NETOP MOBILE AND EMBEDDED HOST USER'S GUIDE

NETOP®

RemoteControl

Secure Remote Management and Support

31 January 2017

NETOP

RemoteControl

Contents

1 Introduction

Netop Mobile & Embedded comprises Netop's solutions for mobile computers and mobile technology computers embedded in equipment.

Netop Mobile includes two modules:

- **Netop Host**: Enables the mobile device to be remote controlled and interacted with in other ways from a computer or device running Netop Mobile Guest.
- **Netop Guest**: Enables the mobile device to remote control and interact with a computer running a Netop Host or extended Host or Netop Host .

1.1 Document Scope

This guide provides information on how to use the Netop Host app for use on mobile and embedded devices to be remote controlled and interacted with in other ways from a computer running Netop Guest.

1.2 Technical Specifications

For information on the supported operating system and technical specification, see the Netop Knowledgebase.

2 Using the Netop Host

A newly installed Netop Host will use the default configuration. If Netop Host Manager is available on a desktop computer, the mobile device user can change the Host configuration.

The mobile device user will have access to the options on the Netop Host display.

However, the Netop Host can also be run in stealth mode. The mobile device user will then have no access to the options. The user of a stealth mode Netop Host can request help by a help request hotkey.

With regards to security, the Netop Host has two options:

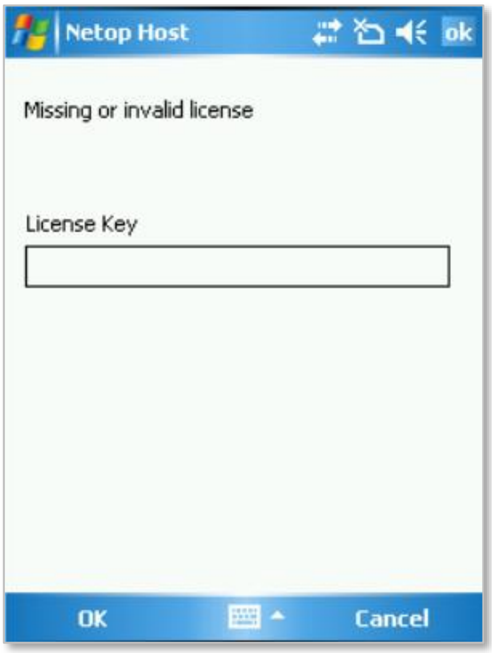
- **Guest Access Security**. You can configure the Netop Host to locally authenticate connecting Netop Guests by a mobile device system password or a configured Netop password and assign a locally stored role specifying which actions will be allowed to all connecting Netop Guests.
  If Netop Security Management is available on the network, you can configure the Netop Host to use it to centrally authenticate and assign individual roles to connecting Netop Guests.
- **Logging**. You can configure the Netop Host to log selected Netop events locally, in Netop Security Management and by Window Message.

Note: Netop Security Management belongs to the Netop Remote Control product family.

2.1 Loading the Netop Host for the first time

To open the Netop Host on the mobile device, tap **Start** > **Programs** > **Netop Host**.

When opening the Netop Host for the first time, you will be asked to enter the license key:



Missing or invalid license

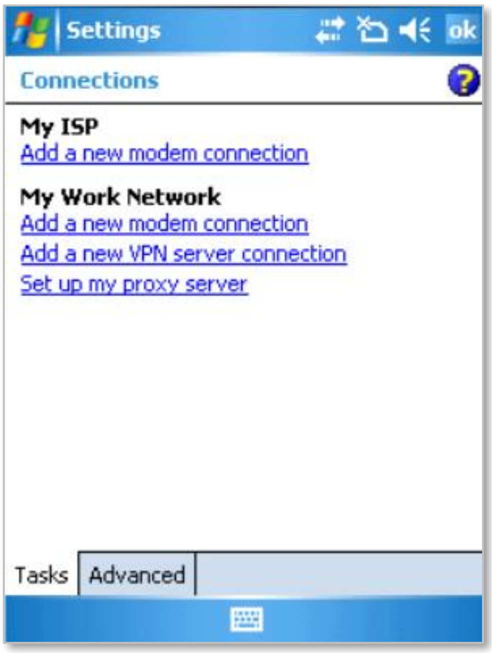
License Key

Specify your Netop Host license number and tap **OK**. The Netop Host will display.

Before the mobile device can communicate via MS Connection Manager, you need to configure how it should connect. See Setting up the Dial-up connection.

2.2 Setting up the Dial-up connection

The dial-up feature of Netop Mobile uses the built-in Connection Manager to establish a dial-up connection. However, the Connection Manager also handles WIFI and VPN connections.



Settings ok

Connections

My ISP

Add a new modem connection

My Work Network

Add a new modem connection

Add a new VPN server connection

Set up my proxy server

Tasks | Advanced

To display the Connection Manager, tap **Start** and select **Settings**.

In Settings, choose the **Connections** tab and then tap the **Connections** icon.

Every Windows Mobile device uses two standard connections called My ISP and My Work Network by default.

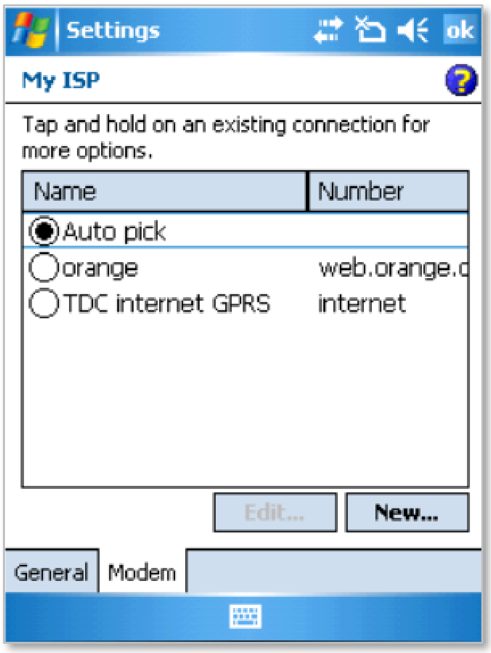
Each of these can be, in principle at least, any type of connection to an IP network – modem, Wi-Fi, IR, Bluetooth or VPN. In practice, however, the My ISP usually connects to the Internet via a modem, Wi-Fi, and so on, and the My Work Network is usually a VPN connection. The reason for this is that a VPN connection does not include any specification for a physical way of connecting to anything. It assumes that there is already a routable Internet connection to the VPN server that you specify and simply uses this to construct a secure "pipe" through the Internet to your private network.

To configure the Connection Manager for dial-up connection, please refer to the documentation that came with your device or consult your ISP or Tech Support depending on whether you are setting up an Internet connection or a VPN connection.

To configure the Netop Host for dial-up connection, use the Netop Mobile Host Manager. For information on how to perform this, see Configure Netop Host dial-up.

2.3 Changing the connection type

If you would like Netop Host to use another connection, set the dial-up setting **Name** to the preferred name, for example orange.



Settings ok

My ISP

Tap and hold on an existing connection for more options.

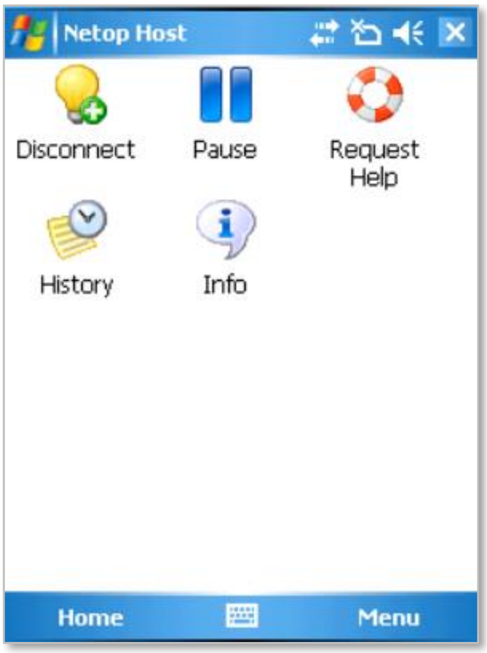
Name	Number
● Auto pick	
○ orange	web.orange.d
○ TDC internet GPRS	internet

Edit... New...

General | Modem

2.4 Netop Host Display

This is the mobile device Netop Host display:



If the Netop Host is loaded, this display will typically open when you start the mobile device.

In these cases, the Netop Host display will not be open:

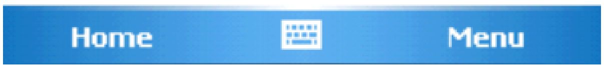
- If it has been hidden.
- If the General branch **Startup** parameter **Load at Boot** attribute has been disabled in the Netop Host Manager.
  To display the Netop Host in these cases, tap **Start** > **Netop Host** or **Start** > **Programs** > **Netop Host**.
- If the Netop Host has been configured to run in stealth mode. See Reconfiguring the Netop Host.

The Host is organized into tabs, shown at the top.

Running	Indicates the Host communication status. If Host communication is enabled, the bulb is yellow with the label Running. If Host communication is disabled, the bulb is gray with the label Paused or in transition Opening or Closing. If a Netop Guest is connected, the bulb is yellow with a green dot with a white + (plus) and the label Connected.
Pause	Enables/disables the Host communication. If Host communication is enabled, the icon shows two vertical blue bars and the label Pause. If Host communication is disabled, the icon shows a blue triangle pointing to the right and the label Run. **Note**: Disabling Host communication will disconnect the Netop Guest.
Request Help	Allows you to request help from a Netop Guest. By default, one life belt icon with the label Request Help is displayed. If multiple help request options have been configured in the Help request parameters in the Netop Mobile Host Manager, multiple life belt icons with different labels will be displayed. Tap a life belt icon to request help. While connecting to the help provider Netop Guest, the label will be Opening. When the help request has been delivered, the life belt icon will display a red X and the label Cancel Help. Tap this icon to cancel the help request. When the help provider Netop Guest connects in response to the help request, the life belt icon will become disabled. On disconnect, the help request icon will be enabled again

History	Shows the list of Netop Guest connected / disconnected events since the Netop Host was last started. To return to the Home display, tap the **Home** icon at the top of the display or the **Home** button on the menu bar.
Info	Displays Netop Host information: the name, IP address, regional settings language and possibly other details. To return to the Home display, tap the **Home** icon at the top of the display or the **Home** button on the menu bar. **Note**: The displayed Netop Host name and IP address will be enabled only if the Host communication status is Running or Connected.

This is the Netop Host display menu bar:



If the History or Info display is open, tap **Home** to return to the Home display.

Tap **Menu** to display the Host menu, which provides access to exiting and restarting the Host, viewing About information and tracing.

You must typically restart Netop Host to apply Netop Host Manager configuration changes.

You can save a debug trace by tapping the **Trace** command. Recent communication events will be saved to the **netophost.txt** in the mobile device root directory in plain text. The file may be requested by Netop support to diagnose communication problems. Its interpretation requires Netop expertise.

2.5 Netop Host Default Connectivity Configuration

In the default configuration, these communication profiles will be enabled:

- **WebConnect**. A configuration based on a Netop proprietary communication device that enables Netop modules to connect easily over the Internet through a Netop connection service called WebConnect without the need to open firewalls for incoming traffic.
- **TCP/IP**. A standard configuration of the TCP/IP communication device.
- **TCP**. A standard configuration of the TCP/IP (TCP) communication device.

The following other communication profiles will be available but disabled:

- **HTTP**. An "HTTP encapsulated" configuration of the TCP/IP (TCP) communication device to facilitate communication through firewalls.

Note: You may want to modify these standard communication profiles and/or add communication profiles customized to your network environment in Netop Host Manager.

If the mobile device is connected to an IP network, the Netop Guest can connect to the Netop Host directly or alternatively, the end user can request help to initiate a session with the Netop Guest.

Remote sessions can also be initiated and established through ActiveSync when the mobile device is docked.

2.6 Requesting help from a Guest offering help services

If configured in a the Help request parameters in Netop Mobile Host Manager, the Netop Host user can request help from a Netop Guest that offers help services by:

- tapping the icon panel **Request Help** icon.
- keying the **Request** parameter specified hotkey.

The Netop Guest user will typically respond by starting a remote control session.

You can configure a Request parameter for these alternative functionalities:

- On ActiveSync connection to a desktop computer, Netop Host will request help from a specified Netop Guest help service to enable this Netop Guest only to connect.
- On ActiveSync connection to a desktop computer, Netop Host will connect to a specified Netop Gateway to enable different Netop Guests to connect to it.

Warning: Enabling multiple Guests to connect to Netop Host entails security hazards.

2.7 Controlling sessions

A Netop Guest can connect to the Netop Host to run the following types of sessions:

2.7.1 Remote Control

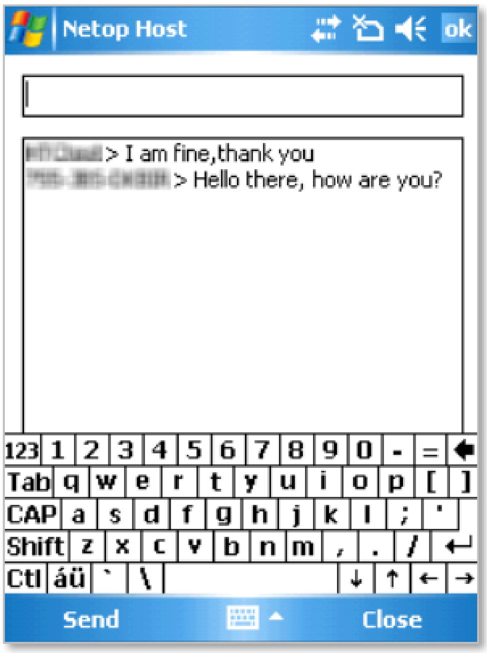
Netop Guest will display a skin, i.e. an image of the mobile device display, to typically enable the Netop Guest user to work in it with keyboard and mouse. See also the Netop Remote Control User's Guide for further information on skins. The Netop Host user can control a remote control session only by configuring selected actions to be denied. See Configure security roles.

2.7.2 File Transfer

Netop Guest will display mobile device directories and files to transfer directories and files between the mobile device and the Netop Guest computer. Netop Host can control a file transfer session only by configuring selected actions to be denied. See Configure security roles.

2.7.3 Chat

When a Netop Guest initiates a chat session with the Netop Host the Chat display will be shown:



[redacted] > I am fine,thank you
[redacted] > Hello there, how are you?

In the field at the top, enter your message. To send the message tap **Send** on the menu bar.

The pane below the field at the top will display the chat dialog with later contributions above earlier contributions.

Your messages will be preceded by the Netop Host name. Netop Guest user messages will be preceded by **root** if System Authentication is applied or by the Netop Guest name if Netop Authentication or Security Server Authentication is applied.

To end a chat session, tap **OK** on the title bar at the top or **Close** on the menu. The Netop Guest user can also end the chat session.

2.8 Configuring the Netop Host

A newly installed Netop Host will use the default configuration.

You can customize the configuration from Netop Mobile Host Manager on a desktop computer. You can install a customized configuration by connecting the mobile device to the desktop computer by Microsoft ActiveSync. Alternatively, you can copy the **netophost.xml** file created by Netop Mobile Host Manager to the Netop Host directory of the mobile device.

Note: To apply configuration changes, you must restart the Netop Host.

For detailed information on how to configure teh Netop Host using the Netop Mobile Host Manager, see Using the Netop Mobile Host Manager.

2.9 Reconfiguring the Netop Host

This section addresses to administrators who have extensive C++ knowledge.

Administrators will typically install and configure Netop Host s to ensure protection of organizational resources.

You can reconfigure Netop Host by creating a configuration .xml file in Netop Mobile Host Manager and install it on a mobile device connected by ActiveSync or copy it to the Netop Host files on the mobile device. To apply configuration changes, restart Netop Host by tapping **Restart** on the Netop Host display Menu.

Windows mobile technology does not enable full configuration protection. To discourage configuration changes by the mobile device user, run Netop Host in stealth mode to disable displaying the Netop Host display.

To run Netop Host in stealth mode, add this key to the mobile device registry:

```
Local Device\HKEY_CURRENT_USER\Software\Netop\NetopHost\View\Stealth=1
```

Note: Windows mobile registry editor utilities are available for download from the Internet.

2.9.1 Modifing the Netop Host user interface text

You can modify Netop Host user interface text, typically translate it into another language, by adding stringtable files to the Netop Host directory of the mobile device.

Netop Host stringtable files specify modifications by contents in the following format:

```
<?xml version="1.0" encoding="utf-8"?>

<stringtable>

<string hint="<Original string 1>" value="<New string 1>"/>

<string hint="<Original string 2>" value="<New string 2>"/>

<string hint="<Original string 3>" value="<New string 3>"/>

.

.

<string hint="<Original string n>" value="<New string n>"/>

</stringtable>
```

`<Original string x>` represents an original string of characters.

`<New string x>` represents the modified string of characters.

Name a Netop Host stringtable file **STHOST_<Language code>.XML** using a Windows three- or two-letter language code, e.g. STHOST_GER.XML, to apply it by the regional settings of the mobile device which are indicated in the Language detail of the Info display.

Name a Netop Host stringtable file **STHOSTCE.XML** to apply it regardless of the regional settings of the mobile device.

Note: An applicable three-letter language code stringtable file will have priority over an Netop Host applicable two-letter language code stringtable file which will have priority over a CE stringtable file.

2.9.2 Controlling Netop Host by WM_COPYDATA messages

The **Logging to window messaging** parameter from the Netop Mobile Host Manager > Logging branch enables data exchange with other mobile device applications by WM_COPYDATA messages. For more information on WM_COPYDATA messages, see Microsoft documentation.

WM_COPYDATA messages enable controlling the Netop Host user interface from the user interface of another mobile device application, e.g. your own mobile device application.

This is the COPYDATASTRUCT structure of Netop Host WM_COPYDATA messages:

```
typedef struct _ExtMess

{

char pass[32]; (Max 31 UTF-8 characters that identify the message as a Netop Host  WM_COPYDATA message - NULL terminated)

int cmd; (4 bytes outgoing command or event number)

char text[1]; (Unlimited number of optional encoding characters that provide arguments to the command or event - NULL terminated)

}

ExtMess;
```

Note: To enable Netop Host to exchange WM_COPYDATA messages, you must set up the Logging branch.

You can send WM_COPYDATA messages to Netop Host to execute these commands:

Number	Command	Effect
0	`WP_TEST`	The Netop Host will return a ChatMessage event if this command is received successfully.
1	`WP_EXIT`	Exit the Netop Host as specified in a command argument (no argument: immediately).
2	`WP_EXIT_NOW`	Exit the Netop Host immediately.
3	`WP_EXIT_ON_IDLE`	Exit the Netop Host when unconnected.
4	`WP_PAUSE`	Disable Netop Host communication.

Number	Command	Effect
5	`WP_START`	Enable Netop Host communication.
6	`WP_RESTART`	Disable and enable Netop Host communication.
7	`WP_SEND_CHATMSG`	Send the chat contribution specified in a command argument from the Netop Host.
8	`WP_HIDE`	Hide the Netop Host user interface.
9	`WP_SHOW`	Display the Netop Host user interface if hidden.
10	`WP_REQUEST_HELP`	Request help from the Netop Host.
11	`WP_CANCEL_HELP`	Cancel a pending Netop Host help request.

Example

This code example is provided without guarantee or support to assist you in creating your own code:

```
void CDialogSubclass::OnBnClickedButtonSend()

{

HWND hWnd = ::FindWindow(NULL, L"NetopHost");

COPYDATASTRUCT copydata;

ExtMess *extmess;

BOOL used;

int n;

if (!hWnd)

{

AfxMessageBox(L"No NetopHost running");

return;

}

UpdateData(TRUE);

n = 256; (32 bytes pass, 4 bytes command, 220 bytes left for text)

extmess = (ExtMess*)malloc(n);

if (!extmess)

{

AfxMessageBox(L"Out of memory");

return;

}

memset(extmess, 0, n);
```

This code fills in the CMD field with the selection from the combo box:

```
DWORD wparam = m_combo_cmd_ctrl.GetCurSel();

extmess->cmd = wparam;
```

This code converts the text from the upper edit field to ANSI and sends it as pass:

```
WideCharToMultiByte(CP_ACP, 0, m_edit_pass.GetBuffer(1), -1, extmess->pass,
32, "?", &used);
```

This code converts the text from the lower edit field to ANSI and sends it as text:

```
WideCharToMultiByte(CP_ACP, 0, m_edit_txt.GetBuffer(1), -1, extmess->text,
220, "?", &used);
```

This code fills in the COPYDATASTRUCT and sends the command to the Netop Mobile Host. The same value is also stored in the ((ExtMess*)copydata.lpData)->cmd member:

```
copydata.dwData = wparam;

copydata.cbData = n;

copydata.lpData = extmess;

::SendMessage(hWnd, WM_COPYDATA, (WPARAM)this->m_hWnd, (LPARAM)©data);

free(extmess);

}
```

Netop Host can detect these events and return WM_COPYDATA messages:

Number	Event	Description
145	Starthost	The Netop Host enabled communication.
146	Stophost	The Netop Host disabled communication.
147	RequestHelp	The Netop Host requested help.
148	CancelHelp	The Netop Host canceled a pending help request.
149	StartSession	A session with the Netop Host was started.
150	StopSession	A session with the Netop Host was stopped.
151	PasswordRejected	The Netop Host rejected a wrong Guest access password.
152	LoginRejected	The Netop Host rejected a Guest logon attempt.
152	LoginRejected	The Netop Host rejected a Guest logon attempt.
153	ConfirmAccessDenied	The Netop Host denied Guest access.
154	HostTimeout	A Guest connect attempt to the Netop Host timed out.
155	StartRc	A remote control session with the Netop Host started.
156	StopRc	A remote control session with the Netop Host stopped.
157	StartChat	A chat session with the Netop Host started.
158	StopChat	A chat session with the Netop Host stopped.
159	StartNfm	A file transfer session with the Netop Host started.
160	StopNfm	A file transfer session with the Netop Host stopped.
161	SendFile	A file transfer session sent a file to the Netop Host.
162	RecvFile	A file transfer session received a file from the Netop Host.
185	RequestHelpPending	A Netop Host help request was acknowledged.
186	RequestHelpNoConnect	A Netop Host help request did not connect to any help provider.

Number	Event	Description
187	RequestHelpNoAnswer	A Netop Host help request help connected to a help provider that did not acknowledge.
188	ChatMessage	The Netop Host received or sent a chat message specified in an argument.
189	Message_Displayed	The Netop Host displayed a Netop message specified in an argument.

Example:

This code example is provided without guarantee or support to assist you in creating your own code:

```
LRESULT CDialogSubclass::WindowProc(UINT message, WPARAM wParam,
LPARAMlParam)
{
switch(message)
{
case WM_COPYDATA:
{
COPYDATASTRUCT *pcds = (COPYDATASTRUCT*)lParam;
ExtMess* extmess = pcds ? (ExtMess*)pcds->lpData : NULL;
bool passok = false;
char *text = NULL;
if (!extmess)
{
m_list_in_ctrl.InsertString(0, L"NULL message");
}
else
{
char ctxt[256];
WCHAR wtxt[256];
```

This code is not a strong password check but only a filter for mistakes if (!strcmp(extmess->pass, "mypass")):

```
{
passok = true;
}
```

This code is a very simple buffer overflow guard which assumes that the rest takes max. 64 bytes of ctxt:

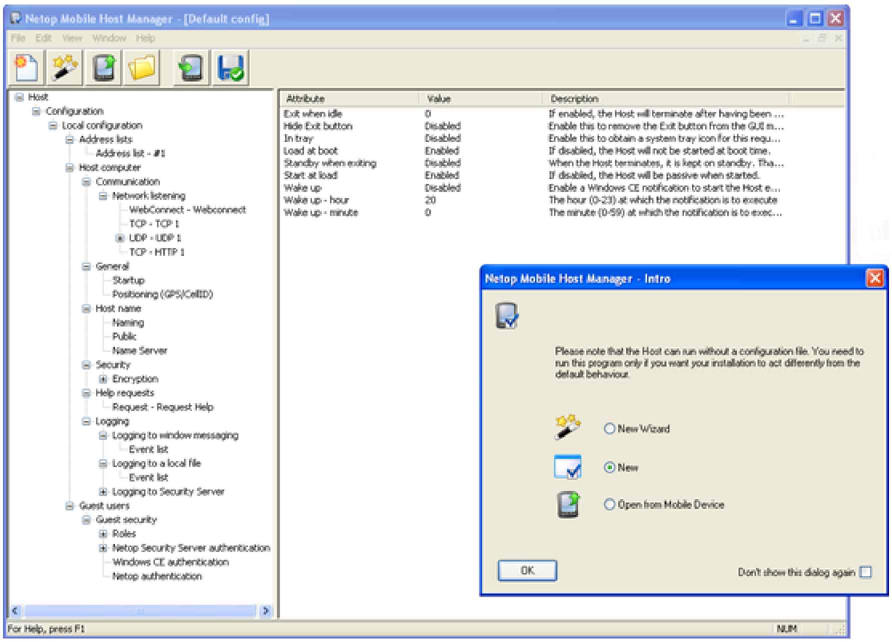
```
text = extmess->text;
if (strlen(text) > 256 - 64) text = "overflow";
```

```
sprintf(ctxt, "%s %d %s %s", passok ? "Ok": "!!", extmess->cmd,

extmess->pass, extmess->text);

MultiByteToWideChar(CP_ACP, 0, ctxt, -1, wtxt, 256);

m_list_in_ctrl.InsertString(0, wtxt);

}

}

return TRUE;

default: break;

}

return CDialog::WindowProc(message, wParam, lParam);

}
```

Note: Example C++ code for Windows Mobile 5 is included in the **exevent2.zip** file which is included with Netop Host installation files.

3 Using the Netop Mobile Host Manager

Open the Netop Mobile Host Manager by clicking **Start** > **All Programs** > **Netop Mobile Host Manager**. The Intro window will be displayed:



Attribute	Value	Description
Exit when idle	0	If enabled, the Host will terminate after having been ...
Hide Exit button	Disabled	Enable this to remove the Exit button from the GUI in...
In tray	Disabled	Enable this to obtain a system tray icon for this requ...
Load at boot	Enabled	If disabled, the Host will not be started at boot time.
Standby when exiting	Disabled	When the Host terminates, it is kept on standby. Tha...
Start at load	Enabled	If disabled, the Host will be passive when started.
Wake up	Disabled	Enable a Windows CE notification to start the Host e...
Wake up - hour	20	The hour (0-23) at which the notification is to execute
Wake up - minute	0	The minute (0-59) at which the notification is to exec...

Netop Mobile Host Manager - Intro

Please note that the Host can run without a configuration file. You need to run this program only if you want your installation to act differently from the default behaviour.

○ New Wizard

● New

○ Open from Mobile Device

OK

Don't show this dialog again □

If you do not want to see the Intro window again, you can hide it using the Intro option on the View menu or by selecting **Don't show this dialog again** check box at the bottom of the Intro window.

Select one of these options:

- **New Wizard**: Customize a few essential configuration parameters in the configuration wizard before displaying the configuration in the configuration panel of the Netop Mobile Host Manager window (default selection).
- **New**: Start a new default configuration in the configuration panel of the Netop Mobile Host Manager window.
- **Open from Mobile Device**: Display any customized configuration of Netop Host on a mobile device connected to the desktop computer by ActiveSync in the configuration panel of the Netop Mobile Host Manager window.

Note: For initial configuration, we recommend selecting the New Wizard option.

3.1.1 Netop Mobile Host Manager Display

The Netop Mobile Host Manger display is organized in a menu bar, toolbar and a configuration panel.

3.1.1.1 Menu bar

The menu bar contains menus that provide access to various commands that you can use to create and customize Host configurations.

When you open a menu and point to a command, an explanation of the command will be displayed in the status bar at the bottom of the window.

From the **File** menu you can open, save and close configurations or start the configuration wizard to be guided through modification of the default configuration. Most of the File menu commands are also available from the toolbar.

From the **Edit** menu you can create new configuration panel elements or delete them. The same commands are available from the context menus of configuration panel elements.

The commands of the rest of the menus are standard menu commands that users will be familiar with.

3.1.1.2 Toolbar

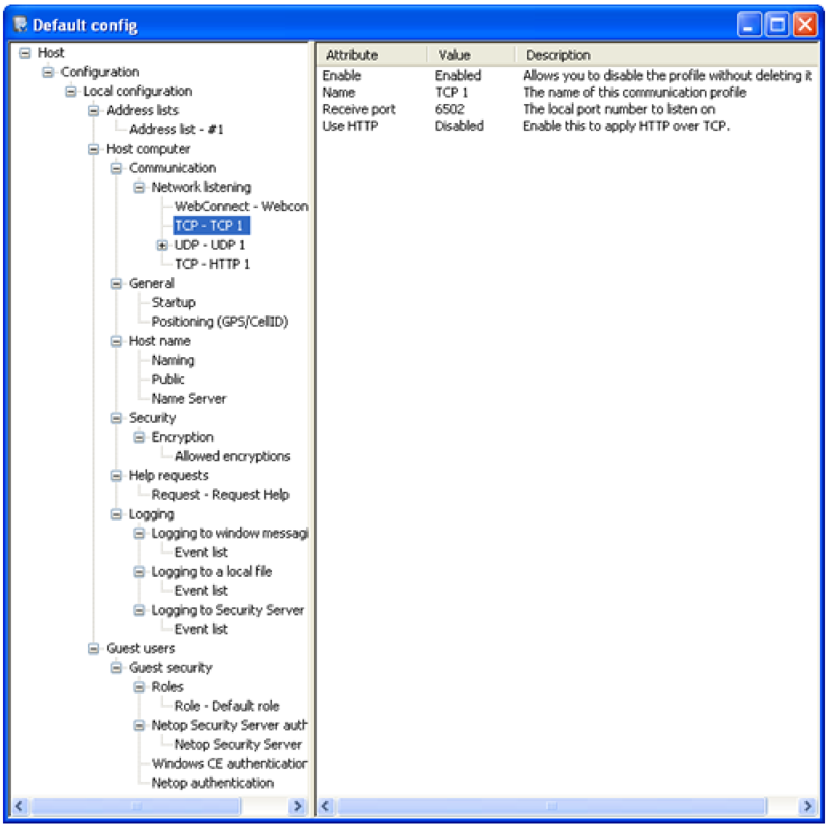
	Create a new default configuration: Click this button to open the **Default Configuration** window the configuration panel or make it the active window if already open. Alternatively, select the **New** command on the **File** menu or press **CTRL+N**.
	Create a new configuration using a wizard dialog: Click this button to display the configuration wizard. Alternatively, select the **New Wizard** command on the **File** menu or press **CTRL+W**.
	Open the configuration in effect on the mobile device: Click this button to open a **Mobile Device** window in the configuration panel, if a mobile device using a customized Netop Mobile Host configuration is connected to the desktop computer byActiveSync. Alternatively, select the **Open from Mobile Device** command on the **File** menu.
	Open a configuration from an existing local disk file: Click this button to open a customized configuration file (.xml) in the configuration panel. Alternatively, select the **Open** command on the **File** menu or press **CTRL+O**.
	Make the configuration effective on the mobile device: Click this button to save the active configuration displayed in the configuration panel as a NetopHost.xml configuration file in the Netop Host directory of a mobile device connected to the desktop computer by ActiveSync. Alternatively, select the **Save to Mobile Device** command on the **File** menu.
	Save the active configuration to a file with a new name: Click this button to save the active configuration in the configuration panel if the configuration has previously been saved in a desktop computer configuration file. Alternatively, select the **Save** command on the **File** menu or press **CTRL+S**. Otherwise select the **Save As** command on the **File** menu to save with a specified file name in a selected desktop computer directory.

The toolbar will be displayed unless hidden from the **Toolbar** command on the **View** menu.

3.1.1.3 Configuration panel

The configuration panel of the Netop Mobile Host Manager window displays configurations that you have opened from the Netop Mobile Host Manager Intro window, the File menu, or the toolbar.

Each window specifies a Host configuration in a parameter tree structure in the left pane. Parameters are organized in branches. This image shows the configuration panel with a fully expanded parameter tree structure:



Attribute	Value	Description
Enable	Enabled	Allows you to disable the profile without deleting it
Name	TCP 1	The name of this communication profile
Receive port	6502	The local port number to listen on
Use HTTP	Disabled	Enable this to apply HTTP over TCP.

3.1.2 Creating Address Lists

To create address lists use the Address lists branch parameters and specify computer addresses.

Note: Address list parameters can specify computer addresses, while Broadcast list parameters can specify Address list parameters.

3.1.3 Configuring Netop Host except authentication parameters

The **Host computer** branch specifies Host configuration used when the Guest logs on to the Host, except authentication parameters.

This includes Communication, General, Host name, Security, Help request, and Logging attributes.

3.1.3.1 Configure Communication

Netop modules and apps communicate by communication profiles.

Communication profiles are named configurations of communication devices that are Netop adaptations of generally available communication protocols or Netop proprietary communic ation protocols.

The following communication devices are available to the Netop Host:

WebConnect

WebConnect is a Netop proprietary communic ation device that enables networked Netop modules to connect easily over the Internet through a Netop connection service called WebConnect without the need to open firewalls for incoming traffic. All traffic will be outgoing.

TCP/IP (UDP)

TCP/IP (Transmission Control Protocol/Internet Protocol) is a suite of network communic ation protocols. TCP/IP includes among many others UDP (User Datagram Protocol) which is a widely used networking protocol and TCP (Transmission Control Protocol) which is a widely used network point-to-point protocol.

The Netop communic ation device TCP/IP will connect by TCP/IP (UDP) and optionally switch to TCP/IP (TCP) when a session has been established to increase data transfer speed.
TCP/IP offers three connect options:

- IP Address
- Name response
- Name resolution

IP address. You can connect by IP address across segmented IP networks including the Internet. The source module send port number must matc h the destination module receive port number.

If you connect from outside a network protected by a network address translation (NAT) firewall or proxy server to a network computer Netop module, specify the firewall or proxy server public IP address with the port number assigned to the network computer, e.g. 192.168.1.1:1234. Ask the firewall or proxy server administrator which port number is assigned to a specific network computer.

Name response. Name response broadcasts a name, the first characters of a name or without a name requesting Netop modules with a corresponding enabled name to respond. These name response options are available:

- If a Guest connects or browses using the Host name qualifier H::, the Host will respond only if its Public host name attribute is **Enabled**.
- If a Guest connects or browses using the Host name qualifier U::, the Host will respond only if its Public user name attribute is **Enabled**
- If a Host sends a help request, the Guest will respond only if it offers the specified Help Service or issued the specified Service Ticket.

Note: TCP/IP broadcast will reach only computers on the local network segment and computers whose IP address or DNS name is specified in the communication profile Broadcast list.

Name resolution

Name resolution resolves a specified name into its corresponding IP address to connect by it. These name resolution options are available:

Enable Use Netop Name Server(s), specify the addresses of the Primary Netop Name Server and/or Secondary Netop Name Server and specify the NNS namespace ID used by the Netop modules you want to connect to. Connect by any enabled destination module name, for a Host help request a Guest Help Service name.

If a Guest connects by a name using the Host name qualifier DNS::, a domain name server will attempt to resolve it into a corresponding IP address for the Guest to connect by it.

Connect problems

In case of connect problems, first verify that an IP connection is available by PING.

Note: PING utilities for Windows Mobile are available for download from the Internet.

If an IP connection is available and connectivity problems persist, consult with your network/system administrator. As a last resort, submit a support request to Netop Customer & Product Support.

Resources

TCP/IP uses one port for sending and one port for receiving communic ation.

By default, Netop Mobile and Netop Remote Control use port 6502 for sending and receiving.

You can use other port numbers, but remember that the source module send port number must always matc h the destination module receive port number.

MTU size

Range is 512 to 5146 Bytes. A high MTU size will increase communic ation speed and a low MTU (Maximum Transmission Unit) size may contribute to solving communic ation problems.

Use TCP for sessions

Enable to switch to TCP/IP (TCP) communic ation when a session has been established for maximum data transmission speed.

TCP/IP (TCP)

TCP/IP (Transmission Control Protocol/Internet Protocol) is a suite of network communic ation protocols.

TCP/IP includes among many others TCP (Transmission Control Protocol) which is a widely used network point-to-point protocol.

TCP/IP (TCP) can connect only by IP address.

If a Host sends a help request, a Guest connected to directly or on a remote Netop Gateway network can respond by its enabled Help Service names.

By default, TCP/IP (TCP) specifies the receive port number 0 to enable the computer system to allocate any available port number to return communication.

Some firewalls allow incoming communication only through a very limited selection of port numbers that typically includes port number 80 that is used for HTTP communication. Using the send port number 80 and adding a HTTP header to each data packet, such firewalls will identify the communication as HTTP traffic to allow incoming communication.

3.1.3.2 Configure the Netop Host protection

To specify the Netop Host protection configuration, use the **Security** branch.

Netop Host can communicate with any of the allowed encryption settings listed below. The different encryption types are listed according to their level of security. By default all is enabled.

Note: The default setting allows all connection types - even the insecure. To ensure, at least, some encryption, disable **No encryption** and **Netop 6.x/5.x Compatible**.

Netop 6.x/5.x Compatible Netop Remote Control version 6.5- compatible encryption.		
	Description:	Compatibility mode for communication with Netop version 6.x, 5.x and 4.x.
	Scope:	Use for communication in environments where speed and backwards compability are important.
	Encryption:	Keyboard and mouse: Proprietary algorithm. Screen and other data: None

		Logon and password: Proprietary algorithm.
	Integrity check:	None.
	Key exchange:	Proprietary algorithm.
No encryption Does not encrypt data and verify data integrity but verifies session uniqueness.		
	Description:	No encryption at all.
	Scope:	Use for communication in environments where maximum transfer speed is important and security is no issue.
	Encryption:	None.
	Integrity check:	None.
	Key exchange:	160 bit SHA for session uniqueness.
Data integrity	Verifies data integrity.	
	Description:	Data is protected from being changed in transit.
	Scope:	Use for communication in environments where
		encryption is prohibited except for authentication.
	Encryption:	None
	Integrity check:	Keyboard and mouse: 256 bit SHA HMACs Screen and other data: 160 bit SHA HMACs Logon and password: 256 bit SHA HMACs
	Key exchange:	Combination of 1024 bits Diffie-Hellman and 256 bit SHA hashes
Keyboard	Encrypts and verifies keyboard, mouse, logon and password data.	
	Description:	Only keystrokes, logon and password details are encrypted.
	Scope:	Use for communication in environments where speed is important, but keystrokes and password details must be encrypted.
	Encryption:	Keyboard and mouse: 256 bit AES Screen and other data: None Logon and password: 256 bit AES
	Integrity check:	Keyboard and mouse: 256 bit SHA HMACs Screen and other data: None
		Logon and password: 256 bit SHA HMACs
	Key exchange:	Combination of 1024 bits Diffie-Hellman, 256 bit AES and 256 bit SHA.
Data integrity and keyboard Encrypts keyboard, mouse, logon and password data and verifies data integrity.		
	Description:	Data is protected from being changed in transit and only keystrokes, logon and password details are encrypted.
	Scope:	Use for communication in environments where speed is important, but you require data integrity check and keystrokes / password details must be

		encrypted.
	Encryption:	Keyboard and mouse: 256 bit AES Screen and other data: None Logon and password: 256 bit AES
	Integrity control:	Keyboard and mouse: 256 bit SHA HMACs Screen and other data: 160 bit SHA HMACs Logon and password: 256 bit SHA HMACs
	Key exchange:	Combination of 1024 bits Diffie-Hellman, 256 bit AES and 256 bit SHA.
High	Encrypts and verifies integrity of all data on a high security level.	
	Description:	All transmitted data is encrypted with 128 bit keys. Keystrokes, mouse clicks and password details are encrypted with 256 bit keys.
	Scope:	Use for communication in environments where
		security is important, but speed cannot be ignored.
	Encryption:	Keyboard and mouse: 256 bit AES Screen and other data: 128 bit AES Logon and password: 256 bit AES
	Integrity	Keyboard and mouse: 256 bit SHA HMACs
	control:	Screen and other data: 160 bit SHA HMACs Logon and password: 256 bit SHA HMACs
	Key exchange:	Combination of 1024 bits Diffie-Hellman, 256 bit AES and 256 bit SHA.
Very high	Encrypts and verifies integrity of all data on a very high security level.	
	Description:	Everything is encrypted with 256 bit keys.
	Scope:	Use for communication where security is important and speed is not a major issue.
	Encryption:	Keyboard and mouse: 256 bit AES Screen and other data: 256 bit AES Logon and password: 256 bit AES
	Integrity control:	Keyboard and mouse: 256 bit SHA HMACs Screen and other data: 256 bit SHA HMACs Logon and password: 256 bit SHA HMACs
	Key exchange:	Combination of 2048 bits Diffie-Hellman, 256 bit AES and 512 bit SHA.

3.1.3.3 Configure help requests

To specify the Netop Host help request configurations, use the **Help requests** branch.

You can configure Request parameters to:

- Request help from a network connected mobile device by providing the following attributes:
  - Help provider
  - Port number (Send Port)
  - Request mode
  - Description (optional)
- Request help from an ActiveSync connected mobile device by providing the following attributes:
  - Help provider (always uses TCP/IP (TCP))
  - Port number (Send Port)

  - Request mode Description (optional)
  - ActiveSync - force (Enabled)
- Enable Netop Guests to connect to an ActiveSync connected mobile device by providing the following attributes:
  - Help provider (Netop Gateway)
  - Port number (Send Port)
  - ActiveSync - force (Enabled)
  - Silent (Enabled)
- Request help from a dial-up connected mobile device by providing the following attributes:
  - Dial-up (Enabled)
  - Dial-up mode (Change connection type)
  - Dial-up settings names Help provider
  - Port number Request name

In some cases, you may need additional configurations to:

- Connect incoming through a Netop Gateway that applies Gateway security by providing the following attributes:
  - Netop Gateway - user name
  - Netop Gateway – password
  - Netop Gateway - domain
- Enable help request by a hotkey (keystroke combination) by providing the following attributes:
  - Hotkey - Alt
  - Hotkey - Ctrl
  - Hotkey - Shift
  - Hotkey - number

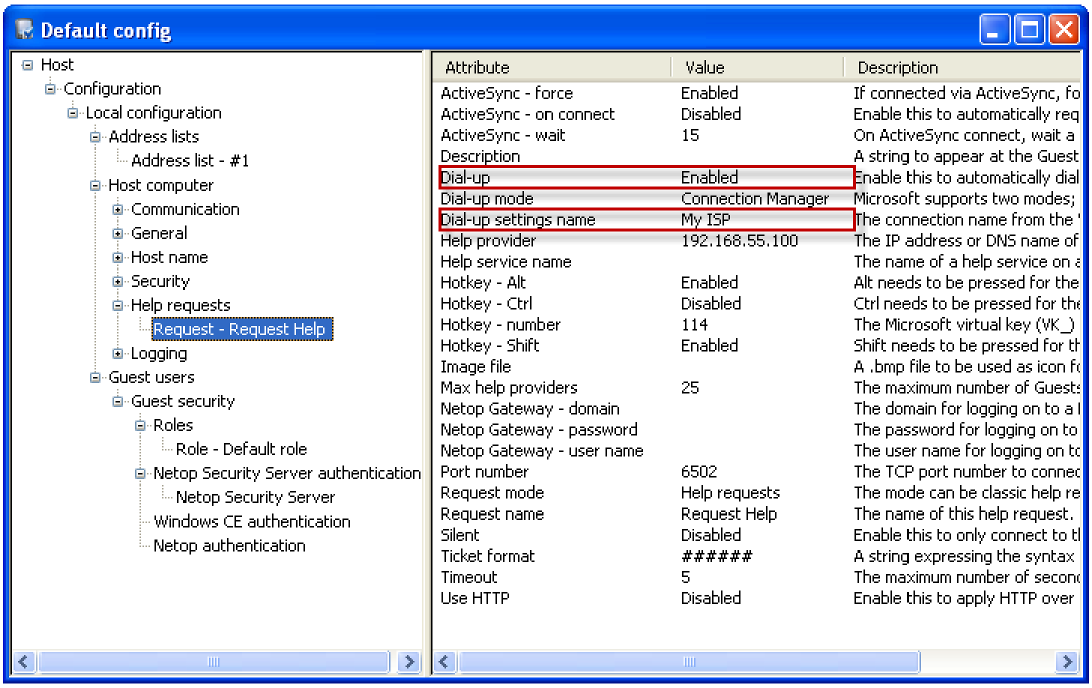
Note: Search for virtual key codes (hexadecimal) on http://msdn2.microsoft.com.

- Limit the search for help provider Netop Guests by providing the following attributes:
  - Max help providers
  - Timeout (Seconds)
- Encapsulate a help request in HTTP to facilitate firewall passage by providing the following attributes:
  - Use HTTP (Enabled)
  - Port number (80)
- To request help when a mobile device becomes connected by ActiveSync by providing the following attributes:
  - ActiveSync - on connect (Enabled)

Configure Netop Host dial-up

In Netop Mobile Host Manager, configure the Host for dial-up. The two settings framed in red below are the relevant settings:

- **Dial-up**: If enabled, Netop Host will establish a network connection through the Connection Manager when using the issuing of a Help Request. If disabled, dial-up will be prohibited.
- **Dial-up settings name**: Usually My ISP or My Work Network, but it can also be the name of a specific connection defined in the Connection Manager if you have defined multiple connections.



- Host
  - Configuration
    - Local configuration
      - Address lists
        - Address list - #1
      - Host computer
        - Communication
        - General
        - Host name
        - Security
        - Help requests
          - Request - Request Help
        - Logging
      - Guest users
        - Guest security
          - Roles
            - Role - Default role
          - Netop Security Server authentication
            - Netop Security Server
          - Windows CE authentication
          - Netop authentication

Attribute	Value	Description
ActiveSync - force	Enabled	If connected via ActiveSync, fo
ActiveSync - on connect	Disabled	Enable this to automatically req
ActiveSync - wait	15	On ActiveSync connect, wait a
Description		A string to appear at the Guest
Dial-up	Enabled	Enable this to automatically dial
Dial-up mode	Connection Manager	Microsoft supports two modes;
Dial-up settings name	My ISP	The connection name from the '
Help provider	192.168.55.100	The IP address or DNS name of
Help service name		The name of a help service on a
Hotkey - Alt	Enabled	Alt needs to be pressed for the
Hotkey - Ctrl	Disabled	Ctrl needs to be pressed for the
Hotkey - number	114	The Microsoft virtual key (VK_)
Hotkey - Shift	Enabled	Shift needs to be pressed for th
Image file		A .bmp file to be used as icon fo
Max help providers	25	The maximum number of Guests
Netop Gateway - domain		The domain for logging on to a I
Netop Gateway - password		The password for logging on to
Netop Gateway - user name		The user name for logging on to
Port number	6502	The TCP port number to connec
Request mode	Help requests	The mode can be classic help re
Request name	Request Help	The name of this help request.
Silent	Disabled	Enable this to only connect to tl
Ticket format	######	A string expressing the syntax
Timeout	5	The maximum number of second
Use HTTP	Disabled	Enable this to apply HTTP over

If Dial-up is enabled and Dial-up settings name is set to My ISP and you have a configuration like the one above, TDC Internet GPRS will always be used.

3.1.3.4 Configure security roles

To specify the Netop Host roles configurations, use the **Roles** branch.

Netop Host local system authentication or Netop authentication cannot authenticate connecting Netop Guests individually to make use of multiple role configurations. Therefore, only one local Role parameter is available.

Security Server authentication relies on Netop Security Management to enable individual Netop Guest authentication and role assignment. See the Netop Remote Control Administrator's Guide, Netop Security Management.

3.1.3.5 Configure Netop authentication

The Netop authentication parameter has one attribute: **Netop password**.

If a Netop password is specified, Netop Mobile Host will request that each connecting Netop Guest specifies this password to be assigned the locally specified role.

3.1.3.6 Configure Windows CE authentication

The Windows CE authentication parameter has no attributes. It uses the mobile device's system password.

If a mobile device system password is applied, the Netop Host will request that each connecting Netop Guest specifies this password to be assigned the locally specified role.

3.1.3.7 Configure Netop Security Server authentication

To specify the Host Security Server authentication configuration, use the **Netop Security Server Authentication** branch.

Netop Host requests that each connecting Netop Guest identifies itself by a Netop Guest ID and a corresponding password.

Netop Host sends these credentials to the Netop Security Server group identified by the Netop Security Server group ID. A group Netop Security Server validates the credentials to return the applicable role between the Netop Guest ID and the Netop Mobile Host Netop Host ID.

Netop Host applies this role to the connecting Netop Guest. See the Netop Remote Control Administrator's Guide, Netop Security Management, or the Netop Security Manager Help system.

3.1.4 Configuring Netop Host authentication parameters

To specify all authentication parameters used when a Guest logs on to the Host, use the **Guest users** branch.

When you select a parameter in the left pane, a description of the parameter is displayed at the bottom of the configuration panel. You can add or delete parameters using the Edit menu or the context menu.

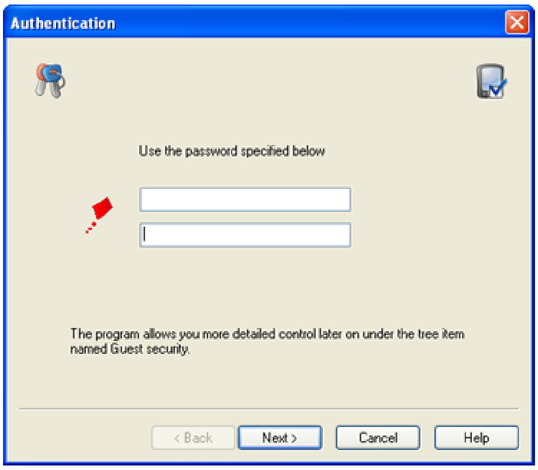
Attributes for the selected parameter are displayed in the right pane along with a description of the individual attribute. You can change attributes by double-clicking them.

3.1.5 Changing the Netop Host configuration using the configuration wizard

Use the configuration wizard to customize a few essential configuration parameters before displaying the configuration in the configuration panel of the Netop Mobile Host Manager window.

In the Intro window, select **New Wizard** to display the first configuration wizard page.

Alternatively, in the Netop Mobile Host Manager window, click **Create a new configuration** using a wizard dialog button on the toolbar, from the File menu select **New Wizard**, or press **CTRL+W**.

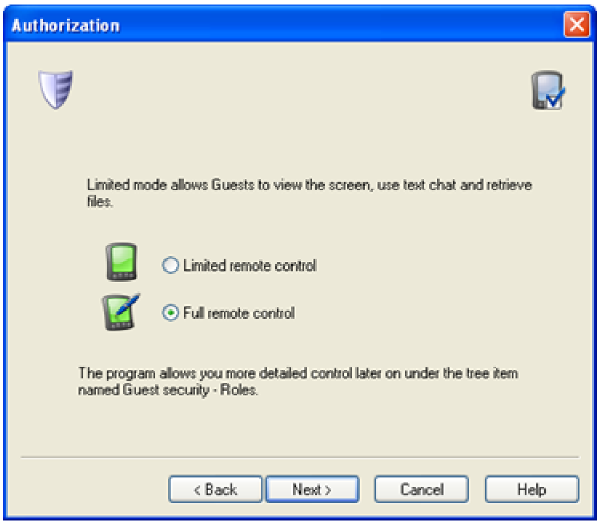

Authentication

Use the password specified below

The program allows you more detailed control later on under the tree item named Guest security.

The Authentication page allows you to configure a Guest Access Security password. The password will be used by Guests to connect to the Neto Host. Specify the password in the upper field and re-specify it in the lower field for confirmation. Characters will display as dots or asterisks.

Click **Next**. The Authorization page will be displayed:


Authorization

Limited mode allows Guests to view the screen, use text chat and retrieve files.

○ Limited remote control

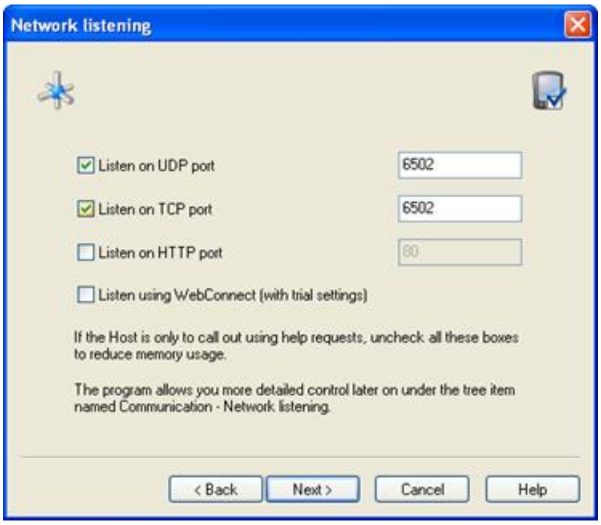
● Full remote control

The program allows you more detailed control later on under the tree item named Guest security - Roles.

Configure the role that will initially apply to connecting Netop Guests:

- **Limited remote control**: A connecting Guest will be allowed to view the mobile device display, receive files from the mobile device and start a chat session with the mobile device user.
- **Full remote control**: A connecting Guest will be allowed all available actions.

Click **Next**. The Network Listening page will be displayed:



Network listening

☑ Listen on UDP port 6502

☑ Listen on TCP port 6502

□ Listen on HTTP port 80

□ Listen using WebConnect (with trial settings)

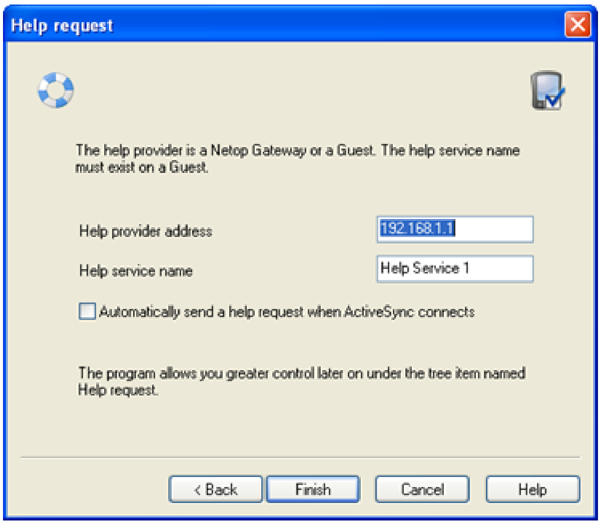
If the Host is only to call out using help requests, uncheck all these boxes to reduce memory usage.

The program allows you more detailed control later on under the tree item named Communication - Network listening.

Configure communication profiles by which to communicate with the Netop Guest:

- **Listen on UDP port**: Leave this check box selected to enable a communication profile that uses the TCP/IP communic ation device with the receive port number specified in the field (default: selected, 6502).
- **Listen on TCP port**: Leave this check box selected to enable a communication profile that uses the TCP/IP (TCP) communic ation device with the receive port number specified in the field (default: selected, 6502).
- **Listen on HTTP port**: Select this check box to enable a communication profile that uses the TCP/IP (TCP) communic ation device encapsulated in HTTP with the receive port number specified in the field (default: cleared, 80).
- **Listen using WebConnect (with trial settings)**: Select this check box to enable a communication profile that uses the WebConnect communic ation device.

Click **Next**. The Help Request page will be displayed:



Help request

The help provider is a Netop Gateway or a Guest. The help service name must exist on a Guest.

Help provider address 192.168.1.1

Help service name Help Service 1

□ Automatically send a help request when ActiveSync connects

The program allows you greater control later on under the tree item named Help request.

Configure the key attributes of the default Request Help parameter:

- **Help provider address**: Specify in this field an IP address to connect by TCP/IP (TCP) or empty the field to broadcast by TCP/IP to send help requests (default: 192.186.1.1).

- **Help service name**: Specify in this field a help service name to enable a Netop Guest that offers help by this service name to respond (default: Help Service 1).
- **Automatically send a help request when ActiveSync connects**: Select this check box to automatically send a help request on ActiveSync connect to a desktop computer (default: cleared).

To return to previous configuration wizard pages to change your settings, use the **Back** button.

To end the configuration wizard, click the **Finish** button. A NetopHost1 configuration window will be displayed according to your specifications in the configuration panel of the Netop Mobile Host Manager window.

3.1.6 Changing the Netop Host configuration using the configuration panel

Netop Mobile Host Manager includes a basic configuration named Default config. To view it, from the **File** menu select **New**, or on the toolbar click **Create a new default configuration**.

You cannot change the basic default configuration, but you can create and save customized configurations from it.

Saving a customized configuration will create an xml file the contents of which specify deviations from the default configuration. You can open a customized configuration xml file in the configuration panel to view and optionally modify its contents.

Click a parameter to display its attributes in the right pane as a table of attribute names, values, and attribute descriptions.

To change a configuration attribute value:

1. Double-click the attribute in the right pane to display its attribute window:

   The window may contain an explanation clarifying attribute value implic ations. The active element of the window will depend on the attribute value type:

   - Boolean (check box)
   - String (text field)
   - Numeric (number only field)
   - Enumerate (drop-down box)

2. Change the attribute value. If the specified attribute value is valid, the **OK** button will be enabled.
3. Click **OK** to confirm the change and close the attribute window.

4 FAQ

4.1 What actions can a Guest perform on the Netop Host?

If allowed by the assigned role, a connected Netop Guest can execute the following actions:

- **Run Program**: Run an exe program installed on the mobile device.
- **Send Message**: Compose a message and send it to Netop Host to display a message window on top of the Netop Host display. Tap OK to close the message window.
- **Get Inventory**: Get mobile device hardware and software information.
- **Netop Script**: Run a Netop Script with the Netop Host . A Netop Script will execute a specified File Transfer, Run Program, Send Message, Get Inventory and other actions.

Note: Run Program, Send Message and Get Inventory are in fact based on Netop Script. See the Netop Script section of the Netop Remote Control User's Guide or the corresponding Netop Guest Help system section.