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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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This is a port of the SciMark2a Java Benchmark to C# by  
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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Written by: Philip Hazel  
Email local part: Philip.Hazel  
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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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<https://github.com/santoshshahoo/nbench> (mirror of the same code)

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# 1.5 tss.msr 2.1.1

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# 1.6 system-serviceprocess-servicecontroller

## 7.0.0

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License notice for A Benchmark Test for Systems Implementation Languages

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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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THE BASIC LIBRARY FUNCTIONS  
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Written by: Philip Hazel  
Email local part: Philip.Hazel  
Email domain: gmail.com

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Written by: Zoltan  
Herczeg  
Email local part: hzmester  
Email domain: freemail.hu

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Written by: Zoltan Herczeg

Email local part: hzmester

Email domain: freemail.hu

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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jloup@gzip.org      madler@alumni.caltech.edu

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By Sean Eron Anderson  
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## 1.7 system-diagnostics-eventlog 7.0.0

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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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<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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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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<http://www.w3.org/2002/06/sacjava-1.3.zip>

The actual DOM Java Language Binding classes for SMIL came from:

<http://dev.w3.org/cvsweb/java/classes/org/w3c/dom/smil/>

(both `ElementTimeControl.java` and `TimeEvent.java` were taken at revision 1.1)

The actual DOM Java Language Binding classes for SVG 1.1 came from:

<http://www.w3.org/TR/SVG11/java.html>

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## 1.12 system.commandline 2.0.0-beta4.22272.1

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## 1.13 criollo 0.5.5

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# 1.14 microsoft.windows.sdk.net.ref

## 10.0.22621.28

### 1.14.1 Available under license :

No license file was found, but licenses were detected in source scan.

/opt/cola/permits/1845778165\_1699990928.5434532/0/microsoft-windows-sdk-net-ref-10-0-22621-31-  
zip/lib/net6.0/Microsoft.Windows.SDK.NET.dll: binary file matches

/opt/cola/permits/1845778165\_1699990928.5434532/0/microsoft-windows-sdk-net-ref-10-0-22621-31-  
zip/lib/net6.0/WinRT.Runtime.dll: binary file matches

/opt/cola/permits/1845778165\_1699990928.5434532/0/microsoft-windows-sdk-net-ref-10-0-22621-31-  
zip/winmd/Windows.Foundation.UniversalApiContract.winmd: binary file matches

/opt/cola/permits/1845778165\_1699990928.5434532/0/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

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Found in path(s):

\* /opt/cola/permits/1845778165\_1699990928.5434532/0/microsoft-windows-sdk-net-ref-10-0-22621-31-  
zip/Microsoft.Windows.SDK.NET.Ref.nuspec

No license file was found, but licenses were detected in source scan.

<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):

```
* /opt/cola/permits/1845778165_1699990928.5434532/0/microsoft-windows-sdk-net-ref-10-0-22621-31-
zip/lib/net6.0/Microsoft.Windows.SDK.NET.xml
```

## 1.15 system-codedom 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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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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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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<https://github.com/santoshshahoo/nbench> (mirror of the same code)

/\*

\*\* BYTEmark (tm)

\*\* BYTE Magazine's Native Mode benchmarks

\*\* Rick Grehan, BYTE Magazine

\*\*

\*\* Create:

\*\* Revision: 3/95

\*\*

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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("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)

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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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By Sean Eron Anderson  
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## 1.17 lumberjackconsole 1.0.2

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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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Use:

<https://github.com/dotnet/coreclr/blob/a9074bce5e3814db67dbec1c56f477202164d162/tests/src/sizeondisk/sodbench/SoDBench.cs#L738>

```
<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>
```

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

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

```
</ItemGroup>
```

```
</Project>
```

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

/\* 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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new XElement("fm",
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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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Martin Richards

23 February 2007

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new XElement("fm",
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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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<https://github.com/santoshshahoo/nbench> (mirror of the same code)

/\*

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\*\* Rick Grehan, BYTE Magazine

\*\*

\*\* Create:

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\*\*

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<https://github.com/dotnet/coreclr/blob/a9074bce5e3814db67dbec1c56f477202164d162/tests/src/sizeondisk/sodbench/SoDBench.cs#L738>

```
<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>
```

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

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

```
</ItemGroup>
```

```
</Project>
```

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

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## 1.27 system-formats-asn 7.0.0

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Martin Richards  
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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("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."),
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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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By Sean Eron Anderson  
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## 1.28 mstest-testadapter 3.0.4

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Bit Twiddling Hacks

By Sean Eron Anderson

seander@cs.stanford.edu

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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 executables

containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

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d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

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For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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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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## 1.37 moq 4.13.1

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## 1.38 system-management 7.0.2

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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" />
  </ItemGroup>
</Project>
```

```
<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-notice 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  
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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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## 1.41 json-web-token-handler-for-the-microsoft-net-framework 6.29.0

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## 1.42 alamofire 4.9.1

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# 1.44 tdoauth 1.6.2

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## 1.45

# microsoft.toolkit.uwp.notifications.javascript

## 5.1.1

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# 1.46 reactive-extensions-query-library 3.0.0

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# 1.47 microsoft-csharp 4.7.0

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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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```
new XElement("TITLE", "The Tragedy of Hamlet, Prince of Denmark"),
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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."),
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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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Jean-loup Gailly      Mark Adler  
jloup@gzip.org      madler@alumni.caltech.edu

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By Sean Eron Anderson  
seander@cs.stanford.edu

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# 1.51 system-runtime-compilerservices-unsafe

## 6.0.0

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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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lz4net



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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.")
)
<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
      dotnet/linker
    -->

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

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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  
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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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/\* zlib.h -- interface of the 'zlib' general purpose compression library  
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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.")  
<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  
    dotnet/linker
```

-->

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

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

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

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

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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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