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Contents

Preface .................................................................................................................. v

About This Guide........................................................................................................ v

Related Documentation .......................................................................................... v

RiverWare Resources ............................................................................................ v

Support Information .................................................................................................. v

Tutorials and Training ................................................................................................ vi

RiverWare Help Files ............................................................................................. vi

Installing RiverWare ........................................................................................... 1

About the RiverWare Installation Program .......................................................... 1

Required Permissions .............................................................................................. 1

Download the RiverWare Installation Program .................................................... 1

Install RiverWare ..................................................................................................... 2

Starting RiverWare .................................................................................................. 8

About the RiverWare License ............................................................................. 8

License File Location on Your Computer .............................................................. 8

License Types .......................................................................................................... 9

Display Information About Your License ............................................................ 9

Running RiverWare With a Node-locked License ............................................10

Running RiverWare With a Floating License ...................................................10

How RiverWare Obtains and Retains a Floating License ....................................11

License Validation During a Simulation Run ......................................................... 11

Using a Roaming License ...................................................................................... 12

Check Out a Roaming License .............................................................................. 12

Delete the RLM_ROAM Environment Variable .................................................... 14

Check in a Roaming License Before It Expires .................................................... 14

Release a Roaming License Unconditionally ....................................................... 15

Running RiverWare With a License Dongle .....................................................16

License Dongle Process Summary ........................................................................ 16

Required Port Access ............................................................................................ 16

Setting Up Additional Computers ....................................................................... 17

Installing the Dongle Device Drivers Manually ................................................. 17

Download the Dongle Driver Files ...................................................................... 17

Install Dongle Drivers With the GUI Installer .................................................... 19

Install Dongle Drivers With the Command Line Installer .................................... 21

Troubleshooting ..................................................................................................22

RiverWare Startup Errors .................................................................................... 22

License Errors ........................................................................................................ 23
Verify the License Dongle Host ID ................................................................. 26

Uninstalling RiverWare ............................................................................... 27
  Uninstall Using Windows Installer .......................................................... 27
  Uninstall Using the RiverWare Installation Program ............................... 27
Preface

Note: This guide applies only to RiverWare 6.x and later and to 64-bit computers running Windows 8.1 and later.

Note: Starting with RiverWare 8.0, 32-bit operating systems are no longer supported. For 32-bit computers or RiverWare 5.x and earlier, email RiverWare Installation Support for information:

installsupport@colorado.edu

About This Guide

This guide is for RiverWare users, and it provides information to perform the following activities.

- Install RiverWare on a Windows computer.
- Run RiverWare using a node-locked license.
- Run RiverWare using a floating license and check out a roaming license to use RiverWare when a computer is not connected to the network.
- Set up a Windows computer to run RiverWare using a license dongle.
- Troubleshoot common license errors.
- Uninstall RiverWare from a Windows computer.

Note: The screenshots in this guide may vary slightly from the display on your computer depending on the versions of RiverWare and Windows you are running.

Related Documentation

RiverWare License Server Administration Guide

For RiverWare license server administrators. Describes how to install, configure, and monitor the RiverWare floating license server on a Windows host.

RiverWare Resources

Support Information

For help with RiverWare installation and licensing, email RiverWare Installation Support:

installsupport@colorado.edu

After RiverWare is successfully installed, for help-desk type support, email RiverWare Technical Support:

riverware-support@colorado.edu

Support time can be purchased from CADSWES. See the RiverWare licensing page for more information:

http://riverware.org/riverware/LicensingRW/index.html
Tutorials and Training

The following resources are available to help you get started using RiverWare.

- On the RiverWare Tutorials page, you can view videos of RiverWare functionality and features.
  
  http://riverware.org/tutorials/index.html

- In the RiverWare documentation, the Model Building Quick Start provides information on building your own model.
  
  http://riverware.org/HelpSystem/index.html

- In RiverWare, you can open an existing model by selecting File, then Open Model.

CADSWES also offers training classes to teach you how to use RiverWare. Go to the following page for descriptions.

  http://riverware.org/riverware/training/index.html

RiverWare Help Files

All RiverWare documentation is available at the RiverWare site:

riverware.org

You can display RiverWare Help by selecting one of the following options on the RiverWare workspace menu.

- Select Help, then Documentation—displays the HTML-based Help.
- Select Help, then Documentation PDFs—displays the PDF-based Help.

Viewing the HTML Help

The HTML Help can be viewed in a web browser, such as Google Chrome or Firefox.

Viewing the PDF Help

The PDF Help can be viewed with Adobe Acrobat Reader. To install Acrobat Reader on your computer, go to the Adobe Reader download site and follow the instructions there.

https://get.adobe.com/reader/

The Acrobat Reader installation process typically sets Acrobat Reader as the default program for PDF files. If it is not set by default, use the following steps to update the file association.

1. Open Windows Start menu, and in the Search programs and files text box, enter the following string: file type associations
2. In the search results, select Change the file type associated with a file extension.
3. In the file type list, select the .pdf row and select Change program.
4. In the popup list, select Adobe Reader.
Installing RiverWare

This section provides information about downloading and installing the RiverWare application on your computer.

About the RiverWare Installation Program

The RiverWare installation program is available for download from the RiverWare site, which is password protected. The authorized username and password for the download are sent to users in each RiverWare release notification email. If you do not have access to the email notification, you can email RiverWare Installation Support to request the login information:

installsupport@colorado.edu

The installation program name uses the format: RiverWare\nnn\setup.exe

where \nnn\ is the two- or three-digit version number. Examples:

- RiverWare81setup.exe — installation program for RiverWare 8.1
- RiverWare803setup.exe — installation program for RiverWare 8.0.3

The installation program installs a full release of RiverWare in a single folder. The installation includes all the files you need to run RiverWare, except the required RiverWare license file and Adobe Reader or a web browser for viewing the RiverWare Help files.

After the installation completes, a RiverWare icon is placed on the Windows Desktop, and the RiverWare application is added to the CADSWES folder in the Windows Start menu.

Required Permissions

Windows Administrator privileges are not required to perform the installation or install the RiverWare license file; however, depending on access restrictions set up by your organization, you may need Administrator privileges to perform some tasks or write to some folders—for example: C:\Program Files\ 

If you run the RiverWare installation program as Windows Administrator, the default installation folder is: C:\Program Files\CADSWES\ 

If you run the installation program as a regular user, the default installation folder is a subfolder of your Program Files folder, typically: C:\Users\username\AppData\Local\Programs\CADSWES\ 

During the installation process, you can optionally change the installation location to any folder for which you have write permission.

Download the RiverWare Installation Program

1. On the computer where you want to install RiverWare, open a web browser and go to the following page.

   https://cadswes2.colorado.edu/downloads/riverware/releases/index.html

2. Select the version of RiverWare to download.

3. In the Authentication Required dialog box, enter the authorized username and password provided by RiverWare Installation Support and select OK.
**Note:** The username and the password are delivered to you by email.

4. Save the download to your computer.

## Install RiverWare

**Note:** The screenshots in this section show the installation of RiverWare 8.1 on Windows 8. They may vary slightly from the display on your computer depending on the versions of RiverWare and Windows you are using.

1. Use one of the following methods to start the RiverWare installation.
   - To run the installation as a regular user, log in as a regular user and open the RiverWare Installation program.
   - To run the installation as Windows Administrator, do one of the following.
     - Log in as a regular user, then right-click the RiverWare Installation program icon and select **Run as administrator**.
     - Log in as Windows Administrator and open the RiverWare Installation program.

2. Review the information in the Welcome window and select **Next**.

![Welcome to the RiverWare Install Wizard](image)

3. Review the license agreement and select **I accept the terms in the license agreement**, then select **Next**.
4. In the Customer Information window, enter your **User Name** and **Organization**, then select **Next**.

5. The Destination Folder screen allows you to accept or override the default installation folder, which is determined by the type of user running the RiverWare installation program; see **Step 1**.
   - If you are running the installation program as Windows Administrator, the default installation folder is: `C:\Program Files\CADSWES\RiverWare version`\n   - If you are running the installation as a regular user, the default installation folder is: `C:\Users\username\AppData\Local\Programs\CADSWES\RiverWare version`\n
Review the information and proceed as follows.
- To accept the default installation folder, select **Next**; proceed to **Step 7**.
- To install to a different folder, select **Change Destination Folder**; proceed to **Step 6**.
6. In the Change Current Destination Folder window, specify the full path to the folder where you want to install RiverWare, then select **OK**.

The Destination Folder window reopens, displaying the updated location. Review the information and select **Next** to confirm.
7. The Setup Type window allows you to choose whether to install RiverWare with DSS Connectivity. DSS Connectivity allows you to import or export data to the U.S. Army Corps of Engineers Data Storage System (DSS) using the RiverWare Data Management Interface (DMI). The DSS database format is used by many government agencies and other organizations to store data.
   - If you plan to use DSS Connectivity, select Complete, then Next; proceed to Step 9.
   - If you do not need this functionality and want to save space on your computer, select Custom, then Next; proceed to Step 8.

8. The Custom Setup window allows you to confirm a custom installation. The red X beside DSS Connectivity indicates this feature will not be installed. Review this information and select Next to confirm.
9. The Ready to Install the Program window allows you to choose which users will be able to run RiverWare on this computer.

Proceed as follows to start the RiverWare installation.

− To allow RiverWare to be run by the current user only, select **Only for me**.
− To allow any user logged into this computer to run RiverWare, select **Anyone who uses this computer**.

   **Note:** This option is valid only if you are running the RiverWare installation program as Windows Administrator; see **Step 1**. If you are running the installation as a regular user, the installation will fail with an insufficient privileges error, even if your user account has full Administrator privileges. You must then exit the installation program and rerun it.

The RiverWare installation starts immediately, and the screen displays the progress.
10. If the installation is successful, the RiverWare Install Wizard Completed window opens. Select Finish to exit. A RiverWare icon is added to your Windows Desktop, and RiverWare is added to the CADSWES folder in the Windows Start menu.

If the installation failed or was interrupted before it completed, the RiverWare Install Wizard Interrupted window opens, indicating no updates have been made to your computer. Select Finish to exit. You must repeat the installation process to install RiverWare.
Starting RiverWare

For RiverWare to start, a valid license file must be installed in the proper location on your computer; see License File Location on Your Computer on page 8 for details. To request a license file, email RiverWare Installation Support:

installsupport@colorado.edu

You can use either of the following methods to start RiverWare.

- Open the RiverWare icon on the Windows Desktop.
- Open the Windows Start menu, select CADSWES, then select the RiverWare version to run.

For help with errors when starting RiverWare, see Troubleshooting on page 22.

About the RiverWare License

When RiverWare starts, it automatically locates and validates the license file. The file is assigned the name “cadswes.lic”, and CADSWES recommends preserving this file name.

Caution: The cadswes.lic file is a simple ASCII file. Do not save it in any other format.

License File Location on Your Computer

For RiverWare to find and validate the license file, the file must be located in the parent folder of the RiverWare installation folder—that is, one level directly above the installation folder. For example, if RiverWare 8.0 is installed in: C:\Program Files\CADSWES\RiverWare 8.0\, the license file must be located at: C:\Program Files\CADSWES\cadswes.lic

Note: Be sure there are no other files with a .lic extension in the same folder.

The license file authorizes all versions of RiverWare. Because you may want to run multiple versions of RiverWare, it is recommended to install all versions of RiverWare in subfolders under a single parent folder, and to locate the license file in the parent folder. By using this folder organization, you only need to maintain one copy of the license file. For example:
License Types

A RiverWare license allows you to run any number of RiverWare instances on your computer. The following types of licenses are available for RiverWare.

Node-locked license

A license that is locked to a specific computer, enabling you to run RiverWare on that computer only. See Running RiverWare With a Node-locked License on page 10 for details.

Floating license

A network license that allows one or more computers connected to a network to share from a pool of available licenses managed by a license server. To obtain a floating license, your computer must be connected to the same network as the license server. See Running RiverWare With a Floating License on page 10 for details.

A roaming license is a special instance of a floating license that has been checked out from the license pool to a specific computer that will be disconnected from the network. The roaming license enables you to run RiverWare for a limited time on that computer while not connected to a network. See Using a Roaming License on page 12 for details.

Dongle license

A license that is locked to a portable USB hardware key, not to a specific computer, enabling you to easily change computers for running RiverWare. See Running RiverWare With a License Dongle on page 16 for details.

Display Information About Your License

After starting RiverWare successfully, you can use this procedure to display details about your license. This procedure applies to all license types.

1. Start RiverWare on your computer.
   
   RiverWare validates the license file on your computer. For floating licenses, RiverWare automatically contacts the RiverWare license server and obtains a floating license, if available.

2. In the RiverWare workspace menu, select Help, then About RiverWare.

The License Information section displays the license manager version, the location of your license file, the features authorized by the license, and the number of days until the license expires.
Running RiverWare With a Node-locked License

A RiverWare node-locked license is locked to a specific computer, meaning the license is valid only for the computer for which the license is issued. With a node-locked license, you can run any number of RiverWare instances on your computer with or without being connected to a network.

The only requirement for starting RiverWare with a node-locked license is for a valid node-locked license file to be installed in the proper location on your computer; see License File Location on Your Computer on page 8 for details.

Running RiverWare With a Floating License

A RiverWare floating license is a network license that allows one or more computers connected to a network to run RiverWare. Floating licenses require a network license server, which manages the pool of available licenses, or license pool. Your computer must be connected to the network to request and obtain a RiverWare license from the server. With a floating license, you can run any number of RiverWare instances on your computer.

The license server serves available licenses to the client computers from the license pool. The maximum number of licenses in the pool is defined in the license certificate file on the license server. When you close all instances of RiverWare on your computer, the floating license is returned to the license pool and becomes available for another user. When you restart RiverWare, it must obtain a new floating license from the license server.
How RiverWare Obtains and Retains a Floating License

When you start RiverWare on your computer, RiverWare automatically contacts the license server and requests a floating license; therefore, to obtain a floating license, your computer must be connected to the network where the RiverWare license server is running. In addition, a valid floating license file must be installed in the proper location on your computer.

**Note:** See your license server administrator for assistance in obtaining a floating license file for your computer.

While RiverWare is running, it periodically contacts the license server to verify the license is still valid. If RiverWare is not able to validate the license, it assumes the license has been lost and requests a new one. If RiverWare is not able to obtain a new license, it must shut down.

License Validation During a Simulation Run

RiverWare does not validate a license during a simulation run, but once the simulation finishes, it performs the validation check within two minutes. The details of this process are as follows.

1. Within two minutes of simulation completion, RiverWare contacts the license server to validate the license.
2. If RiverWare is not able to contact the license server, or detects the license has been lost or is no longer valid, a dialog box is displayed indicating the license has been lost.
3. Once the dialog box is closed, you have ten minutes to use RiverWare to save your work and exit. During this time, the workspace status bar displays a countdown timer.
4. After ten minutes, RiverWare displays a second dialog box warning that the license has been lost and it must exit. You must select one of the following buttons:
   - **Exit**—exit RiverWare without saving the model file.
   - **Save and Exit**—save the model file only and exit; associated files, such as rulesets and SCTs, are not saved.

When running in batch mode, RiverWare checks for a license after completing the batch model script, rather than right after the simulation finishes. Since the batch mode script can include saving results, the model, and other associated files, there is no risk of running out of time to save everything in the ten-minute time limit.

**Example 1.** Floating license lost during an overnight run

You start a simulation that runs overnight. When the simulation finishes, RiverWare attempts to validate the license and detects it has lost the license and is not able to obtain a new one.

When you check RiverWare the next day, the first dialog box is displayed, indicating the license has been lost and you must exit RiverWare within ten minutes of closing the dialog box. During this ten-minute period, you can use RiverWare to save the results and associated files, export data, and so on.

If you are not able to finish within the ten-minute limit, the second dialog box is displayed, and you must exit RiverWare without performing any additional actions. You can save the model file when you exit, but no other unsaved files can be saved.
Using a Roaming License

A RiverWare roaming license is a floating license that has been checked out from the license pool to a client computer that will be disconnected from the network. A roaming license allows you to run any number of RiverWare instances on your computer while disconnected from the network. The roaming license is valid for a specified number of days, up to 30.

For you to check out a roaming license, your computer must be connected to the network where the RiverWare license server is running, and at least one license must be available in the floating license pool. In addition, a valid floating license file must be installed in the proper location on your computer; see License File Location on Your Computer on page 8 for details.

Note: See your license server administrator for assistance in obtaining a license file for your computer.

A roaming license is valid for a specified number of days. The license is valid until midnight of the last day of the roaming period; for example, if the roaming period is two days, the license is valid until midnight of the second day. When RiverWare starts on your computer, it opens a License Notification window displaying the days remaining in the roaming period. Optionally, you can check in a roaming license early.

At the end of the roaming period, the license expires and you must reconnect to the network to obtain a floating license or check out a new roaming license.

While a roaming license is checked out, it is not available to other RiverWare users on the network. The license is returned to the license pool when the license expires or you check it in manually, and it can then be served to another user as a floating or roaming license.

Check Out a Roaming License

Use this procedure to check out a roaming license from the license pool.

1. Connect your computer to the network where the license server is running.

2. Verify your computer can access the license server by starting RiverWare with a regular floating license.

3. Close all RiverWare sessions on your computer.

4. Use the following steps to define the RLM_ROAM environment variable.
   a. On the Windows Start menu, select Control Panel, then User Accounts.
   b. In the User Accounts window, select Change my environment variables.
   c. In the User variables section of the Environment Variables window, select New.
      Note: If the environment variable already exists, you should delete it and restart this procedure from the beginning; see Delete the RLM_ROAM Environment Variable on page 14 for details.
   d. Complete the New User Variable window as follows, then select OK.
      • Variable name: RLM_ROAM
      • Variable value: number of days the roaming license can be used, up to a maximum of 30. For example, enter 9 for nine days.
      Note: If you enter a number greater than 30, RiverWare will not be able to start.
e. Select **OK** in the Environment Variables window to apply your changes and close the window.

5. Start RiverWare and then close it immediately.

6. Disconnect your computer from the network.

7. Start RiverWare to start using the roaming license.

   If the roaming license has been checked out successfully, RiverWare starts with the roaming license. A License Notification window appears displaying the number of days left on your license.

   ![License Notification Window](image)

   **Note:** You can also check the number of days remaining on the roaming license at any time; see Display Information About Your License on page 9.

8. It is recommended that you delete the RLM_ROAM environment variable from your computer to prevent inadvertent changes; see Delete the RLM_ROAM Environment Variable on page 14 for details.
Delete the RLM_ROAM Environment Variable

Use this procedure to delete the RLM_ROAM user environment variable from your computer. It is recommended that you perform this procedure after successfully checking out a roaming license to prevent license issues that may occur if your computer is reconnected to the same network as the license server.

1. On the Windows Start menu, select Control Panel, then User Accounts.
2. In the User Accounts window, select Change my environment variables.
3. In the User variables section of the Environment Variables window, select the RLM_ROAM variable, then select Delete.
4. Select OK in the Environment Variables window to apply your changes and close the window.
   The variable is deleted.

Check in a Roaming License Before It Expires

Use this procedure to check in a roaming license to the license pool before the license expires. This procedure assumes you have deleted the RLM_ROAM environment variable from your computer, as recommended.

1. Close all RiverWare sessions on your computer.
2. Reconnect your computer to the network where the license server is running.
   **Note:** If the license server is not running, you cannot check in the roaming license. You can wait for the license server to restart, or you can release the license unconditionally; see Release a Roaming License Unconditionally on page 15.
3. Use the following steps to define the RLM_ROAM environment variable.
   a. From the Windows Start menu, select Control Panel, then User Accounts.
b. In the User Accounts window, select **Change my environment variables**.

c. In the User variables section of the Environment Variables window, select **New**.

d. Complete the New User Variable window as follows:
   - **Variable name**: RLM_ROAM
   - **Variable value**: -1

e. Select **OK** to close the New User Variable window.

f. Select **OK** in the Environment Variables window to apply your changes and close the window.

4. Start RiverWare and then close it immediately.
   The roaming license is returned to the floating license pool.

5. To convert to a floating license, you must delete the RLM_ROAM environment variable from your computer before starting RiverWare again; see **Delete the RLM_ROAM Environment Variable** on page 14 for details.

**Release a Roaming License Unconditionally**

Use this procedure to remove a roaming license from your computer if you are not able to check it in early.

1. Close all RiverWare sessions on your computer.

2. Use the following steps to define the RLM_ROAM environment variable.
   a. From the Windows **Start** menu, select **Control Panel**, then **User Accounts**.
   b. In the User Accounts window, select **Change my environment variables**.
   c. In the User variables section of the Environment Variables window, select **New**.
   d. Complete the New User Variable window as follows:
      - **Variable name**: RLM_ROAM
      - **Variable value**: -100
   e. Select **OK** to close the New User Variable window.

f. Select **OK** in the Environment Variables window to apply your changes and close the window.

3. Start RiverWare and then exit RiverWare immediately.
The roaming license information is removed from your computer.

4. Delete the RLM_ROAM variable from your computer before reconnecting to the network and starting RiverWare again; see Delete the RLM_ROAM Environment Variable on page 14 for details.

Running RiverWare With a License Dongle

Note: The license dongle is available for RiverWare version 6.x and later only.

A RiverWare license dongle is a USB hardware key that enables portable licensing for the RiverWare application. The RiverWare license file is locked to the internal host ID of the dongle, not to a specific computer. This allows you to easily change computers for running RiverWare, as your needs require. Using an authorized license dongle, you can run any number of RiverWare instances on a computer, with or without a network connection.

The unique host ID of the license dongle is printed on the outside of the device. For example:

   rmid1=00b8e321

The RiverWare license dongle is manufactured by Thales SafeNet and can only be purchased directly from CADSWES. USB devices obtained from any other sources will not work with RiverWare.

When you renew your RiverWare license, you do not need to obtain a new dongle, but you do need to obtain a new node-locked license file for the dongle.

License Dongle Process Summary

Following is the process for starting RiverWare on your computer using a license dongle.

1. Request a RiverWare license file and license dongle from RiverWare Installation Support. The license file is sent by email, and the dongle is shipped by a postal or courier service.

2. Save the RiverWare license file to the proper location on your computer; see License File Location on Your Computer on page 8 for details.

3. Insert the license dongle in a USB port on your computer.
   - If your computer has an internet connection, the first time you insert the license dongle in a USB port, the Windows Found New Hardware Wizard detects the new device and automatically downloads and installs the required device drivers.
   - If your computer is not connected to the internet, or there is an issue with the automatic download, you must install the dongle device drivers manually before starting RiverWare; see Installing the Dongle Device Drivers Manually on page 17.

4. Open RiverWare on your computer.

   RiverWare matches the host ID in the license file with the internal host ID of the license dongle and starts.

Required Port Access

The Sentinel LDK License Manager installed with the dongle device drivers uses communications port 1947 on your computer. If your organization uses a firewall or antivirus software, it must not block this port. See your network administrator for assistance.
Setting Up Additional Computers

All computers used to run RiverWare with the license dongle must have the RiverWare license file, dongle drivers, and RiverWare application installed. To facilitate this, you may want to copy the following files to a USB flash drive, which can be used to transfer the files to additional computers:

- RiverWare license file for the license dongle
- Dongle device driver installer; see Installing the Dongle Device Drivers Manually on page 17 for details.
- RiverWare installation program; see Download the RiverWare Installation Program on page 1 for details.

Installing the Dongle Device Drivers Manually

The procedures in this section are required only if Windows did not automatically download and install the dongle device drivers on your computer. The drivers must be installed on your computer before you can start RiverWare using the license dongle. Typically, the drivers are installed automatically the first time you insert the dongle into a USB port on your computer. If your computer is not connected to the internet, or there is an issue with the automatic download, you must use these procedures to install the device drivers manually.

Note: Depending on access restrictions at your site, you may need Windows Administrator privileges to perform these procedures or write to some folders.

Download the Dongle Driver Files

Use this procedure to download the driver files from the vendor site.

1. On your computer, open a browser window and go to the Thales download site.
   https://cpl.thalesgroup.com/software-monetization/sentinel-drivers
2. Select Sentinel LDK RunTime & Drivers.
3. Use the following steps to select the installer download.
   a. In the Refine Results column, select both of the following check boxes to filter the list:
      - Sentinel LDK & LDK-EMS
      - Windows
   b. In the results section, select one of the following links, depending on the type of installer you want to use:
      - Sentinel HASP/LDK Windows GUI Run-time Installer
      - Sentinel HASP/LDK Windows Command Line Run-time Installer
4. In the Article Details page, select the file link.

5. Review the End User License Agreement and select I accept.
6. Save the download to a selected location on your computer. For example:
   - C:\Downloads\Sentinel_LDK_Run-time_setup.zip, or
   - C:\Downloads\Sentinel_LDK_Run-time_cmd_line.zip
7. Extract the .zip file to a selected location on your computer.
8. Use one of the following procedures to install the drivers:
   - Install Dongle Drivers With the GUI Installer, page 19
   - Install Dongle Drivers With the Command Line Installer, page 21

Install Dongle Drivers With the GUI Installer

Use this procedure to install the dongle device drivers on your computer using the GUI installer.

   Note: It is recommended that you exit all other programs on your computer before starting this procedure.

1. Open the folder where the extracted GUI installer files are located. For example:
   C:\Downloads\Sentinel_LDK_Run-time_setup\
2. Open the HASPUserSetup.exe file, as Windows Administrator if necessary, to start the installer.
3. Review the information on the Welcome screen and select Next.
4. Review the license agreement. Select the **I accept the license agreement** option and select **Next**.

5. In the Ready to Install the Application screen, select **Next** to confirm.
The Updating System screen displays progress as the drivers are installed to the proper location on your computer.

6. A message is displayed when the installation completes. Review the information and select **Finish** to exit the installer.

   **Note:** If the installation was not successful, see the readme.html file in the driver installer folder for troubleshooting information.

---

**Install Dongle Drivers With the Command Line Installer**

Use this procedure to install the dongle device drivers on your computer using the command line installer.

   **Note:** It is recommended that you exit all other programs on your computer before starting this procedure.

1. Open a Command Prompt window, as Windows Administrator if necessary.
2. Change to the folder where the extracted command line installer files are located. For example:
   ```bash
   cd c:\%HOMEPATH%\Downloads\Sentinel_LDK_Run-time_cmd_line
   ```
3. Enter the following command to start the installer.
   
   haspdinst -install

   A Sentinel Run-time Environment Installer window opens and displays progress as the drivers are installed to the proper location on your computer.

   ![Sentinel Run-time Environment Instal...]

   Please wait .......

4. A message is displayed when the installation completes. Select OK to close the window.
   
   **Note:** If the installation was not successful, see the readme.html file in the driver installer folder for troubleshooting information.

   ![Sentinel Run-time Environment Inst...]

   Operation successfully completed.

   ![OK]

   OK

---

**Troubleshooting**

This section provides guidance on troubleshooting common RiverWare startup and licensing errors. For assistance with an error, copy the error message and email RiverWare Installation Support:

   installsupport@colorado.edu

**RiverWare Startup Errors**

RiverWare requires some dynamic-link library (DLL) files included in the Windows 10 Universal C Runtime (CRT) component. This component is included with Windows 10; for older versions of Windows, it is available in a Windows Update package.

If RiverWare cannot locate the required DLL files on startup, it exits with an error message displayed in a System Error window, similar to the following.

   ![riverware.exe - System Error]

   The code execution cannot proceed because VCRUNTIME140.dll was not found. Reinstalling the program may fix this problem.

   ![OK]

Following are some error messages you might see on RiverWare startup.
The application was unable to start correctly (0xc000007b). Click OK to close the application.

This application has failed to start because VCRUNTIME140.dll was not found. Reinstalling the application may fix this problem.

The program can't run because VCRUNTIME140.dll is missing from your computer. Try reinstalling the program to fix this problem.

**Cause**

A required DLL is missing or corrupted on your computer.

**Solution**

Use the following steps to download and install the Microsoft Visual C++ Redistributable package on your computer. RiverWare requires the 2017 or later versions, which are included in the package.

1. In a browser, go to the Microsoft Visual C++ downloads page:
   


3. Select `vc_redist.x64.exe` and save the file to your computer.

4. Open the `vc_redist.x64.exe` file to install the package.

   **Note:** Depending on access restrictions set up by your organization, you may need Administrator privileges to install the package.

5. Restart your computer, then restart RiverWare.

**License Errors**

License error messages are displayed as follows, depending on RiverWare version.

- For RiverWare 7.2.5 and later, license errors are displayed in a RiverWare License Error window, similar to the following. Follow the instructions in the window to copy the message.
• For RiverWare 7.2.4 and earlier, license errors are displayed in a Command Prompt window. Use one of the following methods to copy the error message:
  − Copy the error text file. The file location is displayed after the line “This message has been written to the file:”
  − Resize the Command Prompt window to display the entire message, then make a screen shot of the window.

To help troubleshoot a license issue, RiverWare Installation Support may ask you to open your cadswes.lic file with a text editor and verify there are no special characters in the file.

  **Caution:** The cadswes.lic file is a plain ASCII file; do not save it in any other format, and do not make any changes to its contents.

Following are some license errors you might see when starting RiverWare, and specific actions you can take.

**No license for product (-1)**

**Cause**

• RiverWare cannot find the license file in the expected location on your computer.
• You were using a roaming license that has been returned to the license pool, but the RLM_ROAM environment variable has not been deleted from your computer and is set to a negative number.

**Solution**

• The cadswes.lic file must be in the parent folder (one level up) of the RiverWare installation folder; see **License File Location on Your Computer** on page 8 for details.
• If you were using a roaming license, delete the RLM_ROAM variable on the system and connect your computer to the network to obtain a floating license or check out a roaming license. See **Delete the RLM_ROAM Environment Variable** on page 14 for details. If this does not resolve the error, restart your computer to clean up any roaming data that may be left on it.

**License has expired (-3)**

**Cause**

The license file found by RiverWare has expired.

**Solution**

Contact RiverWare Installation Support for assistance:

  installsupport@colorado.edu
Wrong host for license (-4)

Cause
This error applies to node-locked licenses or license dongles only.

- For node-locked licenses, the host ID in the license file does not match the host ID of the computer on which RiverWare is running.
- For license dongles, one of the following may be at fault:
  - The license dongle is not attached to the computer.
  - The host ID in the license file does not match the host ID of the dongle.

Solution
- For either type of license, verify the correct cadswes.lic file is installed on your computer. If necessary, contact RiverWare Installation Support for assistance.
  
  installsupport@colorado.edu
- For license dongles, verify the dongle is securely seated in the USB port on your computer.

Bad signature in license (-5)

Cause
The signature in the license line is not valid; that is, it does not match the remainder of the data in the license.

Solution
It is possible the license file was altered in the email transmission or when it was saved to your file system. The most common cause is that white space was inserted in the license key where it has broken to a new line. Although this error does not mean the license key is not valid, it may be necessary to issue a new license file. Contact RiverWare Installation Support for assistance:

  installsupport@colorado.edu

Communications error with license server (-17)

Cause
RiverWare cannot contact the license server to obtain or validate a floating license. This may be because the license server is down or your computer is not connected to the network on which the license server is running.

Solution
Connect your computer to the network where the license server is running. If you still get this error, contact your license server administrator. Following are some troubleshooting guidelines for the administrator; see the RiverWare License Server Administration Guide for details.

- Verify the license server is running on the server host. Start the license server, if necessary.
- If the license server is running, verify there is no firewall blocking the communication ports. The firewall may be on the client or the server host; check both ends for a firewall. If the license server is on a different network, there may be other firewalls in between.
- On the client host, verify it is using the same cadswes.lic license file used by the license server for starting the license server.
- It may help to determine whether any other client host has experienced the same problem.
- Restarting the client computer may fix the connection problem.
All licenses in use (-22)

Cause
All floating licenses are in use. The license pool size is defined in the cadswes.lic license certificate file on the license server.

Solution
One of the RiverWare users must exit all their RiverWare sessions to release their floating license before you can obtain a license.

Roam time exceeds maximum/expiration (-27)

Cause
The RLM_ROAM variable, which specifies the number of days the roaming license is valid, has been set to a number greater than 30. This value cannot exceed 30.

Solution
Set the RLM_ROAM variable to a positive number less than or equal to 30; see Check Out a Roaming License on page 12 for details.

Bad server hostname in license file or port@host (-43)

Cause
The host name of the license server cannot be resolved by the name server. This typically indicates the client computer cannot connect to the license server. If this is a roaming license and your computer is not connected to the network, the roaming license may have expired.

Solution
Contact your network administrator.
If your roaming license has expired, reconnect to the network where the license server is running to obtain a floating license or check out a new roaming license.

Can’t read license data (-102)

Cause
RiverWare cannot find the license file in the expected location on your computer.

Solution
The cadswes.lic file must be in the parent folder (one level up) of the RiverWare installation folder; see License File Location on Your Computer on page 8 for details.

Verify the License Dongle Host ID

Use this procedure to verify that the internal host ID on the license dongle matches the host ID specified in the RiverWare license file on your computer. This procedure is used only in special circumstances, such as troubleshooting license errors or at the request of RiverWare Installation Support.

1. Insert the license dongle in a USB port on your computer.
2. Open a Command Prompt window and change to the RiverWare installation folder. For example:
   ```bash
   cd c:\Program Files\CADSWES\RiverWare 8.1\n   ```
3. Change to the LMrlm\ subfolder. For example:
   ```bash
   cd LMrlm
   ```
4. Enter the following command to display the internal host ID on the license dongle.
   `rlmutil rlmhostid rlmid1`
   The host ID is displayed. For example:
   `Host id of this machine: rlmid1=00b8e321`

5. Change to the folder where the cadswes.lic file is located. This should be the parent folder of the
   RiverWare installation folder; see License File Location on Your Computer on page 8 for details. For
   example:
   `cd c:\Program Files\CADSWES`

6. Enter the following command to display the contents of the cadswes.lic file.
   `more cadswes.lic`
   The contents of the file are displayed.

7. In the display, locate the Host Name line. For example:
   `# Host Name: MYCOMPUTER : rlmid1=00b8e321`
   The rlmid1 value should match the value on the dongle.

Uninstalling RiverWare

   **Caution:** Do not uninstall RiverWare by deleting the installed RiverWare files directly from
   the file system.

To uninstall RiverWare, you must log in as the same user that installed RiverWare (regular user or
Windows Administrator). CADSWES recommends using one of the following procedures.

Uninstall Using Windows Installer

1. On your Desktop, select **Start**, then **Control Panel**, then **Programs and Features**.
2. Select the version of RiverWare you want to delete and select **Uninstall**.

Uninstall Using the RiverWare Installation Program

   **Note:** You must use the **exact same** RiverWare installation program that was used to install
   the version you want to uninstall.

1. Start the RiverWare installation program, as Windows Administrator if necessary.
2. Review the information on the Welcome screen, then select **Next**.
3. On the Program Maintenance screen, select the **Remove** option, then **Next**.

4. Review the information on the Remove the Program screen, then select **Remove** to begin the uninstall immediately.
The Uninstalling screen displays progress as RiverWare is removed from your computer.

5. Review the information on the RiverWare Install Wizard Completed screen and select **Finish** to exit the program.
RiverWare 8.1 - RiverWare Install Wizard

RiverWare Install Wizard Completed

RiverWare 8.1

Click Finish to exit the wizard.

The RiverWare Install Wizard has successfully uninstalled RiverWare 8.1. Click Finish to exit the wizard.

To contact RiverWare support:
riverware-support@colorado.edu