RTSDK C# 3.0.2.L1

INSTALLATION GUIDE

1 Overview

RTSDK packages are specific to the product language (C/C++, C#, or Java). This guide describes the procedure to install and build RTSDK CSharp, starting with RTSDK version 2.0.8.L1 or ETA 3.0.0.L1 and later.

The RTSDK supports open sourcing and uses standards-based, freely-available open source tools to provide additional flexibility and benefit.

Solution and project files target the.NET 6.0 platform and Visual Studio 2022.

Note: RTSDK version 2.0.8.L1 or ETA 3.0.0.L1 is the initial package release for the C# language.

2 Requirements and Limitations

- The RTSDK CSharp package uses XUnit in its unit tests.
- The RTSDK CSharp library may be rebuilt using the solution file provided with RRG package.

Note: RTSDK CSharp build does require access to the Internet to download necessary external dependencies from NuGet when using GitHub. With CSharp package, all dependencies are included in Eta/NuGetPackages.

Please check README in CSharp directory after obtaining the package (refer to Section 3) for specific versions and a complete list of dependencies.

REFINITIV™

3 Obtaining the Package

You have the following options in obtaining the RTSDK:

- You can download the package from the Developer Community Portal at the following URL: https://developers.refinitiv.com/en/api-catalog/refinitiv-real-time-opnsrc/refinitiv-real-time-csharp-sdk/downloads

  You can also obtain the package from MyRefinitiv software downloads page as follows:

  a. Go to https://my.refinitiv.com/content/mytr/en/downloadcenter.html.

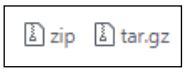
  b. Search for "MDS -API" and "Real-Time SDK" to locate the C# package.

  Note: RTSDK C# package downloaded from Developer Community Portal or MyRefinitiv software downloads contains the necessary build files and external dependencies.

- You can clone the RTSDK from the GitHub repository (at https://github.com/Refinitiv/Real-Time-SDK) by using the following command:

```
git clone https://github.com/Refinitiv/Real-Time-SDK.git
```

  Tip: You can also download the source from GitHub via the browser:

  - Browse to the URL https://github.com/Refinitiv/Real-Time-SDK/releases
  - Each release will have the following options listed beneath it's release name: 

  - To download a compressed package, click **zip** or **tar.gzip**.

- You can specify RTSDK libraries are external dependencies downloadable from NuGet when building your application. Here are the dependencies to include in your **csproj** file:

```
<dependency>
  <ItemGroup>
    <PackageReference Include="LSEG.Eta.Core" Version="3.0.0" />
    <PackageReference Include="LSEG.Eta.ValueAdd" Version="3.0.0" />
    <PackageReference Include="LSEG.Eta.Ansi" Version="3.0.0" />
    <PackageReference Include="LSEG.Eta.AnsiPage" Version="3.0.0" />
  </ItemGroup>
</dependency
```

4 Package Directory Changes

The following table illustrates the RTSDK package directory structure.

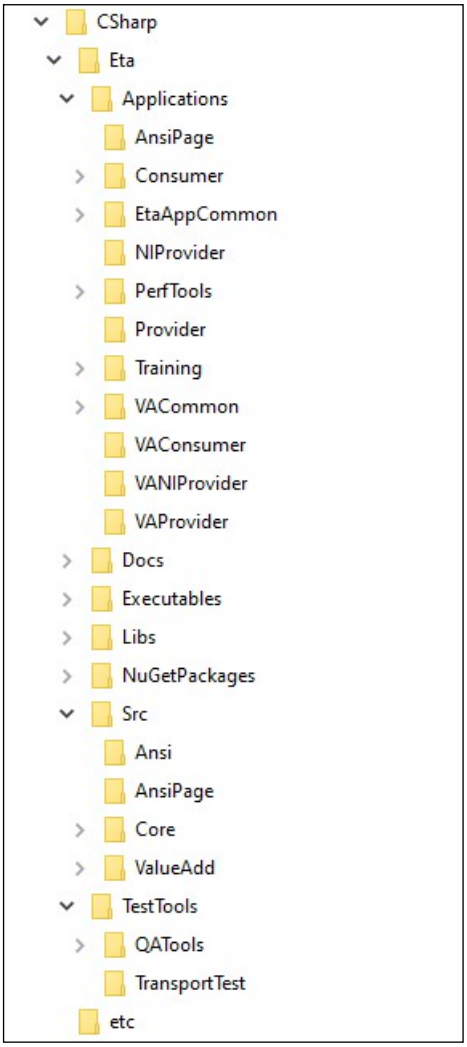
RTSDK C# 3.0.2.L1 PACKAGE
The following diagram illustrates the top-level directory structure for the RTSDK C# 3.0.2.L1 release: 

Table 1: RTSDK CSharp Package Structure

5 Using the Package

There are two ways to build the sources obtained from GitHub:

- Use the solution file to build libraries and examples: Use appropriate **Visual Studio** version.
- Use **`dotnet`** command line to build the libraries and/or examples.

5.1 ▶ Building RTSDK

Building RTSDK using **`dotnet`** command lines is platform agnostic which means it works the same way on Linux and Windows platforms. Building using **Visual Studio** is applicable to Windows only.

The RRG package contains all required external dependencies in the **CSharp/Eta/NuGetPackages** directory. In an environment without Internet access, you must add this directory as a nuget source and disable other NuGet sources for a build to succeed. Following are some **`dotnet`** commands to do so.

To check existing NuGet sources:

```
dotnet nuget list source
```

To add a new NuGet source:

```
dotnet nuget add source <full path to your RRG package/CSharp/Eta/NuGetPackages>.
```

To disable certain NuGet sources:

```
dotnet nuget disable source <specify a source showed in the list>.
```

Example:

```
dotnet nuget disable source "nuget.org"
```

Using Solution Files and Visual Studio

Use the provided solution (or **sln**) file to build in **Visual Studio.**

Using `dotnet`

Navigate to **RTSDK/CSharp** and issue the appropriate **`dotnet`** command as follows to build libraries and/or examples:

```
dotnet build --configuration <Release|Debug> ETA_NET6.0.sln
```

Note:
- In a GitHub build, this builds libraries and places them into **Eta/Libs** and examples into **Eta/Executables**
- In RRG package, this builds only libraries and places them into a custom directory: **Eta/Custom/Libs**

To build just libraries:

```
dotnet build --configuration Release Eta/Src/Core/Core_NET6.0.csproj
dotnet build --configuration Release Eta/Src/ValueAdd/ValueAdd_NET6.0.csproj
dotnet build --configuration Release Eta/Src/Ansi/Ansi_NET6.0.csproj
dotnet build --configuration Release Eta/Src/AnsiPage/AnsiPage_NET6.0.csproj
GitHub Only: dotnet build -t:Consumer --configuration Release ETA_NET6.0.sln
```

Note:
- In a GitHub build, this builds libraries and places them into **Eta/Libs** and examples into **Eta/Executables**
- In RRG package, this builds only libraries and places them into a custom directory: **Eta/Custom/Libs**

To build just examples: Each example may be built separately using the individual **csproj** files. Please note that the RRG package also contains a **.sln** file for each example. Sample command line to build examples:

```
dotnet build --configuration Release Eta/Applications/Consumer/Consumer_NET6.0.csproj
dotnet build --configuration Release Eta/Applications/Consumer/Consumer_NET6.0.sln
```

Note:
- Both **sln** and **csproj** files build examples and place them into **Eta/Executables**.
- Example solution files only exist in the RRG package.
- In RRG package, building examples via **csproj** or **sln** link to pre-built libraries located in **Eta/Libs**.
- In a GitHub build, each example expects libraries in **Eta/Libs** to exist.

Running Examples

Navigate to the **CSharp** directory in the RTSDK package and issue the appropriate **dotnet** command to run various examples using

dotnet [runtime-options] [path-to-application] [arguments]

- **dotnet** Eta/Executables/Consumer/Debug/net6.0/Consumer.dll [arguments]
- **dotnet** Eta/Executables/ConsMod1a/Debug/net6.0/ConsMod1a.dll [arguments]

```
dotnet Eta/Applications/VAConsumer/bin/Debug/net6.0/VAConsumer.dll -c localhost:14002
   DIRECT_FEED mp:TRI
```

Tip: You can see a list of all possible arguments by passing the command: **"-?"**

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