

Azure Region

Independent:
- Power
- Water
- Cooling

Zone 2

Zone 1

Zone 3

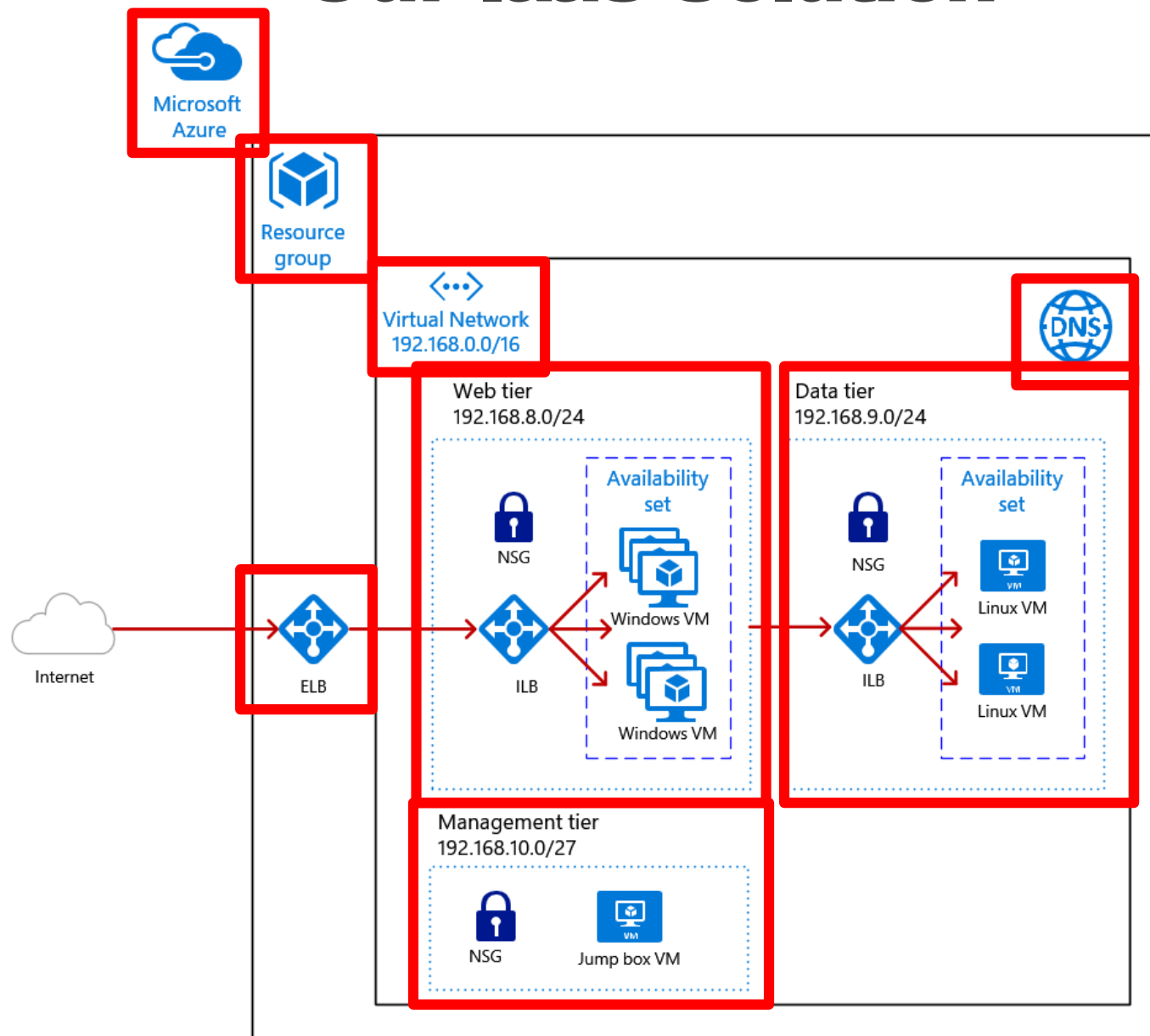Azure Availability Zones are separate buildings 10's of miles apart within a Region

What are Azure global network?

Azure global network

The Azure global network refers to all of the components in networking and is comprised of the Microsoft global wide-area network (WAN), points of presence (PoPs), fiber and others.

Microsoft Global Network

54 AZURE REGIONS | 100K+ MILES OF FIBER AND SUBSEA CABLES | 130+ EDGE SITES | 200+ EXPRESSROUTE PARTNERs

Our IaaS Solution

Demo

1

SAAS: Show Office 365/OneDrive

PAAS: Show Azure App Service
- Get a web app loaded up, maybe from WebMatrix

IAAS: Show a Windows Server 2016 VM

Demo

2

Start at Azure public site

Go to free trial page

Briefly show portal

Go to docs.Microsoft.com

Go to SDKs and Tools page

Demo

3

Show the service status web site and the region status page in the portal

Show region web page

Show regions in resource group and storage account

explain that resources can be in a different region from the resource group

Summary

Designing infrastructure and services for on-prem vs. the cloud are very different

Azure has a low barrier to entry and rich documentation/community support

Next module: Virtual Machines