

Moonlight: Silverlight on Unix

Miguel de Icaza
miguel@novell.com

Mono, a bit of history.

- Ximian: Linux Desktop Startup founded in 1999
 - “fill the gaps”
 - Develop missing pieces (and applications).
- An Open Source re-implementation of .NET
 - Better Developer Tools on Linux.
 - Allow Windows developers to deploy on Linux.
 - Bring expertise
 - No need to learn new languages/APIs

Collaboration

- Open specifications.
- Interop.
- Growing the .NET ecosystem.

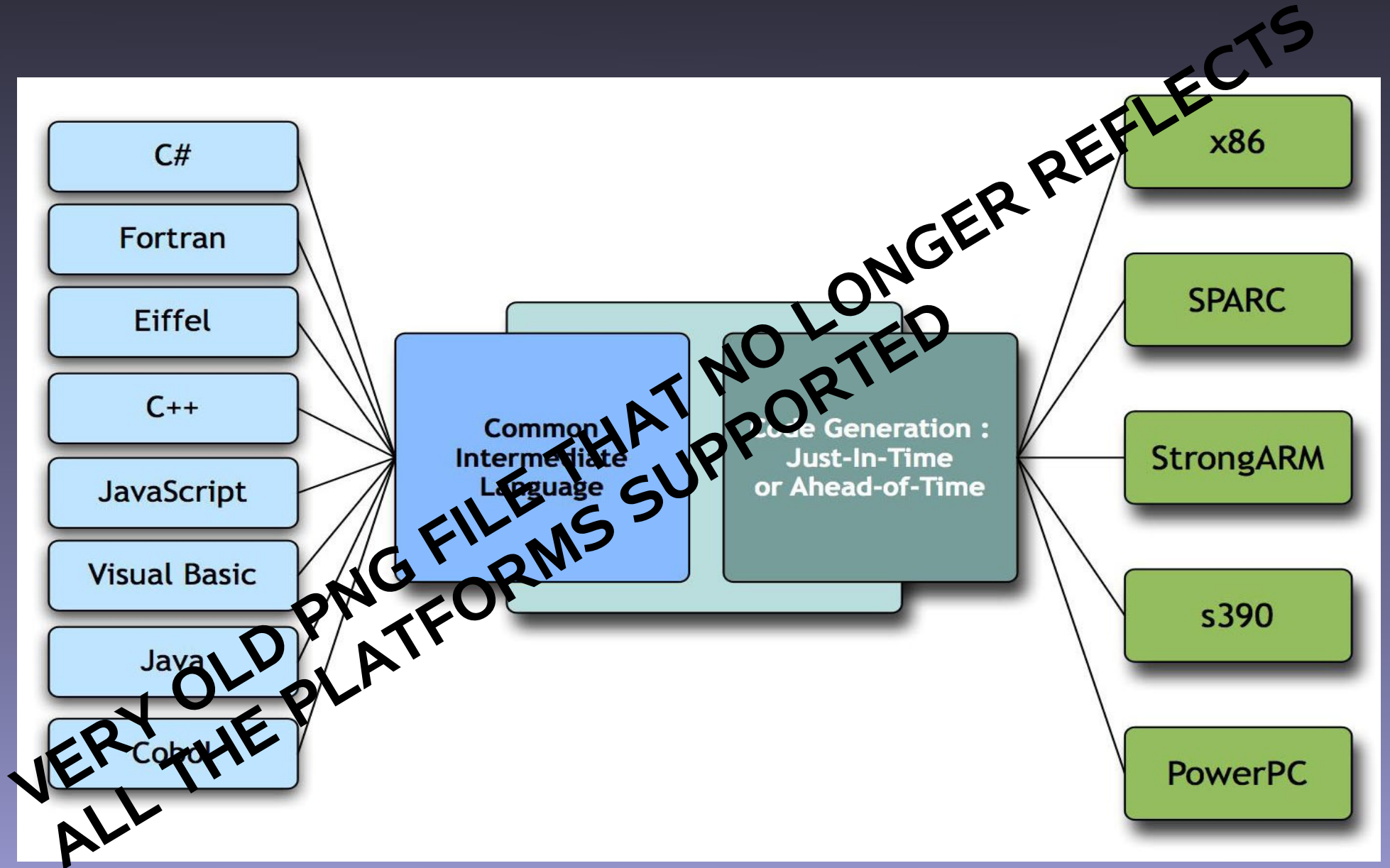
Silverlight, a bit of history.

- WPF/E at PDC
 - Cute, but not in our “domain”
- WPF/E at Mix 06
 - Still cute, but still not in our “domain”
- Silverlight 1.1 at Mix 07
 - Awesome, and completely in our domain.

Mono.

- An implementation of the CLR
 - VM, JIT, AppDomains, GC, Remoting, etc.
- A re-implementation of the class libraries
 - Reflection, XML, etc
 - ASP.NET, Web Services, ADO.NET
- Compilers for most .NET languages
 - C# (1.0, 2.0, almost done with 3.0)
 - VB.NET
 - Third party compilers

Multi platform



Overall Progress.

- 2.0 mostly complete:
 - Core, ASP.NET and ADO.NET are done
 - Windows.Forms the only piece on hold.
- 3.5 the actual heir to 2.0:
 - C# 3, LINQ, XLINQ mostly done
 - Have not started on DLINQ
- 3.0 add-on:
 - Only WCF in progress, no WPF at this point.

Visual Studio Deployment

- Mono is binary compatible with .Net
 - Same .DLL and .EXE file formats.
 - Implements the same APIs.
- Winforms or ASP.NET apps

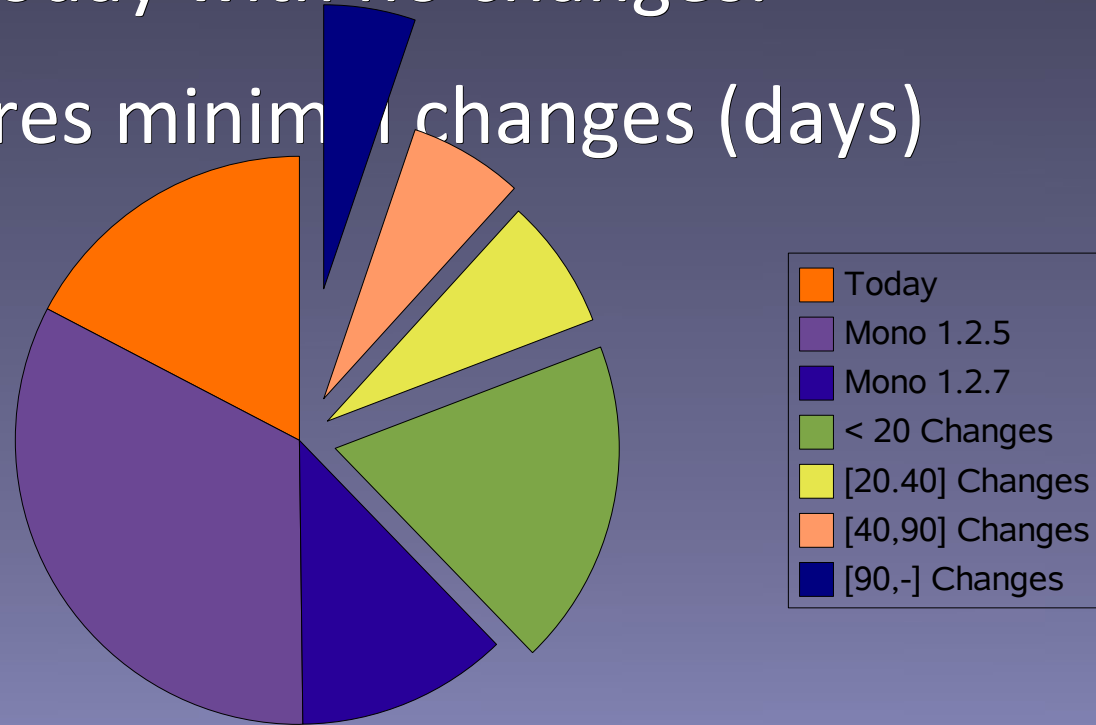
Demo

Mono Migration Analysis

Demo

Results (July 2007 data)

- ~3,800 results received in 10 months.
- 16% ports today with no changes.
- ~40% requires minimal changes (days)





How we got here?

- Interest at Mix 07
 - Journalist quote.
- Marc Jalabert's “Can you demo it in 3 weeks?”
 - Remix 07 in Paris, France.
- Microsoft/Novell joint agreement
 - Moonlight to be Silverlight on Unix.

Microsoft/Novell agreement.

- Microsoft to provide:
 - Media codecs for all Moonlight users on Linux.
 - Regression test suites.
 - Complete specifications for implementation.
- Novell to:
 - Deliver a 100% compatible Moonlight.
 - Support it on all major Linux distributions/platforms.

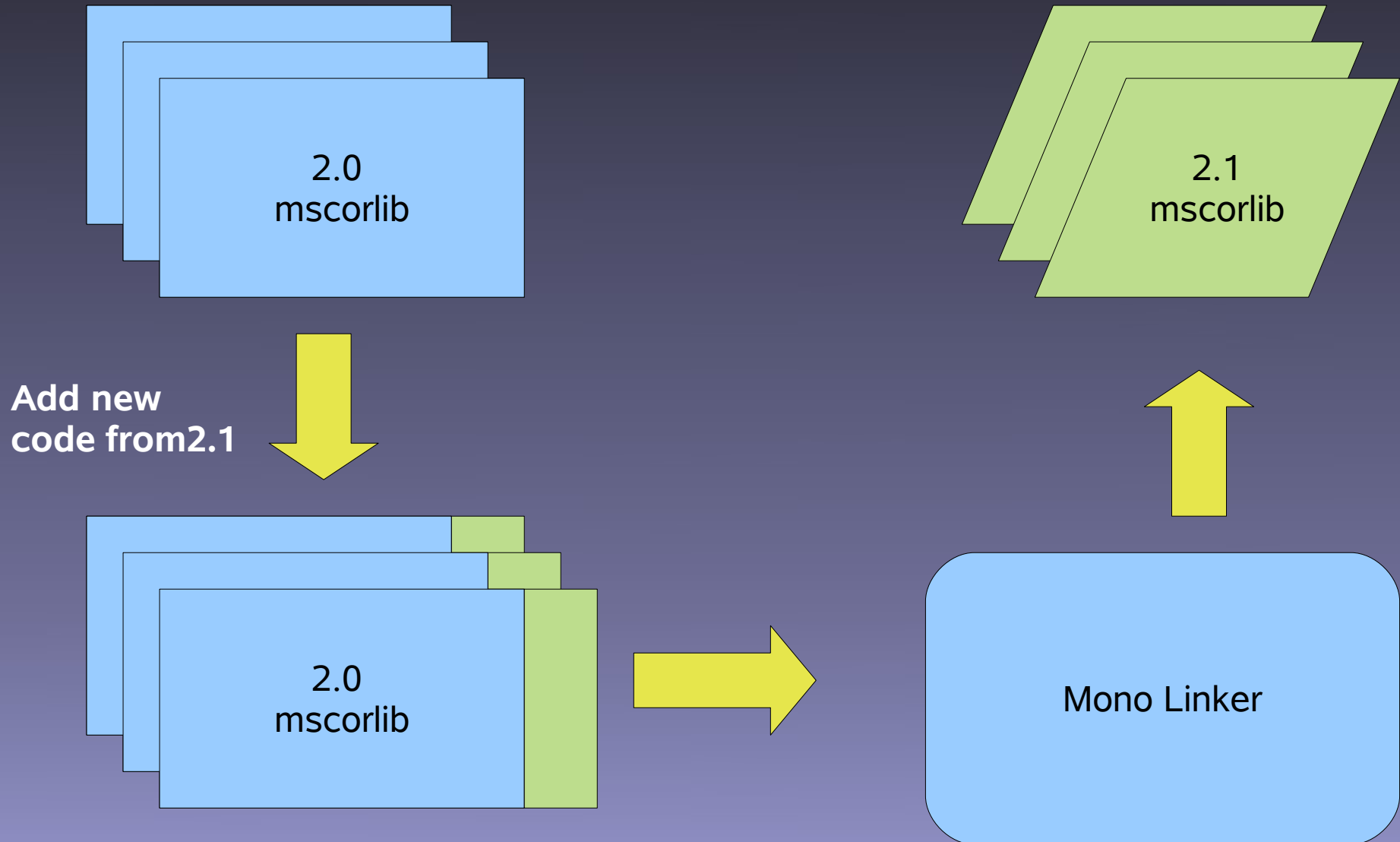


Moonlight -- Today



- Moonlight Engine
 - C++ based
 - Standalone engine
- Front-ends:
 - Plugin (Mozilla)
 - Native “control”
- Maturity:
 - 4 months old
- Mono VM
 - C/C# based
 - High-performance
- Maturity:
 - 5+ years old
- New class libraries
 - Still young.

2.1 class libraries



Current Directions

- Improve Graphics Engine Performance
 - It is in early stages, we need 3x to 5x perf
- Compatibility:
 - Through test suites
 - Trying out as many public apps as possible
 - Partner with Component Vendors to test their apps.
- Easy-to-deploy. Currently very hard to do it.

Support

- Moonlight 1.0
 - Tracks SL 1.0
 - Due in 6-8 months
- No Mono.
- Moonlight 1.1
 - Tracks SL 1.1
 - 6-12 after release.
- Includes Mono.
- Time Ambiguity:
 - SL 1.1 is a thin layer on SL 1.0
 - SL 1.1 expected to grow significantly.

Wishes.

- Work with other browser vendors:
 - Opera on Linux
 - WebKit on Linux
 - Konqueror on Linux.
- Support BSD and custom Linux variants:
 - Ship the binary codecs for those systems.

Roadmap

Mono 1.2: Q3 2006

“Rump Steak”

Windows Vista: .NET 3.0: 2007

.NET 2.0

.NET 1.1

Server:
ASP.NET

Gtk#

WinForms

C# 2.0
Generics

Upgrades to
stack.

Server:
WCF/Indigo

Client:
WPF/Avalon

Mono 2.0: Q1 2008

“Sirloin”

Windows Vista: .NET 3.0: 2007

.NET 2.0

.NET 1.1

Server:
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