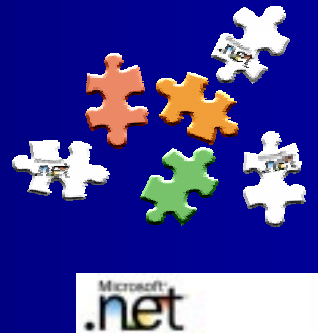


# Microsoft .NET Presentation

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## Overview

- Microsoft's .NET
- What do I need to use .NET?
- What are .NET's smart devices?
- What are the benefits of .NET to
  - For Individuals
  - For Businesses
  - For Developers
- Why should you learn .NET?
- What are some .NET issues?

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## Overview – what is .NET?

### According to Microsoft

- Microsoft® .NET is the Microsoft XML Web services platform, which will significantly change how people interact with applications and devices via the Web.
- .NET is an Internet-based platform of Next Generation Windows Services accessed through smart devices.
- Executables, C++ (and Java too) must die! Since they are platform specific... Everything should be made to run on a standard browser! Guess which one...

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## Overview – What is .NET?

- .NET is a new Internet and Web based infrastructure
- .NET delivers software as Web Services
- .NET is a framework for universal services
- .NET is a server centric computing model
- .NET will run in any browser on any platform
- .NET supports dynamically reconfiguration.
- .NET is built on HTTP, XML, SOAP (standard format for web services), & UDDI (standard search format to discover web services)

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## Overview – .NET Requires

### What do I need to use .NET?

- A smart device (Web enabled appliance) such as PC's, handheld's, phones, kiosks, X-Box...
- A .NET server to provide .NET "Experiences." Must be standard server like IIS, ASP, ADO, or SQL.



## Overview – Get Smart

### A Smart Device

- **Smart about you.** A smart device uses your .NET identity, profile, and data to simplify your experience. It is smart about your presence, tailoring notifications in response to your actions.
- **Smart about the network.** A smart device is responsive to bandwidth constraints, provides support for both online and offline use of applications, and understands which services are available.
- **Smart about information.** A smart device can be used anywhere anytime.
- **Smart about other devices.** A smart device discovers and announces other smart devices, knows how to provide smart services
- **Smart about software and services.** A smart device presents applications and data optimally for form factor; enables input methods and connectivity appropriate for great end-user interaction.

## Overview - .NET Benefits

### .NET benefits to Individuals

- **Personal and integrated experience**  
Think of Gator or .NET Passport.
- **Interactions delivered through smart devices**  
Users can experience the same .NET through smart devices. Each of these devices generates a different interface for the .NET experience.
- **Privacy**  
Through lots of encryption!

## Overview - .NET Benefits

### .NET benefits to Businesses

- **XML Integration for easy transactions**
  - Between partners in business to business transactions
  - Between customers - web servers & smart devices
  - Within organizations – Assignment 5 Plant example
- **XML Web services**  
Increase potential reach and exposure through any smart device.
- **Savings in development costs**

## Advantages

### ■ Broad Range of Languages Supported

Visual Basic, C, C++, C#, Perl, Python, COBOL, Fortran, Smalltalk, etc.

Only C++, C#, Visual Basic, Jscript Command Language Runtime  
Compilers Included with Visual Studio.NET

### ■ Simplified Programming Model

All Entities are now treated as an object.

## Overview – .NET Uses

### .NET benefits to Developers

#### ■ Rapid development

through .NET's common language runtime

#### ■ Easily find available XML Web Services

You can buy pieces of your applications rather than build everything from scratch.

This also implies that someone will be selling XML Web Services.

## Overview – Why .NET?

### ■ So why should you use .NET instead of some other XML product?

– It's backed by Microsoft. They will not give up and will likely monopolize "decent" XML products.

– Microsoft has build a very strong base for XML: the .NET passport integrated into Hotmail & MSN Messenger. Click [here](#) for more passport sites.

– Free.

## Overview – Why not .NET

### ■ What are some problems with .NET?

– Privacy. Although Microsoft promises it, there is always a risk theft...

– .NET is meant to run on a network, which means

■ The network must be up

■ Network must not crash! If a hard drive is lost, may loose user data...

■ If everyone is running on the NETwork, may worry about network overloads.

# .NET Framework

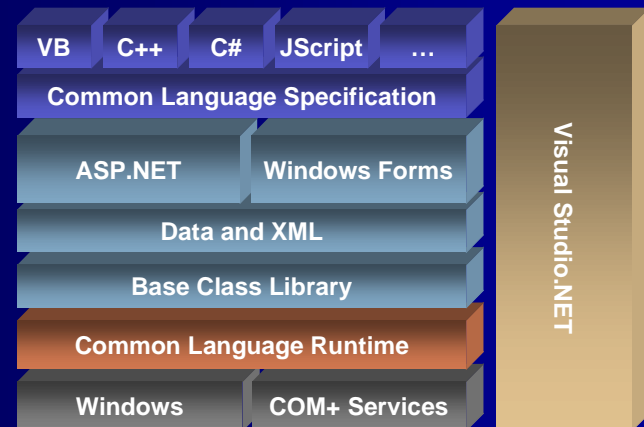
- Consists of 3 major components:
  - Common Runtime Language (CLR)
  - Unified Core Classes
    - Provides XML support, networking and data access
    - Allows developers to create any type of application using the same classes, resulting in higher productivity and code reuse
  - Presentation Classes
    - Includes ASP.NET, XML Web Services, and Windows Forms for developing Windows-based or smart client applications

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# .NET Framework



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# .NET Framework

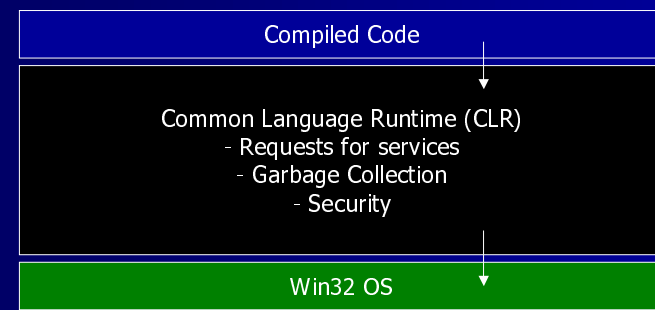
- CLR
  - Responsible for executing applications
  - Manages memory via garbage collection
  - Handles security
  - Works with any supported language including C, C++, C#, JScript, Visual Basic, Perl, Python, and more...

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# .NET Framework

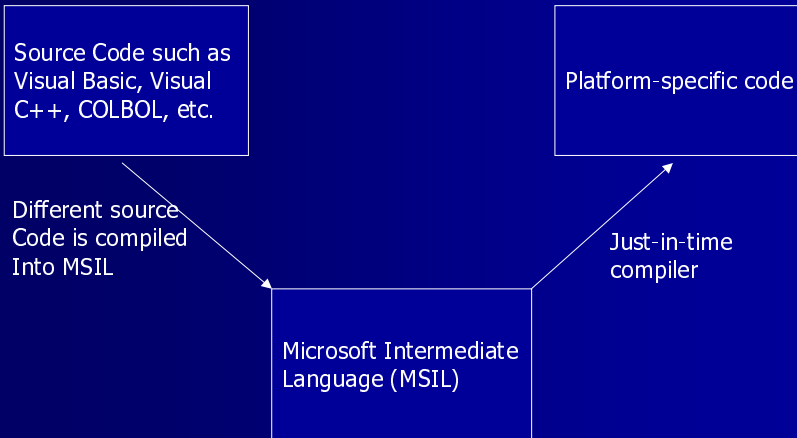


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# .NET Framework

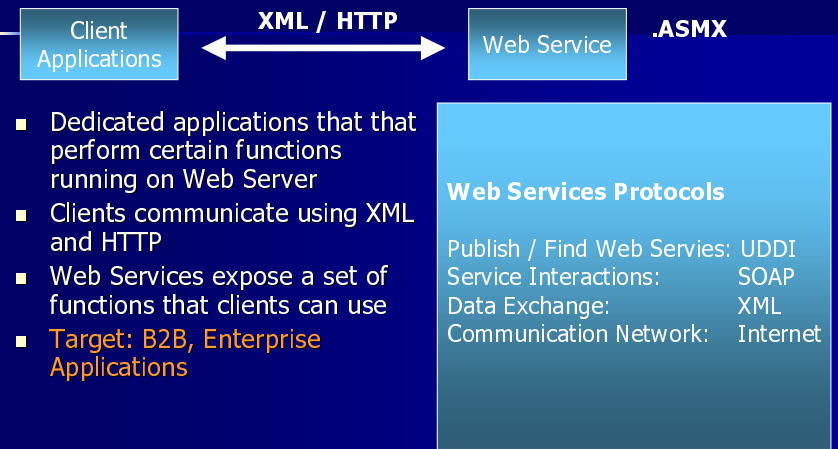


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# Web Services



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# ASP.NET

- ASP.NET is 3-4 Times faster than ASP & JSP
- ASP.NET code is compiled the first time it is run then every other instance runs the compiled code.
- Separation of Code and Content
- Now supports full Visual Basic functionality as oppose to VBScript (ASP)
- Less code for than ASP common tasks
- Files end in the ".aspx" extension

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# .NET Servers

## Microsoft .NET Core Servers

- Today: Windows 2000 Server
- Beta: Windows.NET Server BETA3 [Final is Expected Q3/Q4 2002]

## Family of Microsoft .NET Servers

- Microsoft Content Management Server 2001
- Microsoft Exchange Server 2000
- Microsoft Internet Security and Acceleration Server 2000
- Microsoft Mobile Information 2001 Server
- Microsoft SQL Server 2000



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# Visual Studio .NET

- Increased Productivity
  - Easier to write applications (Intellisense)
  - Mixed language development
- Broad Range of Languages Supported
  - Only C++, C#, Visual Basic, Jscript Command Language
  - Runtime Compilers Included with Visual Studio.NET
- Simplified Programming Model
  - Entities are now treated as an object.
  - Objects have function calls

# Questions ???

# Links

<http://www.asp.net>

<http://www.w3schools.com/nqws/default.asp>

<http://www.microsoft.com/net/>

<http://www.microsoft.com/net/whitepapers.asp>

# References

Powerpoint Presentation from Microsoft TechEd Conference

Microsoft Web Site

W3Schools Web Site

Powerpoint: Introduction to .NET by David Lazar