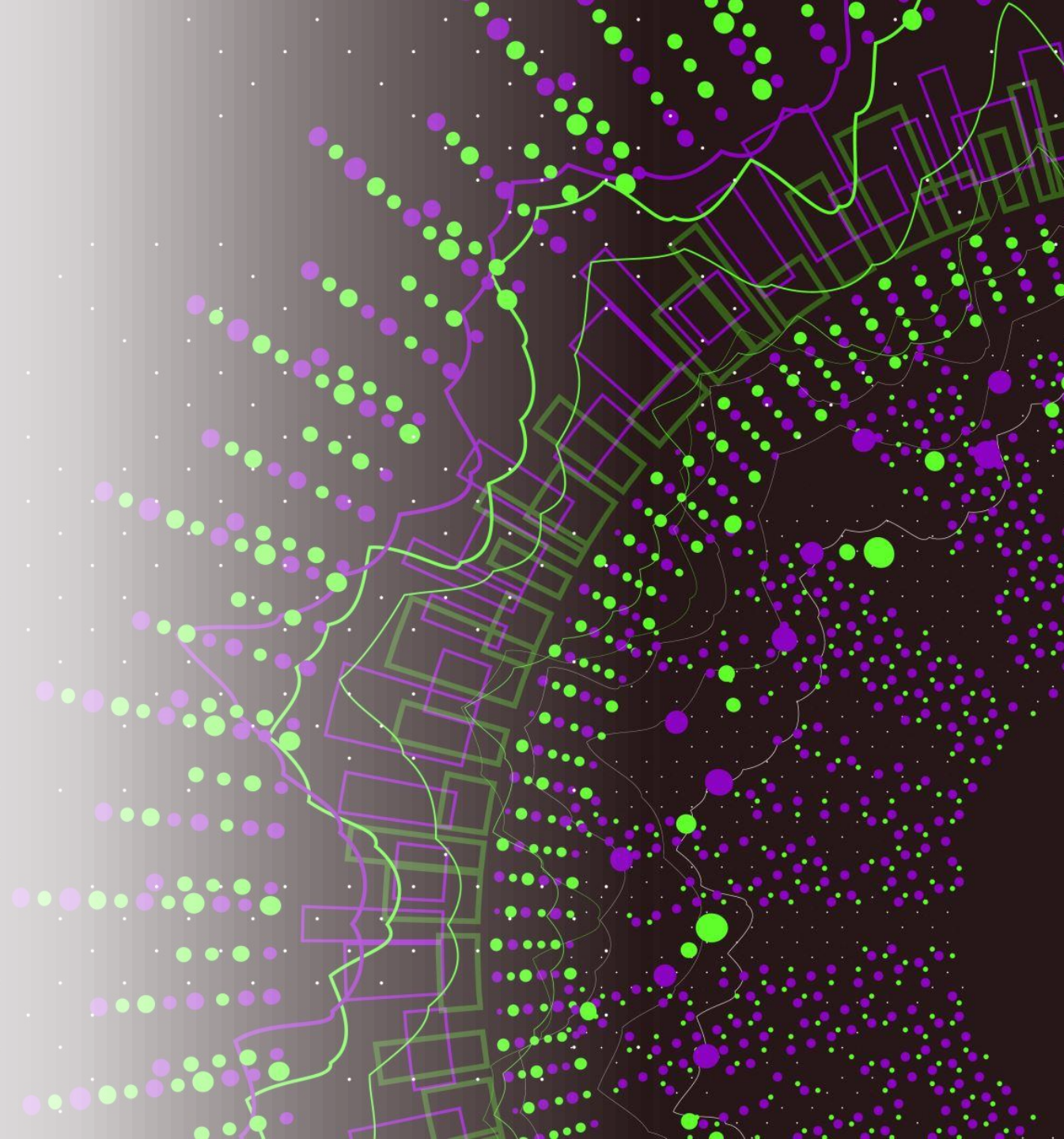




.NET 8 is here!

<https://www.cninnovation.com>

<https://csharp.christiannagel.com>






Professional

C# and .NET 2021 Edition

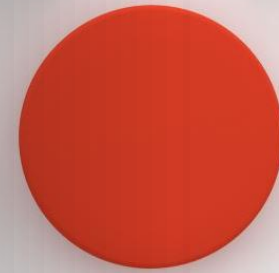
Christian Nagel

Christian Nagel

- Training
 - Coaching
 - Coding
 - Writing
-
- www.cninnovation.com
 - csharp.christiannagel.com
 - [@christiannagel](https://twitter.com/christiannagel)
 - Microsoft MVP

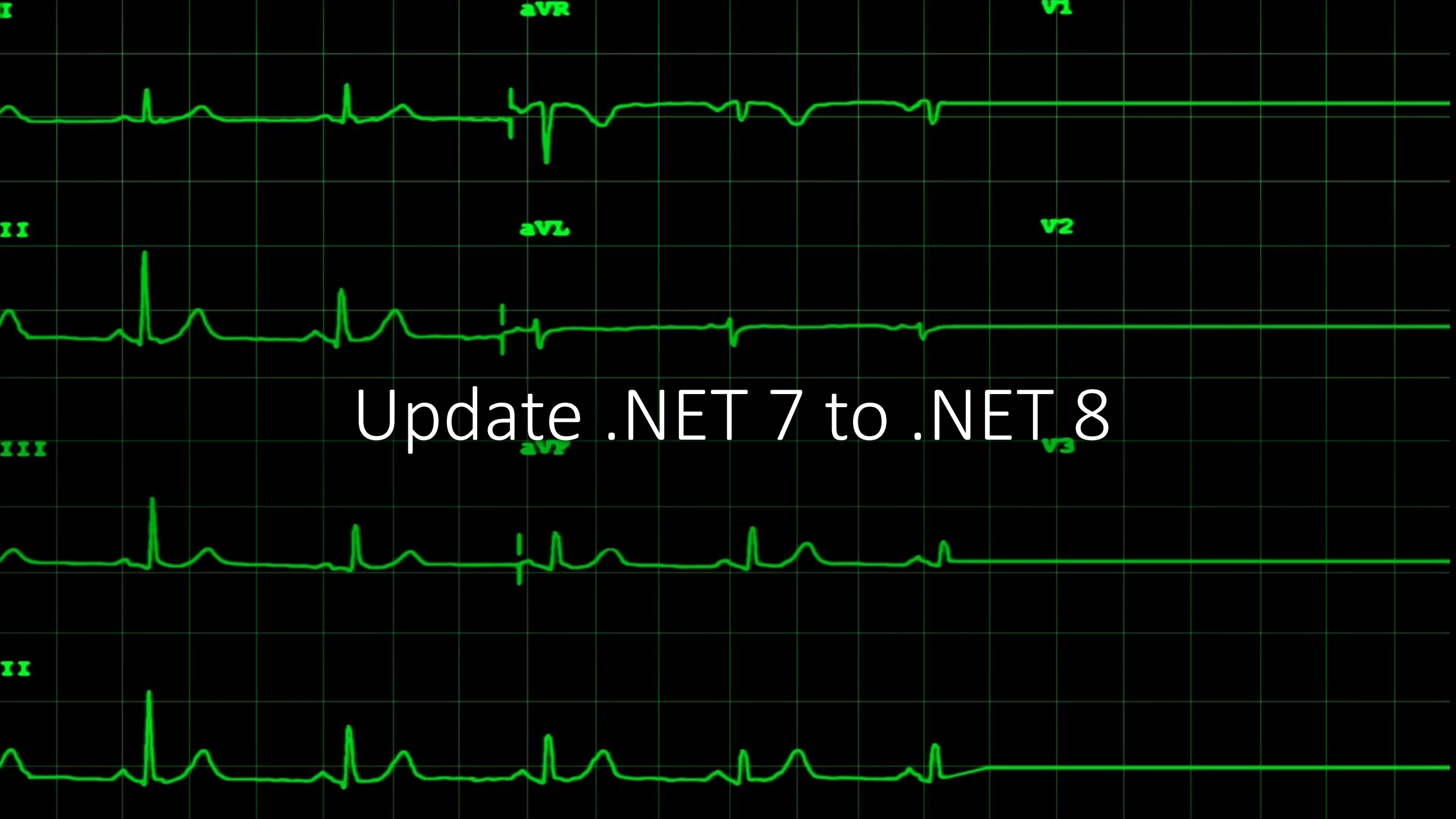


What's new with
C# and .NET?
What directions
are we going to?





C# 12



The background is a solid black field populated with a complex, overlapping arrangement of red wireframe geometric shapes. These shapes include various rectangular prisms, cylinders, and tubes, some of which are oriented horizontally while others stand vertically. The lines are thin and consistent in color, creating a sense of depth and architectural complexity through their intersections and projections.

What you've seen...



Primary Constructors

- Record class
 - Properties with *get/init* accessors
- Record struct
 - Properties with *get/set* accessors
- Readonly record struct
 - Properties with *get/init* accessors
- Class and struct
 - Parameters



Collection Expressions (Collection Literals)

- Conversion to many different collection types
- Spread element ..
- Custom collections / interfaces: *CollectionBuilder* attribute

.NET Enhancements

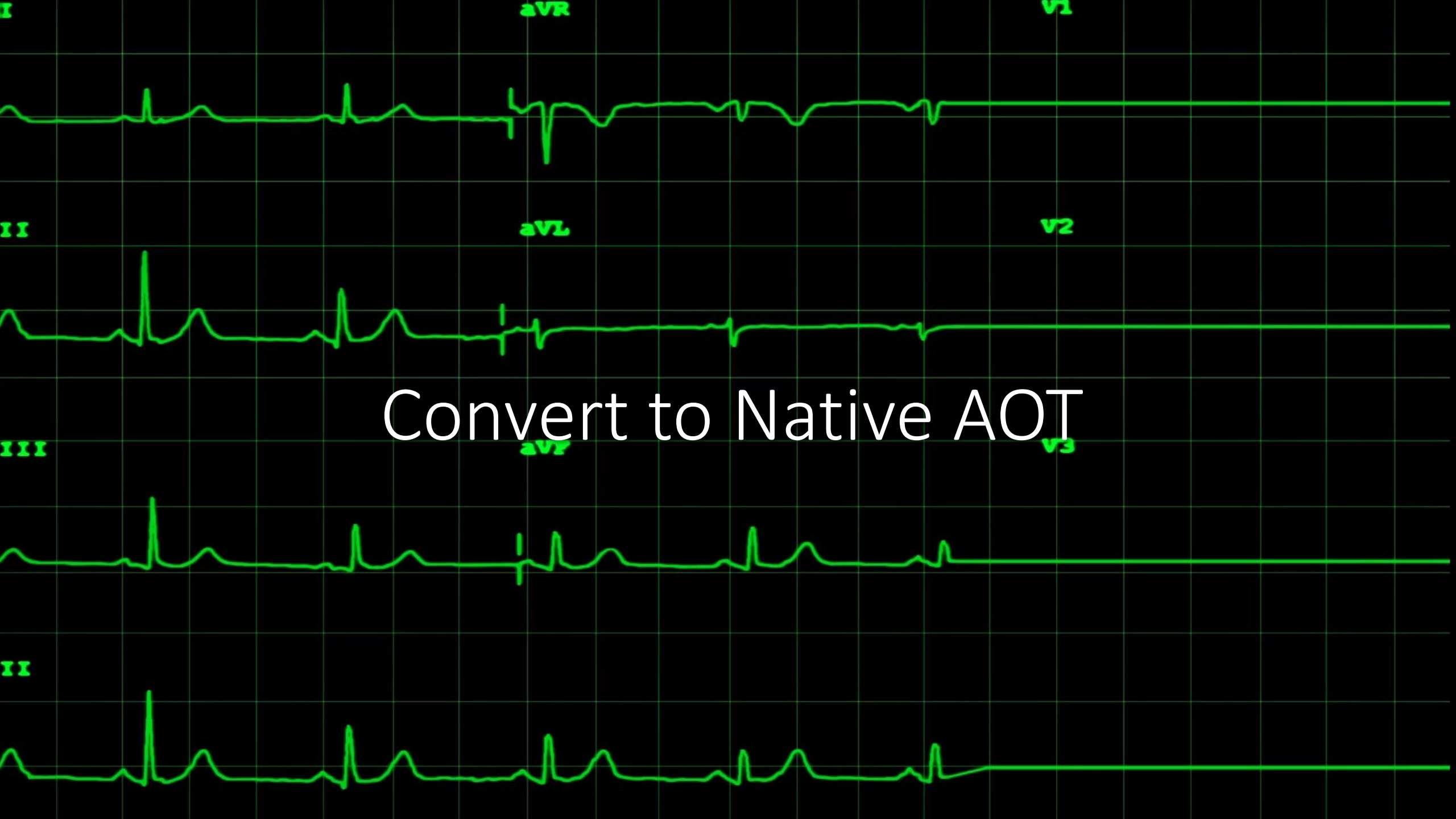
- Dependency Injection Container
 - Keyed Services
- Metrics
 - Inject metrics to a service
 - *IMeterFactory*





More C# 12...

- Default lambda parameters
- Inline array
 - Optimized creation of fixed sizes
 - Directly assign `Span<T>`
 - **InlineArray** attribute



Convert to Native AOT



Changes...

- Slim builder
- JSON Serializer source generator
- Request delegate source generator
- C# Interceptors (C# 12 experimental)
- dotnet publish

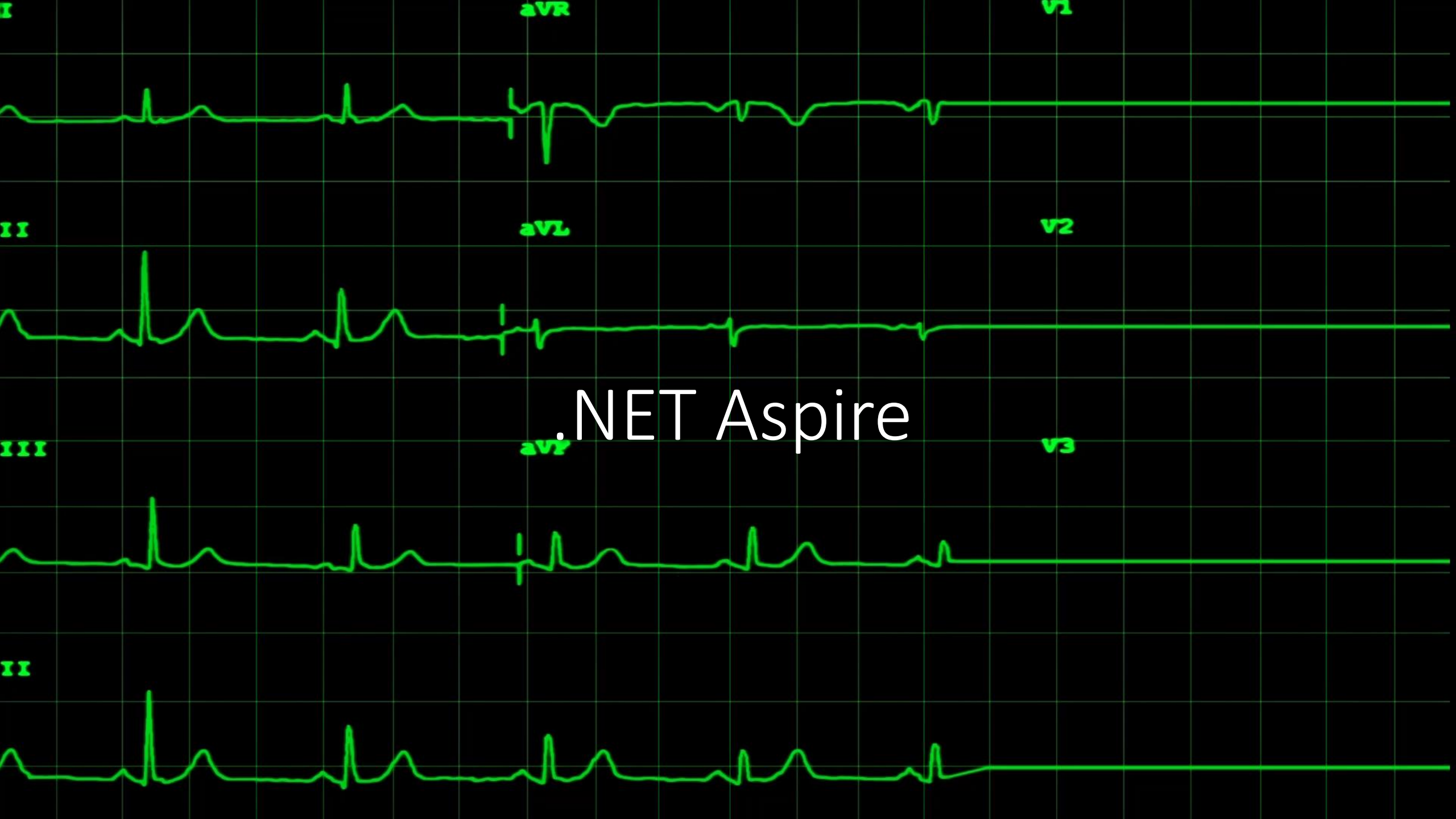
Native AOT Improvements



Restrictions

- No dynamic loading
- No run-time code generation
- Requires trimming
- Not all libraries are compatible
- ...







.NET Aspire

- Orchestration
- Components
- Tooling

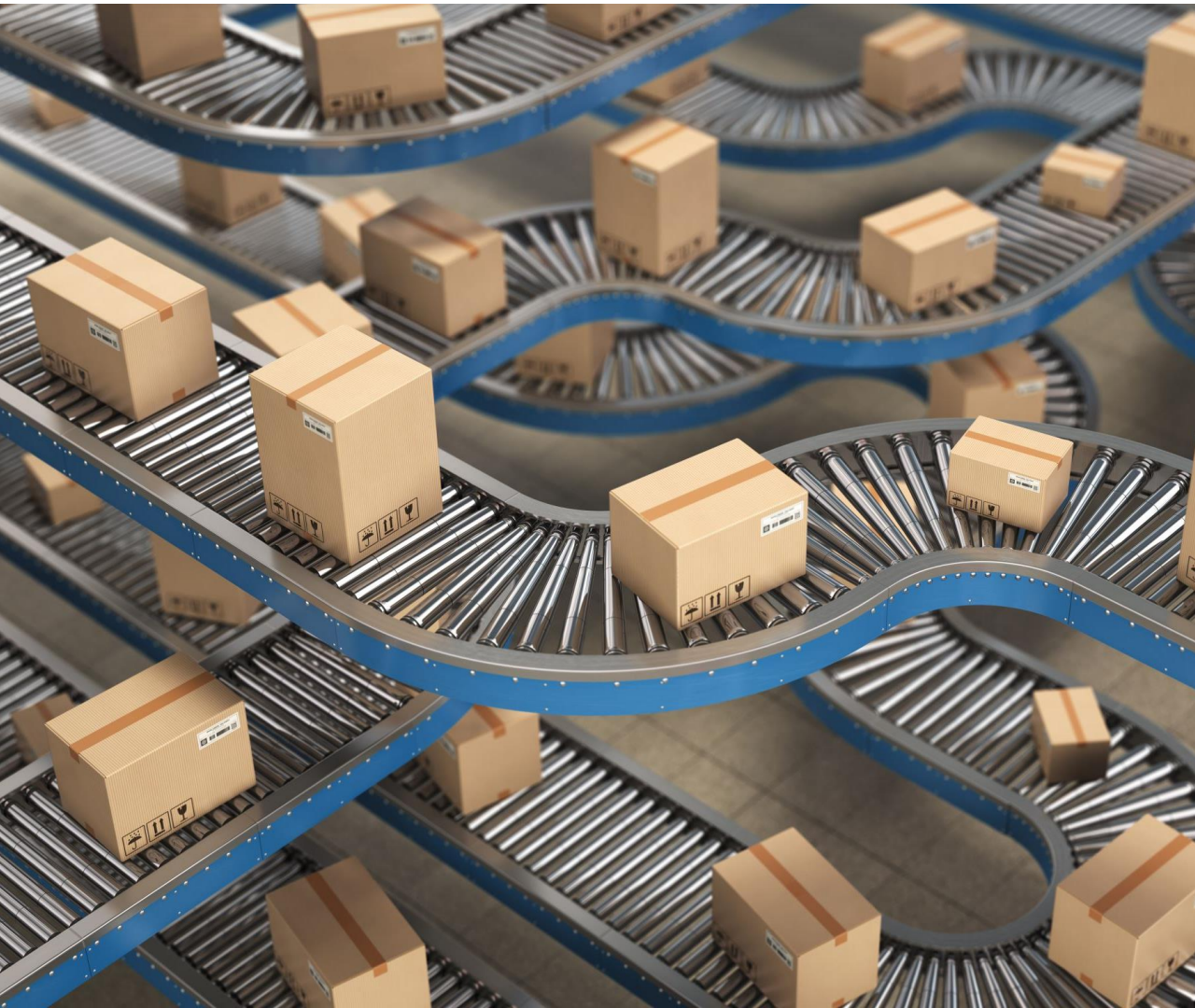


.NET Aspire Orchestration

- Composition
 - Projects
 - Containers
 - Executables
 - Cloud resources
- Service discovery and connection string management
 - Inject connection strings, services



Aspire Components



- NuGet Packages
- Simplify connections to popular services

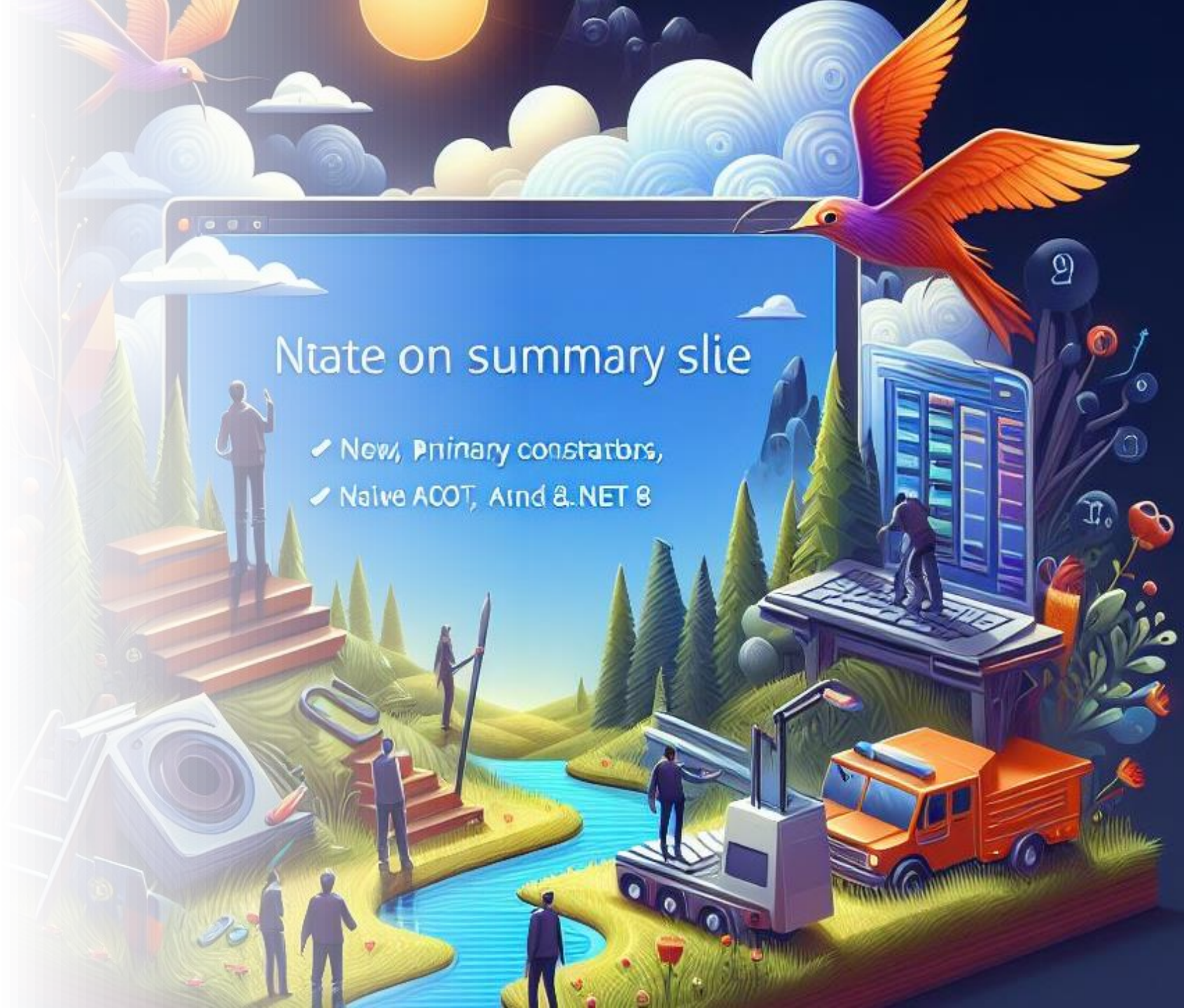
Aspire Tooling

- Visual Studio workload
- Dotnet workload
- Project templates
- Dashboard



Summary

- C# 12
- .NET 8
- Native AOT
- .NET Aspire



Questions?

Summary

- C# 12
- .NET 8
- Native AOT
- .NET Aspire

- <https://github.com/cnilearn/dotnet8live>
- <https://github.com/codebreakerapp>
- <https://csharp.christiannagel.com>
- <https://www.cninnovation.com>