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<http://www.cl.cam.ac.uk/~mr10/Bench/README>

Please feel free to re-implement this benchmark in any language you choose. I would be happy to incorporate such translations into this distribution together with their timing/size results.

Martin Richards  
23 February 2007

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```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <OutputType>Exe</OutputType>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
  <ItemGroup>
    <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
    <ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />
  </ItemGroup>
</Project>
```

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new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),

```
new XElement("fm",
  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
  new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),
  new XElement("p", "XML version by Jon Bosak, 1996-1997."),
  new XElement("p", "This work may be freely copied and distributed worldwide.")
```

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Chris Re ([cmr28@cornell.edu](mailto:cmr28@cornell.edu)) and Werner Vogels ([vogels@cs.cornell.edu](mailto:vogels@cs.cornell.edu))

For details on the original authors see <http://math.nist.gov/scimark2>

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public domain is compatible with GPL.

<Project Sdk="Microsoft.Build.NoTargets">

<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="\$(InstallerTasksAssemblyPath)" />

<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">

<PropertyGroup>

<TpnFile>\$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>

</PropertyGroup>

<!--

Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.

-->

<ItemGroup>

<TpnRepo Include="dotnet/runtime" />  
<TpnRepo Include="dotnet/aspnetcore" />  
<TpnRepo Include="dotnet/installer" />  
<TpnRepo Include="dotnet/roslyn-analyzers" />  
<TpnRepo Include="dotnet/templating" />  
<TpnRepo Include="dotnet/winforms" />  
<TpnRepo Include="dotnet/wpf" />  
<TpnRepo Include="dotnet/linker" />

<!--

Additional repos that  
should be included but don't have any third-party-notices files:

dotnet/efcore  
dotnet/emsdk  
dotnet/extensions  
dotnet/icu  
dotnet/sdk  
dotnet/windowsdesktop

-->

<TpnRepo Condition="'%(TpnRepo.Branch)' == '' Branch="main" />

<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />  
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />  
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />  
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />  
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />

</ItemGroup>

<RegenerateThirdPartyNotices

TpnFile="\$(TpnFile)"  
PotentialTpnPaths="@ (PotentialTpnPath)"  
TpnRepos="@ (TpnRepo)" />

<Message Text="\$(MSBuildProjectName) -> \$(TpnFile)" Importance="High" />

</Target>

</Project>

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<https://github.com/madler/zlib>  
[https://zlib.net/zlib\\_license.html](https://zlib.net/zlib_license.html)

/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.12, March 27th, 2022

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By Sean Eron Anderson  
seander@cs.stanford.edu

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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Answer author: harp -- <https://stackoverflow.com/users/4525/harpo>

Use:

<https://github.com/dotnet/runtime/blob/4893732ba881a4fb9023af1d6d4e64bb2a6eddbc/src/tests/sizeondisk/sodbench/SoDBench.cs#L735>

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<https://github.com/santoshshahoo/nbench> (mirror of the same code)

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\*\* Create:

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# 1.6 system.commandline 2.0.0-beta4.22272.1

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## 1.7 criollo 0.5.5

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## 1.8 microsoft.windows.sdk.net.ref

### 10.0.22621.28

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<param name="attestation">A plain-english statement declaring that the publisher has permission to use the feature.</param>

```

<summary>Indicates that the user has permission to use the feature, and that the feature is still in the "limited
access" state.</summary>
<member name="T:Windows.ApplicationModel.UserActivities.UserActivityAttribution">
<member name="M:Windows.ApplicationModel.UserActivities.UserActivityAttribution.#ctor">
<summary>Create a UserActivityAttribution object.</summary>
<member
name="M:Windows.ApplicationModel.UserActivities.UserActivityAttribution.#ctor(Windows.Foundation.Uri)">
<summary>Create a UserActivityAttribution object with the specified icon image URI.</summary>
<param name="iconUri">The Uniform Resource Identifier (URI) of the icon image to use with this
UserActivityAttribution.</param>
<member name="P:Windows.ApplicationModel.UserActivities.UserActivityAttribution.AddImageQuery">
<member
name="P:Windows.ApplicationModel.UserActivities.UserActivityAttribution.AlternateText">
<member name="P:Windows.ApplicationModel.UserActivities.UserActivityAttribution.IconUri">
<member name="P:Windows.ApplicationModel.UserActivities.UserActivityVisualElements.Attribution">
<member
name="P:Windows.ApplicationModel.UserActivities.UserActivityVisualElements.AttributionDisplayText">
<member name="P:Windows.Networking.Connectivity.AttributedNetworkUsage.AttributionId">
<member name="P:Windows.Networking.Connectivity.AttributedNetworkUsage.AttributionName">
<member name="P:Windows.Networking.Connectivity.AttributedNetworkUsage.AttributionThumbnail">
<returns>true if permission is granted. Otherwise, false.</returns>
<member name="P:Windows.Services.Maps.MapService.DataAttributions">
<member name="P:Windows.Services.Maps.LocalSearch.LocalLocation.DataAttribution">

```

Found in path(s):

\* /microsoft-windows-sdk-net-ref-10-0-22621-31-zip/lib/net6.0/Microsoft.Windows.SDK.NET.xml

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/microsoft-windows-sdk-net-ref-10-0-22621-31-zip/lib/net6.0/Microsoft.Windows.SDK.NET.dll: binary file matches

/microsoft-windows-sdk-net-ref-10-0-22621-31-zip/lib/net6.0/WinRT.Runtime.dll: binary file matches

/microsoft-windows-sdk-net-ref-10-0-22621-31-zip/winmd/Windows.Foundation.UniversalApiContract.winmd: binary file matches

/microsoft-windows-sdk-net-ref-10-0-22621-31-zip/winmd/Windows.Services.Maps.LocalSearchContract.winmd: binary file matches

Found in path(s):

\* /bin/grep

# 1.9 lumberjackconsole 1.0.2

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<http://www.cl.cam.ac.uk/~mr10/Bench/README>

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Martin Richards  
23 February 2007  
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new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),
new XElement("fm",
  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
  new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),
  new XElement("p", "XML version by Jon Bosak, 1996-1997."),
  new XElement("p", "This work may be freely copied and distributed worldwide.")
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http://hboehm.info/gc/gc_bench.html
http://hboehm.info/gc/gc_bench/GCBench.c
```

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<https://github.com/madler/zlib>  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.11, January 15th, 2017

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By Sean Eron Anderson  
seander@cs.stanford.edu

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<Project Sdk="Microsoft.NET.Sdk">
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  </PropertyGroup>
  <ItemGroup>
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    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/Server.Guids.cs" />
  </ItemGroup>
  <ItemGroup>
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    <ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />
  </ItemGroup>
</Project>
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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## 1.11 apple/swift-argument-parser 1.2.2

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## 1.12 azure-activedirectory-identitymodel-extensions-for-dotnet 6.29.0

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## 1.13 system-formats-asn 7.0.0

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<http://www.cl.cam.ac.uk/~mr10/Bench/README>

Please feel free to re-implement this benchmark in any language you choose. I would be happy to incorporate such translations into this distribution together with their timing/size results.

Martin Richards  
23 February 2007

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```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <OutputType>Exe</OutputType>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
</ItemGroup>
```

```
<CMakeProjectReference Include="../../NativeServer/CMakeLists.txt" />
<ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />
</ItemGroup>
</Project>
```

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```
new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),
new XElement("fm",
  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
  new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),
  new XElement("p", "XML version by Jon Bosak, 1996-1997."),
  new XElement("p", "This work may be freely copied and distributed worldwide."))
```

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Chris Re (cmr28@cornell.edu) and Werner Vogels (vogels@cs.cornell.edu)

For details on the original authors see <http://math.nist.gov/scimark2>

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```
<TpnRepo Include="dotnet/roslyn-analyzers" />
```

```
<TpnRepo Include="dotnet/templating" />
```

```
<TpnRepo Include="dotnet/winforms" />
```

```
<TpnRepo Include="dotnet/wpf" />
```

```
<TpnRepo Include="dotnet/linker" />
```

```
<!--
```

Additional repos that should be included but don't have any third-party-notices files:

dotnet/efcore

dotnet/emsdk

dotnet/extensions

dotnet/icu

dotnet/sdk

dotnet/windowsdesktop

```
-->
```

```
<TpnRepo Condition="'%(TpnRepo.Branch)' == ''" Branch="main" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
```

```

<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
</ItemGroup>

<RegenerateThirdPartyNotices
  TpnFile="$(TpnFile)"
  PotentialTpnPaths="@ (PotentialTpnPath)"
  TpnRepos="@ (TpnRepo)" />

<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
</Target>

```

</Project>

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<https://github.com/madler/zlib>  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.12, March 27th, 2022

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<https://github.com/santoshshahoo/nbench> (mirror of the same code)

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Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.

Any

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## ## Core Docs

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# Contributions to .NET Core SDK 1.0

```

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core SDK 1.0. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```

```bash
git shortlog -sne --no-merges --until release/1.1.0@{2017-02-25}
```

```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

## ## .NET Core Tools (SDK)

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# Contributions to .NET Core 2.0

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-07-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

## CLI

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.NET 5 is an amazing milestone enabled, in part, by a wonderfully engaged community. This page is an attempt to acknowledge the efforts of many folks across the breadth of the ecosystem. We're working to get better at recognizing the your contributions so please, let us know if something is incorrect or missing.

**\*\*Thank you!!\*\***

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```

```
# Contributions to .NET Core 1.1
```

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command against each repo. The release qualifier is different from the example in some cases. Also, where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since {2016-05-20} --until {2016-11-08}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

```
## CLI
```

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- [jacalvar (1)](https://github.com/dotnet/cli/commits/rel/1.0.0-preview2.1?author=jacalvar@microsoft.com)  
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# Contributions to .NET Core 2.0 Preview 2

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 2. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2017-05-05} --until release/2.0.0@{2017-06-07}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

## CLI

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- \* [Livar (14)](<https://github.com/dotnet/cli/commits/release/2.0.0?author=licavalc@microsoft.com>)
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## ## CoreCLR

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## ## WCF

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* [Matt Connew (2)](https://github.com/dotnet/wcf/commits/release/2.0.0?author=mconnew@microsoft.com)
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* [Tarek Mahmoud Sayed
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# Contributions to .NET Core 2.0 Preview 1
```

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 1. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-05-05} --
committer="dotnet-bot" --invert-grep
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

```
* [CLI](#cli)
* [CoreCLR](#coreclr)
* [CoreFX](#corefx)
* [WCF](#wcf)
```

## ## CLI

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[Justin Goshi (145)](https://github.com/dotnet/cli/commits/release/2.0.0?author=jgoshi@microsoft.com)
* [Eric Erhardt (136)](https://github.com/dotnet/cli/commits/release/2.0.0?author=eric.erhardt@microsoft.com)
* [Krzysztof Wicher (103)](https://github.com/dotnet/cli/commits/release/2.0.0?author=mordotymoja@gmail.com)
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# Contributions to .NET Core 2.1

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.1.

```
```bash
git shortlog -sne --no-merges --since 2017-11-16 --until 2018-05-15
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)

\* [CoreFX](#corefx)

\* [WCF](#wcf)

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.11, January 15th, 2017

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

```
Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.
```

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```

<TpnRepo Include="dotnet/roslyn-analyzers" />
<TpnRepo Include="dotnet/templating" />
<TpnRepo Include="dotnet/winforms" />
<TpnRepo Include="dotnet/wpf" />

<!--
  Additional repos that should be included but don't have any
third-party-notices files:
  dotnet/efcore
  dotnet/emsdk
  dotnet/extensions
  dotnet/icu
  dotnet/sdk
  dotnet/windowsdesktop
-->

<TpnRepo Condition="'%(TpnRepo.Branch)' == '' Branch="main" />

<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
</ItemGroup>

<RegenerateThirdPartyNotices
  TpnFile="$(TpnFile)"
  PotentialTpnPaths="@ (PotentialTpnPath)"
  TpnRepos="@ (TpnRepo)" />

<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
</Target>

</Project>
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <OutputType>Exe</OutputType>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
  <ItemGroup>
    <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
    <ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />

```

</ItemGroup>

</Project>

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<https://github.com/madler/zlib>  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.13, October 13th, 2022

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By Sean Eron Anderson  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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By Sean Eron Anderson  
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We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core SDK 1.0. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --until release/1.1.0@{2017-02-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

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preview2.1?author=damian@damianedwards.com)
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[William Li (1)](https://github.com/dotnet/cli/commits/rel/1.0.0-preview2.1?author=wul@microsoft.com)
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# Contributions to .NET Core 2.0

```

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0.

```

```bash

```

```
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-07-25}
^^^
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

## ## CLI

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- \* [Justin Goshi (145)](<https://github.com/dotnet/cli/commits/release/2.0.0?author=jgoshi@microsoft.com>)
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- \* [Sridhar Periyasamy (4)](<https://github.com/dotnet/cli/commits/release/2.0.0?author=sridhper@microsoft.com>)
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- \* [mendhak (3)](<https://github.com/dotnet/cli/commits/release/2.0.0?author=gpslogger@mendhak.com>)
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## ## CoreCLR

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.NET 5 is an amazing milestone enabled, in part, by a wonderfully engaged community. This page is an attempt to acknowledge the efforts of many folks across the breadth of the ecosystem. We're working to get better at recognizing the your contributions so please, let us know if something is incorrect or missing.

\*\*Thank you!!\*\*

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## templating

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 # Contributions to .NET Core 1.1

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command against each repo. The release qualifier is different from the example in some cases. Also, where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```

```bash
git shortlog -sne --no-merges --since {2016-05-20} --until {2016-11-08}
```

```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

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We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 2. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash  
git shortlog -sne --no-merges --since release/2.0.0@{2017-05-05} --until release/2.0.0@{2017-06-07}  
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 1. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-05-05} --
committer="dotnet-bot" --invert-grep
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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## # Contributions to .NET Core 2.1

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.1.

```
```bash
git shortlog -sne --no-merges --since 2017-11-16 --until 2018-05-15
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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## 1.41 mstest.testframework 3.0.4

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## 1.42 reactive extensions - platform services library 3.0.0

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## 1.44 microsoft.bcl.asyncinterfaces v1.1.0

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## 1.46 system.buffer 4.5.1

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Martin Richards  
23 February 2007

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```

<TpnRepo Include="dotnet/roslyn-analyzers" />
<TpnRepo Include="dotnet/templating" />
<TpnRepo Include="dotnet/winforms" />
<TpnRepo Include="dotnet/wpf" />

<!--
  Additional repos that should be included but don't have any
third-party-notices files:
  dotnet/efcore
  dotnet/emsdk
  dotnet/extensions
  dotnet/icu
  dotnet/sdk
  dotnet/windowsdesktop
-->

<TpnRepo Condition="'%(TpnRepo.Branch)' == '' Branch="main" />

<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
</ItemGroup>

<RegenerateThirdPartyNotices
  TpnFile="$(TpnFile)"
  PotentialTpnPaths="@ (PotentialTpnPath)"
  TpnRepos="@ (TpnRepo)" />

<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
</Target>

</Project>
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```

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```
<Project Sdk="Microsoft.NET.Sdk">
```

```
<PropertyGroup>
```

```
<OutputType>Exe</OutputType>
```

```
<ApplicationManifest>App.manifest</ApplicationManifest>
```

```
</PropertyGroup>
```

```
<ItemGroup>
```

```
<Compile Include="Program.cs" />
```

```
<Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
```

```
<Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
```

```
<Compile Include="..\..\ServerContracts/ServerGuids.cs" />
```

```
</ItemGroup>
```

```
<ItemGroup>
```

```
<CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
```

```
<ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />
```

```
</ItemGroup>
```

```
</Project>
```

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```
new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),
new XElement("fm",
  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
  new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),
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  new XElement("p", "This work may be freely copied and distributed worldwide.")
)
```

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Email domain: gmail.com

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<https://github.com/madler/zlib>  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.3.1, January 22nd, 2024

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# Contributions to .NET Core SDK 1.0
```

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core SDK 1.0. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --until release/1.1.0@{2017-02-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

## .NET Core Tools (SDK)

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# Contributions to .NET Core 2.0

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-07-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

## ## CLI

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.NET 5 is an amazing milestone enabled, in part, by a wonderfully engaged community. This page is an attempt to acknowledge the efforts of many folks across the breadth of the ecosystem. We're working to get better at recognizing the your contributions so please, let us know if something is incorrect or missing.

**\*\*Thank you!!\*\***

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 # Contributions to .NET Core 1.1

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command against each repo. The release qualifier is different from the example in some cases. Also, where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```

```bash
git shortlog -sne --no-merges --since {2016-05-20} --until {2016-11-08}
```

```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

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## ## WCF

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 # Contributions to .NET Core 2.0 Preview 2

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 2. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2017-05-05} --until release/2.0.0@{2017-06-07}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 1. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-05-05} --
committer="dotnet-bot" --invert-grep
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

\* [CLI](#cli)  
\* [CoreCLR](#coreclr)  
\* [CoreFX](#corefx)  
\* [WCF](#wcf)

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# Contributions to .NET Core 2.1
```

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.1.

```
```bash
git shortlog -sne --no-merges --since 2017-11-16 --until 2018-05-15
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

```
* [CLI](#cli)
* [CoreCLR](#coreclr)
* [CoreFX](#corefx)
* [WCF](#wcf)
```

## ## CLI

```
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* [Andy Gerlicher (18)](https://github.com/dotnet/cli/commits/release/2.1.3xx?author=angerlic@microsoft.com)
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## ## CoreCLR

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<http://www.cl.cam.ac.uk/~mr10/Bench/README>

Please feel free to re-implement this benchmark in any language you choose. I would be happy to incorporate such translations into this distribution together with their timing/size results.

Martin Richards  
23 February 2007

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```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <OutputType>Exe</OutputType>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
  <ItemGroup>
    <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
  </ItemGroup>
</Project>
```

```
<ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />
</ItemGroup>
</Project>
```

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```
new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),
new XElement("fm",
  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
  new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),
  new XElement("p", "XML version by Jon Bosak, 1996-1997."),
  new XElement("p", "This work may be freely copied and distributed worldwide.")
```

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<https://github.com/dosvidos/SciMark>

```
<license>
```

This is a port of the SciMark2a Java Benchmark to C# by  
Chris Re (cmr28@cornell.edu) and Werner Vogels (vogels@cs.cornell.edu)

For details on the original authors see <http://math.nist.gov/scimark2>

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```
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```

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```
<TpnRepo Include="dotnet/roslyn-analyzers" />
```

```
<TpnRepo Include="dotnet/templating" />
```

```
<TpnRepo Include="dotnet/winforms" />
```

```
<TpnRepo Include="dotnet/wpf" />
```

```
<TpnRepo Include="dotnet/linker" />
```

```
<!--
```

Additional repos that should be included but don't have any third-party-notices files:

dotnet/efcore

dotnet/emsdk

dotnet/extensions

dotnet/icu

dotnet/sdk

dotnet/windowsdesktop

```
-->
```

```
<TpnRepo Condition="'%(TpnRepo.Branch)' == ''" Branch="main" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
</ItemGroup>

<RegenerateThirdPartyNotices
  TpnFile="$(TpnFile)"
  PotentialTpnPaths="@ (PotentialTpnPath)"
  TpnRepos="@ (TpnRepo)" />

<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
</Target>

</Project>
```

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<https://github.com/madler/zlib>  
[https://zlib.net/zlib\\_license.html](https://zlib.net/zlib_license.html)

/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.12, March 27th, 2022

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.12, March 27th, 2022

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Bit Twiddling Hacks

By Sean Eron Anderson

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## 1.56 system.management 7.0.2

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

```
Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.
```

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```
<TpnRepo Include="dotnet/roslyn-analyzers" />
```

```
<TpnRepo Include="dotnet/templating" />
```

```
<TpnRepo Include="dotnet/winforms" />
```

```
<TpnRepo Include="dotnet/wpf" />
```

```

<!--
  Additional repos that should be included but don't have any
third-party-notices files:
  dotnet/efcore
  dotnet/emsdk
  dotnet/extensions
  dotnet/icu
  dotnet/sdk
  dotnet/windowsdesktop
-->

<TpnRepo Condition="'%(TpnRepo.Branch)' == '' Branch="main" />

<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
</ItemGroup>

<RegenerateThirdPartyNotices
  TpnFile="$(TpnFile)"
  PotentialTpnPaths="@ (PotentialTpnPath)"
  TpnRepos="@ (TpnRepo)" />

<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
</Target>

</Project>
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  new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),
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```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <!-- Needed for CMakeProjectReference -->
    <RequiresProcessIsolation>true</RequiresProcessIsolation>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
  <ItemGroup>
    <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
    <ProjectReference Include="$(TestLibraryProjectPath)" />
  </ItemGroup>
</Project>
```

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\*\* Rick Grehan, BYTE Magazine

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# 1.57 system.serviceprocess.servicecontroller

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A big \*Thank You\* to all who contributed!

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## ## Core Docs

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# Contributions to .NET Core SDK 1.0

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core SDK 1.0. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --until release/1.1.0@{2017-02-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

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# Contributions to .NET Core 2.0

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-07-25}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

## CLI

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\* vcruntime140\_cor3.dll (used by WPF)  
\* Microsoft.DiaSymReader.Native.{x86|amd64|arm|arm64}.dll  
(used by .NET SDK)

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# Contributions to .NET 5.0

.NET 5 is an amazing milestone enabled, in part, by a wonderfully engaged community. This page is an attempt to  
acknowledge the efforts of many folks across the breadth of the ecosystem. We're working to get better at  
recognizing the your contributions so please, let us know if something is incorrect or missing.

\*\*Thank you!!\*\*

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# Contributions to .NET Core 1.1

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command against each repo. The release qualifier is different from the example in some cases. Also, where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
``bash
git shortlog -sne --no-merges --since {2016-05-20} --until {2016-11-08}
```

...

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

## ## CLI

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## # Contributions to .NET Core 2.0 Preview 2

We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 2. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2017-05-05} --until release/2.0.0@{2017-06-07}
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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We're still working out the best way to present contributors and trying to be as accurate as possible. The list below is

generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.0 Preview 1. Where multiple email addresses were returned for a single person, the counts were aggregated with the email address reported the most commits.

```
```bash
git shortlog -sne --no-merges --since release/2.0.0@{2016-10-03} --until release/2.0.0@{2017-05-05} --
committer="dotnet-bot" --invert-grep
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

- \* [CLI](#cli)
- \* [CoreCLR](#coreclr)
- \* [CoreFX](#corefx)
- \* [WCF](#wcf)

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 # Contributions to .NET Core 2.1

The list below is generated with the following command listed below in an attempt to capture all contributions which have gone into .NET Core 2.1.

```
```bash
git shortlog -sne --no-merges --since 2017-11-16 --until 2018-05-15
```
```

When you navigate to a contributors commit page, the results are not filtered by release so more commits than are listed below will be shown.

\* [CLI](#cli)  
 \* [CoreCLR](#coreclr)  
 \* [CoreFX](#corefx)  
 \* [WCF](#wcf)

## CLI

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# 1.58 microsoft.csharp 4.7.0

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<http://www.cl.cam.ac.uk/~mr10/Bench/README>

Please feel free to re-implement this benchmark in any language you choose. I would be happy to incorporate such translations into this distribution together with their timing/size results.

Martin Richards

23 February 2007

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```
<TpnRepo Include="dotnet/roslyn-analyzers" />
```

```
<TpnRepo Include="dotnet/templating" />
```

```
<TpnRepo Include="dotnet/winforms" />
```

```
<TpnRepo Include="dotnet/wpf" />
```

```
<!--
```

Additional repos that should be included but don't have any third-party-notices files:

dotnet/efcore

dotnet/emsdk

dotnet/extensions

dotnet/icu

dotnet/sdk

dotnet/windowsdesktop

```
-->
```

```
<TpnRepo Condition="% (TpnRepo.Branch)' == '' Branch="main" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />
```

```
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />
```

```
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />
```

```
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />
```

```
</ItemGroup>
```

```
<RegenerateThirdPartyNotices
```

```
  TpnFile="$(TpnFile)"
```

```
  PotentialTpnPaths="@ (PotentialTpnPath)"
```

```
  TpnRepos="@ (TpnRepo)" />
```

```
<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />
```

```
</Target>
```

```
</Project>
```

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<https://github.com/madler/zlib>

[https://zlib.net/zlib\\_license.html](https://zlib.net/zlib_license.html)

/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.2.13, October 13th, 2022

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 new XElement("p", "Text placed in the public domain by Moby Lexical Tools, 1992."),  
 new XElement("p", "SGML markup by Jon Bosak, 1992-1994."),  
 new XElement("p", "XML version by Jon Bosak, 1996-1997."),  
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```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <!-- Needed for CMakeProjectReference -->
    <RequiresProcessIsolation>true</RequiresProcessIsolation>
    <ApplicationManifest>App.manifest</ApplicationManifest>
  </PropertyGroup>
  <ItemGroup>
    <Compile Include="Program.cs" />
    <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />
    <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />
    <Compile Include="..\..\ServerContracts/ServerGuids.cs" />
  </ItemGroup>
  <ItemGroup>
    <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />
    <ProjectReference Include="$(TestLibraryProjectPath)" />
  </ItemGroup>
</Project>
```

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<https://github.com/madler/zlib>  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
version 1.3.1, January 22nd, 2024

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By Sean Eron Anderson

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# 1.59 system.numerics.vectors 4.5.0

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Bit Twiddling Hacks

By Sean Eron Anderson

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## 1.62 system.threading.tasks.extensions 4.5.1

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## 1.63 system.memory 4.5.4

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```
<Project Sdk="Microsoft.Build.NoTargets">
```

```
<UsingTask TaskName="RegenerateThirdPartyNotices" AssemblyFile="$(InstallerTasksAssemblyPath)" />
```

```
<Target Name="RegenerateThirdPartyNotices" AfterTargets="Build">
```

```
<PropertyGroup>
```

```
<TpnFile>$(InstallerProjectRoot)pkg\THIRD-PARTY-NOTICES.TXT</TpnFile>
```

```
</PropertyGroup>
```

```
<!--
```

```
Repo configuration. Upstreams, but also more: the TPN in dotnet/runtime serves many repos outside its graph, because dotnet/runtime produces the installer that ends up placing the single TPN file in the dotnet home directory.
```

```
-->
```

```
<ItemGroup>
```

```
<TpnRepo Include="dotnet/runtime" />
```

```
<TpnRepo Include="dotnet/aspnetcore" />
```

```
<TpnRepo Include="dotnet/installer" />
```

```
<TpnRepo Include="dotnet/roslyn-analyzers" />
```

```
<TpnRepo Include="dotnet/templating" />
```

```
<TpnRepo Include="dotnet/winforms" />
```

```
<TpnRepo Include="dotnet/wpf" />
```

```
<!--
```

```
Additional repos that should be included but don't have any
```

third-party-notices files:

```
dotnet/efcore  
dotnet/emsdk  
dotnet/extensions  
dotnet/icu  
dotnet/sdk  
dotnet/windowsdesktop
```

-->

```
<TpnRepo Condition="'%(TpnRepo.Branch)' == '' Branch="main" />  
  
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.TXT" />  
<PotentialTpnPath Include="THIRD-PARTY-NOTICES.txt" />  
<PotentialTpnPath Include="THIRD-PARTY-NOTICES" />  
<PotentialTpnPath Include="THIRDPARTYNOTICES.TXT" />  
<PotentialTpnPath Include="THIRDPARTYNOTICES.txt" />  
</ItemGroup>  
  
<RegenerateThirdPartyNotices  
  TpnFile="$(TpnFile)"  
  PotentialTpnPaths="@ (PotentialTpnPath)"  
  TpnRepos="@ (TpnRepo)" />  
  
<Message Text="$(MSBuildProjectName) -> $(TpnFile)" Importance="High" />  
</Target>  
  
</Project>  
<Project Sdk="Microsoft.NET.Sdk">  
<PropertyGroup>  
  <OutputType>Exe</OutputType>  
  <ApplicationManifest>App.manifest</ApplicationManifest>  
</PropertyGroup>  
<ItemGroup>  
  <Compile Include="Program.cs" />  
  <Compile Include="..\..\ServerContracts/Server.CoClasses.cs" />  
  <Compile Include="..\..\ServerContracts/Server.Contracts.cs" />  
  <Compile Include="..\..\ServerContracts/ServerGuids.cs" />  
</ItemGroup>  
<ItemGroup>  
  <CMakeProjectReference Include="..\..\NativeServer/CMakeLists.txt" />  
  <ProjectReference Include="$(TestSourceDir)Common/CoreCLRTestLibrary/CoreCLRTestLibrary.csproj" />  
</ItemGroup>  
</Project>
```

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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Bit Twiddling Hacks

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