Module 1

Getting started with Microsoft Azure

Module Overview

- What is cloud computing?
- What is Azure?
- Managing Azure
- Subscription management, support, and billing

Lesson 1: What is cloud computing?

- Overview of cloud computing
- Cloud-computing models
- Types of cloud services
- Discussion: How will cloud computing benefit your organization?

Overview of cloud computing

- Characteristics of cloud-computing solutions:
  - On-demand self-service
  - Broad network access
  - Resource pooling
  - Rapid elasticity
  - Measured service
- Advantages of cloud computing:
  - Access to a broad range of managed services
  - Minimized or eliminated capital expenses
  - Lowered operational expenses
  - Usage-based billing model
  - Improved agility

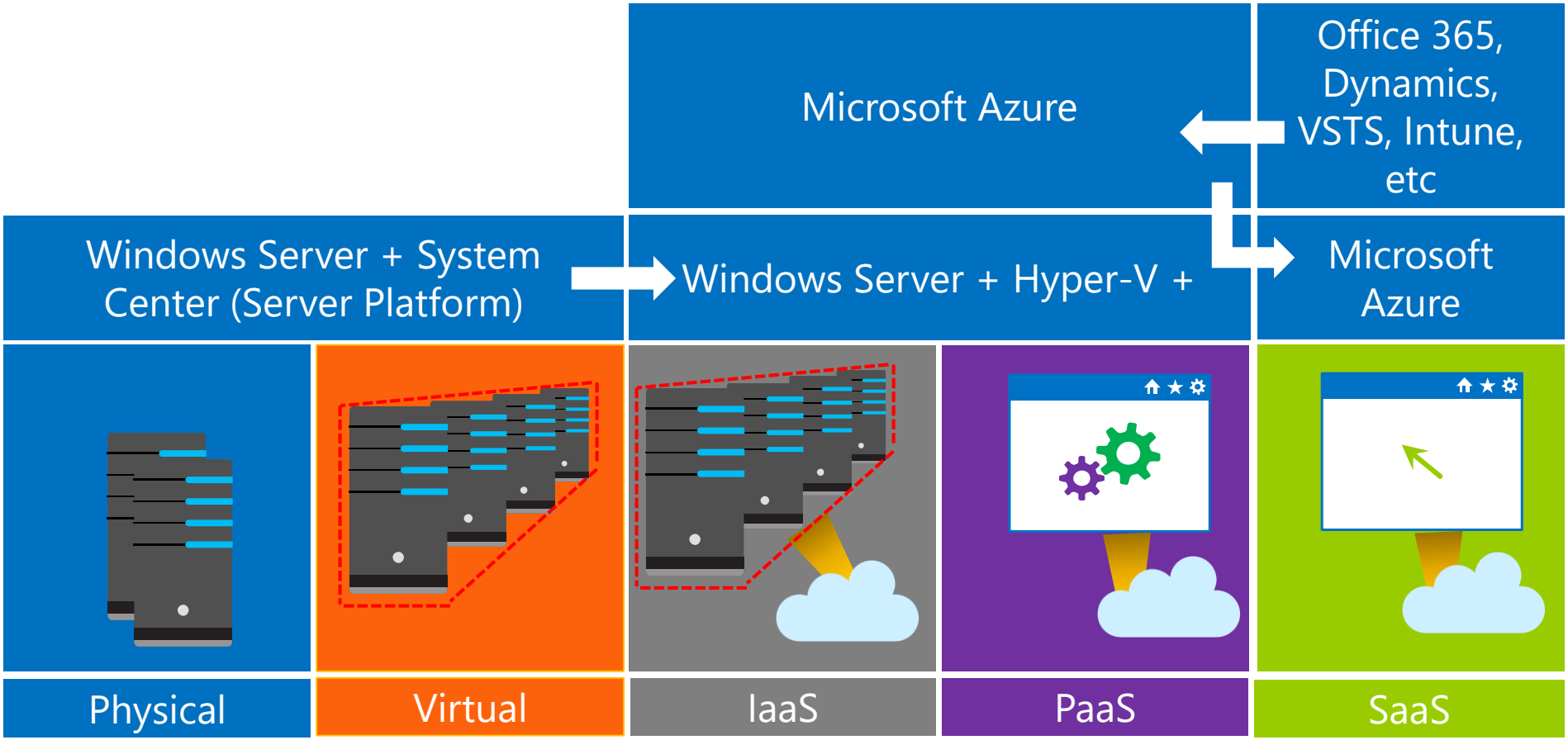
Cloud-computing models

A public cloud is an infrastructure, platform, or application service that a cloud service provider delivers for access and consumption by the public

A private cloud is a privately owned and managed cloud that offers benefits similar to those of a public cloud, but is designed and secured for use by a single organization

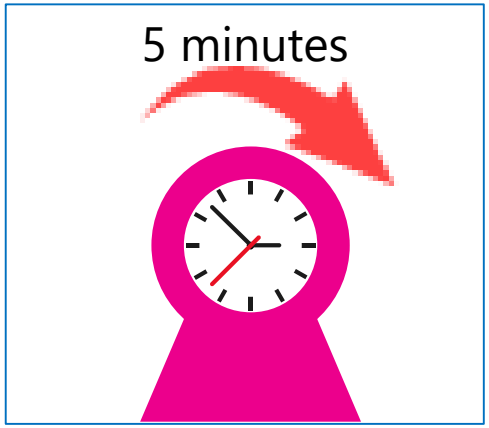
A hybrid cloud is a technology that binds two separate clouds—public and private—together for the specific purpose of obtaining resources from both

Types of cloud services



Discussion: How will cloud computing benefit your organization?

How will cloud computing benefit your organization?



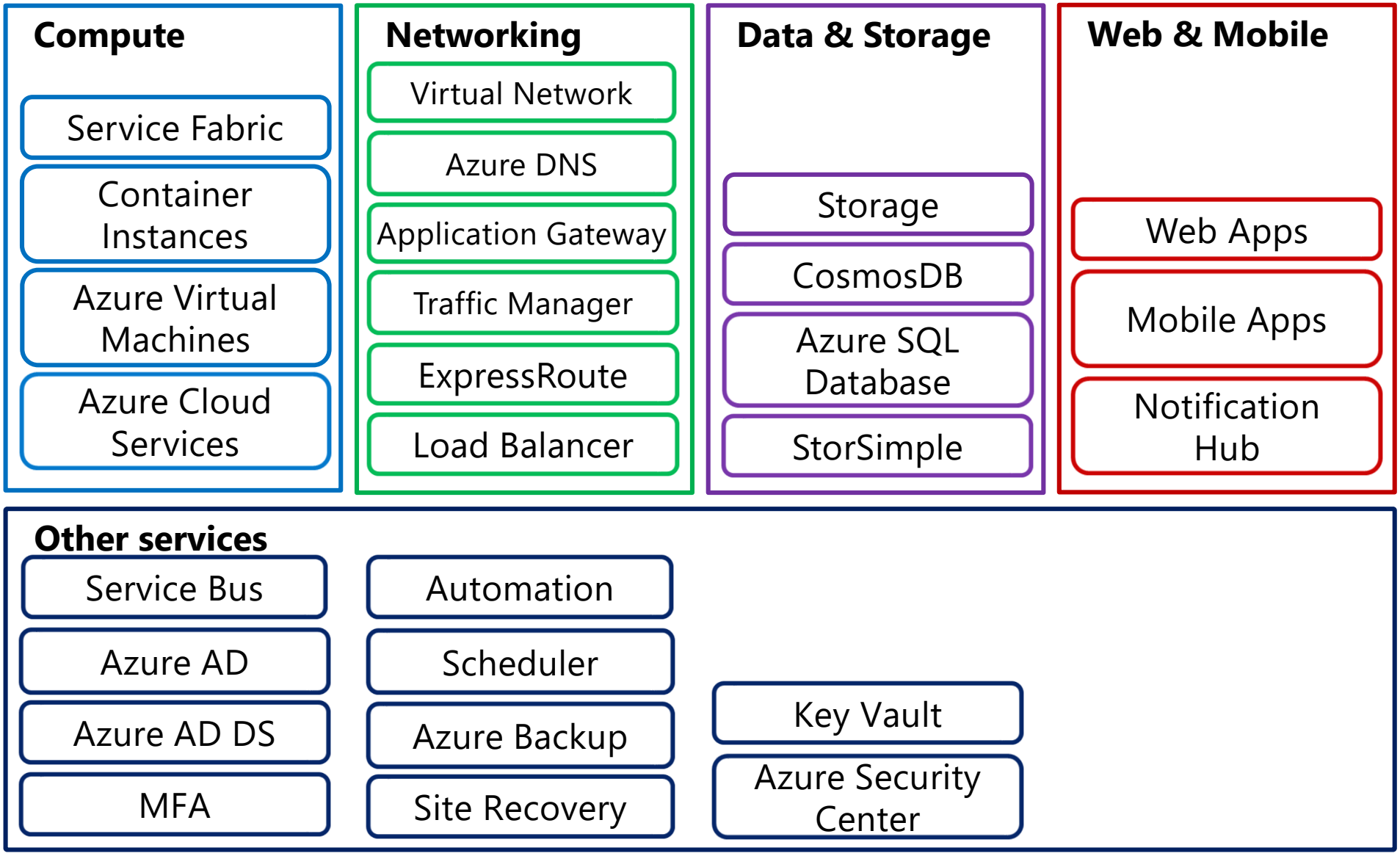
Lesson 2: What is Azure?

- Overview of Azure
- Overview of Azure services
- Azure management models

Overview of Azure

- Azure services allow you to:
  - Deploy and operate cloud-based applications
  - Host workloads in the cloud
  - Integrate cloud services with an on-premises infrastructure
- Datacenter placement follows the principle of pairing

Overview of Azure services



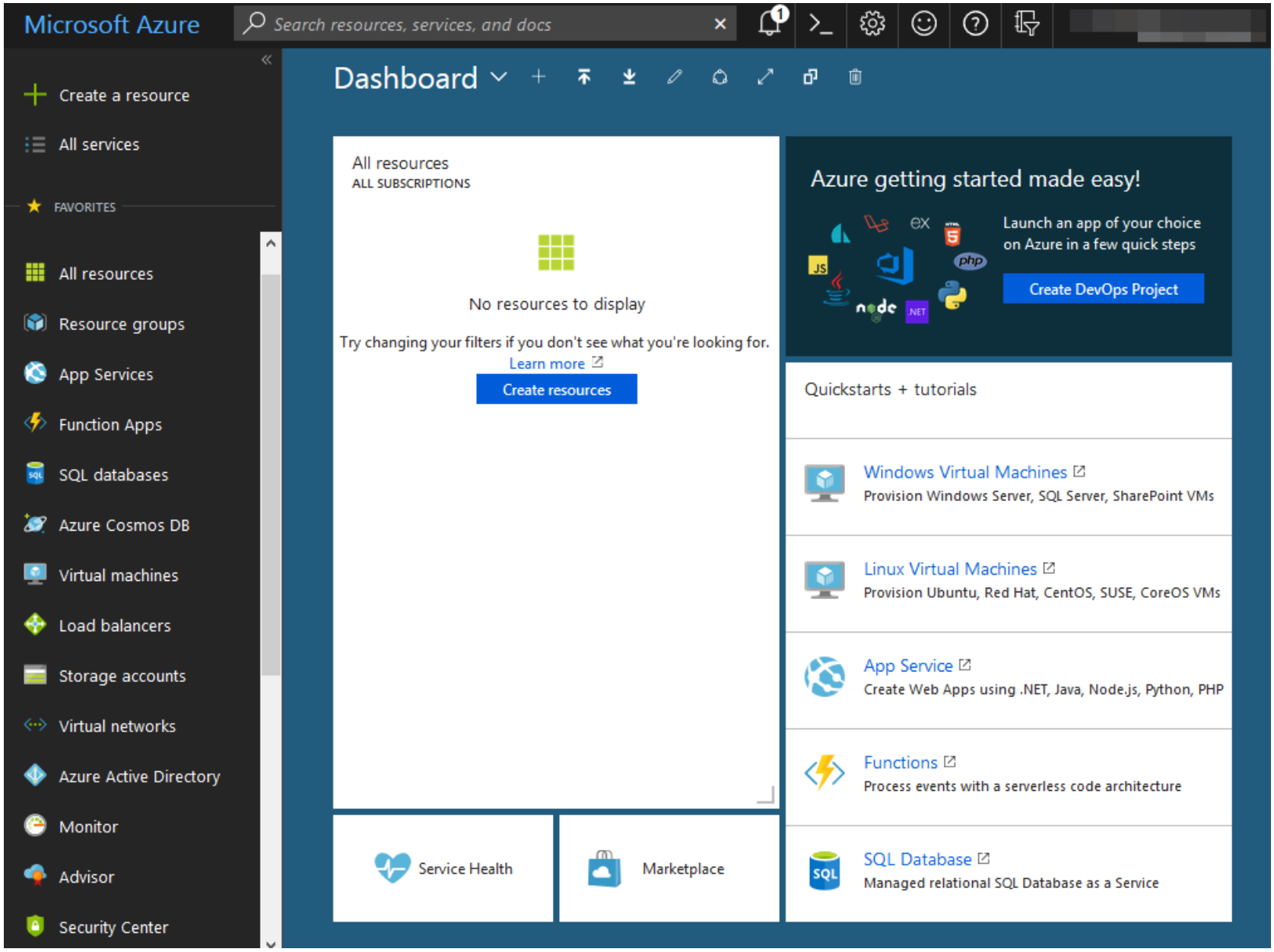
Azure management models

- Classic (Azure Service Management):
  - You should limit its use to services that do not support Azure Resource Manager (for example, Azure Cloud Services)
  - This model provides limited RBAC support
- Azure Resource Manager:
  - Is based on the concept of resource groups
  - Supports tagging
  - Supports template-based deployments
  - Provides full RBAC support
- You should use Azure Resource Manager for all deployments (whenever possible)

Lesson 3: Managing Azure

- The Azure portal and the Azure Account Center
- Demonstration: Navigating the Azure portals
- Azure management tools

The Azure portal and the Azure Account Center



Demonstration: Navigating the Azure portals

In this demonstration, you will see how to:

- Navigate the Azure portal
- Navigate the Azure Account Center

Azure management tools

- Azure PowerShell
- Azure CLI
- Visual Studio with Azure SDKs
- Azure Cloud Shell
- Azure Security Center
- Azure Advisor
- Azure Monitor

Lesson 4: Subscription management, support, and billing

- Accounts, subscriptions, administrative roles, and RBAC
- Azure billing and support options
- Azure pricing
- Estimating and managing Azure costs
- Demonstration: Viewing resource cost, billing data, and subscription usage and quotas

Accounts, subscriptions, administrative roles, and RBAC

- An Azure account:
  - Contains one or more subscriptions
  - Facilitates management and billing of subscriptions
- An Azure subscription:
  - Contains Azure resources
  - Facilitates management and billing of resources
- Management roles include:
  - Account administrator: Permissions are at the account level only
  - Service administrator: Full permissions are at the subscription level
  - Co-administrator: Full permissions are at the subscription level except for authorization and changing the Azure AD tenant
- RBAC: Granular, task-based permissions on the management group, subscription, resource group, and resource level

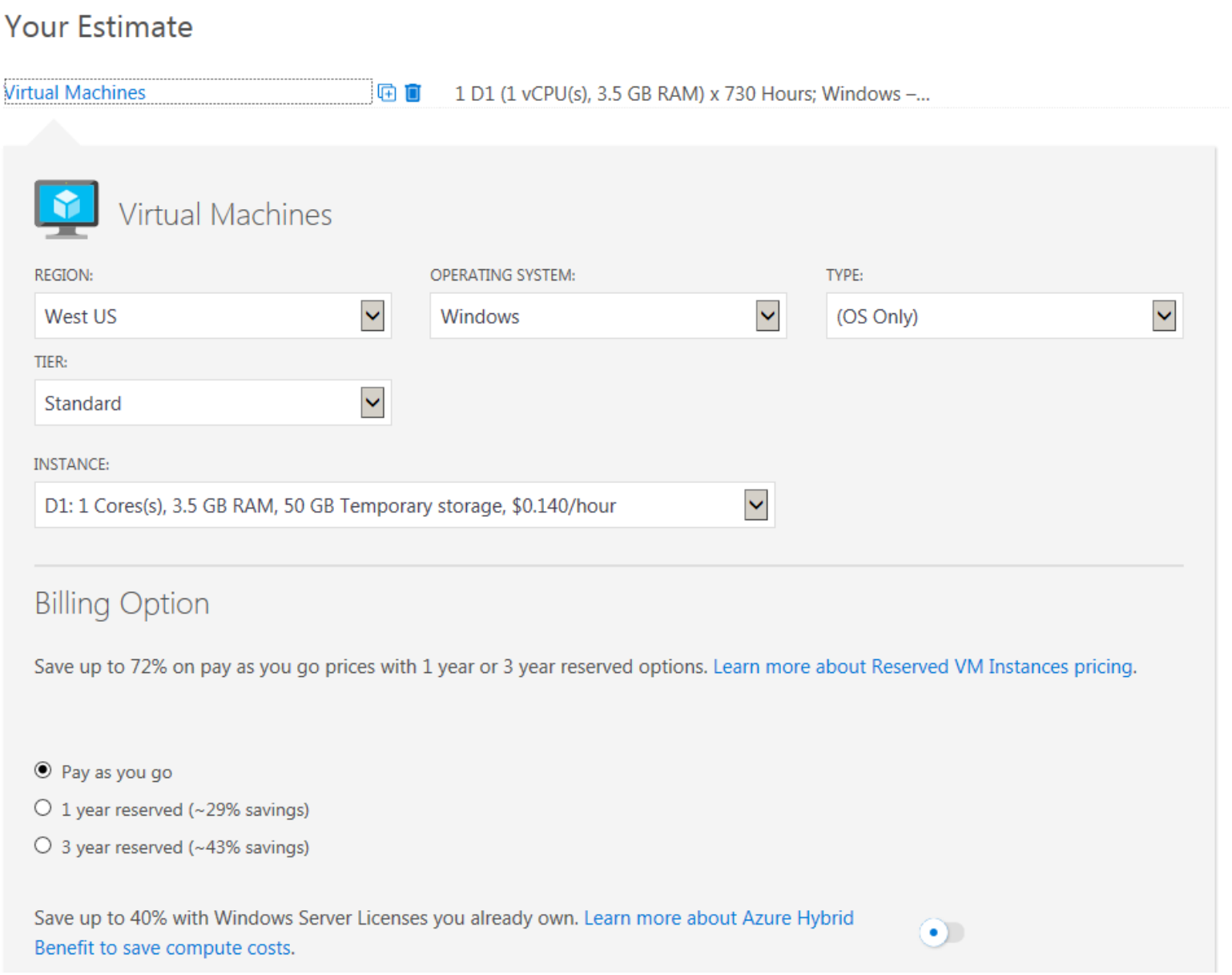
Azure billing and support options

- The purchase options are:
  - Pay-As-You-Go
  - Microsoft reseller
  - Enterprise Agreement
  - Azure Hybrid Benefit
  - Azure Reserved VM Instances
  - MSDN, Partner, BizSpark
- The support options are:
  - Developer
  - Standard
  - Professional Direct
  - Premier

Azure pricing

- Cost structure:
  - Involves primarily operational costs
  - Capital expenditures are minimized or eliminated
- Azure VM compute-related charges:
  - Based on per-second billing
  - No charges for stopped/deallocated VMs (storage charges do apply)
- Pricing depends on:
  - Pricing tier
  - Azure region
  - Licensing model

Estimating and managing Azure costs



Demonstration: Viewing resource cost, billing data, and subscription usage and quotas

In this demonstration, you will see how to:

- View the current charges of your subscription in the Azure portal
- View the billing data in the Account Center
- View your subscription's current usage and quotas in the Azure portal

Lab: Using the Azure portals

- Exercise 1: Customizing the Azure portal interface
- Exercise 2: Viewing billing, usage, and quotas data

Logon Information

Virtual machine:	**10979F-MIA-CL1**
User name:	**Admin**
Password:	**Pa55w.rd**

Estimated Time: 20 minutes

Lab Scenario

Adatum Corporation is a manufacturing company, based in the United States, with satellite offices and 1,000 employees around the world. Adatum does not use cloud-based services for any of its technology needs. Its employees are well-versed in Microsoft technologies and tools, and the IT department is fully proficient in configuring and maintaining Active Directory, and in using SQL Server, Windows Server, and Visual Studio for administrative tasks.

However, Adatum wants to investigate how Azure could help reduce IT deployment, management, and development costs. Adatum managers believe this might drastically reduce the total cost of ownership of their applications and provide simplified world-wide access to these applications. Adatum intends to evaluate which of their IT services can run efficiently in Azure.

To prepare for future deployments to Azure, you plan to become familiar with the interface of the Azure portals, focusing on their customizability and the support for retrieving billing and resource usage data.

Lab Review

- The lab showed you how you use different methods to view charges of services and resources in your subscription. Which methods allow you to download billing invoice and daily usage data?

Module Review and Takeaways

- Review Question