# New Licensing for dSPACE Products

## What about?
As of dSPACE Release 2017-B, the licensing technology for protecting dSPACE software changes. From that Release forward, dSPACE licensing is based on the CodeMeter licensing technology from Wibu-Systems.

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Motivation and Benefits

Motivation

The current licensing technologies, which are based on WibuKey (for dongle licenses) and FlexNet from Flexera (for floating network licenses), have been used for 20 years without any modifications. As a result, dSPACE licensing does not provide state-of-the-art license management. New business models and licensing features, such as license borrowing, cannot be supported due to technological limitations.

CodeMeter is a future-proof licensing technology from Wibu-Systems. It provides easy and more flexible license handling, and reduces the manual effort for customers as well as for dSPACE. To help customers fully benefit from these advantages, dSPACE also improves its license policy and dSPACE software installation.

Benefits

The main benefits of using the CodeMeter license technology are:

- Easier and more flexible license management
  - Central license management via dSPACE Installation Manager, for example, activating and deactivating licenses.
  - Dongle licenses and floating network licenses are based on the same licensing technology (one supplier instead of two).
  - CodeMeter licenses are Release-independent and can be valid for various dSPACE Releases. As a result, the time-consuming license update process for customers with a Software Maintenance Service (SMS) contract becomes much easier.
  - License information for all dSPACE products and versions is no longer distributed over many files on your PC, but stored in one license container (for example, in a CmDongle) and thus easily portable.
  - Licensing becomes more transparent because the symmetry between product information and licenses increases: One product in the dSPACE Catalog has only one license code. In addition, licenses are given traceable names related to the product.
  - Planned for future Releases: Managing licenses via a web portal, for example, to obtain a clear overview of the licenses available in your department.
License-independent software installation.
The software installation process is now license-independent and therefore becomes simpler. No license files are required to install dSPACE software products.

Support of new license features and business models.
Other features and models, such as license borrowing and pay-per-use, can be implemented with future dSPACE Releases. They are not yet available.

Compatibility

The parallel use of old and new licensing technologies is possible.
You can use the WibuKey (or FlexNet) licensing technology required for products from earlier dSPACE Releases in parallel with the CodeMeter licensing technology on the same PC.

Starting with dSPACE Release 2014-B, the new CmDongles were shipped with new dSPACE systems, but they did not yet use the CodeMeter licensing technology. As of dSPACE Release 2017-B, they also support the CodeMeter licensing technology, after updating the CmDongles via dSPACE Installation Manager.

All CmDongles (Rev. 3-xxxx), including those shipped with Release 2017-B and later, can still be used with dSPACE Releases 6.4 to 2017-A because they can emulate WibuKeys.

Main Differences Between the Old and New Technologies

Supported license types
As of dSPACE Release 2017-B, the CodeMeter technology supports single-user licenses and floating network licenses.
Main changes in technology

Up to dSPACE Release 2017-A

- dSPACE product
- License handling
- WibuKey technology
- Single-user (dongle) licenses
- License.dsp

As of dSPACE Release 2017-B

- dSPACE product
- License handling
- CmContainer
- CodeMeter technology
- Single-user licenses
- CmDongle
- Floating network licenses
- CmActLicense

There are the following main technology changes:

- The WibuKey and FlexNet technologies are replaced by the CodeMeter technology.
- Release-dependent License.dsp files are not used anymore.
- The license information is Release-independent and stored in a CmContainer. A CmContainer can be a CmDongle or a CmActLicense (software license container).
- dSPACE Release 2017-B provides single-user licenses only on CmDongles.
- License activation, deactivation, and license updates are carried out via dSPACE Installation Manager in combination with a database (dSPACE License Central) on the basis of tickets.
dSPACE License Central is hosted by dSPACE GmbH and is secured against unauthorized access by a web gateway.

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**New workflow**

1. **Download or DVD**
2. **Software Installation**
3. **License Activation**
4. **Decryption**
5. **Use**

Via dSPACE Installation Manager

No dongle & license information required

As shown above, the software installation process is now license-independent. No license information and/or dongles are required during the installation. This simplifies the installation process significantly.

As a consequence, you can now install dSPACE software without any license. However, specific parts of dSPACE software, the documentation, demo models, .NET code, etc. are installed in encrypted archives on the end user's PC.

After software installation, license activation is necessary to run license-protected dSPACE software. Refer to *Details on License Activation* on page 12.

To use the full functionality of the installed dSPACE software, you have to decrypt the files which are installed in encrypted archives. You can only decrypt parts of the dSPACE installation for which you have licenses. Use dSPACE Installation Manager for decrypting them.
Basics on the CodeMeter Licensing Technology

**CodeMeter Runtime**
The CodeMeter Runtime software provides the basic functionality of the CodeMeter licensing technology. It is installed automatically with the dSPACE software installation.

**CmContainer**
CmContainers are basic components of CodeMeter, and the license information is stored in them. A CmContainer can be a CmDongle (hardware-based) or a CmActLicense container (software-based). Each CmContainer can contain multiple licenses.

A CmContainer can store licenses of different license types, for example, single-user licenses and floating network licenses.

A license entry in a CmContainer can be viewed as a data record with various entries, such as the license name, license type, license quantity, and maintenance period. dSPACE Installation Manager shows this information as follows:

**CmDongle**
Hardware-based variant of the CodeMeter protection and licensing technology. The complete license information is safely stored on a smart card chip in the CmDongle. With CmDongles, you can move the license information between PCs by plugging the dongle into the PC you want to use. License files are no longer needed.

Single-user licenses are typically stored on CmDongles, but you can also store floating network licenses on them.
**CmActLicense**  
Software-based variant of the CodeMeter protection and licensing technology. A CmActLicense container is bound to a specific PC. It cannot be transferred to another PC.

dSPACE Release 2017-B provides CmActLicenses only in combination with floating network licenses.

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**Release-independent license validity**  
With the CodeMeter licensing technology, license handling becomes easier because license validity is independent from a specific dSPACE Release.

Thus, you can install a new dSPACE Release as soon as it is released. Each dSPACE software product is stamped with its release date. You can execute every Release of the product whose release date lies within the maintenance period of the license.

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**Maintenance period**  
The time period limiting the usable versions of a software product. Software Releases whose release date lies within the maintenance period can be executed indefinitely. The initial maintenance period ends six months after the delivery date but can be extended by purchasing SMS periods.

**SMS period**  
The SMS period defines the duration of the optional Software Maintenance Service (SMS) contract. During this time, the customer automatically receives all updates and enhancements for the software products included in the SMS contract.

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**License activation**  
After software installation, license activation via dSPACE Installation Manager is necessary to run license-protected dSPACE software. License activation is done via a database (dSPACE License Central) and uses a ticket-based system. Refer to *Details on License Activation* on page 12.
## License updates

If the maintenance period is extended, for example, because you purchased an SMS contract, you have to update your licenses. License updates are carried out via dSPACE Installation Manager. dSPACE informs you when the SMS order has been processed for a certain CmContainer number. You only have to make the CmContainer accessible in dSPACE Installation Manager and click Update Licenses. dSPACE Installation Manager then automatically performs the update. Already activated licenses can be updated almost automatically without having to consider ticket IDs.

## Specifics on using floating network licenses

The CodeMeter technology is also used for floating network licenses. Floating network licenses are typically stored in CmActLicense containers, but they can also be stored in CmDongles. An important attribute of floating network licenses is the license quantity, which defines the number of licenses that can be used in parallel on client PCs.

### Setting up license server and clients

The CodeMeter technology does not need special license servers. Every PC with CodeMeter Runtime software, can be configured as a license server. The clients to connect to a license server are configured in CodeMeter WebAdmin, which is a web-browser-based configuration utility installed together with CodeMeter Runtime. All client PCs that use floating network licenses have a search list with the IP addresses of the PCs that are configured as license servers. The search list has to be set up by the user.

### Searching licenses

Floating network licenses can be used locally on the PC hosting the floating network licenses (= license server) and by client PCs connected via LAN. dSPACE software products first search for a local CmContainer with the required license. If they do not find a relevant local CmContainer, they search for CmContainers that are stored on the license servers available on the search list.

### Floating network licenses stored on CodeMeter dongles

It is possible, to store floating network licenses on CodeMeter dongles. In case of a defect or a planned upgrade of the license server, the CodeMeter dongle only needs to be plugged into the new license server. Users can immediately work with the licenses again.

### Compatibility with FlexNet technology (in earlier releases)

For floating network licenses, the CodeMeter licensing technology cannot provide downward compatibility with Releases earlier than dSPACE Release 2017-B. If you need to use product versions of dSPACE Releases earlier than dSPACE Release 2017-B, you have to keep your
FlexNet License Server running in parallel. Both FlexNet and CodeMeter floating network servers can be hosted on the same PC.

**Note**

The dSPACE EULA does not allow FlexNet and CodeMeter license servers to provide the same floating network license in parallel. If you have any questions or encounter any problems, contact dSPACE Support.

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### New Setup Program for Software Installation

**Introduction**

In dSPACE Release 2017-B, the setup program is redesigned completely to simplify the installation process.

**Main benefits**

The new setup program, dSPACE Setup, provides the following main benefits:

- dSPACE Release Setup is the central setup program for most dSPACE software products.
- It supports removing product sets, removing a complete dSPACE Release, as well as modifying or repairing an existing installation.
- No license information and/or dongles are required during the installation.
- The installation is more transparent. dSPACE software is installed in larger units, called product sets. Each set contains all software components and options that are typically used together.
  You can install and uninstall software only on the product set level. It is not possible to add or remove single products. Working with product sets is easy because they have descriptive names and provide a good balance between disk space requirements and usability.
- The installation is now performed without any user interaction during the installation process.
  The new setup collects all required information before the installation starts. You can specify to shut down your PC after the installation. This lets you complete dSPACE software installation without having to be physically present.
dSPACE Release Setup provides an automatic installation feature for unattended installations. You can record an initial interactive installation and store your installation configuration to a configuration file. Later, you can use this file to install dSPACE software on multiple PCs automatically in unattended mode.

**Note**

You can install only one instance of a product set (for example, ControlDesk, AutomationDesk, ModelCompare, ECU Interface Software, VEOS, TargetLink) on your PC. Multiple installation of the same Release is not supported by the new setup. However, you can install different Releases of a product set on your PC.

**Multiple installations**

**User interface**

dSPACE Setup has a modern, clean user interface:

As shown above, product selection becomes much easier because you can select product sets from a flat list. There is no longer a complex tree of installable software components you can or must select from, requiring intimate knowledge about which component is located where.
Decryption of encrypted parts

With the new setup, you can now install the complete dSPACE Release without any license. However, specific parts of dSPACE software, documentation, demo models, .NET code, etc. are installed in encrypted archives on the end user's PC.

To work with the installed dSPACE software, you have to activate licenses and decrypt the encrypted parts of the installed products you have licenses for. This is performed with dSPACE Installation Manager, which is always installed with dSPACE software.

After initial decryption, all files remain decrypted, but only on the PC with the required licenses.

**Tip**

Decryption does not require administrator rights, so the end users can perform this step themselves.

For more information on activating licenses, refer to *Details on License Activation* on page 12.

Unattended installations

You can use the record mode of dSPACE Release Setup to record the installation configuration of dSPACE software and use the generated configuration file to install the software on other PCs automatically in the setup's unattended mode. This mode does not require any manual input.

**Note**

In record mode no software is installed on your host PC. You only save your settings to a configuration file.
Details on License Activation

Introduction
CodeMeter licenses are made available via CmContainers (CmDongles or CmActLicense containers) on user PCs. After software installation, license activation via dSPACE Installation Manager is needed to run license-protected dSPACE software.

Activation principle
License activation uses a ticket-based system. dSPACE GmbH hosts a license database: dSPACE License Central. Depending on your order, dSPACE selects characteristics for each license and provides this information to the database. dSPACE License Central then generates a ticket ID for each license.

The ticket ID is a unique alphanumeric string of characters. The ticket ID of a license remains unchanged as long as the license exists, but the license information related to it can be updated, for example, in case the maintenance period of a license is extended with an SMS order.

This ticket ID is sent to you by e-mail. You have to enter the IDs in dSPACE Installation Manager and start the activation process. During this process, specific license activation files are transferred between dSPACE Installation Manager and dSPACE License Central.

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New Licensing for dSPACE Products

December 2017
License activation and maintenance requires an Internet connection between dSPACE Installation Manager and dSPACE License Central. The most convenient method is online activation with a PC that has access to the Internet and the local CmContainers. dSPACE recommends using online activation whenever possible. If a PC with local CmContainers does not have Internet access, licenses can be activated in different ways. However, at least one PC with Internet access and dSPACE Installation Manager must be available at your site.

Online activation differs depending on how dSPACE Installation Manager can access the CmContainer.

**Local access to CmContainer**

Online activation with local access of dSPACE Installation Manager to the CmContainer is the only convenient way to activate licenses. dSPACE Installation Manager has to be running on the PC with local access to the CmContainer. dSPACE Installation Manager lists the CmContainers it finds on the PC (CmActLicense) and that are connected to it (CmDongles).

You have to select the desired CmContainer and enter the ticket ID of the license to activate. Clicking Activate starts the activation process. dSPACE Installation Manager then automatically performs the activation and data exchange with dSPACE License Central.

**LAN access to CmContainer**

You can use this activation method if one of the following cases applies:

- Your PC does not have an Internet connection but is connected to other PCs via LAN.

- Your PC acts as a license server and is running with a non-Windows operating system and can therefore not run dSPACE Installation Manager.

For these cases, dSPACE provides a remote access functionality. dSPACE Installation Manager must run on a PC that is connected to your LAN. This PC must also be connected to dSPACE License Central via the Internet.
dSPACE Installation Manager can then access remote CmContainers via LAN and automatically performs the activation and data exchange with dSPACE License Central via Internet.

File-based access to CmContainer

You have to use this access method if dSPACE Installation Manager cannot access the CmContainer at all.

On the PC with the CmContainer, CodeMeter Control Center can be used to create the files required for license activation, update, and deactivation. These files must be transferred between the PC and the PC on which dSPACE Installation Manager is installed. Do this with a USB stick or via a network folder, for example.

On another PC, dSPACE Installation Manager must be installed and connected to dSPACE License Central via the Internet. dSPACE Installation Manager exchanges data (reads and sends the activation files) with dSPACE License Central online.
Activation files  The files to transfer contain a fingerprint of the CmContainer contents. There are two types of files:

- Remote activation context (RAC) files. These files are created by CodeMeter Control Center and have to be sent to dSPACE License Central via dSPACE Installation Manager.
- Remote activation update (RAU) files. These files are created by dSPACE License Central and are used to update CmContainers.

File-based remote access to CmContainer

This method also uses manual file transfer, but CodeMeter Control Center on the PC with the CmContainer is operated from a remote PC. You can use a remote desktop tool to access the PC with the CmContainer. This tool can be installed on the PC with dSPACE Installation Manager or on any other PC in the LAN to control CodeMeter software and to transfer files manually between the PCs.

Remote access is useful if you want to access multiple CmContainers and work with CodeMeter software installed on the PCs from only one administrator PC. Another use case is to manage single-user licenses that are not accessible directly in a LAN.

As shown above, CodeMeter Control Center can be started on a remote PC to generate the files required for license activation. These files must be transferred between the remote PC and an administrator PC. On the administrator PC, dSPACE Installation Manager reads and sends activation files from the remote PC. dSPACE Installation Manager also exchanges data with dSPACE License Central via the Internet.
Dongle Migration

Motivation
Dongles delivered for earlier Releases are not prepared to be used with the new CodeMeter license technology. Therefore, dongle migration is required for these dongles. Depending on which dongle you already use (for installations of dSPACE Release 2017-A and earlier), one of the described scenarios applies (see below).

CmDongles shipped for dSPACE Release 2017-B and later support CodeMeter licensing without modifications.

Migrate from WibuKey dongle
WibuKey dongles must be replaced and the license ID stored on a WibuKey dongle must be migrated to a CmDongle.

CmDongles are automatically delivered with dSPACE Release 2017-B to owners of WibuKey dongles with licenses covered by a Software Maintenance Service (SMS) contract. When shipped, the new CmDongles do not contain any license information.

During migration, the WibuKey dongle is disabled and can no longer be used. After migration, the CmDongle is prepared to use the CodeMeter license technology. Additionally, the CmDongle contains the WibuKey ID of the WibuKey dongle. This ID is required to use the CmDongle with dSPACE Release 2017-A and earlier.

Migrate from old CmDongle
CmDongles delivered for dSPACE Release 2014-B up to dSPACE Release 2017-A are not prepared to use the CodeMeter licensing technology. They must be migrated to use dSPACE Release 2017-B and later.
Requirements for Network Communication

During migration the license information is modified. After migration, the CmDongle is prepared to use the CodeMeter license technology. Migrated CmDongles still contain the embedded WibuKey ID. This ID is required to use the CmDongle with dSPACE Release 2017-A and earlier.

### Requirements for Network Communication

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To communicate with dSPACE License Central (via web gateway), with CodeMeter tools from Wibu-Systems or other PCs in a LAN, your PC must be able to establish a TCP/IP connection.</th>
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</thead>
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<tr>
<td>Communication with dSPACE License Central</td>
<td>To access dSPACE License Central from your PC, you need an Internet connection. dSPACE Installation Manager connects to <a href="https://licensing.dspace.de/gateways">https://licensing.dspace.de/gateways</a>, HTTPS, Port 443. dSPACE Installation Manager can work with proxy servers that you might use. It can also handle proxy servers with authentication (user name, password).</td>
</tr>
<tr>
<td>Tip</td>
<td>dSPACE Installation Manager uses the same settings for communication as Microsoft Internet Explorer. Therefore, you can change the setting in Internet Explorer to solve any communication problems. In addition, you can check the Internet connection to dSPACE License Central by entering the following address in Internet Explorer: <a href="https://licensing.dspace.de">https://licensing.dspace.de</a></td>
</tr>
<tr>
<td>Local firewalls and IT appliances must be configured accordingly to grant dSPACE Installation Manager access to the Internet.</td>
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<tr>
<td>Internal LAN communication</td>
<td>For internal LAN communication between CodeMeter software on different PCs, for example, for connections between floating network license servers and clients, a standard TCP/UDP protocol is required. The default port number is 22350, which is an officially registered port number (IANA). If needed, you can change the port number. For communication with CmContainers on remote PCs in a LAN, dSPACE Installation Manager uses CodeMeter functionality. Thus, the connected PCs require the same open TCP/IP network port: 22350 (TCP and UDP).</td>
</tr>
</tbody>
</table>
Communication via e-mail client

For general communication and transferring attached files, an internal and external e-mail client is required.

How to Contact dSPACE Support

| Mail: | dSPACE GmbH  
| Rathenaustraße 26  
| 33102 Paderborn  
| Germany |
| Tel.: | +49 5251 1638-941  
| (General Technical Support) |
| Fax: | +49 5251 16198-0 |
| E-mail: | support@dspace.de |
| Web: | http://www.dspace.com |

Change History

<table>
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<tbody>
<tr>
<td>March 20, 2017</td>
<td>Initial revision</td>
</tr>
<tr>
<td>October 15, 2017</td>
<td>Description of automatic selection of product sets removed.</td>
</tr>
<tr>
<td>December 20, 2017</td>
<td>General update</td>
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