

# **.NET Framework**

Presented by: Bryan Ng

## **Overview**

---

- 1 Introduction
- 1 C#
- 1 Common Language Infrastructure
- 1 ASP.NET
- 1 Web Services

## **Introduction**

---

- 1 First introduced in June 2000
- 1 What is .NET? Microsoft's definition:
  - *The .NET Framework is a development and execution environment that allows different programming languages & libraries to work together seamlessly to create Windows-based applications that are easier to build, manage, deploy, and integrate with other networked systems.*

## **Introduction (continued)**

---

- 1 Selling Points:
  - Interpolation of programs written in different programming languages
  - Extensive libraries to simplify common development work
  - ASP.NET and Web Services easily implemented like any applications
- 1 Why the name .NET?
  - No special meaning...

## **C#**

---

- 1 A new language designed by Microsoft to work with .NET
- 1 Based on C++
- 1 Like Java

## **Some comparisons to Java**

---

- 1 Similarities
  - Garbage Collection
  - Interfaces
  - Everything belongs to a class
- 1 Differences
  - Properties (vs. get/set functions)
  - Enumerators
  - For-each loop

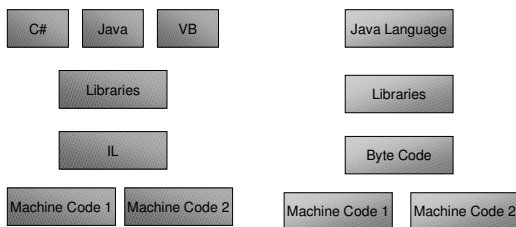
### Common Language Infrastructure

- 1 Common Language Specification
  - A set of types and functionalities that programming languages and .NET libraries agree on
- 1 Result: projects written in different languages can be linked together
- 1 .NET languages:
  - VB, Java, C++, Javascript, etc

### CLI (continued)

- 1 Extensive libraries to perform common tasks, available to all languages for all kinds of application
- 1 Intermediate Language (IL)
  - Programs are compiled into executables in IL
  - IL then compiled to machine code at runtime

### .NET and Java



### .NET vs Java

- | .NET  | Java   |
|---|--|
| 1 Supports many programming languages   | 1 Only Java language is supported                        |
| 1 .NET CLR fully implemented on Windows only (mono project incomplete)        | 1 Run on any system with JVM installed                   |
| 1 C# is better designed   | 1 SDK as well as well as most development tools are free |
| 1 SDK and .NET framework is free, but development tools are usually expensive |  |

### ASP.NET

- 1 Web Development Platform
- 1 Compiled program instead of scripting
- 1 Objected Oriented Approach
- 1 Control and Event based
- 1 Extensive libraries

### Web Services

- 1 RPC over Internet
- 1 Provide functions through XML messaging system
- 1 .NET platform makes it easy to create web services
  - Create a web service much like you do an ASP.NET page

## **.NET 2.0**

---

- 1 To be released this year (around June)
- 1 Some new features:
  - C#: Generics, Iterators, etc
  - ASP.NET: more controls, master page
  - Visual Studio .NET: more user friendly

## **Demo**

---

- 1 Projects with different languages
- 1 Consuming the Google Web Service
- 1 Developing a simple Web Service