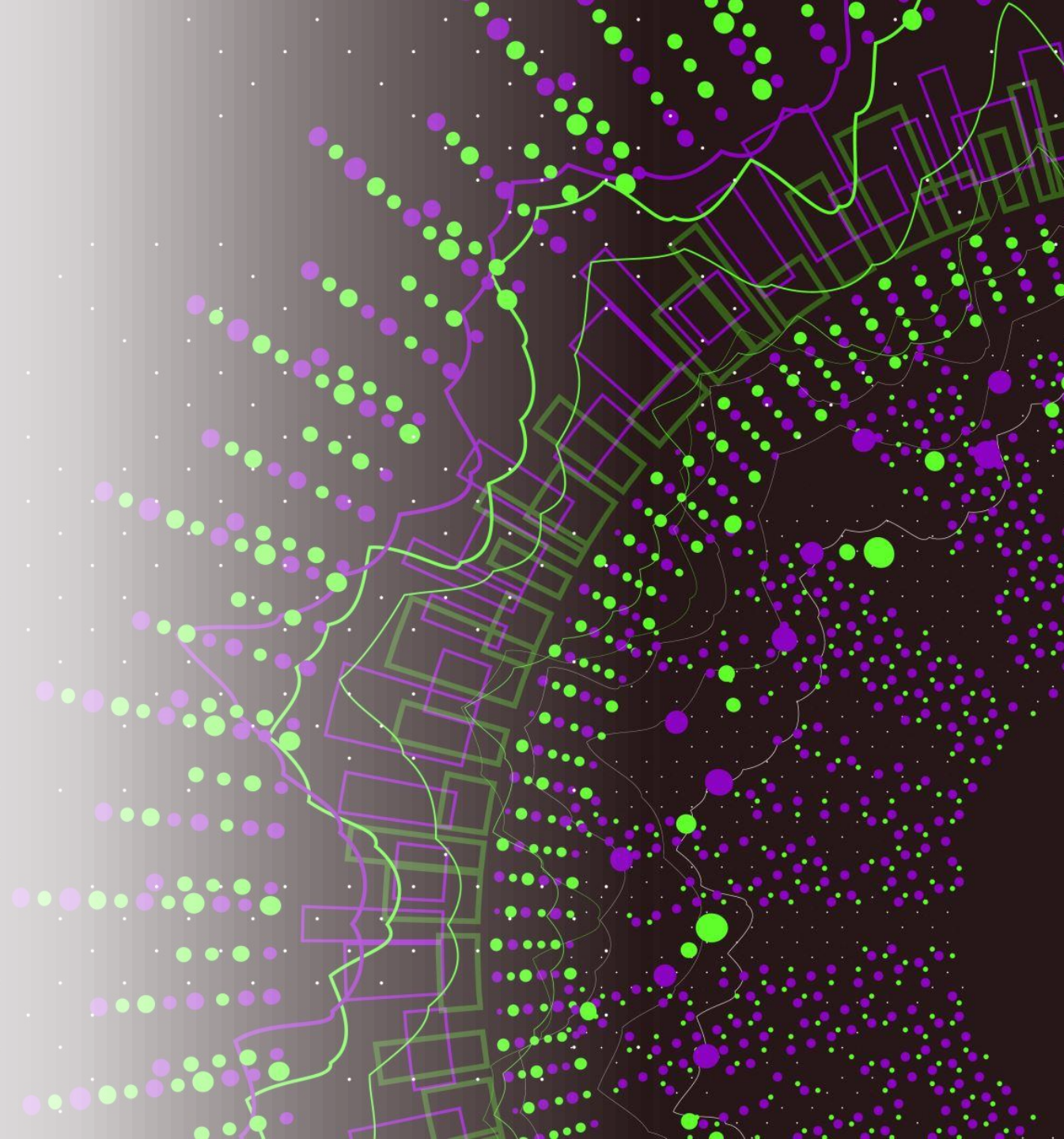


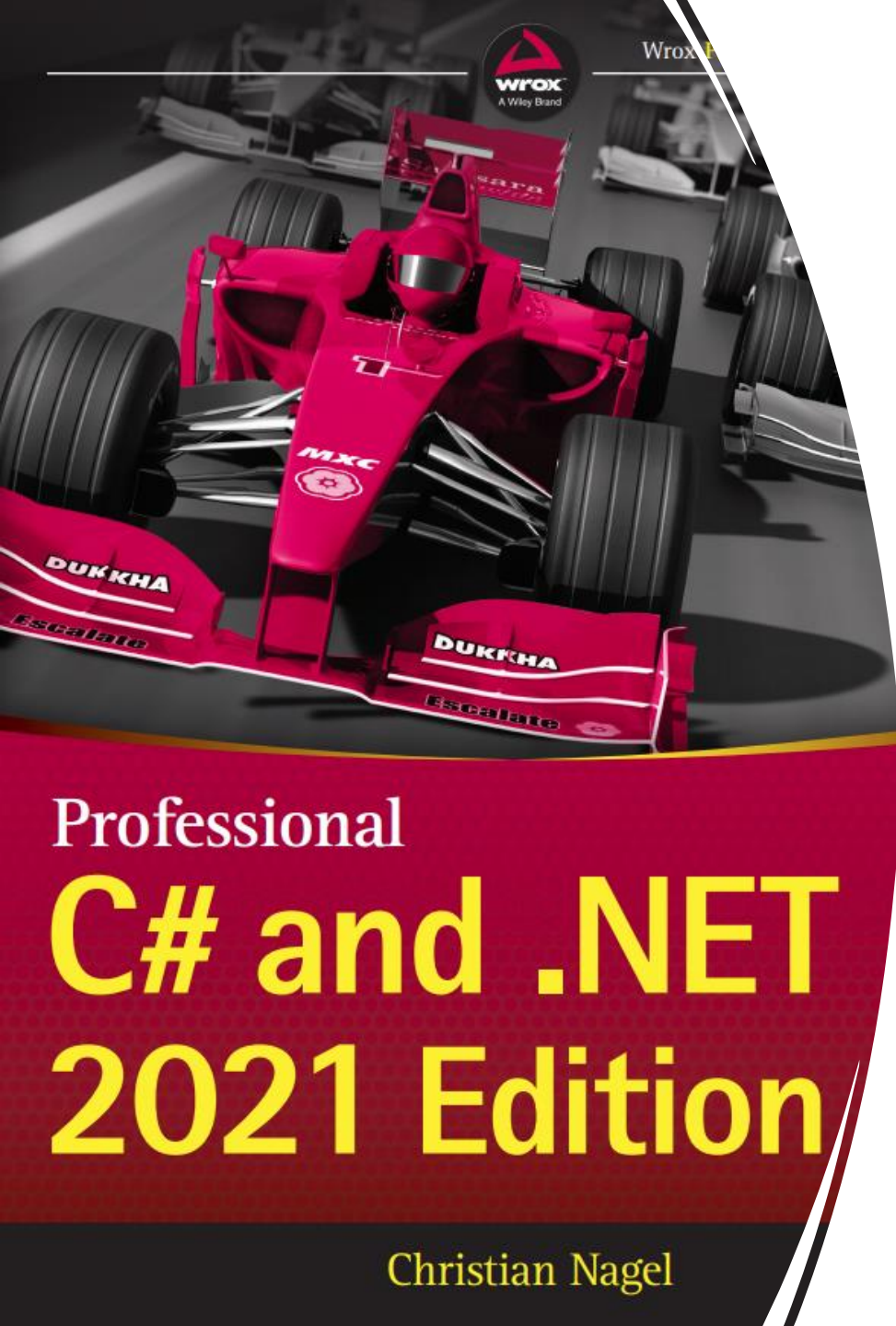


.NET 8 is here!

<https://www.cninnovation.com>

<https://csharp.christiannagel.com>






Professional
C# and .NET
2021 Edition

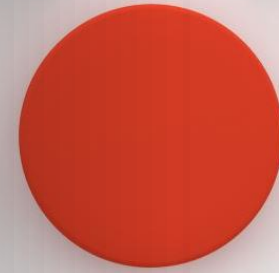
Christian Nagel

Christian Nagel

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

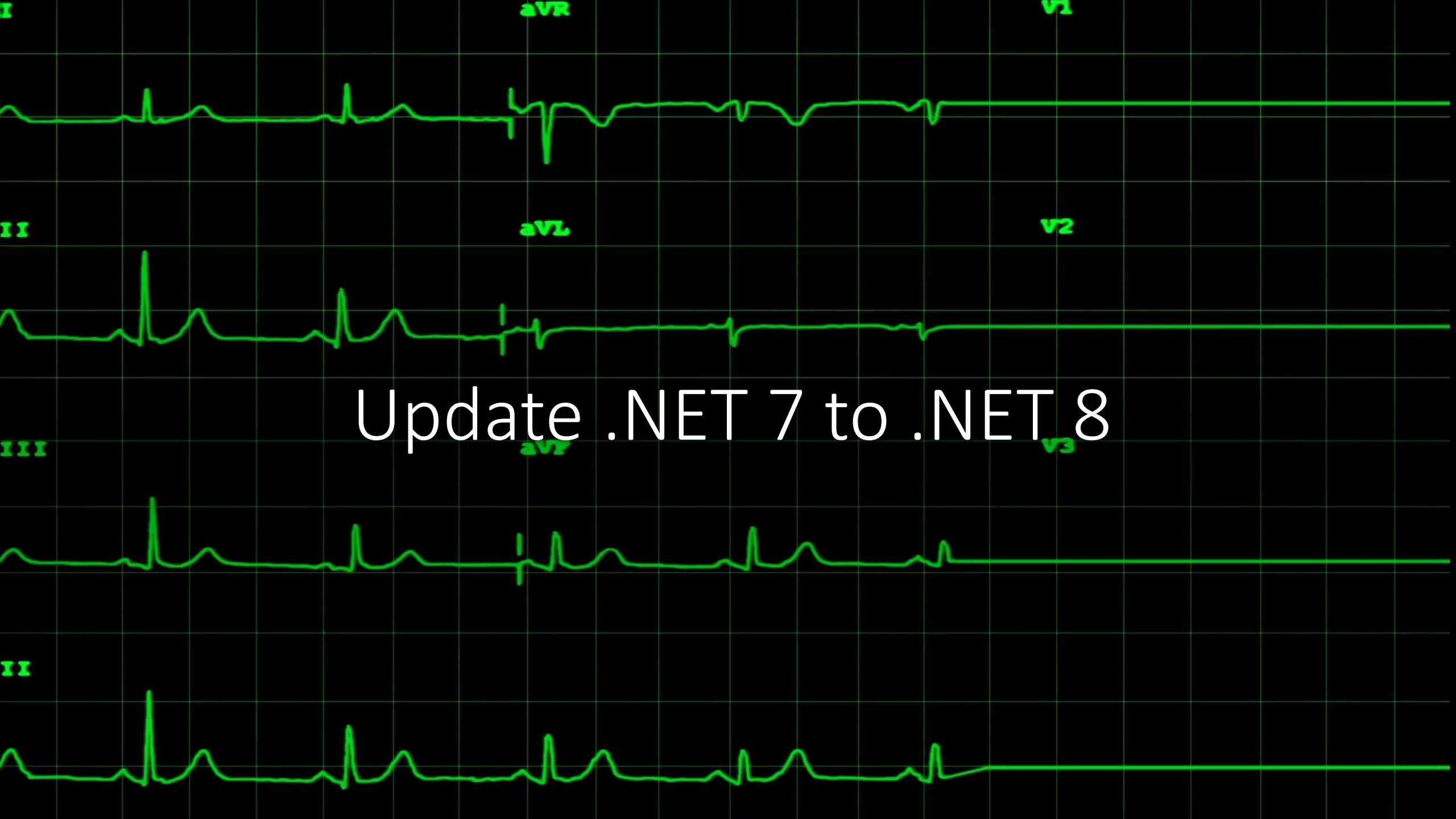


What's new with
C# and .NET?
What directions
are we going to?





C# 12



The background of the slide is a complex, abstract composition of red wireframe lines on a black background. These lines form a variety of three-dimensional geometric shapes, including rectangular prisms, cylinders, and spheres, which are arranged in a dense, overlapping manner. Some shapes are more prominent than others, creating a sense of depth and complexity. The overall effect is reminiscent of a technical drawing or a 3D model rendered in a wireframe style.

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

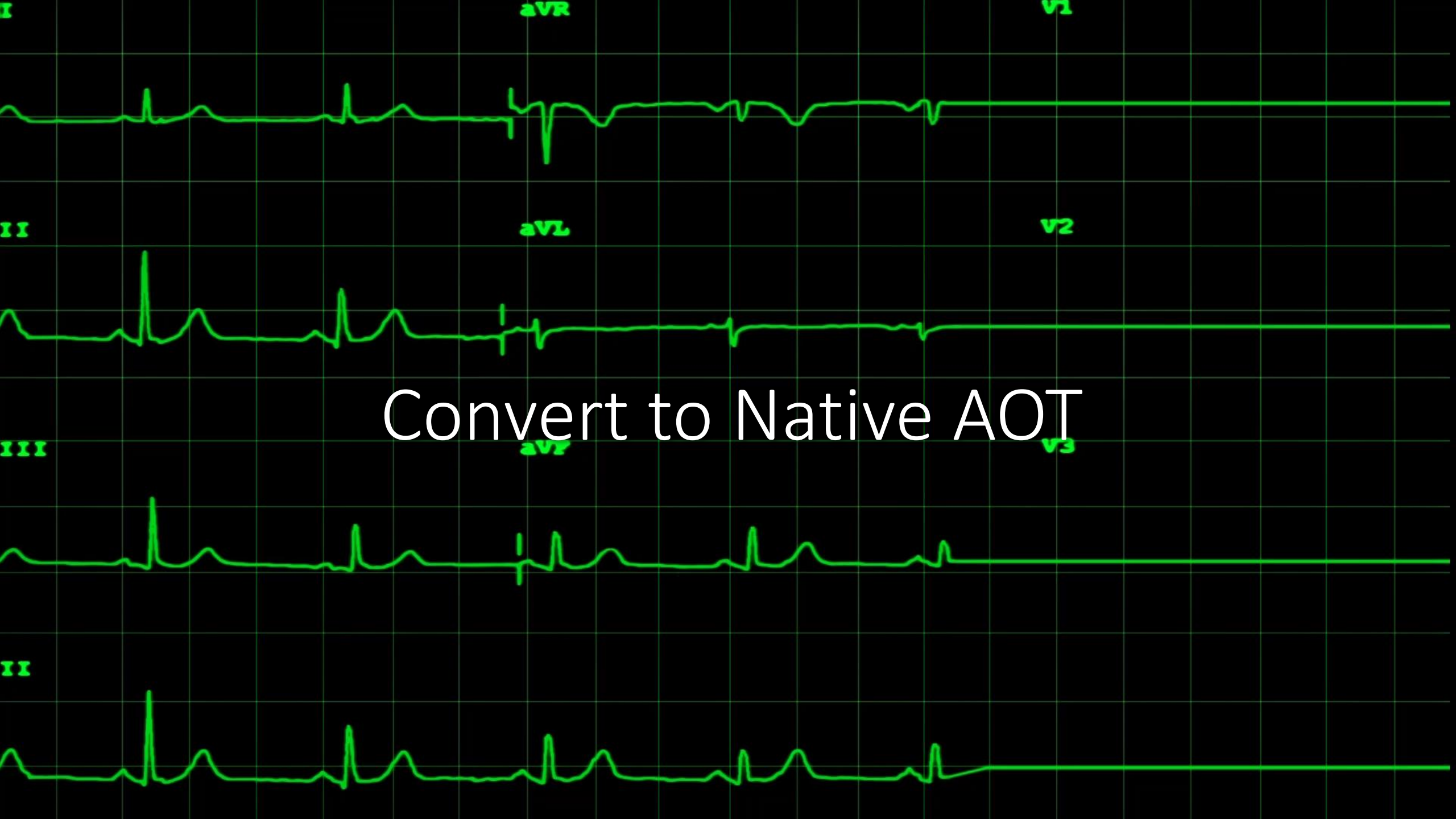
- Dependency Injection Container
 - Keyed Services
- Metrics
 - Inject metrics to a service
 - *IMeterFactory*





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
- dotnet publish

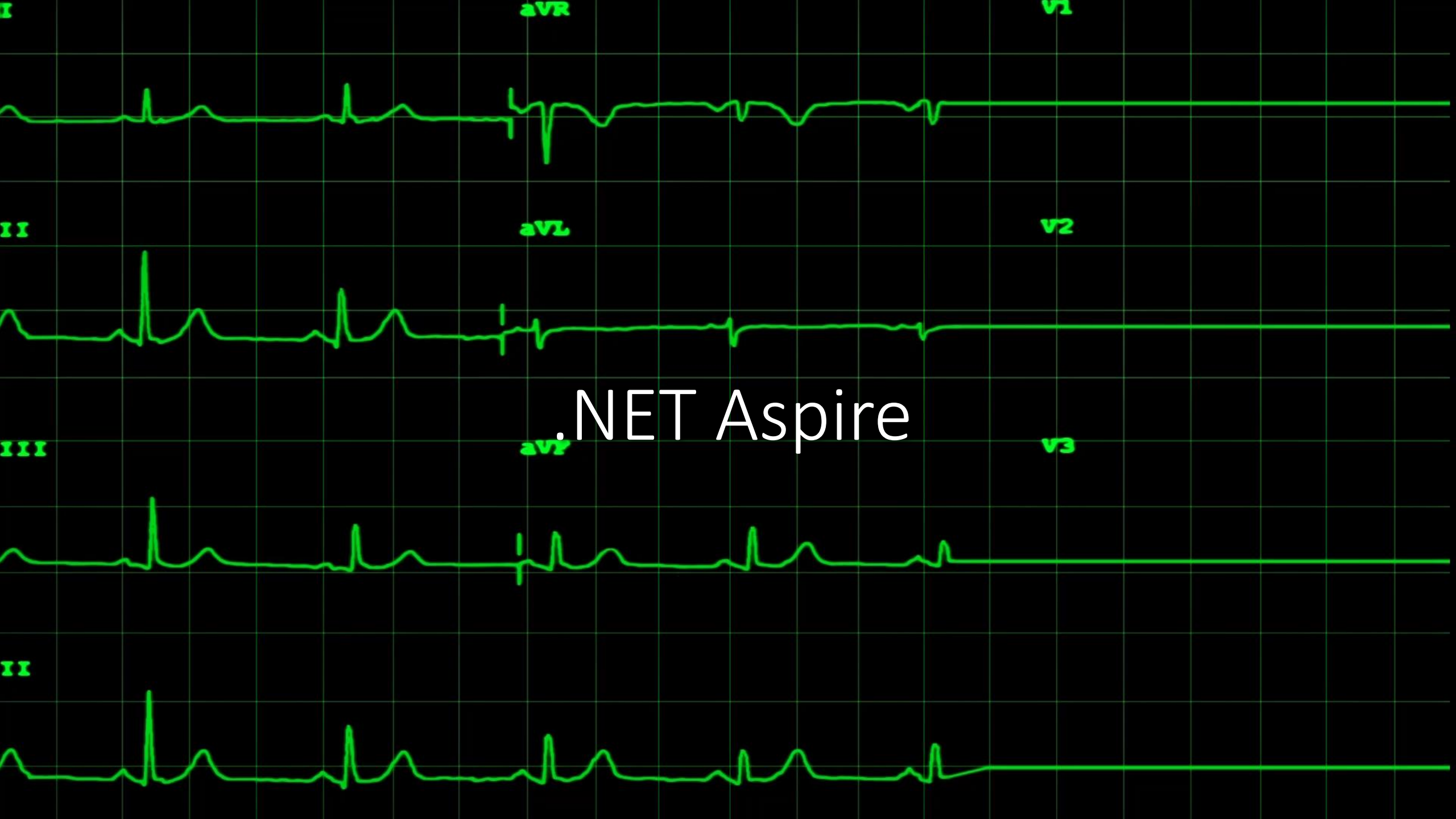
Native AOT Improvements



Restrictions

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







.NET Aspire

- Orchestration
- Components
- Tooling

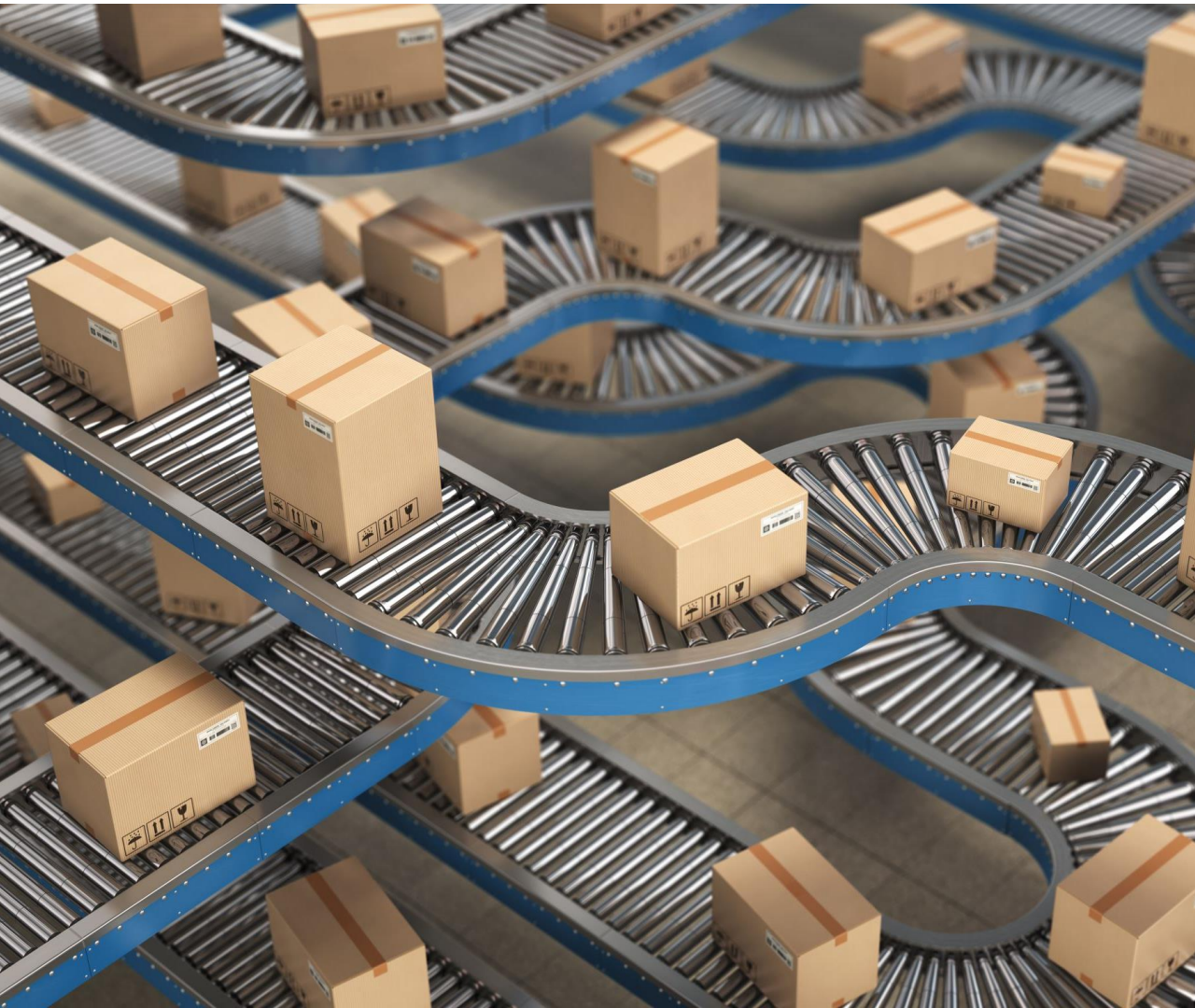


.NET Aspire Orchestration

- 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

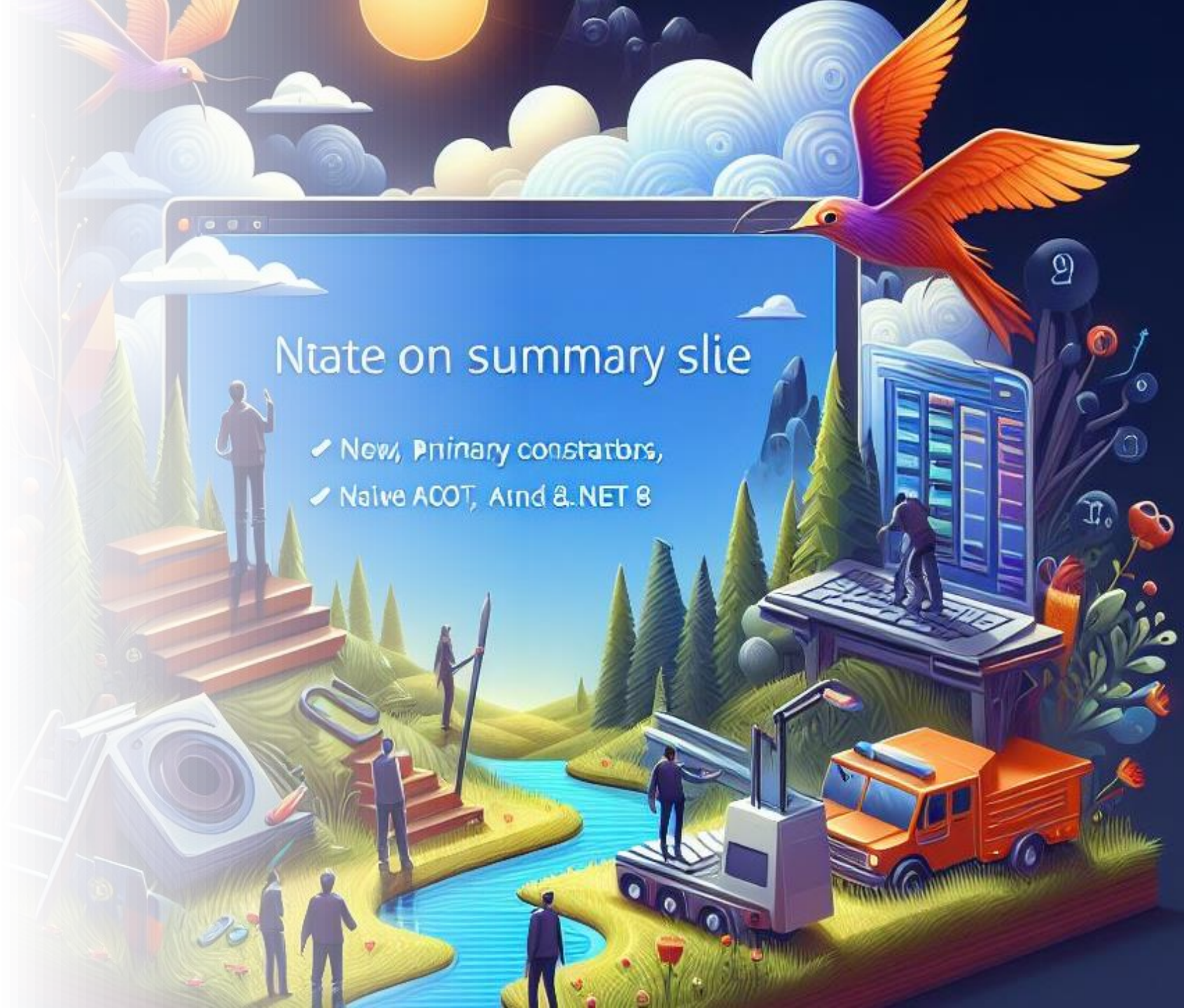
Aspire Tooling

- 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>