

State of .NET

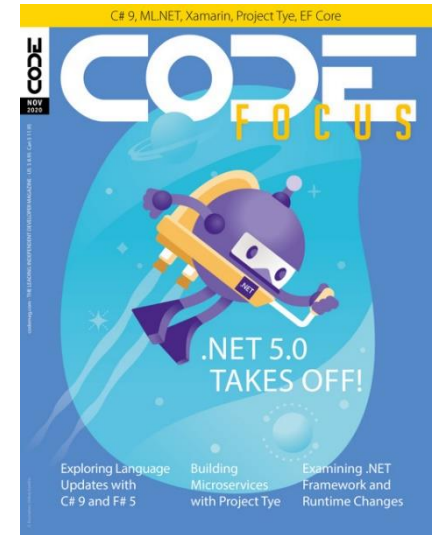
.NET 5 In-Depth (.NET Conf Recap)

Markus Egger
President and Chief Software Architect
CODE Magazine & Consulting

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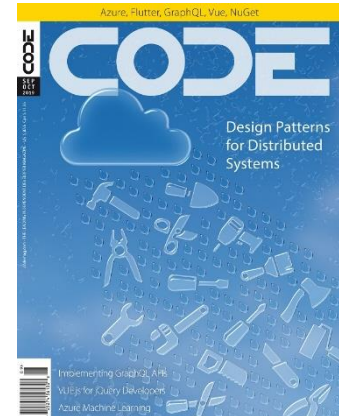
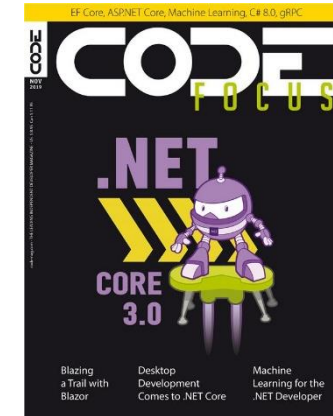
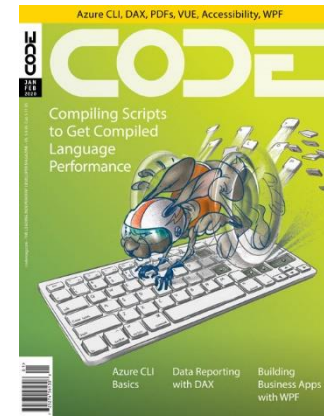
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<https://bit.ly/32VNRmZ>



About the Presenter

- **Markus Egger**
- President and Chief Software Architect
EPS Software Corp. (dba CODE Consulting)
- Publisher – CODE Magazine
- International Author and Speaker
- Microsoft RD (Regional Director)
- Microsoft MVP since 1995
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- Twitter: @markusegger



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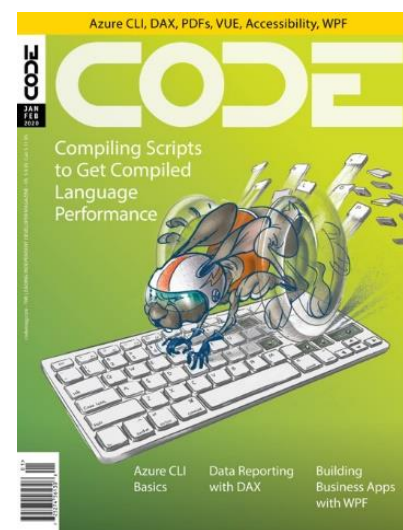
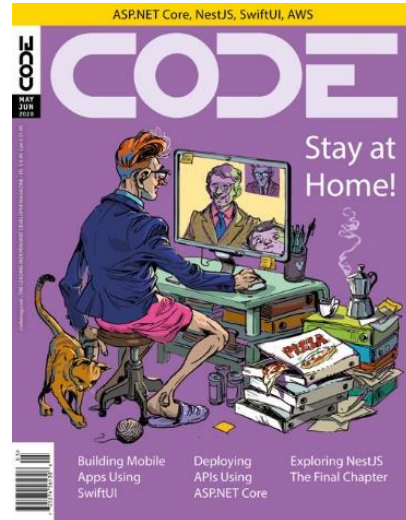
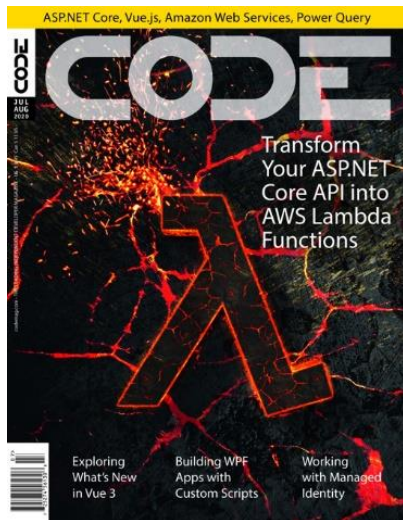
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THIS SLIDE WILL BE REPEATED AT THE END AND SURVEY LINK REPEATED IN THE CHAT WINDOW!

Agenda

- .NET 5 Overview & .Net Conf Recap
- Closer look at some of the features we discussed in last month's State of .NET event
- Desktop Development with .NET 5
- Blazor Development with .NET 5
- API/Service Development with .NET 5
- More code examples than the last time 😊

.NET 5 Overview/Recap

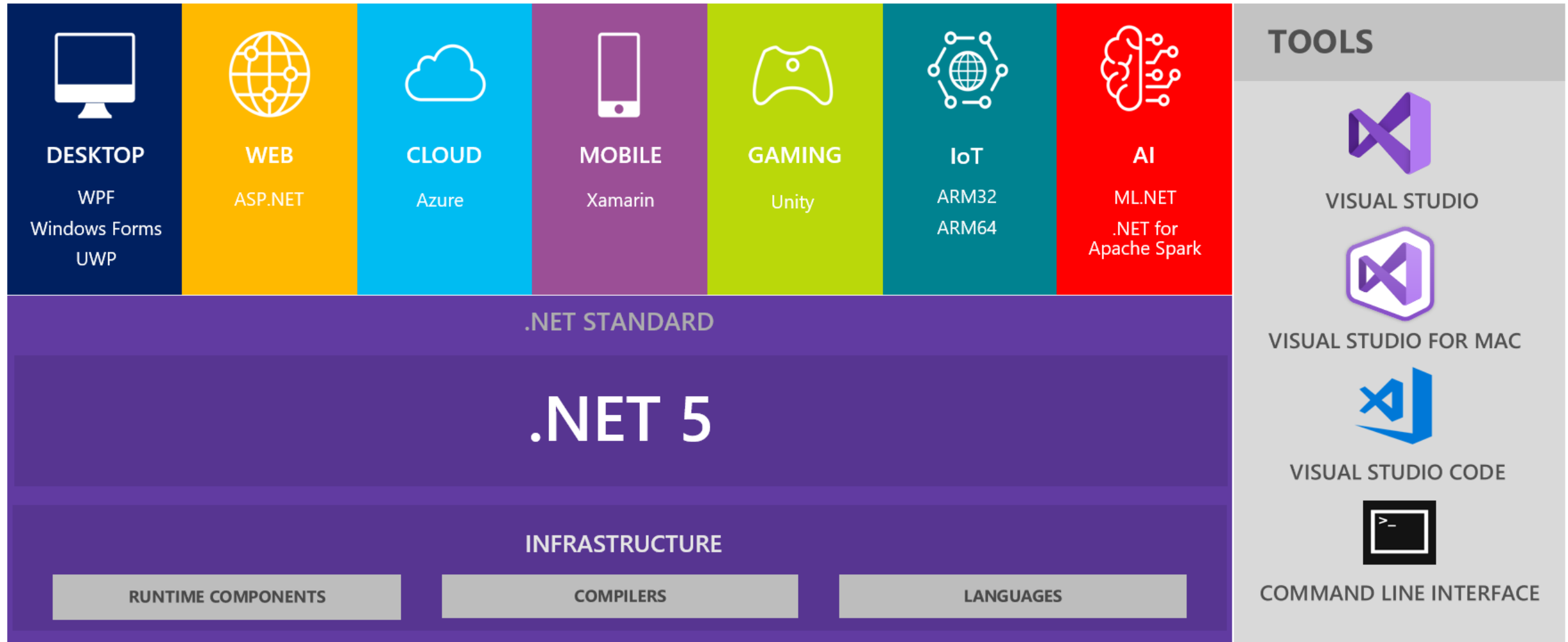
The .NET 5 Vision

One .NET from Desktop, to
Web, Mobile, and Beyond!

The Journey to One .NET

- .NET now looks back at a history lasting two decades...
- ...with many twists and turns
- .NET Framework, .NET Core, Mono, Xamarin, UWP, Silverlight, Windows Phone,...
- Different components, project structures, APIs,...
- .NET 5 is a huge step in the journey towards (re)unifying the .NET platform
- The goal is to get away from worrying about “what runs where” and simply “targeting .NET” with code that runs everywhere

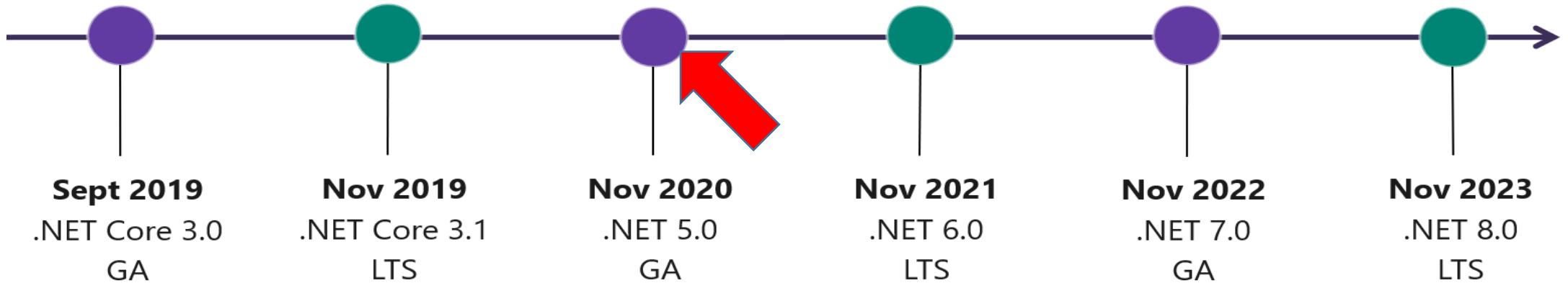
.NET – A unified platform



The .NET 5 Platform

- .NET 5 represents a shared code base for .NET Core, Mono, Xamarin, and future .NET implementations
- Instead of targeting "netstandard", we now target "net5.0" (TFM = Target Framework)
- For platform specific projects, we will target things like "net5.0-windows"
 - In .NET 6, targets for things like "net6.0-ios" and "net6.0-android" will be added
- "net5.0" can be thought of as the next ".NET Standard" version

.NET Timeline/Roadmap



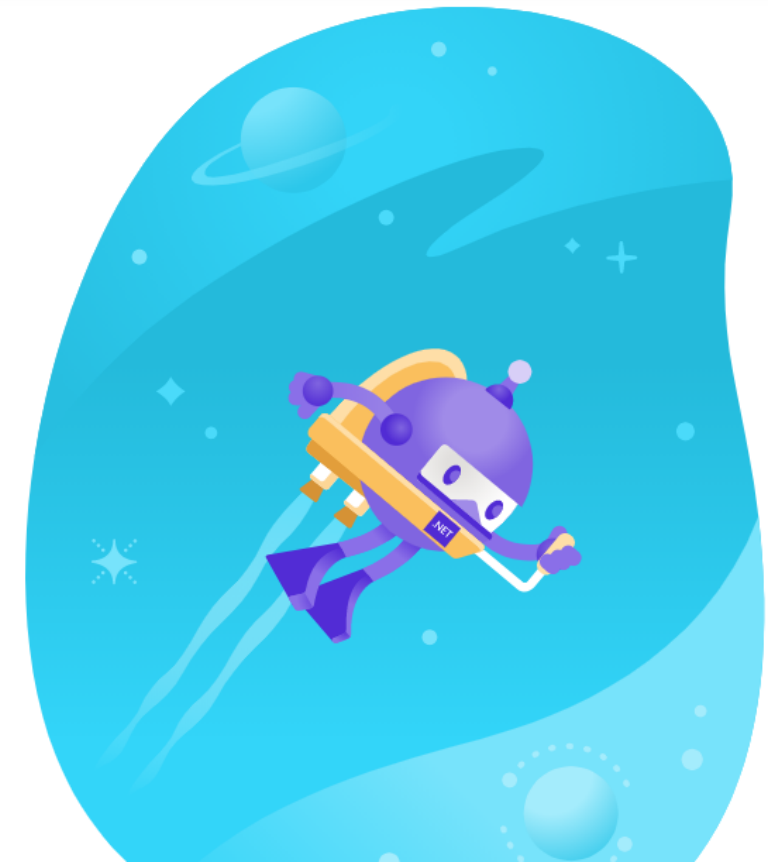
- .NET 5 Release: November 10th, 2020
- Annual, predictable releases (started a year ago with .NET Core 3.1)
- Minor Releases if needed

.NET Conf 2020 - Recap

- <https://www.dotnetconf.net/>
- November 10 - 12
- CODE Magazine – Sponsor & Presenting
- Session recordings are available

.NET Conf 2020

November 10-12



CODE Focus Magazine: .NET 5

- We released a CODE Focus issue on .NET 5
- Great source of free information
- Produced in conjunction with Microsoft
- All CODE Magazine subscribers get this special issue for free
- Free online content at www.codemag.com/focus
- Get a free subscription at: www.codemag.com/subscribe/CF2020



Visual Studio 2019 - Preview

- Minimum requirement is VS 2019 v16.8
- To use .NET 5, download the Visual Studio 2019 Preview version
- <https://visualstudio.microsoft.com/vs/preview>

Desktop Development

Windows Development

- WPF and Windows Forms supported as first-class citizens in .NET 5
- Improved Designer Support (both WinForms and XAML)
- Improved ClickOnce Support
- Single-file deployment

Converting Full Framework Projects

- WinForms and WPF projects created on the full framework are not 100% compatible, but they are usually pretty close
- There now is a new conversion tool that attempts automatic conversion to .NET 5
 - <https://github.com/dotnet/try-convert/releases>
 - `dotnet tool install -g try-convert`

Single File Applications

- .NET 5 aims to re-introduce the experience of publishing small, self-contained version of applications
 - Across all .NET application formats (Windows, Web,...)
 - Across all the platforms (Windows, Mac, Linux)
- Required Framework components are included in the deployment
- True xcopy-enabled, single-file executables
- Assembly Trimming
- .NET 5 has come a long way for this

WinUI 3

- Continuation of WinRT, XAML Islands,...
- Windows 10 only
- Currently available as a preview



Visual Basic Support

- Yes! You can now move your Visual Basic Desktop Apps to .NET 5!

Desktop Development with VS Code

- You can use Visual Studio Code for desktop development
- As always, VS Code only edits code
- There is no designer support in VS Code
- Code editing performance still makes this a valuable additional option

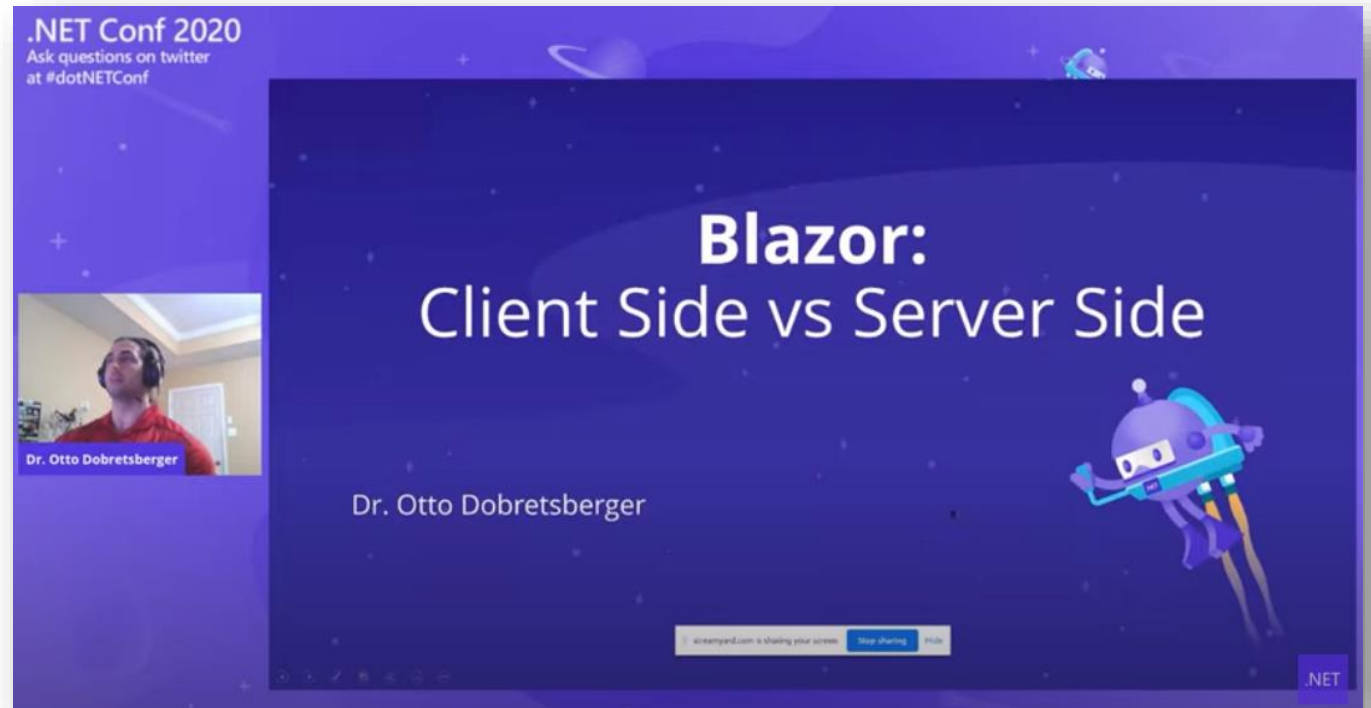
Web Development

Blazor Updates in .NET 5

- Move to the new .NET 5 runtime (away from Mono)
- Significant Performance Improvements
 - Computational performance up to 30% faster
 - Component rendering 2-4x faster
- Virtualization support
 - Virtualize component rather than foreach-loops
- Prerendering for performance and search optimization
- CSS Isolation
- Lazy Loading of assemblies

Our Blazor Talk at .NET Conf

- Our own Dr. Otto Dobretsberger delivered a Blazor talk at .NET Conf
- <https://youtu.be/-FDQX1jmj64>



API Development

API Development in .NET 5

- .NET 5 enhances the overall experience of API development
- Built-in support for Swagger/OpenAPI
- New tool: HttpRepl
- Project Tye

Other Important Topics

Odds and Ends

- C# 9.0 has some significant updates in addition to the usual incremental changes
 - My personal favorite: records
- F# 5
- EF Core 5 (Entity Framework)
- Xamarin (and Maui)
- Azure Tooling

Other Announcements

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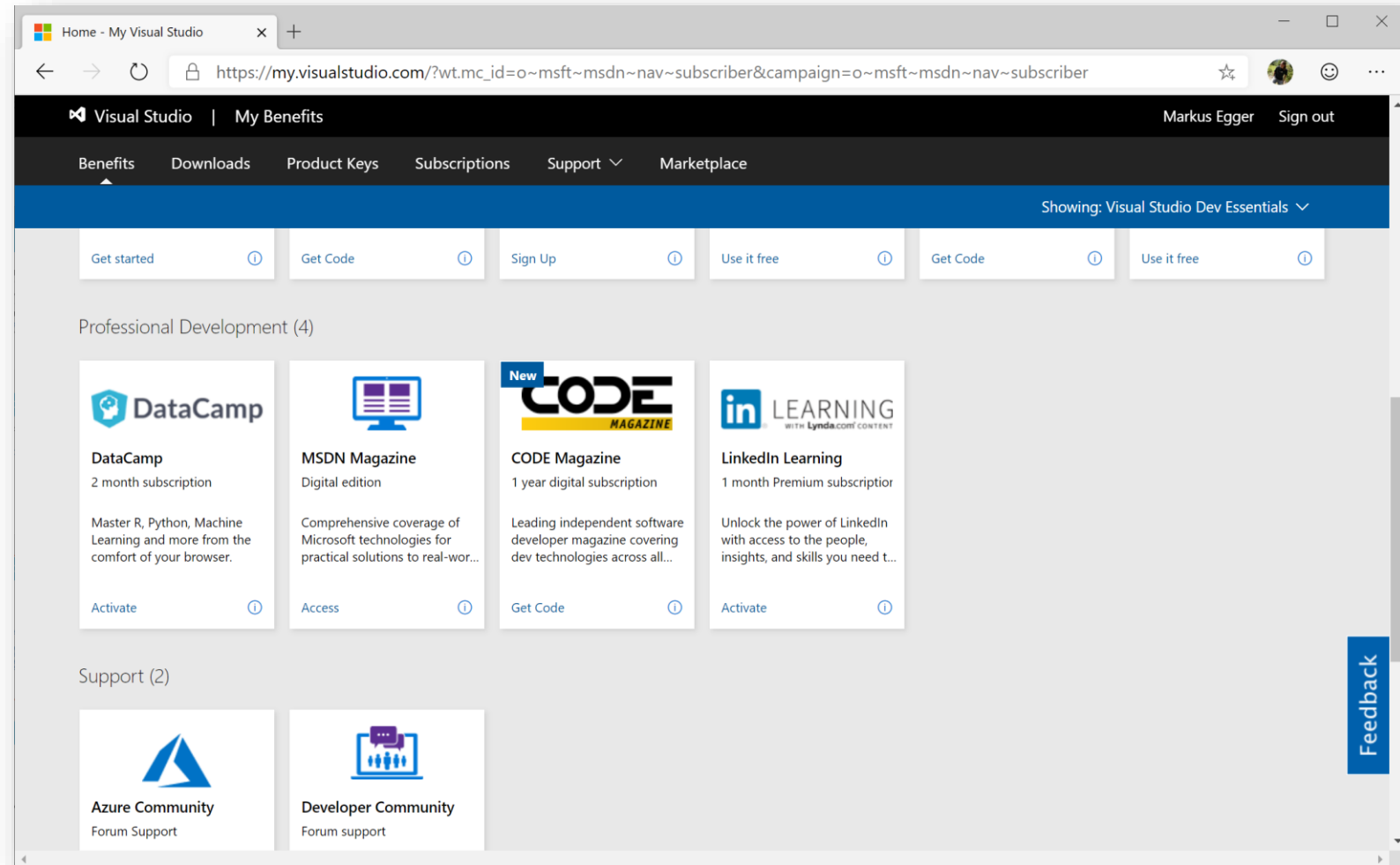
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