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.NET Micro Framework (MF)

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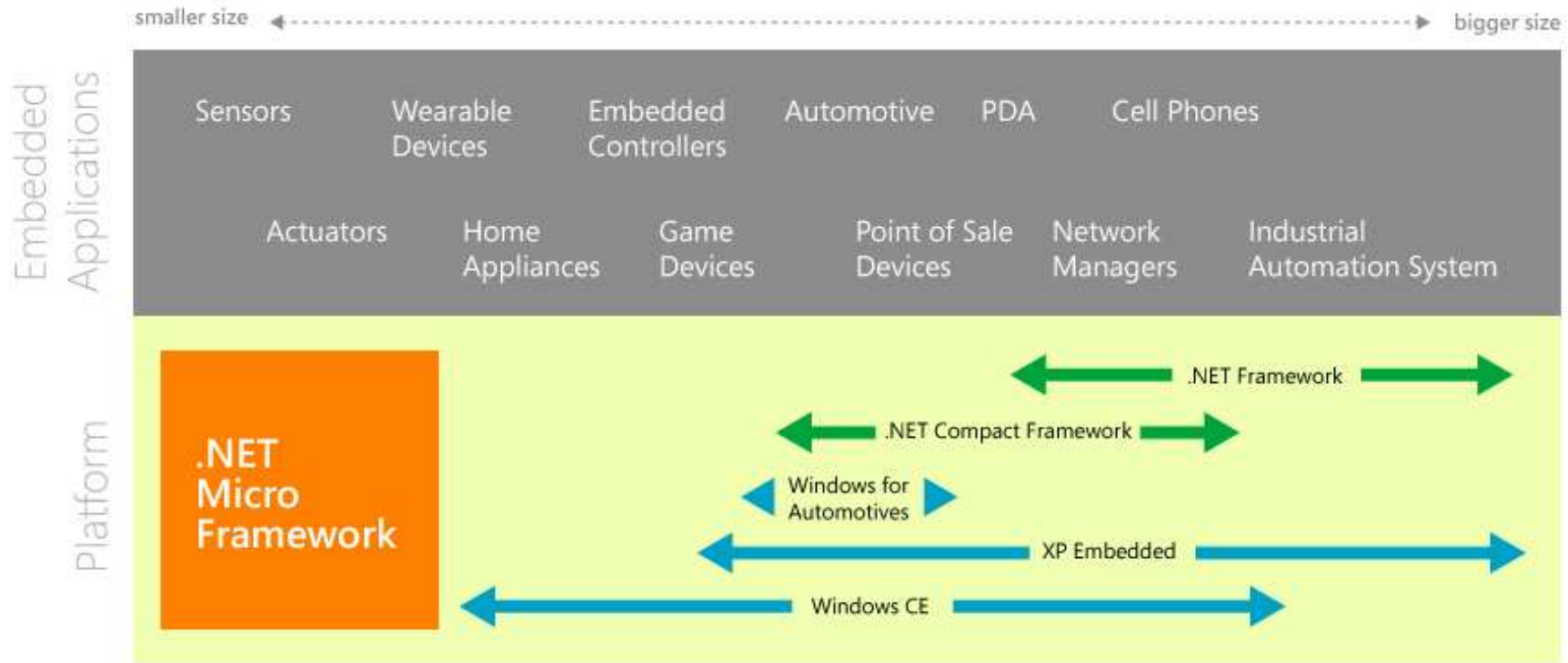
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Windows Embedded

- Windows Embedded CE
 - GPS handhelds, PDAs, Automotives
 - MS Windows Automotive
 - Windows Mobile
- Windows XP Embedded
 - Windows XP Embedded for Point of Service
- .NET Micro Framework

.NET Frameworks and MicroSoft Operating Systems



MF, 2006-2009

ARM7-based processors with 300KB RAM min



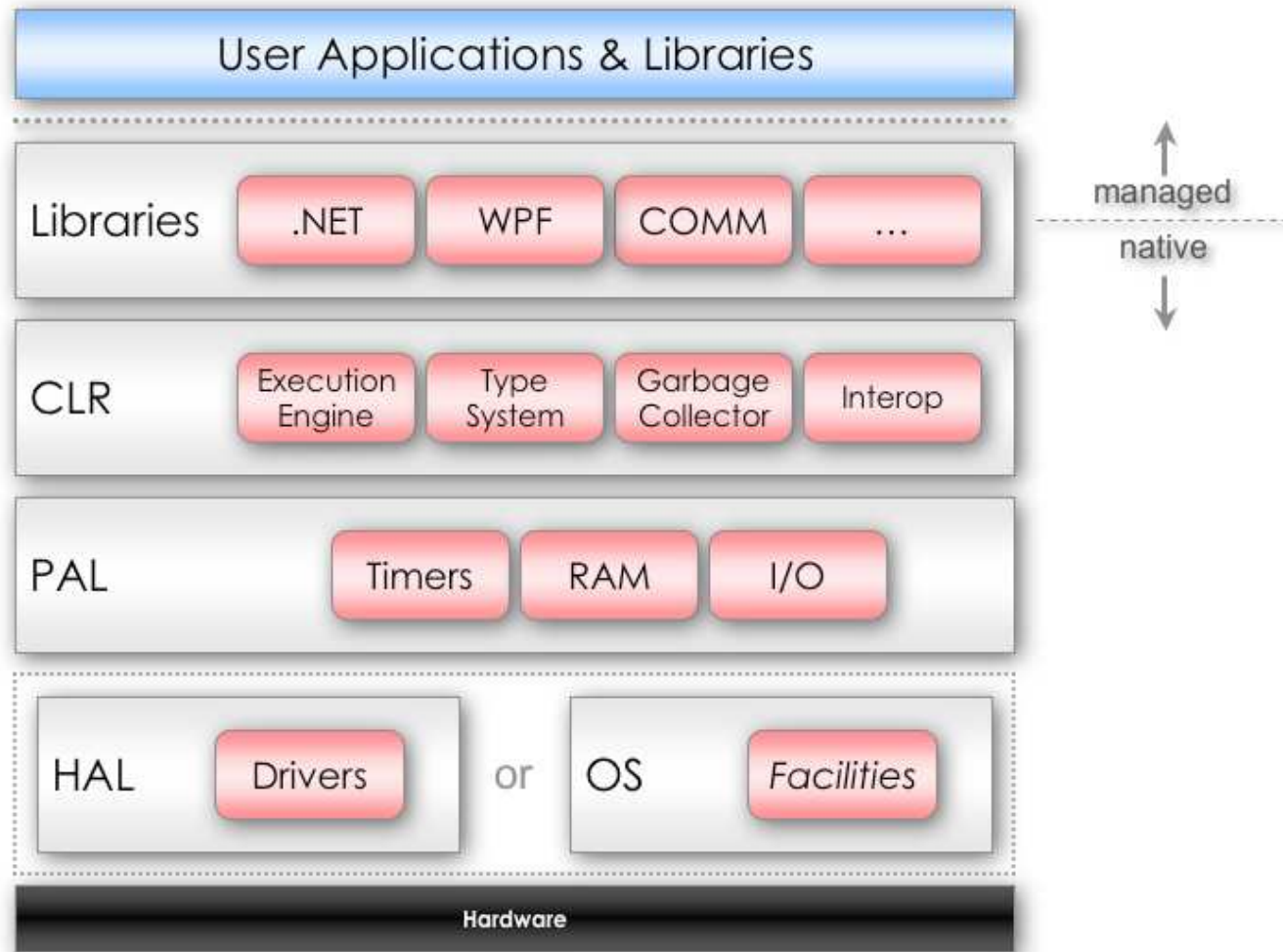
Motivation

- enables the development in C# of very small graphical devices
 - SPOT (Smart Personal Object Technology)
 - Smart Watches for MSN Direct, Windows Vista SideShow ...
- reduces the time-to-market
 - by using the tools used for desktop-side and enterprise-side applications development.
- targets ARM7-based processors with 300KB RAM (and probably ARM Cortex M3)
- More ...
 - http://www.aboutnetmf.com/NET_Micro_Framework_Whitepaper_V_1.0.doc

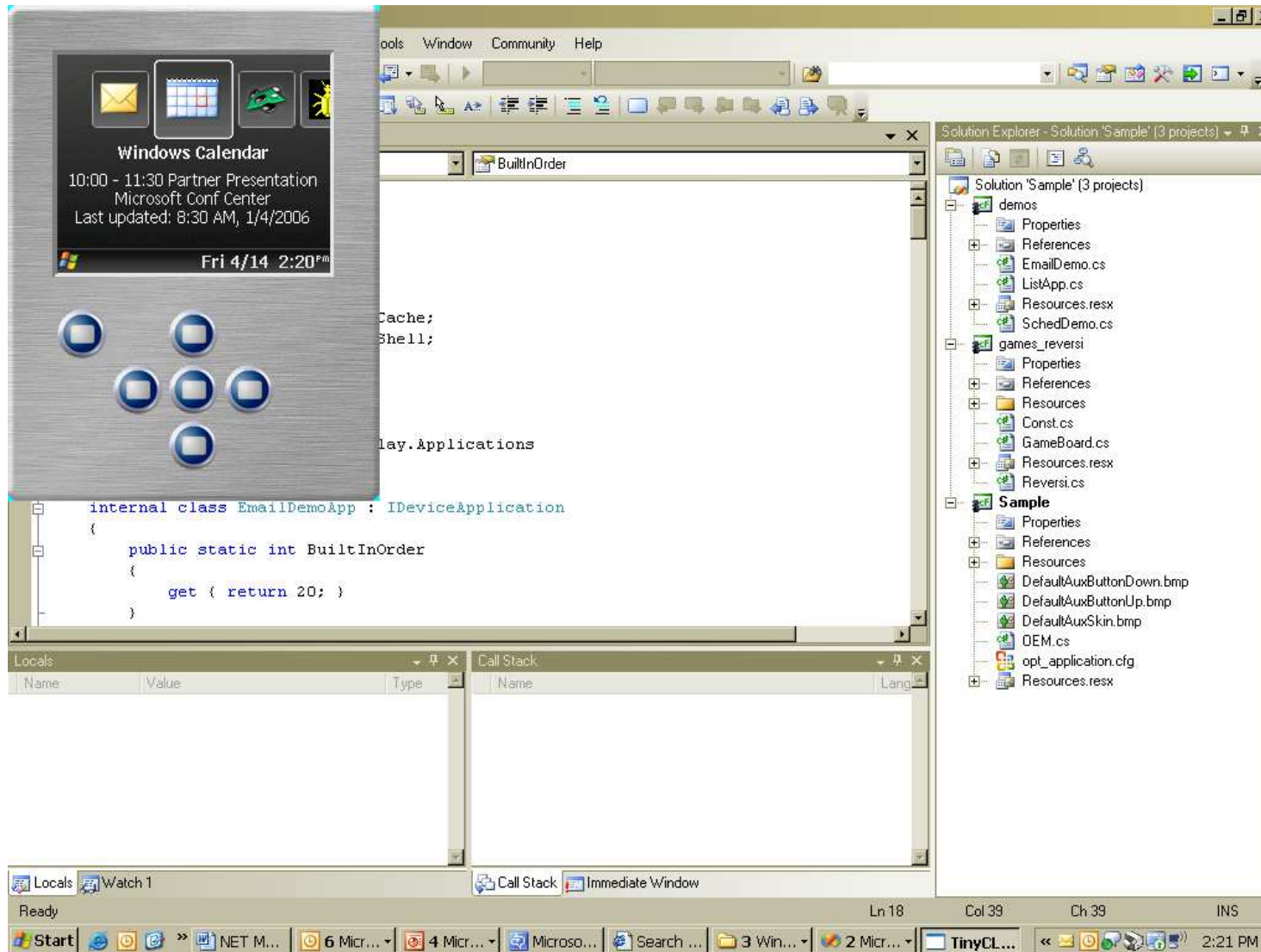
Main features

- Tiny CLR
 - Interpreted → No JIT
- No underlying OS (bare metal)
 - i.e. bootable .NET
- Targets ARM7-based processors
 - No MMU
 - ARM7, ARM 9 and ARM Cortex M3
 - Footprint
 - 120 KB runtime, 250KB RT+Min, 500KB for RT+Max
 - ~70KB RAM

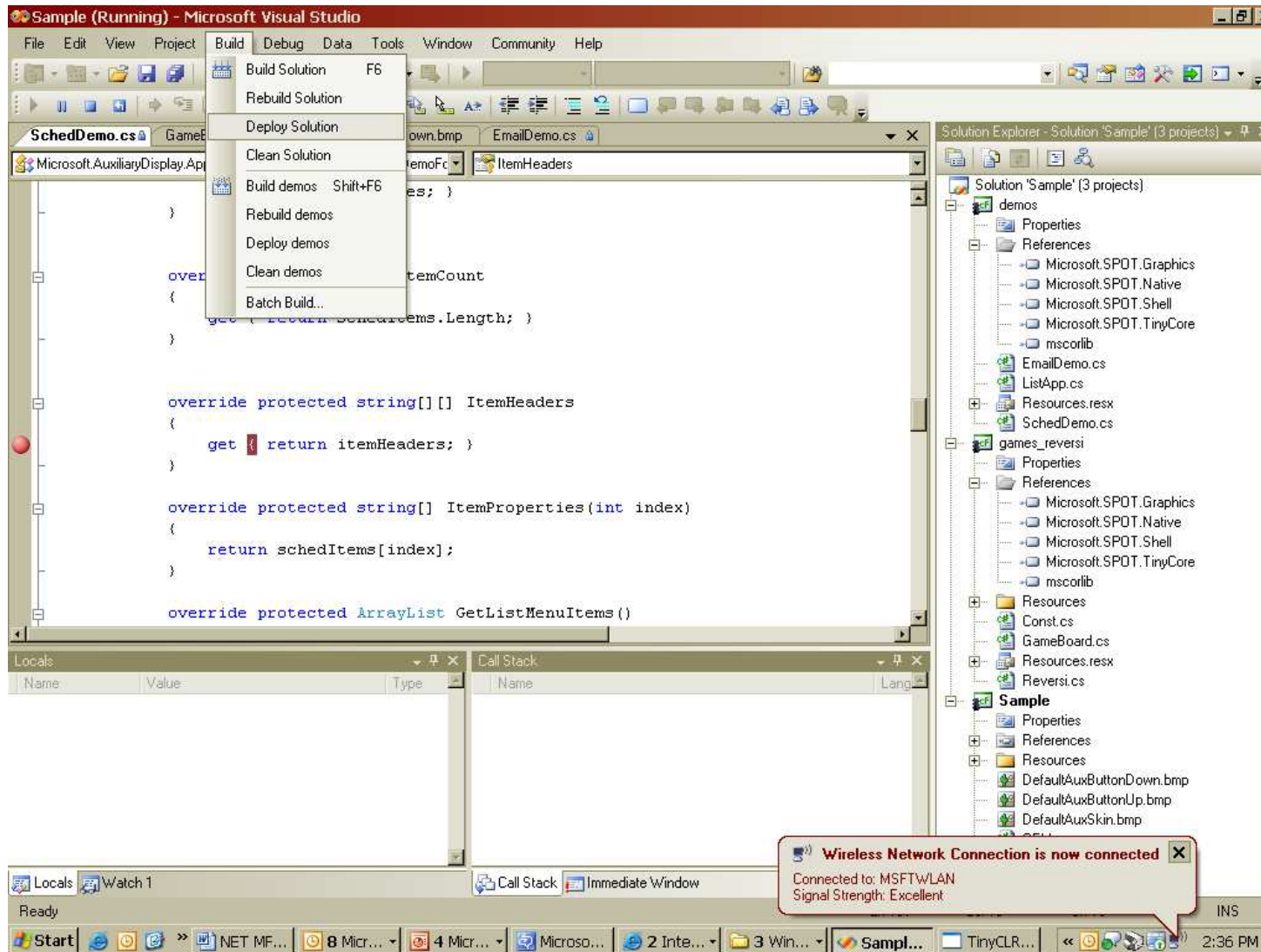
.NET Micro Framework (MF) Architecture



.NET Micro Framework (MF) Visual Studio



.NET Micro Framework (MF) Visual Studio



HW Porting

- PAL : 40-60 APIs
- HAL : 80-100 APIs (~40 KB)
 - Cooperative multitasking

Links

- <http://dotnet.sys-con.com/read/84123.htm>
- <http://msdn.microsoft.com/embedded/nemf>