WA2 | PRACTICE A

Windows Azure Platform Introduction
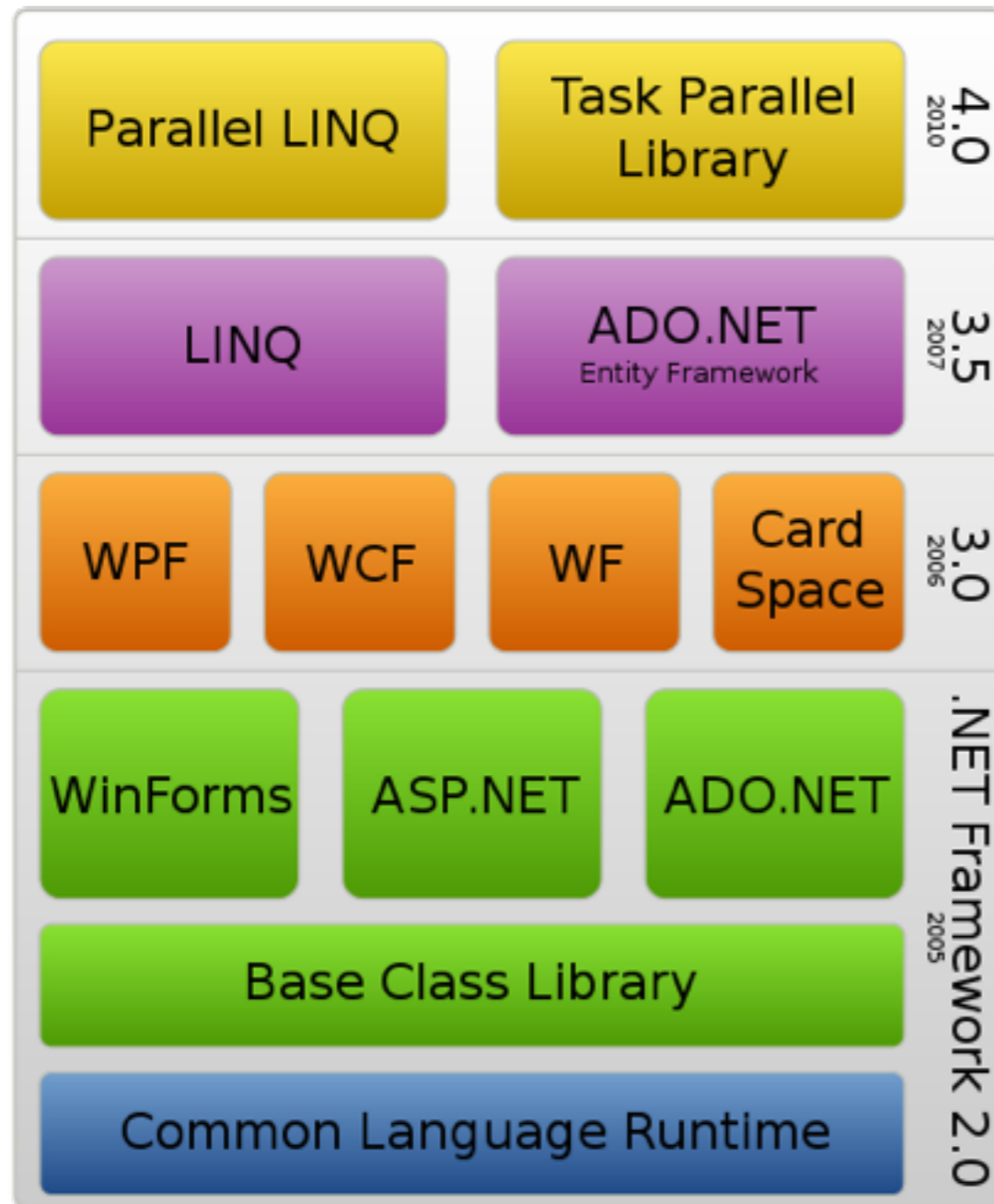
DCGI

DEPARTMENT OF COMPUTER GRAPHICS AND INTERACTION

PRACTICE OUTLINE

▸ .NET Platform basics

▸ ASP .NET

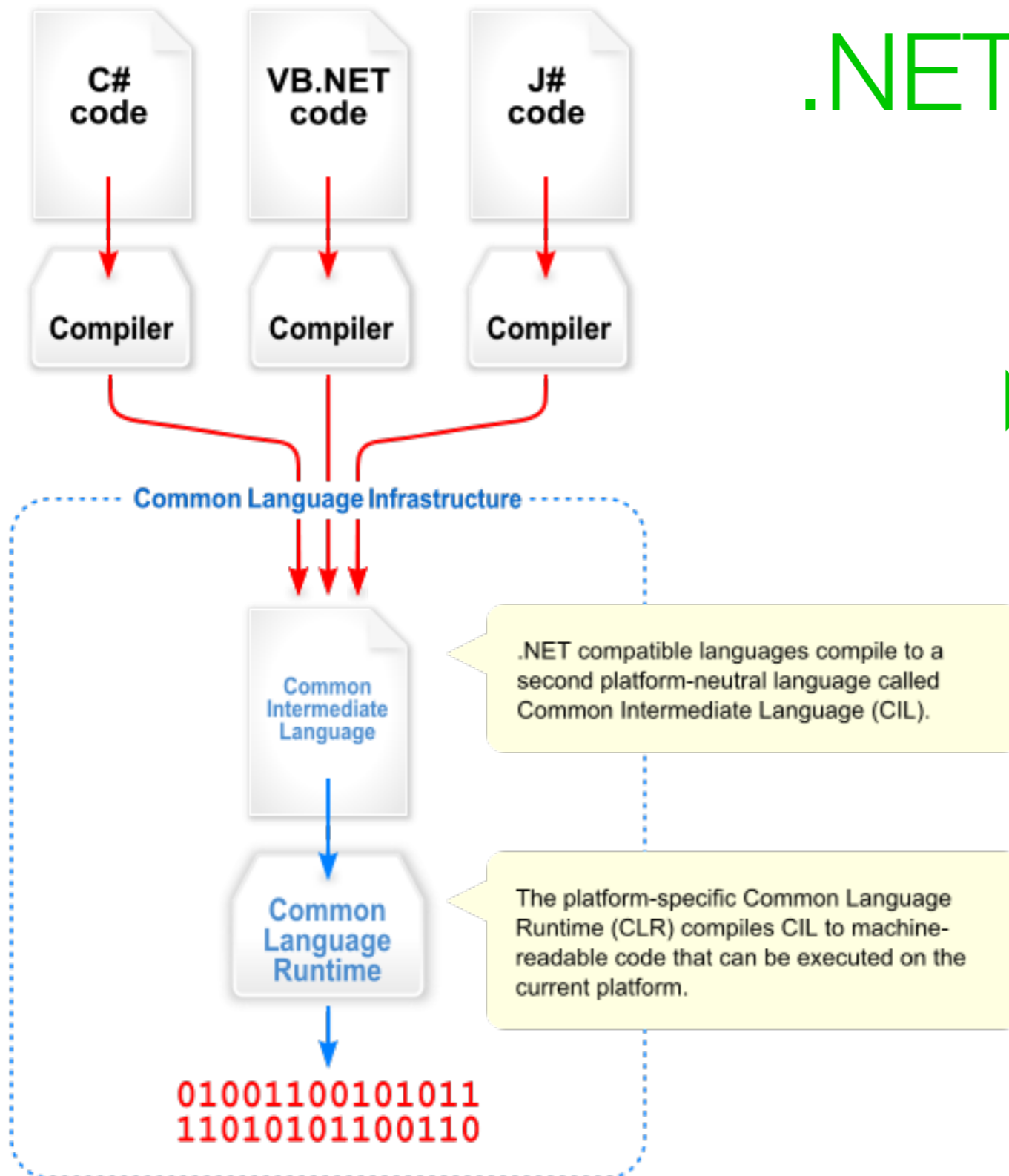▸ Windows Azure Platform Introduction

.NET FRAMEWORK

The .NET Framework Stack

credit: wikipedia

- ▶ SW framework

- ▶ large library

- ▶ several programming languages: C#, J#, VB.NET …

- ▶ several platforms: desktop, PDA, Phone 7, Silverlight

.NET FRAMEWORK

▶ Common Language Infrastructure (CLI)

– Common Intermediate Language (CIL)

– Common Language Runtime

credit: wikipedia

.NET FRAMEWORK | OBJECTIVES

▸ provide a consistent OO programming environment

▸ minimize software deployment and versioning conflicts

▸ promote safe execution of code, including code created by an unknown or semi-trusted third party

▸ eliminate the performance problems of scripted or interpreted environments

▸ make the developer experience consistent across widely varying types of applications, such as Windows-based applications and Web-based applications

▸ ensure that code based on the .NET Framework can integrate with any other code

.NET FRAMEWORK

1	2002	initial version
1,1	2003	ASP.NET, ODBC, Compact FW, API changes
2	2005	Generics, 64bit, SQL Server integration, Micro FW, Partial Classes, API changes
3	2006	WPF (Presentation), WCF (Communication), WF (Workflow),
3,5	2007	LINQ, ADO.NET Entity FW, ADO.NET Data Services
4	2010	Parallel Extensions, PLINQ
4,5	2012	Metro Style Apps, various core improvements, MEF

.NET LANGUAGES

▸ C#, J#, VB.NET, C++/CLI

▸ A#, Boo, Cobra, Component Pascal, F#, IronPython, IronRuby, IronLisp, JScript .NET, L#, Managed JScript, Nemerle, Oxygene, P#, Phalanger, Phrogram, Windows PowerShell ....
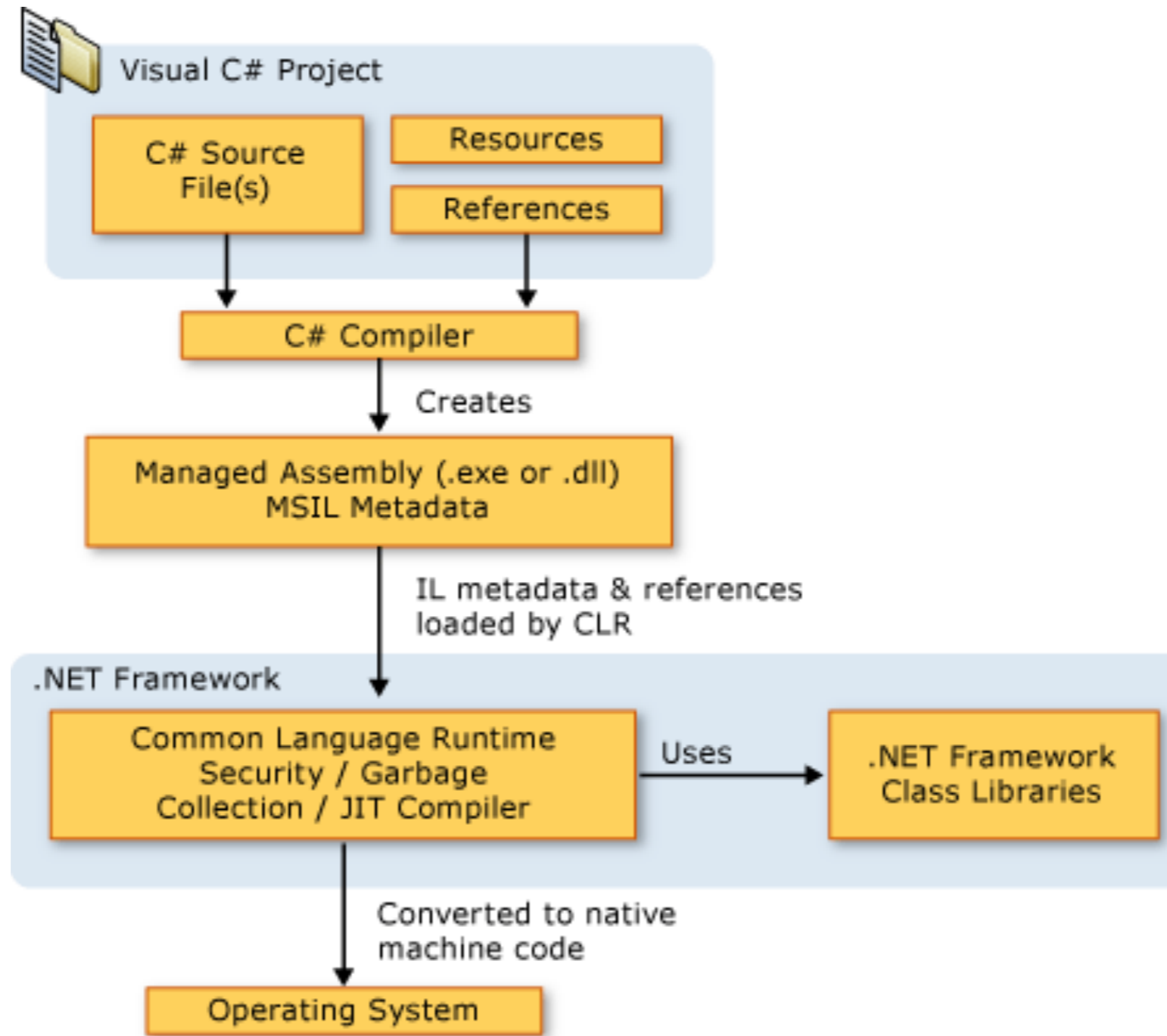
.NET ASSEMBLY

▸ MSIL

▸ PE file (an .exe or .dll)

▸ Manifest

▸ Entry Point

▸ Boundary (security, type, version)

▸ Deployment unit

▸ Static or dynamic.

ASSEMBLY MANIFEST

▶ Every assembly (static or dynamic)

▶ Contains assembly metadata

- Assembly name

- Version number

- Culture

- Strong name information

- List of all files in the assembly
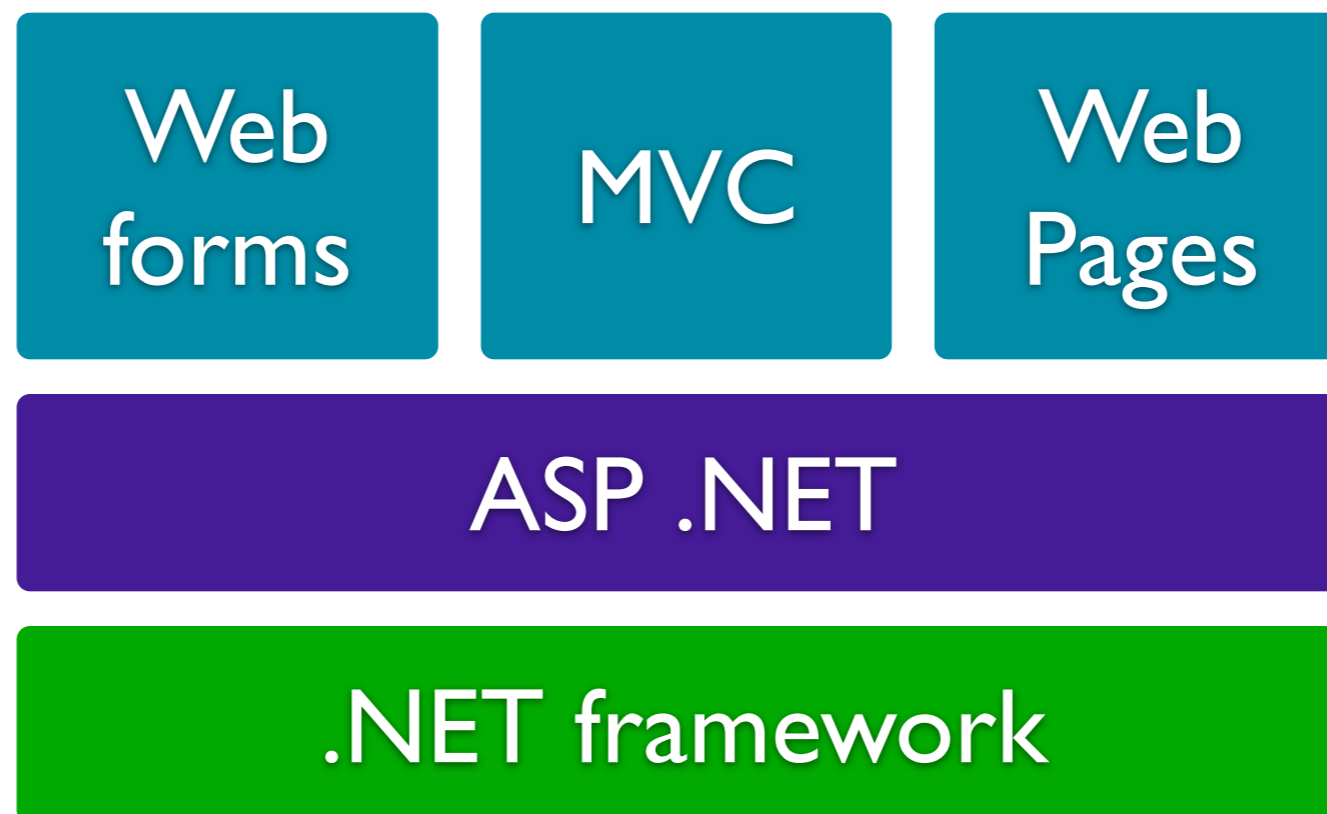
- Type reference information

.NET FRAMEWORK
C#

ASP .NET

▸ Current MS solution for Dynamic Web

▸ Based on CLR -> Any .NET Language

WINDOWS AZURE

Windows Azure Platform
Cloud platform for cloud services hosted in Microsoft datacenters.

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Windows Azure
Operating system for cloud services. Environment for development, hosting and management of services on Microsoft Azure platform.
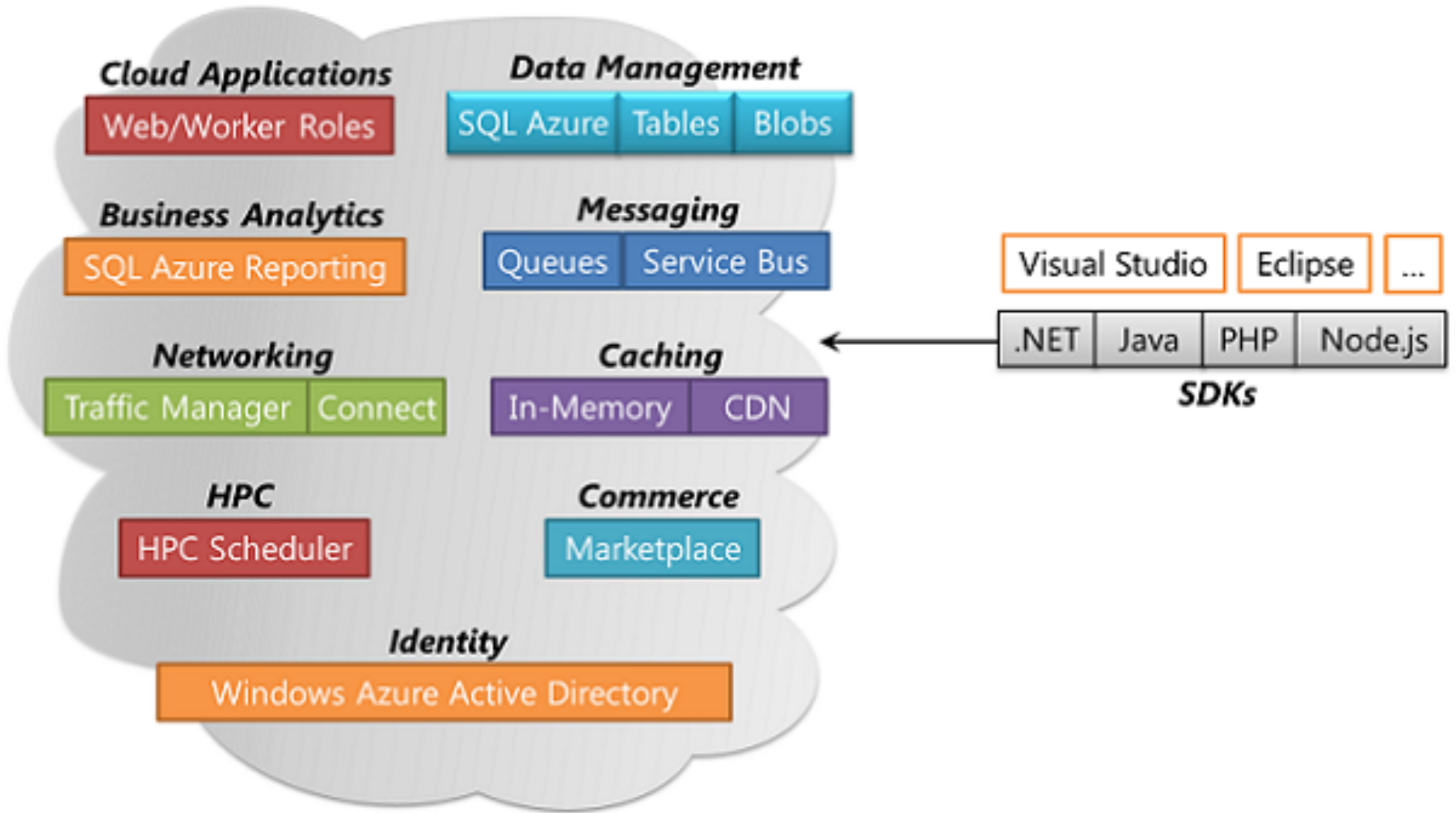
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SQL Azure
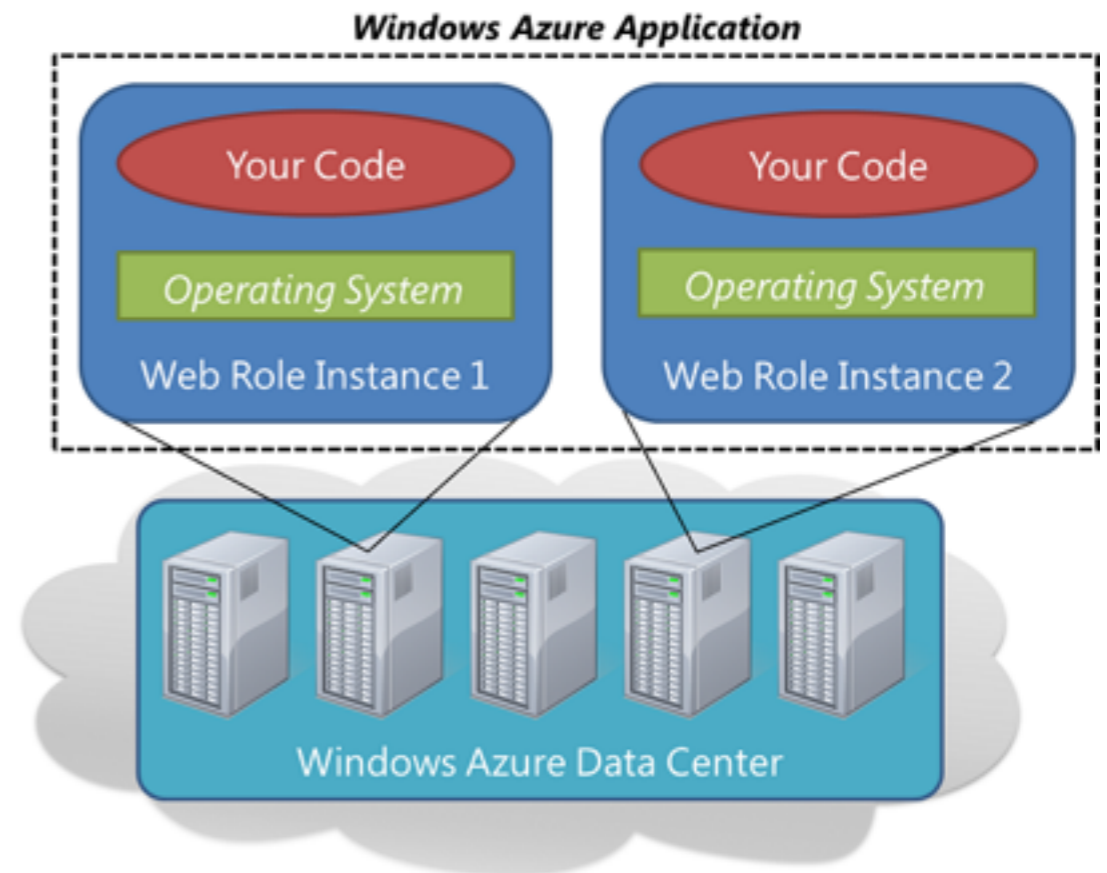Relational database service for cloud environment.

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AppFabric
Middleware that provides several cloud computing services: Access Control Service, AppFabric Applications, Service Bus, Caching, Integration.

WINDOWS AZURE CLOUD SERVICES

WA - CLOUD APPLICATIONS

▶ Windows Azure is both PaaS and IaaS

▶ Platform supports one or more roles

- web roles (e.g. ASP.NET, PHP, …)

- worker roles (e.g. .g. TSP, media conversion, …)

▶ role instance

- VM running on WServer in MS Datacenter

AZURE DEV. ENVIRONMENT SOFTWARE

▸ .NET Framework 4.5

▸ Microsoft Visual Studio 2013

▸ IIS 8

▸ (SQL Server)

▸ (ReSharper)

▸ DreamSpeak

  – http://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?ws=6e3f4856-a58b-e011-969d-0030487d8897&vsro=8&JSEnabled=1

▸ download.cvut.cz (ReSharper)

CLOUD DEPLOYMENT AND TESTING

▶ Free one month trial

  – http://www.azure.microsoft.com/en-us/pricing/free-trial/

▶ ~~Netstudent azure freemium~~

  – ~~http://www.netstudent.cz/Azure.aspx~~

TASK 1 | 1/2
ASP.NET MVC 3 APPLICATION

1. Create new project ASP.NET MVC3 project

2. Use appropriate template

3. Test application locally

4. Study application (role) structure. Identify parts of MVC.

5. Open Site.Master view, add item called „Submit message" into menu.

6. Extend corresponding controller (Home) and add a new view (Insertion).

ASP.NET MVC 3 APPLICATION

7. Add new model MessageModel

8. Add controller Insertion for storing message board message.

9. Implement simple static class SimpleStorage to provide data container for messages.

10. Provide Index view with messages model (from corresponding controller).

11. Output content of MessagesModel in Index view.

TASK 2 | CLOUD MIGRATION

1. Add new Windows Azure Cloud Service Project

2. Don't add any roles

3. Add *MVCApplication1* role to Azure project roles

4. Configure the web role

    – Instance count = 2

    – VM size = extra small

5. Test application locally

TASK 3
CLOUD DEPLOYMENT

1. Register for trial version of Windows Azure Platform

2. Start deployment (publish)

3. Sign in with your Microsoft account

4. Name your service and storage account (e.g. wa2testx, unique)

5. Select region (e.g. West Europe)

6. Click on "Publish" and wait for a few minutes

7. Test deployment online

8. What is the problem?

THANK YOU

MACIKMIR@FEL.CVUT.CZ