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Download Center Combined Product Documentation



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Chapter 1: Understanding the Combined Info Documentation

This document contains the info docs for all current release packages.

Ansys Release:

2022 R2

Chapter 2: Selecting a Package

Why Select a Specific Package?

Primary Packages

If one of the primary packages contains everything you need, select this option. This will give you the smallest download size.

ISO Images

Select ISO images, if you need a combination of any of these packages:

- Structures
- Fluids
- PrepPost
- Discovery

Click the  icon, associated with each selection, for detailed iso and package contents.

Chapter 3: Download Center Info - Accu-ROM_Electric Power Steering System

Accu-ROM_Electric Power Steering System - Package Overview

This package contains a simulation environment for electric power steering system with Accu-ROM™. This environment simulates both the electronic circuits and mechanical components at the same time. Sub-systems like electric power steering, comprise semiconductor-based electronic circuits that work in microseconds, along with mechanical components, gears and shafts, that work in milliseconds. Normally, this kind of simulation takes a prolonged simulation time because the time scales of electronic circuits and mechanical components are different. Accu-ROM separately calculates the electronic circuits and the mechanical components. First it verifies the mechanical components, then simplifies the model for mechanical components and finally verifies the total system, including its electric circuits. This approach shortens the simulation time for the entire system.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

Accu-ROM_ElectricPowerSteeringSystem_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Simplorer
- Twin Builder
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager
- Ansys Simplorer/Twin Builder

Chapter 4: Download Center Info - Acoustics

Sound - Package Overview

Ansys Sound is a post-processing tool that enables sounds to be analyzed and optimized with sound quality criteria and listening tests. Innovative time-frequency analysis and processing functions are available for isolating and modifying various sound components, and to assess the influence on perception. Ansys Sound can also be used to reproduce the 3D sound in-simulator and in-vehicle, including tool to tune Active Sound for ICE or EV.

This package is composed of several stand-alone software applications, each of them having its own installation package. You should download and install the packages for each product in Ansys Sound separately

For information on downloading and installing the Ansys Sound - SAS package, see [Ansys Sound - SAS Package Overview \(p. 8\)](#) below.

For information on downloading and installing the Ansys Sound - JLT package, see [Ansys Sound - JLT Package Overview \(p. 10\)](#) below.

For information on downloading and installing the Ansys Sound - CSS package, see [Ansys Sound - CSS Package Overview \(p. 11\)](#) below.

For information on downloading and installing the Ansys Sound - VRS package, see [Ansys Sound - VRS Package Overview \(p. 12\)](#) below.

For information on downloading and installing the Ansys Sound - ASDforEV package, see [Ansys Sound - ASDforEV Package Overview \(p. 13\)](#) below.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUND<app>_2022R2_<platform>.zip

<app>= Application Name

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Analysis & Specification
- Ansys Sound – Jury Listening Test
- Ansys Sound – Car Sound Simulator
- Ansys Sound – VR Sound
- Ansys Sound – ASD for EV

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package
- Ansys Fluids and Structures Package

Ansys Sound - SAS Package Overview

This package contains Ansys Sound –Analysis & Specification (SAS). This program is an acoustic interactive tool for analysis, editing, sound quality and sound design. The advanced time-frequency analysis features give the possibility to “see what you hear” and “hear what you see”. It offers conventional analysis functions, allowing users to study signals in both time domain and frequency domain, as well as featuring innovative time-frequency analysis and processing functions for isolating and modifying various components of the sound to assess their influence on perception.

SAS is the software module in Ansys Sound solutions for sound design and sound analysis, and it can link sound to the other modules and applications like Jury Listening Test, driving simulators, flight simulators and virtual reality platforms. SAS paves the way to target sound definition, brand sound creation, subjective and objective testing, component separation, troubleshooting and sound dataset preparation.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUNDSAS_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Analysis & Specification

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package
- Ansys Fluids and Structures Package
- Ansys Sound – Jury Listening Test
- Ansys Sound – Car Sound Simulator
- Ansys Sound – VR Sound
- Ansys Sound – ASD for EV

Ansys Sound - JLT Package Overview

This package contains Ansys Sound –Jury Listening Tests (JLT). This program is made for the measurement of sound perception through jury testing experiments. Jury Listening Test was designed for technicians, engineers, and experts in audio and acoustics, as well as for managers, marketing, and communications professionals whatever their level of technical knowledge in acoustics.

With Jury Listening Test, you can reliably get valuable and precise user feedback about the sound of your products including sound quality evaluation, sound preference, selection and validation of sound design solutions, positioning with respect to competitors' sounds, unpleasantness, or comfort studies.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUNDJLT_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Jury Listening Tests

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package

-
- Ansys Fluids and Structures Package
 - Ansys Sound –Analysis & Specification
 - Ansys Sound – Car Sound Simulator
 - Ansys Sound – VR Sound
 - Ansys Sound – ASD for EV

Ansys Sound - CSS Package Overview

This package contains Ansys Sound –Car Sound Simulator (CSS). This program is advanced real-time audio synthesis tool for the generation of car-related sounds (powertrain, aerodynamic noise, rolling noise, screeching tires, traffic, ...). 3D sound processing allows an immersive rendering of each sound source. It is designed to receive simulation data through a network, being integrated within driving simulators and virtual reality platforms. Its sound database is open, meaning that customized car-related sounds can be created and integrated.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUNDCSS_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Car Sound Simulator

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package
- Ansys Fluids and Structures Package
- Ansys Sound – Analysis & Specification
- Ansys Sound – Jury Listening Test
- Ansys Sound – VR Sound
- Ansys Sound – ASD for EV

Ansys Sound - VRS Package Overview

This package contains Ansys Sound –VR Sound (VRS). This program is a software tool for the real-time playback and spatialization of sound sources.

It allows the creation of sound scenes in virtual reality platforms and in simulators, in interaction with the user, and highly contributes to the improvement of the realism and immersion feelings.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUNDVRS_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Car Sound Simulator

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package
- Ansys Fluids and Structures Package
- Ansys Sound –Analysis & Specification
- Ansys Sound – Jury Listening Test
- Ansys Sound – Car Sound Simulator
- Ansys Sound – ASD for EV

Ansys Sound - ASDforEV Package Overview

This package contains Ansys Sound –Active Sound Design for EV (ASDforEV). This program is the solution for in-vehicle sound design and tuning dedicated to anticipate, test and validate the future soundscape of vehicles in real driving conditions and make sure that they will provide the optimal sound experience.

Ansys Sound - ASDforEV enables the live playback of sets of sounds through the vehicle's audio system for all types of designed vehicle sounds for driver and passengers:

- Event-related sounds for Ambiance and HMI (welcome sequence, turn indicator sound, unfastened seatbelt alarm, etc.)
- Engine Sound Enhancement (ESE), also known as Active Sound Design (ASD), to enhance the perception of the native ICE engine sounds
- EV dynamic/active sound, referred to as "Speed/Acceleration Feedback" (SAF) sound
- Advance Driver-Assistance System (ADAS) sounds for better driver awareness, including 3D rendering for the localization of events

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SOUNDSEV_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sound – Active Sound Design for EV

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Ansys Structures Package
- Ansys Fluids Package
- Ansys Fluids and Structures Package
- Ansys Sound – Analysis & Specification
- Ansys Sound – Jury Listening Test
- Ansys Sound – Car Sound Simulator
- Ansys Sound – VR Sound

Chapter 5: Download Center Info - CADNexus

CADNexus Package Overview

This package includes the CADNexus interface which allows Workbench applications to interface with CATIA V5 geometry in a bidirectional, associative manner.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

CADNEXUS_V3.80.0_WINX64.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Interfaces
 - CADNEXUS/CAPRI CAE Gateway for CATIA V5

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 6: Download Center Info - CAE Data Interfaces for EKM

CAE Data Interfaces for EKM Package Overview

This package contains the CAE Data Interfaces for Ansys EKM that can be used to add and manage supported non-Ansys file formats to EKM.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

CAEDATA_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- CAE Data Interfaces for Ansys EKM

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 7: Download Center Info - Composite Cure Simulation

Composite Cure Simulation Package Overview

The Ansys software contained in this package is for the Ansys Composite Cure Simulation.

For composite parts, the determination of Process Induced Deformations & Curing Simulation is important as distorted parts complicate assembly process and may lead to premature failure of the final product. To avoid such cases, expensive iterative tooling may be required. To overcome these problems, compensation of tooling geometries can be computed using the sophisticated numerical analysis provided by Ansys Composite Cure Simulation.

Ansys Release:

2022 R2

Updates:

None Available

Package Installation Steps:

1. Install full Ansys products first.
2. Install the **COMPCURESIM** package.

Package Name:

COMPCURESIM_2021R2_<platform>.<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Composite Cure Simulation
- Ansys Composite PrepPost - Although not explicitly needed, nearly everyone will have APC before getting this.

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 8: Download Center Info - Discovery

Package updated November 17, 2022

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Please contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

Discovery Package Overview

This package contains Ansys Discovery which is an integrated solution for 3D engineering simulation encompassing the breadth of Ansys physics in a single, modern user environment.

The package includes:

- Ansys Discovery
- Ansys Geometry Interfaces

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

DISCOVERY_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Discovery
- Geometry Modeling
 - Ansys DesignModeler
 - Ansys SpaceClaim
- HPC
 - Ansys HPC
 - Ansys HPC Pack
- HPC Parametric
 - Ansys HPC Parametric Pack
- Multiphysics PrepPost/Solver Bundles
 - Ansys AIM Pro
- Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM

You may also want this Package:

- Ansys Release Documentation

Chapter 9: Download Center Info - Documentation

Documentation Package Overview

There are three documentation packages that can be downloaded:

- **Release:** Release documentation (includes: Installation Guides, Licensing Guides, Release Notes, Known Issues and Limitations, etc.)
- **Product:** This package contains the full Ansys documentation in PDF format for most Ansys products at the time of release. Because our documentation is updated on a regular basis, the most current Ansys product documentation can be found on our internet help site.
- **Local Help:** Ansys product documentation is now online, directly linked from the products. With online documentation, you have access to the best and latest content, updated as soon as it is available. If you do not have Internet access, or if you want to run help locally, you can download this installable version of our product documentation. For Local Help installation instructions, see [Installing Local Help \(p. 24\)](#) at the end of this document.

Note: Documentation for the Electromagnetics Suite is available via the normal methods.

Ansys Release:

2022 R2

Updates:

None Available

Package Names:

- ANSYSRELEASEDOC.7z
- ANSYSPRODUCTPDFDOC_222.zip
- ANSYSLOCALHELP_2022R2_WINX64.zip
- ANSYSLOCALHELP_2022R2_LINX64.tgz

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

9.1. Installing Local Help

IMPORTANT NOTE: If you have already set the ANSYS_INTERNET_DOC environment variable, you will need to unset it before running the local install. The environment variable will take precedence over the local install and prevent the installation from correctly configuring your system.

Windows Installation Steps

1. Download the Local Help package from:

Download Center>Tools>Documentation>Local Documentation Installation

2. Extract the package to a working directory of your choice.
3. Run **<working directory>\setup.exe** as administrator.

The Ansys, Inc. Installation Launcher appears.

4. Click the **Install Ansys Products** option.

The license agreement appears.

5. Read the agreement, and if you agree to the terms and conditions, select **I Agree**. Click **Next**.
6. The directory where you installed the Ansys, Inc. products is shown in the **Install Directory** field. You can install the products into any directory you want, but you must have write permissions to the directory you choose. Note that if you select a directory other than the directory where the Ansys products are installed, you will have additional post-installation steps. Do not change any other options on this page.

When you have selected your installation directory, click **Next**.

7. Select "Ansys, Inc. Documentation Only" on the product selection screen and click **Next**.

8. A summary of the selected installation packages appears. Review the information carefully, and if correct, click **Next** to continue the installation.
9. When the installation is done, the product installation window reappears with a message noting that the installation is complete.
10. Depending on your installation scenario, run the appropriate configuration described below:
 - a. If you installed the documentation to the same directory as your product installation, or if you installed the documentation on a machine with no product installation, you can now run the help normally. No further configuration is needed.

Note: If there are multiple users accessing the help, each additional user must point to the help installation directory by performing the steps described below.
 - b. If you have an existing product installation but installed the documentation to a directory other than the product installation, or the user account used to install the local help is not the end user:
 - i. Run **Start>All Programs>Ansys 2022 R2>Ansys Help Configuration 2022 R2**.
 - ii. Select the **Ansys Local Help** option.
 - iii. Click **Browse** and locate the \commonfiles\help directory where you installed the help files. (**Example:** C:\Local doc\Ansys Inc\v222\commonfiles\help)
 - iv. Click **Select Folder**.

The message "**Help files found. Click Save to use these files.**" is displayed.
 - v. The language for the application and viewer help defaults to the operating system regional language setting. If you need to change the language, select the appropriate language from the available dropdown menu. The appropriate language pack must be installed prior to performing this step. **Note:** When displaying a language in the help, the order of selection precedence is: A) the language set in the Ansys Help Configuration Tool, B) the language supplied by the product and C) the operating system regional settings language.
 - vi. After completing the configuration, click **Save**.

You can now run the help normally.

Linux Installation Steps

1. Download the Local Help package from:

Download Center>Tools>Documentation>Local Documentation Installation
2. Extract the package to a working directory of your choice.
3. Run **<working directory>/doonly/linux/INSTALL**.
4. The Ansys, Inc. Installation Launcher appears.
5. Click the **Install Ansys Products** option.

The license agreement appears.

6. Read the agreement, and if you agree to the terms and conditions, select **I Agree**. Click **Next**.
7. The directory where you installed the Ansys, Inc. products is shown in the **Install Directory** field. You can install the products into any directory you want, but you must have write permissions to the directory you choose. Note that if you select a directory other than the directory where the Ansys products are installed, you will have additional post-installation steps. Do not change any other options on this page.

When you have selected your installation directory, click **Next**.

8. Select "Ansys, Inc. Documentation Only" on the product selection screen and click **Next**.
9. A summary of the selected installation packages appears. Review the information carefully, and if correct, click **Next** to continue the installation.
10. When the installation is done, the product installation window reappears with a message noting that the installation is complete.
11. Depending on your installation scenario, run the appropriate configuration described below:

- a. If you installed the documentation to the same directory as your product installation, or if you installed the documentation on a machine with no product installation, you can now run the help normally. No further configuration is needed.

Note: If there are multiple users accessing the help, each additional user must point to the help installation directory by performing the steps described below.

- b. If you have an existing product installation but installed the documentation to a directory other than the product installation, or the user account used to install the local help is not the end user:

- i. Issue the following command from the v221 directory to configure the new help location:

Tools/mono/Linux64/bin/mono commonfiles/help/HelpViewer/ANSYSHelpConfigurationTool.exe

- ii. Select the **Ansys Local Help** option.

- iii. The language for the application and viewer help defaults to the operating system regional language setting. If you need to change the language, select the appropriate language from the available dropdown menu. The appropriate language pack must be installed prior to performing this step. **Note:** When displaying a language in the help, the order of selection precedence is: A) the language set in the Ansys Help Configuration Tool, B) the language supplied by the product and C) the operating system regional settings language.

- iv. After completing the configuration, click **Save**.

You can now run the help normally by issuing following command from the v222 directory:

Tools/mono/Linux64/bin/mono commonfiles/help/HelpViewer/ANSYSHelpViewer.exe

Chapter 10: Download Center Info - Dynamic ROM Preprocessing for Mechanical

Dynamic ROM Preprocessing Package Overview

The Dynamic ROM Preprocessing package contains an extension that can be added to Ansys Workbench so that Mechanical Transient Thermal or Structural results can be exported as a learning scenario in the dedicated format for Dynamic Rom Builder.

Licenses for Ansys Twin Builder and Ansys Mechanical must be purchased separately.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

DRB_MECHANICAL_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Workbench

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 11: Download Center Info - Electronics

Electronics Package Overview

The Ansys software contained in this package provides the ability to design integrated circuits (ICs), printed-circuit boards (PCBs), communication infrastructures, and electromechanical systems. It includes the Ansys flagship products listed below.

For information on downloading and installing the Ansys Motor-CAD package, see the [Ansys Motor-CAD Package Overview \(p. 37\)](#) below.

Ansys Release:

2022 R2

Updates:

2022 R2.04

Update Package Name:

ELECTRONICS_2021R2.4_WINX64.zip

Resolved Issues:

- Using the distributed direct solver is now efficient when solving designs with non-TFEM ports using S-Matrix only.
- Designs with a large number of circuit ports no longer cause a longer simulation duration for full solve when using the distributed direct solver.
- The Solve inside option is no longer disabled automatically when copying and pasting geometry in the design.
- QuickEye NRZ waveforms with DFE are now consistent with those in 2021 R2.
- MinEyeHeight and MinEyeWidth measurements on contour plots now display correctly.
- The Touchstone Port Names option now correctly re-orders the ports of S-parameter files.
- Electronics Desktop no longer crashes when pressing Ctrl and clicking in the quantities list while creating a new modal solution rectangular plot.
- Plotting fields on mesh fusion geometry now functions correctly.

- Various issues with multi-threaded field recovery for mesh fusion have been resolved.
- When distributed matrix solver is used for mesh fusion, memory management issues no longer occur for very large problems.
- The maximum number of element increase per adaptive pass is no longer limited when user option is off
- TSV liners are now created when generating mesh.
- Electronics Desktop no longer crashes when running validations on excitations.
- Maxwell 2D Expression cache performance issues while running parametric trials using HPC have been resolved.
- The Populate Solver Input time is now an expected duration when simulating models with a large number of objects.
- Coupled losses are now correctly plotted when more than one object or surface is imported.
- SBR+ simulations with a large number of excitations now run as expected.
- Designs with multiple encrypted subcomponents no longer yield inaccurate results.
- Harmonic forces are now imported into Workbench Mechanical from Maxwell correctly.
- When solving mesh fusion, the distributed memory matrix now correctly sets solver precision.
- When distributed memory matrix solver fails to solve matrix using mixed precision, an accurate error message is displayed stating an out-of-memory issue.
- The memory monitoring thread for the distributed direct solver is now disabled.

2022 R2.03

Update Package Name:

ELECTRONICS_2021R2.3_WINX64.zip

Resolved Issues:

Circuit:

- Network Data Explorer now correctly exports port impedance values to Touchstone 2 files.

Desktop:

- **-waitforlicense** now behaves correctly and will wait for unavailable licenses to become available during **-batchsolve**
- Enabling **Queue All Simulations** will now check out the correct licenses during queued simulations.

HF Solver:

- Low frequency results are now correct for differential pairs when **Enhanced low frequency accuracy** is enabled.
- Low frequency results are now correct for s parameters when **Enhanced low frequency accuracy** is enabled.
- S-Matrix only simulations now successfully run when using auto HPC.
- Projects with large HFSS designs now successfully run.

HFSI Asymptotic Solver:

- Volumetric SBR returns valid results for any mesh settings.

HFSS:

- HFSS SBR+ projects created in Ansys Electronics Desktop version 2021 R1 and 2021 R2 now open and successfully solve.
- In a solution setup, clicking **Save Defaults** no longer causes a crash.

HFSS 3D Layout:

- The Union command now correctly unites positive and negative polygons.
- When creating a port on a component, the name is now correctly displayed using the 3D component name and terminal name.
- In HFSS 3D Layout, .brd files are now successfully imported.
- Z-parameter results are now correctly displayed when **Enhanced Low frequency Accuracy** and **Use Q3D for DC Solution** are enabled in an HFSS simulation setup.
- EDB import of designs with 3D components now successfully works for all current and legacy projects.

Mechanical:

- Performing a Mechanical Thermal export no longer exports all objects with **Solve Inside** disabled.

Maxwell:

- In Maxwell 3D (Transient solver) CoreLoss, StrandLoss and SolidLoss now support TDM.

Q3D Extractor:

- CG terms in models generated by the Q3D RLGC Component toolkit are now correctly connected.

SIwave:

- Dielectrics are now successfully generated when exporting to HFSS.

- Correct issue launching graphical instances of Ansys Electronics Desktop from Slwave on Linux.
- Models that have **Activate Backdrilling** enabled now successfully export as an ACIS solid model.
- When importing a DXF file, changing units no longer rescales the design.
- PI advisor now successfully runs with Compute Exact DC point enabled in the S-parameter frequency sweep
- When running PSI simulations in batch mode, extra layers are no longer added to the stackup in the saved project

Update Package Name:

ELECTRONICS_2021R2.2_WINX64.zip

Resolved Issues:

Circuit:

- Cutting a Circuit design and pasting as a subcircuit no longer causes crash when saving project.
- Network Data Explorer successfully runs Causality Checker.
- Removed 32-bit SPISim AMI library from distribution.
- Removed log4j library dependency from SPISim and Electronics Desktop.

HFSS:

- Running Optimetrics and applying to nominal now generates the same result if the normal variation is re-solved.
- VRT launched from antenna source is now correct for NF linked design in SBR+ solution type.
- Field calculator now exports correct value in angle for Cylindrical and Spherical coordinates.
- Improved disk space utilization for Distributed Direct Solver.

HFSS 3D Layout:

- Allow renaming of multi-terminal ports on 3D components.
- Successful ADP file transfer upon unexpected solver exit.
- ECAD Xplorer successfully completes via snapping against polygons with holes.
- Clean stop/resume now transfers solver usage file.

Icepak:

-
- Multiple 3D dataset assignments are now supported.
 - Metal fractions are now correctly displayed for all trace geometries.
 - Warning messages are now shown if SIwave power profiles are included in Classic Icepak model imports.
 - Fix to Icepak TZR importing of models with ECAD in Linux.

Maxwell:

- In Maxwell 3D (Transient solver) CoreLoss, StrandLoss and SolidLoss now support TDM.

Q3D Extractor:

- Q3D results now correct if parametric sweep runs with the same mesh for different material.
- Accuracy improvements to reduced capacitance matrix computation.

SIwave:

- Improvements to AEDT–Icepak project configuration in SIwave DCIR–Thermal workflow.
- RLCG table and HTML report now match.
- Robust recovery from license server connectivity issues during SIwave simulation.
- Improvements to SIwave DCIR field post-processing for simulations involving low-valued sources.
- Resolved isolated SIwave-PSI SYZ simulation error during exact DC point computation.
- Resolved Boolean subtraction error during solid model export.
- Fixed isolated crash during DDRwizard schematic generation.
- Three-terminal capacitor model produces expected results when included in SIwave-PSI simulations.
- Addressed various issues with SIwave remote display on AMD graphics hardware.
- Fixed "invalid port dimension" error during SIwave PSI SYZ simulations involving exact DC point computation.
- During EDB import SIwave now permits n-port S-parameter models even when a pin/port count mismatch is detected.
- PEC materials now allowed for solderballs and bumps during DCIR simulations.

Twin Builder:

- Modelica interface selections are now retained when compiling.

- Certain component symbols no longer shift in position when read from a definition archive.
- outputDefinition.json now refreshes properly (except when renaming the probes or operations).
- Local probes/operations reported in Viewer are now consistent with their initial definition.
- Corrected Static ROM behavior.

Package Name:

ELECTRONICS_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format**

Linux x64 ... tgz format

** Twin Builder® is only available on Windows

Applications Supported by this Package:

- High-Frequency (HF) & Signal Integrity (SI), and Electronics Thermal Management
 - Ansys EMIT
 - Ansys HFSS
 - Ansys HFSS SBR+ Solver
 - Ansys Icepak
 - Ansys Q3D Extractor
 - Ansys RF Option
 - Ansys Savant
 - Ansys Slwave DC
 - Ansys Slwave PI
 - Ansys Slwave
- Maxwell

-
- Ansys Maxwell 2D
 - Ansys Maxwell QS
 - Ansys Maxwell
 - Ansys RMxpert
 - Ansys PExprt (Windows Only)
 - HF, SI & Maxwell Solvers
 - Ansys HFSS-IE Solver
 - Ansys HFSS Solver
 - Ansys HFSS-TR Solver
 - Ansys Q3D Extractor 3D Solver
 - Ansys SIwave PSI Solver
 - Ansys Electronics Desktop 2D Solver
 - HF, SI & Maxwell PrePost
 - Ansys Electronics Desktop PrepPost
 - Ansys Electronics Desktop 2D Core
 - Ansys HFSS Pre/Post Processor
 - Ansys Q3D Extractor Pre/Post Processor
 - Ansys SIwave Pre/Post Processor
 - Ansys Maxwell 3D Pre/Post Processor
 - Ansys Designer Pre/Post Processor
 - HF, SI & Maxwell Options
 - Ansys RF Option
 - Ansys SI Option
 - Ansys 2D Extractor Option
 - Ansys Optimetrics (For HFSS, Q3D Extractor, Maxwell)
 - Ansys Distributed Solve (DSO)
 - High-Frequency (HF) & Signal Integrity (SI) [Windows only]
 - Ansys HFSS SBR+ Solver

- Ansys Savant
- Ansys EMIT
- Ansys RF Option
- Twin Builder®
 - Ansys Twin Builder Pro
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
- MCAD/Geometry Interfaces
 - Ansys ALinks for EDA
 - Ansys ALinks for MCAD
 - Ansys ALinks for MCAD CATIA
 - Ansys ALinks for MCAD NX
 - Ansys ALinks for MCAD Parasolid
- Electronics HPC
 - Ansys Electronics HPC
 - Ansys Electronics HPC Pack
- Multiphysics PrepPost/Solver Bundles
 - Ansys Mechanical CFD Maxwell 3D

Important Note: Download Structures, Fluids, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical Emag with Maxwell 3D

Important Note: Download Structures, and Electronics packages or ISO and Electronics packages

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Ansys Motor-CAD Package Overview

The Ansys Motor-CAD software contained in this package provides the ability to efficiently calculate electromagnetic, thermal and mechanical performance of an electrical machine over the complete operating cycle.

Note:

The 2022 R2 release of Motor-CAD is fully integrated with Ansys License Manager in addition to the earlier Motor-CAD license server. To use Motor-CAD with Ansys License Manager, you must get a new license file.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

MOTORCAD_v14.1.17_WINX64.<zip>

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Motor-CAD
 - Ansys Motor-CAD PM
 - Ansys Motor-CAD IM
 - Ansys Motor-CAD SYNC
 - Ansys Motor-CAD Enterprise

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 12: Download Center Info - EMA3D

EMA3D Cable Package Overview

The Ansys EMA3D Cable software contained in this package is an electromagnetic tool used to solve cable harness applications installed on complex platforms such as aircraft and automobiles. It is critical for EMI/EMC certification especially in Aerospace and Defense and Automotive markets.

For information on downloading and installing the Ansys EMA3D Charge package, see the [EMA3D Charge Package Overview \(p. 40\)](#) below.

Ansys Release:

2022 R2

Package Name:

EMA3D_2022R2.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys HPC (All Products)

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys Discovery Modeling
- INTEL MPI

You may also want this Package:

None

EMA3D Charge Package Overview

EMA3D Charge is a nonlinear FDTD code used to simulate spacecraft charging as well as dielectric breakdown and electric arc within high-voltage devices.

Ansys Release:

2022 R2

Package Name:

EMA3D_Charge_2022R2.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys HPC (All Products)

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys Discovery Modeling
- INTEL MPI

You may also want this Package:

None

Chapter 13: Download Center Info - Ansys EMA3D Charge

ANSYS EMA3D Charge Package Overview

EMA3D Charge is a nonlinear FDTD code used to simulate spacecraft charging as well as dielectric breakdown and electric arc within high-voltage devices.

Ansyz Release:

2022 R2

Package Name:

EMA3D_Charge_2022R2.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys HPC (All Products)

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys Discovery Modeling
- INTEL MPI

You may also want this Package:

None

Chapter 14: Download Center Info - Enterprise Licensing

Enterprise Licensing Package Overview

The Enterprise Licensing Package contains the same release of the Ansys License Manager as the Ansys License Manager download selection. Use the Enterprise Licensing Package if you are an Enterprise IT license administrator with excellent FlexNet knowledge and system administration skills and have a uniquely customized licensing environment. Neither an installation program nor license administration tools are provided with this package.

Ansyes Release:

2022 R2

Updates:

None Available

Package Name:

ENTERPRISELICENSING_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- Ansys Release Documentation

Chapter 15: Download Center Info - SCADE License Manager

ESTEREL License Manager Package Overview

This package contains the ESTEREL License Manager for SCADE products.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ETLICMAN_11.14.0.2.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- All SCADE Products

Required License Manager:

NA

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 16: Download Center Info - Fluids

Package updated November 17, 2022

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Please contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

Fluids Package Overview

The Ansys software contained in this package includes the CFD tools available from Ansys. These tools give you the ability to predict the impact of fluid flow and related physics on your products. It includes the Ansys flagship fluids products listed below.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

Package Name:

FLUIDS_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Fluids PrepPost/Solver Bundles
 - Ansys FLUENT
 - Ansys CFD Enterprise
 - Ansys CFD Premium
 - Ansys CFD-Flo
- Fluids Solvers
 - Ansys CFD Enterprise Solver
 - Ansys CFD Premium Solver
 - Ansys FLUENT Solver
- Fluids PrepPost
 - Ansys CFD PrepPost
 - Ansys EnSight
 - Ansys EnSight Enterprise
 - EnVision Pro
- Fluids Modules
- Fluids CAD Embedded options
 - Fluent for CATIA V5
 - Fluent for CATIA V5 Pre
- TurboMachinery Applications
 - Ansys BladeModeler
 - Ansys Vista TF
- Combustion and Chemical Reactions
 - Ansys Collaborator License
- Electronic Thermal Design Products
 - Ansys Icepak
- Polymer Processing and Glass Forming Products
- Geometry Modeling

-
- Ansys DesignModeler
 - Ansys SpaceClaim
 - Ansys SpaceClaim Catia V5 Interface
 - Meshing
 - CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6
 - Ansys Geometry Interface for NX
 - Ansys Geometry Interface for Parasolid
 - PDM Interfaces
 - Ansys Interface for TeamCenter
 - HPC
 - Ansys HPC
 - Ansys HPC Pack
 - HPC Parametric
 - EKM and CAE Interfaces
 - Ansys EKM Analyst
 - Ansys EKM Shared
 - Multiphysics PrepPost/Solver Bundles
 - Ansys Mechanical CFD Maxwell 3D

Important Note: Download Structures, Fluids, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical CFD

Important Note: Download Structures and Fluids packages or ISO packages

- Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer
- EnSight Options
 - Ansys EnSight
 - Ansys EnSight Enterprise
 - Ansys EnSight JT Exporter
 - Ansys EnSight MR
 - Ansys EnSight VR

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM
- Ansys Workbench Platform
- Ansys Viewer (Windows Only)

You may also want this Package:

- Ansys Release Documentation

Chapter 17: Download Center Info - Fluids and Structures

Package updated November 17, 2022

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Please contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

Fluids and Structures Package Overview

The Ansys software contained in this package provides the ability to perform:

- Structural (static & dynamic) physics simulations
- Fluid flow physics simulations
- Fluid-structural interaction simulations

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Special Instructions:

There are two components that make up this selection:

- The Fluids and Structures download package

- The PrepPost download package

Package Name:

- Fluids and Structures Package
 - FLUIDSSTRUCTURES_2022R2_<platform>.<zip/tgz>
 <platform> = WINX64 (for Windows x64)
 <platform> = LINX64 (for Linux x64)
- PrepPost Package
 - PREPPOST_2022R2_<platform>.<zip/tgz>
 <platform> = WINX64 (for Windows x64)
 <platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Fluids PrepPost/Solver Bundles
 - Ansys CFD Pro
 - Ansys CFD Enterprise
 - Ansys CFD Premium
 - Ansys CFD-Flo
- Fluids Solvers
 - Ansys CFD Enterprise Solver
 - Ansys CFD Premium Solver
 - Ansys CFD Pro
- Fluids PrepPost
 - Ansys CFD PrepPost
 - Ansys EnSight
 - Ansys EnSight Enterprise

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- EnVision Pro
 - Fluids Modules
 - Fluids CAD Embedded options
 - Fluent for CATIA V5
 - Fluent for CATIA V5 Pre
 - TurboMachinery Applications
 - Ansys BladeModeler
 - Ansys Vista TF
 - Combustion and Chemical Reactions
 - Ansys Collaborator License
 - Electronic Thermal Design Products
 - Ansys Icepak
 - Polymer Processing and Glass Forming Products
 - Geometry Modeling
 - Ansys DesignModeler
 - Ansys SpaceClaim
 - Ansys SpaceClaim Catia V5 Interface
 - Meshing
 - CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6

- Ansys Geometry Interface for NX
- Ansys Geometry Interface for Parasolid
- PDM Interfaces
 - Ansys Interface for TeamCenter
- HPC
 - Ansys HPC
 - Ansys HPC Pack
- HPC Parametric
- EKM and CAE Interfaces
 - Ansys EKM Analyst
 - Ansys EKM Shared
 - Ansys CAE Interface for ABAQUS
 - Ansys CAE Interface for NASTRAN
 - Ansys CAE Interface for SAMCEF

- Multiphysics PrepPost/Solver Bundles

- Ansys Mechanical CFD Maxwell 3D

Important Note: Download Structures, Fluids, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical Emag with Maxwell 3D

Important Note: Download Structures, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical CFD

Important Note: Download Structures and Fluids packages or ISO packages

- Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer
- EnSight Options
 - Ansys EnSight
 - Ansys EnSight Enterprise
 - Ansys EnSight JT Exporter

-
- Ansys EnSight MR
 - Ansys EnSight VR
 - Mechanics PrepPost/Solver Bundles
 - Ansys Mechanical Enterprise
 - Ansys Mechanical Pro
 - Ansys Mechanical Premium
 - Ansys Structural
 - Ansys Professional NLS
 - Ansys Professional NLT
 - Ansys DesignSpace
 - Ansys Autodyn
 - Ansys Explicit STR
 - Ansys Rigid Body Dynamics
 - Ansys Additive Suite
 - Mechanics Solvers
 - Ansys Mechanical Enterprise Solver
 - Ansys Structural Solver
 - Mechanics PrepPost
 - Ansys Mechanical Enterprise PrepPost
 - Ansys Autodyn PrepPost
 - Ansys Composite PrepPost
 - Mechanics Modules
 - Ansys Fatigue Module
 - LS-DYNA
 - Ansys LS-DYNA
 - Ansys LS-DYNA HPC
 - AQWA
 - Ansys Aqwa Suite

- Ansys Aqwa Suite with Coupled Cable Dynamics
- Ansys Additive
 - Ansys Additive Prep
- Ansys SpaceClaim
- Ansys Sherlock

Academic Products Supported by this Package:

- Academic Associate
 - Ansys Academic Associate Mechanical and CFD
 - Ansys Academic Associate CFD
 - Ansys Academic Associate HPC
- Academic Research
 - Ansys Academic Research Mechanical and CFD
 - Ansys Academic Research Mechanical
 - Ansys Academic Research LS-DYNA
 - Ansys Academic Research CFD
 - Ansys Academic Research POLYFLOW
 - Ansys Academic Research HPC
 - Ansys Academic Research LS-DYNA HPC
- Academic Teaching
 - Ansys Academic Teaching Mechanical and CFD
 - Ansys Academic Teaching Mechanical
 - Ansys Academic Teaching CFD
- Academic Toolbox
 - Ansys Academic Preprocessing Tools
 - Ansys Academic Fuel Cell Tools
 - Ansys Academic EKM Shared
 - Ansys Academic Composite Tools
 - Ansys Academic SpaceClaim Tools (Windows only)

-
- Ansys Sherlock

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM
- Ansys Workbench Platform
- Ansys Viewer (Windows Only)

You may also want this Package:

- Ansys Release Documentation

Chapter 18: Download Center Info - Forming

Forming Package Overview

This package contains the files for the Ansys Forming product. Ansys Forming is a dedicated simulation code for stamping analysis. It includes the GUI, the solver (Windows SMP double and Single), material database from Tiwaquest and BAOSTEEL.

For installation instructions, see [Appendix A: Installing Ansys Forming on a Windows System \(p. 60\)](#)

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

FORMING_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Forming

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Appendix A: Installing Ansys Forming on a Windows System

Be aware that Windows 10 uses a feature called User Account Control (UAC) to control privileges and automatically reduce the potential of security breaches in the operating system. However, UAC limits your accessibility to system areas and can cause unpredictable behavior in Ansys products. Because of this limitation, we strongly recommend performing the installation with full administrative options.

Recommended Installation:

- UAC should be turned off and installation performed with full administrative privileges (using **Run as Administrator** from the context menu). Follow your operating system instructions for disabling UAC.
1. Installing Ansys Forming requires that no Ansys processes are running on your computer. Close all Windows applications and ensure that no Ansys processes are running before continuing.
 2. Make sure you are logged on as an administrator and have full administrative privileges.
 3. Right click on **setup.exe** and choose **Run as administrator** to start the installation.
 4. Click **Install Ansys Products**.
 5. The License Agreement screen appears. Read the license agreement, and if you agree, click **I Agree** to accept the terms and click **Next**. You must select **I Agree** to continue with the installation.
 6. Enter the Release 2022 R2 installation directory and click **Next**.
 7. The product selection dialog appears. Verify that Ansys Forming is selected.

The amount of disk space required and the disk space available appear at the bottom of the window. If the disk space required exceeds the disk space available, be sure that you have sufficient space before continuing.

Click **Next**.

8. A summary of the selected products for installation is displayed. Information shown includes platform, installation directory, and products. Review the information carefully, and if correct, click **Next** to begin the installation.
9. The installation window displays the individual actions as they occur. When the installation is complete, click **Next**.
10. The window displays any installation errors or warnings. Review this information carefully. Click **Exit** to complete the installation.

Chapter 19: Download Center Info - GCC Compiler

GCC Compiler Package Overview

This package contains the GNU GCC compiler 8.2.0 for use with User Programmable Features (UPF), User Defined Functions (UDF), or other customization options for Ansys Mechanical APDL and Autodyn on Linux platforms.

This compiler does not replace any compiler currently on your system. It can be installed in addition to any compiler you currently have on your system.

Refer to the installation steps in [Appendix I - Installing the GCC Compiler \(p. 62\)](#)

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

linux-toolchain-8.2.0-01.zip

Platform Availability and Package Format:

Linux x64 ... zip format

Applications Supported by this Package:

- Mechanical APDL
- Autodyn

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Appendix I - Installing the GCC Compiler

1. Click the GCC Compiler download option.
2. Select your desired download directory and click **Save**.

This downloads the compressed tar file linux-toolchain-8.2.0-01.zip.

3. Extract the file (tar xzf linux-toolchain-8.2.0-ANSL001.tar.gz) to a location on your system and add the location to your PATH, or set ANS_GCC_PATH for access to the GCC 8.2.0 compiler.

For example:

MAPDL and Autodyn Settings:

```
setenv PATH <installed_location>/bin:$PATH (for csh/tcsh shell)
export PATH=<installed_location>/bin:$PATH (for sh/bash shell)
```

MAPDL Only Settings:

```
setenv ANS_GCC_PATH <installed_location>/bin (for csh/tcsh shell)
export ANS_GCC_PATH=<installed_location>/bin (for sh/bash shell)

gcc --version
```

The GCC version should display gcc (Ansys-20190911) 8.2.0

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Chapter 20: Download Center Info - ISO

Package updated November 17, 2022

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Please contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

ISO Package Overview

This selection is the combination of the Structures, Fluids, PrepPost, and AIM primary physics packages.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

- Windows x64
 - ANSYS2022R2_WINX64_Disk1.iso
 - ANSYS2022R2_WINX64_Disk2.iso
 - ANSYS2022R2_WINX64_Disk3.iso
- Linux x64
 - ANSYS2022R2_LINX64_Disk1.iso

- ANSYS2022R2_LINX64_Disk2.iso
- ANSYS2022R2_LINX64_Disk3.iso

Platform Availability and Package Format:

Windows x64 ... ISO format

Linux x64 ... ISO format

What do I do with an ISO Image?

An ISO image is a disc image containing the file contents that would be found on an installation DVD. To install from an ISO Image, download the packages and do one of the following:

- Burn each ISO Image to a DVD and install from the DVDs
- Windows - Extract the contents of the ISO file to a temporary directory, using an archiving utility such as Winrar, Winzip, or 7zip. Run setup.exe from the top level folder.
- Linux - Mount the image, using "mount -o loop -t iso9660 filename.iso /mnt/iso" command. Run "/INSTALL" from the top level folder.

Applications Supported by this Package:

- Mechanics PrepPost/Solver Bundles
 - Ansys Mechanical Enterprise
 - Ansys Mechanical Pro
 - Ansys Mechanical Premium
 - Ansys Mechanical CFD
 - Ansys Structural
 - Ansys Professional NLS
 - Ansys Professional NLT
 - Ansys DesignSpace
 - Ansys Autodyn
 - Ansys Explicit STR
 - Ansys Rigid Body Dynamics
- Mechanics Solvers
 - Ansys Mechanical Enterprise Solver

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- Ansys Structural Solver
 - Mechanics PrepPost
 - Ansys Mechanical Enterprise PrepPost
 - Ansys Autodyn PrepPost
 - Ansys Composite PrepPost
 - Fluids PrepPost/Solver Bundles
 - Ansys CFD
 - Ansys FLUENT
 - Ansys CFX
 - Ansys CFD Professional
 - Ansys CFD Enterprise
 - Ansys CFD Premium
 - Ansys CFD-Flo
 - Fluids Solvers
 - Ansys CFD Solver
 - Ansys CFD Enterprise Solver
 - Ansys CFD Premium Solver
 - Ansys FLUENT Solver
 - Ansys CFX Solver
 - Ansys CFD-Flo Solver
 - Fluids PrepPost
 - Ansys CFD PrepPost
 - Ansys EnSight
 - EnVison Pro
 - Fluids Modules
 - Ansys Fluent V2F Module (2 Processes)
 - Ansys Fluent V2F Module (Unlimited)
 - Ansys FLUENT Fuel Cell Module

- Ansys CFD MHD
- Ansys CFX-RIF Flamelet Library Generator
- Ansys RBF-Morph Module
- Ansys FENSAP-ICE
- Fluids CAD Embedded options
 - Fluent for CATIA V5
 - Fluent for CATIA V5 Pre
 - Fluent for CATIA V5 Analyst
- TurboMachinery Applications
 - Ansys TurboGrid
 - Ansys BladeModeler
 - Ansys Vista TF
- Combustion and Chemical Reactions
 - Ansys FORTE CFD
 - Ansys Collaborator License
 - Ansys CHEMKIN-PRO
 - Ansys CHEMKIN-PRO HPC
 - Ansys CHEMKIN Enterprise
 - Ansys Reaction Workbench Add-on
 - Ansys ENERGICO
 - Ansys ENERGICO Add-on
- Electronic Thermal Design Products
 - Ansys Icepak
- Polymer Processing and Glass Forming Products
 - Ansys POLYFLOW
 - Ansys POLYFLOW Solver
- Mechanics Modules
 - Ansys Fatigue Module

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- LS-DYNA
 - Ansys LS-DYNA
 - Ansys LS-DYNA HPC
 - AQWA
 - Ansys Aqwa Suite
 - Ansys Aqwa Suite with Coupled Cable Dynamics
 - Geometry Modeling
 - Ansys DesignModeler
 - Ansys SpaceClaim (Windows Only)
 - Ansys SpaceClaim Catia V5 Interface (Windows Only)
 - Meshing
 - Ansys Meshing
 - Ansys Extended Meshing
 - Ansys ICEM CFD Hexa
 - Ansys ICEM CFD Tetra/Prism
 - CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6
 - Ansys Geometry Interface for NX
 - Ansys Geometry Interface for Parasolid
 - PDM Interfaces

- Ansys Interface for TeamCenter
- HPC
 - Ansys HPC
 - Ansys HPC Pack
- HPC Parametric
 - Ansys HPC Parametric Pack
- EKM and CAE Interfaces
 - Ansys EKM Analyst
 - Ansys EKM Shared
 - Ansys CAE Interface for ABAQUS
 - Ansys CAE Interface for NASTRAN
 - Ansys CAE Interface for SAMCEF
- Multiphysics PrepPost/Solver Bundles
 - Ansys AIM Pro
- Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer
- Ansys Sherlock
- Optical Products
 - ANSYS SPEOS Enterprise (Windows Only)
 - ANSYS SPEOS Premium (Windows Only)
 - ANSYS SPEOS Pro (Windows Only)
 - ANSYS SPEOS Optical Part Design (Windows Only)
 - ANSYS SPEOS Optical Sensor Test (Windows Only)
 - ANSYS SPEOS HUD Design & Analysis (Windows Only)
 - ANSYS SPEOS Far Infrared Extension (Windows Only)
 - SPEOS for NX (Windows Only)
 - SPEOS for NX Enterprise (Windows Only)

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- SPEOS for NX Premium (Windows Only)
 - SPEOS for NX Pro (Windows Only)
 - SPEOS for NX Optical Part Design (Windows Only)
 - SPEOS for NX Optical Sensor Test (Windows Only)
 - SPEOS for NX HUD Design & Analysis (Windows Only)
 - SPEOS for NX Far Infrared Extension (Windows Only)
 - SPEOS for NX Optical Design Optimizer (Windows Only)
 - SPEOS for Creo Parametric (Windows Only)
 - SPEOS for Creo Parametric Enterprise (Windows Only)
 - SPEOS for Creo Parametric Premium (Windows Only)
 - SPEOS for Creo Parametric Pro (Windows Only)
 - SPEOS for Creo Parametric Optical Sensor Test (Windows Only)
 - SPEOS for Creo Parametric Far Infrared Extension (Windows Only)
 - SPEOS for Creo Parametric Optical Design Optimizer (Windows Only)
 - ANSYS SPEOS Solver
 - ANSYS OPTIS HPC

Academic Products Supported by this Package:

- Academic Research
 - Ansys Academic Research Mechanical and CFD
 - Ansys Academic Research Mechanical
 - Ansys Academic Research LS-DYNA
 - Ansys Academic Research CFD
 - Ansys Academic Research POLYFLOW
 - Ansys Academic Research HPC
 - Ansys Academic Research LS-DYNA HPC
- Academic Teaching
 - Ansys Academic Teaching Mechanical and CFD
 - Ansys Academic Teaching Mechanical

- Ansys Academic Teaching CFD
- Academic Toolbox
 - Ansys Academic Preprocessing Tools
 - Ansys Academic Fuel Cell Tools
 - Ansys Academic EKM Shared
 - Ansys Academic Composite Tools
 - Ansys Academic SpaceClaim Tools

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM
- Ansys Workbench Platform

You may also want this Package:

- Ansys Release Documentation

Chapter 21: Download Center Info - Language Packs

Language Package Overview

The Ansys Language Packs contain translated documentation for one or more languages. These packs can be installed locally, allowing you to view the Ansys help for specific products in your preferred language without internet access.

- For Local Help installation instructions, see [Ansys Language Pack Local Help Installation \(p. 72\)](#).
- For known issues and limitations, see [Language Pack Known Issues and Limitations \(p. 75\)](#).
- For translated product documentation, see [Included Translated Product Documentation \(p. 76\)](#).

Table 21.1: Included languages by pack:

Language Pack	Available Languages
European Language Pack 1	Dutch, French, German, Italian
European Language Pack 2	Czech, Hungarian, Polish, Russian
Asian Language Pack 1	Chinese Simplified, Chinese Traditional
Asian Language Pack 2	Japanese, Korean
South American Language Pack	Portuguese, Spanish

Ansys Release:

2022 R2

Updates:

None Available

Package Names:

- EUROPEAN1_LANGUAGEPACK_2022R2_<platform>.<zip/tgz>
- EUROPEAN2_LANGUAGEPACK_2022R2_<platform>.<zip/tgz>
- ASIAN1_LANGUAGEPACK_2022R2_<platform>.<zip/tgz>
- ASIAN2_LANGUAGEPACK_2022R2_<platform>.<zip/tgz>
- SOUTHAMERICAN1_LANGUAGEPACK_2022R2_<platform>.<zip/tgz>

Platform Availability and Package Format:

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Windows x64 ... zip format

Linux x64 ... tgz format

21.1. Ansys Language Pack Local Help Installation

IMPORTANT NOTE: If you have already set the ANSYS_INTERNET_DOC environment variable, you will need to unset it before running the local install. The environment variable will take precedence over the local install and prevent the installation from correctly configuring your system.

Windows Installation Steps

1. Download the appropriate Ansys Language Pack from:

Ansys Customer Portal>Product Documentation>Installable Help>Language Packs

2. Extract the package to a working directory of your choice.
3. Close all Windows applications and ensure that no Ansys processes are running before continuing.
4. Run **<working directory>\setup.exe** as administrator.

The Ansys, Inc. Installation Launcher appears.

5. Click the **Install Ansys Products** option.

The license agreement appears.

6. Read the agreement, and if you agree to the terms and conditions, select **I Agree**. Click **Next**.

7. The directory where you installed the Ansys, Inc. products is shown in the **Install Directory** field. You can install the products into any directory you want, but you must have write permissions to the directory you choose. If you select a directory other than the directory where the Ansys products are installed, you will have additional post-installation steps. Do not change any other options on this page.

When you have selected your installation directory, click **Next**.

8. The languages available from this package are displayed. Select your desired language and click **Next**.

9. A summary of the selected installation packages appears. Review the information carefully, and if correct, click **Next** to continue the installation.

10. When the installation is done, the product installation window reappears with a message noting that the installation is complete.

11. Depending on your installation scenario, run the appropriate configuration described below:

- a. If you installed the documentation to the same directory as your product installation, you can now run the help normally. No further configuration is needed.

Note: If there are multiple users accessing the help, each additional user must point to the help installation directory by performing the steps described below.

- b. Perform the following steps if any of the following scenarios apply:

- You have an existing product installation but installed the language pack documentation to a directory other than the product installation.
- The account used to install the local help is not the end user's or you have multiple end users.

- i. Run **Start>All Programs>Ansys 2022 R2>Ansys Help Configuration 2022 R2**.

The Ansys Help Configuration Tool appears.

- ii. Select the **Ansys Local Help** option.

- iii. By default, the local help directory corresponds to the installation directory you defined in step #7. If necessary, click **Browse** and locate the \commonfiles\help directory where you installed the help files. (**Example:** C:\Local doc\Ansys Inc\v222\commonfiles\help)

- iv. Click **Select Folder**.

The message "**Help files found. Click Save to use these files.**" is displayed.

- v. The language for the application and viewer help defaults to the operating system regional language setting. If you need to change the language, select the appropriate language from the available dropdown menu. The appropriate language pack must be installed prior to performing this step.

Note: When displaying a language in the help, the order of selection precedence is: A) the language set in the Ansys Help Configuration Tool, B) the language supplied by the product and C) the operating system regional settings language.

- vi. After completing the configuration, click **Save**.

You can now run the help normally.

Linux Installation Steps

1. Download the appropriate Ansys Language Pack from:

Ansys Customer Portal>Product Documentation>Installable Help>Language Packs

2. Extract the package to a working directory of your choice.
3. Run **<working directory>/doonly/linux/INSTALL**.
4. The Ansys, Inc. Installation Launcher appears.

5. Click the **Install Ansys Products** option.

The license agreement appears.

6. Read the agreement, and if you agree to the terms and conditions, select **I Agree**. Click **Next**.
7. The directory where you installed the Ansys, Inc. products is shown in the **Install Directory** field. You can install the products into any directory you want, but you must have write permissions to the directory you choose. If you select a directory other than the directory where the Ansys products are installed, you will have additional post-installation steps. Do not change any other options on this page.

When you have selected your installation directory, click **Next**.

8. The languages available from this package are displayed. Select your desired language and click **Next**.
9. A summary of the selected installation packages appears. Review the information carefully, and if correct, click **Next** to continue the installation.

10. When the installation is done, the product installation window reappears with a message noting that the installation is complete.

11. Depending on your installation scenario, run the appropriate configuration described below:

- a. If you installed the documentation to the same directory as your product installation, you can now run the help normally by issuing following command from the v222 directory. No further configuration is needed.

Tools/mono/Linux64/bin/mono commonfiles/help/HelpViewer/ANSYSHelpViewer.exe

Note: If there are multiple users accessing the help, each additional user must point to the help installation directory by performing the steps described below.

- b. Perform the following steps if any of the following scenarios apply:

- You have an existing product installation but installed the language pack documentation to a directory other than the product installation.
- The account used to install the local help is not the end user's or you have multiple end users.

- i. Issue the following command from the v222 directory to configure the new help location:

Tools/mono/Linux64/bin/mono commonfiles/help/HelpViewer/ANSYSHelpConfigurationTool.exe

The Ansys Help Configuration Tool appears.

- ii. Select the **Ansys Local Help** option.

- iii. By default, the local help directory corresponds to the installation directory you defined in step #7. If necessary, enter the /commonfiles/help directory where you installed the help files. (**Example:** /local_doc/ansys_inc/v222/commonfiles/help)

- iv. The language for the application and viewer help defaults to the operating system regional language setting. If you need to change the language, select the appropriate language from

the available dropdown menu. The appropriate language pack must be installed prior to performing this step.

Note: When displaying a language in the help, the order of selection precedence is: A) the language set in the Ansys Help Configuration Tool, B) the language supplied by the product and C) the operating system regional settings language.

- v. Click **Save**.

You can now run the help normally by issuing following command from the v222 directory:

Tools/mono/Linux64/bin/mono commonfiles/help/HelpViewer/ANSYSHelpViewer.exe

21.2. Language Pack Known Issues and Limitations

21.2.1. Displaying Languages

The Ansys Help Viewer is not displaying the correct language.

When installing the language packs on Windows, the installation program uses the user interface language as the default. If this is not the language you wish to display, perform the following steps:

1. Run **Start>All Programs>Ansys 2022 R2>Ansys Help Configuration 2022 R2**.

The Ansys Help Configuration Tool appears.

2. From the **Language** dropdown menu, select the desired language.

21.2.2. Uninstalling Language Packs

The Ansys unified product uninstaller will only remove the language help files contained in the last language pack that was installed.

For example:

You install the Asian Language Pack 1 (containing Chinese Simplified, Chinese Traditional) and then subsequently install the European Language Pack 2 (containing Czech, Hungarian, Polish, Russian). The Ansys unified product installer selection menu includes options for the languages installed in both packs, but you will only be able to uninstall the language help files from European Language Pack 2 (Czech, Hungarian, Polish, Russian).

To uninstall the other language help files:

1. Navigate to the commonfiles\help directory where you installed the language help files.

In this directory, you will see folders named using language codes (de, fr, ja, zh, etc.).

2. Manually delete the appropriate language code folder. For example, delete the "fr" directory from commonfiles\help\ to remove the French language help content.

21.3. Included Translated Product Documentation

Table 21.2: Products with translated documentation:

Product	Document	Languages
Ansys, Inc. Release Notes	Ansys, Inc. Release Notes	Japanese
Additive Manufacturing	Workbench Additive Manufacturing Analysis Guide	Japanese
Autodyn	Autodyn User's Manual	Japanese
CAD Integration	CAD Integration	Japanese
CFX	CFX-Pre User's Guide CFX-Solver Modeling Guide CFX-Solver Manager User's Guide CFX-Solver Theory Guide CFX Reference Guide	Japanese
Customization Suite	Workbench Scripting Guide	Japanese
DesignModeler	Ansys DesignModeler User's Guide	Japanese
DesignXplorer	DesignXplorer User's Guide	Japanese
Discovery	Discovery Documentation	Chinese Simplified, Chinese Traditional, French, German, and Japanese
EnSight	Ansys EnSight User Manual	Japanese
Fluent	Fluent Customization Manual	Japanese
Fluent	Fluent User's Guide Fluent Theory Guide Fluent in Workbench User's Guide	Japanese and Korean
Installation	Ansys, Inc. Installation Guides	Japanese
Licensing	Ansys, Inc. Licensing Guide Ansys Licensing Portal Administrator's Guide Ansys Licensing Portal User's Guide	Japanese
LS-DYNA	LS-DYNA User's Guide	Japanese
Mechanical APDL	Acoustic Analysis Guide Advanced Analysis Guide Ansys Parametric Design Language Guide	Japanese

Product	Document	Languages
	Basic Analysis Guide Command Reference Connection User's Guide Contact Technology Guide Context Sensitive Help Coupled-Field Analysis Guide Cyclic Symmetry Analysis Guide Element Reference Feature Archive Fluids Analysis Guide Fracture Analysis Guide Low-Frequency Electromagnetic Analysis Guide Material Reference Modeling and Meshing Guide Multibody Analysis Guide Multistage Cyclic Symmetry Analysis Guide Nonlinear Adaptivity Analysis Guide Operations Guide Parallel Processing Guide Performance Guide Programmer's Reference Rotordynamic Analysis Guide Substructuring Analysis Guide Theory Reference Thermal Analysis Guide Introductory Tutorials Technology Showcase: Example Problems	

Product	Document	Languages
Mechanical APDL	Structural Analysis Guide	Japanese and Korean
Mechanical Application	Scripting in Mechanical Guide Explicit Dynamics Analysis Guide Mechanical Add-ons Guide	Japanese
Mechanical Application	Mechanical User's Guide Mechanical Object Reference	Japanese and Korean
Meshing	Meshing User's Guide	Japanese
Motion	Motion in Workbench User Guide	Japanese
optiSLang	optiSLang User's Guide optiSLang Tutorials	Japanese and Korean
optiSLang	Methods for Multi-Disciplinary Optimization and Robustness Analysis optiSLang Excel Add-in Guide optiSLang Interfaces and Customization Guide optiSLang Installation and Licensing Guide	Korean
RSM	Remote Solve Manager User's Guide	Japanese
Sherlock	Sherlock User's Guide Sherlock Theory Reference	Japanese
SpaceClaim	SpaceClaim Documentation	Chinese Simplified, Chinese Traditional, Czech, Dutch, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, and Spanish. Note: The "Meshing" section of the SpaceClaim documentation is translated into these four languages only: Chinese Simplified, French, German, and Japanese
Speos	Speos HPC User's Guide	Japanese

Product	Document	Languages
	Speos for NX User's Guide SPEOS for Creo Parametric User's Guide	
Speos	Speos User's Guide Speos Labs User's Guide	Japanese and Korean
System Coupling	System Coupling User's Guide	Japanese
TurboSystem	TurboSystem User's Guide	Japanese
Verification Manuals	Ansys Workbench Verification Manual Ansys Mechanical APDL Verification Manual Fluid Dynamics Verification Manual	Japanese
Sound	Ansys Sound: Analysis and Specification User's Guide	Japanese
Workbench	Workbench User's Guide Engineering Data User's Guide	Japanese

Chapter 22: Download Center Info - License Manager

License Manager Package Overview

This package contains the Ansys License Manager. The Ansys License Manager is required to run Ansys products.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

- ANSYSLICMAN_2022R2_<platform>.<zip/tgz>
 <platform> = WINX64 (for Windows x64)
 <platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- [Ansys Release Documentation](#)

Chapter 23: Download Center Info - Materials

Granta Selector Package Overview

This package contains the Ansys Granta Selector product. Ansys Granta Selector allows you to perform intelligent materials selection and graphical analysis of materials properties. A comprehensive materials data library enables you to use materials to innovate and evolve your products, quickly identify solutions to material issues, confirm and validate your choice of materials and reduce material and development costs.

For information on downloading and installing the Ansys Granta MI Enterprise package, see the [Granta MI Enterprise Package Overview \(p. 85\)](#) below.

For information on downloading and installing the Ansys Granta MI Pro package, see the [Granta MI Pro Package Overview \(p. 87\)](#) below.

For information on downloading and installing the Ansys Granta EduPack package, see the [Granta EduPack Package Overview \(p. 88\)](#) below.

Ansys Release:

2022 R2

Updates:

2022 R2.1

Update Package Name:

GRANTASELECTOR_2022R2.01_WINX64.zip

Resolved Issues:

- Updated calculations in Battery Designer Tool.
 - Insulation material is now included in the estimated mass of a battery module/pack.
 - Number of cells vertically/horizontally was swapped. While this did not affect overall module volume/mass calculations, this has now been corrected.
- Defects fixed in Cell to Module workflows of Battery Designer Tool.
 - For pre-defined module configurations, estimated module dimensions (and values based on these) were calculated using user input or default values for casing thickness and insulation thickness. This has now been resolved – for pre-defined

configurations typical estimated dimensions for casing/insulation thickness are now included and used in calculations.

- When determining module configuration by performance, discharge time was reported as user-specified minimum, rather than actual estimated discharge time. This is now resolved.
- Defect fixed in the Module to Pack workflow of Battery Designer Tool.
- When specifying a battery pack design based on performance, required numbers of modules to meet specified performance were reported on the datasheet. However, the numbers of modules used for calculation of estimated pack performance were instead incorrectly taken from user-inputted or default values. This has now been resolved.
- Resolved an issue with example/tutorial Eco Audit sample files where material-process combinations were used that are no longer present in the database. Replacement files are included.

Package Name:

GRANTASELECTOR_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Granta Selector
- Ansys Mechanical
 - Ansys Workbench
- Ansys Discovery

Users of the following items should also download and install this package:

- Ansys Granta Research Selector
- Ansys Granta Research Advanced Materials -Aero
- Ansys Granta Research Advanced Materials -Metals
- Ansys Granta Research Advanced Materials - Polymers
- Ansys Granta Research Advanced Materials -Composites
- Ansys Granta Research Advanced Materials -AdditiveManufacturing
- Ansys Granta Research Advanced Materials -Eco

-
- Ansys Granta Research Advanced Materials -ESDU

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys Granta Advanced Materials -Aero
- Ansys Granta Advanced Materials -Metals
- Ansys Granta Advanced Materials - Polymers
- Ansys Granta Advanced Materials -Composites
- Ansys Granta Advanced Materials -AdditiveManufacturing
- Ansys Granta Advanced Materials -Eco
- Ansys Granta Advanced Materials -ESDU

You may also want this Package:

- Ansys License Manager

Granta MI Enterprise Package Overview

This package contains the Ansys Granta MI Enterprise product. Ansys Granta MI Enterprise is the leading system for materials information management in engineering enterprises. A single 'gold source' for your organization's materials IP saves time, cuts costs, and eliminates risk. Capture and re-use vital knowledge about your metals, plastics, and composites. Provide accurate data for CAD, CAE, and PLM. Drive material innovation, empower design, and solve materials-related business problems.

Note:

For more information on the supported commercial product installation files available in this package, see the Granta MI Product to Installer files mapping .xlsx spreadsheet included in the downloaded GrantaMIENTERPRISE_2021R2_WINX64.zip package.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

GRANTAMIENTERPRISE_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Supported hardware and software platforms: <https://grantadesign.com/industry/support/granta-mi/granta-mi-system-requirements/>

Applications Supported by this Package:

- Ansys Granta MI -Enterprise Server
- Ansys Granta MI -User
- Ansys Granta MI -Metals Template
- Ansys Granta MI -Composites Template
- Ansys Granta MI -AdditiveManufacturingTemplate
- Ansys Granta MI -Advanced Workflow
- Ansys Granta MI -Restricted Substances
- Ansys Granta MI -PLM Sync
- Ansys Granta Advanced Materials -Aero
- Ansys Granta Advanced Materials -Metals
- Ansys Granta Advanced Materials - Polymers
- Ansys Granta Advanced Materials -Composites
- Ansys Granta Advanced Materials -AdditiveManufacturing
- Ansys Granta Advanced Materials -Medical
- Ansys Granta Advanced Materials -Eco
- Ansys Granta Advanced Materials -ESDU

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

Ansys License Manager

Granta MI Pro Package Overview

This package contains the Ansys Granta MI Pro product. Ansys Granta MI Pro provides fast, direct access to company material data and reference data from Ansys Granta. Easy to implement, Granta MI Pro is designed to meet the focused needs of design and simulation teams.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

GRANTAMIPRO_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Supported hardware and software platforms: <https://grantadesign.com/industry/support/granta-mi/granta-mi-system-requirements/>

Applications Supported by this Package:

- Ansys Granta MI -Pro Server
- Ansys Granta MI -User

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

Ansys License Manager

Granta EduPack Package Overview

This package contains the Ansys Granta EduPack product. Ansys Granta EduPack is the world-leading teaching resource for Materials in engineering, science, processing, and design. A unique set of comprehensive materials data, powerful visualisation tools and teaching resources support undergraduate Materials education across Engineering, Design and Science courses.

Ansyes Release:

2022 R2

Updates:

2022 R2.1

Update Package Name:

GRANTAEDUPACK_2022R2.01_WINX64.zip

Resolved Issues:

- Updated calculations in Battery Designer Tool.
 - Insulation material is now included in the estimated mass of a battery module/pack.
 - Number of cells vertically/horizontally was swapped. While this did not affect overall module volume/mass calculations, this has now been corrected.
- Defects fixed in Cell to Module workflows of Battery Designer Tool.
 - For pre-defined module configurations, estimated module dimensions (and values based on these) were calculated using user input or default values for casing thickness and insulation thickness. This has now been resolved – for pre-defined configurations typical estimated dimensions for casing/insulation thickness are now included and used in calculations.
 - When determining module configuration by performance, discharge time was reported as user-specified minimum, rather than actual estimated discharge time. This is now resolved.
- Defect fixed in the Module to Pack workflow of Battery Designer Tool.
 - When specifying a battery pack design based on performance, required numbers of modules to meet specified performance were reported on the datasheet. However, the numbers of modules used for calculation of estimated pack performance were instead incorrectly taken from user-inputted or default values. This has now been resolved.
- Resolved an issue with example/tutorial Eco Audit sample files where material-process combinations were used that are no longer present in the database. Replacement files are included.

Package Name:

GRANTAEDUPACK_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Academic Products Supported by this Package:

- Ansys Granta EduPack Introductory
- Ansys Granta EduPack
- Ansys Workbench
- Ansys Discovery

Required License Manager:

Ansys License Manager

Also Included in this Package:

Ansys Granta EduPack Introductory

You may also want this Package:

Ansys License Manager

Chapter 24: Download Center Info - Materials Supplementary

Granta MI – Restricted Substances Package Overview

This package contains the Ansys Granta MI Restricted substances product. Ansys Granta MI Restricted substances product enables best practice strategies to minimize substance risk and provides practical analytics, reporting and decision-making tools. Our unrivalled, regularly updated knowledge-base covers thousands of restricted substances, 100+ international legislations, regulations, lists, and standards, property data on the full range of engineering materials and specialist information on coatings. Materials are linked to substances that they contain. Substances are linked to related legislation.

For information on downloading and installing the Ansys Granta MI Pro Databases Only package, see the [Ansys Granta MI Pro Databases Only Package Overview \(p. 92\)](#) below.

For information on downloading and installing the Ansys Granta MI Pro Gateways package, see the [Ansys Granta MI Pro Gateways Package Overview \(p. 93\)](#) below.

Ansyes Release:

2022 R2

Updates:

None Available

Package Name:

Granta_MI_Restricted_Substances2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Granta MI Restricted substances

Users of the following items should also download and install this package:

- Ansys Granta MI

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Ansys Granta MI Pro Databases Only Package Overview

This package contains two database backups for the Ansys Granta MI Pro product required by customers installing Granta MI Pro on the cloud, using a standalone SQL Server installation.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

Granta_MI_Pro_Databases2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Granta MI Pro

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys Granta MI Pro Gateways Package Overview

This package contains all of the Ansys Granta MI Materials Gateways installers applicable for use with Granta MI Pro.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

Granta_MI_Pro_Gateways2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Granta MI Pro

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

Ansys License Manager

Ansys Granta MI Machine Learning Package Overview

This package contains Ansys Granta MI Machine Learning, the machine learning solution for Granta MI that can provide actionable insights into your materials data by analyzing large amounts of sparse, noisy data without the need for extensive preparation and clean-up. This package must be installed on a Machine Learning application server separate to the Granta MI server, see the Installation & Configuration Guide in this package.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

GRANTAMIML_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Granta MI Machine Learning

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 25: Download Center Info - Modal Field ROM Extraction for Mechanical to Twin Builder

Modal Field ROM Extraction for Mechanical to Twin Builder Package Overview

The Modal Field ROM Extraction for Mechanical to Twin Builder package contains an extension that can be added to Ansys Workbench and used in Ansys Mechanical in a modal analysis followed by a transient MSUP analysis. It allows the extraction of a field ROM component towards Ansys Twin Builder for a downstream system analysis (with other physical components and/or ROMs).

Licenses for Ansys Twin Builder and Ansys Mechanical must be purchased separately.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

Modal_field_ROM_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Workbench
- Ansys Twin Builder
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 26: Download Center Info - Modeler Files For CATIA v5

Modeler Files For CATIA v5 Package Overview

This package enables CATIA v5 import and export for Electronics applications.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

MCADTRANSLATORS_2022R2_<platform>.<zip/tar>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Modeler Files For CATIA 5
 - Ansys ALinks for MCAD CATIA

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 27: Download Center Info - multiPlas

multiPlas Package Overview

This package contains ANSYS multiPlas. multiPlas allows you to analyze the stability and serviceability of structures. Due to this realistic simulation, additional load bearing capacities can often be explored.

multiPlas supports material modeling for concrete, steel and fiber reinforced concrete, UHPC, ceramics, steel, masonry, jointed rock, soil, sand, timber, mortar and stone. The FE-programming is characterized by an efficient and high-performance algorithm for processing single and multi-surface plasticity. A special feature of the material models is the easy combination of several flow conditions and failure modes along with hardening or softening criteria.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

MULTIPLAS_5.7.0_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- ANSYS multiPlas

Required License Manager:

DYNARDO License Manager

Also Included in this Package:

N/A

You may also want this Package:

- DYNARDO License Manager
- ANSYS optiSLang
- ANSYS Structures

Chapter 28: Download Center Info - nCode

nCode Package Overview

The Ansys software contained in this package provides the ability to predict the fatigue life of both components and complete products. It includes the Ansys nCode DesignLife products listed below.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

NCODE_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINUX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- nCode
 - Ansys nCode DesignLife Pro
 - Ansys nCode DesignLife Premium
 - Ansys nCode DesignLife Enterprise
 - Ansys nCode DesignLife Parallel
- nCode legacy products still supported at this release
 - Ansys nCode DesignLife Standard

- Ansys nCode DesignLife Vibration
- Ansys nCode DesignLife Accelerated Testing
- Ansys nCode DesignLife Welds
- Ansys nCode DesignLife Thermo-Mechanical Module
- Ansys nCode DesignLife Composites

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 29: Download Center Info - Nuhertz Filter Solutions

Nuhertz Filter Solutions Package Overview

This package contains the Ansys Nuhertz Filter Solutions product. Ansys Nuhertz FilterSolutions is a fast, easy to use, and high-powered solution for synthesizing, analyzing, and optimizing complex filter designs with a direct export to HFSS 3D Layout.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

- ANSYSFILTERSOLUTIONS_2022_R2_<platform>.<zip>
 <platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Nuhertz FilterSolutions

Required License Manager:

None (License Manager included in product)

Also Included in this Package:

- Nuhertz_Library_2021_R2
- Nuhertz Flex Servers

You may also want this Package:

- Electronics (HFSS)

Chapter 30: Download Center Info - optiSLang

optiSLang Package Overview

This package contains Ansys optiSLang. Conducting a sensitivity analysis, multidisciplinary optimization, robustness evaluation and reliability analysis with optiSLang enables you to:

- Quantify risks
- Identify optimization potential
- Improve product performance
- Secure resource-efficiency
- Save time to market

optiSLang automatically identifies the relevant input and output parameters and quantifies the forecast quality for an efficient optimization with minimal design point runs. This efficient approach means that even optimization tasks involving a large number of variables, scattering parameters as well as nonlinear system behavior can be solved.

optiSLang's Best-Practice-Management automatically selects the appropriate algorithms, such as gradient methods, genetic algorithms, evolutionary strategies or Adaptive Response Surface Methods. optiSLang empowers you to innovate and accelerate your virtual product development.

optiSLang supports interfacing with almost any software tool which is used in virtual product development. The interfaces are mainly used "inside optiSLang". Thus, in optiSLang context, they are called "tool integrations". The graphical user interface supports the workflow approach visually by single building blocks and algorithms which are graphically coupled in order to show dependencies and scheduling.

Ansys Release:

2022 R2

Updates:

2022 R2.04

Update Package Name:

OPTISLANG_2022_R2.04_<platform>.<zip/tgz>

Addressed the following vulnerabilities:

- Addressed the Python mailcap module issue by clearing the mailcap modules.
- Updated Putty to version 0.78.0.

Note:

optiSLang's **About** dialog will continue to show Putty's version as 0.70.0 although the updated files will have and show version 0.78.0.

To apply the patch to the already installed version 2022R2, call the following command in a Windows Command Prompt with administrative permissions.

```
C:\Program Files\7-Zip\7z.exe" x OPTISLANG_2022R2_SV04_PATCH_WINX64.7z -y "-oC:\Program Files\ANSYS Inc\v222
```

Package Name:

OPTISLANG_2022_R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Ansys OptiSLang

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager
- Structures
- Fluids

-
- AIM
 - Electronics

Chapter 31: Download Center Info - Photonics

Lumerical Package Overview

The Ansys Photonics software contained in this package enables the design of photonic components, circuits and systems.

Ansys Release:

2022 R2

Updates:

2022 R2.04

Update Package Name:

LUMERICAL_2022R2.04_<platform>.<zip/tgz>

Shared Enhancements:

- The CHARGE and HEAT solver has a new result called 'integrated'. The new result currently contains one attribute named 'Q' which reports the total thermal power integrated over the simulation volume. Users can check this number to see the total thermal power being generated/imported into their simulation. Note that this result is only available in the CHARGE solver during a coupled electro-thermal (CHARGE+HEAT) simulation.
- The script commands *itkdbgetparams*, *itkdbgetgeometry*, and *cadtostreamlayer* now works in the Finite Element (FE) IDE, enabling users of CHARGE, HEAT, FEEM, or DGTD solvers to import their PCell- or fixed-cell designs from Virtuoso Layout into Ansys Lumerical tools for Multiphysics component simulation.
- The *selectmode* script command now allows users to select multiple modes from script. Users can simply provide an array of mode numbers as the argument instead of a single number to use this new capability.
- Performance improvements for the *modeoverlap* and *modeexpansion* script commands for FEEM and DGTD.
- The FDTD log file now reports the 'elapsed simulation time' for each auto-shutoff entry along with the previously reported % complete and 'max time remaining' information.

SYSTEM Suite Enhancements:

- In qINTERCONNECT, the measurement masks in multi-frequency simulations now correspond to flat-band detection over the whole frequency spectrum. The number of detected photons is specified for each physical channel, independent of frequency.
- The new photonic model 'ring_modulator_parameterized' in CML Compiler, enables users to create compact models for PCells of ring modulators or ring resonators. The model enables both single and double bus designs and supports radius, coupling length, and coupling gap(s) as PCell parameters.

2022 R2.03

Update Package Name:

LUMERICAL_2022R2.03_<platform>.<zip/tgz>

Shared Enhancements:

- The visualizer in all Lumerical solvers now have a new 'copy to clipboard' button that allows users to copy the current image on the visualizer to the clipboard and easily paste it in a different tool.

DEVICE Suite Enhancements:

- New Integration with KLayout and component-level tools (in Windows) has enabled easy import of layout from KLayout into the FD-IDE (FDTD, MODE) and the FE-IDE (CHARGE, HEAT, FEEM, DGTD). The integration combines the pattern from KLayout with a user/foundry provided process file to automatically generate 3D geometry using the layer builder object. This integration is currently only available in Windows with the Linux support planned for a future release.
- The wizards for importing layout into FDTD and MODE from Virtuoso Layout, now support running Monte Carlo sweeps for yield analysis using any process variation data that is included within the process file.
- The EME solver provides a power-normalized user s-matrix as result. The new result is called 'power s matrix' and can be used to perform advanced diagnostics on the simulation results.
- The 'polystencil' script command now supports the 'custom' primitive element.

SYSTEM Suite Enhancements:

- Improved electrical equivalent circuits in Virtuoso symbols and photonic Verilog-A models generated by CML Compiler.

2022 R2.02

Update Package Name:

LUMERICAL_2022R2.02_<platform>.<zip/tgz>

Shared Enhancements:

- The Lumerical Launcher is now the new “Ansys Optics Launcher” and can be used to readily download trial licenses for Ansys SPEOS and Ansys Zemax products, besides the already supported Ansys Lumerical suite of products.
- The Launcher now provides options to launch new projects for the Lumerical RCWA and the Lumerical qINTERCONNECT solvers.
- The visualizer has a new “global color range” option that is active by default. This sets the colorbar max and min to the global max/min value of the dataset allowing users to easily understand the effect of a parameter on the attribute when viewing parameterized results from (for example) a parameter sweep.

DEVICE Suite Enhancements:

- The 2D frequency monitor in DGTD now records the raw frequency domain fields data (rawDgtdFields) as well as the raw mesh data (rawDgtdMesh).
- For a given FEEM calculation, the unprocessed mode data (rawFeemFields) as well as the raw mesh data (rawDgtdMesh) are now recorded.
- New “modeoverlap” script command can be used in conjunction with the now available raw mode data from FEEM or the raw frequency domain field data from DGTD, to calculate overlap between different FEEM mode profiles or between mode profiles from a FEEM calculation and the frequency domain field from a DGTD calculation.
- New “list” script command returns the names of all the groups (Containers, Structure/Analysis Groups) in the Objects Tree as a nested cell array of cell arrays, making it easier for users to parse the Objects Tree.

SYSTEM Suite Enhancements:

- New capabilities in qINTERCONNECT now support simulation of single photon source in quantum photonic integrated circuits.
- A new optical monitor feature is added to Virtuoso-INTERCONNECT integration to facilitate the optical signal measurement for INTERCONNECT models. It can be conveniently used to probe optical ports and measure the outgoing optical power and phase.
- The new “-psflog” command line option for INTERCONNECT can be used to specify the file name of PSF data notes. By default, the PSF data notes are written to the “INTERCONNECTlogFile” file.

2022 R2.01

Update Package Name:

LUMERICAL_2022R2.1_<platform>.<zip/tgz>

Shared Enhancements:

- Workshop attendees registered for workshops using Ansys Lumerical tools can now request and access necessary licenses directly from the Lumerical Launcher (a valid workshop code will be required).

DEVICE Suite Enhancements:

- The new CHARGE/MQW coupled feature simplifies the 2D simulation workflow for reverse-biased electro-absorption modulators (EAM) with MQW active layers. Now the full simulation can be run from CHARGE in the usual way while the CHARGE editor contains additional MQW-specific options. You just need to define materials, layers/geometry, and applied voltage and with a single simulation easily visualize MQW absorption as a function of voltage, frequency, and longitudinal and transverse position, in addition to the usual CHARGE outputs.
- The MODE CAD environment can now be launched in a non-interactive mode using solve license. Users who have automated workflows using the MODE CAD, will be able to launch their automated workflows while only consuming solve licenses. This feature is already available for the FDTD CAD.
- The polystencil script command now supports elements filled with object-defined dielectric materials.
- Improvements to CHARGE solver now allow users to simulate electrical transport in active devices based on large bandgap semiconductor materials.
- Enhancements to the direct bridge between Ansys Lumerical FDTD, MODE and Cadence Virtuoso now allow users to import rectangles and paths in their PCells besides polygons into their FDTD and MODE simulations.

SYSTEM Suite Enhancements:

- CML Compiler improvements:
 - The auto-generated Verilog-A QA testbenches have been optimized to provide a 2X enhancement in simulation speed.
 - When generating Virtuoso symbols or photonic Verilog-A models, CML Compiler can now automatically find Cadence binaries from the environment setup.

Package Name:

LUMERICAL_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ...tgz format

Applications Supported by this Package:

- Ansys Lumerical Enterprise

-
- FDTD
 - MODE
 - FEEM
 - HEAT
 - STACK
 - CHARGE
 - DGTD
 - FEEM
 - MQW
 - INTERCONNECT
 - Photonic Verilog-A
 - CML Compiler
 - HPCe
 - Ansys HPC
 - Ansys HPC Pack
 - Ansys Lumerical FDTD
 - Ansys Lumerical MODE
 - Ansys Lumerical Multiphysics
 - Ansys Lumerical INTERCONNECT
 - Ansys Lumerical CML Compiler
 - Ansys Lumerical Accelerator

Required License Manager:

- Ansys License Manager for Ansys Lumerical Enterprise and HPC
- Lumerical FlexNet License Manager for Ansys Lumerical FDTD, Ansys Lumerical MODE, Ansys Lumerical Multiphysics, Ansys Lumerical INTERCONNECT, Ansys Lumerical CML Compiler and Ansys Lumerical Accelerator

Also Included in this Package:

N/A

You may also want this Package:

Ansys License Manager

Chapter 32: Download Center Info - PrepPost

Pre- and Post-processing Tools Package Overview

This package contains Pre- and Post-processing tools that can be used to efficiently prepare your model for simulation with our flagship solvers.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

PREPOST_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINUX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Mechanics PrepPost
 - Ansys Mechanical Enterprise PrepPost
 - Ansys Autodyn PrepPost
 - Ansys Composite PrepPost

- Fluids PrepPost
 - Ansys CFD PrepPost
- Geometry Modeling
 - Ansys DesignModeler
 - Ansys SpaceClaim (Windows only)
 - Ansys SpaceClaim Catia V5 Interface (Windows only)
- Meshing
 - Ansys Meshing
 - Ansys Extended Meshing
 - Ansys ICEM CFD Hexa
 - Ansys ICEM CFD Tetra/Prism
- CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6
 - Ansys Geometry Interface for NX
 - Ansys Geometry Interface for Parasolid
- PDM Interfaces
 - Ansys Interface for TeamCenter
- HPC
 - Ansys HPC
 - Ansys HPC Pack

-
- HPC Parametric
 - Ansys HPC Parametric Pack
 - EKM and CAE Interfaces
 - Ansys EKM Analyst
 - Ansys EKM Shared
 - Ansys CAE Interface for ABAQUS
 - Ansys CAE Interface for NASTRAN
 - Ansys CAE Interface for SAMCEF
 - Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM
- Ansys Workbench Platform
- Ansys Viewer (Windows Only)

You may also want this Package:

- Ansys Release Documentation

Chapter 33: Download Center Info - RBF Morph

RBF Morph Fluids Package Overview

This package includes RBF Morph Fluids, used in morphing and shape optimization for Ansys Fluent.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

RBFMorphFluids_222__<platform>.<zip>

<platform> = WINX64 (for Windows x64)

<platform> = LINUX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... zip format

Applications Supported by this Package:

- RBF Morph Fluids

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

RBF Morph Structures Package Overview (Windows Only)

This package includes RBF Morph Structures, used in morphing and shape optimization for Ansys Structures.

Ansysis Release:

2022 R2

Updates:

None Available

Package Name:

RBFMorphStructures_222__<platform>.<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- RBF Morph Structures

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 34: Download Center Info - Rocky

Rocky Package Overview

This package contains the Ansys Rocky product. Rocky gives you the ability to predict the motion of discontinuous bulk materials, including how discrete particles/elements interact with one another. It also predicts how bulk material interacts with surrounding fluid(s) and structure(s), allowing for optimization of full mechanical systems by coupling with Ansys Fluent, Ansys Mechanical, Ansys Motion, and Ansys OptiSLang.

To unleash the potential of your Ansys Rocky software, Ansys encourages you to access the additional content on ESSS Rocky Customer Portal. This specific portal contains extended training content, detailed Ansys coupling information (CFD, Motion, Minerva), material database/calibration suite, several pre/post processing python scripts and over 30 ready-to-use specialized physical modules based on API library template available for customers to download.

To register to ESSS Rocky Customer Portal, complete this [form](#) with the required information. Your access will be granted within 48 hours.

To access the Rocky Customer Portal, follow the instructions on this [link](#).

For information on downloading and installing the Ansys Rocky Functional Modules package, see the [Ansys Rocky Functional Modules Package Overview \(p. 122\)](#) below.

For information on downloading and installing the Ansys Rocky SDK package, see the [Ansys Rocky SDK Package Overview \(p. 123\)](#) below.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

ROCKY_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... zip format

Applications Supported by this Package:

- Ansys Rocky HPC

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys Rocky Functional Modules Package Overview

This package contains Rocky modules that are specialty models to expand the core solver capabilities. Using the API:Solver, you can develop custom modules for Rocky, using C++ programming language. These additional modules are ready to be used, with code available for you to edit it.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

ROCKY_MODULES_2022R2_<platform>.<zip>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... zip format

Applications Supported by this Package:

- Ansys Rocky HPC

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys Rocky SDK Package Overview

This package is the software development kit that is required to build custom modules.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

ROCKY_SDK_2022R2_<platform>.<zip>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... zip format

Applications Supported by this Package:

- Ansys Rocky HPC

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 35: Download Center Info - ROM Builder Preprocessing for Fluent

ROM Builder Package Overview

ROM Builder preprocessing for Fluent is an extension for the Ansys Fluent stand-alone version handling the data generation appropriate for both Static and Dynamic ROM Builder (Ansys Twin Builder). Additionally, the extension simplifies running multiple simulations by providing a Design of Experiments feature. Snapshots of field data can be generated for steady cases while both Snapshots and scalar data can be generated for transient cases. For more information regarding the file and folder structure generated by this application, refer to the documentation within Ansys Twin Builder.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

RBP_FLUENT_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Ansys Twin Builder
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

- Ansys Fluent

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 36: Download Center Info - RSM

RSM Package Overview

The Ansys software contained in this package provides access to the Ansys Workbench-based Remote Solve Manager (RSM), a job queuing system that can be used to efficiently manage your analyses on Windows and Linux operating systems.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

RSM_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation

You may also want this Package:

- Ansys Release Documentation

Chapter 37: Download Center Info - Safety and Cybersecurity

medini analyze Package Overview

This package contains the Ansys medini analyze product. The Ansys medini analyze software implements key safety, reliability, and cybersecurity analysis methods based on the System Modeling Language (SysML) in an integrated tool.

Ansys Release:

2022 R2

Updates:

2020 R2.01

Update Package Name:

MEDINIANALYZE_2022R2_1_<platform>.zip

Resolved Issues and Enhancements:

- Addressed an issue where a partial merge of failure modes led to wrong calculation of failure rates.
- Addressed a performance issue in BIRT reports.
- Addressed an issue with wrong results for derived OCL properties when used in other OCL properties.
- Addressed an issue where attack trees could not be deleted.
- Addressed slow calculation of attack paths.
- Addressed wrong evaluation of RBDs for multiple occurring blocks and series configurations followed by complex blocks.
- Addressed an issue in the export to Polarion where headers were deleted unexpectedly.
- Addressed an issue where projects could not be compared if they contained invalid profile properties.

Package Name:

MEDINI_ANALYZE_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys medini analyze
- Ansys medini analyze for Semiconductors
- Ansys medini analyze for Cybersecurity
- Ansys Digital Safety Manager (DSM)

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Embedded Software (SCADE Architect)

Chapter 38: Download Center Info - Embedded Software

SCADE Package Overview

This package contains the installers for all tools of the Ansys SCADE product family, which includes:

- **SCADE Suite®:** Enables you to design, verify and simulate time-driven, critical and real-time systems and to generate embeddable code.
- **SCADE Display®:** Enables you to specify complex graphic scenes for specification and prototyping activities.
- **SCADE Architect:** Enables you to capture system functional requirements in a model-based design environment and manage various system architecture projects.
- **SCADE Test:** Enables automated management and execution of requirements-based test cases on host, measurement of test coverage at model and code level, and automated generation of test harnesses for integration testing on target.
- **SCADE LifeCycle®:** Enables automatic documentation generation and requirements traceability with external Application Lifecycle Management (ALM) tools.
- **SCADE Solutions for ARINC 661-Compliant Systems:** Extends SCADE Suite and SCADE Display for the prototyping and design of ARINC 661-compliant Cockpit Display Systems (CDS) and User Applications (UA).
- **SCADE Automotive Package:** Extends and simplifies system design capabilities for the Automotive market (Prototyping and design of applications conform to the Automotive Open System Architecture (AUTOSAR) standard, fast function prototyping with MicroAutoBox I, Calibration and measurement with MCD-2 MC and Fixed-point representation implementation).
- **SCADE Avionics Package:** Extends and simplifies system design capabilities for the Aerospace and Defense (A&D) market (Description of the software and hardware architecture of a system, in alignment with the AADL™ standard, description of a complete avionics system architecture in alignment with standard avionics protocols and operating systems: ARINC 429, ARINC 664-P7 (AFDX), CAN, and ARINC 653 and design of control software for avionics systems in alignment with the Future Airborne Capability Environment (FACE™) Technical Standard).

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SCADE_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys SCADE Suite Advanced Modeler Seat
- Ansys SCADE Suite Design Verifier
- Ansys SCADE Suite Gateway for Simulink®
- Ansys SCADE Suite KCG Code Generator - C and ADA
- Ansys SCADE Suite Timing and Stack Optimizer
- Ansys SCADE Suite Timing and Stack Verifier
- Ansys SCADE Display Advanced Modeler Seat
- Ansys SCADE Display KCG
- Ansys SCADE Test Environment for Host
- Ansys SCADE Test Model Coverage
- Ansys SCADE Test Target Execution
- Ansys SCADE Architect Advanced Modeler Seat
- Ansys SCADE Architect Configurator
- Ansys SCADE LifeCycle Reporter
- Ansys SCADE Display ARINC 661 Advanced Modeler
- Ansys SCADE Widgets Library for ARINC 661 Compliant Systems
- Ansys SCADE Widget for ARINC 661 - Price per Unit
- Ansys SCADE UA DF Generator for ARINC 661 Compliant Systems
- Ansys SCADE Server Creator for ARINC 661 Compliant Systems
- Ansys SCADE Host Server Creator for ARINC 661 Compliant Systems

-
- Ansys SCADE Avionics Package
 - Ansys SCADE AADL Modeler Seat

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys SCADE Certification Data
- Ansys License Manager

Chapter 39: Download Center Info - SCADE Certification Data

SCADE Display KCG Certification Kits

This Certification Kit contains the items required for:

- Using and qualifying SCADE Display KCG as a development tool that satisfies objectives of DO-330 up to TQL-1, IEC 61508 up to SIL 3, IEC 60880, EN 50128 up to SIL 3/4, ISO 26262 up to ASIL D.
- Using and certifying OGLX as an embedded software library that satisfies objectives of DO-178C up to level A, IEC 61508 up to SIL 3, IEC 60880, EN 50128 up to SIL 3/4, ISO 26262 up to ASIL D.

For more information on the:

- Ansys SCADE Certification Data, see [Ansys SCADE Certification Data \(p. 137\)](#) below.
- Ansys SCADE Suite KCG Certification Kits, see [Ansys SCADE Suite KCG Certification Kits \(p. 136\)](#) below.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SDYKCG671_CertificationKits_RevA_2020-06-29.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys SCADE Display KCG Certification Kit – High Level Criticality
- Ansys SCADE Display KCG Certification Kit – Low Level Criticality

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys SCADE Suite KCG Certification Kits

SCADE Suite KCG Certification Kits contain material demonstrating to certification authorities that the SCADE Suite KCG Code Generator was developed in compliance with the highest levels of Safety Standards (DO-178C/DO-330 at TQL-1, IEC 61508 up to SIL 3, IEC 60880, EN 50128 up to SIL 3/4, ISO 26262 up to ASIL D).

For more information on the:

- Ansys SCADE Display KCG Certification Kits, see [SCADE Display KCG Certification Kits \(p. 135\)](#) below.
- Ansys SCADE Certification Data, see [Ansys SCADE Certification Data \(p. 137\)](#) below.

Ansys Release:

2021 R2

Updates:

None Available

Package Name:

SCKCG_6.6.2_CertificationKits_2021_07.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys SCADE Suite KCG Certification Kit – High Level Criticality

-
- Ansys SCADE Suite KCG Certification Kit – Low Level Criticality

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys SCADE Certification Data

This package contains the certification data demonstrating that:

- SCADE Lifecycle Reporter for SCADE Suite, SCADE Lifecycle Reporter for SCADE Display, SCADE Lifecycle Reporter for SCADE Test, SCADE Lifecycle Reporter for SCADE ARINC 661 UADF, SCADE Test Environment for Suite, SCADE Test Environment for Display, Model Coverage for SCADE Display and SCADE Lifecycle Model Change for SCADE Suite each satisfy:
 - DO-330 for the qualification of a TQL-5 tool
 - IEC 61508 for the certification of a T2 tool
 - EN 50128 for the certification of a T2 tool
 - ISO 26262 for the certification of a TCL3 tool
- Model Coverage for SCADE Suite satisfies:
 - DO-330 for the qualification of a TQL-4 tool
 - IEC 61508 for the certification of a T2 tool
 - EN 50128 for the certification of a T2 tool
 - ISO 26262 for the certification of a TCL3 tool

For more information on the:

- Ansys SCADE Display KCG Certification Kits, see [SCADE Display KCG Certification Kits \(p. 135\)](#) below.
- Ansys SCADE Certification Data, see [Ansys SCADE Suite KCG Certification Kits \(p. 136\)](#) below.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SCADE_2022R2_CertificationData-2021-07.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys SCADE Lifecycle Reporter for SCADE Suite
- Ansys SCADE Lifecycle Reporter for SCADE Display
- Ansys SCADE Lifecycle Reporter for SCADE Test
- Ansys SCADE Test Environment for Suite
- Ansys SCADE Test Environment for Display
- Ansys Model Coverage for SCADE Suite
- Ansys Model Coverage for SCADE Display
- Ansys SCADE Lifecycle Model Change for SCADE Suite

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 40: Download Center Info - SCADE Compiler Verification Kit

SCADE Compiler Verification Kit

The Ansys SCADE Compiler Verification Kit includes the following module:

- **CVK 6.6.2:** This module enables the testing of all SCADE Suite functionality for a selected cross-development tool chain and a microprocessor.

Anslys Release:

2022 R2

Updates:

None Available

Package Name:

CVK662.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... zip format

Applications Supported by this Package:

- Ansys SCADE Compiler Verification Kit

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 41: Download Center Info - SCADE Rapid Prototyper

SCADE Rapid Prototyper Package Overview

This package contains the SCADE Rapid Prototyper which is an extension of the SCADE Test development environment. The tool enables software and simulation engineers to build simulation control cockpits using components from a predefined widgets library. It includes connections with SCADE Suite®, Ansys® Twin Builder®, and all FMI compliant system simulation tools with powerful, easy-to-design, and standalone interactive graphical panels. [Appendix I - Rapid Prototyper Installation and Twin Builder Integration \(p. 142\)](#) describes how Rapid Prototyper can be installed and integrated into Twin Builder.

The SCADE Rapid Prototyper licenses are included in Ansys Twin Builder Enterprise, Pro and Premium. The package includes:

Ansys Release:

2022 R2

Package Name:

SCADERapidPrototyper_2022R2_<platform>.<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Twin Builder
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Appendix I - Rapid Prototyper Installation and Twin Builder Integration

SCADE Rapid Prototyper can be integrated into Twin Builder through the following steps:

1. Unzip the contents of the *SCADERapidPrototyper_2019R3_WINX64.zip* at:

```
<ANSYSEM_DIR>\Win64\common\RapidPrototyper
```

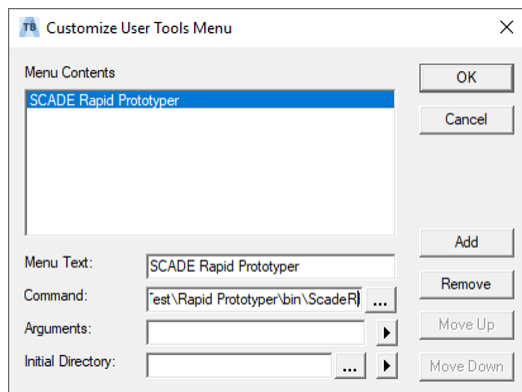
Note:

Installing the Rapid Prototyper outside of the Electronics Desktop installation directory is not supported.

2. Start Twin Builder 2022 R2, and click **Tools > External Tools**.
3. Click **Add** and enter the following:

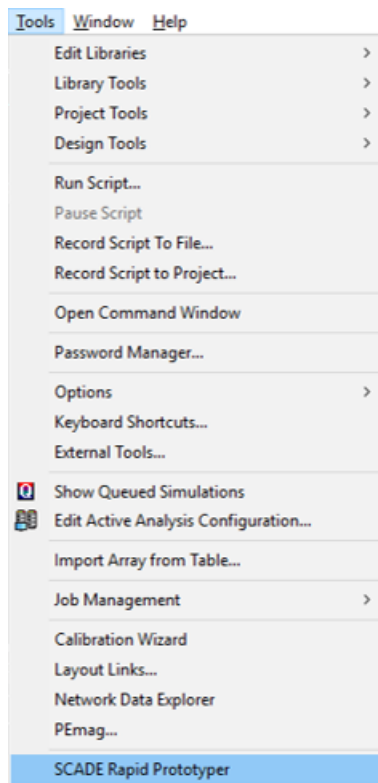
In the **Menu Text** field: *SCADE Rapid Prototyper*

In the **Command** field: *<ANSYSEM_DIR>\Win64\common\RapidPrototyper\SCADE Test\Rapid Prototyper\bin\ScadeRP.exe*



4. Click **OK**.

A new **SCADE Rapid Prototyper** menu option is now available in the **Tools** menu.



5. Selecting on the **SCADE Rapid Prototyper** menu option, starts the SCADE Rapid Prototyper application.

Chapter 42: Download Center Info - Sherlock Libraries

Sherlock Part Library and Wizard Pattern Database Package Overview

The Sherlock Part Library and Wizard Pattern Database package contains files that can be imported into Ansys Sherlock to allow you to benefit from new and updated entries.

For instructions on how to import the part library and wizard pattern files, reference the Sherlock User's guide – section 3.1.2 **Creating a Part Library** and section 3.5.7 **Managing Part Wizard Patterns**.

Ansys Release:

2022 R2

Updates:

Sherlock Part Library

Number of Parts: 665,229 (change of +207,412 from 22.R2.1 release)

General Enhancements:

- Library screened for outlying chip component resistor package dimensions.
- Numerical entries reduced to three significant digits.

Sherlock Wizard Pattern Database

Number of Patterns: 35 (change of +5 from 22.R2.1 release)

Parameters added / removed:

- Added rated power for resistor patterns.

General Enhancements:

- None

Package Name:

SherlockPartLibrary_22.R2.2.zip

SherlockWizardPatterns_22.R2.2.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Sherlock

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

Ansys License Manager

Chapter 43: Download Center Info - SpaceClaim

SpaceClaim Package Overview

This package contains Ansys SpaceClaim Product, a 3D direct modeling application that allows users to easily create, edit, and prepare geometry for engineering simulation.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

SPACECLAIM_2022R2_<platform>.<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys SpaceClaim

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 44: Download Center Info - Optical

For information on downloading and installing the Ansys Speos package, see the [Speos Package Overview \(p. 149\)](#) below.

For information on downloading and installing the Ansys Speos for NX package, see the [Ansys Speos for NX Package Overview \(p. 151\)](#) below.

For information on downloading and installing the Ansys Speos for Creo Parametric package, see the [Ansys Speos for Creo Parametric Package Overview \(p. 152\)](#) below.

For information on downloading and installing the Ansys Speos HPC package, see the [Ansys Speos HPC Package Overview \(p. 153\)](#) below.

For information on downloading and installing the Intel MPI 2018.4 Package (for Linux only), see the [Intel MPI 2018.4 Package Overview \(Linux Only\) \(p. 154\)](#) below.

For information on the Ansys Zemax OpticsStudio Package, see the [Ansys Zemax OpticsStudio Package Overview \(p. 155\)](#) below.

For information on the Ansys Zemax OpticsBuilder for Creo Parametric package, see the [Ansys Zemax OpticsBuilder Package Overview \(p. 158\)](#) below.

Speos Package Overview

The package contains Ansys Speos product. Ansys Speos is the leading optical simulation solution to design optical system, simulate light propagation and visualize your product as a virtual prototype.

Ansyz Release:

2022 R2

Updates:

None Available

Package Name:

SPEOS_2022R2.<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Speos
 - Ansys Speos Enterprise
 - Ansys Speos Premium
 - Ansys Speos Pro
 - Ansys Speos Optical Part Design
 - Ansys Speos Optical Sensor Test
 - Ansys Speos HUD Design & Analysis
 - Ansys Speos Far Infrared Extension
- Geometry Modeling
 - Ansys SpaceClaim (Windows Only)
 - Ansys SpaceClaim Catia V5 Interface (Windows Only)
- CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6
 - Ansys Geometry Interface for NX
 - Ansys Geometry Interface for Parasolid
- Multiphysics Options
 - Ansys DesignXplorer

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- RSM
- Ansys Workbench Platform

You may also want this Package:

- Ansys Release Documentation
- OPTIS HPC
- Optical Library
 - Material & Surface
 - Standard
 - Plugin

Ansys Speos for NX Package Overview

This package contains Ansys Speos for NX add-on product. This add-on is integrated in Siemens NX. This package adds Speos capabilities in NX environment to design optical system, simulate light propagation and visualize your product as a virtual prototype.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SPEOSNX_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Commercial Products Supported by this Package:

- Speos for NX Pro
- Speos for NX Premium

- Speos for NX Enterprise
- Speos for NX Optical Part Design
- Speos for NX Optical Sensor Test
- Speos for NX HUD Design & Analysis
- Speos for NX Far Infrared Extension
- Speos for NX Optical Design Optimizer

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Speos HPC
- Speos Libraries

Ansys Speos for Creo Parametric Package Overview

This package contains Ansys Speos for Creo Parametric add-on product. This add-on is integrated in Creo Parametric. This package adds Speos capabilities in Creo Parametric environment to simulate light propagation and visualize your product as a virtual prototype.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SPEOSCREO_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Commercial Products Supported by this Package:

- Speos for Creo Parametric Pro
- Speos for Creo Parametric Premium
- Speos for Creo Parametric Enterprise
- Speos for Creo Parametric Optical Sensor Test
- Speos for Creo Parametric Far Infrared Extension
- Speos for Creo Parametric Optical Design Optimizer

Academic Products Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager

You may also want this Package:

- Ansys Release Documentation
- Speos HPC
- Speos Libraries

Ansys Speos HPC Package Overview

The package contains Speos HPC product which allows you to deploy Speos simulations on large clusters for faster simulations. Speos HPC allows you to run a Speos simulation with high scalability on Windows and Linux operating systems.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SPEOSHPC_2022R2.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- OPTIS HPC
 - Ansys Speos Solver
 - Ansys OPTIS HPC
 - Ansys OPTIS HPC Workgroup

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- RSM

You may also want this Package:

N/A

Intel MPI 2018.4 Package Overview (Linux Only)

This package includes intel MPI package 2018.4 which is required to run Speos HPC on linux. Refer to the Installation guide for further details.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

l_mpi_2018.4.274.tgz

Platform Availability and Package Format:

Linux x64 ... tgz format

Commercial Products Supported by this Package:

N/A

Academic Products Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys Zemax OpticsStudio Package Overview

With Ansys Zemax OpticStudio Pro you can analyze, design, and tolerance all classes of optical and optically enabled products, ranging from cameras for autonomous vehicles to optical couplers for data communications to microscopes and endoscopes for medical imaging, and much (much) more. Ansys Zemax OpticStudio Premium includes all the capability of OpticStudio Pro with added functionality to support integrated modeling of AR/VR systems and integrated modeling of real-world effects through dynamic links to CAD and access to measured source and scatter data. Ansys Zemax OpticStudio Enterprise includes all the capability of OpticStudio Premium plus the ability to assess and mitigate the impact of structural and thermal loads on product performance using the Structural, Thermal, Analysis and Results (STAR) feature set.

Ansys Release:

2022 R2

Updates:

2022 R2.02

Update Package Name:

OPTICSTUDIO_2022R2.02_WINX64.zip

Resolved Issues:

- **Scale Lens** – Fixed an issue in the Q-Type Norm radius, where the Scale Lens tool was incorrectly scaling the Norm Radius double the amount.
- **Fiber Coupling** – Fixed an issue for fiber coupling in POP and the FICP operand in cases with a material at the image surface and non-normal beam incidence.
- **Grid Gradient** – Fixed an issue whereby using the GGD file to propagate light in sequential mode works, but not in non-sequential mode.
- **Project Directory** – Fixed an issue whereby extracting a ZAR with the opposite Project Directory setting than the original lens file does not automatically re-save the file.
- **Prepare for OpticsBuilder** – Fixed an issue when using a rectangular aperture, the Stop mechanical half-width changed during the Prepare process if the semi-diameter is larger than the X/Y value.
- **Prepare for OpticsBuilder** – Fixed an issue with the Cellphone Camera Lens sample file failing to convert automatically when utilizing the Q-type Asphere.
- **Export to Speos Lens System** – Fixed an issue when fields ignored in a system causes the Export to Speos Lens System tool to not erase these fields, causing a distortion file with the wrong values.
- **Diffraction Gratings** – Fixed an issue with phase from Diffraction Gratings incorrectly missing in ZRD file. This would only be added to the OPL data but not the electric field (Ex, Ey, Ez).
- **Toroidal Lens object** – Fixed an issue where ray-tracing a Toroidal Lens object causes higher geometry errors than Compound Lens objects. Also, an issue with the drawing resolution of Toroidal Lens objects has been fixed.
- **Black Box** – Fixed an issue when setting the aperture in a Black Box, these apertures are ignored, and all rays go through the system with Ray Aiming on. This gives the wrong results and differences between the Black Box and the original system.
- **RCWA Diffraction DLLs** – Fixed an issue with RCWA Diffraction DLLs where in some cases the Lost Energy (Error) is negative when returning the full electric data.

2022 R2.01

Update Package Name:

OPTICSTUDIO_2022R2.01_WINX64.zip

Resolved Issues:

- Project Directories – support was added for: DLL\PhysicalOptics (.DLL) files and Objects\Sources\Radiant Source Model Files (.RSMX) files.
- Q-Type Asphere surface – Fixed an issue with the Scale Lens tool incorrectly scaling the Q-Type Asphere Norm Radius.
- Image Simulation, Geometric Bitmap Image Analysis, Geometric Image Analysis – Added warning messages to three analyses (Image Simulation, Geometric Bitmap Image Analysis, and Geometric Image Analysis) for situations where the Field Type is not Object Height.
- Reverse Elements tool – Fixed an issue with the Reverse Elements tool failing to reposition the Stop at the correct surface.
- Export to Speos Lens System tool – Fixed an issue with the Export to Speos Lens System tool, incorrectly reporting high divergence values.
- Coordinate Break surface – Fixed an issue where pickup solves that, point to the thickness of a mirror surface would return 0.
- Export to Speos Lens System Tool – Fixed an issue where the Export to Speos Lens System tool would crash OpticStudio if the file name of a Black Box file exceeded 32 characters.
- Non-Sequential Component Editor – Fixed an issue where the Diffraction section of the Object Properties wasn't grayed out for the Rectangular Volume object.

Package Name:

OPTICSTUDIO_2022R2_WINX64.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Zemax
 - Ansys Zemax OpticStudio Enterprise
 - Ansys Zemax OpticStudio Premium
 - Ansys Zemax OpticStudio Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Ansys Zemax OpticsBuilder Package Overview

Ansys Zemax OpticsBuilder streamlines the optomechanical design process by providing direct conversion of optical designs from Ansys Zemax OpticStudio to CAD tools (such as Creo Parametric), by enabling integrated analysis of how packaging impacts optical performance, and by supporting direct export of optical drawings to manufacturing.

Ansys Release:

2022 R2

Updates:

2022 R2.02

Update Package Name:

OPTICSBUILDERCREO_2022R2.02_WINX64.zip

Resolved Issues:

- **Import stops occasionally** – We have fixed an issue where, on occasion, OpticsBuilder would stop importing and would show a red “x”. The user would have to restart Creo to allow OpticsBuilder to import.
- **Simulation Results not updating** – Some users were experiencing a scenario where they would make modifications to the mechanical annulus, run a Simulation, and not see updated Results that accurately reflected the modifications. The Simulation tool now updates and displays correct results every time.
- **Schmidt-Cassegrain sample issues** – Our Schmidt-Cassegrain sample file was having an issue where the material would change upon .ZBD export from OpticsBuilder. It also caused random crashes when importing the sample file into OpticsBuilder. Both issues are now resolved, and the sample file has been updated.
- **Optics Manager and Ribbon disabled** – If a user removed an inserted optical assembly, the Optics Manager was disappearing, and the top Ribbon menu was grayed out. We have ensured that the Optics Manager remains and only the optics are deleted when removing an optical assembly. We have also ensured that the top Ribbon menu remains active.

-
- **Creo stalls without OpticsBuilder license activated** – If a user had installed OpticsBuilder but didn't have an active OpticsBuilder license, clicking on "About OpticsBuilder" would cause Creo to stall. This issue is now resolved.
 - **Generate Report window** – When opening the Generate Report window, it would hide in the background. The Generate Report window now stays open in the foreground.
 - **Update OpticsBuilder** – In About OpticsBuilder, if a user clicked on "Check for Updates" an error message appeared. The "Check for Updates" button is now functioning correctly.

2022 R2.01

Update Package Name:

OPTICSBUILDERCREO_2022R2.01_WINX64.zip

Resolved Issues:

- Advanced Ray Geometry Tools – Option to Auto Simulate: Chief Rays and Ray Footprint Boundaries now offer an option to automatically run their Simulations after the general Simulation.
- What's New Pop-Up: New features displayed.
- New End User License Agreement (EULA): EULA updated.
- Creo Status Bar Message: Creo Status Bar shows restored optical system status.
- Fixed incorrect behavior when activating a read-only optical part.
- Fixed sampling style to ensure enough boundary rays per source are generated during Ray Animation.
- Fixed non-working EULA link.
- Added some minor UI improvements.
- Updated Japanese UI to include additional localized tooltips and descriptions.

Package Name:

OPTICSBUILDERCREO_2022R2_WINX64.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Zemax
 - Ansys Zemax OpticsBuilder for Creo Parametric 4
 - Ansys Zemax OpticsBuilder for Creo Parametric 5
 - Ansys Zemax OpticsBuilder for Creo Parametric 6
 - Ansys Zemax OpticsBuilder for Creo Parametric 7

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 45: Download Center Info - SPM Extraction for Mechanical to Twin Builder

SPM Extraction for Mechanical to Twin Builder Package Overview

The SPM Extraction for Mechanical to Twin Builder package contains an extension that can be added to Ansys Workbench and used in Ansys Mechanical in a modal analysis context. It allows you to expose graphically the intrusive method used in Ansys Mechanical to create a scalar Reduced Model (state space matrices), in different formats. The downstream file created may be used in a system analysis, especially in Twin builder

Licenses for Ansys Twin Builder and Ansys Mechanical must be purchased separately.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SPM_ROM_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Workbench
- Ansys Twin Builder
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 46: Download Center Info - Optical Libraries

Speos Optical Libraries Package Overview

The package contains Libraries for Speos products. It includes Surface and Volume Optical Properties to model various materials, Source models for the Speos, Speos for NX and Speos for Creo Parametric, regulation standards and Plugins for HUD Optical Analysis.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_SPEOS_LIBRARIES_2022R2<zip>

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

N/A

Chapter 47: Download Center Info - Static ROM Preprocessing for Mechanical

Static ROM Preprocessing Package Overview

The Static ROM Preprocessing package contains an extension that can be added to Ansys Workbench so that Mechanical Static Thermal or Structural results can be exported as learning snapshots in the dedicated format for Dynamic Rom Builder based on designed points that describe input parameters. Results of ROM evaluations or input snapshots can also be displayed with this extension.

Licenses for Ansys Twin Builder and Ansys Mechanical must be purchased separately.

Ansyes Release:

2022 R2

Updates:

None Available

Package Name:

SRB_MECHANICAL_2022R2_<platform>.zip

<platform> = WINX64 (for Windows x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Ansys Workbench

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager

Chapter 48: Download Center Info - Statistics on Structures

Statistics on Structures Package Overview

This package contains Ansys Statistics on Structures which is an add-on to Ansys optiSlang. It extends optiSlang meta-modelling framework MOP and optiSlang post processing to multi-dimensional analysis with:

- Data-based 3D ROM building
- Creation of SignalMOP (Data-based 1D ROM)
- Sensitivity analysis of 2D performance maps
- Statistical and nonlinear sensitivity analysis of FEM/3D simulation results
- Statistical analysis of geometric measurements in 3D
- Generation of imperfections in automated workflows as input to CAE solvers (LS-DYNA, Ansys Mechanical)

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

SoS_8.0.0_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Ansys SoS

Required License Manager:

DYNARDO License Manager

Also Included in this Package:

N/A

You may also want this Package:

- DYNARDO License Manager
- Ansys optiSLang
- Ansys Structures
- Ansys Fluids
- Ansys Electronics

Chapter 49: Download Center Info - Structures and Motion

Package updated November 17, 2022

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Please contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

Structures Package Overview

Note:

This package includes Ansys Fluent license changes. The Two Temperature model and the Ablation model in Ansys Fluent are now only offered through a selective approval process. Contact your account representative to begin the approval process if you require access to these models. This change is part of Ansys' ongoing commitment to upholding high standards of oversight when it comes to the sale or shipment of our cutting-edge software products.

Previously released service packs should be installed on top of this updated package.

The Ansys Structures software contained in this package provides the ability to simulate complex structural engineering problems with ease.

The Ansys Structures package now includes access to Ansys Sherlock, Ansys Additive Suite, Ansys Additive Print and Ansys Additive Science. Ansys Additive Print provides you with the ability to perform simulations of additive manufacturing print processes. Ansys Additive Science provides an exploratory environment for scientists and engineers to determine the optimum process parameters for metal additive manufacturing machines and materials. In addition to Ansys Additive Print and Ansys Additive Science, Ansys Additive Suite includes Ansys Workbench Additive and Ansys Additive Prep.

- To install the Ansys Additive Suite, select and install both Mechanical Products and Additive options from the Ansys product selection screen.

- To install Ansys Additive Print and Ansys Additive Science, select and install the Additive option from the Ansys product selection screen.

Note:

You must have the appropriate Ansys licenses to run the Ansys Additive products.

This package does not include Ansys Motion which is stand-alone product. You should download and install the Ansys Motion or Ansys Sherlock packages separately.

- For information on downloading and installing the Ansys Motion package, see the [Ansys Motion Package Overview \(p. 174\)](#) below.

Ansys Release:

2022 R2

Prerequisites:

Microsoft .NET Framework 4.6.2 is required for the Windows version of this package. If your computer does not have .NET 4.6.2 installed, the package installation program installs .NET 4.6.2 as a prerequisite and may require a system restart after exiting the installation and before running any Ansys products.

Updates:

None Available

Package Name:

STRUCTURES_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Mechanics PrepPost/Solver Bundles
 - Ansys Mechanical Enterprise
 - Ansys Mechanical Pro
 - Ansys Mechanical Premium

-
- Ansys Structural
 - Ansys Professional NLS
 - Ansys Professional NLT
 - Ansys DesignSpace
 - Ansys Autodyn
 - Ansys Explicit STR
 - Ansys Rigid Body Dynamics
 - Ansys Additive Suite
 - Mechanics Solvers
 - Ansys Mechanical Enterprise Solver
 - Ansys Structural Solver
 - Mechanics PrepPost
 - Ansys Mechanical Enterprise PrepPost
 - Ansys Autodyn PrepPost
 - Ansys Composite PrepPost
 - Mechanics Modules
 - Ansys Fatigue Module
 - LS-DYNA
 - Ansys LS-DYNA
 - Ansys LS-DYNA HPC
 - AQWA
 - Ansys Aqwa Suite
 - Ansys Aqwa Suite with Coupled Cable Dynamics
 - Geometry Modeling
 - Ansys DesignModeler
 - Ansys SpaceClaim (Windows Only)
 - Ansys SpaceClaim Catia V5 Interface (Windows Only)
 - Meshing

- Ansys Meshing
- Ansys Extended Meshing
- CAD/Geometry Interfaces
 - Geometry Interface for JT
 - Ansys Geometry Interface for Creo Parametric
 - Ansys Geometry Interface for Autodesk
 - Ansys Geometry Interface for Solid Edge
 - Ansys Geometry Interface for SolidWorks
 - Ansys Geometry Interface for Creo Elements/Direct Modeling
 - Ansys Geometry Interface for SAT
 - Ansys Geometry Interface for CATIA V5
 - Ansys Geometry Interface for CATIA V6
 - Ansys Geometry Interface for NX
 - Ansys Geometry Interface for Parasolid
- PDM Interfaces
 - Ansys Interface for TeamCenter
- HPC
 - Ansys HPC
 - Ansys HPC Pack
- HPC Parametric
 - Ansys HPC Parametric Pack
- EKM and CAE Interfaces
 - Ansys EKM Analyst
 - Ansys EKM Shared
 - Ansys CAE Interface for ABAQUS
 - Ansys CAE Interface for NASTRAN
 - Ansys CAE Interface for SAMCEF
- Multiphysics PrepPost/Solver Bundles

-
- Ansys Mechanical CFD Maxwell 3D

Important Note: Download Structures, Fluids, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical Emag with Maxwell 3D

Important Note: Download Structures, and Electronics packages or ISO and Electronics packages

- Ansys Mechanical CFD

Important Note: Download Structures and Fluids packages or ISO packages

- Multiphysics Options
 - Ansys Customization Suite
 - Ansys DesignXplorer
- Ansys Additive
 - Ansys Additive Prep
- Ansys SpaceClaim
- Ansys Sherlock

Required License Manager:

Ansys License Manager

Also Included in this Package:

- Ansys License Manager
- Ansys Product Documentation
- RSM
- Ansys Workbench Platform
- Ansys Viewer (Windows Only)

You may also want this Package:

- Ansys Release Documentation
- Ansys Additive

Ansys Motion Package Overview

This package contains Ansys Motion, a 3rd generation engineering solution based on an advanced multibody dynamics solver. It enables fast and accurate analysis of rigid and flexible bodies and gives accurate evaluation of physical events through the analysis of the mechanical system as a whole.

Ansys Motion uses four tightly integrated solving schemes: rigid body, flexible body, modal and meshfree EasyFlex. This gives users unparalleled capabilities to analyze systems and mechanisms in which ever combination they want. Large assemblies with many millions of degrees of freedom can be studied with the effects of flexibility and contact included. Standard connections and joints then allow these systems to be connected together and loaded.

Note:

After downloading and uncompressing the iso file, refer to the Installation Guide pdf included in the package for detailed installation steps.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

MOTION_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINUX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

- Ansys Motion

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys Release Documentation

Chapter 50: Download Center Info - Twin Builder Linux Redistributable

Twin Builder Linux Redistributable Package Overview

The Twin Builder Linux Redistributable Package contains the dependencies and scripts for compilation of Modelica and Twin models, as well as for running simulations with the Twin Builder Standalone solver. [Appendix I - Machine Setup \(p. 178\)](#) describes the setup necessary for a successful Modelica/Twin compilation. [Appendix II - Modelica/Twin Compilation Overview \(p. 179\)](#) contains an overview of the compilation program. [Appendix III - Twin Builder Standalone Solver: Running Simulations \(p. 181\)](#) describes how to execute the standalone Twin Builder solver using a test .smt file exported from Twin Builder 2022 R2. [Appendix IV – Using Linux Redistributable for CS FMU Creation in Twin Builder \(p. 182\)](#) contains information on how this redistributable package can be used in Twin Builder to generate CS FMUs with embedded Twin Builder solver and models.

The compilation of Modelica models, as well as execution of Standalone Twin Builder Solver, requires that an Ansys License Server is reachable by the local machine, and it must provide the *simplorer_modelica* and *simplorer_sim* license strings, respectively. In the 2022 R2 release, models from the Modelica Standard Library (MSL) version 3.2.3, Twin Builder Fluid Power Library, Twin Builder Heating and Cooling Library, and Twin Builder EV Powertrain Library are officially supported.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

TWINBUILDERLINUXREDISTRIBUTABLES_2022_R2_LINX64.tgz

Platform Availability and Package Format:

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager
- Ansys Twin Builder Modelica Libraries

Appendix I - Machine Setup

Before running the automated compilation scripts, it is necessary to configure the Linux machine that will be used for compilation. The instructions below were validated on CentOS 7.8. The sections below describe the necessary setup steps to be taken (same commands are provided in a .sh script from this package).

1. Install dependencies in the Linux Machine

a. Install basic dependencies:

```
sudo yum install -y bzip2 bzip2-libs bzip2-devel gmp-devel mpfr-devel  
libmpc-devel cmake make wget zlib-devel openssl-devel unzip gcc gcc-  
c++ java-11-openjdk-devel boost-devel ant perl pcre-devel  
libXext.x86_64 openssl-devel libgfortran5.x86_64
```

b. Install GCC 9.3:

```
wget https://ftp.gnu.org/gnu/gcc/gcc-9.3.0/gcc-9.3.0.tar.gz  
  
tar -xzf gcc-9.3.0.tar.gz  
  
mkdir gcc-9.3.0-build && cd gcc-9.3.0-build  
  
../gcc-9.3.0/configure --enable-languages=c++,fortran --disable-mul-  
tilib  
  
make -j$(nproc)  
  
sudo make install  
  
export PATH=/usr/local/bin:$PATH  
  
export LD_LIBRARY_PATH=/usr/local/lib64:$LD_LIBRARY_PATH
```

2. Install Twin Builder redistributables on the Linux Machine

a. Install Modelica dependencies and unzip the AnsysEM.zip file:

Unzip the AnsysEM.zip file.

```
sudo chown -R $USER AnsysEM/
```

```
export ANSYSEM_DIR=$PWD/AnsysEM/AnsysEM21.1/Linux64
```

```
export TBSOLVER_HOME = $ANSYSEM_DIR
```

```
chmod +x ${ANSYSEM_DIR}/common/Modelica/lib/LicensingEncryption/linux/*
```

```
chmod +x ${ANSYSEM_DIR}/tbsolver*
```

```
chmod +x ${ANSYSEM_DIR}/mainwin560/Linux64/mw/bin-amd64_linux/mwxcctest
```

```
chmod +x ${ANSYSEM_DIR}licensingclient/linx64/ansyscl
```

```
echo "export ANSYSEM_DIR=$ANSYSEM_DIR" >> ~/.bashrc
```

```
echo "export TBSOLVER_HOME=$TBSOLVER_HOME" >> ~/.bashrc
```

- b. Set the license information to the following environment variable: ANSYSLMD_LICENSE_FILE=1055@SERVER_NAME.
- c. If your ~/.bashrc file does not contain the "export ANSYSEM_DIR..", add it manually so that ANSYSEM_DIR points to the *Linux64/* directory of your installation. Similarly, export the TBSOLVER_HOME environment variable, which should point to the same directory as the ANSYSEM_DIR. This variable is used when simulating ToolCoupling FMUs exported from ANSYS Twin Builder in any FMI-compliant tool.
- d. Restart your shell session.

Appendix II - Modelica/Twin Compilation Overview

The compile executable supports both Twin and Modelica compilation. The compile executable shows a CLI when typing *./compile -h*, as seen in the image below.

```

amaron@CHQAMARON2:~$ ./compile -h
usage: Twin Model Generator [-h] [--modelname MODELNAME]
                             [--modelicafile MODELICAFILE]
                             [--windowstwin WINDOWSTWIN]
                             [--windowsfmu WINDOWSFMU] [--fmuType {cs,me}]
                             [--fmiVersion {1.0,2.0}] [--outputfile OUTPUTFILE]
                             [--twinbuilder TWINBUILDER]
                             [--modelicalibs MODELICALIBS [MODELICALIBS ...]]
                             [--logfile LOGFILE] [--modelicalog MODELICALOG]
                             [--loglevel {INFO,DEBUG}]
                             [--crossplatform CROSSPLATFORM]
                             [--singlemodelicasrc SINGLEMODELICASRC]
                             [--version]
                             {Twin,Modelica}

Compiles Twin and Modelica Models from command-line

positional arguments:
  {Twin,Modelica}      Compilation engine to be used. Choose "Twin" for
                        generating .twin files, or "Modelica" for compiling
                        Modelica models into FMUs

optional arguments:
  -h, --help            show this help message and exit
  --modelname MODELNAME
                        Name of the Modelica model to be compiled.
  --modelicafile MODELICAFILE
                        Absolute path to the .mo file.
  --windowstwin WINDOWSTWIN
                        Absolute path to the Windows-only Twin file. To be
                        used when generating a cross-platform Twin Model.
                        --crossplatform option must also be passed
  --windowsfmu WINDOWSFMU
                        Absolute path to the Windows-only FMU file. To be used
                        when generating a cross-platform FMU during Modelica
                        compilation on Linux. --crossplatform option must also
                        be passed
  --fmuType {cs,me}     Type of FMU to be generated: CoSimulation or
                        ModelExchange
  --fmiVersion {1.0,2.0}
                        FMI Version of FMU to be generated: 1.0 or 2.0
  --outputfile OUTPUTFILE
                        Path for the file (.twin|.fmu) to be created.
  --twinbuilder TWINBUILDER
                        Path to the win64\ Twin Builder installation
                        directory, when running on Windows
  --modelicalibs MODELICALIBS [MODELICALIBS ...]
                        Custom libraries required for Modelica compilation.
                        Must point to the parent folder of the library
  --logfile LOGFILE     Absolute path to the log file for the compilation flow
  --modelicalog MODELICALOG
                        Absolute path to the log file for the Modelica
                        compilation
  --loglevel {INFO,DEBUG}
                        Log level
  --crossplatform CROSSPLATFORM
                        Whether or not to generate a cross-platform FMU/Twin.
                        If True, --windowsfmu or --windowstwin must be
                        provided
  --singlemodelicasrc SINGLEMODELICASRC
                        If True, a simplified Twin Model compilation will be
                        executed. --modelicafile must be provided
  --version            show program's version number and exit

```

The help also contains examples demonstrating which options are necessary for the different compilation workflows supported. This package also has a run.bat batch file template showing how to set the necessary variables to be used in the command-line call for compiling a full cross-platform Twin Model.

When generating a cross-platform Twin that contains Windows-only Modelica models, they will be automatically compiled. This will be possible if the Twin model was exported since Twin Builder 2020 R2. Additionally, when passing the `--recompile True` CLI option, the program will recompile the Twin model and any internal Modelica models, even if their Linux binaries have been previously recompiled. Such feature may be useful when the original cross-platform Twin model was compiled in an Operating

System different than the one where the Twin should be simulated (e.g., compilation on CentOS 7.8 and simulation on CentOS7.4). In these cases, when a model is compiled in a more recent OS version than the one where it should be simulated, runtime library dependencies might be missing.

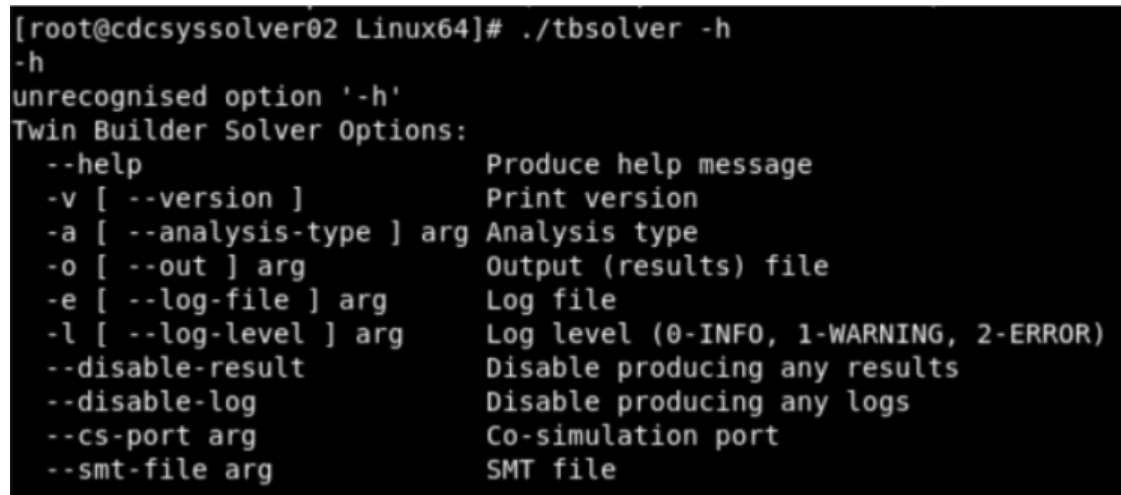
In case any internal Modelica models require models outside of the MSL library, additional libraries can be added to the MODELICAPATH environment variable or can be passed via the `-modelicalibs` CLI option.

Appendix III - Twin Builder Standalone Solver: Running Simulations

The Twin Builder Standalone Solver runs `.smt` files exported from Twin Builder. The solver executable is located under the Linux64 directory of the Twin Builder Linux Redistributable package. Executing a simulation with the standalone solver requires the following command line:

```
./tbsolver -smt-file /ansys/standalone_solver_demo/current_source.smt -o output.h5 -a TR
```

The simulation results are written in HDF5 format. The CLI options for TBSolver can be seen below:



```
[root@cdcsysolver02 Linux64]# ./tbsolver -h
-h
unrecognised option '-h'
Twin Builder Solver Options:
  --help                Produce help message
  -v [ --version ]      Print version
  -a [ --analysis-type ] arg Analysis type
  -o [ --out ] arg       Output (results) file
  -e [ --log-file ] arg  Log file
  -l [ --log-level ] arg Log level (0-INFO, 1-WARNING, 2-ERROR)
  --disable-result      Disable producing any results
  --disable-log          Disable producing any logs
  --cs-port arg          Co-simulation port
  --smt-file arg         SMT file
```

When running simulations using Twin Builder exported CS FMUs in any FMI-compliant tool (e.g., FMUChecker), `tbsolver` will be used as simulation engine.

For the 2021 R2 release, TR, AC and DC analysis are supported. Internal Twin Builder models can be used in the simulations, including:

- **Spice models:** All the components under Basic Elements > Circuit > Spice-Compatible Models
- **Physical domains:** All the components in Basic Elements > Physical Domains
- **FMU (Modelica/ROM):** FMUs need to be stored on the Linux machine and their location need to be specified in the **TB_USER_LIB** environment variable. See example below of an error message generated when the environment variable is not set.

```
[root@docker-desktop standalone_solver_demo]# ls
VanDerPol.fmu current_source.sml current_source.smt night_adv.smt vanderpol_fmu.h5 vanderpol_fmu.smt
[root@docker-desktop standalone_solver_demo]# /ansys/AnsysEM/AnsysEM21.2/Linux64/tbsolver --smt-file vanderpol_fmu.smt
Starting simulation ... (Jun 09, 2021 10:45:23 PM)
[Sim2000]
Error - Unable to find archived model file for VanDerPol1 in standard libraries
>> Prepare (Jun 09, 2021 10:45:23 PM)
[Sim2000App]
Error 10532 - Error encountered while PREPARE.
>> Close (Jun 09, 2021 10:45:23 PM)
Error: Simulation error occurred (Jun 09, 2021 10:45:23 PM)
[root@docker-desktop standalone_solver_demo]# TB_USER_LIB=$PWD /ansys/AnsysEM/AnsysEM21.2/Linux64/tbsolver --smt-file vanderpol_fmu.smt
Starting simulation ... (Jun 09, 2021 10:46:04 PM)
Simulation completed successfully! (Jun 09, 2021 10:46:04 PM)
[root@docker-desktop standalone_solver_demo]#
```

- **Power Electronics:** All the components in Basic Elements > Circuit > Semiconductors Device Level

VHDL and Links are currently not supported.

Appendix IV – Using Linux Redistributable for CS FMU Creation in Twin Builder

In Twin Builder 2021 R2, users can create all-inclusive CS FMUs for Linux (FMUs with embedded Twin Builder Linux model, solver, and system libraries) that can be used on any FMI-compliant software on Linux (CentOS 7.9).

Before creating the CS FMU, users need to extract the contents of this package on the same machine where Twin Builder 2021 R2 is installed. Then, the following steps are required:

1. In Windows, open the source .aedt project in Twin Builder 2021 R2.
2. On a subsheet place the circuit/subcircuit that you wish to export as CS FMU.
3. On the top-level schematic, right-click on the subsheet component on the schematic area.
4. On the **Compile FMU Model** dialog, the following options are provided:
 - a. **Include Personal + UserLib Files**
 - i. **Complete:** Includes all models (even unused ones) from UserLib and Personal libs. If UserLib and PersonalLib are not in the standard Twin Builder library locations, you specify their location through a configuration file.
 - ii. **Auto-detect:** Automatically detects the models used in the schematic components and adds them to the generated FMU. Please, note that if a model has multiple nested dependencies, they might not be automatically detected.
 - b. **Configuration File:** File used to specify where models from UserLib and PersonalLib can be found. The has the following content:

[Windows]

UseAltLibDirs=No

AltUserLibDir=

AltPersLibDir=

You may have a Global Cofig file (located at *Documents/Ansoft/ElectronicsDesktop2021.2/config/Toolcoupling.cfg* used by all your projects, or you may specify a new one when compiling the CS FMU.

- c. **Include Linux Files:** Select *Yes* if you wish to create a CS FMU with both Windows and Linux binaries.
 - d. **Linux Solver Folder:** Absolute path to the *AnsysEM21.2/* directory of this Linux Redistributable package.
 - e. **Linux UserLib Folder/Linux PersonalLib Folder:** Directory where the Linux-compatible models (.so files) can be found to be included in the CS FMU.
- 5. After selecting the desired options, you may click the **Compile** button to generate the FMU model.
 - 6. After a successful compilation, the model is ready to exported as an FMU and used in any FMI-compliant tool without external Twin Builder dependencies.

Chapter 51: Download Center Info - Twin Builder Model Export for Fluent

Twin Builder Model Export Package Overview

The Ansys Twin Builder Model Export for Fluent contains an extension that can be added to Ansys Fluent so that Fluent Component models exported from Ansys Twin Builder can be used in system simulations of boundary conditions for Fluent 3D double-precision projects. [Appendix I - Fluent Component Creation \(p. 186\)](#) describes how users can create and export a Fluent Component from Ansys Twin Builder. [Appendix II - Fluent Extension Installation \(p. 187\)](#) contains information about how to install and load the extension in Fluent. [Appendix III - Fluent Component Usage \(p. 187\)](#) shows how a model can be used for boundary condition simulation in a Fluent project.

Licenses for Ansys Twin Builder and Ansys Fluent must be purchased separately.

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

TwinBuilderModelExportForFluent_2022R2_WINX64.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

- Twin Builder
 - Ansys Twin Builder Enterprise
- Ansys Fluent

Required License Manager:

Ansys License Manager

Also Included in this Package:

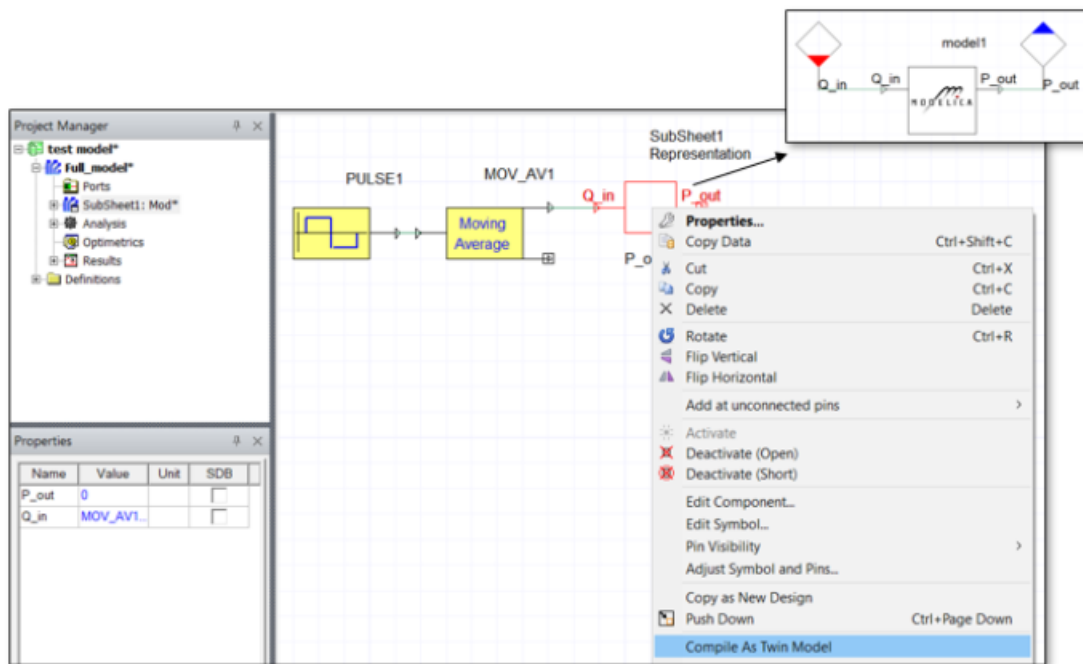
N/A

You may also want this Package:

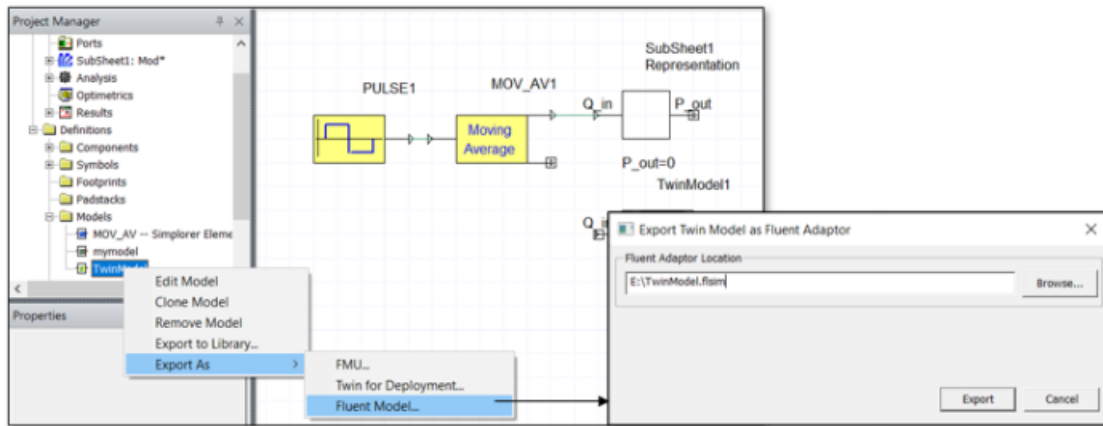
- Ansys License Manager

Appendix I - Fluent Component Creation

Twin Builder Fluent Components are exported from Twin Models created in Ansys Twin Builder 2020 R2. The image below illustrates the creation of a Twin Model from a single source FMU present in a subsheet.



Once the Twin Model is created, it can be exported as a Fluent Component by right-clicking on the corresponding model name in the Definitions -> Models item in the Project Manager, as illustrated below. A file with the .flsimextension will be created on disk.



Appendix II - Fluent Extension Installation

The Fluent extension can be installed and enabled through the following steps:

1. Copy the contents of the fluent-extensions folder into the home directory of your Fluent installation.
2. If you don't have a .fluent file in your Fluent home directory, copy/paste the the one provided in this package. Otherwise, add the following line to your existing .fluent file:

```
(fast-load (open-input-file (string-append (getenv "HOME") "/fluent-extensions/fluent-extensions.bin")) (the-environment))
```

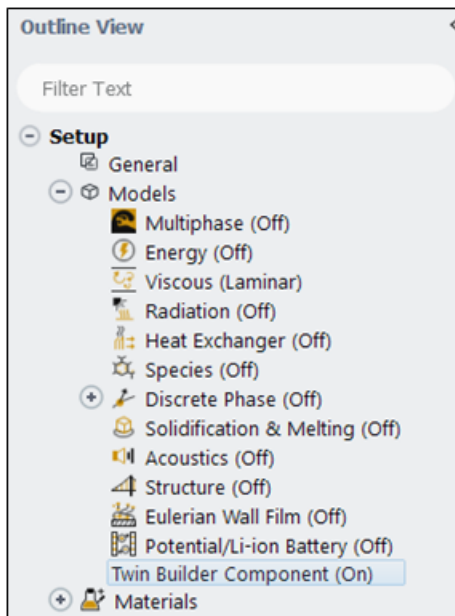
3. Start Fluent and type the following command in the console: (extension-load "TBExtension"). The following should be seen when the extension is successfully loaded:

```
Loaded library "TBExtension".
#f
> |
```

It is advised to load the extension right after start-up, before loading a case file.

Appendix III - Fluent Component Usage

The extension becomes available in the Fluent graphical interface (GUI) after loading. There are 4 main stages for setting up and running the system-level boundary condition simulation:



1. Loading the .flsim model:

- a. Open the extension window
- b. Load a .flsim model
- c. Enable Coupling: When coupling is enabled, Fluent and the FLSim model exchange data at the end of every time-step. Coupling is enabled automatically after loading an FLSim model.

The browse and select buttons can also be used to re-load the FLSim model if a reset of the model is required.

2.
 - a. Output parameters can be linked to inputs of the FLSim component.
 - b. Outputs are always linked to report definitions in fluent.
 - c. Both Report Definitions and Outputs can be created or deleted from the “Fluent Output Definition” tab. (They can also be created manually through the standard Fluent Interface.)
 - d. The “<< Map” button maps a selected report definition to a selected Fluent Output.
 - e. The “<< Create” button creates a new output parameter for a selected report definition.
 - f. Inputs can be created from the “FLSim Outputs” tab (or from the standard interface). This requires knowledge about the required quantity. (Velocity, pressure, etc)

Refer to the Fluent user’s guide regarding input parameters and report definitions setup for more information.

3.
 - a. FLSim Outputs: Displays the outputs coming from the FLSim component. These outputs need to be mapped to Fluent Inputs.
 - b. FLSim Inputs: Displays the inputs for the FLSim component. These inputs need to be mapped to Fluent Outputs.

4. Loading and Simulating

- a. Fluent simulation can be started normally from “Run Calculation” in the Fluent Interface.
- b. As long as the “enable coupling” check box is checked the FLSim component is coupled to fluent. Unchecking will halt the updating of the fluent in/output parameters.

Chapter 52: Download Center Info - Twin Builder Modelica Libraries

Twin Builder Modelica Libraries Package Overview

Windows:

The Twin Builder Modelica Libraries are compatible with Ansys Twin Builder and contains the following Modelon libraries and corresponding documentation: Electrification, Hydraulics, Pneumatics, Liquid Cooling, Heat Exchanger, Vapor Cycle and Modelon base library. After downloading the package, extract its contents into a folder on your computer and follow the instructions from the PDF file.

The Twin Builder product, Twin Builder Fluid Power Library, Twin Builder Heating and Cooling Library and and Twin Builder EV Powertrain Library licenses need to be purchased separately from Ansys

Linux:

The Twin Builder Modelica Libraries is compatible with Ansys Twin Builder and contains the following Modelon libraries and corresponding documentation: Electrification, Hydraulics, Pneumatics, Liquid Cooling, Heat Exchanger, Vapor Cycle and Modelon base library.

After downloading and extracting the contents of this package, set the location of the libraries to the MODELICAPATH environment variable. For example, if your libraries are saved under /home/someuser/libraries/ModelicaLibs, this directory should be added to the MODELICAPATH. Refer to the documentation from the Ansys Twin Builder Linux Redistributable package for instructions on how to compile models on Linux.

The Twin Builder Fluid Power Library, Twin Builder Heating and Cooling Library and and Twin Builder EV Powertrain Library licenses need to be purchased separately from Ansys

Ansys Release:

2022 R2

Updates:

None Available

Package Name:

TwinBuilderModelicaLibraries_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ...tgz format

Applications Supported by this Package:

- Twin Buidler
 - Ansys Twin Builder Premium
 - Ansys Twin Builder Enterprise
 - Ansys Twin Builder Pro

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager
- Ansys Twin Builder Linux Redistributable (Linux only)

Chapter 53: Download Center Info - Twin Deployer

Twin Deployer Package Overview

This package contains Ansys Twin Deployer. Ansys Twin Deployer is a product for simulation and validation of Deployable Twin Models exported from Twin Builder 2022 R2, offering the following main features:

- Automatic Twin model cross-platform compilation (Linux-only): Deployable Twin Models exported from Twin Builder 2022 R2 will have their Linux binaries automatically generated when loaded into Twin Deployer
 - If the Deployable Twin Model contains Modelica models, they will also be automatically compiled for Linux.
 - If Modelica models require libraries other than MSL (Modelica Standard Library), their parent directory must be added to the MODELICAPATH environment variable, or else informed in the model compilation dialog .
- Load inputs/reference CSV data: Users can load simulation inputs and reference results from CSV files.
- Python Code: Users can write their own Python (3.9) code and use it side-by-side with Twin Models.
- Result visualization: Individual outputs can be enabled/disabled in the 2D plots. Zooming, panning, stacked plots, among other functionalities are available.
- Export Python App: Users can export a standalone Python App directly from Twin Deployer, using the Twin model, input and output data generated in the latest simulation. The Python App serves as a simple example about how the Twin simulations can be integrated into existing automated workflows, or simply executed from command-line.
- Export DTDL: DTDL (Digital Twins Definition Language) representation of a Twin model can be exported from Twin Deployer with only a few clicks.

License for Ansys Twin Deployer must be purchased separately to enable the ability to launch Twin Deployer. Usage guidelines are included in the downloaded package.

Ansys Release:

2022 R2

Updates:

2022 R2.01

Update Package Name:

TWINDEPLOYER_2022R2.1_WINX64.zip

Resolved Issues:

- This update corrects an issue where, on the Windows operating system, command prompt windows were flickering very quickly when loading projects/models.

Package Name:

TWINDEPLOYER_2022R2_<platform>.<zip/tgz>

<platform> = WINX64 (for Windows x64)

<platform> = LINX64 (for Linux x64)

Platform Availability and Package Format:

Windows x64 ... zip format

Linux x64 ... tgz format

Applications Supported by this Package:

N/A

Required License Manager:

Ansys License Manager

Also Included in this Package:

N/A

You may also want this Package:

- Ansys License Manager
- Ansys Twin Builder

Chapter 54: Download Center Info - Verification Manual Files - Additive Manufacturing

Workbench Verification Manual Archive Files - Additive Package Overview

This package contains Workbench Verification Manual Archive Files for Additive Manufacturing.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_ADDITIVEVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS Structures
- ANSYS Product Documentation

Chapter 55: Download Center Info - Verification Manual Files - CFX

Workbench Verification Manual Archive Files - CFX Package Overview

This package contains Workbench Verification Manual Archive Files for CFX.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_CFXVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS Product Documentation

Chapter 56: Download Center Info - Verification Manual Files - Forte

Workbench Verification Manual Archive Files - Forte Package Overview

This package contains Workbench Verification Manual Archive Files for Forte.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_FORTEVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS Product Documentation

Chapter 57: Download Center Info - Verification Manual Files - Fluent

Workbench Verification Manual Archive Files - Fluent Package Overview

This package contains Workbench Verification Manual Archive Files for Fluent.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_FLUENTVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS Fluids
- ANSYS Product Documentation

Chapter 58: Download Center Info - Verification Manual Files - LS-Dyna

Workbench Verification Manual Archive Files - LS-Dyna Package Overview

This package contains Workbench Verification Manual Archive Files for LS-Dyna.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_LSDYNVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS LS-Dyna
- ANSYS Product Documentation

Chapter 59: Download Center Info - Verification Manual Files - Mechanical

Workbench Verification Manual Archive Files - Mechanical Package Overview

This package contains Workbench Verification Manual Archive Files for Mechanical.

ANSYS Release:

2022 R2

Updates:

None Available

Package Name:

ANSYS_2022R2_MECHANICALVM.zip

Platform Availability and Package Format:

Windows x64 ... zip format

Applications Supported by this Package:

N/A

Required License Manager:

N/A

Also Included in this Package:

N/A

You may also want this Package:

- ANSYS Structures
- ANSYS Product Documentation

