



Overview Visual Studio 10 and .NET Framework 4.0

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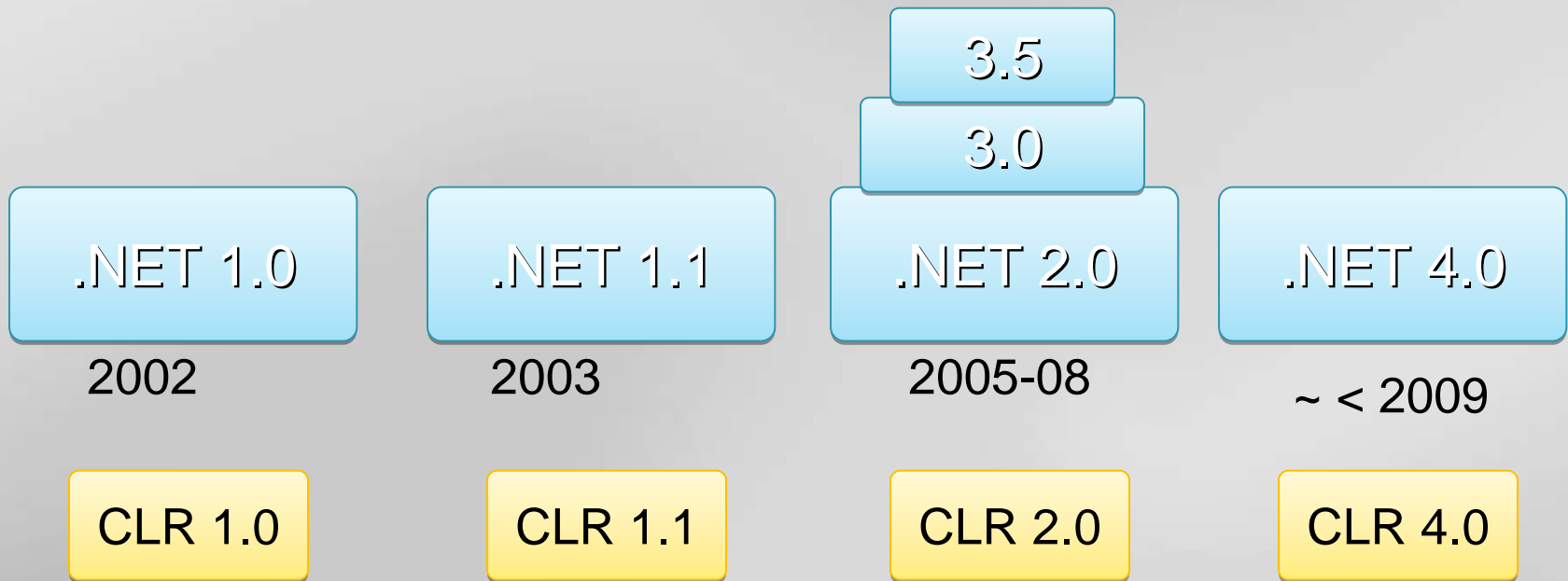
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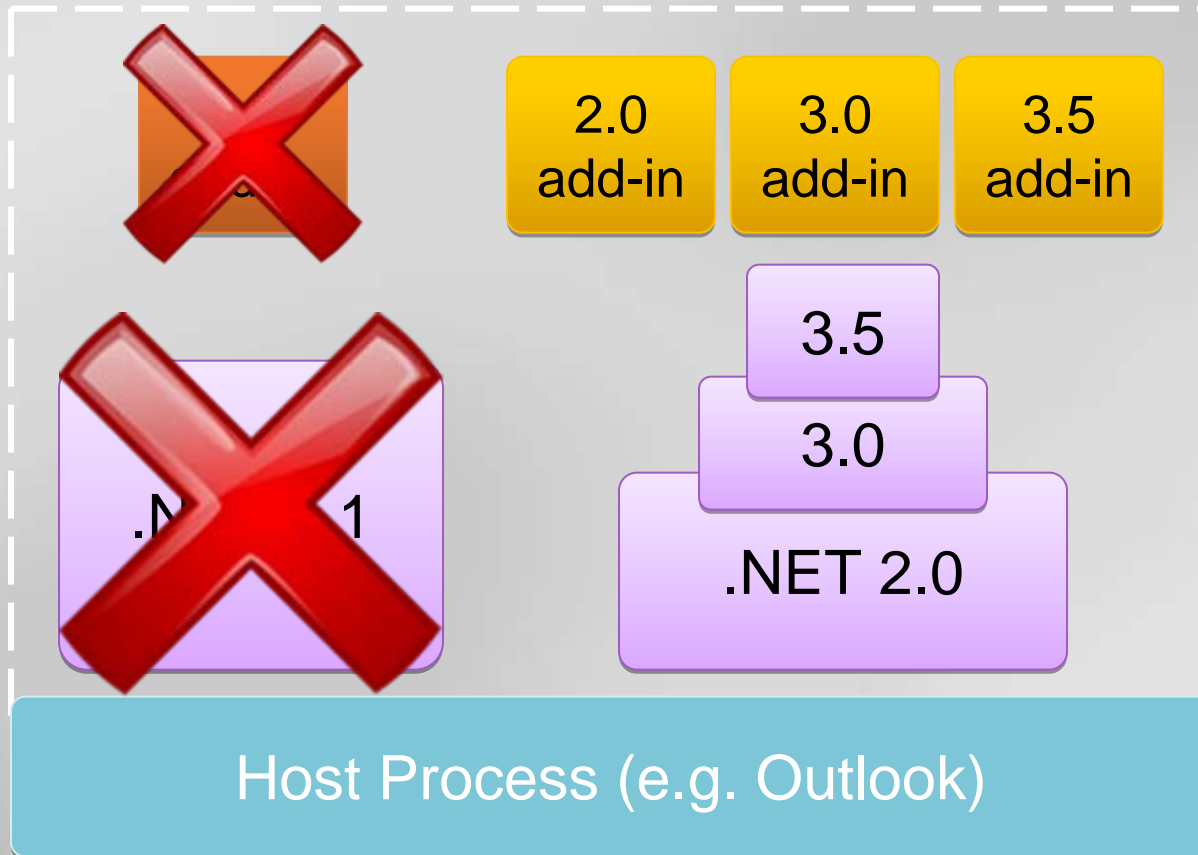
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http://blogs.msdn.com/swiss_dpe_team/Default.aspx

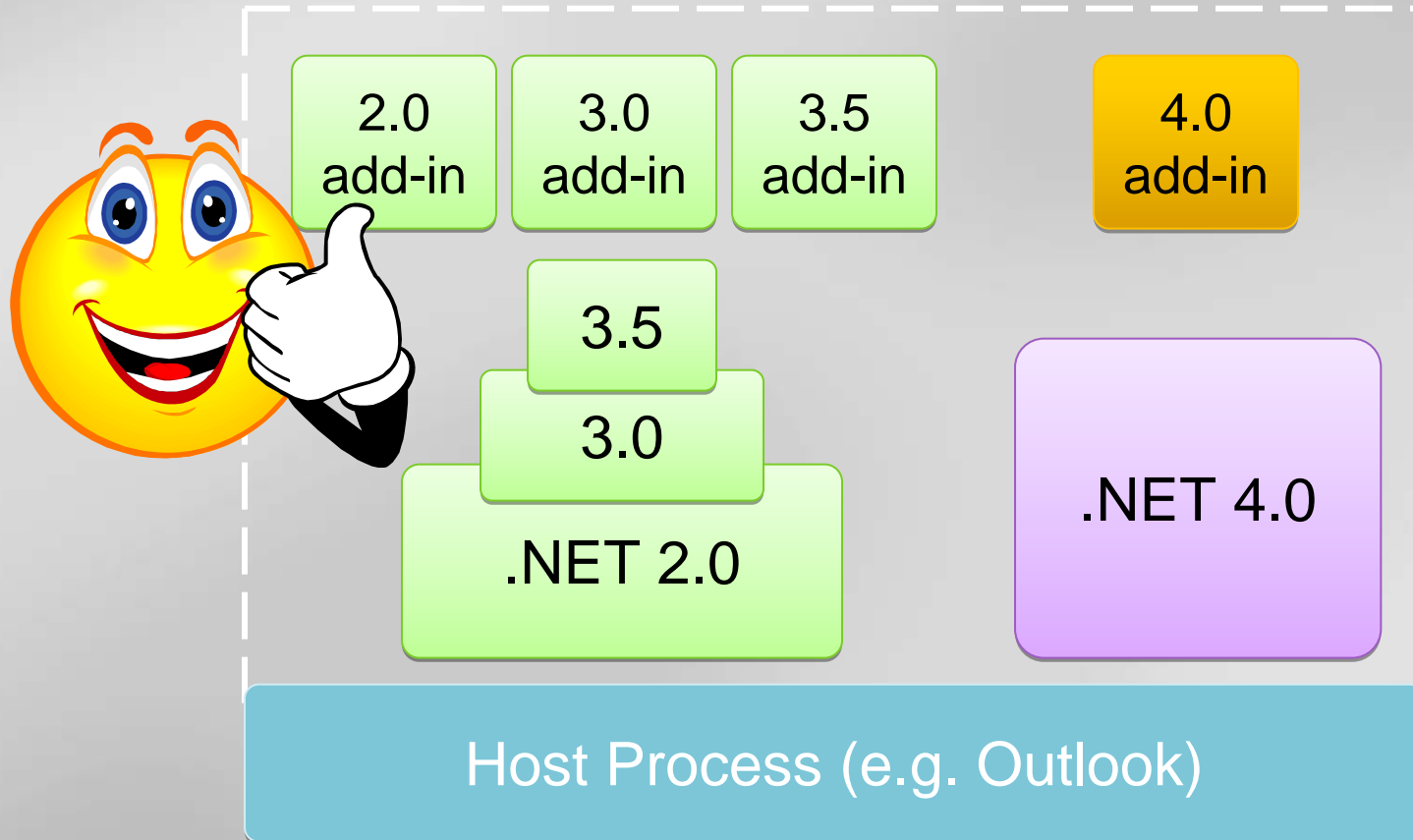
Introduction



Existing Side-By-Side (SxS)



In-Process Side-By-Side (SxS)



.NET Dynamic Programming

Dynamic vs. Static

Dynamic Languages

Simple and succinct

Implicitly typed

Meta-programming

No compilation

Static Languages

Robust

Performant

Intelligent tools

Better scaling

C# and Visual Basic

Focusing on language **co-evolution...**

C# 4.0

Visual Basic "10"

Named/Optional Parameters

Named/Optional Parameters

Dynamic Scoping

Dynamic Scoping

Statement Lambdas

Statement Lambdas

Multiline Lambdas

Multiline Lambdas

Auto-Implemented Properties

Auto-Implemented Properties

Collection Initializers

Collection Initializers

Generic Variance

Generic Variance

Parallel Programming

Parallel Extensions is a **.NET Library** that supports *declarative and imperative data parallelism, imperative task parallelism, and a set of data structures* that make coordination easier.

- Parallel LINQ (PLINQ)
- Task Parallel Library (TPL)
- Coordination Data Structures (CDS)

[Parallel Extension June 2008 CTP](#)

Parallel LINQ

demo



.NET Framework 4.0: Client

- Client Profile
- Windows Presentation Foundation
- Business focused controls
 - DataGrid, DatePicker, VSM
 - Today part of the WPF Toolkit (update in March 09)
 - <http://www.codeplex.com/wpf>
 - After .NET 4.0 → More controls (Chart controls, ...)
- Silverlight Synergy (DeepZoom control ?)
- Win7 Advances
 - Multitouch
 - Windows API CodePack for .NET (<http://windowsapicodepack.codeplex.com>)

WPF 4.0 within Visual Studio 10

demo



WCF 4.0

● Messaging enhancements

- Protocols - SOAP over UDP, [WS-Discovery](#), [WS-BusinessActivity](#), [WS-I BP 1.2](#)
- Duplex durable messaging

● RESTful enhancements

- Simplifying the building of REST Singleton & Collection Services, ATOM Feed and Publishing Protocol Services, and HTTP Plain XML Services using WCF
 - WCF REST Starter Kit released on [Codeplex](#) to get early feedback

● Correlation enhancements

- Content and context driven, One-way support

● Seamless integration with Workflow Services

Workflow Foundation 4.0

- XAML-only workflows are the new default
 - Unified model between WF, WCF, and WPF
- Extended base activity library
 - More activities will be present on [CodePlex](#)
- WF 4.0 simplifies data flow by adding:
 - *Arguments*, *variables*, and *expressions*
 - Significant improvements in performance and scalability
 - New FlowChart Workflow
- Improved WF 4.0 designer / Designer Rehosting

WF 4.0 Basics

demo



WCF and WF

- There is great potential in WF + WCF
 - .NET 3.0 didn't provide any integration
 - .NET 3.5 added initial WCF support
 - .NET 4.0 is investing heavily in this area
 - Workflow Services !!!
- Think "*WCF on the outside, WF on the inside*"
 - WCF exposes external interface
 - WF describes internal flow & state transitions

Dublin (after .NET 4)

- IIS 7/WAS is today's hosting environment for WCF service and WF workflows (WorkflowServiceHost class)
- Provides valuable hosting and management features for your WCF and WF applications
- Part of the Windows Server Application Server role
- Extensions built on top of IIS 7 with tracing, monitoring and diagnostic capabilities

Additional Resources

- MSDN Developer Centers – .NET 3.5
<http://msdn.microsoft.com/wcf>
<http://msdn.microsoft.com/wf>
- MSDN Developer Centers – .NET 4.0
<http://msdn.microsoft.com/wcf/future/>
<http://msdn.microsoft.com/wf/future/>
- WF/WCF Team Blog
<http://blogs.msdn.com/endpoint/>
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