Which framework should I use?

.NET Framework

Latest version 4.6.1 (CLR 3)

Windows-only

Open source, but no code contributions

Features

Fully featured: ADO.NET, WCF, WPF, WinForms, ASP.NET, Entity Framework, Window Server App Fabric, many more

Status

Stable, tried and proven, production-ready framework.
Fully supported by Microsoft

Best for traditional Windows-only apps

- WinForms / WPF Apps
- Console Apps
- Web Apps

Deployment

.NET Framework comes with Windows, or as an installable on its own

.NET Core 1

Previously known as .NET Core 5 - why name change?

Cross-platform

Open source, with code contributions

Features

Only subset of .NET Framework features
No Windows-specific functionality (no WPF, WinForms or ADO.NET)

Status

Current version RC2, critical parts are reasonably stable
RTM to be released in June 2016
Some things and tooling will change: see the Roadmap

Best for Cross-platform / Cloud / Containerised apps

- Console Apps
- ASP.NET Core 1.0 Web Apps [cloud & container-friendly]
- UWP Apps (new Windows 10 API)

Deployment

.NET Core is modular, pick and choose only the NuGet packages that you need

Both frameworks support

- New 64-bit compiler RyuJIT
- C# 7 (not released yet, preview only)
- F# 4