

# DESKO Data Service 3.1

## Installation & Configuration

### Guide

*Release 1.2*

---

DESKO GmbH  
Gottlieb-Keim-Str. 56  
95448 Bayreuth  
GERMANY

Tel.: +49 (0)921/79279-0  
Fax: +49 (0)921/79279-14  
E-mail: [info@desko.com](mailto:info@desko.com)  
Web: <http://www.desko.com>

Technical Support:

E-mail: [support@desko.com](mailto:support@desko.com) | Online: [www.desko.com/support](http://www.desko.com/support) | Phone: +49 (0) 921 79279-69

## Table of Contents

|       |   |    |
|-------|---|----|
| 1     | Objectives .....  | 3  |
| 2     | Requirements.....                                       | 3  |
| 2.1   | Supported Operating Systems .....                       | 3  |
| 2.2   | Additional Requirements .....                           | 3  |
| 3     | Manual installation of DESKO Data Service 3.1 .....     | 4  |
| 3.1   | Start the Interactive Setup .....                       | 4  |
| 3.2   | Installation .....                                      | 5  |
| 3.3   | Configuration and Service Status.....                   | 6  |
| 4     | Silent Installation of DESKO Data Service 3.1 .....     | 7  |
| 4.1   | Start the Silent Setup with Default Configuration ..... | 7  |
| 5     | DESKO Data Service 3.1 Configuration .....              | 8  |
| 5.1   | Overview .....  | 8  |
| 5.2   | Quick Configuration Guide .....                         | 9  |
| 5.3   | Main Window .....                                       | 10 |
| 5.3.1 | Overview of configured Devices.....                     | 11 |
| 5.3.2 | Details of the selected Device .....                    | 11 |
| 5.3.3 | Command buttons.....                                    | 12 |
| 5.3.4 | Status Bar.....   | 14 |
| 5.4   | Configuration of Device Types .....                     | 15 |
| 5.4.1 | Swipe Reader (Keyboards, IDenty chrom, MPR, etc.) ..... | 15 |
| 5.4.2 | PENTA Scanner (Check-In, BPV).....                      | 15 |
| 5.4.3 | PENTA Scanner BGR .....                                 | 15 |
| 5.4.4 | GRSK 50x, BGR 504 pro, BPV 502 .....                    | 15 |
| 5.4.5 | Xenon 1900/1950 (USB).....                              | 16 |
| 5.4.6 | Voyager 1400g (USB).....                                | 17 |
| 5.4.7 | LAS 2D-32u REV2.0 .....                                 | 17 |
| 5.4.8 | Genesis 7580 (USB) .....                                | 17 |
| 5.4.9 | BCR 504 pro (USB) .....                                 | 17 |
| 5.5   | Extensions .....  | 18 |
| 5.5.1 | Concentrator.....                                       | 18 |
| 5.5.2 | Splitter .....  | 20 |
| 6     | New Features .....                                      | 22 |
| 6.1   | Device Manager Support .....                            | 22 |
| 6.2   | Multi Device Management.....                            | 22 |

## 1 Objectives

*DESKO Data Service 3.1 (DDS)* is the successor of the former DESKO Virtual COM Service *hid2ser*. Basically, **DDS** is a superset of the functionalities provided by *hid2ser* with additional features like multi device management, *Device Manager* appearance and much more.

This document describes the installation and configuration process of *DESKO Data Service 3.1*.

## 2 Requirements

### 2.1 Supported Operating Systems

The following operating systems are supported:

- Windows 7 (32 bit / 64 bit Editions)
- Windows 8.1 (32 bit / 64 bit Editions)
- Windows 10 (32 bit / 64 bit Editions)

### 2.2 Additional Requirements

Additionally, *DESKO Data Service 3.1* requires the following:

- Local administrator rights for installation and configuration.
- *.NET Framework 4.0*

### 3 Manual installation of DESKO Data Service 3.1

This chapter describes the interactive installation process of the *DESKO Data Service 3.1*. **DDS** consists of the following components:

- Windows Service which manages the communication between DESKO devices and host applications.
- Configuration tool to among other map devices to virtual serial ports.
- Virtual Serial Port driver
- Null drivers for unused USB sub devices like Vendor API, PC/SC, etc.

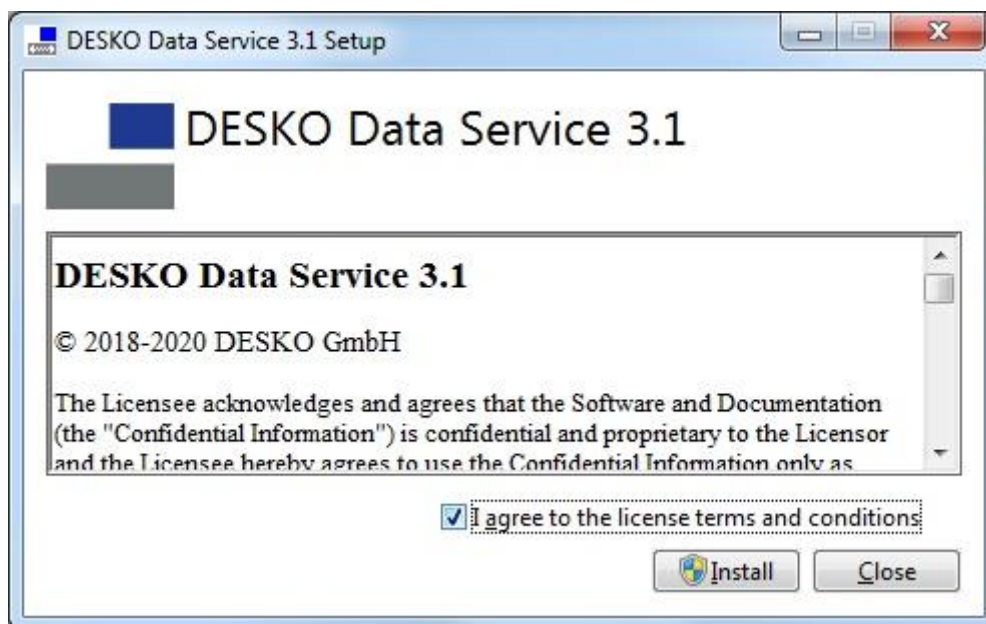
For successful installation it is recommended to close all running programs (especially those which are using virtual serial ports).

#### **Attention!**

DDS can co-exist with former VCOM Software *hid2ser*. The one and only requirement is to not share the devices or virtual serial ports between DDS and *hid2ser*. I.e. devices and virtual serial ports which are configured for hid2ser must not be used for DDS.

#### 3.1 Start the Interactive Setup

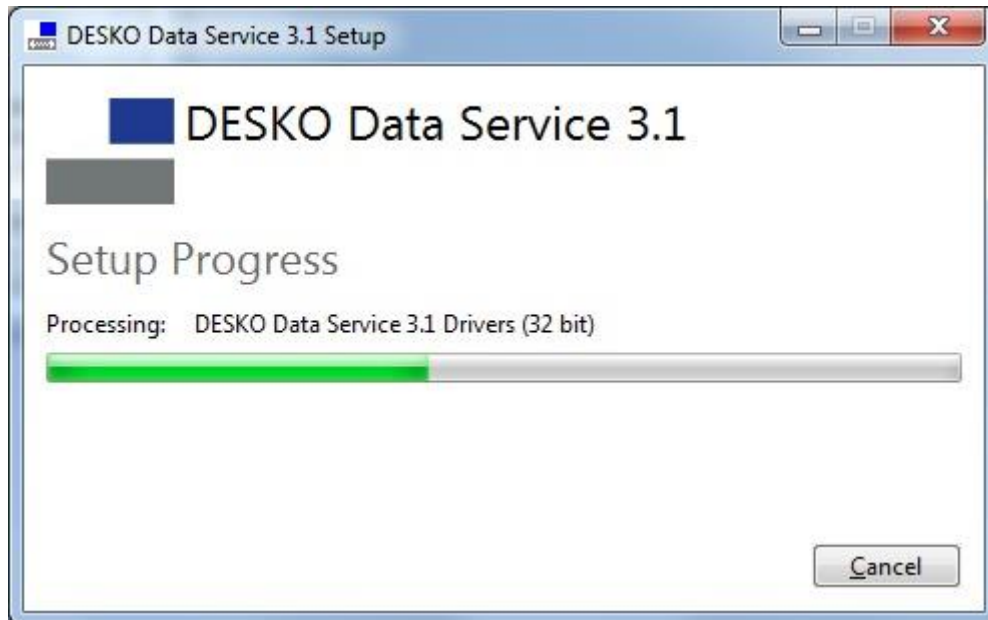
Start the setup by executing **DDSSetup.exe** (either by double-clicking it or via the shell). You will be welcomed by the following start screen:



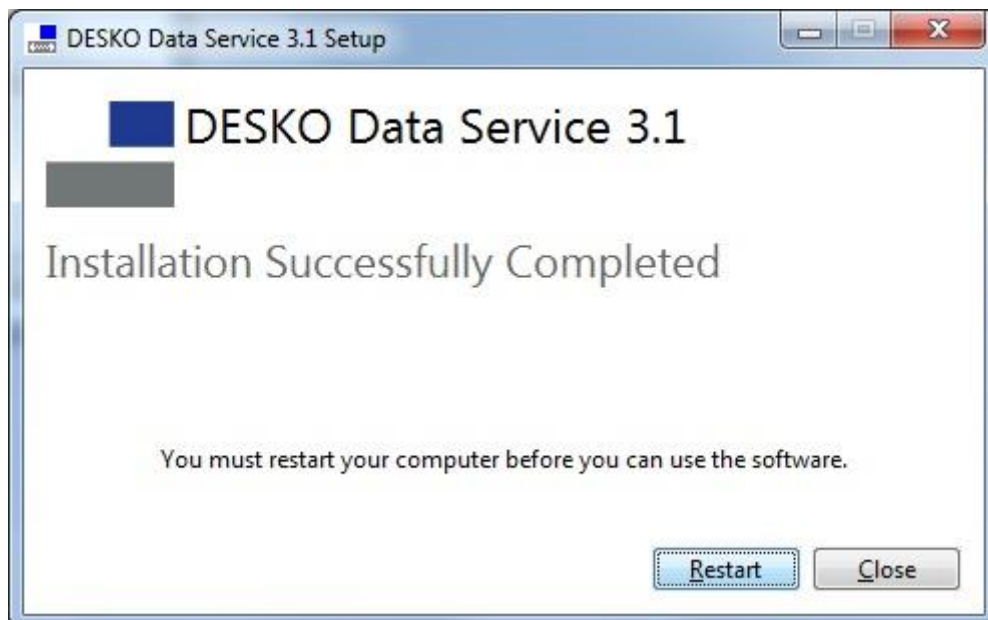
Agree to the license terms and conditions and click **Install** to continue.

### 3.2 Installation

After confirmation of the dialog from User Account Control, the following screen is shown during installation.



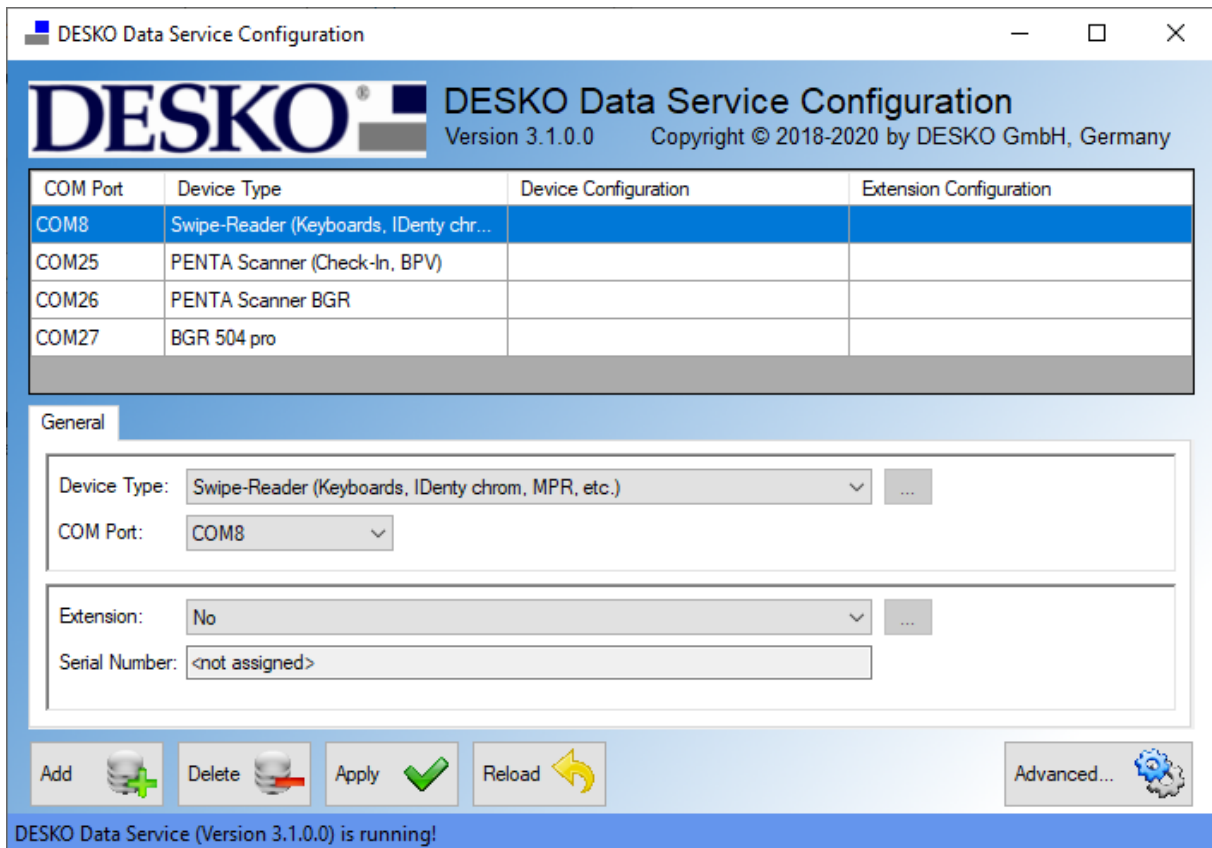
After installation has been finished the following screen will be shown:



Click **Restart** to reboot the system and to finalize the installation procedure.

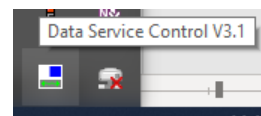
### 3.3 Configuration and Service Status

After the installation process the *DESKO Data Service Configuration* can be executed to edit the configuration of DDS. This tool can be found in start menu group **DESKO Data Service** → **Data Service 3.1 Configuration**. Please note that dependent on the actual setup configuration this step can also be skipped.

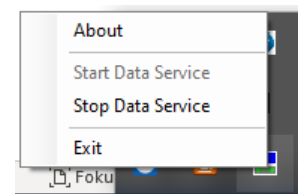


For details about the configuration, please refer to chapter 5 (Data Service Configuration).

To see the status of the DESKO Data Service 3.1 a new tray icon is introduced which can be found in the system tray of Windows. If service is running, the arrow is green, otherwise red:



Right-click on the DDS tray icon opens a context menu to start or stop the service and to show information (About) about the installed version. Please note, that only administrators can start or stop the service.



## 4 Silent Installation of DESKO Data Service 3.1

This chapter gives you information on how to install the DDS without any user interactions (silent mode).

### 4.1 Start the Silent Setup with Default Configuration

Start the setup by executing **DDSSetup.exe** with the command line option **/quiet** (either by creating a link or via the shell). As this installation is used for automated installations, there is no user interaction. To suppress the required reboot of the system, you can additionally add the command line option **/norestart**, but please note that the reboot is finally required to finalize the DDS installation.

For a full list of possible command line options execute **DDSSetup.exe /h**.

The configuration file **dds.ini** which is used by silent setup is stored in the subfolder **Configuration** of the setup folder. If it is necessary to change the default configuration there is an easy way to do:

- Prepare your configuration with the DESKO Data Service 3.1 Configuration on a PC where DDS has already been installed.
- Copy the file `%programdata%\DESKO GmbH\DDS` to the subfolder **Configuration**.
- Execute the silent setup.

## 5 DESKO Data Service 3.1 Configuration

### 5.1 Overview

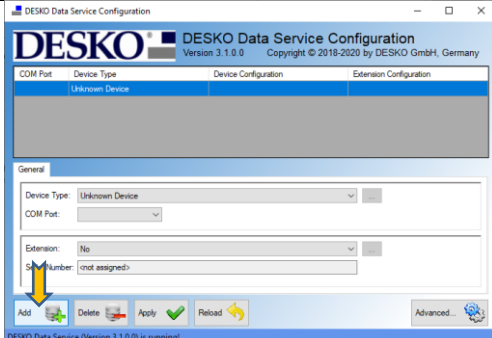
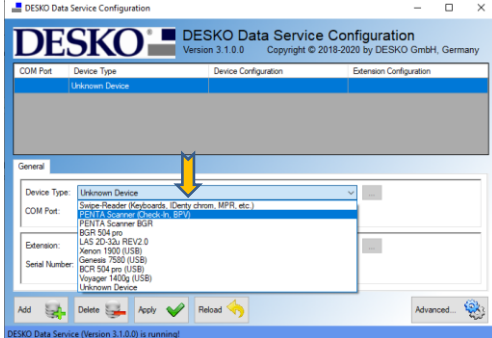
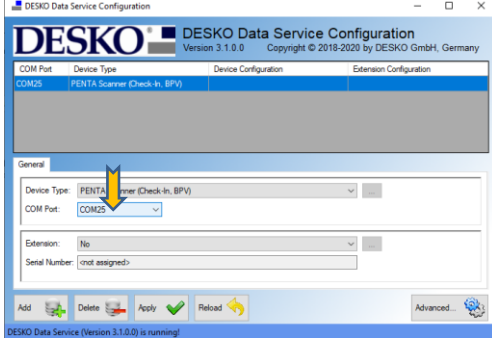
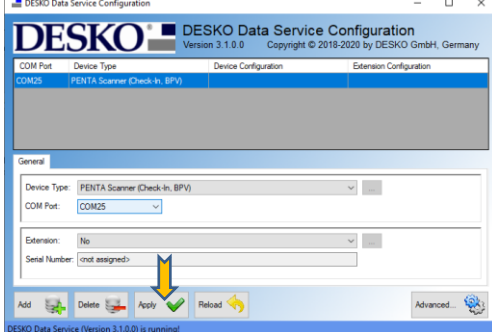
The **DESKO Data Service 3.1** includes many additional features. All of them can be configured using the **DESKO Data Service 3.1 Configuration** tool. It supports the following features:

- Dynamic configuration of any DESKO USB devices, i.e. adding new devices, deleting existing devices and modifying the settings of existing devices.
- Supported device types:
  - Swipe-Reader (Keyboards, IDenty chrom, MPR, etc.)
  - PENTA Scanner (Check-In, BPV)
  - PENTA Scanner BGR
  - GRSK 50x, BGR 504 pro, BPV 502
  - LAS 2D-32u REV2.0
  - Xenon 1900/1950 (USB)
  - Voyager 1400g (USB)
  - Genesis 7580 (USB)
  - BCR 504 pro (USB)
- Adding an extension to a device which can be completely configured.
- Supported extensions:
  - Concentrator → redirects output to another virtual serial port.
  - Splitter → outputs barcode, magstripe and OCR data to separate virtual serial ports.
- Deep validation of final configuration before it is written to the hard drive to ensure a working system.



## 5.2 Quick Configuration Guide

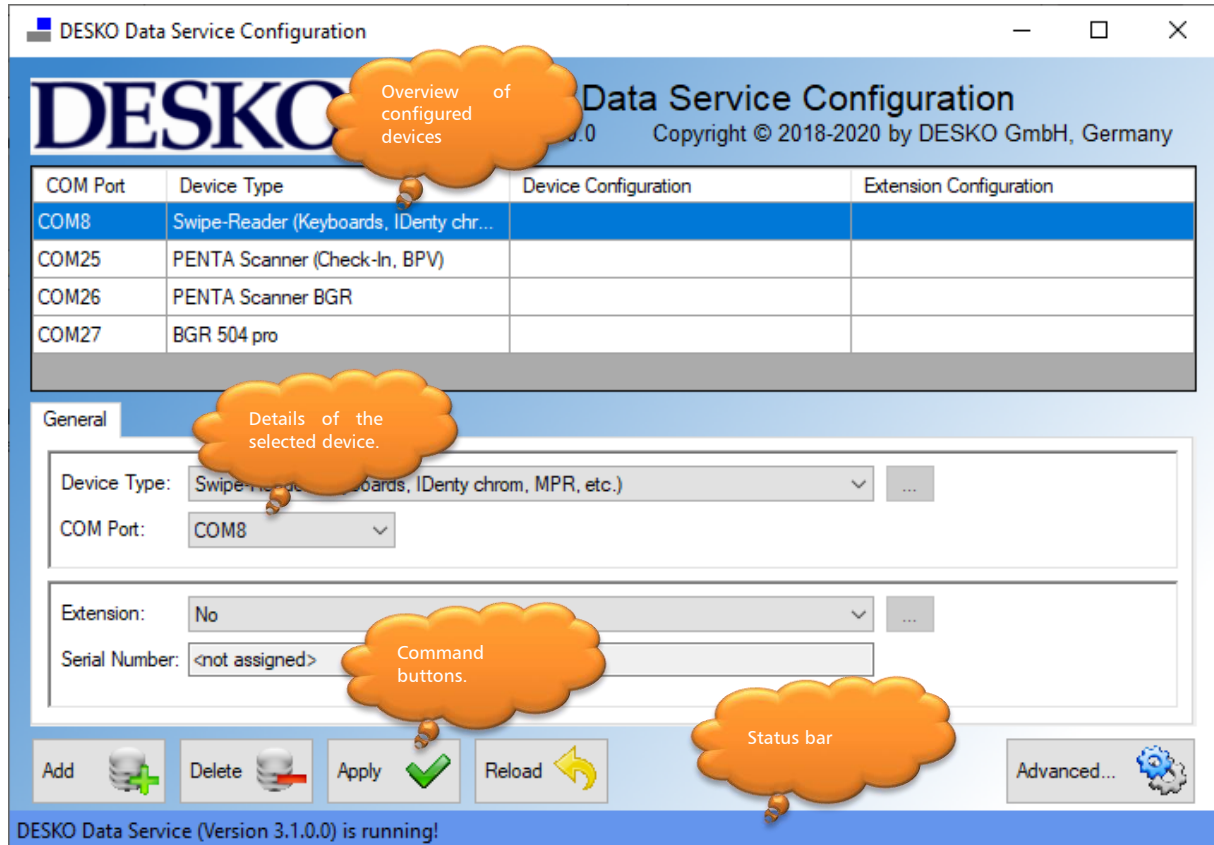
If you want to add a new device to the configuration, please carry out the following steps:

|    |  |  |
|----|--|--|
| 1. | Click on <b>Add</b> button<br>→ Adds a new device  |    |
| 2. | Choose the appropriate <b>Device Type</b>  |   |
| 3. | Use the suggested <b>COM Port</b> or choose another <b>COM Port</b> which is not yet used.   |  |
| 4  | Click on <b>Apply</b> button<br>→ Saves the configuration and restarts DESKO Data Service 3.1.<br><br><u>Please note:</u> <ul style="list-style-type: none"> <li>You can postpone this step if you have further devices to configure.</li> <li>It is required to close all virtual serial ports, otherwise configuration cannot be applied.</li> </ul> |  |

Repeat these steps for other devices. Please refer to the appropriate chapter below if it is necessary to do an extended configuration and to add extensions.

### 5.3 Main Window

The main window of DESKO Virtual COM Software Configuration is shown either during the installation or by clicking on the corresponding link in the Start Menu.



The main window is split into four main areas:

1. Overview of configured devices
2. Details of the selected device
3. Command buttons
4. Status bar

At the start of the application the elements are filled with the current configuration, i.e. this is the actual configuration used by DESKO Data Service 3.1.

### 5.3.1 Overview of configured Devices

This area shows an overview of the configured devices with the main attributes like the port name of the virtual serial port for communication, most important configuration values and potential extensions.

Below you can find a list of all columns:

#### **COM Port**

Includes the port number of the virtual serial port which is the master port for communicating with the device. It does not matter if the device is plugged in or not. The virtual serial port is always available if configured here. Even if this COM port can be empty, enabled devices have to have a valid COM Port.

#### **Device Type**

Each DESKO USB device is from a specific device type. Most of the device types can be added only once. One exception is the network device which can be added multiple times.

#### **Device Configuration**

If the device type has an extended configuration, this column shows its major attributes.

#### **Extension Configuration**

Extensions are optional. They can extend the standard functionality of a device type. This column shows the chosen extension and its major attributes.

### 5.3.2 Details of the selected Device

This area gives detailed information about the selected device. It has at least the **General** page and, depending on the chosen type of device and extension, further sections like **Device Configuration** and **Feature Configuration**.

Note: The most important settings can always be found in the upper panel while the optional or least important settings can be found in the lower panel.

#### **General**

This page is common to all device entries.

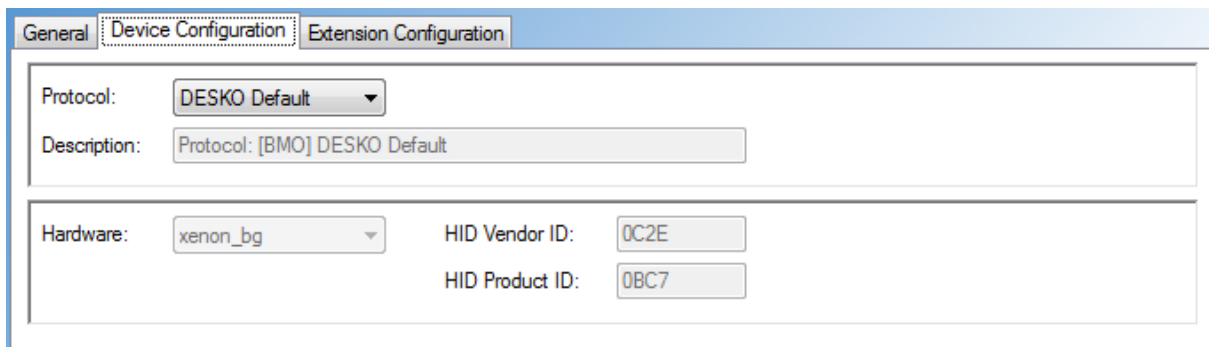
The most important settings are **Device Type** and **COM Port** which can be edited in the upper panel. If a **Device Configuration** is available, you can switch to it by clicking the [...] button close to **Device Type**.

In the lower panel you can optionally choose an *Extension*. By clicking the [...] button close to **Extension** you will be navigated to its configuration page.

For multi device management an optional mapping between the connected device and the virtual serial port can be identified by the **Serial Number** field. To refresh the information after connecting a booted device, simply click on **Reload** button.

### Device Configuration

This page is available for devices which need to have additional configuration, e. g. a Xenon 1900 (USB) which must know the output protocol.



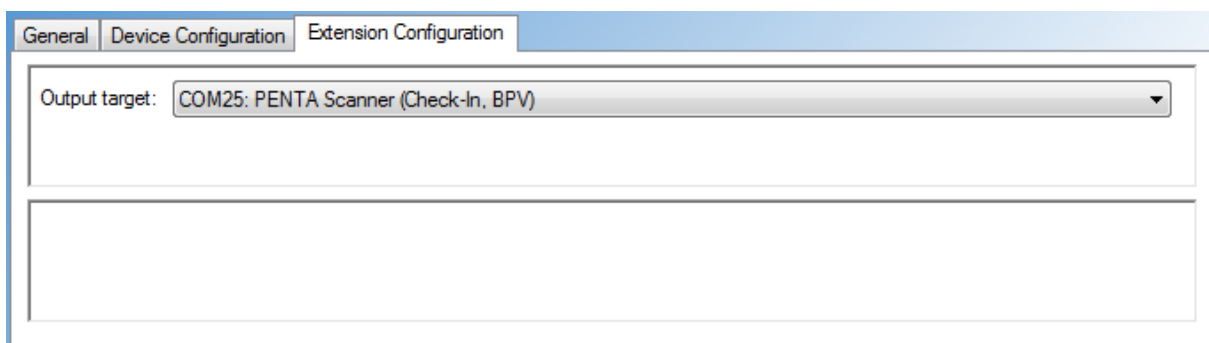
The screenshot shows the 'Device Configuration' tab selected. It contains the following fields:

- Protocol:** A dropdown menu set to 'DESKO Default'.
- Description:** A text field containing 'Protocol: [BMO] DESKO Default'.
- Hardware:** A dropdown menu set to 'xenon\_bg'.
- HID Vendor ID:** A text field containing '0C2E'.
- HID Product ID:** A text field containing '0BC7'.

Please refer to chapter 5.4 to check if a **Device Configuration** is necessary and which configuration elements are available.

### Extension Configuration

This page is available for devices which have an extension. The type of configuration elements depends on the chosen **Extension**. The following sample shows the configuration elements for the **Concentrator Extension**.



The screenshot shows the 'Extension Configuration' tab selected. It contains the following field:

- Output target:** A dropdown menu set to 'COM25: PENTA Scanner (Check-In, BPV)'.

Please refer to chapter 5.5 for detailed information about configuration of extensions and to check which configuration elements are available.

### 5.3.3 Command buttons

With the command buttons you can add, delete, apply and reload the configuration. The following commands are available:

#### Add

Adds a device to the list of configured devices. This device is by default an **Unknown Device**. It is necessary to specify at least the **Device Type** and the **COM Port** afterwards.

**Delete**

Removes the selected device from the list of configured devices.

**Apply**

Saves the modified configuration to the system. This includes the following steps:

1. The configuration will be checked for plausibility. If there are any errors, you will be informed. Only configurations which pass the plausibility check will be saved.
2. The configuration will be saved to the **dds.ini** file located in `"%ProgramData%\DESKO GmbH\DDS"`.
3. DDS will be (re-)started to apply the new configuration.

Please note:

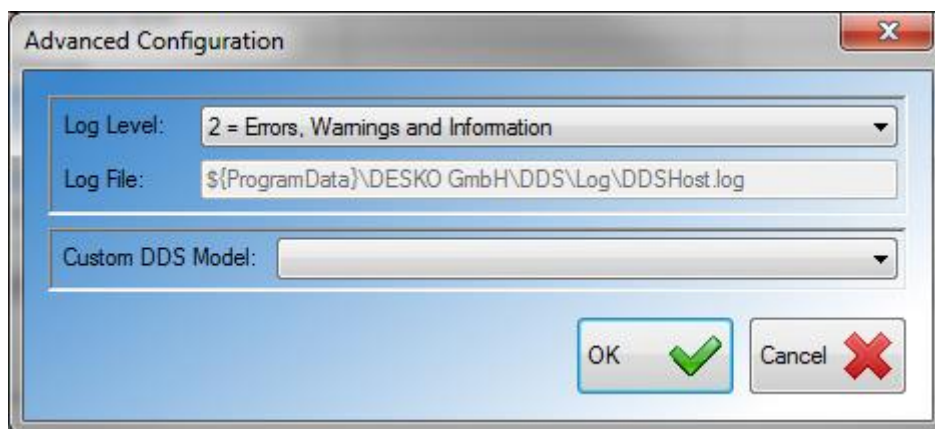
DDS cannot be (re-)started if any virtual serial ports are opened by applications. In that case, please close all application and try **Apply** again. Alternatively, it is possible to manually restart the system.

**Reload**

Discards the changes made to the configuration and reloads the configuration from **dds.ini** file located in `"%ProgramData%\DESKO GmbH\DDS"`.

**Advanced**

Shows the advanced configuration dialog. Here you can change the **Log Level**, if necessary. In addition, the path to the log file is shown (`${ProgramData}`) can be replaced with `%ProgramData%`).

**Log Level**

Change from 0 (default) to 4 (most verbose level). You need to apply this setting before changes take effect.

**Log File**

Read-only. The path to the written log file.

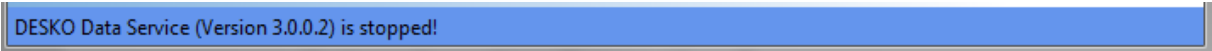
**Custom DDS Model**

DDS supports a new configuration model called DDS Model for special use case scenarios which are stored in so-called `*.ddsmode` files. If such files are available, they can be selected here.

Clicking the **OK** button will confirm the adjusted log level while clicking the **Cancel** button will undo all changes. To apply the changes to **DDS**, click the **Apply** button of the main window.

#### 5.3.4 Status Bar

The status bar gives information about the status and version of the DESKO Data Service 3.1.ö



## 5.4 Configuration of Device Types

This chapter lists all available device types and describes their configuration.

### 5.4.1 Swipe Reader (Keyboards, IDenty chrom, MPR, etc.)

This device type is used for all USB Swipe Reader devices:

- DESKO Keyboard
- DESKO IDenty chrom
- DESKO MPR
- DESKO mini MPR
- DESKO Tablet Kiosk.

There is no **Device Configuration** available for this type of device.

### 5.4.2 PENTA Scanner (Check-In, BPV)

This device type is used for all kinds of USB PENTA Scanners using the VCOM-CKI interface:

- DESKO PENTA Scanner® Check-In
- DESKO PENTA Scanner® BPV.

There is no **Device Configuration** available for this type of device.

### 5.4.3 PENTA Scanner BGR

This device type is used for all kinds of USB PENTA Scanners using the VCOM-BGR interface:

- DESKO PENTA Scanner® BGR

There is no **Device Configuration** available for this type of device.

### 5.4.4 GRSK 50x, BGR 504 pro, BPV 502

This device type is used for all kinds of USB BGR devices (excluding PENTA Scanner) which uses the VCOM-BGR interface:

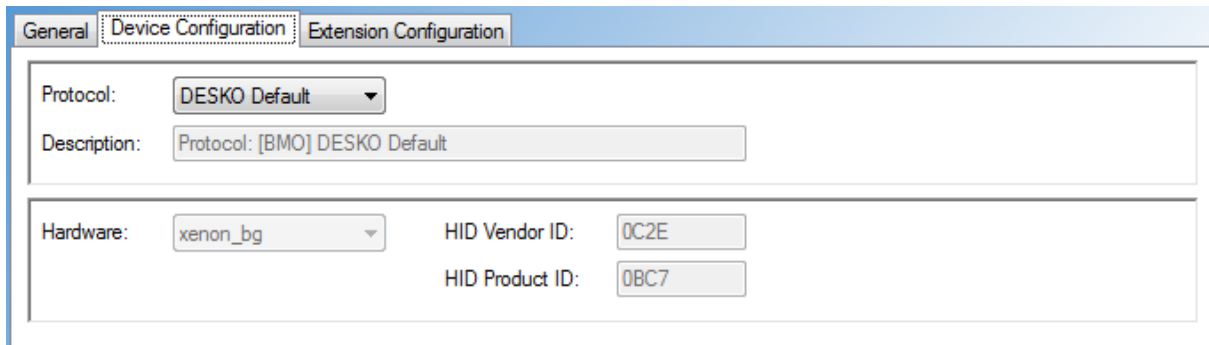
- DESKO GRSK 501, 502, 504
- DESKO BGR 504 pro
- DESKO BPV 502

There is no **Device Configuration** available for this type of device.

### 5.4.5 Xenon 1900/1950 (USB)

This device type is used for the DESKO Barcode Scanner Handheld Xenon 1900/1950 (USB) which is operating in HID POS mode.

#### *Device Configuration*



#### **Protocol**

Choose the appropriate protocol from the list. This **Protocol** defines the output format of the barcode scanner. The following output protocols are available:

##### DESKO Default

Output format: SITA MISC

##### SITA MISC

Output format: SITA MISC

##### ARINC MUSE

Output format: ARINC MUSE

##### Travelsky

Output format: Travelsky

##### No Barcode-ID

(Barcode-only)

Output format: <STX> data <ETX>

##### Barcode-ID AIM

(Barcode-only)

Output format: <STX> <AIM-ID> data <ETX>

##### Barcode-ID AEA

(Barcode-only)

Output format: <STX> <AEA-ID> data <ETX>



#### Barcode Identifier:

| AIM-ID | AEA-ID | Symbology  |
|--------|--------|--|
| Jl     | 0x30   | 1D Interleaved 2 of 5 with check digit barcode   |
| Jl     | 0x31   | 1D Interleaved 2 of 5 barcode                    |
| JR     | 0x32   | 1D Industrial 2 of 5 barcode                     |
| JA     | 0x33   | 1D Code 39 barcode                               |
| jd     | 0x34   | 2D Data Matrix barcode                           |
| JQ     | 0x35   | 2D QR barcode                                    |
| JL     | 0x36   | 2D PDF417 barcode                                |
| JC     | 0x37   | 1D Code 128 with check digit barcode             |
| JS     | 0x39   | 1D Industrial 2 of 5 with check digit barcode    |
| JE     | 0x41   | EAN 13 with check digit from application barcode |
| JV     | 0x56   | 2D Aztec barcode                                 |
| J?     | 0x45   | Unknown barcode                                  |

#### 5.4.6 Voyager 1400g (USB)

This device type is used for the DESKO Barcode Scanner Handheld Voyager 1400g (USB) which is operating in HID POS mode.

For a description of additional configuration see the **Device Configuration** of Xenon 1900/1950 (USB).

#### 5.4.7 LAS 2D-32u REV2.0

This device type is used for the DESKO Barcode Scanner Handheld LAS 2D-32u REV2.0 which is operating in HID POS mode.

For a description of additional configuration see the **Device Configuration** of Xenon 1900/1950 (USB).

#### 5.4.8 Genesis 7580 (USB)

This device type is used for the DESKO Barcode Scanner Handheld Genesis 7580 (USB) which is operating in HID POS mode.

For a description of additional configuration see the **Device Configuration** of Xenon 1900/1950 (USB).

#### 5.4.9 BCR 504 pro (USB)

This device type is used for the DESKO BCR 504 pro (USB) which is operating in HID POS mode.

For a description of additional configuration see the **Device Configuration** of Xenon 1900/1950 (USB).

## 5.5 Extensions

An **Extension** is a special feature which extends the functionality of the device.

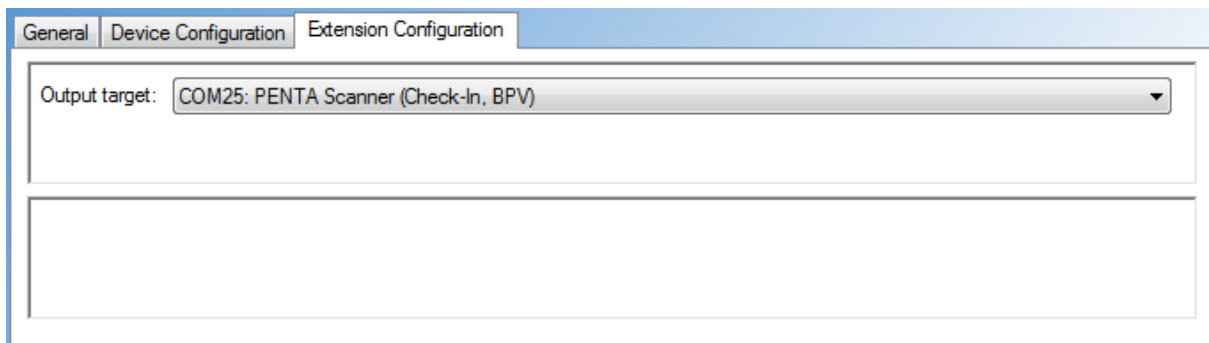
By default, DDS is responsible to create a communication channel between the application and the device. Data coming from the device will put through to the virtual serial port without any modifications and vice versa. To change this behavior, it is possible to add an **Extension** to the device configuration.

This chapter lists all available *Extensions* and describes its configuration.

### 5.5.1 Concentrator

This **Extension** is a very simple one. It hooks into the data stream, copies and redirects the data to another device communication channel.

#### Configuration



The screenshot shows a configuration window with three tabs: 'General', 'Device Configuration', and 'Extension Configuration'. The 'Extension Configuration' tab is active. It contains a single configuration item labeled 'Output target:' with a dropdown menu. The dropdown menu is open, showing the selected option 'COM25: PENTA Scanner (Check-In, BPV)'. Below the dropdown menu is a large empty rectangular box.

#### Output target

The device communication channel to redirect the data to.

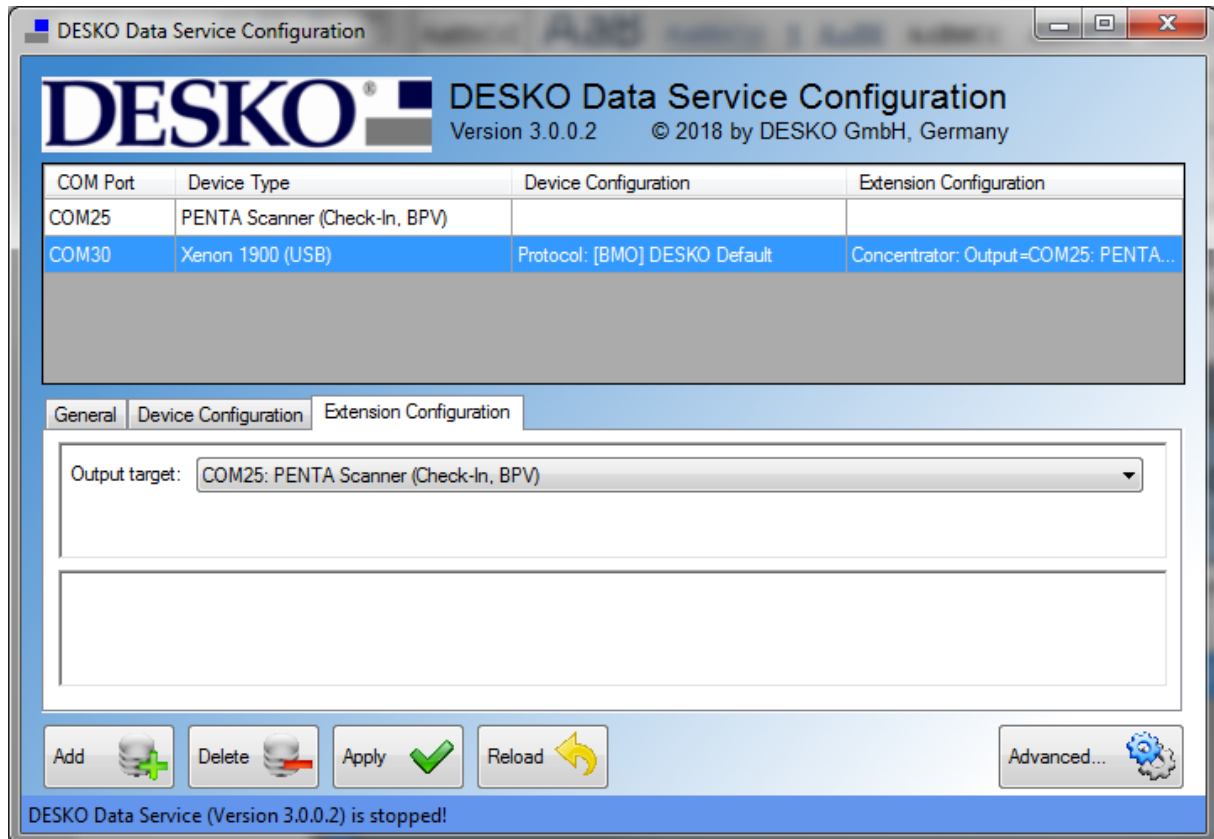
#### Restrictions:

- The redirected data stream is just that one from device to host.
- Signal lines will be ignored.
- Data stream is redirected as it is. There is no semantic parsing to avoid mix-up of multiple parallel frames.
- Available only for HID POS devices like Xenon, Voyager, etc.

## Example

You want to have the output from a DESKO Xenon 1900 (USB) barcode scanner and the output from a DESKO PENTA Scanner® Check-In on the same COM Port.

This can be easily done by using the **Concentrator Extension** which redirects the output from the Xenon additionally to the communication channel defined for the PENTA.



## Remarks

- Using the configuration above you always have COM30 in addition which is the main port for the Xenon. If it is necessary to have the Xenon output only, use this one.
- The redirected output is only available if the master device is available, i.e. if PENTA is switched off and Xenon scans something, nothing happens on COM25.

## 5.5.2 Splitter

This extension is especially used by scanners with multiple scan sources like the DESKO PENTA Scanner® Check-In. It hooks into the data stream and splits the scan data of different sources (BCR, MSR or OCR) to separate virtual serial ports.

### Configuration

The screenshot shows the 'Extension Configuration' window with the 'General' tab active. It contains three dropdown menus for 'BCR Output', 'MSR Output', and 'OCR Output', all set to 'COM26', 'COM27', and 'COM27' respectively. The 'Protocol' dropdown is set to 'DESKO Default'. Below these is a 'Description' text box containing the text: 'Protocol: [BMO] DESKO Default, Splitter: BCR=COM26 MSR=COM27 OCR=COM27'.

#### BCR Output

The virtual serial port to which the BCR data should be redirected. It does not matter if this port is used for another device or if it is completely new.

#### MSR Output

The virtual serial port to which the MSR data should be redirected. It does not matter if this port is used for another device or if it is completely new.

#### OCR Output

The virtual serial port to which the OCR data should be redirected. It does not matter if this port is used for another device or if it is completely new.

#### Protocol

Choose the appropriate protocol from the list. This **Protocol** defines the output format of the split data. The following output protocols are available:

##### DESKO Default

Output format: SITA MISC

##### SITA MISC

Output format: SITA MISC

##### ARINC MUSE

Output format: ARINC MUSE

##### Travelsky

Output format: Travelsky

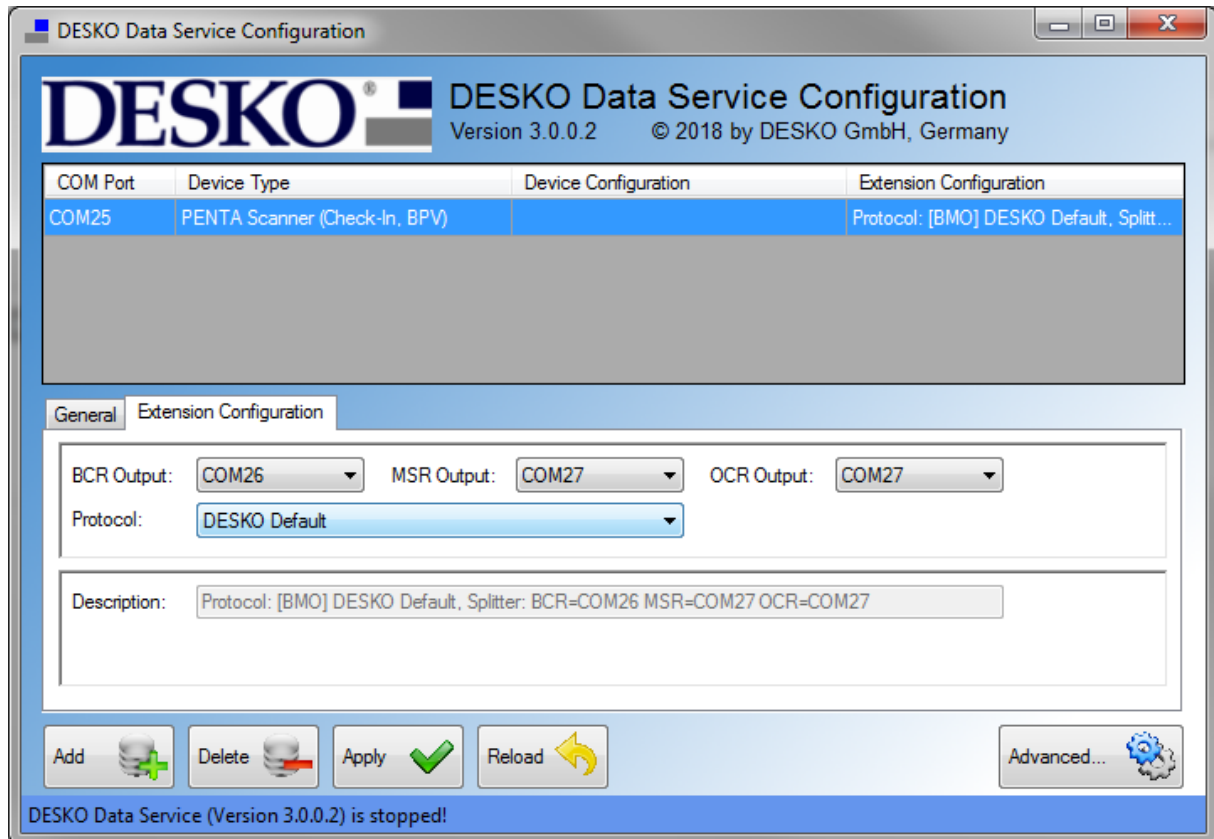
#### Restrictions:

- The split data stream is just that one from device to host.
- Signal lines will be ignored.
- Available only for compatible DESKO HID devices like DESKO PENTA Scanner® Check-In.

## Example

You want to use the output from a DESKO PENTA Scanner® Check-In for two applications. The first one handles BCR and the second on handles MSR and OCR.

This can be easily done by using the **Splitter Extension** which redirects the output from BCR to COM26 and MSR/OCR to COM27.



## Remarks

- Using the configuration above you always have COM25 in addition which is the main port for the PENTA. If it is necessary to have the combined PENTA output, use this one.

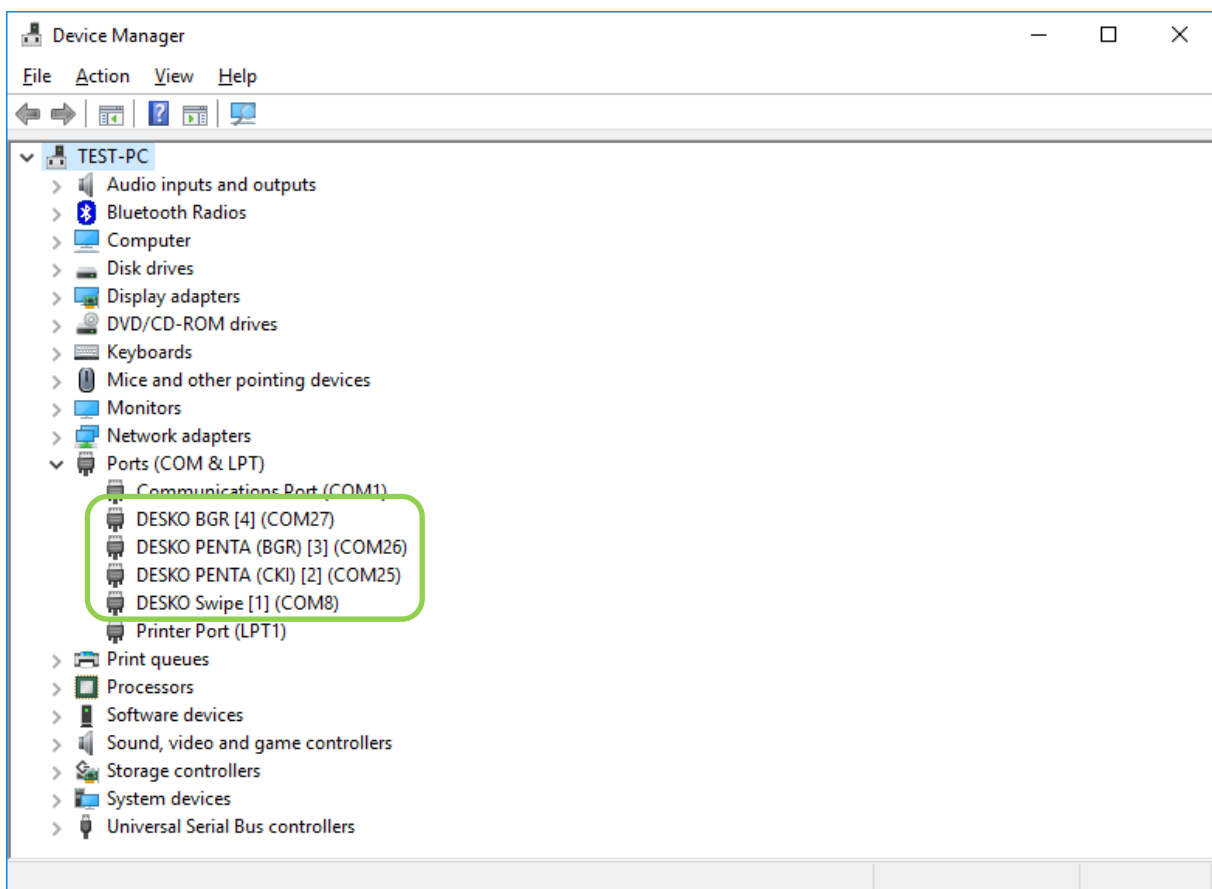
## 6 New Features

**DDS** supports new features in comparison to the former VCOM Service *hid2ser*:

- Device Manager Support
- Multi Device Management

### 6.1 Device Manager Support

The new virtual serial port driver presents the assigned ports within the Device Manager. This allows administrators to see all available serial ports (not only from DDS) in a single view:



The number in square brackets corresponds to the position of the device in the **DESKO Data Service 3.1 Configuration** tool.

### 6.2 Multi Device Management

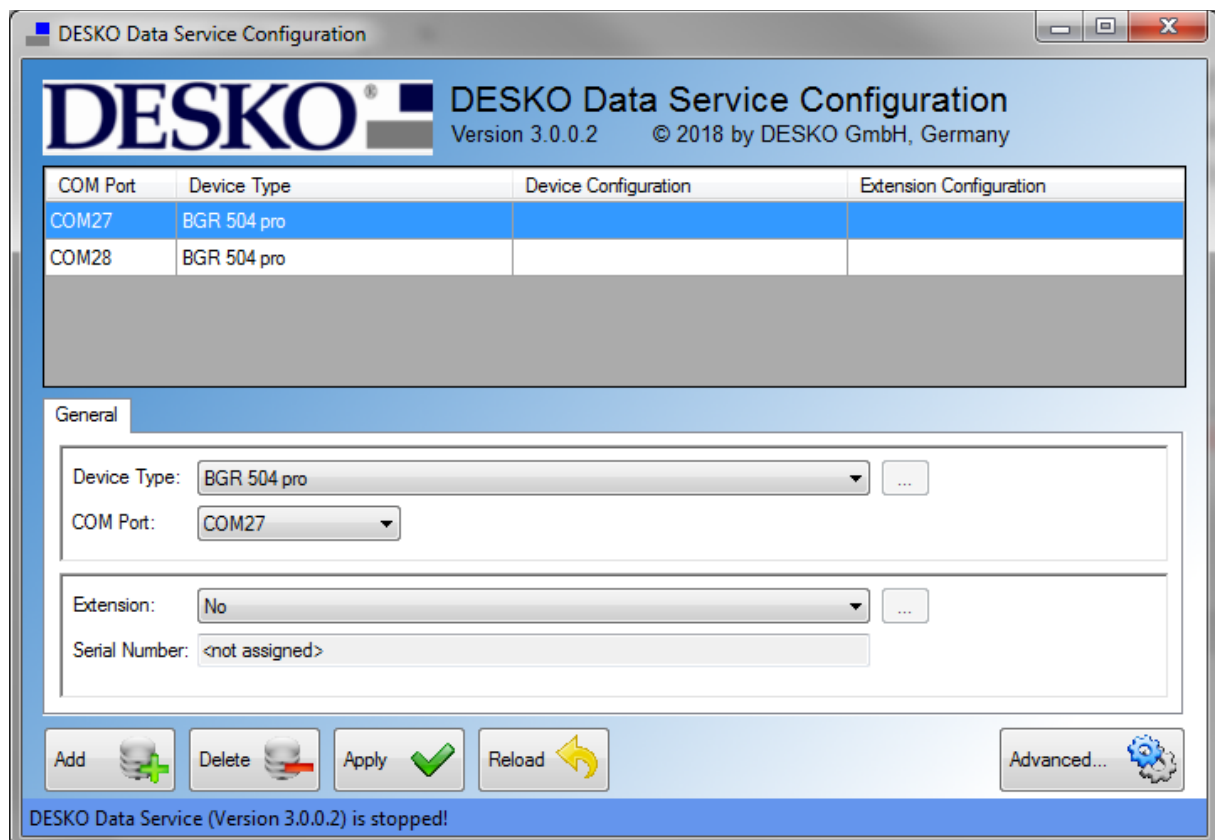
A complete new feature of DDS in combination of some device types is the possibility to add more than one device of the same type (e.g. 2x BGR 504 pro) to the configuration and assign different virtual serial ports to them. That allows to use multiple devices at the same time by the same or different applications.

When you add more than one device of the same device type to the configuration, the assignment of the virtual serial port to the specific device is done automatically by using so-called smart slots:

Every configured device type reserves an empty device slot. For every newly arrived device of this type, the next empty slot will be assigned and stored for later. This procedure continues as long as empty slots are available. If there are no slots anymore the new device will not be assigned, hence it is not usable.

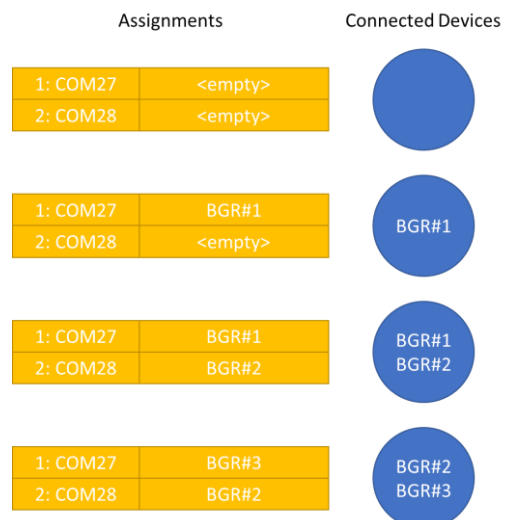
### Example:

The configuration contains two BGR 504 pro entries assigned to COM27 and COM28:



Now the first BGR 504 pro (BGR#1) is connected. DDS assigns it to the first empty slot which is COM27. Then the second BGR 504 pro (BGR#2) is connected. DDS assigns it to the next and last empty slot which is COM28. This assignment is now permanent and valid (even the system is restarted).

If it is necessary to replace BGR#1 with a new BGR 504 pro (BGR#3) (e.g. it is broken), then let BGR#2 (COM28) be connected and on and replace BGR#1 with BGR#3. After switching BGR#3 on, it will be assigned to COM27. That means, that the previous assignment of COM27 (to BGR#1) is overridden.



---

Device Requirements:

- BGR 504 pro with firmware version 06010101.00000050 or higher  
or
- PENTA Scanner 4.1 with firmware version 03010102.00000090 or higher  
or
- PENTA Scanner 4.3 with firmware version 03010103.00000090 or higher

Please note:

Every time a configuration is applied (**Apply** button), the assignment will be deleted. This allows to re-assign devices again.