**NEURO
CHECK**

Documentation of the
NcgIpConfig tool
Version 1.0

For Microsoft® Windows®
XP / Vista®

Trademarks and Imprint

NeuroCheck GmbH
Neckarstraße 76/1
D-71686 Remseck
Germany
Tel: +49 (0) 7146 8956-0
Fax: +49 (0) 7146 8956-29

www.neurocheck.com

Version 1.0 of January 12, 2010

Content

1. Introduction

The **NcgIpConfig** tool is a console application that can be used to change the IP configuration of NeuroCheck NCG cameras. Furthermore the **NcgIpConfig** tool can be used to change the camera name of NeuroCheck NCG cameras.

To identify and integrate a NCG camera to the NeuroCheck software a unique and persistent IP address is required. The factory settings of the NeuroCheck cameras of NCG series define no persistent IP address. Therefore a persistent IP address must be assigned to every NCG camera once. This can be done with the **NcgIpConfig** tool.

In the case that two cameras have the same persistent IP addresses and should be used in the same network, the IP address of one of the cameras must be changed. The **NcgIpConfig** tool can be used for that too.

This document is organized as follows:

- The next chapter describes the installation of this tool.

- The third chapter presents a brief introduction in selecting IP addresses.

- The forth chapter presents a work instruction for changing the IP configuration of a NCG camera.

- The last chapter provides a reference of the command line arguments of this tool.

2. Installation

The **NcgIpConfig** tool requires a proper installation of the NeuroCheck NCG driver. Please refer to the help of the NeuroCheck NCG driver for details of installation and requirements for using cameras of the NeuroCheck NCG series.

Create a local copy of the directory of the **NcgIpConfig** tool. Within he local directory the "NcgIpConfig.exe" and the following files must be present:

- bgapi.dll, minimum version 1.6.0.8596
- BO_GigEFilterDrv.dll 1.6.0.0
- bsysgige.xml
- img_proc.dll, minimum version 1.6.0.8596
- sys_gige.dll, minimum version 1.6.0.8596

The first time the **NcgIpConfig** tool is started the Windows Firewall might warn that some function of the program are blocked. Please stop further blocking of the **NcgIpConfig** tool. Otherwise the program cannot work properly.

3. Selection of IP address and subnet mask

We recommend configuring the network adapter within the computer and the connected cameras as subnet. In the case of an existing company or production Ethernet network, we strongly recommend to use different network adapters and different subnets.

The IP addresses in this document are shown as four numbers in the range between 0 to 255 seperated by dot. A typical IP address may look like 192.168.10.3.

If you are not familiar with network configuration we recommend the following rules.

The components of the camera network are the network adapter within the computer that is connected with the camera network, the switches that you possibly use to connect several cameras with the network adapter within the computer and the connected NCG cameras.

We recommend starting every IP address with 192.168.x.y. In the following the x describes the subnet and y describes the device.

We strongly recommend using different subnets for an existing company or production Ethernet network and the camera network. Due to the fact that most subnets use 0 or 1 as identifier, a value of 10 might be a good choice as subnet identifier of the camera subnet in many cases. The IP address of all components of the camera network look like 192.168.10.y in this case. Keep in mind that the subnet identifier must be identical for all components within the camera network.

The last digit of the IP address identifies the individual component. This digit must be unique for every component within the network. We recommend the usage of a value of 1 for the network adapter within the computer that is connected with the camera network and enumerate the switches and cameras with values starting with 2. The IP address of the first camera is 192.168.10.2 in the case that no switch is used. The IP address of the next camera is 192.168.10.3 and so on.

The second part of the IP configuration is the so called subnet mask. The subnet mask defines which part of the IP address identifies the network and which part of the IP address identifies the camera or computer. In other words the subnet mask allows differentiating between the parts of the IP address that all devices have in common and the parts that are unique to one device. In the case that the third digit of the IP address is used for identification of the subnet and the forth digit is used for identification of the camera or computer the subnet mask must be 255.255.255.0.

In the case that the computer NeuroCheck runs on is also connected with another network consult the responsible network administrator about the IP configuration of the subnet.

Example:

The table below shows one possible IP configuration for five NCG cameras connected with one computer. The example is given exclusive any warranty. The values must be adapted to your system.

Device	IP address	Subnet mask
Network adapter of the computer connected with the camera network.	192.168.10.1	255.255.255.0
Switch	192.168.10.2	255.255.255.0
First NCG camera	192.168.10.3	255.255.255.0
Second NCG camera	192.168.10.4	255.255.255.0
Third NCG camera	192.168.10.5	255.255.255.0
Forth NCG camera	192.168.10.6	255.255.255.0

4. Work instruction for assignment or change of IP addresses

1. Make sure that the NeuroCheck software is closed and the installation of the low level driver of the NCG cameras has been done according to the guidelines of the NeuroCheck NcGeBoGe driver help. Make sure that the network adapter within the computer that is connected with the camera network is configured with a valid persistent IP address.

2. Connect the cameras with the computer and the power supply unit. Wait until the connections between the computer and the cameras are established. In worst case this may take several minutes.

3. Start a console window and switch the working directory to the **NcgIpConfig** directory.

4. Execute the **NcgIpConfig** tool with the command line argument /**list**.

   ```
   ncgipconfig /list
   ```

   The properties of all connected cameras are listed in the console window. If a camera is missing wait some time and retry to execute the **NcgIpConfig** tool with the command line argument /**list**.

5. To assign or change the IP address of a camera execute the **NcgIpConfig** tool with the command line argument /**set**. The command /**set** requires three further command line arguments: the serial number of the camera, the IP address and the subnet mask that should be assigned to the camera.

   The call in the console window may look like this:

   ```
   ncgipconfig /setip 0009982908 192.168.10.2 255.255.255.0
   ```

   Where `0009982908` is the serial number of the NCG camera and `192.168.10.2` and `255.255.255.0` are the IP address and subnet mask that are assigned to the camera.

6. Repeat the step 5 for each NCG camera the IP configuration should be changed of.

7. Verify the configuration of all cameras by executing the **NcgIpConfig** tool with the command line argument /**list** again.

8. Close the console window. The cameras can be used in the NeuroCheck software now.

5. Commands

The **NcgIpConfig** tool is a console application. Therefore you have to open a console window and switch the working directory to the local **NcgIpConfig** directory.

The **NcgIpConfig** tool is controlled by command arguments typed after the program name. All command arguments start with a slash ('/'). Some command arguments require further arguments as described below.

In the case of an invalid command or argument the help text is plotted out.
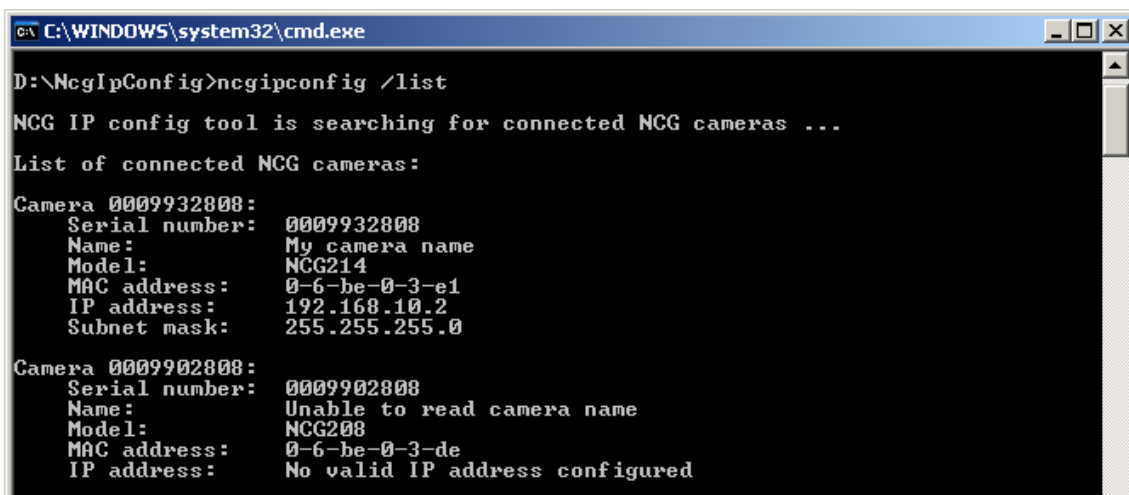
5.1 List

The `/list` command offers a list of all currently available cameras. The list provides the serial number, the model name, the MAC address and the IP configuration of all cameras.

The syntax of the `/list` command is:

```
ncgipconfig /list
```

The `/list` command requires no further parameters.

The output of this command may look like this:

5.2 SetIP

The `/setip` command assigns an IP address and a subnet mask to a selected NCG camera. The NCG camera is identified by its serial number.

The syntax of the `/setip` command is:

```
ncgipconfig /setip Serial_number IP_address Subnet_mask
```
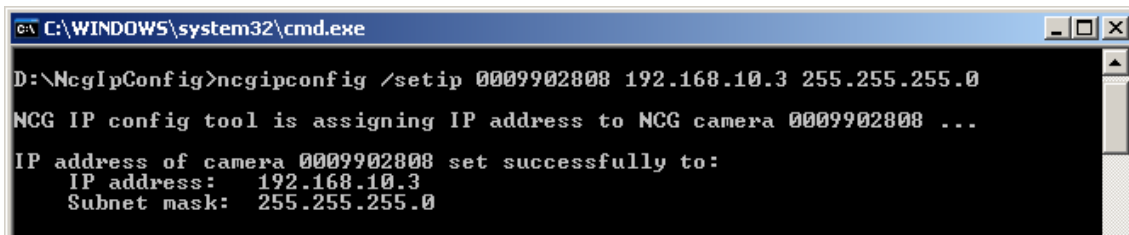
The further parameters of the `/setip` command are:

Parameter	Description
Serial_number	The serial number of the camera the IP configuration should be changed of. The serial number must be a decimal number with 10 digits.
IP_address	The IP address that should be assigned to the camera. The IP address must be four decimal numbers in the range from 0 to 255 separated by dots ('.').
Subnet_mask	The subnet mask that should be assigned to the camera. The subnet mask must be four decimal numbers in the range from 0 to 255

separated by dots ('.').

An example of the `/setip` command with output may look like this:

```
C:\WINDOWS\system32\cmd.exe                                                _ □ ×

D:\NcgIpConfig>ncgipconfig /setip 0009902808 192.168.10.3 255.255.255.0

NCG IP config tool is assigning IP address to NCG camera 0009902808 ...

IP address of camera 0009902808 set successfully to:
    IP address:   192.168.10.3
    Subnet mask:  255.255.255.0
```

5.3 Reset

The `/reset` command resets a selected NCG camera to the factory IP settings. So any persistent IP address is deleted. The NCG camera is identified by their serial number. Please keep in mind that a NCG camera has to have a persistent IP address for integrating the NCG camera to the NeuroCheck software.

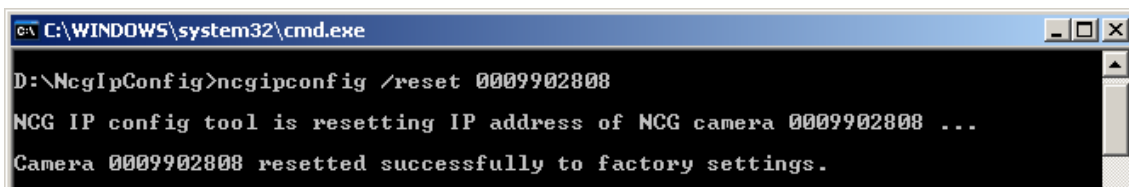Please note that the `/reset` command does not reset the user-defined camera name.

The syntax of the `/reset` command is:

```
ncgipconfig /reset Serial_number
```

The further parameter of the `/reset` command is:

Parameter	Description
Serial_number	The serial number of the camera the IP configuration should be reset of. The serial number must be a decimal number with 10 digits.

An example of the `/reset` command with output may look like this:

```
C:\WINDOWS\system32\cmd.exe                                                _ □ ×

D:\NcgIpConfig>ncgipconfig /reset 0009902808

NCG IP config tool is resetting IP address of NCG camera 0009902808 ...

Camera 0009902808 resetted successfully to factory settings.
```

5.4 SetName

The `/setname` command assigns a name to a selected NCG camera. The NCG camera is identified by its serial number.
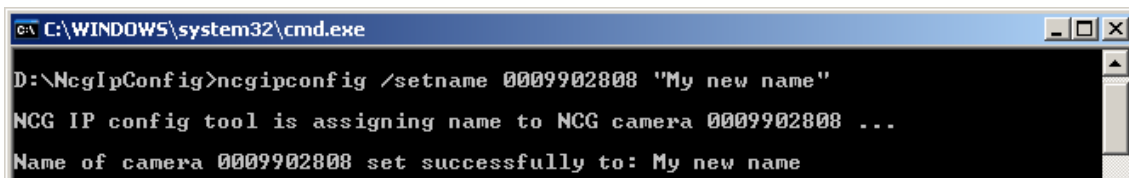
The syntax of the `/setname` command is:

```
ncgipconfig /setname Serial_number Name
```

The further parameters of the `/setname` command are:

Parameter	Description
Serial_number	The serial number of the camera the name should be changed of. The serial number must be a decimal number with 10 digits.
Name	The name that should be assigned to the camera. The name can contain from 1 up to 15 characters. In the case that the name consists of several words the name must be quoted.

An example of the /setname command with output may look like this:

```
C:\WINDOWS\system32\cmd.exe                                                    _ □ ×

D:\NcgIpConfig>ncgipconfig /setname 0009902808 "My new name"

NCG IP config tool is assigning name to NCG camera 0009902808 ...

Name of camera 0009902808 set successfully to: My new name
```
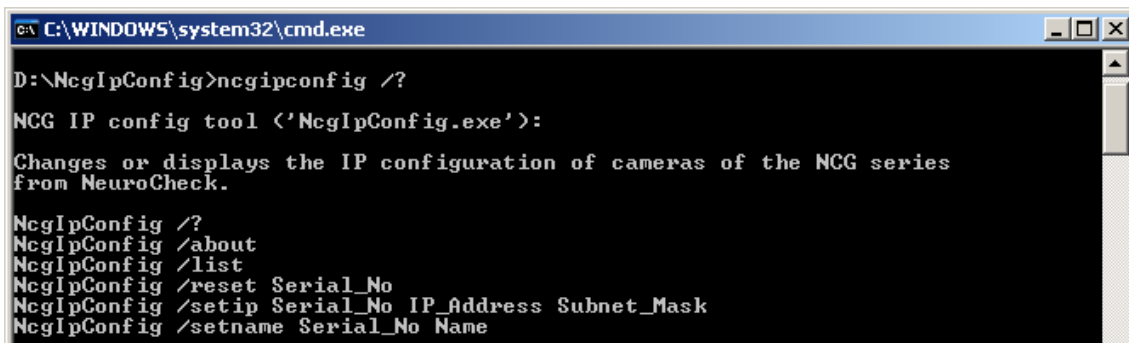
5.5 Help

The /? command offers a brief help for the **NcgIpConfig** tool.

The syntax of the /? command is:

        ncgipconfig /?

The /? command requires no further parameters.

The output of this command starts like this:

```
C:\WINDOWS\system32\cmd.exe                                                    _ □ ×

D:\NcgIpConfig>ncgipconfig /?

NCG IP config tool ('NcgIpConfig.exe'):

Changes or displays the IP configuration of cameras of the NCG series
from NeuroCheck.

NcgIpConfig /?
NcgIpConfig /about
NcgIpConfig /list
NcgIpConfig /reset Serial_No
NcgIpConfig /setip Serial_No IP_Address Subnet_Mask
NcgIpConfig /setname Serial_No Name
```
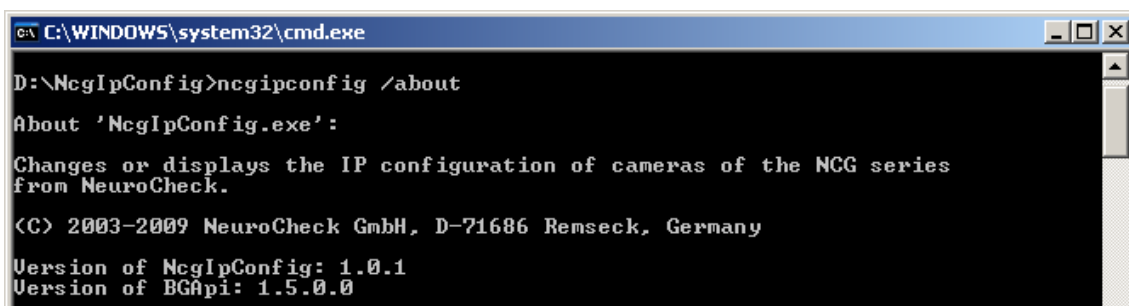
5.6 About

The /about command offers some basic information about the **NcgIpConfig** tool. The provided information are the purpose, the copyright and the version of the tool and the version of the used BGApi.dll.

The syntax of the /about command is:

        ncgipconfig /about

The /about command requires no further parameters.

The output of this command looks like this:

```
C:\WINDOWS\system32\cmd.exe                                                    _ □ ×

D:\NcgIpConfig>ncgipconfig /about

About 'NcgIpConfig.exe':

Changes or displays the IP configuration of cameras of the NCG series
from NeuroCheck.

(C) 2003-2009 NeuroCheck GmbH, D-71686 Remseck, Germany

Version of NcgIpConfig: 1.0.1
Version of BGApi: 1.5.0.0
```