

Resumen Net Conf 2020



Fernando Sonego
Solution Architect in Algeiba



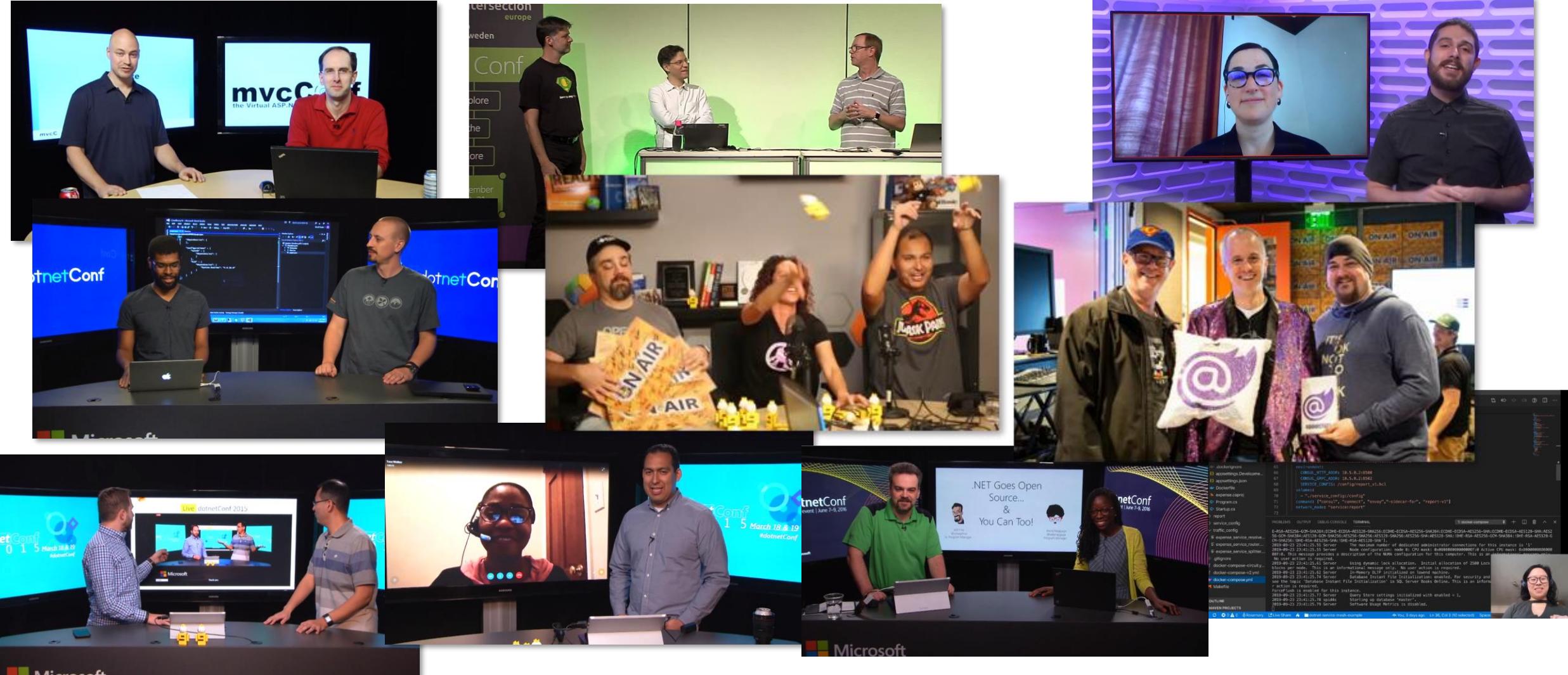
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10th anniversary .NET Conf!



RELEASED

.NET 5 General Availability

- Single file applications & smaller container images
- Web and cloud investments
- Windows desktop development enhancements
- Windows ARM64 support
- Continued performance improvements
- New C# 9.0, F# 5.0 language features



<https://bit.ly/net5lan>

.NET ecosystem momentum

2M

.NET Core developers

in Visual Studio family

Top 5

Language on GitHub

C#



#1

Most loved framework (2019 & 2020)

.NET Core



#1

TechEmpower Benchmarks

ASP.NET Core



Top 30

Highest velocity OSS projects

github.com/dotnet
github.com/aspnet



40%

New to .NET are students

www.dot.net download survey

.NET adoption

**5 million
.NET developers**

Monthly active developers in Visual Studio Family

WinForms & WPF
on .NET Core

200K

Windows developers migrated to .NET Core

.NET Core

230K

First time .NET developers in September 2020

.NET on Linux

2 million

Publishes per month to Linux from Visual Studio

#1

TechEmpower Performance Benchmarks Round 19

ASP.NET Core 3.1

Best plaintext responses per second, Dell R440 Xeon Gold + 10 GbE (405 tests)								
Rnk	Framework	Best performance (higher is better)			Errors	Cls	Lng	Plt
1	aspcore-rhtx	7,342,403		100.0%	0	Plt	C#	.NE
2	pico.v	7,341,390		100.0%	0	Mcr	v	Non
3	aspcore	7,338,517		99.9%	0	Plt	C#	.NE
4	actix-raw	7,322,463		99.7%	0	Plt	Rus	Non
5	ulib-plaintext_fit	7,018,072		95.6%	0	Plt	C++	Non
6	cinatra	7,011,094		95.5%	8	Ful	C++	Non
7	ulib	7,010,858		95.5%	0	Plt	C++	Non
8	firenio-http-lite	7,009,412		95.5%	0	Plt	Jav	fir
9	wizzardo-http	7,004,946		95.4%	0	Mcr	Jav	Non
10	gnet	7,002,640		95.4%	0	Plt	Go	Non



.NET 5 performance improvements

TechEmpower benchmarks round 20 predicted perf increases for .NET 5 over .NET Core 3.1

+38%

11,712,405 RPS

Plaintext

+42%

1,243,436 RPS

Json

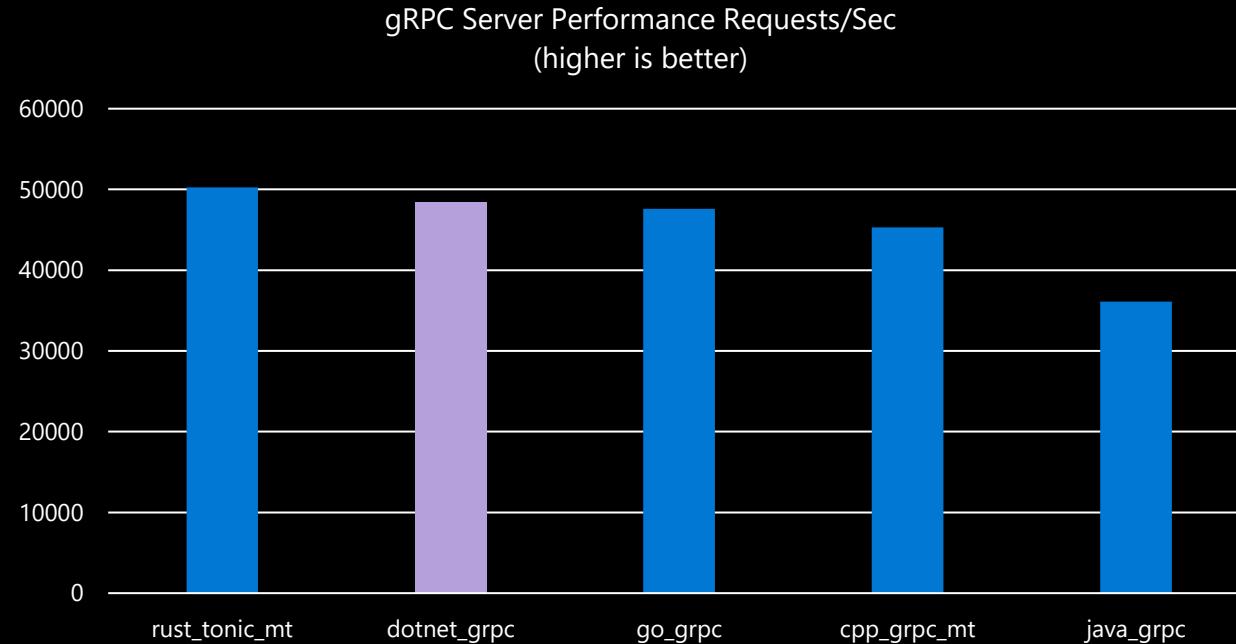
+20%

417,818 RPS

Fortunes

.NET 5 performance improvements

- +30% socket performance improvement on Linux over .NET Core 3.1
- JSON serialization performance improved +19% over .NET Core 3.1¹
- Serialization of large collections & arrays improved 3x and are now zero-alloc
- gRPC server performance exceeds Go, C++ and Java²



¹ All 104 JSON serialization benchmarks improved

² https://github.com/LesnyRumcajs/grpc_bench/wiki/2020-08-11-bench-results

Windows desktop development



Windows desktop apps on .NET 5

- Complete development experience
 - Windows Forms & WPF designers
 - Visual Studio tooling
 - ClickOnce Installer support
 - Third-party tools & controls
- All the benefits of .NET 5
 - Self contained, single file EXEs
 - No need for .NET Framework on machine
 - Best performance
 - Modern controls like WebView2



Mobile development



Xamarin.Forms 5

- Beautiful Design with Brushes, Shapes, and Paths
- Control templating for native controls
- Improved XAML experience in Visual Studio
- Hot Reload 2.0
- Develop iOS apps on Windows



Visual Studio



RELEASED

Visual Studio 2019 16.8 GA and 16.9 Preview

- .NET 5.0 included
- .NET productivity enhancements
- Intellisense team completions
- New Git experience
- Linux debugging
- Improved XAML experience
- GitHub Actions in Visual Studio



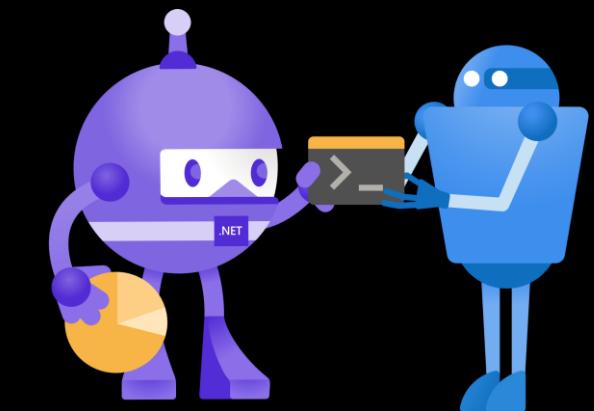
visualstudio.com/download
aka.ms/vs-preview

Web & cloud development



Full stack .NET web apps with Blazor in .NET 5

- Supports Blazor Server & Blazor WebAssembly
- Blazor WebAssembly enhancements
 - Now uses .NET 5 core framework libraries
 - 3X faster than previous release
 - Supports server-side prerendering & lazy loading dependencies
- Component virtualization
- CSS & JavaScript isolation
- New components
- Growing ecosystem of third-party & OSS controls and tools



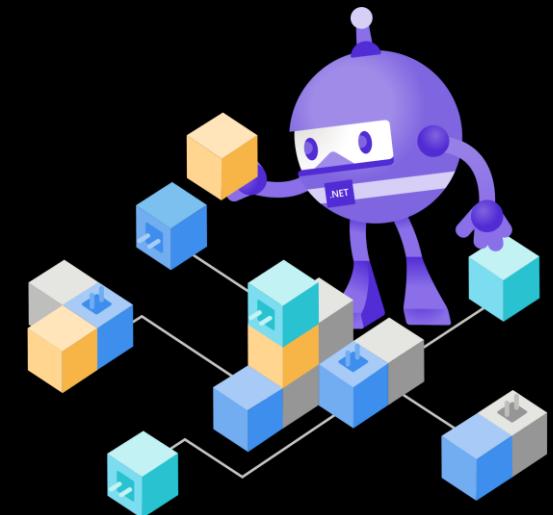
Cloud native investments

- REST API's
 - OpenAPI
 - API REPL
 - Client generation
 - Publish to Azure API Management (APIM)
- gRPC contract-based API's
 - Generate client & server from proto file
 - World class performance



Cloud native investments

- Smaller, faster microservices
 - Smaller container images
 - Single file apps
 - Top-level C# programs
- Project Tye tools
 - Build, debug and deploy microservices quickly
- Cross-platform development with WSL and Linux
- High-performance reverse proxy (YARP)



Project Tye in .NET 5

Build, debug and deploy microservices faster

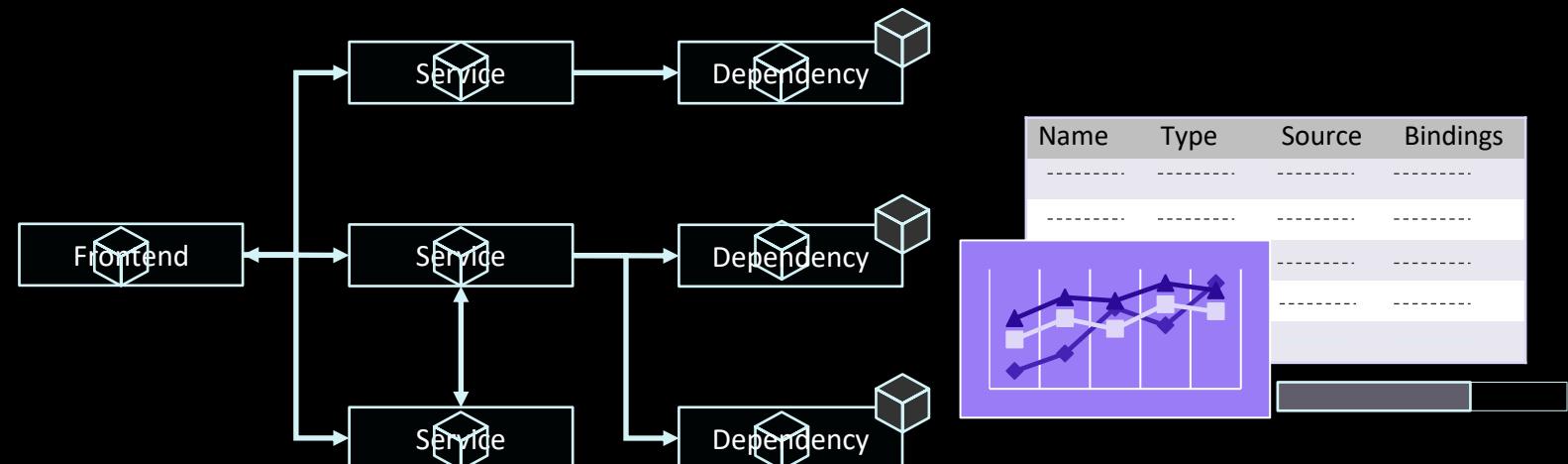
Service discovery via configuration conventions

Add dependencies (Redis, SQL Server, etc.) without writing docker files

Run and debug locally using containers and Kubernetes

Local dashboard for metrics, logging, debugging

Automatically dockerize and deploy to Azure Kubernetes Service



¿Que se viene?



One .NET vision – .NET 5 to 6 "wave"

.NET Framework

Single SDK, one BCL, unified toolchain

.NET

Cross-platform native UI

Mono / Xamarin

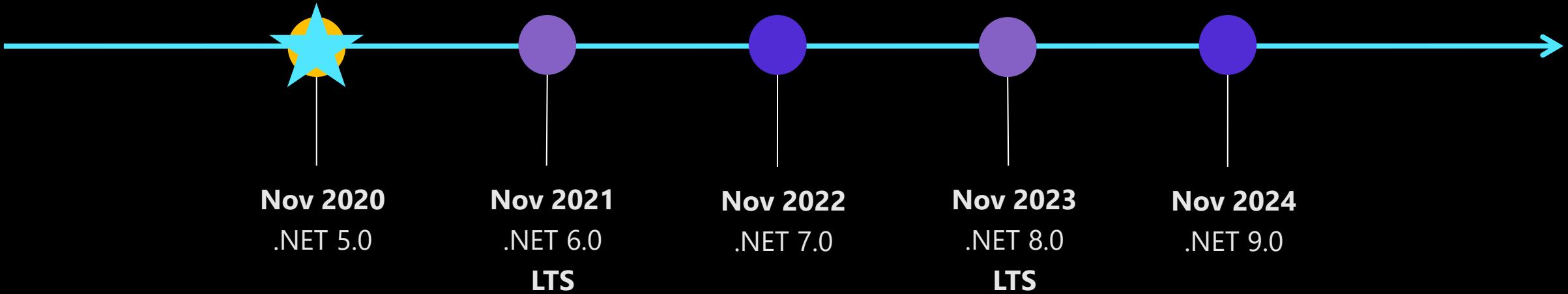
Cross-platform web UI

Cloud native investments

Continue improvements in speed, size, diagnostics, Azure services

.NET has the best of breed solutions for all modern workloads

.NET Schedule



- .NET 5.0 released today!
- Major releases every year in November
- LTS for even numbered releases
- Predictable schedule, minor releases as needed

Resumen Net Conf 2020

Jueves, 26 de noviembre 2020



Gracias!

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