

IDS peak 26.06 for Windows

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Announcement



.NET Bindings Distribution Update

The .NET bindings are no longer included in the setup package. They are now distributed exclusively via [NuGet](#), providing a more idiomatic, flexible, and maintainable delivery method for .NET developers.

NuGet is the official package manager for .NET and offers a centralized ecosystem for discovering, installing, and updating libraries directly from your development environment (for example, Visual Studio or the dotnet CLI).

Moving distribution to NuGet improves version management, simplifies updates, and allows you to integrate the .NET bindings into your projects using standard .NET workflows.

! Important

To continue using the .NET bindings, install them from NuGet and update your build or dependency management processes accordingly. The setup package no longer contains the bindings and [examples](#).

 Note

Namespaces were renamed to follow C# naming conventions. Migration tables are provided in the README of each NuGet package.

System requirements



This software was originally developed to support Windows 10 as well as newer versions. Validation and testing were performed on the following operating systems:

Desktop (x86-64 / AMD64 architecture):

- Windows 11 Pro (Version 25H2)
- Windows 10 Pro (Version 22H2)

While the software is expected to run on Windows 10 and newer, functionality outside the tested environments has not been formally verified.

 Note

Windows on ARM is currently not supported.

 Note

We recommend using 64-bit applications. Depending on the use case and camera model, the resources of 32-bit applications may not be sufficient, e.g. for high memory requirements.

 Note

In 64-bit compilers, the `/LARGEADDRESSAWARE` option is enabled by default (this means that an application can handle addresses larger than 2 gigabytes). In 32-bit compilers, the `/LARGEADDRESSAWARE` option can also be used.

Optional

- CMake (minimum version 3.10) to build the examples yourself (if required)
- C++ 14 Compiler (for examples, **IDS peak comfortSDK** and **IDS peak genericSDK**)

IDS peak components



IDS peak Cockpit

- Version: 26.06.1

The **IDS peak Cockpit** is a graphical user interface program for easy camera evaluation. The **IDS peak Cockpit** allows you to easily manage your cameras with the integrated camera manager, save your workspace settings, save images automatically and much more.

IDS peak tools

- **IDS IP Config** - 1.5.1.0
Command line tool for setting camera IP address and network settings for GigE Vision cameras
- **IDS Device Update** - 1.4.7.0
Command line tool for updating the camera firmware for GigE and USB3 Vision cameras
- **IDS Device Command** - 1.4.6.0
Command line tool for manually controlling the camera settings and commands
- **IDS Device Password** - 1.4.6.0
Command line tool for editing the password of a password-protected camera (certain models only).
- **IDS Device Password GUI** - 1.4.6.0
GUI tool for editing the password of a password-protected camera (certain models only).
- **Support tool** - 1.3.0.0
command line tool for storing information about the system used and the camera configuration. You can send this information to IDS to enable easier error handling.

Transport Layers

- **USB3 Vision Transport Layer (U3VK)** - 2.0.0.0
GenTL Producer for IDS USB3 Vision cameras (necessary for image processing programs based on the GenICam interface) including a driver to improve USB performance.
- **GigE Vision Transport Layer**
 - **Socket (GEV)** - 2.0.0.0
Installs the GenTL Producer (necessary for image processing programs based on the GenICam interface). This producer can be installed as an alternative to **Kernel** if it is not possible to install a kernel driver in the system.
 - **Kernel (GEVK - recommended)** - 2.0.0.0
Installs the GenTL Producer (necessary for image processing programs based on the

GenICam interface) and a kernel driver to improve Ethernet performance.

- **GenTL Proxy Producer - 1.0.1.0**

GenICam-compliant transport layer that provides 3D image processing for Nion cameras within third-party vision applications. For usage instructions and known limitations, see the [Notes for using the IDS GenTL Proxy Producer](#).

- **uEye Transport Layer - 2.0.0.0**

The uEye Transport Layer allows you to use uEye cameras (UI models) with **IDS peak**.

- **IDS peak standard and runtime setup**

You can install the uEye Transport Layer via the custom installation of **IDS peak**. Note that you must also install **IDS Software Suite** 4.95 or higher to operate uEye cameras (UI models) with **IDS peak**.

- **IDS peak extended setup**

This setup includes the uEye camera drivers. Therefore, no additional installation of the **IDS Software Suite** is required.

Libraries

- **IDS peak common - 2.0.0**

A common header-only library that is used for exchanging data and interfaces between the different libraries.

- **IDS peak comfortSDK - 1.15.0.0**

Installs the **IDS peak comfortSDK**. Here, you can use numerous simple functions without going deep into the GenICam standard. It is possible to program in C.

- **IDS peak genericSDK**

- **IDS peak genericAPI - 1.16.0.0**

Installs the **IDS peak genericSDK** (based on GenICam) for programming.

- **IDS peak AFL - 2.0.2.0**

Installs an additional library for auto features.

- **IDS peak ICV - 1.5.0**

Installs an additional library for advanced image processing.



Note

IDS peak ICV will replace **IDS peak IPL** in the future. For this reason, further development of **IDS peak IPL** will cease. We recommend using **IDS peak ICV** instead.

- **IDS peak IPL - 1.17.2.0**

Installs an additional library for basic image processing.

Examples

- **Generic Examples**

Installs source code examples and binaries for **IDS peak genericSDK**.

- **Comfort Examples**

Installs source code examples and binaries for **IDS peak comfortSDK**.

- **Third Party Examples**

Installs source code examples for HALCON and MIL (Matrox Imaging Library)

Multimedia

- **DirectShow - 1.0.0.0**

- Installs the DirectShow interface of **IDS peak**.

Utility

- **IDS UVC Update Tool - 1.0.1.0**

- Installs an application to list and update IDS UVC cameras.

Installation



! Important

Administrator privileges are required to install the software.

Which setup to choose?

The Windows setup of **IDS peak** is available in different versions:

- **IDS peak standard setup**

This setup has the same scope as in the previous version. Using the uEye Transport Layer, you can operate uEye cameras (UI models) if you have installed the **IDS Software Suite**.

- **IDS peak runtime setup**

This is a greatly reduced setup, which contains only the drivers without development environment or **IDS peak Cockpit**. Using the uEye Transport Layer, you can operate uEye cameras (UI models) if you have installed the **IDS Software Suite**.

- **IDS peak extended setup**

This setup also contains the latest uEye camera drivers for UI models. With this setup, you can use UI camera models without installing the **IDS Software Suite**. The setup also contains the **IDS Camera Manager**, which you can use to configure the IP addresses of the GigE uEye cameras (UI-5xxx), for example. Note that this setup automatically uninstalls an existing version of the **IDS Software Suite**.

► **The following overview shows you which components are included in the individual setups.**

Installation of IDS peak



Note

If you change the setup, components are automatically uninstalled during a downgrade. Example: You have previously installed the standard setup and would now like to install the runtime setup. The runtime setup will automatically uninstall components that are not included in the setup. In the case of installation via the GUI, you will be notified. In the case of a silent installation, this takes place without any further notification.

Standard installation via setup file

Double-click on `ids_peak_<version>.exe` to run the setup. You have the following options for installation:

1. Typical Installation of recommended components.
2. Custom For user-defined installation. All components to be installed must be selected individually. In order to support uEye cameras (UI models), choose **Custom** and enable the installation of the uEye Transport Layer.

After the installation is finished, the PC must be restarted.



Note

If changes are required to an existing installation, you can use the **Modify** option of the corresponding setup.

Installation via silent setup

Prerequisites

The silent setup runs in the background and does not prompt the user for input. It gets its input from a silent response file (*.iss file) which you need to create in advance:

1. Extract the **IDS peak** setup package to a local directory. The required silent setup command line parameters can only be processed by the `ids_peak_<version>.exe`.
2. Record a setup response file. Run the setup with the `/r` command line parameter to have the setup record and create the setup response file, for example: `ids_peak_<version>.exe /r`
→ The setup will record all your setup choices in a file named `setup.iss` which will be placed in the Windows folder (`C:\Windows / %WINDIR%`).
3. If necessary, you may rename the `setup.iss` file and locate it in a different directory. Do not use space characters.

Running the silent installation

You have two options:

1. The `setup.iss` file is located in the setup directory. This is the default option. Enter `ids_peak_<version>.exe /s /f1".\setup.iss"` via command line.
2. The `setup.iss` file has a different name and is located in a different directory. Enter the appropriate file name and location behind the `f1` command, see example. Do not use space characters within the command line option `/f1` command. Example: `ids_peak_<version>.exe /s /f1"d:\mySetup.iss"`



Note

When running a setup in silent mode no messages are displayed at all. You can review the `Setup.log` file for getting an installation summary including error log.

Installing the Python bindings from PyPI

To use the Python binding of **IDS peak** make sure that Python is installed on your PC. For using **IDS peak IPL**, the **NumPy** library is additionally required.



Note

Python version **3.10 and higher** are supported.

You can use `pip` to install the **IDS peak** Python bindings from [PyPI](#). For this purpose, you need `pip` version 20.3 or higher. Otherwise `pip` will detect the wheel as **not supported on this platform**.

There are a few packages to be installed:

- `ids_peak`
 - Version 1.16.0.0.9
 - Provides the bindings for **IDS peak genericAPI**
 - <https://pypi.org/project/ids-peak/>
- `ids_peak_common`
 - Version 2.0.0
 - Provides the bindings for **IDS peak common** This library provides fundamental types, utilities, and interfaces shared across multiple products and modules.
 - <https://pypi.org/project/ids-peak-common/>
- `ids_peak_afl`
 - Version 2.0.2.0.7
 - Provides the bindings for **IDS peak AFL**
 - <https://pypi.org/project/ids-peak-afl/>
- `ids_peak_icv`
 - Version 1.5.0
 - Provides the bindings for **IDS peak ICV** This library provides computer vision capabilities for industrial applications.
 - <https://pypi.org/project/ids-peak-icv/>
- `ids_peak_ipl`
 - Version 1.17.2.0.8
 - Provides the bindings for **IDS peak IPL**
 - For using **IDS peak IPL**, the **NumPy** library is additionally required.
 - <https://pypi.org/project/ids-peak-ipl/>

To install the bindings, follow this order:

```
python -m pip install ids_peak_common
python -m pip install ids_peak_ipl
python -m pip install ids_peak
```

```
python -m pip install ids_peak_afl  
python -m pip install ids_peak_icv
```



Note

If you use a proxy, you must specify the proxy settings in the commands above directly after `pip install` with `--proxy <IP address>:<port number>`

Installation of the .NET bindings from NuGet

The .NET bindings are no longer included in the release package and must be installed via NuGet. Detailed documentation and usage instructions are available on the respective NuGet package pages.

Available packages:

- `IDSImaging.Peak.Common`
- `IDSImaging.Peak.AFL`
- `IDSImaging.Peak.API`
- `IDSImaging.Peak.ICV`
- `IDSImaging.Peak.IPL`

You can install packages using the NuGet Package Manager in Visual Studio or via the .NET CLI, for example:

```
dotnet add package IDSImaging.Peak.API
```

Install additional packages as required by your application.



Important

Namespaces in the .NET bindings have been renamed to align with standard C# naming conventions. If you are upgrading from earlier versions, code changes may be required.

Each NuGet package README includes a detailed migration table outlining the relevant renamings and recommended updates. Please refer to the respective package page for guidance during migration.

First start



To open the **IDS peak Cockpit**, click on the icon of the **IDS peak Cockpit** on the desktop or click on Start > Programs > IDS peak > IDS peak Cockpit .

The camera manager in **IDS peak Cockpit** shows you the IDS producers available on the host system. The available IDS cameras are listed below their interfaces. If the camera entry is grayed out, this camera is already open.

Opening a camera

To open a camera in **IDS peak Cockpit**, you can select it via the camera manager or open the first available camera directly with the icon in the main toolbar.

For operating a GigE Vision or USB3 Vision camera, refer also to the [Notes for GigE Vision cameras](#) and [Notes for USB3 Vision cameras](#).

Examples

The examples are available for **IDS peak comfortSDK**, **IDS peak genericSDK**, or for third parties, e.g. for **HALCON**.

You can find the binaries of the examples under:

<Install DIR>\ids_peak\comfort_sdk\samples\bin

or

<Install DIR>\ids_peak\generic_sdk\samples\bin

You can find the source code of the examples under:

<Install DIR>\ids_peak\comfort_sdk\samples\source

or

<Install DIR>\ids_peak\generic_sdk\samples\source



Note

The examples were built and tested with the following Qt versions:

Windows (32/64-bit): Qt 5.15.1

For the QML examples, it is recommended to use the latest Qt5 version. Qt6 is currently only supported for the **IDS peak genericSDK examples**.

► **IDS peak comfortSDK**

► **IDS peak genericC++**

► **IDS peak genericC#**

► **IDS peak genericPython**

Third party examples

► **HALCON**

► **MIL**

Notes for GigE Vision cameras



Setting the IP address for GigE Vision cameras

A valid IP address must be assigned to GigE Vision cameras before they can be used.

1. Open the **IDS peak Cockpit**.
2. Open the camera manager.
3. Select the camera in the camera manager.
4. Open the **IP configuration** dialog in the camera manager.
5. Assign a valid IP address to the camera.
 1. Select **New network configuration**.
 2. Either enter an IP address and subnet mask for the camera or click on the **Find IP address and subnet mask** button.
 3. Confirm your settings with **Apply new settings**.
6. The new settings are applied and the camera is rebooted.

Enabling Jumbo Frames for GigE Vision cameras

For optimal performance it is recommended to use Ethernet packet sizes which are larger than 1500 bytes. Recommended packet size is ~9000 bytes or higher depending on the support of the used network controller. Your whole network infrastructure, e.g. switches, should support this Ethernet packet size; if not, the GenTL will use the largest possible size.

Maximizing the receive buffer size

For operating GigE cameras, it is recommended to set the receive buffer size (so-called receive descriptors) of the network card to its maximum value. Note that not all network cards provide this option.

Disabling interrupt throttling rate (ITR) for 10GigE cameras

Modern network interface drivers try to avoid high CPU load by reducing the number of interrupts they generate. Although this is generally good, the default settings of this option are not optimal for fast 10GigE cameras. In this case, the **interrupt throttling rate** (depending on the card manufacturer also: interrupt moderation rate) should be disabled.

Note

If you disable the **interrupt throttling rate**, the CPU load increases.

Notes for USB3 Vision cameras



USB3 Vision cameras under USB 2.0

USB3 Vision cameras offer only limited functionality when connected via USB 2.0. Depending on the camera model, not all camera functions are available in USB 2.0 mode. USB3 cameras are optimized for USB 3.0 ports and are not tested by IDS Imaging Development Systems GmbH under USB 2.0.

Note that due to the high performance of modern sensors, some USB3 models are not supported in USB 2.0 mode anymore, as the USB 2.0 interface does not provide enough power.

Notes for using the IDS GenTL Proxy Producer



IDS GenTL Proxy Producer is a GenICam-compliant transport layer (`.cti`) that provides 3D image processing for Nion cameras within third-party vision applications.

The transport layer extends the Nion remote device NodeMap with additional `Scan3DOutputMode` options (`CalibratedABC_Grid` , `CalibratedC`) and corresponding `PixelFormat` options (`Coord3D_ABC32f` , `Coord3D_C32f`). When selected, rectification and data processing are handled on the host by the proxy, which delivers the processed data directly to the application.

It operates as a shim between the existing transport layer and the host application, exposing this functionality without requiring any modifications on the application side.

Upon installation, it registers as a standard GenTL provider by adding its path to `GENICAM_GENTL64_PATH` for 64-bit applications and `GENICAM_GENTL32_PATH` for 32-bit applications.

Note

In this initial release, the transport layer must be explicitly selected during installation and currently only supports Nion cameras.



Note

The Nion firmware version must be greater than 3.93 to be compatible with the GenTL proxy transport layer.



Note

If multiple GigE Vision transport layers are installed, the proxy can be distinguished from standard or kernel drivers by its unique Transport Layer Name (e.g., IDS GenTL Proxy Producer).

Known Issues and Limitations

- **Performance Overhead:** While efforts have been made to minimize it, performance may be lower than when using the original TL or API directly.
- **Slower Acquisition Start:** Starting acquisition with the Proxy TL may be slower than using the GigE Vision CTI directly, as the proxy must internally announce buffers before initiating acquisition on the original TL.
- **Settings Retention:** Unlike native device features, overwritten settings are not retained when the application is restarted.
- **UserSet Compatibility:** Loading a UserSet that contains overwritten nodes (e.g., `PixelFormat` , `Scan3DOutputMode`) may not work correctly. In this scenario, the device will apply the values from the UserSet instead of those provided by the Proxy TL.
- **CSET Files:** Loading and writing a CSET file is currently untested, though it should theoretically function.
- **Reconnect Feature:** The reconnect feature is not implemented.
- **SHA1 Hash Query:** The SHA1 XML Hash Query (`URL_INFO_FILE_SHA1_HASH`) is not implemented.
- **Service Firmware:** Opening a device that is currently running in service firmware is not supported.
- **No ReadOnly Access:** Opening a device in `ReadOnly` access mode is not implemented. This introduces the following limitations:
 - **Firmware updates will not work through the proxy.** Use the original GigE Vision TL for updates. (Note: The FirmwareUpdate tool has been patched to support this).

- **Application compatibility:** Applications that strictly require `ReadOnly` mode will not function.

Integrating cameras into own applications



How to integrate IDS industrial cameras with **IDS peak** in your own application is described in the further documentation of **IDS peak** which can be found in

- [IDS peak manual on our website](#)
- IDS peak comfortSDK: `C:\%PROGRAMFILES%\IDS\ids_peak\comfort_sdk\api\doc`
- IDS peak genericSDK: `C:\%PROGRAMFILES%\IDS\ids_peak\generic_sdk\api\doc`
- IDS peak ICV: `C:\%PROGRAMFILES%\IDS\ids_peak\generic_sdk\icv\doc`
- IDS peak IPL: `C:\%PROGRAMFILES%\IDS\ids_peak\generic_sdk\ipl\doc`
- IDS peak AFL: `C:\%PROGRAMFILES%\IDS\ids_peak\generic_sdk\af1\doc`

List of contained files / dependencies



The software includes some parts that are copyright-protected from access by third parties, and which were published under Open Source licensing conditions, see either list on <https://en.ids-imaging.com/open-source.html> or

`C:\%PROGRAMFILES%\IDS\ids_peak\licenses .`

The Open Source parts may be used under the terms and conditions of their corresponding Open Source licenses. You will find the Open Source licenses in the `thirdparty_licenses.txt` file.

Uninstallation



Use the control panel function of Windows to uninstall **IDS peak**. After uninstalling, the PC must be restarted. It is recommended to remove existing **IDS peak** installations before installing a new version.

Known issues



Find information on known issues and possible solutions. The list of known issues is updated regularly.

Issue: During runtime, changes to the network configuration are not detected by the GenTL

- **Details:** The GenTL cannot handle changes to the system's network configuration during runtime.
- **Solution:** If you want to change the network configuration, first close the application and restart the application after you changed the network configuration. This behavior also affects the **IDS peak Cockpit**.

Issue: It is not possible to operate a USB 3 uEye XCP/XLE/XLS camera on a USB 2.0 port

- **Details:** USB 3 uEye cameras are optimized for use on USB 3.0 ports. In some cases, certain models can be used with restrictions on USB 2.0 ports.
- **Solution:** USB 3 uEye XCP/XLE/XLS camera models do not support USB 2.0 operation.

Issue: USB 3 uEye XCP/XLE/XLS camera and interface cards with ASMedia chipset

- **Details:** In some cases, there are issues with USB 3 uEye XCP/XLE/XLS cameras and interface cards with ASMedia chipsets.
- **Solution:** To avoid issues with these camera models, we recommend to set the parameter `"U3vStreamChannelTransferRequestCount = 1"` . This reduces the number of USB transfer requests. (Default setting for `"U3vStreamChannelTransferRequestCount = 6"`).

Issue: LabVIEW and template functions

- **Details:** LabVIEW does not support template functions as they are used for `FindNode()` for example (**IDS peak genericSDK**).
- **Solution:** As a workaround, all possible templates of `FindNode` , `FindInvalidatedNode` , `FindInvalidatingNode` , `FindSelectedNode` , and `FindSelectingNode` are provided as separate functions in addition to the regular generic function.

Issue: Performance issue with Windows update KB5043145 and Windows Forms with C#

- **Details:** A performance issue was noticed when you use Windows Forms with C# after the Windows update KB5043145 was installed.
- **Solution:** We recommend installing the latest Windows update KB5046633 from November 2024 to resolve this performance issue: [Windows Update KB5046633](#)

Contact



IDS Imaging Development Systems GmbH

Dimbacher Str. 10

74182 Obersulm/Germany

+49 7134 96196-0

info@ids-imaging.com

<https://en.ids-imaging.com>

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