.NET CORE

Running C# inside of whatever, kinda…

A LITTLE ABOUT ME

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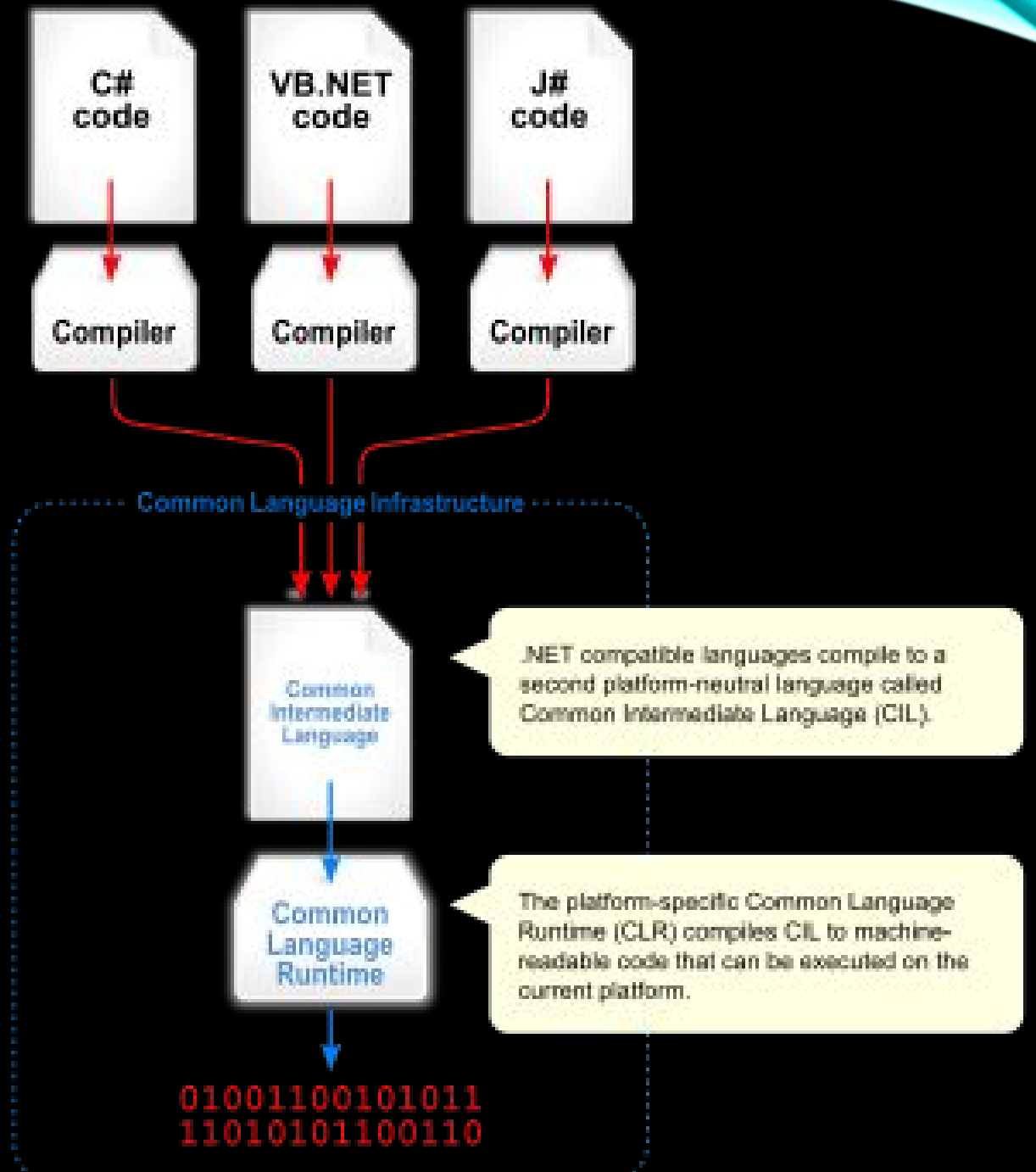
- These slides will be emailed out after tonight

QUICK REFRESHER ON .NET

- Microsoft's competitor to java
  - Managed memory (garbage collection)
  - JIT from MSIL code to machine code (compile once run on manyish)
  - Multiple languages supported and cross compatible. C# F# C++ Iron Python visual basic
- Originally started in late 90's Version 1 was released in Late 2000
- C# and the CLI are ISO ECMA standards (ISO-IEC 23271:2012 and ISO/IEC 23270:200)


C# code
VB.NET code
J# code
Compiler
Compiler
Compiler
Common Language Infrastructure
Common Intermediate Language
.NET compatible languages compile to a second platform-neutral language called Common Intermediate Language (CIL).
Common Language Runtime
The platform-specific Common Language Runtime (CLR) compiles CIL to machine-readable code that can be executed on the current platform.
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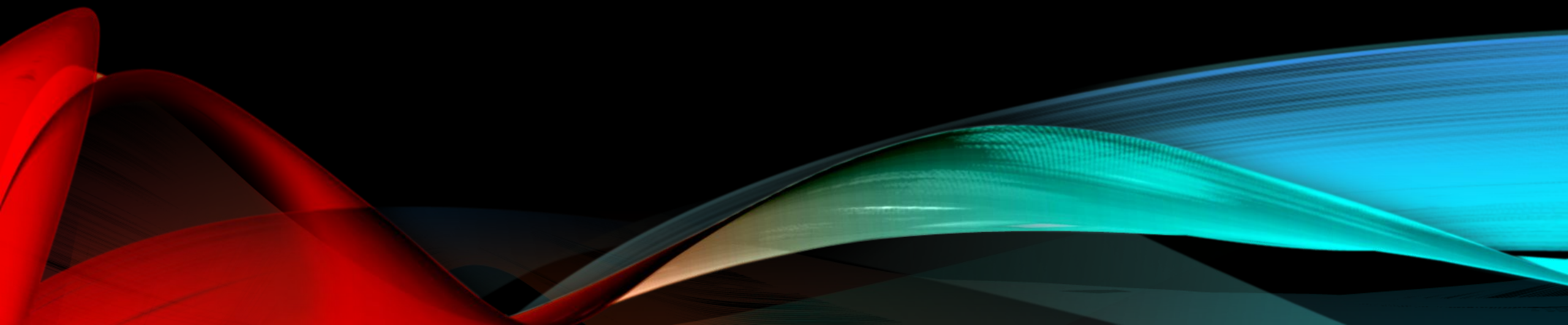
SO EASY
A CAVEMAN CAN DO IT
memegenerator.net

SCOPE

- Just to reassure everyone, we are just going to get things up and running in a simple hello world sort of way
- This will not be production configs, setting things up with a reverse proxy and security is out of scope
- Don't let this scare you off… as I said before, it is so easy that a code monkey could do it

THAT'S GREAT… BUT THIS IS THE LINUX USER'S GROUP

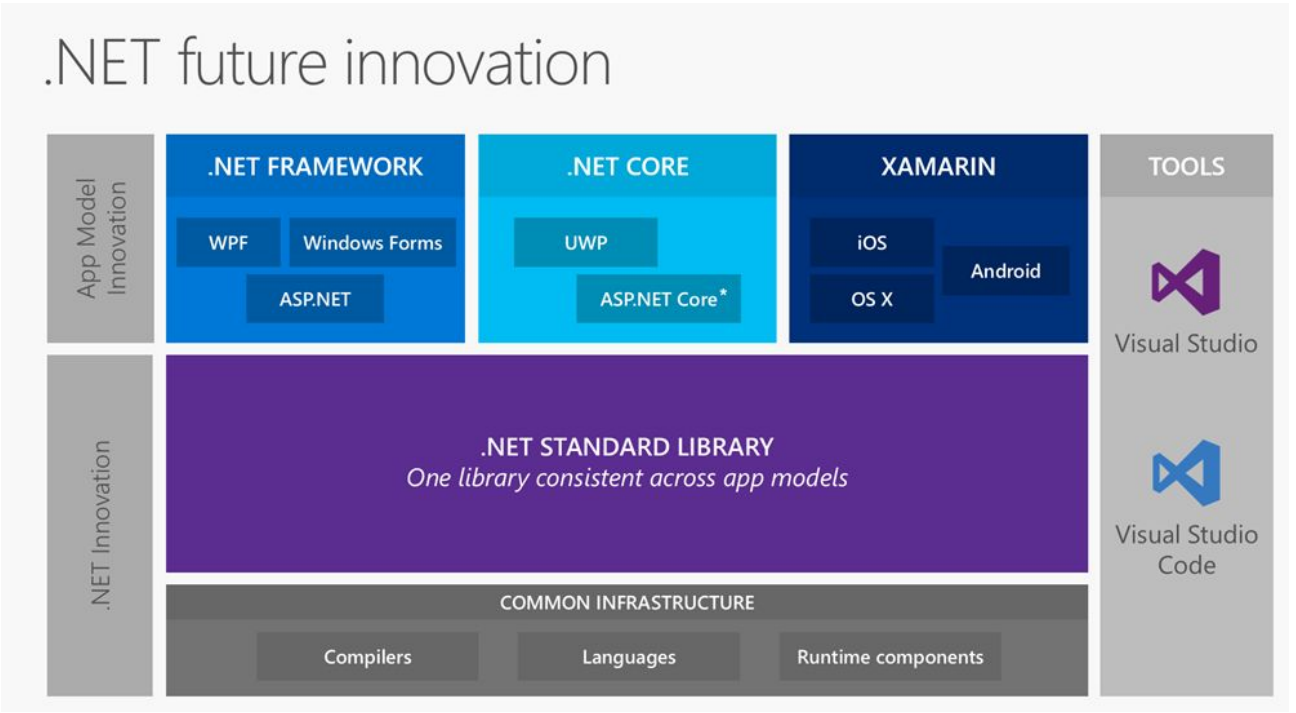


.NET ON LINUX?

- Even though it was a standard, it was only really on windows, there were also big parts of .net that were patent minefields ASP, Winforms, WPF etc.
- Along comes Mono…
  - Cross platform implementation of .net (Linux, Mac etc)
  - Was never as complete as the "real thing" i.e. no WPF
  - For most serious uses not free as in beer
  - Had an ok IDE, but not great, but due to binary compatibility could develop in windows using Visual Studio and run things in Linux without recompiling.
- Microsoft now has loved them enough that they bought them…

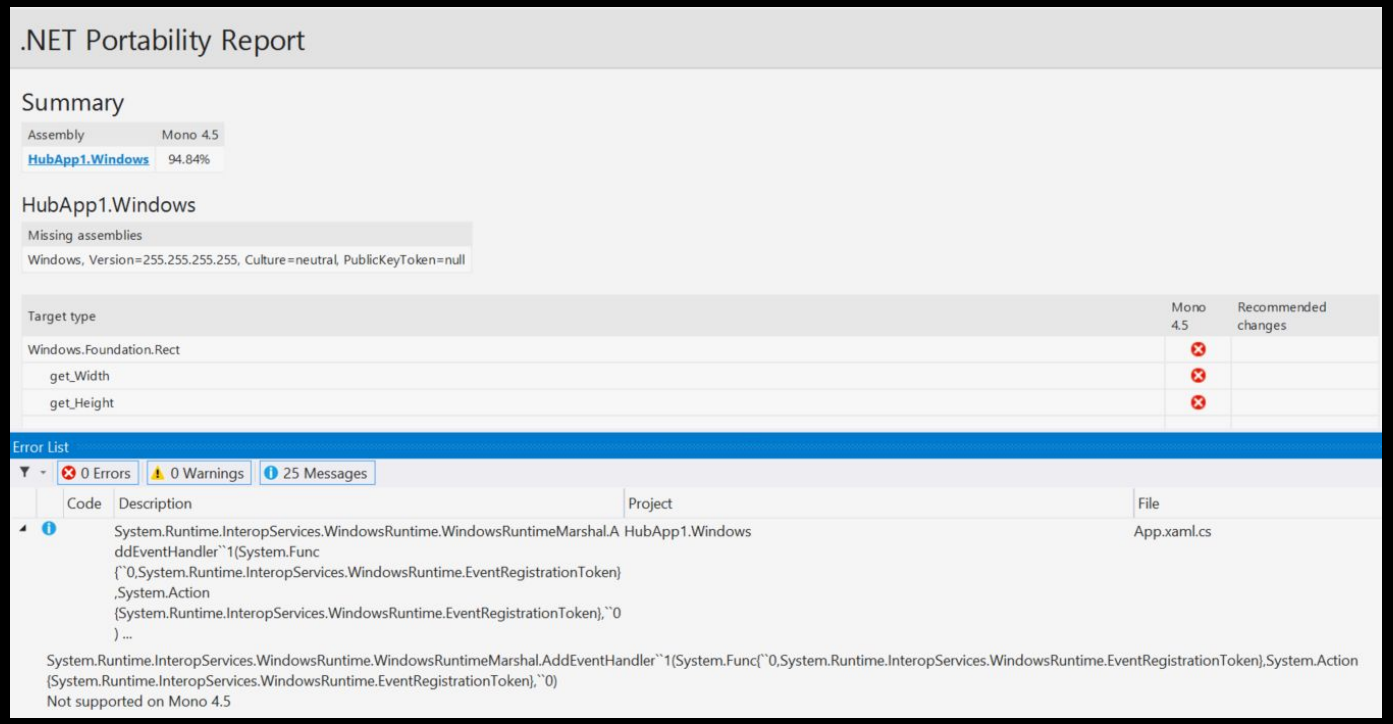
.NET CORE

- Modular development subset across all environments
- Open source and cross platform
- Does not cover everything

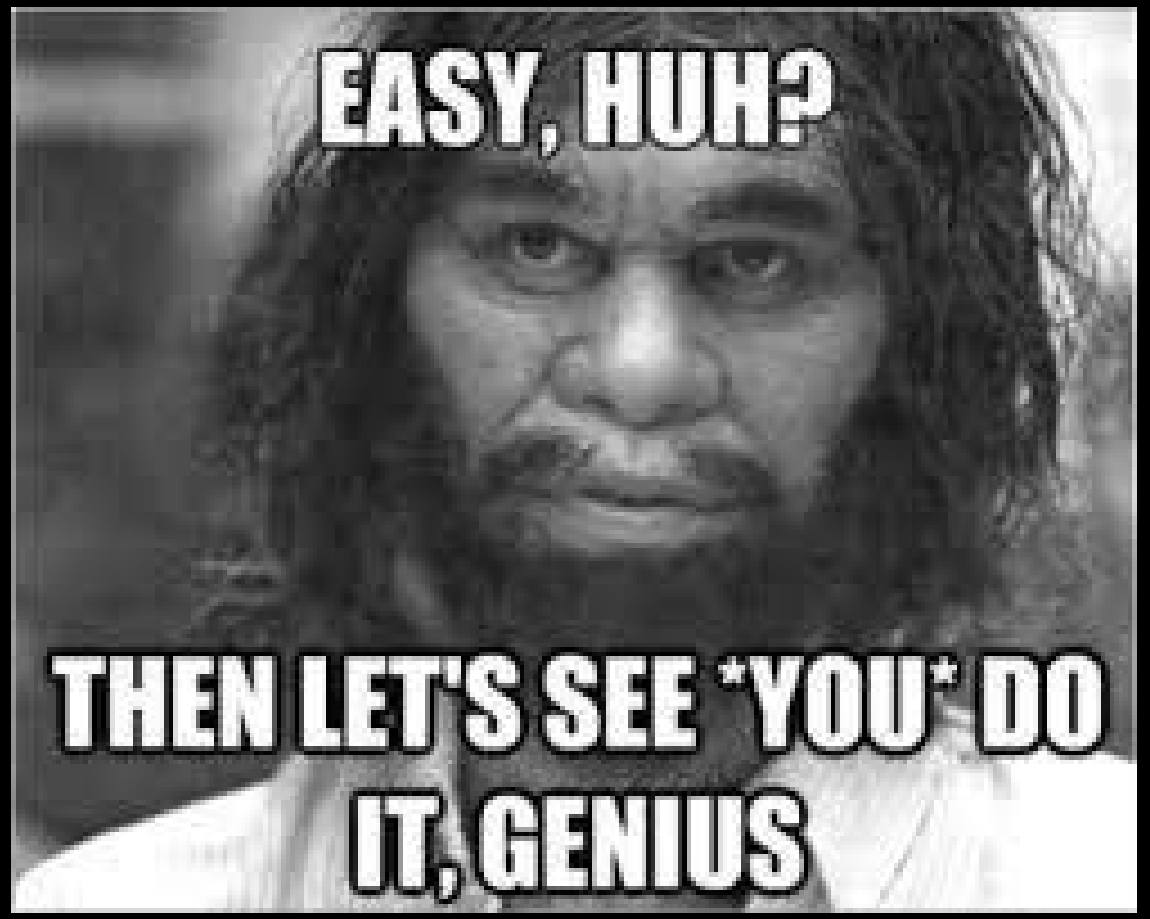


SO HOW CAN I TELL IF MY STUFF IS SUPPORTED?

- Visual studio extension or console application can check your IL (dlls)
- .net portability tool https://github.com/Microsoft/dotnet-apiport/releases
- https://docs.microsoft.com/en-us/dotnet/standard/portability-analyzer
- ApiPort.exe analyze -f . Looks at current directory



HOW TO DO IT IN LINUX?

- VS code as an IDE, an easy install https://code.visualstudio.com/
- Console app “hello world”
  - Really easy… https://docs.microsoft.com/en-us/dotnet/core/tutorials/using-with-xplat-cli
- Webserver
  - Also another Hello world https://docs.microsoft.com/en-us/aspnet/core/getting-started
  - Recommended to place behind reverse proxy https://docs.microsoft.com/en-us/aspnet/core/publishing/linuxproduction
- You can easily set up new projects using Yeoman https://docs.microsoft.com/en-us/aspnet/core/client-side/yeoman

DEMO TIME!