

Managing Infrastructure with Microsoft Azure – Getting Started

FOUNDATIONAL CONCEPTS



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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



Exercise Files

The screenshot shows a video player interface with a text file named 'demos.txt' open. The file contains a list of resources for an exercise. The video player has a 'Download' button highlighted with a yellow bracket. The text in the file is as follows:

```
1 Module 1: Configure a Virtual Network
2
3 Microsoft Exam 70-533 Page
4 https://www.microsoft.com/en-us/learning/exam-70-533.aspx
5
6 Pluralsight: Architecting Azure Solutions (70-534): Infrastructure
  and Networking
7 https://www.pluralsight.com/courses/
  architecting-azure-solutions-70-534-infrastructure-networking
8
9 Pluralsight: Implementing Virtual Machines for Azure
  Infrastructure (70-533)
10 https://www.pluralsight.com/courses/
  implementing-virtual-machines-azure-infrastructure-70-533
11
12 Book: Mastering Microsoft Azure Infrastructure Services
13 http://www.wiley.com/WileyCDA/WileyTitle/productCd-111900327X.html
14
15 Virtual Network Overview
16 https://azure.microsoft.com/en-us/documentation/articles/
  virtual-networks-overview/
17
18 Create an Azure Virtual Network (various methods)
19 https://azure.microsoft.com/en-us/documentation/articles/
  virtual-networks-create-vnet-arm-pportal/
```

The video player interface includes a 'Download' button, a search bar, and a list of folders. The status bar at the bottom indicates 'Line 1, Column 1', 'Spaces: 3', and 'Plain Text'.



Why You Should Care About the Cloud



How Do You Do Business On-Premises?



CapEx vs. OpEx

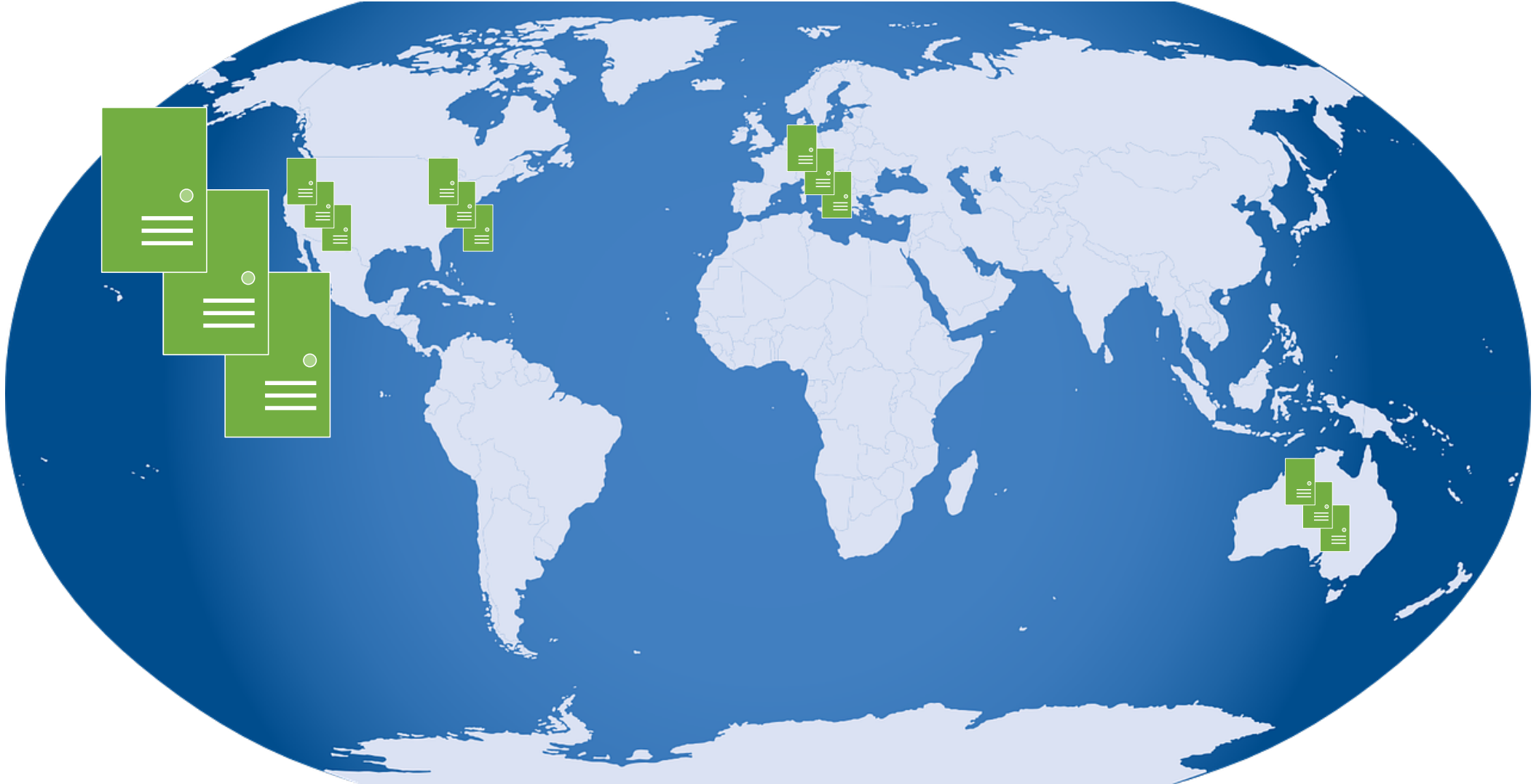
How old is your technology?

How flexible is your infrastructure?

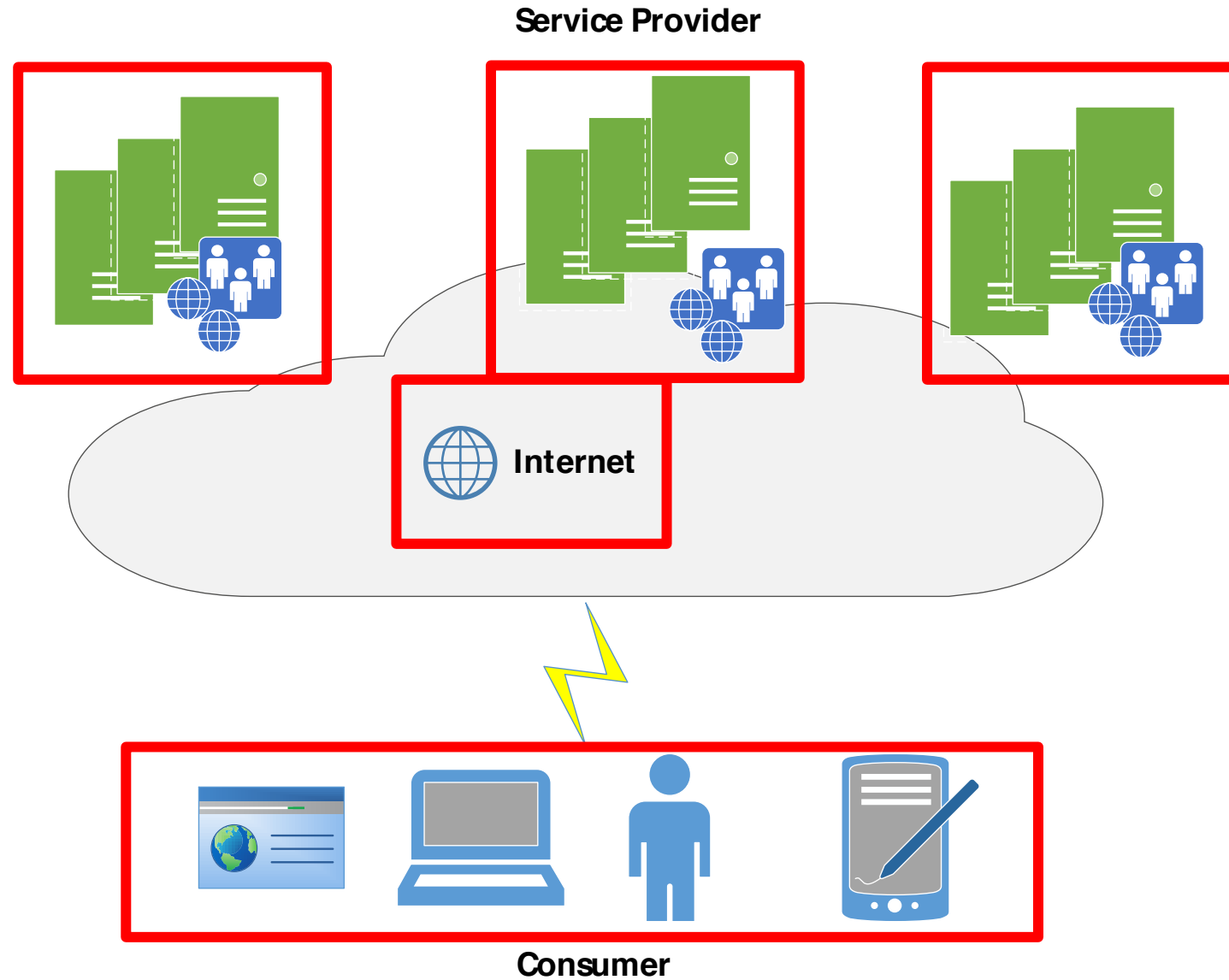
How much redundancy do you have?



How Well Do You Scale?



The Cloud Metaphor



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

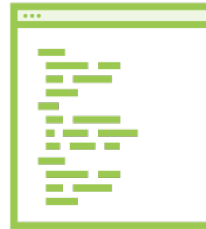


Software-as-a-service

Target: customer

Office 365

PaaS



Platform-as-a-service

Target: developer

Azure App Service

IaaS



Infrastructure-as-a-service

Target: sysadmin

Azure Virtual
Machines



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



How to Get Started with Azure



Demo



2

Start at Azure public site

Go to free trial page

Briefly show portal

Go to docs.Microsoft.com

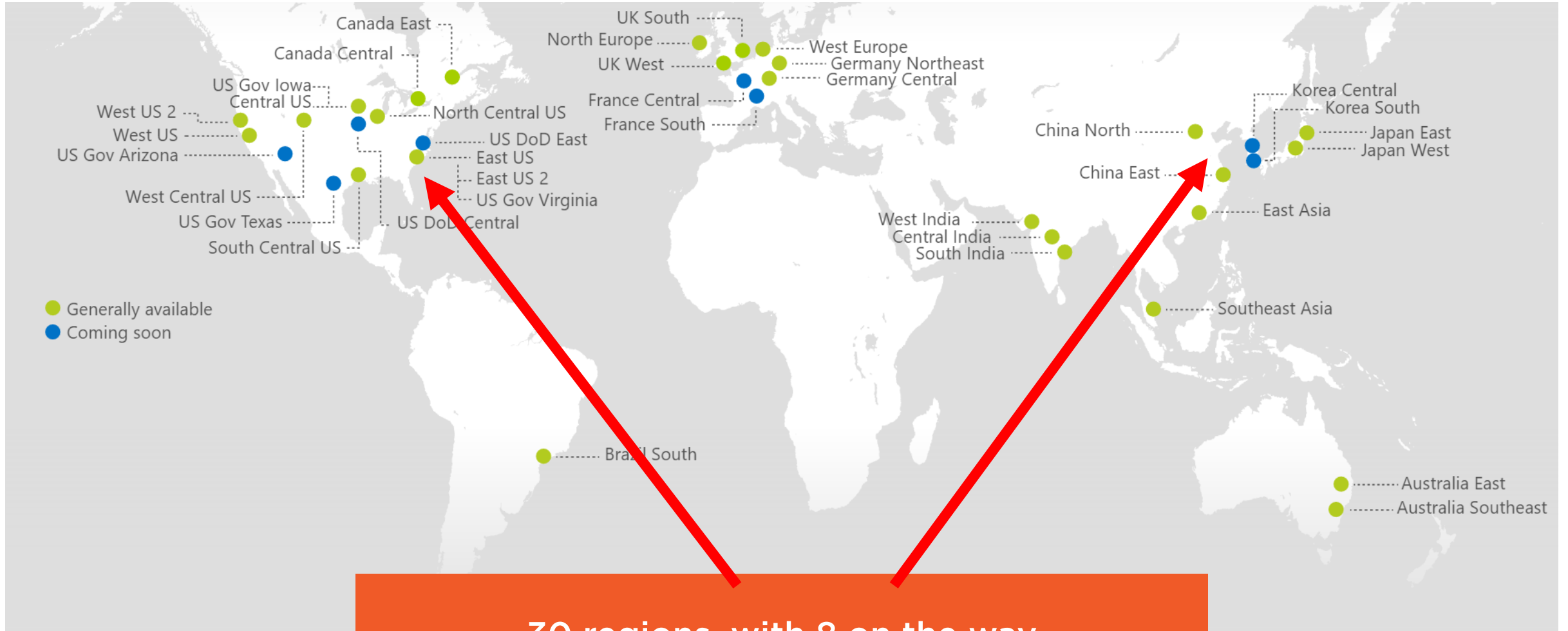
Go to SDKs and Tools page



What are Regions?



Azure Regions



30 regions, with 8 on the way



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

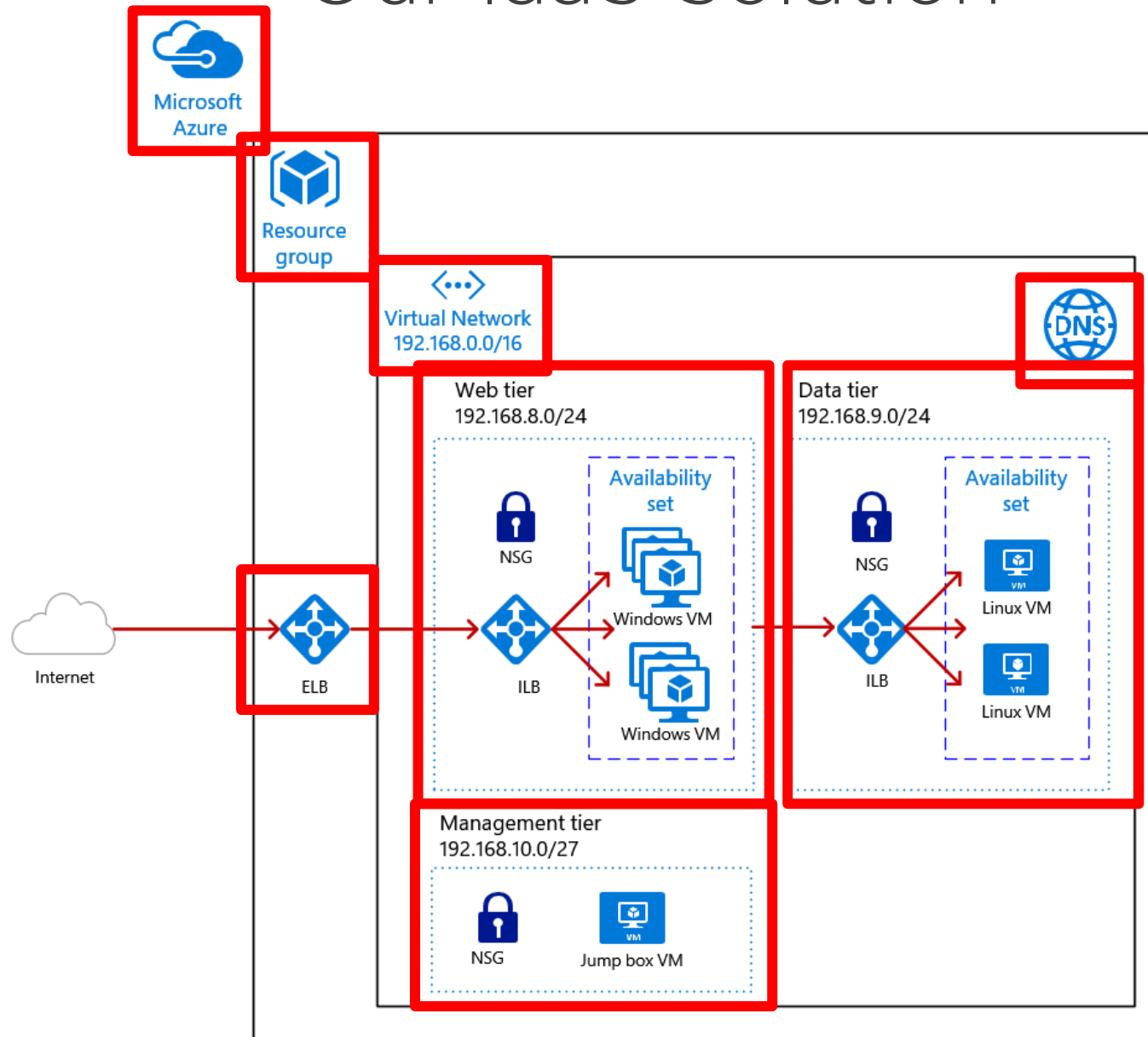
explain that resources can be in a different region from the resource group



The Solution We'll Build



Our IaaS Solution



For Further Learning

Cloud Computing: The Big Picture (David Chappell)

Nice general overview

Understanding the Difference Between Microsoft Azure
and Amazon AWS

(Tim Warner)

Especially useful if you have prior experience with AWS





Microsoft Public Cloud Services Setting up your business in the cloud

Blain Barton



Foreword by Tracey Lanham
Master of Science in Computer Information Technology,
Program Chair of the CIT Programs, Hodges University

Book Reference

Gentle introduction to Azure-
related services:

Dynamics CRM

Intune

Office 365

OneDrive for Business



NIST

National Institute of
Standards and Technology
U.S. Department of Commerce

Special Publication 800-145

The NIST Definition of Cloud Computing

**Recommendations of the National Institute
of Standards and Technology**

Peter Mell
Timothy Grance

White Paper Reference

The reference cloud computing definition

A bit old (2011) and in need of updating



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**

