SAP2000® Version 23.0.0

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SAP2000 v23.0.0 is a major update from SAP2000 v22.2.0 and is distributed electronically by download from the internet or from the CSI Customer Center.

Contents

1. Installation Instructions for SAP2000 v23.0.0

SAP2000 v23.0.0 is a 64-bit application and must be installed and run on a 64-bit Windows operating system. Windows 8.1 (with Update 2919355) and Windows 10 Build 1507 or higher are currently supported.

The full application must be installed on each workstation where SAP2000 will be used. Installing SAP2000 v23.0.0 will not uninstall older major versions of SAP2000.

SAP2000 v23.0.0 is available electronically as a full installation by download from the internet. Two different installations are available, depending on the type of licensing you are using:

- SAP2000v2300CloudSetup.exe for the newer Cloud and Trial licenses
- SAP2000v2300LegacySetup.exe for the older Standalone and Network licenses

When you purchase or upgrade to SAP2000 v23, you will receive an email with an Activation Key and a link to download the correct installation. You will similarly receive an email with a download link if you request a Trial version of SAP000. Links to download SAP2000 installations are also available in the CSI Customer Center for authorized users.

After downloading, run the respective installation executable (SAP2000v2300CloudSetup.exe or SAP2000v2300LegacySetup.exe) and follow the prompts.

Installation of SAP2000 requires "Administrative" privileges to run. You should expect to be prompted to allow the installer access to system folders and the Windows registry. Please allow it to continue so that the installation can complete.

You may be prompted to install Microsoft C++ redistributable packages at the beginning of the installation. This could include a request to restart the installation or even restart the computer. Please proceed as requested.

See the following sections for specific instructions depending upon the type of licensing to be used. Most users will use a Cloud license, perhaps after starting with a Trial version.

2. Trial Version

SAP2000 currently offers a one-time Trial license that may be used to evaluate the product before purchase. If you have already purchased or upgraded a SAP2000 license, you can skip this section.

Use of the Trial version is subject to the following conditions:

- The Trial version is for evaluation purposes only and may not be used for commercial or professional purposes.
- Use of the trial version is limited to a single machine.
- License check-out is not available for Trial licenses.
- Use of the trial version is currently limited to 30 days, after which time you must acquire a standard registered license from CSI to continue using the software, whether on the same or a different machine. The duration of the Trial period is subject to change.
- The Trial version may be discontinued at any time.

To obtain and use a Trial license:

- Register for a SAP2000 Trial license on the CSI website at https://www.csiamerica.com/products/sap2000/try
- You will receive an email with an Activation Key and a download link.
- Download the installation on the machine you plan to use for evaluating SAP2000.
- Run SAP2000v2300CloudSetup.exe as described in Section 1 (Installation Instructions), and then follow the prompts.
- When you are ready to begin your trial, run SAP2000 from the shortcut on your desktop or from the Windows Start menu. The Trial period begins the first time you run SAP2000.
- You will be asked to enter contact information for license-support purposes.
- Next you will be prompted to enter the license Activation Key from the email.

The Trial license communicates with the cloud license server on the Internet via ports 80 and 443. If either of these ports is blocked, they need to be opened to acquire and maintain a license while

using the product. If your connection to the internet is through a proxy server, these ports must be opened on that server. Contact your IT department for more information, if necessary, although this is not normally a concern.

We recommend obtaining a standard registered license several days before expiration of the Trial period so you can continue to use SAP2000 without interruption.

Note: The activation key used for a Trial license is distinctly different from the key used to activate a Cloud license.

3. Cloud License

Most users will use a Cloud license, perhaps after starting with a Trial version. However, if you are using a legacy license (Standalone or Network) license, you can skip this section.

Run SAP2000v2300CloudSetup.exe as described in Section 1 (Installation Instructions), and then follow the prompts.

The first time you run SAP2000 after installation, you will be asked to enter contact information for license-support purposes. Next you will be prompted to enter the license Activation Key that was provided when you purchased or upgraded the product. Thereafter you will not need to re-enter the key unless you explicitly request to change the key.

The Cloud license communicates with the license server on the Internet via ports 80 and 443. If either of these ports is blocked, they need to be opened to acquire and maintain a license while using the product. If your connection to the internet is through a proxy server, these ports must be opened on that server. Contact your IT department for more information, if necessary, although this is not normally a concern.

The same Activation Key can be activated on multiple machines. Each license Activation Key is associated with a certain number of users (or "seats"), as determined at the time of purchase of the license. When the number of users running SAP2000 simultaneously with a given Activation Key reaches that limit, no additional users can run SAP2000 until one of the current users closes the application. If this happens frequently, you may want to consider purchasing additional licenses for SAP2000.

To deactivate the license, use the menu command Help > License Information > Change Activation Key. Once a license is deactivated on your machine, you can reactivate it using the same or a different Activation Key. There is normally no need to deactivate the license unless you wish to change the key. Simply closing SAP2000 makes the license available to another user or machine.

License Check-out (Commuter Feature)

If you want to use SAP2000 while disconnected from the internet, you can check-out a license for a limited time period. Keep in mind that once you check-out a license on your machine, no other user

or machine can use that "seat" until you check the license back in, or until the check-out period expires.

Use the menu command Help > License Information > Checkout License and Check-in License to perform these operations. You must be connected to the internet while checking out or checking in a license. The license will become available to other users when the check-out period expires even if you are not connected to the internet.

4. Standalone License

This section only applies if you have an Activation Key for a Standalone license.

Before installation, be sure to have your Standalone-license Activation Key available. Run SAP2000v2300LegacySetup.exe as described in Section 1 (Installation Instructions), and then follow the prompts.

During installation, you will be asked if you want to activate a Standalone license. Select "Yes" and enter the Activation Key when prompted.

An active internet connection is required throughout the installation and license-activation process. The license activation server ports are 80 and 443. If either of these ports is blocked, they need to be opened when activating a Standalone license.

After installation, you can activate or deactivate your Standalone license by running StandaloneKey. This is available from the Windows Start menu as "SAP2000 StandaloneKey", or you can run StandaloneKey.exe found in the CSiLicensing subfolder of the SAP2000 installation folder on your machine.

5. Network License

This section only applies if a License Manager is serving licenses on a license server in your local area network. In this case, you will not have an Activation Key, or the Activation Key applies to the licenser server and not to the local workstation running SAP2000.

Run SAP2000v2300LegacySetup.exe as described in Section 1 (Installation Instructions), and then follow the prompts. An active internet connection is required throughout the installation process.

During installation, you will be asked if you want to activate a Standalone license. Select "No".

To run SAP2000 after installation, it is necessary to have a Network license already activated and available on a license server that is accessible to your workstation through your local area network.

See topic [Sentinal RMS License Manager](#) in the CSI Knowledge Base for more information about setting up a network license server running License Manager. This is independent of installing SAP2000 for use on a local workstation.

To speed up finding a Network license from your workstation when SAP2000 is launched:

- Create a text file, LMHOST.INI, and enter the network name or IP address of the machine that is running the License Manager.
- If you are serving licenses on more than one machine, enter each name or IP address on a separate line of text.
- Save this file to the folder where SAP2000 is installed.
- The LMHOST.INI file can also be placed in the user settings folder, which can be found by entering "%LocalAppData%\Computers and Structures\SAP2000 23" (without quotes) in Windows Explorer. Accessing this folder does not require administrative permissions like the installation folder does.
- Files located in the user settings folder will take precedence over those in the installation folder, but they apply only to a single user.

Specifying the desired license level can also speed up finding a Network license from a license server. See Section 6 for more information.

6. Requesting License Levels

When using a Cloud or Network license, you can request a specific license level from amongst the various levels you may have purchased. This can speed up finding a license, since licenses levels are searched to find the first available license. This can also be useful to reserve higher levels for other users when a lower level is adequate for your present usage.

To check the current license level or to make changes on your machine:

- Run CSILicenseAssistant.exe located in CSiLicensing subfolder of the SAP2000 installation folder on your machine.
- Select the "Summary" action to see the current settings for license mode and license level.
- Select the "Level" action to change the license level.
- Choose the desired license level or select "Clear Setting" to default to the highest available level.
- Choose whether to apply this level as the default for all users, or as an override for the local (current) user.

If the setting for the local user is undefined, it will use the default for all users. If the setting for the local user is defined, it will override the default for all users when SAP2000 is run by the current user, but not by any other user.

Note that changing the default for all users requires administrative rights. You may need to run CSILicenseAssistant as Administrator to make this change.

As an alternative to using the CSILicenseAssistant, you can specify the program level as a command-line option. To do this, use the Windows Run command or create a shortcut pointing to SAP2000.exe in the installation folder. Add the following text to the command line after "SAP2000.exe" (and after a filename, if present):

/L *ProgramLevel*

where *ProgramLevel* is one of the following ten values:

ULTIMATE / ADVANCED / PLUS / BASIC /
ULTIMATEC / ADVANCEDC / PLUSC / BASICC /
ULTIMATEI / ADVANCEDI

7. Changing License Mode after Installation

After installing SAP2000 using either of the two installations, it is possible to change the license mode without needing to reinstall the software.

To check the current license mode or to make changes, run CSILicenseAssistant.exe located in CSiLicensing subfolder of the SAP2000 installation folder on your machine. Three actions are available:

- Summary: See the current settings
- License Mode: Change the license mode
- Level: Change the license level (See section Requesting License Level)

Note that when changing the license mode or level, you can set the default for all users or the setting for the local (current) user. If the setting for the local user is undefined, it will use the default for all users. If the setting for the local user is defined, it will override the default for all users when SAP2000 is run by the current user, but not by any other user.

Here are instructions to change license mode for the most common cases:

- Trial version → Cloud license:
  - o Run SAP2000.
  - o Upon startup, a form titled "Continue SAP2000 Trial" or "SAP2000 Trial Complete" will be displayed.
  - o Enter the Cloud license Activation Key.

- Trial version or Cloud license → Standalone license:
  - o Run CSILicenseAssistant.
  - o Go to License Mode, select Standalone License, and Apply.
  - o Run StandaloneKey.
  - o Enter the Standalone license Activation Key.

- Trial version or Cloud license → Network license:
    - Run CSILicenseAssistant.
    - Go to License Mode, select Network License, and Apply.
    - Make sure that your machine has access to a license server running License Manager.
    - You may need to create an LMHOST.INI file as described in section "Network License" above.

- Standalone or Network license → Cloud license:
    - Run CSILicenseAssistant.
    - Go to License Mode, select Cloud License, and Apply.
    - Run SAP2000.
    - Enter the Cloud license Activation Key.

- Network license → Standalone license
    - Run StandaloneKey.
    - Enter the Standalone license Activation Key.

- Standalone license → Network license:
    - Run StandaloneKey to deactivate the Standalone license.
    - Make sure that your machine has access to a license server running License Manager.
    - You may need to create an LMHOST.INI file as described in section "Network License" above.

8. New Features for SAP2000 v23

SAP2000 v23 is a major new release, and significant new features have been added or enhanced since SAP2000 v22.

For more information about this release, please visit the SAP2000 Releases page at http://www.csiamerica.com/products/sap2000/releases.

An overview of the full power of SAP2000 is available at http://www.csiamerica.com/products/sap2000.

A complete list of all changes is provided in the separate file ReleaseNotes.PDF in the Manuals subfolder of the installation folder and is also available when running SAP2000 using the command *Help > Documentation*.

9. File Compatibility with Older Versions

SAP2000 Version 23.0.0 can open model files (*.SDB), as well as import SAP2000 text files (*.S2K and *.$2K), from the current and previous major version of SAP2000 (v22.0.0 to v22.2.0),

unless specifically stated otherwise in this document or the Release Notes. In most cases SAP2000 v23.0.0 can directly open model files from older versions as well, but if not, they can usually be opened by using the intermediate versions in sequence. CSI cannot be responsible for opening model files for older versions that cannot be run on recent machines or operating systems due to changes beyond CSI's control.

Note that in certain cases results may differ for models run in newer versions compared to older versions due to enhancements and bug fixes as documented in the Release Notes for the intervening versions. Note that once you save or run older models in v23.0.0, they will not be usable by older versions of the program, so you should save them under a new name after opening or importing them in v23.0.0.