



What is new in .NET 6 and the future of .NET

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Passionate Developer & Microsoft MVP



Update Conference
Prague 2021

Here's Johnny

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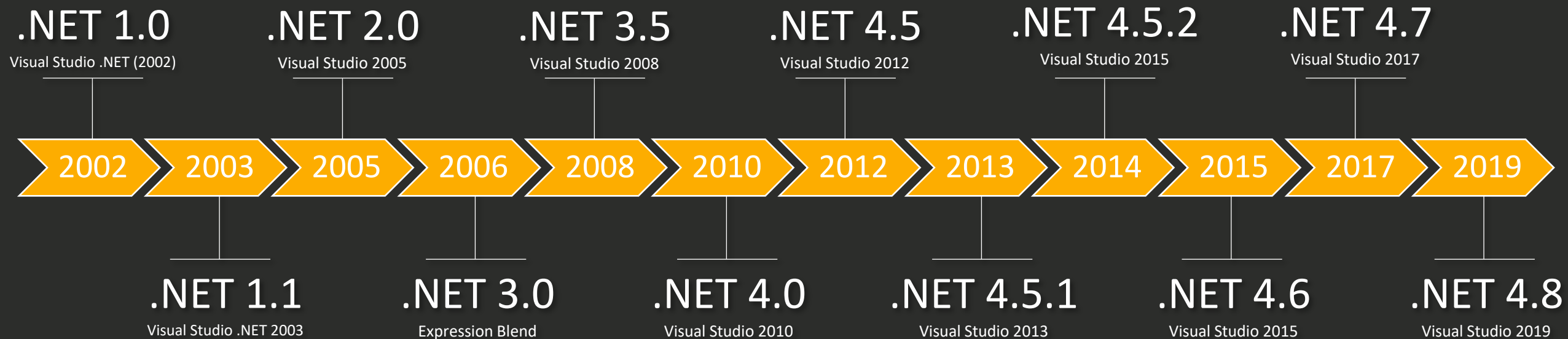
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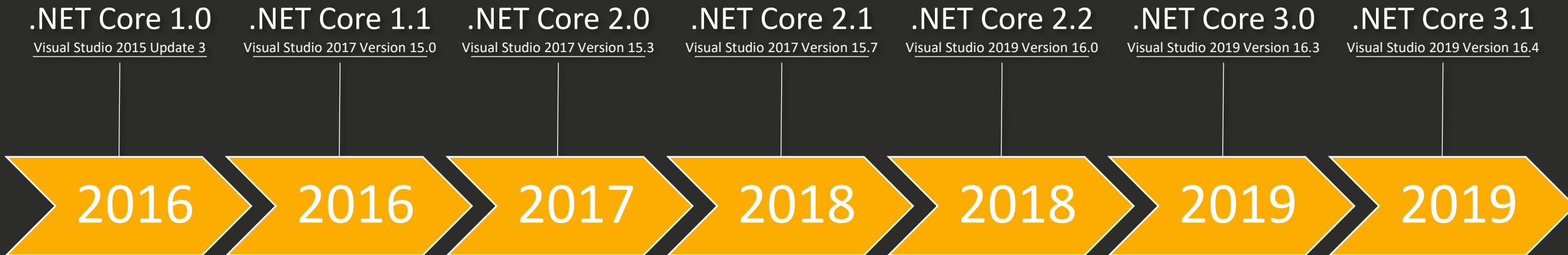
.NET Framework: a quick history



.NET Framework: support

.NET Framework 4.8	...
.NET Framework 4.7/4.7.1/4.7.2	...
.NET Framework 4.6.2	...
.NET Framework 4.5.2/4.6/4.6.1	April 26, 2022
.NET Framework 4.0/4.5/4.5.1	January 12, 2016
.NET Framework 3.5 SP1	January 9, 2029
.NET Framework 2.0/3.0	July 12, 2011

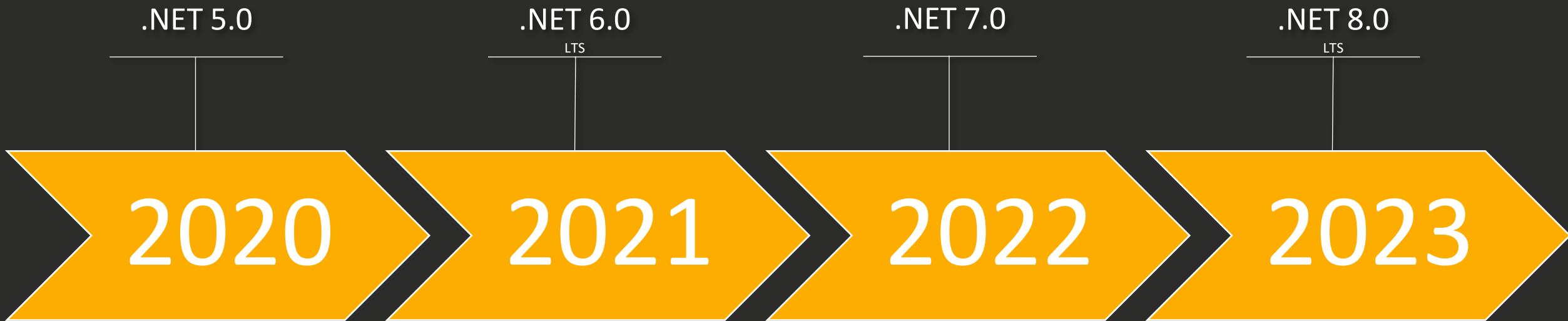
.NET Core: a quick history



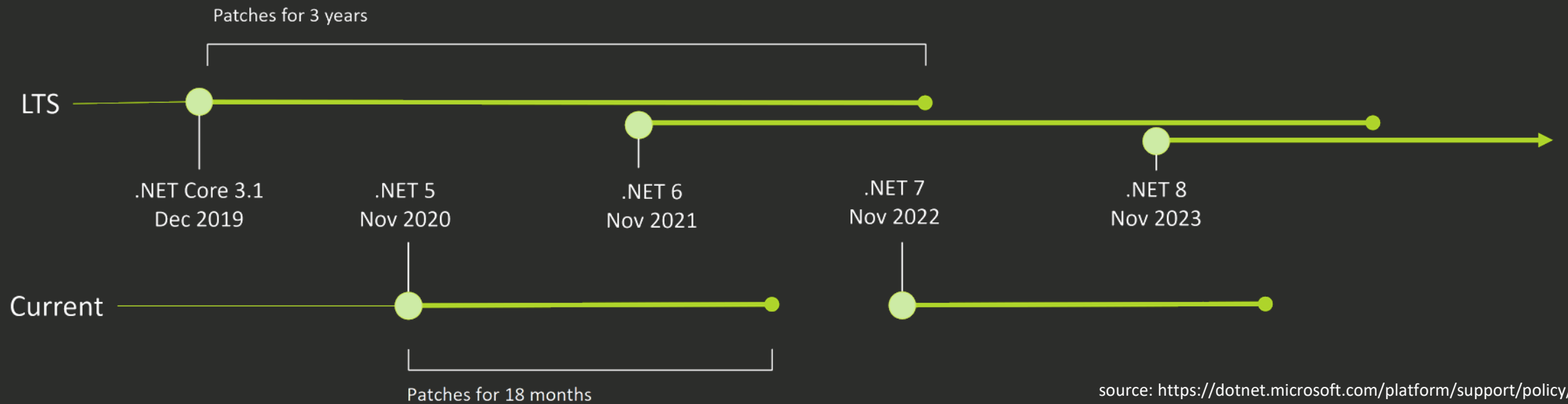
.NET Core: support

.NET Core 1.0	June 27, 2019
.NET Core 1.1	June 27, 2019
.NET Core 2.0	October 1, 2018
(LTS) .NET Core 2.1	August 21, 2021
.NET Core 2.2	December 23, 2019
.NET Core 3.0	March 3, 2020
(LTS) .NET Core 3.1	December 3, 2022

.NET: what about the future?



.NET: support





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0 – Performance and architecture

Runtime

JIT compiler

AoT compilation

Tiered compilation

Profile-guided optimization

Platform intrinsics

Source generators

1 – Single SDK Experience

Single CLI

dotnet new and workloads

Target framework names (TFM)

“net5.0” replaces and combines “netcoreapp” and “netstandard”

“net5.0-windows” is OS-specific and includes OS-specific bindings

“net6.0-android”, “net6.0-ios”, “net6.0-maccatalyst”

Hot reload using “dotnet watch”

Support for Azure Function Apps

2 – Deployment features

Default Executable

Runtime Identifiers

Single File Executable

Assembly Linking

3 – Modernized Templates

Console Application

ASP.NET Empty

ASP.NET MVC

Worker Service

gRPC Service

WinForms

WPF

4 – .NET BCL & C# 10 features

(C# 10) record structs, readonly record structs (and record classes)

(C# 10) Global usings

(C# 10) File-scoped namespaces

(C# 10) const and interpolated strings

(.NET SDK) Implicit usings

(.NET SDK) Nullable

(BCL) DateOnly and TimeOnly

(BCL) ArgumentNullException

(BCL) PriorityQueue

(BCL) PeriodicTimer

(BCL) Parallel.ForEachAsync

5 – New JSON features

System.Text.Json

Performance

Source Generators

IAsyncEnumerable

DOM

6 – Linq features

Support for Indices and Ranges

OrDefault with customizable defaults

MaxBy, MinBy

DistinctBy, UnionBy, IntersectBy, ExceptBy

Chunk

TryGetNonEnumeratedCount

7 – Async Dependency Injection

`IAsyncDisposable` and `DisposeAsync`

`CreateAsyncScope`

8 – Source Generators

ASP.NET

gRPC

System.Text.Json

Write your own...

9 – HW Intrinsic and NativeMemory

...

Thank you!



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<https://github.com/Djohnnie/DotNet6-UpdateConference-2021>



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Thank you!

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