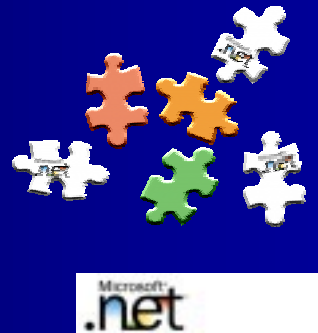


Microsoft .NET Presentation

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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

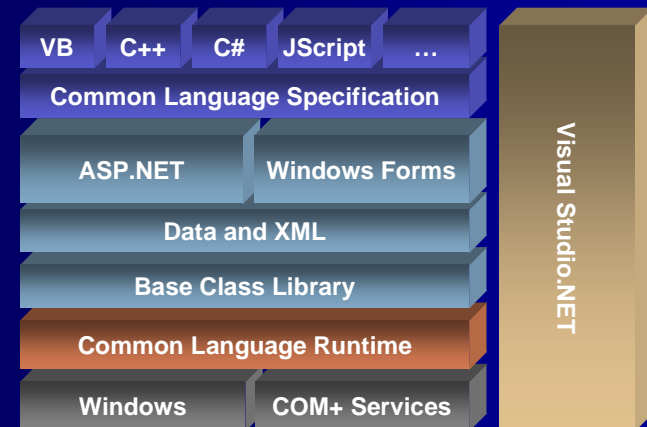
- Consists of 3 major components:
 - Common Runtime Language (CLR)
 - Unified Core Classes
 - Provides XML support, networking and data access
 - Allows developers to create any type of application using the same classes, resulting in higher productivity and code reuse
 - Presentation Classes
 - Includes 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

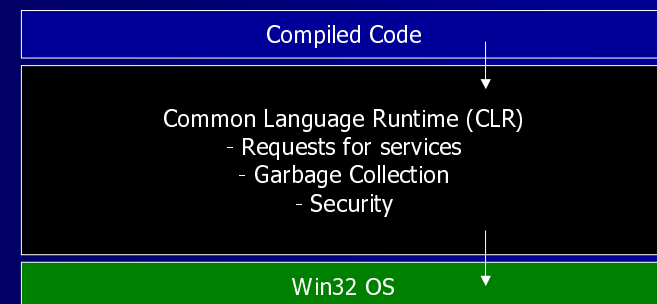
- CLR
 - Responsible for executing applications
 - Manages memory via garbage collection
 - Handles security
 - Works with any supported language including C, C++, C#, JScript, Visual Basic, Perl, Python, and more...

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.NET Framework

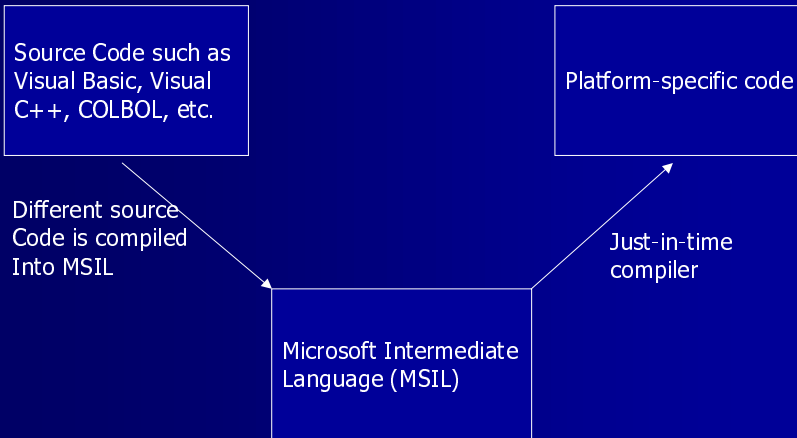


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.NET Framework

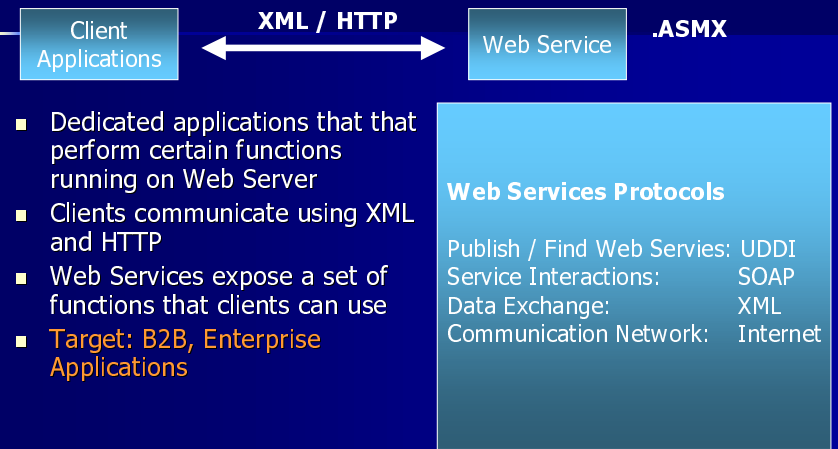


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Web Services



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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