

Using the HASP dongle with Windows XP

The current document contains information from Aladdin for using the NetHASP dongle for BrainVoyager QX with Windows XP. The information is retrieved from the Aladdin End User Knowledge Database at <http://www.aladdin.com/knowledge/enduserKB.asp>.

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The HASP License Manager (LM) and HASP dongle drivers can be downloaded from <http://www.aladdin.com/support/hasp/enduser.asp>.

In case of persistent problems, diagnostic tools like DiagnostiX can also be downloaded from that site; the report that will be produced by running the tool DiagnostiX can be sent to Brain Innovation.

For obtaining nethasp.ini and nhsrv.ini files or any further information, please contact Brain Innovation via support@brainvoyager.de.

Aladdin Support Technote

TCPIP Address-Based Communication with the NetHASP Key

Problem:

- **Too long to login:** I'm using NT network, (or Windows peer-to-peer network), and I have a time problem: It takes 20-30 seconds for the protected program to load. How can I reduce the time it takes to login?
- **Control the stations allowed to login:** I would like to control which workstations are able to login to the protected program. How can I select which workstations have login rights?
- **Cannot find the NetHASP key:** The NetHASP key is connected on my NT network, but when the program is run from a workstation, the protected application wouldn't load. The program displayed Error #15 on some stations, and Error #4, or Error #8 on others.

Cause:

By default, the communication between the client and the NetHASP License Manager is performed by broadcasting messages to every workstation on the network.

Communication can fail because of one of the following reasons:

- Failure for a NetHASP-protected application to communicate with the NetHASP License Manager.
- Hardware problem with the NetHASP key itself.
- Network, protocol or other environment problems.

When broadcasting fails, the best solution is to switch to address-based communication, by specifying the exact network address of the NetHASP License Manager. You can use the same method to limit communication to TCPIP only, and to control the stations that login to the NetHASP License Manager.

Solution:

Specify the precise address of the LM using its IP number. To set your program to communicate with the NetHASP License Manager with TCP/IP and a specific address:

- 1. Copy this specially-edited *nethasp.ini* file to the same directory as your application.
- 2. Open the *nethasp.ini* file with any plain-text editor like Notepad or DOS Edit, and write the IP address of the workstation or server which has the NetHASP key attached. Add the address to the following field:
[NH_TCPIP]
NH_SERVER_ADDR = xx.xx.xx.xx;
- 3. Activate the application.

If this does not solve the problem, see below for further options.

Background:

There are a number of alternative methods to customize TCP/IP communication:

Limit the protocols to UDP Broadcast only:

To set your program to communicate with the NetHASP License Manager with UDP Broadcast only:

1. Copy this specially-edited file to the same directory as your application.
2. Try to activate the application.

UDP with a Specific address:

1. Copy this specially-edited [nethasp.ini](#) file to the same directory as your application.
2. Open the *nethasp.ini* file with any plain-text editor like Notepad or DOS Edit, and write the IP address of the workstation or server which has the NetHASP key attached. Add the address to the following field:

```
. [NH_TCPIP]
. NH_SERVER_ADDR = xx.xx.xx.xx;
```

3. Try to activate the application.

Also Note:

- . DOS-protected programs do not support TCPIP communication. You can use IPX or NetBIOS protocol for communication between the DOS- protected program and the License Manager.
- . You can control which stations can log in to NetHASP LM program with the [nhsrv.ini](#) file, (the NetHASP License Manager configuration file). You can also define the network card, which is supported by the LM program.
- . Please read the [NetHASP FAQ](#) document for more information about NetHASP communication.
- . To read about additional options for connection, read the [about the nethasp.ini](#) document.

Aladdin Support Technote

A USB key that was connected before the driver installation does not work

Problem:

It is recommended to install the driver before connecting USB keys. If, however, you have connected the USB key first, you may encounter problems with the device installation. To solve them do the following:

Solution:

1. Open the Device Manager
2. Double click the HASP entry
3. Click the Driver tab and choose Update Driver
4. Choose "Install from a list..." (you may first need to click Next)
5. Enter the INF folder path ("%winbootdir%\inf" in Win9x, "%systemroot%\inf" in Win2k/XP)
6. Follow the instructions on the screen to finish the installation.

Aladdin Support Technote

Solving common NetHasp problems

Problem:

I am getting an error from my NetHasp protected application and the application does not run. How can I solve the problem?

Cause:

An NetHasp error can occur while working in a network environment. This errors is usually due to the following:

- . 1. New installation that was not configured correctly.
- . 2. Network protocol mismatch or configuration problem.
- . 3. Changes were implemented to a working system. These changes did not reflect on the stations and they are still working with the old NetHasp configuration.
- . 4. Routers/Firewalls blocking the communication between the protected application and the LM.
- . 5. Busy network with a lot of noise, slowing down the communication to the extent that application reaches time-outs and returns an error.
- . 6. Incompatible version of the LM.
- . 7. Two or more LMs are Conflicting due to similar Identities.
- . 8. Hardware problem or conflict, two or more HASP keys are connected and a transparency problem raises.
- . 9. No Hasp is connected to the computer.
- . 10. The content of the HASP key is missing the requested Program Number.
- . 11. Too many users are connected to the HASP, or the user login request exceeds the number of authorized stations running simultaneously, specified in the HASP memory.

Solution:

Error 8- While trying to connect to the LM, the NetHasp protected application reached the default time-out. This problem can occur due to the reasons specified in the cause section in paragraphs 2 and 5. Please refer to the [following technote](#) to solve the problem.

Error 15- This error will appear after the search for the LM was ended without success in locating a LM. This problem can occur due to the reasons specified in the cause section in paragraphs 1,2,3,4 and 5. Please refer to the [following technote](#) to solve the problem.

Error 19- The LM returned this error because it received wrong inputs. This problem can occur due to the reasons specified in the cause section in paragraphs 1 and 3. This error means that there is a Syntax Error in the "**NetHasp.ini**" configuration file. Please download a preconfigured "**NetHasp.ini**" from [Aladdins web site](#) or review the syntax in the your NetHasp.ini file.

Error 129- The request from the LM has arrived to the LM but encountered problems. This problem can occur due to the reasons specified in the cause section in paragraphs 1,3,8 and 9. To solve this problem, please refer to the [following technote](#).

Error 133- The current Login request exceeds the number of stations which may run the application simultaneously. You will have to wait until one of users accessing the LM with the protected application logs off. If there are records of fictitious users logged in the LM, you will need to restart the LM to free the fictitious users. To view the users logged in the LM, use the [Aladdin Monitor](#).

Error 150- No HASP License Manager with the assigned name was found. This error is returned by the "**SetServerByName service**." Make sure that the LM was installed with the correct Server name. If you are not using the "**SetServerByName service**" in your source code, and you are using a "**NetHasp.ini**" file to call the LM by name, please verify that the correct Server name is specified in the configuration file.

Error 151- Two or more different HASP License Managers with the assigned name were found. This error is returned by the SetServerByName service.

If the "**SetServerByName service**" was incorporated within your application source code, there is no way to run two LMs with the same name on the same network with a 100% guarantee that the application will succeed in the login process. Please use both keys (if they do not have the same passwords) on a single LM by daisy chaining the NetHasp's keys, or by combining them into one key by using the FAS with different program numbers (if they do have the same passwords).

If the "**SetServerByName service**" was not incorporated within your application source code and you are using a "**NetHasp.ini**" file to call the LM by name, please change one of the LM's names and configure the application to work with the appropriate LM name.

Error 155 An old version of the License Manager has been found. The API used requires a newer version of the License Manager to be installed.

For Security issues, backwards compatibility was not continued if you incorporated new API functions (from HASP CD 8.1). The new API requires an LM version 8.01 and above. Please upgrade the installed LM. A new LM can be downloaded [here](#).

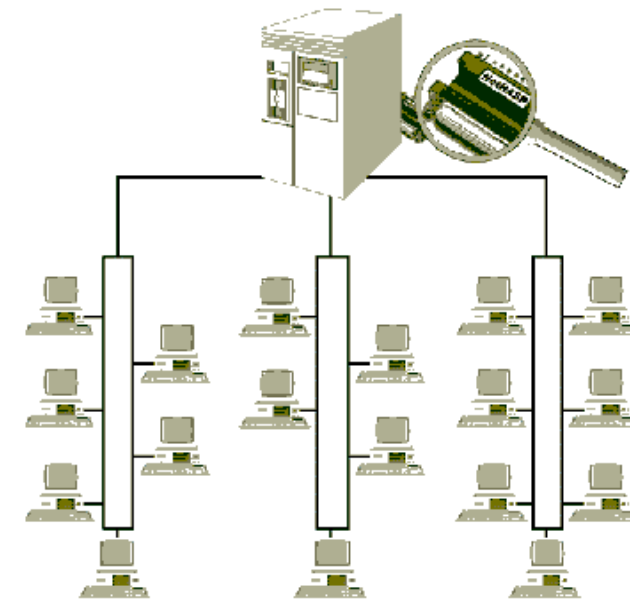
Tip: Create a simple Win32 / Win16 Enveloped application (depending on the type of your application) such as Windows Notepad with the Envelope that you used to protect your application and create another one with the latest Envelope to rule out the possibility that the problem is your application and not the network.

If the error you are encountering was not mentioned in this technote, please refer to the "[NetHasp Status Codes](#)" technote.

NetHASP FAQ

What is NetHASP?

NetHASP is a HASP key designed for networks. Instead of connecting a HASP key to each station, you connect one NetHASP key that serves the entire network (up to 250 stations).



Please refer to the [glossary](#) for any unfamiliar terms.

How do I install an application that is protected with a NetHASP key? To set up a NetHASP protected application, select any PC on the network, connect a NetHASP key, and load the NetHASP License Manager (LM). On Win9x and WinNT, be sure to also install the [HASP Device Driver](#). We recommend you choose the network server, since this is less frequently rebooted, but any PC works just as well. You can find detailed technotes on [NetHASP installation on NT](#), [Win95](#), [Novell Netware](#) and [Win3x](#). Please note that the NetHASP License Manager can be loaded as a service on NT.

What is the NetHASP License Manager? The NetHASP License Manager (LM) is an application that links the protected application with the NetHASP key. To do so, the LM needs to be running on the same machine as the NetHASP key. NetHASP License Managers are [available for download](#) in the following environments: dedicated Novell servers, DOS, Win31, Win95/98, WinNT, and OS/2. One LM can support more than one NetHASP key. We recommend that you connect all your NetHASP keys to one computer, and manage them using one LM.

How does the protected application communicate with the NetHASP key? The communication process is automatic, and runs as follows:

The protected program first checks which network protocols are installed. Then it sends a login request with the protocols that are installed on the station. Depending on the protocol, it will default to IPX with Broadcast Mechanism, UDP with Broadcast Mechanism and

the NetBIOS Protocol.

Once the NetHASP License Manager (LM) receives the login request, it validates it by checking if the correct NetHASP key is connected. Then it makes sure that there is at least one free license remaining for this application, thereby ensuring that the number of authorized activations has not been exceeded.

If the login is validated, the LM records the address of the workstation and the login time into the License Manager Maintenance table, and returns a flag that the operation was successful. If the login was not validated, an error code is returned.

Finally, the protected program on the workstation is allowed to launch.

Which networks are supported by NetHASP? NetHASP supports Windows NT, Novell Netware 3.x, 4.x and 5.x, Windows 95/98 Peer to Peer, Windows 3.11 Peer to Peer, LANtastic, OS/2 Lan Server, 3Com, Banyan Vines, D-Link, DEC Pathworks, Netware Lite, LanManager, and any other network that uses the protocols listed above.

Which protocols does the NetHASP system work with? NetHASP supports the IPX, TCP/IP, and NetBIOS network communication protocols. 1. IPX support covers:
Broadcast: where a message is sent to every workstation on the network.
Novell SAP Bindery: where the application registers in Novell's unique Bindery system.
NetHASP Address Files: targeting the specific address of the LM. See the [detailed IPX technote](#) for further details. 2. TCP/IP support covers:
UDP Broadcast: where a message is sent to every workstation on the network.
TCP/IP: where the IP address of the LM is specified. See the [detailed TCP/IP technote](#) for further details. 3. NetBIOS support covers various types of NetBIOS including Microsoft's NetBEUI. Note that the NetBIOS protocol does not cross segments on its own. See the [detailed NetBIOS technote](#) for further details.

Can I regulate the way a protected application finds the NetHASP key? Yes. Use the file called *nethasp.ini*, which should always be supplied with the protected application. You can use it to limit the number of protocols used, and you can even specify the exact location of the LM. This file is very important in troubleshooting "HASP not found" messages, because sometimes the HASP is not found because the application cannot find the location of the LM. You can find detailed technotes on the use of the *nethasp.ini* in each of the major protocols: [TCP/IP](#), [IPX](#) and [NetBIOS](#).

The program cannot find the NetHASP, and returns "HASP not found". What should I do? There are three main troubleshooting steps: 1. Check that the correct NetHASP key is connected properly, and that the NetHASP License Manager (LM) is running on the same PC. 2. If the LM is running under Win9x or WinNT, make sure the [latest HASP Device Driver](#) is properly installed. 3. Finally, use the *nethasp.ini* file to target the specific address of the NetHASP key. For more details, see the *nethasp.ini* technotes for [IPX](#), [TCP/IP](#) and [NetBIOS](#).

Why would one limit the number of NetHASP protocols used in the nethasp.ini file? If it takes too long for a NetHASP protected application to launch, or if each NetHASP call creates noticeable delays, it is searching through every protocol available. Limiting the protocols reduces the search time, so you can achieve better response times. For the fastest response times, specify the exact location of the LM on the network by changing the *nethasp.ini* file (see below).

How can I see which workstations are logged in to a specific NetHASP key? The

Monitor utility is a program that lists all the LM's on a network, and also shows the addresses and login times of users who logged in to a specific LM. For more details, [download the Monitor](#) and see the [technote on the Monitor Utility](#).

How can the HASP Diagnostics Utility help troubleshoot NetHASP problems? The HASP Diagnostics utility (*haspdiag.exe*) analyses the PC and reports on all HASP and network-related information. Besides checking for the installation of the HASP Device Driver, it also reports on the type of network card installed, the network protocols being used, and shows your address if using TCP/IP. It also provides extra NetBIOS details. For more details, [download HASP Diagnostics utility](#) and see the [technote on the utility](#).

How can I reduce the time it takes to communicate with the NetHASP key? If it takes 20-30 seconds for the protected program to load, you can speed it up by specifying the exact location (network address) of the LM in the *nethasp.ini* configuration file. You can do that with the [TCPIP](#), [IPX](#) or [NetBIOS](#) protocol.

How can I control which users access a NetHASP protected application? The easiest way to limit user access to an application is by installing it in a directory and then grant access to specific users or network groups using the operating system (like NT or Netware). However, you can also use the HASP settings to achieve this effect. To control which workstations have access to the NetHASP License Manager (LM):

With TCPIP: use the *nhsrv.ini* file (the configuration file of the Win32 LM) to list the specific IP addresses that you would like to access the NetHASP. You can also specify the adapter(s) to which the server listens, so if you have two network cards you can choose to work with just one of them.

With IPX: use the address (DAT) files instead of the Broadcast mechanism, to specify the address of the LM. Then distribute these address files only to users who should access the application. For complete instructions, see [the technote on address-based IPX communication](#).

With NetBIOS: use the NBNAME switch while loading the LM. For complete instructions, see the [technote on targeted NetBIOS communication](#).

Is it possible to connect two identical NetHASP keys from the same vendor to one PC? If you have two identical NetHASP keys both from the same vendor, you should ask your vendor either to replace them with one NetHASP key. You can identify a vendor's key with their unique "developer code", made of up to five characters (like KYJZ) and found on the bottom left hand corner of the NetHASP's label.

I have a Macintosh computer which is running a PC emulator. Can I run a PC program protected with NetHASP from my Macintosh? Yes. A PC application protected with NetHASP will run on a Mac with PC emulation, so long as the NetHASP and LM are located on another PC in the network. You cannot use a Net-MachASP key or a Mac License Manager to enforce protection on a PC application.

NetHasp Status Codes Table

- 0** Operation successful.
- 1** The IPX, NetBIOS, or TCP/IP protocols have not been installed properly - act accordingly.
- 2** Communication error - unable to get the socket number (applies to IPX and TCP/IP). Verify that the protocol is installed properly.
- 3** Communication error. NetBIOS - unable to establish the session. IPX - unable to get the immediate address of the HASP License Manager. Verify that the protocol is installed properly. TCP/IP - unable to connect to the server. Verify that the server address is correct.
- 4** No HASP License Manager was found. Check whether your application has a path to the address file and read permission.
- 5** Cannot read the HASP License Manager address file.
- 6** Cannot close the HASP License Manager address file.
- 7** Communication error - failed to send packet. Verify that the protocol is installed properly.
- 8** The network is busy. IPX - the network is busy or incorrect address files were found. In the latter case, delete all copies of the **"haspaddr.dat"** and **"newhaddr.dat"** files.
- 10** You called the hasp() routine with one of the services, without first calling the Login service.
- 11** Communication error - adapter error (applies only to NetBIOS). Verify that the protocol is properly installed.
- 15** No active HASP License Manager was found.
- 18** Cannot perform a HASP4 Net login because of an unsuccessful SetServerByName call.
- 19** Syntax error in the configuration file. The LastStatus service returns the line number in which the error occurred in Par2. If LastStatus returns 0 in Par2, there is an environment variable with an illegal setting.
- 20** Error handling the HASP4 Net configuration file. A file operation such as "open file" or "read file" failed. One possible reason could be that the system is out of file handles. The LastStatus service returns the OS system error code in Par2.

- 21** HASP4 Net did not succeed in allocating memory. This error is unique to HASP4 Net interfaces under DOS extenders and Windows. Try to free DOS memory.
- 22** HASP4 Net did not succeed in freeing DOS memory. This error is unique to HASP4 Net interfaces under DOS extenders and Windows.
- 23** Invalid HASP4 Net memory address.
- 25** Failed to load winsock.dll (applies only to TCP/IP and IPX).
- 26** Failed to unload winsock.dll (applies only to TCP/IP and IPX).
- 28** Winsock.dll startup error (applies only to TCP/IP and IPX).
- 30** Failed to close socket (applies only to TCP/IP).
- 33** SetProtocol service requested without performing logout.
- 34** Access to key prohibited because the application is running on Citrix Winframe or Windows Terminal Server (service pack 4+ required to detect if this is running on the console screen).
- 129** The correct HASP4 Net is not connected to the HASP License Manager.
- 130** The program number specified is not in the program list of the HASP4 Net memory.
- 131** Error reading from HASP4 Net memory.
- 132** Error writing to HASP4 Net memory.
- 133** The current Login request exceeds the number of stations which may run the application at the same time.
- 134** The current login request exceeds the number of authorized activations for the application.
- 135** You called the hasp() routine with the Logout service without first calling the Login service.
- 136** The HASP License Manager is busy - this may occur if your HASP4 Net system is not well adapted to the network.
- 137** There is no space in the HASP4 Net log table.
- 138** Internal HASP4 Net error - the number of licensed stations is larger than the maximum number allowed by the HASP4 Net model.
- 139** The computer with the HASP4 Net crashed and was reactivated, or you called the hasp() routine with a service (not including 40, 85, or 96)

without first calling the login service.

140 The HASP License Manager does not serve the network of your station.

141 Invalid service, or new version of the HASP API is communicating with an older version of the HASP License Manager.

142 The HASP License Manager matching the name specified in the HASP4 Net configuration file was not found.

150 No HASP License Manager with the assigned name was found. This error is returned by the SetServerByName service.

151 Two or more different HASP License Managers with the assigned name were found. This error is returned by the SetServerByName service.

152 The encode operation failed because the hardware does not support the service.

153 The decode operation failed because the hardware does not support the service.

155 An old version of the License Manager has been found. The API used requires a newer version of the License Manager to be installed.

Glossary of HASP Terminology

Activations - The number of times a HASP protected application can be started.

Address File Search Method - A method of searching through a network using an address file to find the NetHASP License Manager. Any NetHASP protected application must find the NetHASP License Manager to perform a login.

Aladdin DiagnostiX Utility - A secure tool that can be given to end-users to check all the information in your system related to HASP. It can serve the Vendor's technical support team as well as the End-User.

Bindery Search Method - A method of searching through a network using the Novell Netware bindery to find the NetHASP License Manager. Any NetHASP protected application must find the NetHASP License Manager to perform a login.

Broadcast - A method of communicating across a network by sending (broadcasting) messages to every workstation. When transmitting messages, you either target a specific computer as the destination, or you broadcast the same message to all network workstations.

Broadcast Search Method - By default, all protected applications search through a network to find the NetHASP License Manager using Broadcast. Any NetHASP protected application must find the NetHASP License Manager to perform a login.

Daisy-Chaining - The connecting of several HASP keys one behind the other.

End User - A person / company that has purchased a HASP-protected application from a Vendor.

Expiry Date - The date after which the protected application can no longer run.

HASP Envelope - An automatic tool, protects EXE, DLL and OCX files. Encrypts the protected application and add to it strong anti-debugging features.

HASP Device Driver - A driver that interfaces between protected applications and the HASP key. It must be installed on the PC which has the HASP key connected. To install it, run the [driver installation program](#) (*hdd32.exe*). For further details, see the [HASP Device Driver FAQ](#).

HASP Diagnostics Utility (obsolete) - See 'Aladdin DiagnostiX Utility'

HASP Key - A 25-pin hardware device that must be connected to the PC for a protected application to run successfully. The standard HASP fits into the parallel port, although there are several variants, including HASP USB, MacHASP and others.

HASP-Protected Program - An application that requires the presence of a HASP key (local or NetHASP) to function properly.

HASP USB - A local HASP or NetHASP key that connects to a USB port (Universal

Serial Bus).

HASP4 M1/M4 - A white HASP key for stand-alone use, containing an ASIC chip and up to 496 bytes of internal read/write memory.

HASP4 Net - A red HASP key designed to control use of protected applications that run in PC-based network environments. NetHASP keys contain an ASIC chip as well as 496 bytes of internal read/write memory.

HASP4 Time - A blue HASP key containing an ASIC chip, an internal real-time clock, and up to 512 bytes of internal memory.

haspdiag.exe (obsolete) - See "Aladdin DiagnostiX Utility".

HaspEdit - A utility that allows the vendor to manage his HASP keys by reading, writing and saving the key's memory. Among other things, it can create an executable that program keys and Encode / Decode files and strings.

Hinstall - A commandline application that installs the [HASP Device Driver](#).

Licenses - See "NetHASP Licenses".

License Manager - See "NetHASP License Manager".

LM - See "NetHASP License Manager".

Login - See "NetHASP Login".

MachASP - An old generation of HASP key for Macintosh that connects to the ADB port or to the USB one. The network version of this key is called Net-MachASP. The new generation of keys (HASP4) is cross platform and can be used on Windows, Macintosh or Linux.

MemoHASP - see "HASP4 M1/M4"

Monitor - See "NetHASP Monitor".

NetHASP - See "HASP4 Net"

NetHASP Automatic Search - The default method by which the NetHASP protected application searches for the NetHASP License Manager.

Nethasp.ini - The NetHASP configuration file for the protected application. It contains settings for the fine-tuning of NetHASP behavior on the network.

NetHASP Configuration File Wizard (obsolete) - A step-by-step guide that helps you create or edit the *Nethasp.ini* file.

NetHASP Custom Search - A customized method by which the NetHASP client searches for the NetHASP License Manager.

NetHASP Licenses - The number of stations that can run a protected application at

the same time.

NetHASP License Manager - A network application that monitors all simultaneous activations of NetHASP-protected programs. It ensures that the number of activations for each application does not exceed the allowed maximum. You must run the NetHASP License Manager on the same PC where the NetHASP is connected.

NetHASP Login - A protected application must first login to the NetHASP License Manager before any other communication can take place.

NetHASP Monitor - A tool used to track the use of NetHASP-protected applications on a network. (*monitor.exe*)

Net-MacHASP - An old HASP key that is designed to control use of protected applications that run on a Macintosh network environment. The new generation of keys (HASP4) is cross platform and can be used on Windows, Macintosh or Linux.

Nhsrv.ini - The configuration file for the NetHASP License Manager. It contains settings for the fine-tuning of the NetHASP License Manager.

NT Service - A type of executable for WinNT4/2000/XP that can run between login sessions. Usually programs cannot start before login, and they must terminate at logout. In contrast, services remain active throughout multiple login sessions.

Packet - Small individually wrapped packages of information that computers send over networks to communicate. Each packet is wrapped with the source and destination addresses so that it can be tracked if it is not successfully delivered.

PC-CardHASP - A PCMCIA form of the HASP key made for PCMCIA slots commonly found on laptop PCs.

RUS - "Remote Update System". A HASP system, which allows the vendor to update the HASP key remotely in a secure way. RUS is available on Win32 (API), DOS (applications) and Mac (API).

Service - See "NT Service".

TimeHASP - See "HASP4 Time".

Timeout Length - The amount of time (in seconds) a protected application attempts to perform a NetHASP login or to send or receive a packet before returning an error.

USB - See "HASP USB".

Vendor - A person or company that develops software and protects it with HASP, so they can sell it to a HASP end-user.