riganti

update

DOTVVM

.NET COLLEGE

MAUI Form-factor customizations

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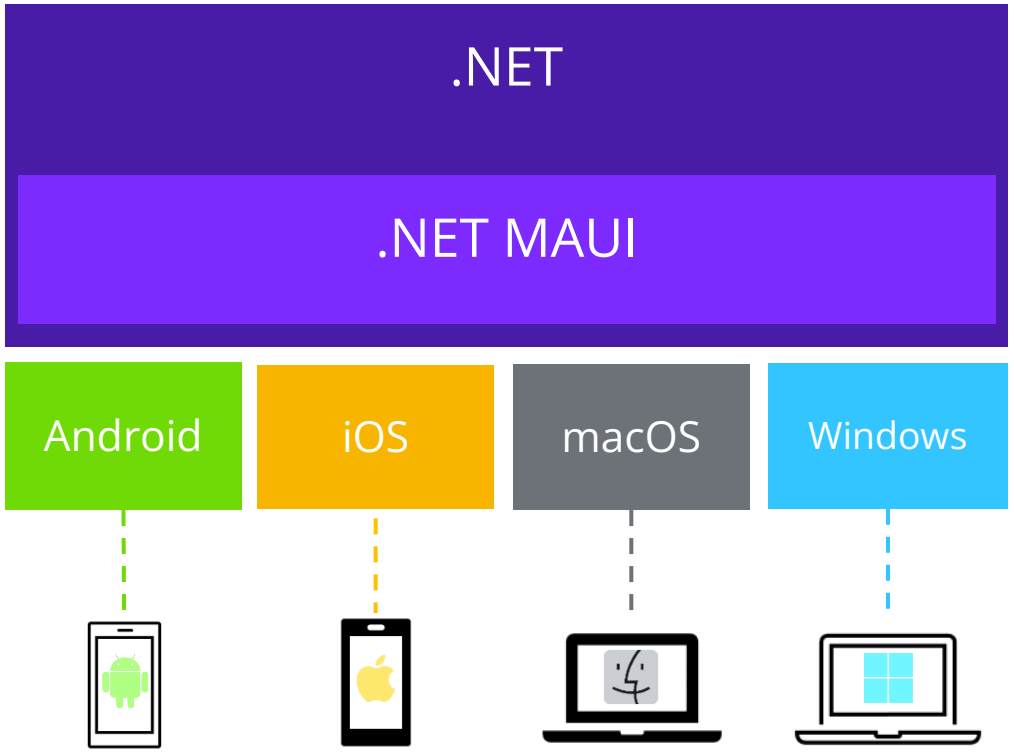
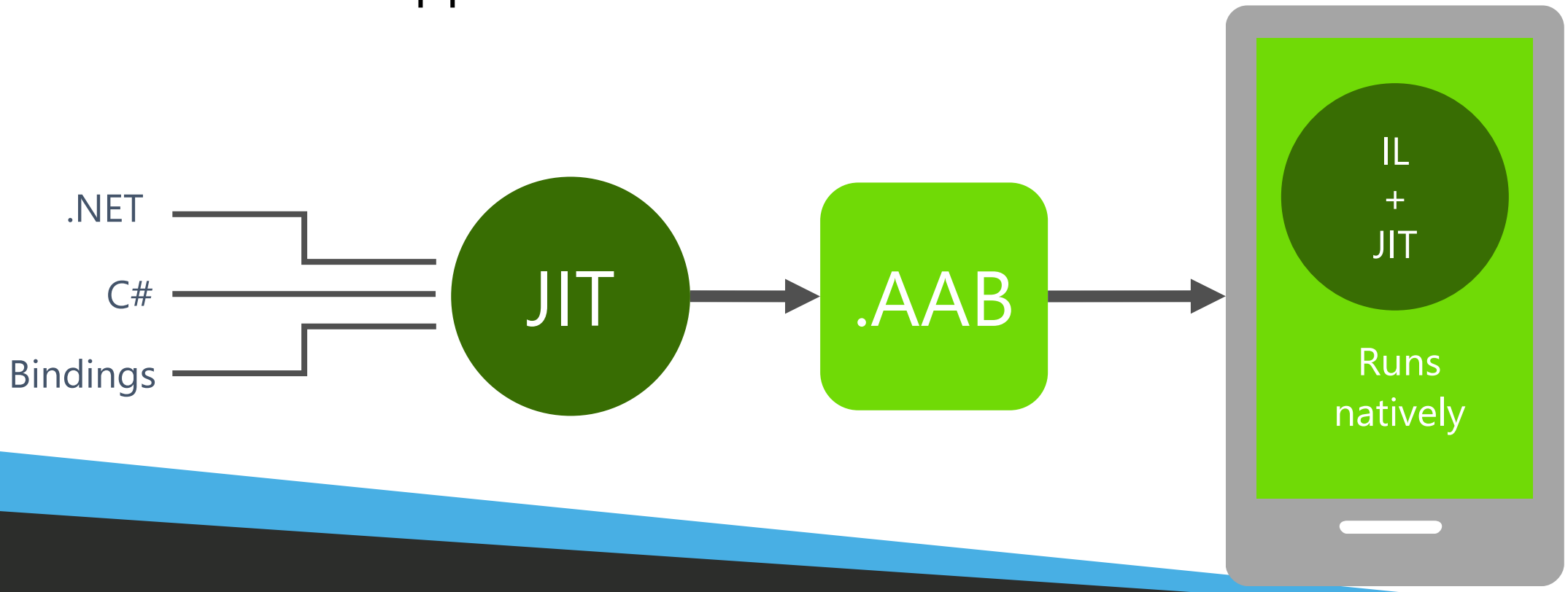
.NET Multi-platform App UI



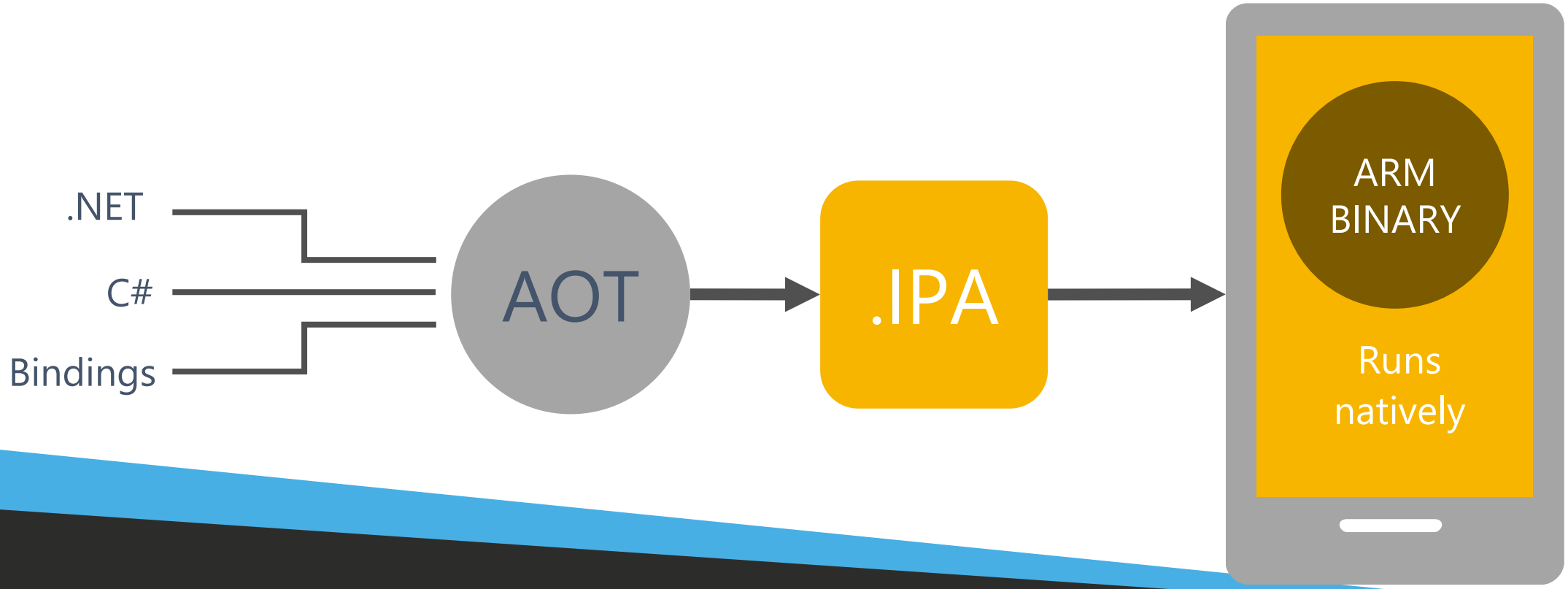
How It Works - Android

- C# compiles to intermediate language (IL)
- IL + JIT in app



How it Works - iOS

- Fully ahead-of-time (AOT) compiled to native ARM binary



How It Works – MacOS & Windows

- MacOS
  - Using Mac Catalyst
    - Apple's solution to bring iOS Apps to desktop
    - Provides access to Mac OS APIs
- Windows
  - WinUI 3 library
  - Native apps

Desktop

- New form factors & scenarios for MAUI
- Access to low-level APIs
  - File system
  - Networking
  - …
- Mouse & keyboard

OnPlatform, OnIdiom

- Useful in XAML
- OnPlatform – specify different value for different platforms (Android, iOS, MacCatalyst, Tizen, WinUI)
- OnIdiom – specify different value for different idioms (Phone, Tablet, Desktop, TV, Watch)

Replace files

- Replace the Shell
- Replace individual files for views

- DeviceInfo.Idiom – for conditions in C#

Build configurations

- Create separate build configurations for different idioms
- Use **Directory.Build.props** to share settings among projects
- Define constants to use in C# code
- Define custom MSBuild property for conditions in .csproj files

Logical names

- Share the same name for resources created from platform-specific files

Separate class libraries

- Separate libraries for separate platforms
- Use the same RootNamespace
- Only replace the PackageReference based on Configuration
- Easier to achieve for new projects

Customize Controls

- Keep the cross-platform controls and customize them
- Custom handlers to create custom controls
- Prepend, Modify or Append individual handlers
  - Will be applied to all controls of the used type
- Customize specific control instance
  - Use handler lifecycle

Platform specific

- Suffixes for individual platforms
  - ButtonWithConfirmation.Android.cs
  - ButtonWithConfirmation.Windows.cs
  - …
- Platform folders
  - Partial classes
  - Build tasks are pre-configured to use contents only for specific platforms

Summary

- OnIdiom + DeviceInfo
- Build Configurations
- Platform folders/platform suffixes + partial classes
- Class libraries
- Custom handlers

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MAUI

Modern apps for mobile and desktop

March 2023

maui.updatedays.cz

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