Display Solution AG

USB Server User Manual

V2.1

Release 1.1

Last edit: 17.6.2009

Table of Content

Copyright Notice

Disclaimer

Trademarks

1. Introduction

The revolutionary USB Server utilizes technology that streamlines and enhances functionalities between dClient NET and multiple PCs.

The USB Server application provides a user friendly auto connect interface between PC and the dClient Net card with USB Hub for optional added USB devices, enabling you to monitor, manage and use the convenient and powerful functions provided by USB Server.

Features
• Centralized remote USB Server Management
• Centralized remote USB Server Status Monitoring
• Auto connection feature

Version 2.1

- XML USB List file of connected devices
- XML Monitor List file of connected devices
- XML Config file for exclude displays
- Start USB Server for Windows User Login Screen
- Exit Server by password

2. Installation

To install the USB Server program, please double click the setup.exe file.
A dialog box should pop up Please follow the instructions of the wizard to complete the installation process until finish.
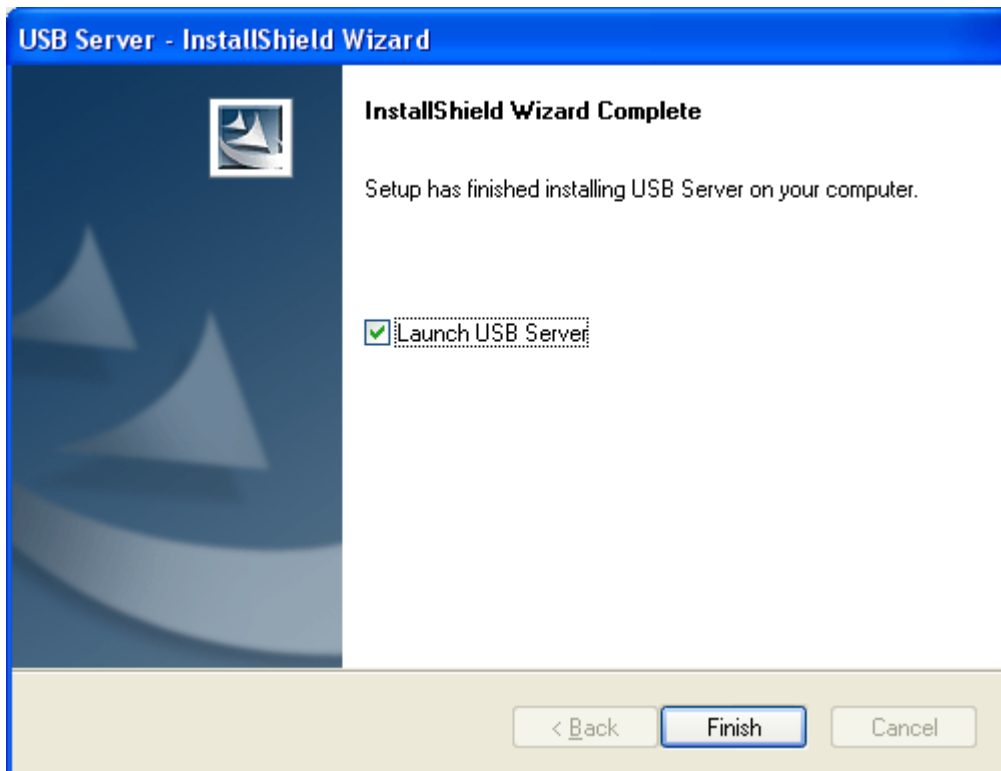
With checked „Launch USB Server" Application will start automatic with systray icon

3. Driver Install:

If driver not installed, please install. The directory is the install directory   ..\generic\USBServer\Driver
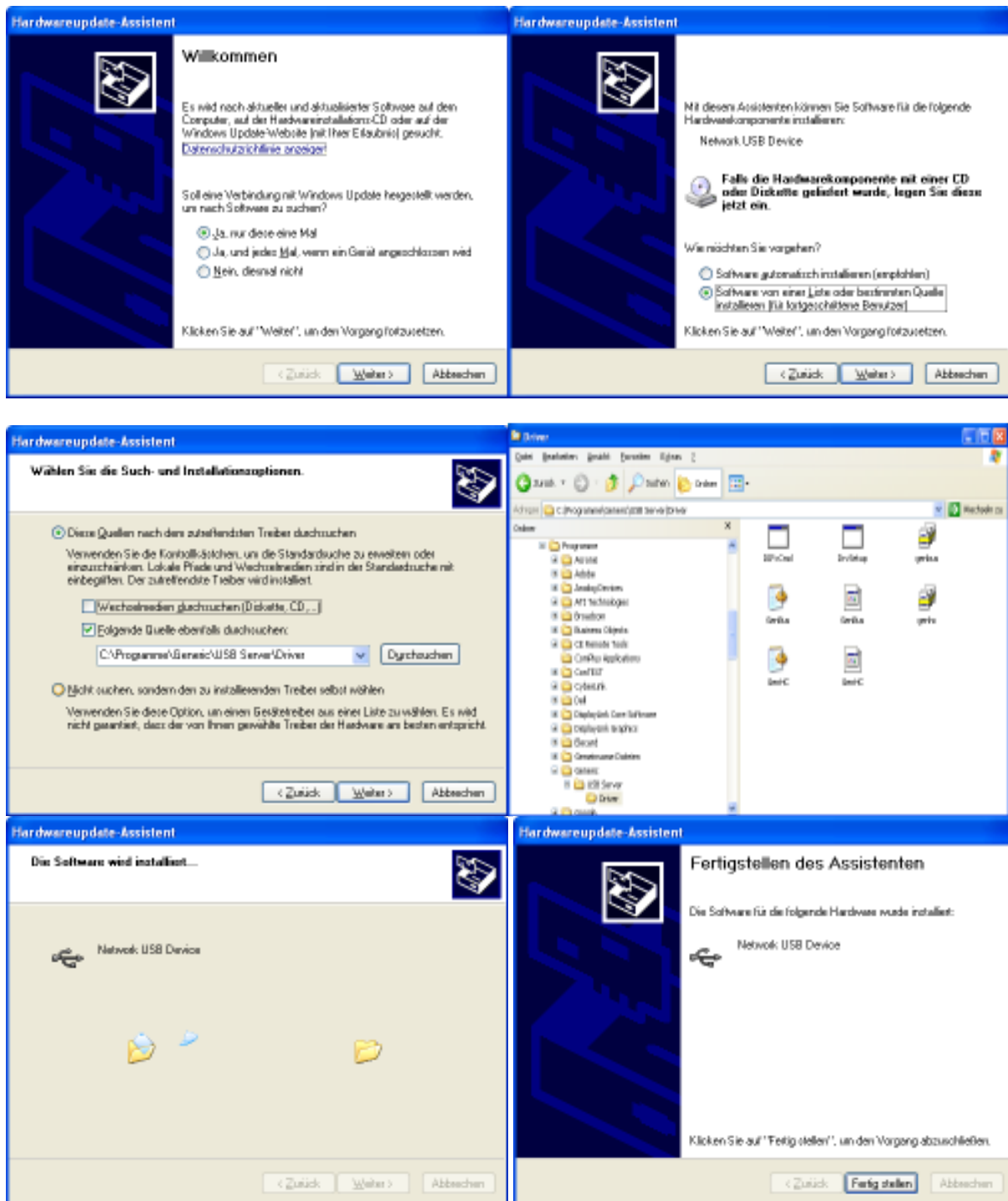
4. Running Program

The USB Server program starts automatically in the background. A small Icon is installed in the sys tray menu. If you don't use autostart option, please double click the shortcut icon of the Launch USBServer on the Desktop. The program will started in the Sys- tray- menu and it is running in the background.

5. Main Dialog Box

For opening the main dialog box, click with the right mouse button to the USB Icon on SysTray Click to "Open Display Solution USB Server".
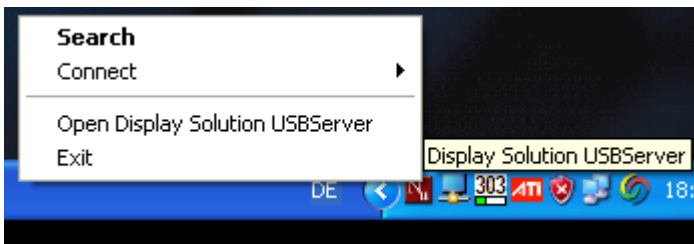
6. Network configuration

Network configuration with WEB browser is only possible if USB devices are disconnected.
Otherwise an error message from the browser popt out.

For disconnect choose „Server" „Stop auto connect"
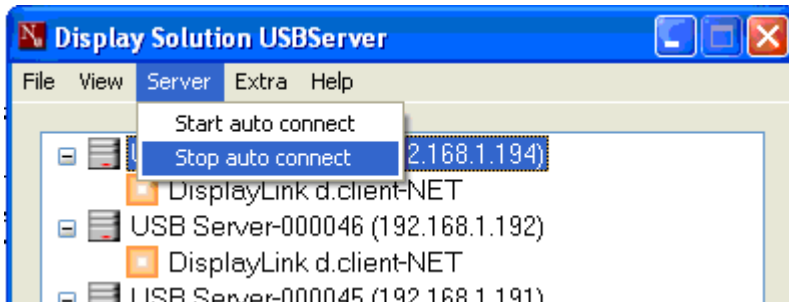
Confirm the message with OK
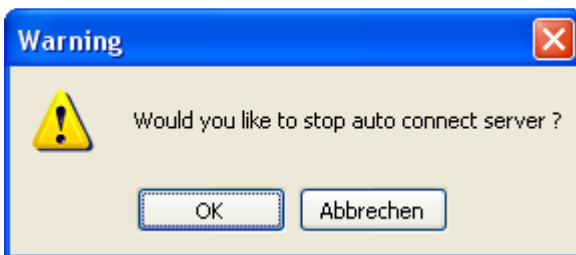
Doppel click on that device do you want to disconnect
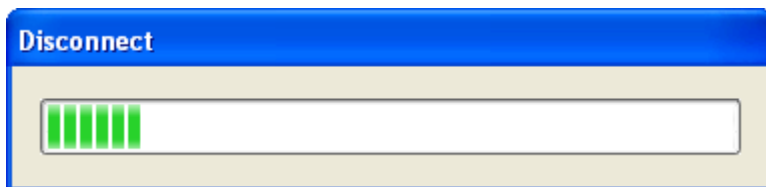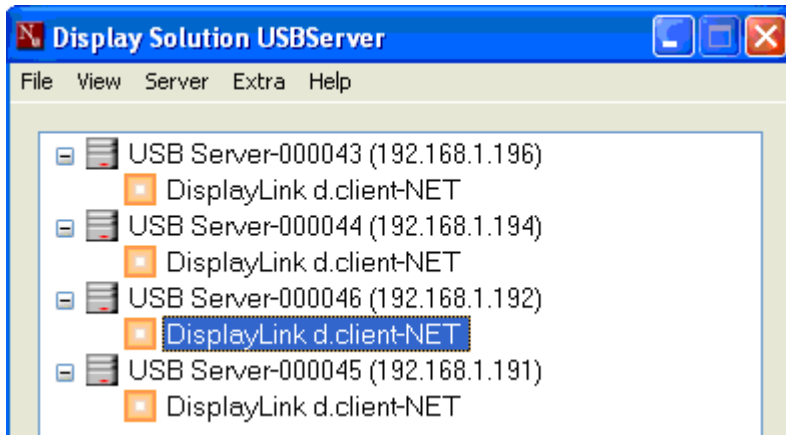
If the ICON of the USB disconnected device is green,

double click on that network device do you want to edit with browser
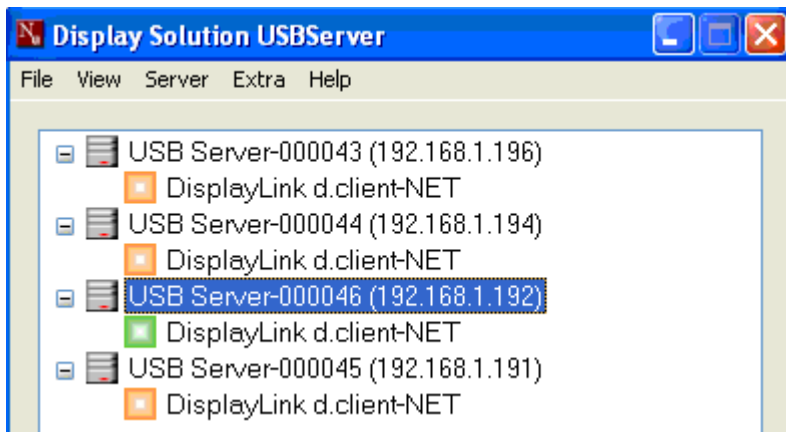
Now you can edit network without browser warning

Generic USB Server - Windows Internet Explorer

http://192.168.1.192/

Datei   Bearbeiten   Ansicht   Favoriten   Extras   ?

Google

Suche   Lesezeichen

Generic USB Server

Seite   Extras

Leading the Evolution in
Miniaturized Server Design

Device Status
Network
Reset Device
Factory Default
Firmware Update
Password Change

Network

Network Information

IP Setting	Fixed IP
IP Address	192.168.1.192
Subnet Mask	255.255.255.0
MAC Address	00:21:e5:00:00:46

Network Setting

DHCP Setting	Disable			
IP Address	192	168	1	192
Subnet Mask	255	255	255	0
Server Name	USB Server			
Password		*Must Provide If Available*		
	Submit Clear			

Internet   100%

Don't forget to enable auto connect server

Display Solution USBServer

File   View   Server   Extra   Help

Start auto connect
Stop auto connect   2.168.1.194)
DisplayLink d.client-NET
USB Server-000046 (192.168.1.192)
DisplayLink d.client-NET
USB Server-000045 (192.168.1.191)
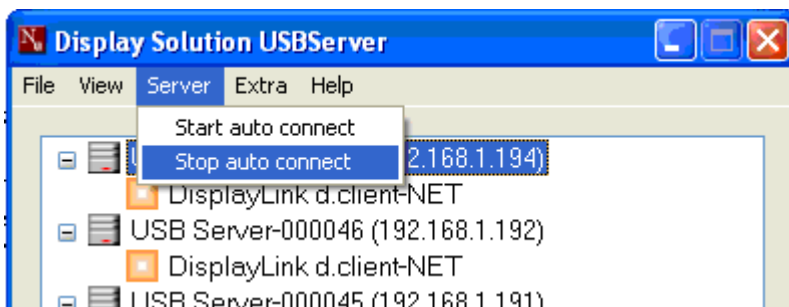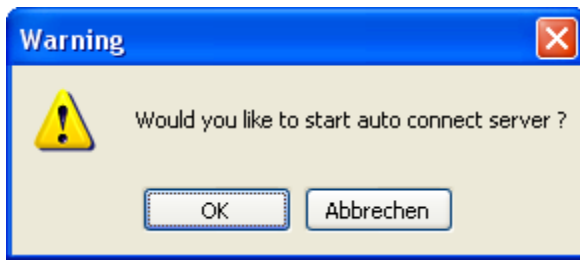
Confirm with OK.

7. Change Language

To change language open file folder, then setting => language
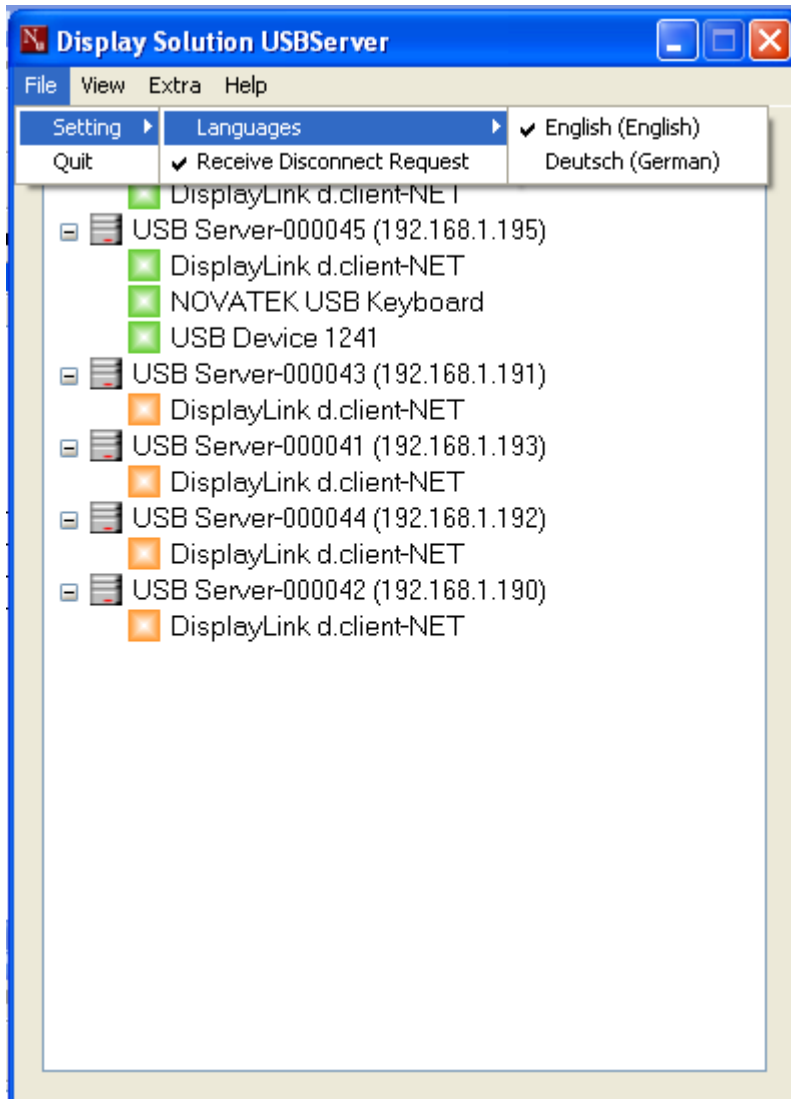
8. Status of USB Servers and Devices

The tree view also tells you the status of all the USB Servers and devices that are accessible to you. An USB Servers is either accessible or inaccessible. An inaccessible server is either disconnected from the network, powered off or suffers other technical difficulties that prevent it from being accessed by your PC. Inaccessible server will not show up on the tree view.
Each status is represented by an icon of different color. A device with "Ready" status is indicated by a square green icon as shown in the picture above. This green icon indicates that the device is unoccupied and ready to be connected.
When it automatically "Connected" to a device, the green icon turns into an orange icon to signify the establishment of the connection

However, the devices have several kinds of status:

Ready and connected
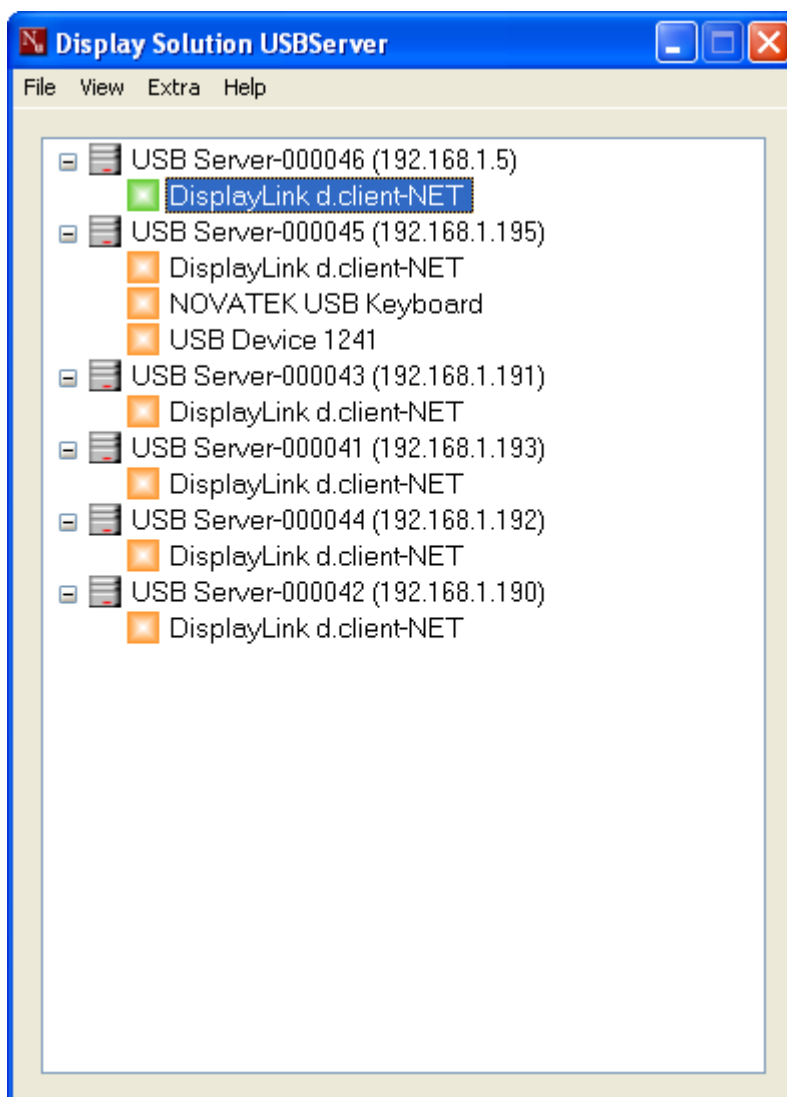
All connected
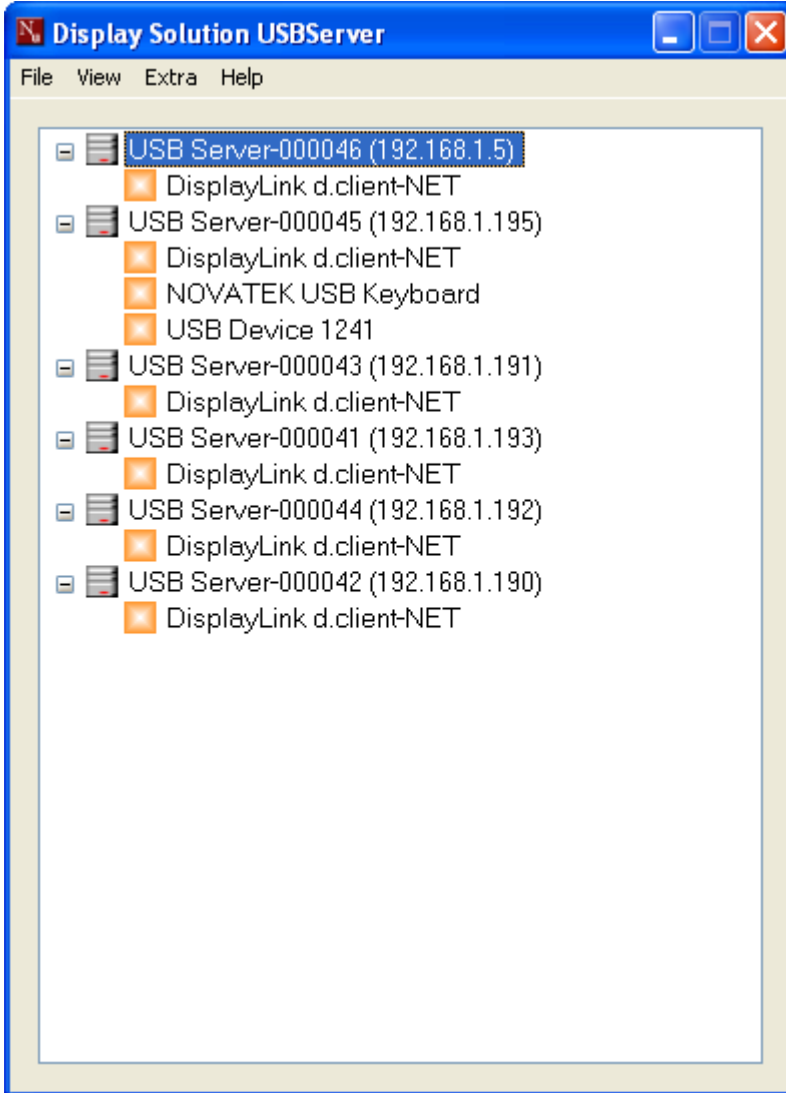
All USB devices are connected to the server.

Optional you can show all connected devices on SysTray Menu

Occupied by Other USB Server
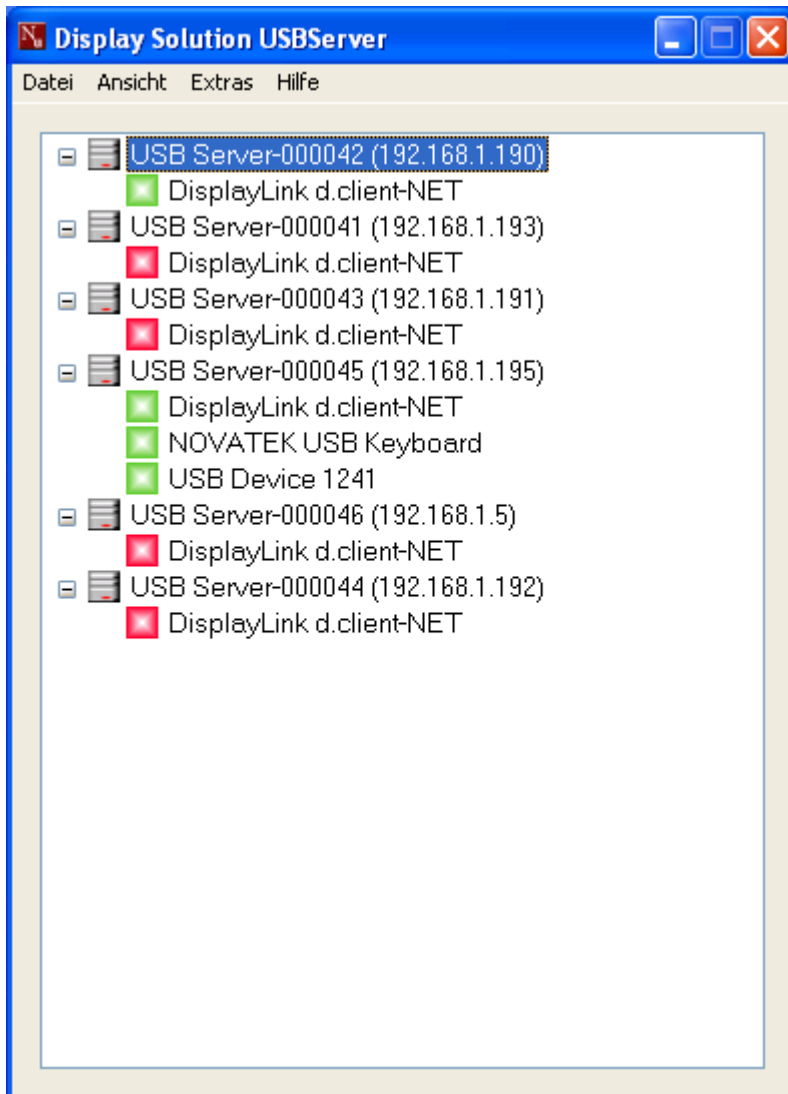
When you see this **red-with-exclamation** icon, it signifies that devices are occupied by another USB Server.

9. Device Details

When you right click on a device on the tree view, a menu will pop up:
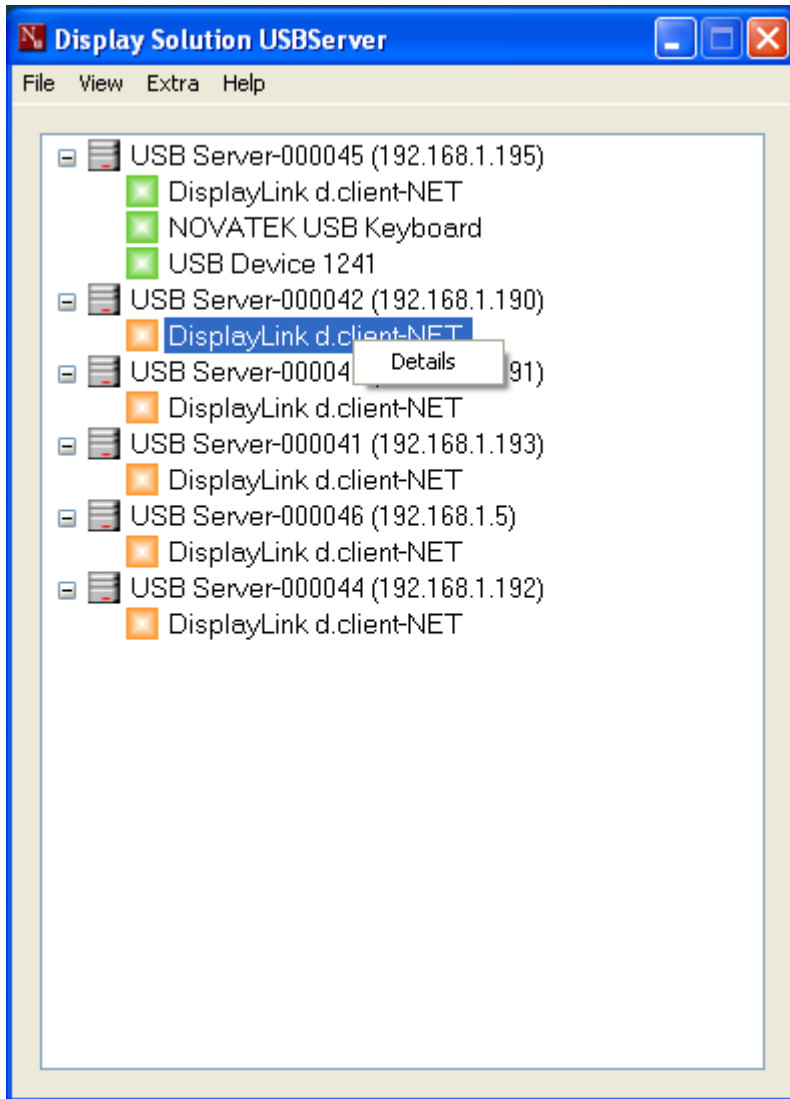
When you select the "Details" options, some detailed information about the selected server or USB device respectively will be displayed in another pop-up dialog box.

DisplayLink d.client-NET

Status

Status: Connected

Occupied by Name: DSMESS1

Occupied by IP: 192.168.1.152

Details

Manufacturer: DisplayLink

Model: d.client-NET

Queue Name:

[OK]
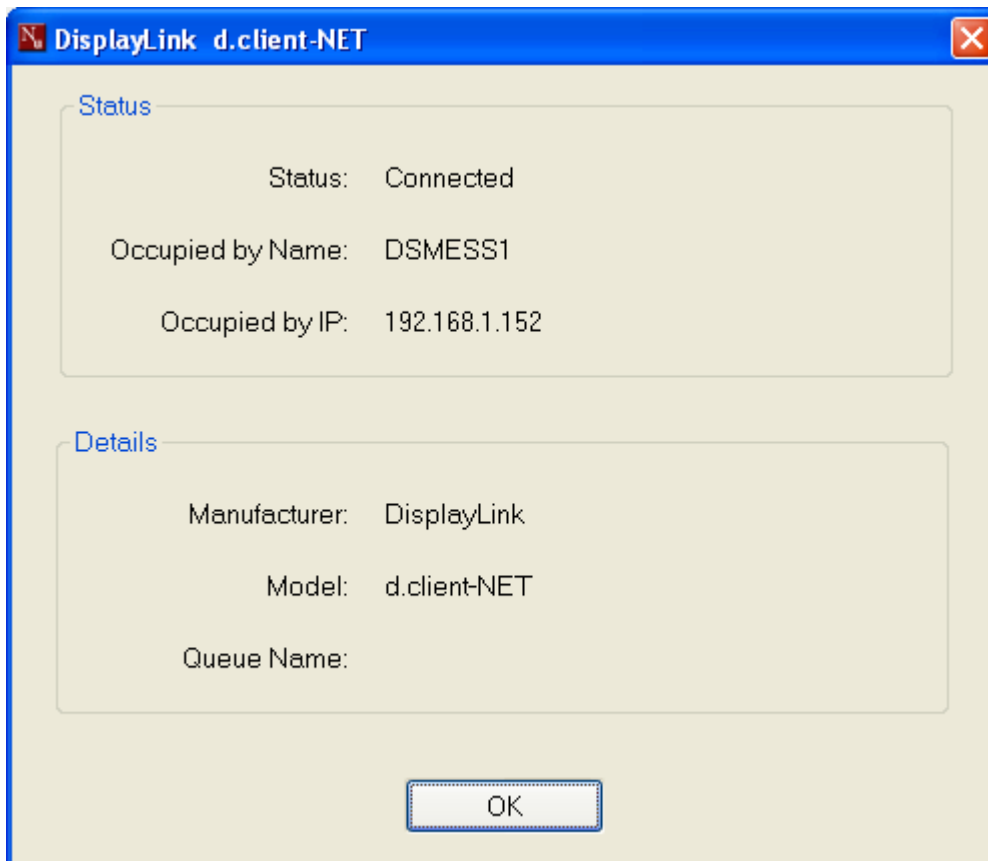
10. Lock USB devices

When the USB Server started it looks in his work directory for an usbconf.xml, if it found it, the USB will take this configuration. if you don't want this you must delete after start the usbconf.xml file here for choose extra delete config file. The server will automatic refresh in few seconds.
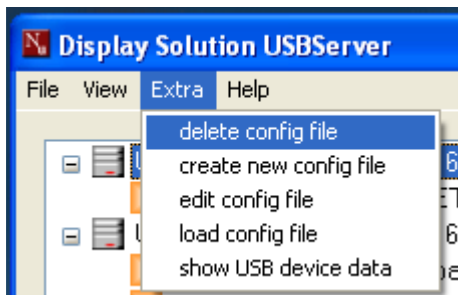
For using more USB Server on different PC, you must lock USB devices. Otherwise
the fastest USB Server will catch all USB devices, and the other USB Servers has no change to get devices.
How to Lock USB devices. USB devices can locked by a configuration file. For the first time you must **create a new configuration file**.
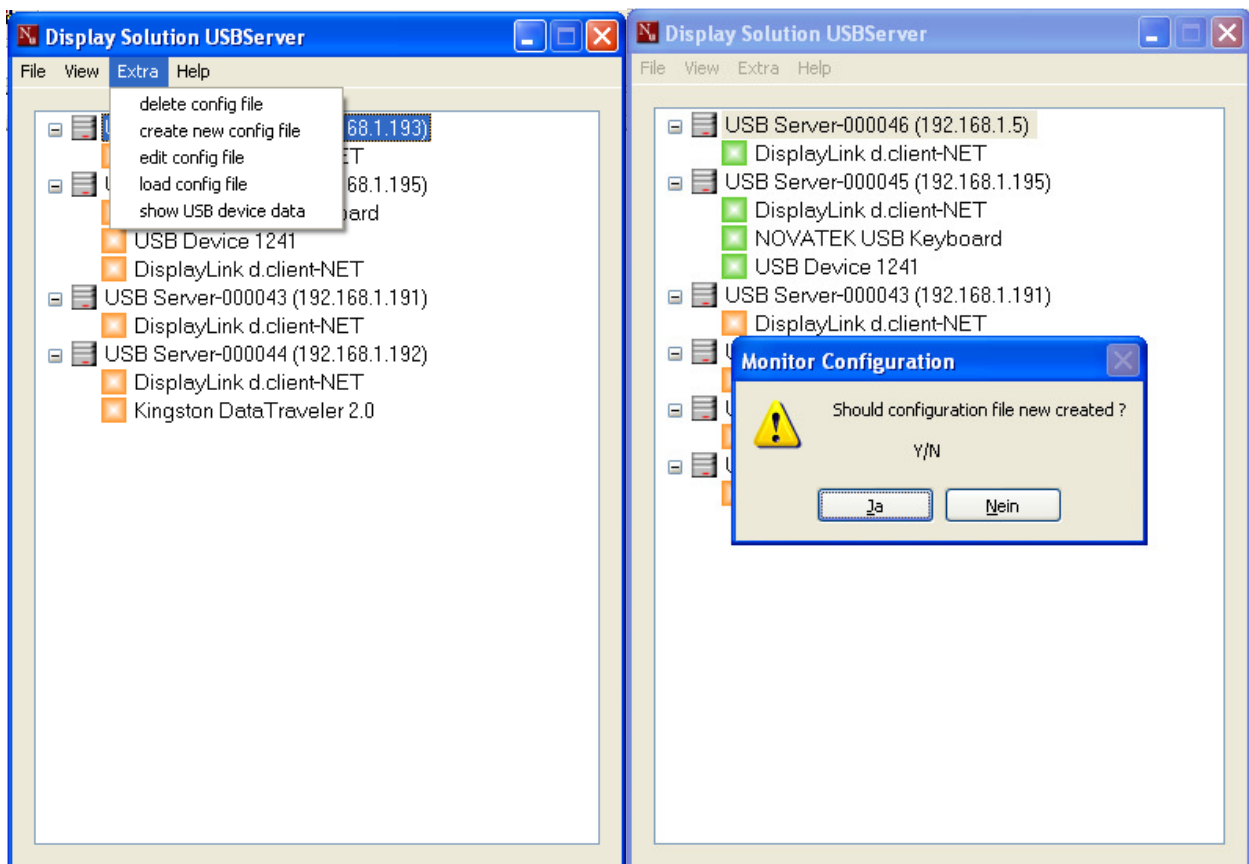
The new configuration file is a copy of the existing "usbcondat.xml" file.

Next step is to edit configuration file.
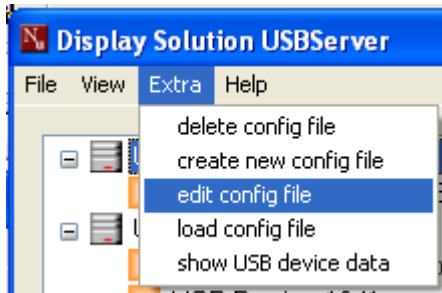
How to edit show to chapter "Edit connection list of USB display adapter"

The last step is to load the configuration file.
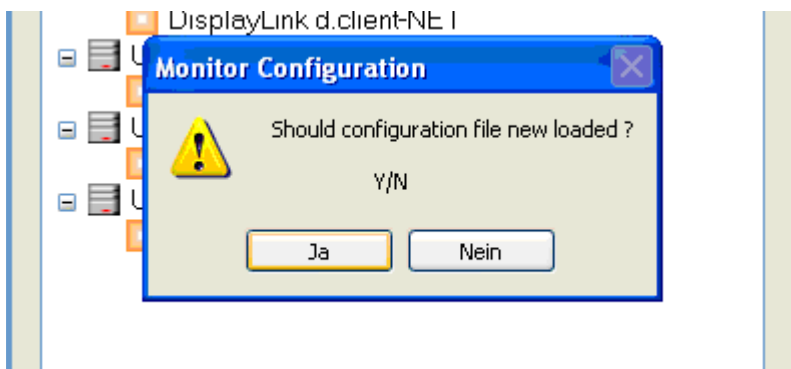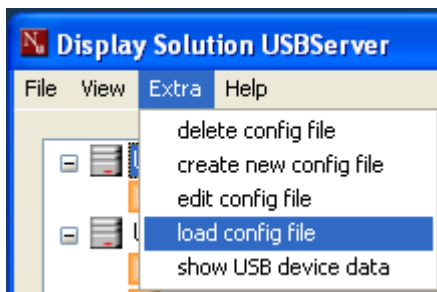
After loading the configuration file, it will take some seconds until the server will change the count of displays.

11. Manuel Connect and disconnect

You can make a manuel connect or disconnect, to your device. If you double click the USB Device square icon. This option is only for test, if you want permanent disconnect, use the extra option "Edit connection list of USB display adapter".
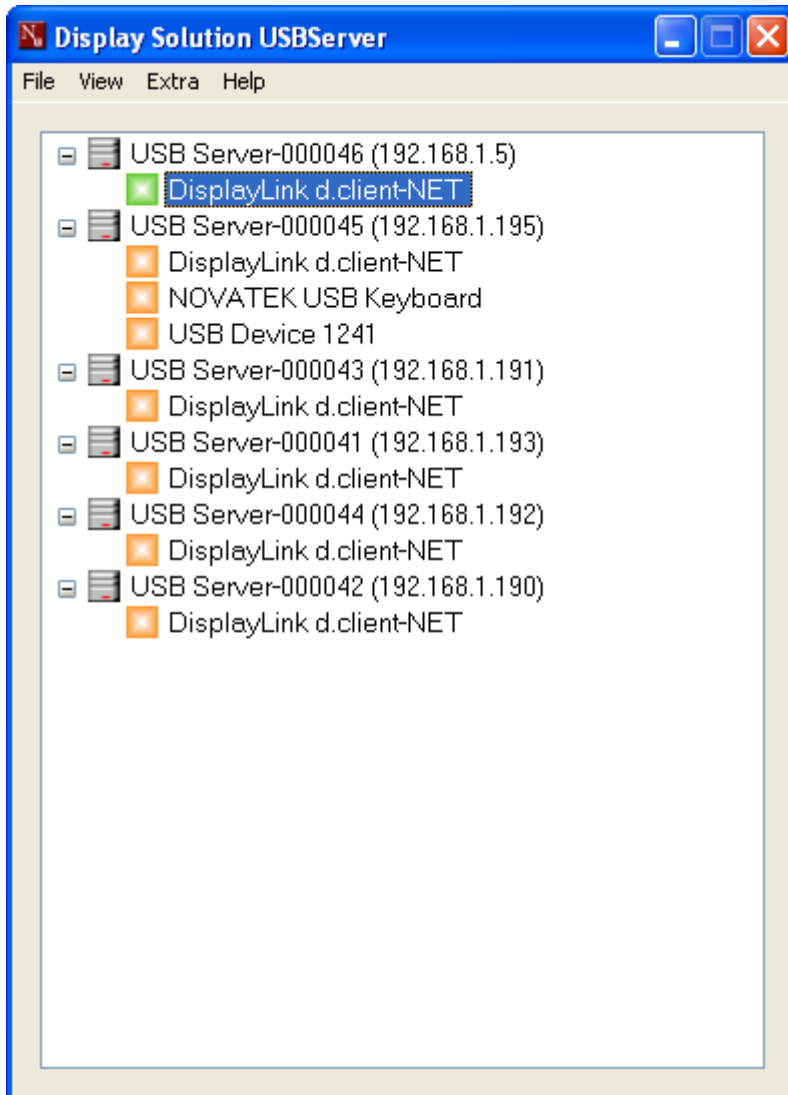
10. About
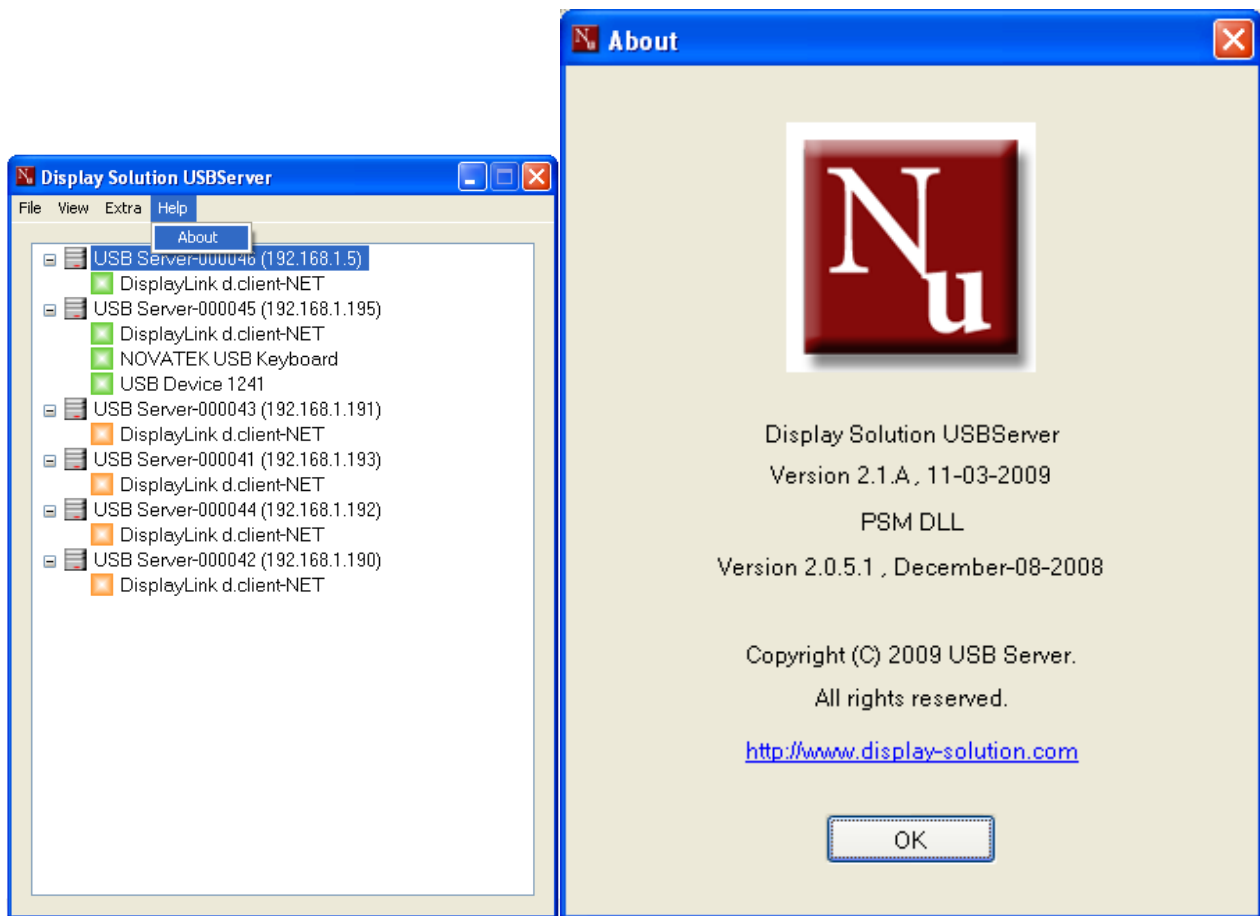
Technical Support

If you have any questions that the Troubleshooting section failed to address, please contact with your seller or distributor for further help.

11. Exit:

For stopping program use the exit button on sys tray menu.
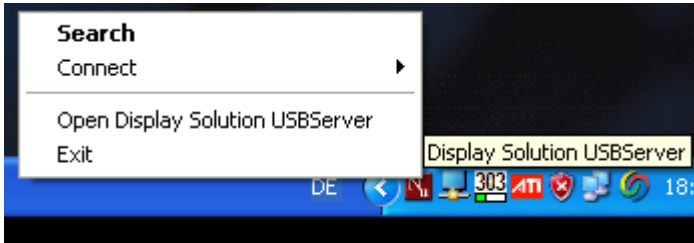
To Exit the server a password is required. Write "**admin**" inside the edit field and confirm with OK .
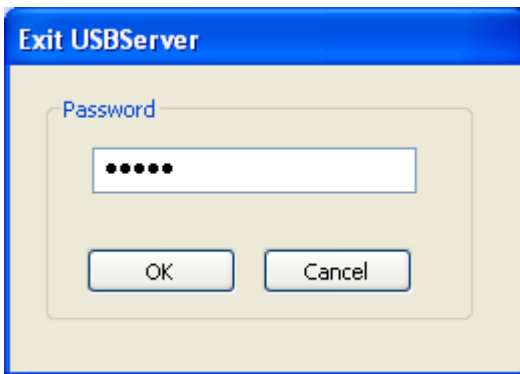
The server will shutdown. If you have connected some devices, you must confirm the message with yes for disconnect or not. But if it is not the displays still running.
If you want made an update or shutdown, you must confirm with yes.
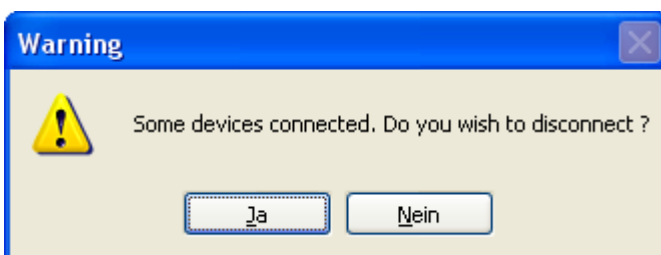
12. Connection List of USB Server:

The USBServer V2.1 writes automatic an USBcondat XML File for every connection events.
This information XML file format can be load by other application, the file location is the
same directory where the server is running.
Remark not all fields will be filled by data. This fields are numeric and strings.

The XML File has for section:

      1. Display Values Adapter
      2. USB Hub Ports 0 to 2 , USB HUB0, USB HUB1, USB HUB2

Display (DSP) Values:

1. DSP IP Address, IP Address from display adapter card, configured by user
2. DSP MAC Address, MAC Address = Ethernet Hardware Address of display adapter card,
fixed wired
3. DSPConnect, USB serial number of display , which is connected to IP or MAC address.
4. DSPModel, display device name
5. DSPManufact, producer of display adapter card

USB Values:

1. USBDeviceType, kind of type of USB device:

    1: Computer
    2: Input (Keyboard, mouse etc.)
    3: Printers
    4: Scanners
    5: Fax
    6: MFP
    7: Cameras
    8: Storage
    9: Network Infrastructure
    10: Displays
    11: Media Device
    12: Gaming
    13: Phones
    14: Home Automation
    15: Home Security
    16: Other

2. USBModel, USB device Name
3. USBManufact, producer of USB adapter
4. USBSerno, serial number of USB device
4. USBState, USB Connection State

Sample of two connect Display in USBCondat.xml File

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<USB Server Version="2.1" web="www.display-solution.com">
        <!--Display information-->
        <Display 0>
                <DSPIPaddress>192.168.1.190</DSPIPaddress>
                <DSPMACaddress>0021e5000042</DSPMACaddress>
                <DSPConnect>yes</DSPConnect>
                <DSPModel>d.client-NET</DSPModel>
                <DSPManufact>DisplayLink</DSPManufact>
                <DSPSerno>DisplayLink Device (USB_0021E5-000042)</DSPSerno>
                <USB HUB 0>
                        <USBDeviceType>0</USBDeviceType>
                        <USBModel></USBModel>
                        <USBManufact></USBManufact>
                        <USBSerno></USBSerno>
                        <USBConnectState>0</USBConnectState>
                </USB HUB 0>
                <USB HUB 1>
                        <USBDeviceType>0</USBDeviceType>
                        <USBModel></USBModel>
                        <USBManufact></USBManufact>
                        <USBSerno></USBSerno>
                        <USBConnectState>0</USBConnectState>
                </USB HUB 1>
                <USB HUB 2>
                        <USBDeviceType>0</USBDeviceType>
                        <USBModel></USBModel>
                        <USBManufact></USBManufact>
                        <USBSerno></USBSerno>
                        <USBConnectState>0</USBConnectState>
                </USB HUB 2>
        </Display 0>
        <Display 1>
                <DSPIPaddress>192.168.1.193</DSPIPaddress>
                <DSPMACaddress>0021e5000041</DSPMACaddress>
                <DSPConnect>yes</DSPConnect>
                <DSPModel>d.client-NET</DSPModel>
                <DSPManufact>DisplayLink</DSPManufact>
                <DSPSerno> DisplayLink Device (USB_0021E5-000041)</DSPSerno>
                <USB HUB 0>
                        <USBDeviceType>0</USBDeviceType>
                        <USBModel></USBModel>
                        <USBManufact></USBManufact>
                        <USBSerno></USBSerno>
                        <USBConnectState>0</USBConnectState>
                </USB HUB 0>
                <USB HUB 1>
                        <USBDeviceType>0</USBDeviceType>
                        <USBModel></USBModel>
                        <USBManufact></USBManufact>
```

```
                    <USBSerno></USBSerno>
                    <USBConnectState>0</USBConnectState>
            </USB HUB 1>
            <USB HUB 2>
                    <USBDeviceType>0</USBDeviceType>
                    <USBModel></USBModel>
                    <USBManufact></USBManufact>
                    <USBSerno></USBSerno>
                    <USBConnectState>0</USBConnectState>
            </USB HUB 2>
    </Display 1>
    <Display 2>
            <DSPIPaddress>192.168.1.195</DSPIPaddress>
            <DSPMACaddress>0021e5000045</DSPMACaddress>
            <DSPConnect>yes</DSPConnect>
            <DSPModel>d.client-NET</DSPModel>
            <DSPManufact>DisplayLink</DSPManufact>
            <DSPSerno> DisplayLink Device (USB_0021E5-000045)</</DSPSerno>
            <USB HUB 0>
                    <USBDeviceType>0</USBDeviceType>
                    <USBModel></USBModel>
                    <USBManufact></USBManufact>
                    <USBSerno></USBSerno>
                    <USBConnectState>0</USBConnectState>
            </USB HUB 0>
            <USB HUB 1>
                    <USBDeviceType>0</USBDeviceType>
                    <USBModel></USBModel>
                    <USBManufact></USBManufact>
                    <USBSerno></USBSerno>
                    <USBConnectState>0</USBConnectState>
            </USB HUB 1>
            <USB HUB 2>
                    <USBDeviceType>2</USBDeviceType>
                    <USBModel> </USBModel>
                    <USBManufact>USB Device 1241</USBManufact>
                    <USBSerno></USBSerno>
                    <USBConnectState>0</USBConnectState>
            </USB HUB 2>
    </Display 2>
</USB Server>
```

13. Connect a display adapter:

The USB Server works transparent. That means that all data are in a tunnel through the server. To send data to an display adapter card you did not need the IP or MAC address of this card. You must only know the USB Serial Number of the display adapter card. You get the this number from the label on the card or you can ask by display properties on the windows desktop, place where you can change display size. In the display field there is the serial no of any device. The best way is to use the connect list of the USB display adapter tool who runs in background.
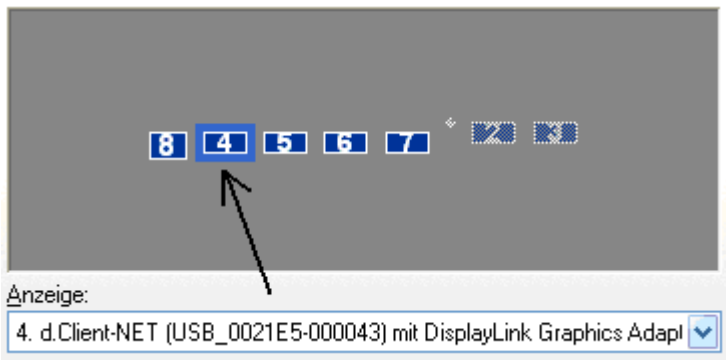
This USB serial number you will find in the USBcondat. XML file.

```
<?xml version="1.0" encoding="UTF-8" ?>
<USB Server Version="2.1" web="www.display-solution.com">
        <!--Display information-->
        <Display 0>
                <DSPIPaddress>192.168.1.190</DSPIPaddress>
                <DSPMACaddress>0021e5000042</DSPMACaddress>
                <DSPConnect>no</DSPConnect>
                <DSPModel>d.client-NET</DSPModel>
                <DSPManufact>DisplayLink</DSPManufact>
                <DSPSerno>DisplayLink Device (USB_0021E5-000043)</DSPSerno>
...
```

14. Edit connection list of USB display adapter

The connection list file USBconf. XML of USB display adapters is a copy of USBcondat. XML file.The Server is reading that file, when it starts up or you choose "load config file" in the extra folder. To set an display adapter for connection or not, you must set the value of the tag <DSPConnect> to yes or no. Default value is yes.

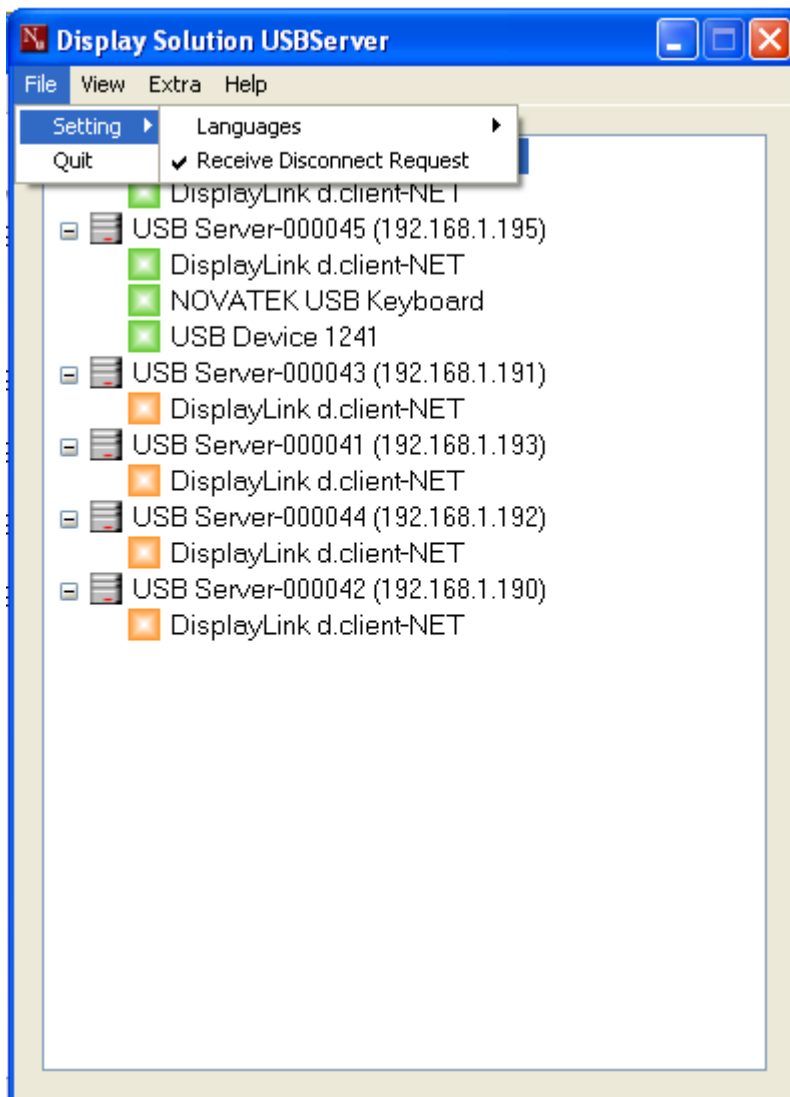For example to disable a display adapter:

```
<?xml version="1.0" encoding="UTF-8" ?>
<USB Server Version="2.1" web="www.display-solution.com">
        <!--Display information-->
        <Display 0>
                <DSPIPaddress>192.168.1.190</DSPIPaddress>
                <DSPMACaddress>0021e5000042</DSPMACaddress>
                <DSPConnect>no</DSPConnect>
```
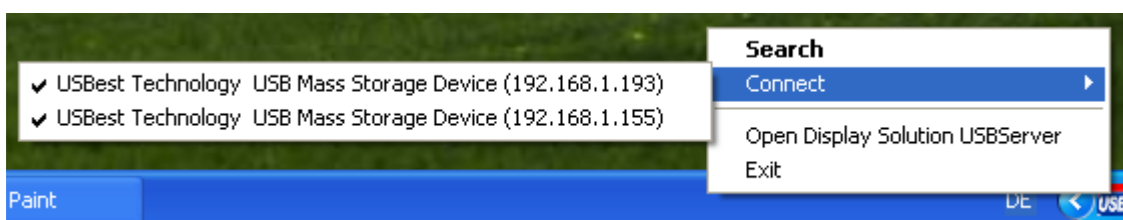
<DSPModel>d.client-NET</DSPModel>
<DSPManufact>DisplayLink</DSPManufact>
<DSPSerno>DisplayLink Device (USB_0021E5-000042)</DSPSerno>
…

15. Other Options

- Receive Disconnect Request, it is default on. This option is that the server can remote receive from other USB Server an disconnect request.
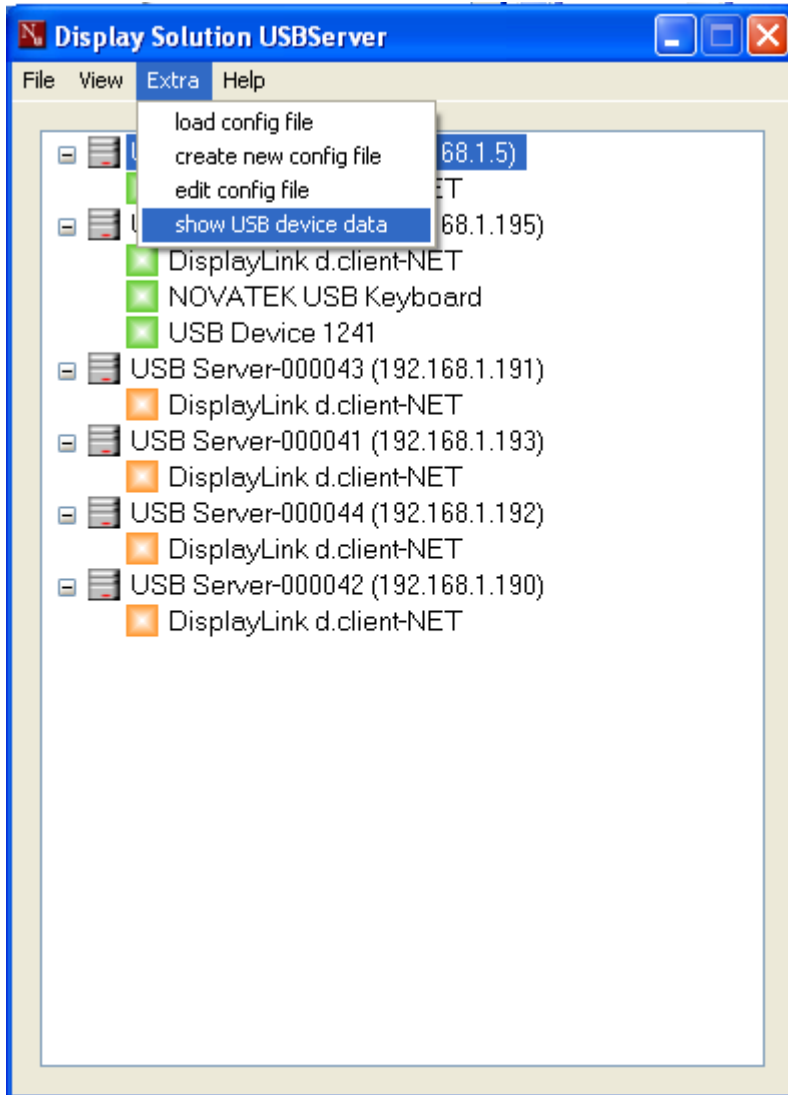

- The option "Search" is not supported

16. Property list of USB display adapter:

Show USB device data, opens the file usbmondat.xml,

It is a list of all connected monitor by USB Server and running PC. This file usbmondat.xml is in the document and setting directory.
Remark not all fields will be filled USB monitor data, it shows all monitor at this PC.
This fields are numeric and strings.

Parameters:

X_VirtualScreenSize, X- Size of the whole virtual desktop (maximum size)
Y_VirtualScreenSize, Y- Size of the whole virtual desktop (maximum size)
DeviceName, name of the windows enumerate display
DeviceString, name of the display adapter
DeviceSerNo, serial number of the display adapter
MonSolution, Mointor resoulution (x-size,y-size, color size) (1440x900x32)

Sample of six connected USB Display in USBmondat.xml File

```
<?xml version="1.0" encoding="UTF-8" ?>
<USB Server Version="2.1" web="www.display-solution.com">
        <!--USB Display information-->
        <X_VirtualScreenSize>9920</X_VirtualScreenSize>
        <Y_VirtualScreenSize>1188</Y_VirtualScreenSize>
        <USB Display 0>
                <DeviceName>\\.\DISPLAY1</DeviceName>
                <DeviceString>NVIDIA GeForce 7300 SE/7200 GS</DeviceString>
                <DeviceSerNo>(Standardmonitor)</DeviceSerNo>
                <MonSolution>1280x1024x32</MonSolution>
        </USB Display 0>
        <USB Display 1>
                <DeviceName>\\.\DISPLAY2</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000005)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 1>
        <USB Display 2>
                <DeviceName>\\.\DISPLAYV1</DeviceName>
                <DeviceString>DisplayLink Mirror Adapter</DeviceString>
                <DeviceSerNo>No USB Monitor</DeviceSerNo>
                <MonSolution>0x0x0</MonSolution>
        </USB Display 2>
        <USB Display 3>
                <DeviceName>\\.\DISPLAY3</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000003)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 3>
        <USB Display 4>
                <DeviceName>\\.\DISPLAY4</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000006)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 4>
        <USB Display 5>
                <DeviceName>\\.\DISPLAY5</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000004)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 5>
        <USB Display 6>
                <DeviceName>\\.\DISPLAY6</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000002)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 6>
        <USB Display 7>
                <DeviceName>\\.\DISPLAY7</DeviceName>
                <DeviceString>DisplayLink Graphics Adapter</DeviceString>
                <DeviceSerNo>DisplayLink Device (USB_090216-000001)</DeviceSerNo>
                <MonSolution>1440x900x32</MonSolution>
        </USB Display 7>
```
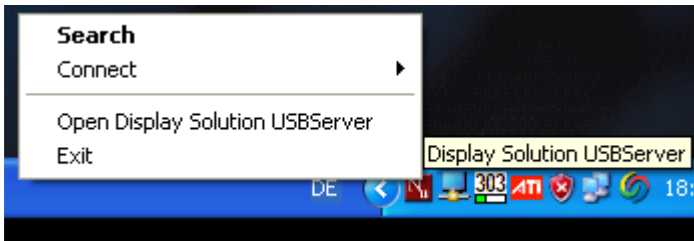
```
<USB Display 8>
        <DeviceName>\\.\DISPLAY8</DeviceName>
        <DeviceString>DisplayLink Graphics Adapter</DeviceString>
        <DeviceSerNo>No Device</DeviceSerNo>
        <MonSolution>0x0x0</MonSolution>
</USB Display 8>
<USB Display 9>
        <DeviceName>\\.\DISPLAYV2</DeviceName>
        <DeviceString>NetMeeting driver</DeviceString>
        <DeviceSerNo>No USB Monitor</DeviceSerNo>
        <MonSolution>0x0x0</MonSolution>
</USB Display 9>
<USB Display 10>
        <DeviceName>\\.\DISPLAYV3</DeviceName>
        <DeviceString>RDPDD Chained DD</DeviceString>
        <DeviceSerNo>No USB Monitor</DeviceSerNo>
        <MonSolution>0x0x0</MonSolution>
</USB Display 10>
</USB Server>
```
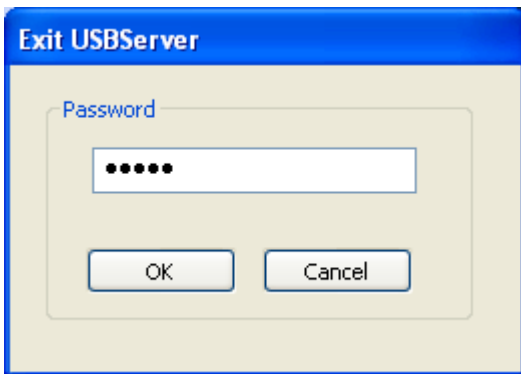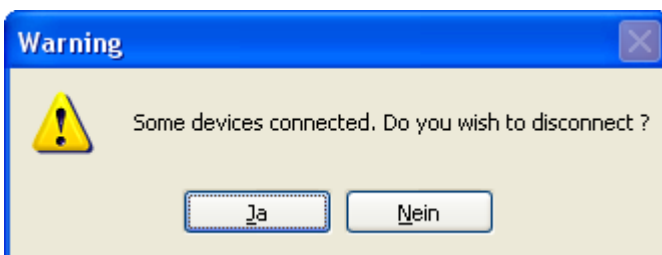
17. Updates or uninstall

For updates the software must be complete uninstalled.

First exit the running USB Server

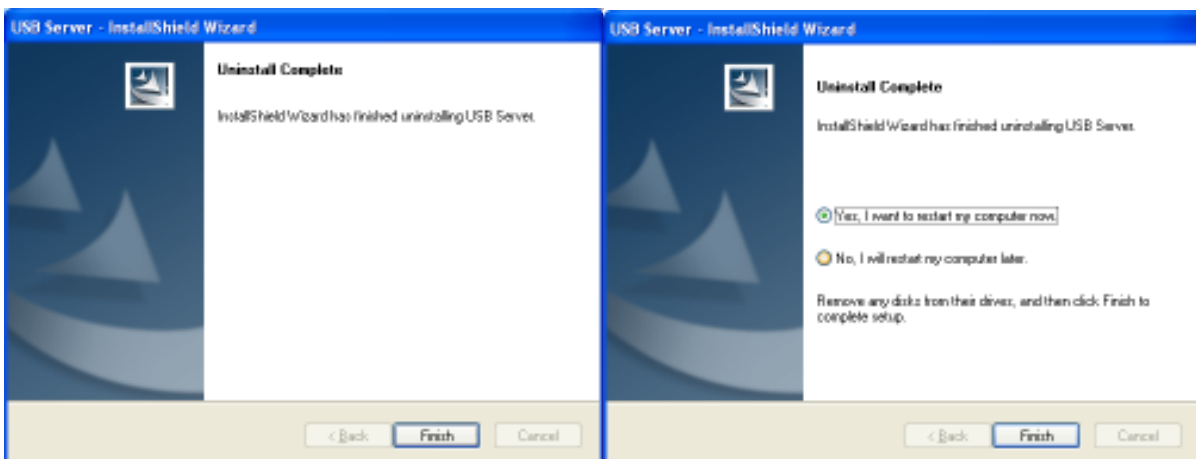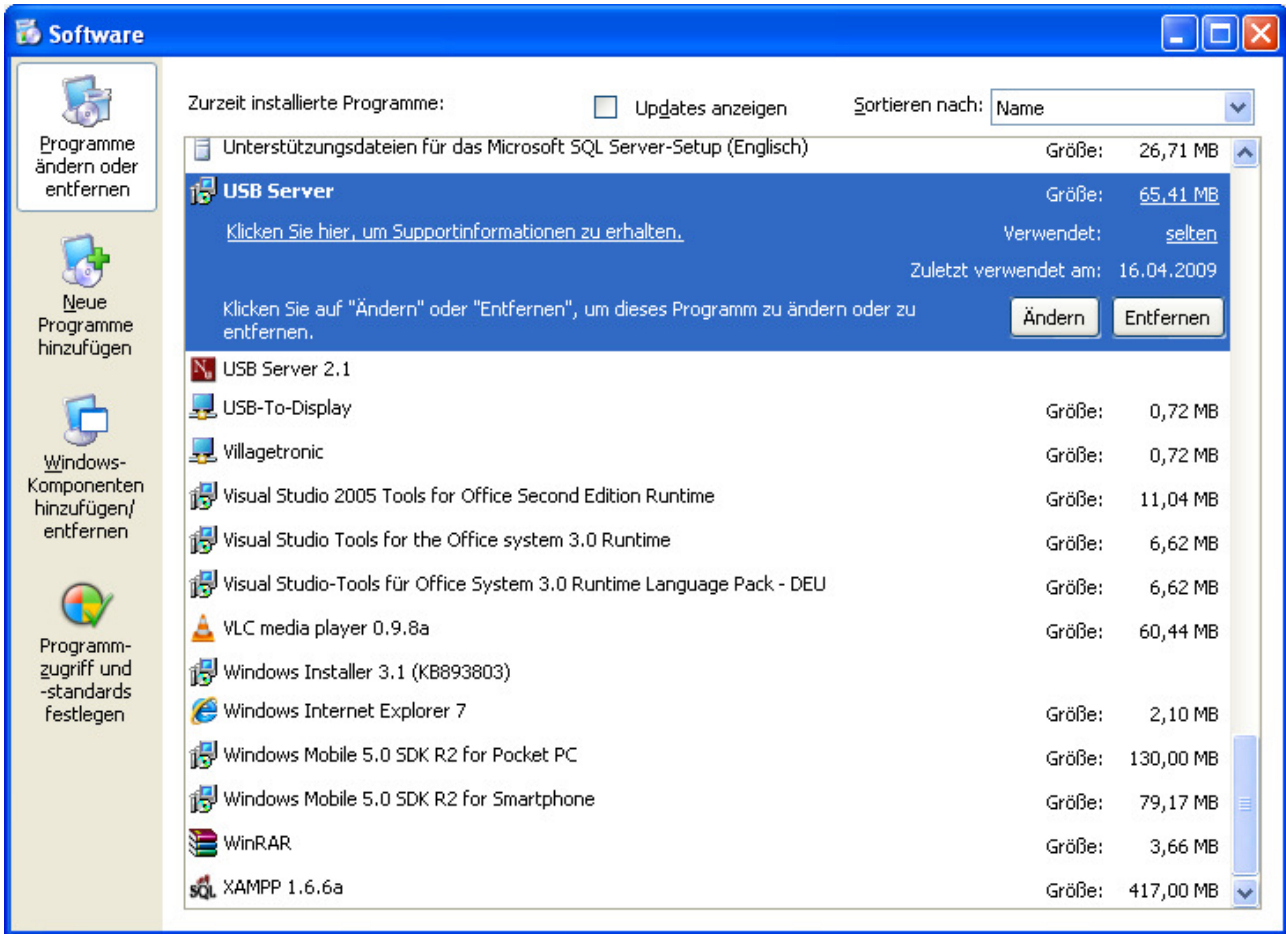Type the exit password „admin" into the editfield

Confirm with yes.

When the server is down, uninstall software

Please choose USB Server first.

After all restart computer.

18. Logfile

The USB Server writes a log file (USBServer.log). It is for this case that USB Connection is lost to display devices. If the connection is lost, the application who is running on USB monitor it will be fallback to the main screen. So you must place them manually back.
In the USBServer log there is a list of connected devices. About the different entries you can see which USB monitor is lost or new.
This file will be deleted after a size of 1MB, than a new file will be created.

```
04/27/2009, 13:16:45
 WM_DISPLAYCHANGE
DisplayLink Device (USB_0021E5-000044)
DisplayLink Device (USB_0021E5-000046)
DisplayLink Device (USB_0021E5-000045)
DisplayLink Device (USB_0021E5-000041)
DisplayLink Device (USB_0021E5-000043)

04/27/2009, 13:16:47
 WM_DISPLAYCHANGE
DisplayLink Device (USB_0021E5-000044)
DisplayLink Device (USB_0021E5-000046)
DisplayLink Device (USB_0021E5-000045)
DisplayLink Device (USB_0021E5-000041)
DisplayLink Device (USB_0021E5-000043)
DisplayLink Device (USB_0021E5-000042)
```
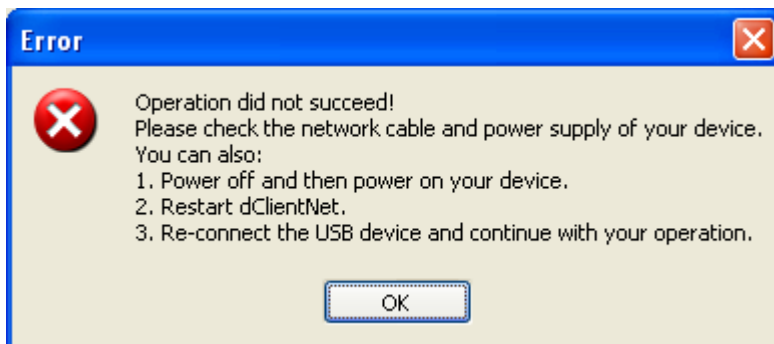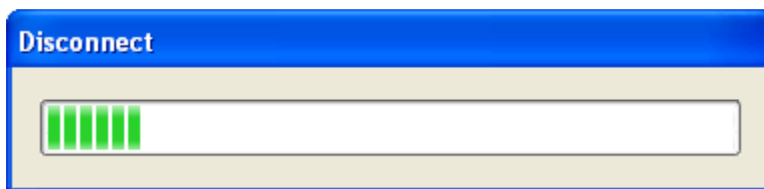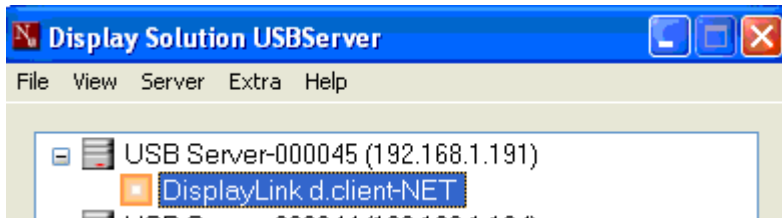
19. Error

19.1 Disconnect Error

In same cases it is possible to get an error message, if you switch off the auto connect feature and double click the d.client-NET icon

The reason for that is that windows and the server can not disconnect this USB device.
The only way is to disconnect is to plug off the network cable manually and reboot the d.Client-NET card.