



Manual for NETiON™ SmartClient Network Appliance

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What is a NETiON (Thin) SmartClient?

NETiON is a multi-function SmartClient Network Appliance that may be used as a XDMCP, X, and character-based Network Client for Linux/UNIX environments, and as a Client for Windows Terminal Server applications, including Citrix extensions and enhancements. A xRDP RemoteView Client for WTS 2000/2003 allows Seamless Applications, somewhat similar to Citrix Published Applications, without the Citrix penalty on the server side. It also is available with a Tarantella AIP Client, VNC and No Machine client and some local applications.

In short, almost any thin client and legacy terminal technology is available for this NETiON SmartClient.

NETiON is a product of SmartFLex Technology Inc. It's firmware is based on the popular and powerful Linux kernel and additional proprietary client software modules.

NETiON was developed with input from many of our customers. They supplied us with their thoughts and ideas on how a modern network client should function. As a result we have designed the most enhanced Linux-based Desktop Workplace for today's sophisticated multi user systems.

In XDMCP Terminal Mode, NETiON allows the user to work on a Linux or Unix server's graphical remote desktop manager, giving the user the same feeling as working on a local Linux or Unix workstation. Our secure X mode allows single applications or X sessions over SSL, providing secure and compressed (network bandwidth saving) client to host connections.

In Character-Based Terminal Mode, NETiON allows the user to work on Linux or Unix in its native character-based legacy mode, taking advantage of thousands of legacy applications written for their respective Linux or Unix environment. The embedded emulators provide a wide variety of the most common terminal emulators.

In Windows xRDP Terminal Mode or ICA Mode, NETiON allows the user to work on Windows Terminal Server or Citrix Server, giving the user a PC style desktop solution for Windows. The NETiON ICA client supports Citrix Program Neighbourhood (PNA Mode) and Secure Access via ssl/https.

Some versions may include an optional local Browser, E-mail client, (SUN) JAVA and a Media Player. An embedded optional Client Management System (CMS) is available as well.

All modes are supported by a very sophisticated CUPS or BSD/lpr printing system. The local CUPS system provides print services for the local printer, but can also act as a print server for other clients. This allows NETiON to be deployed in POS, Kiosk and Office Applications, anywhere applications are running on a Linux, Unix, or Windows Terminal Server host system and a cost-effective desktop system can be connected to it via a 10/100 MBit/s Ethernet connection. "rsh", transparent printing is supported, as well as port redirect. Local USB storage devices (Samba shares), such as Flash Drives,

CD-ROMs (no write), external HDD, and ZIP drives can be made available to the server application or the network.

All NETiON are custom configured within a defined minimum/maximum configuration range at no additional cost, meaning you the customer can decide at the time of ordering a NETiON unit what functionality should be included. Therefore, for your convenience, we provide a configuration form on our WEB site where you can specify what client modules should be integrated in YOUR SmartClient. You can enjoy your “freedom of choice” to decide what the best configuration is for your thin client environment. Of course, if you need help to decide, our staff is ready to help you with your decisions.

This no-cost customization feature makes the NETiON SmartClient the most flexible Thin Client solution on the market, giving YOU maximum control over your thin client deployment.

Installation:

The box should be undamaged and should contain the following parts:

- This Setup Manual
- 1 External Power Supply (only certain models), Power Cable
- 1 NETiON Unit

Inspect all parts visually for damage. If any part is visually damaged, please call the shipping carrier immediately, report the damage and file an insurance claim.

If all parts seem to be undamaged proceed with the following steps:

Connect a VESA compatible monitor or LCD monitor to the video port in the back of the unit.

Connect a PS/2 mouse and keyboard (PS/2 or USB if enabled in BIOS) to their respective connectors in the back of the unit.

Connect a CAT 5 Ethernet cable to the Ethernet port in the back of the unit and connect the other end of the Ethernet cable to an available port on a Ethernet switch or hub.

Units with internal PS: Connect the AC Cable to the AC input connector on the back of the unit.

Units with external PS: Connect the AC Cable to the AC input connector on the powers supply and connect the DC side of the power supply to DC input of the unit.

System Start and Configuration:

Press the ON button on the monitor and on the front of the unit.

To boot the unit press the <On/Off> button on the front panel of the unit. The unit will boot and present the user interface. The boot process of a correctly set up and working unit will take about 40 - 90 sec, depending on the NETiON model.

To enter the unit's SETUP, boot the unit and wait for the desktop and desktop menu to appear.

NETiON Desktop:

The user interface consists of the actual desktop and the floating desktop menu window, titled "X launch"

After booting NETiON the user will be presented with the desktop, consisting of a launch menu and a task bar on the bottom, which by default will pop up when the mouse cursor is moved against the lower screen border. The desktop is always associated with the second virtual screen of the NETiON unit and can be displayed at any time by pressing Ctrl.-Alt.-F2.

The launch window (launcher) displays configured sessions, ready to be started by either highlighting a session and clicking the go button on the bottom of the launch window or by double clicking the session name directly. On the bottom of the launcher there are two buttons on the left to load and eject CDs from an USB mounted external CD-ROM drive. The right bottom side of the launcher hosts the Volume Control Slider for the internal sound system and the Unmount button to properly unmount active USB storage devices.

The launch window menu system has 3 entries:

- **Client**
 - Switch Off: Clicking switch off will power off the NETiON unit
 - Restart: Clicking restart will restart the NETiON unit
- **System**
 - Setup (F2)*
 - Clicking this entry or pressing F2 (function key F2) will start the internal graphical setup agent

CMS (optional)

This entry is only available if the NETiON unit is equipped with the optional CMS (Client Management System) module. Clicking this entry will start the CMS so you may manage all your NETiON units connected to your network.

Format (USB) Flash

Allows to re-format a connected USB Flash device

- **Help**

By default there are no entries. Entries will be displayed only if the NETiON help desk system is being used. This help desk system requires a module on the administrators Linux workstation to communicate with the help desk client on the NETiON unit.

- **Taskbar**

On the bottom of the NETiON desktop is the taskbar, which is either appearing when the mouse cursor reaches the lower border of the screen (default setting) or is displayed continuously by selecting the appropriate setting in the section “display” of the NETiON setup agent. The taskbar shows all active sessions or local applications. A click on any of these entries will raise or minimize the associated session or application. The taskbar area will not be overwritten by any application. It is reserved, no matter if the taskbar is visible or not.

- **Moving around**

The NETiON desktop works and behaves like any other point and click desktop environment. To reach virtual desktops use Ctrl.-Alt.-F1 ... F10, where Ctrl.-Alt.-F2 is always the NETiON desktop itself. If multiple windows are **active on the desktop**, use Alt.-Tab to switch between available windows/tasks. After pressing Alt.-Tab a menu of all available windows or tasks will be displayed. Conveniently use the up/down cursor keys to select the window or task you like to bring to the foreground.

Client modules:

A NETiON can be ordered to integrate all or any combination of the following thin client modules (NETiON/e has a fixed set of client modules):

- **X Application:** Executing a single X application on a Unix or Linux host, displaying it in a desktop window on the NETiON desktop
- **XDMCP Session on virtual screen:** Standard X-Terminal mode for Linux and Unix, where the users Desktop Environment running on the host is displayed on a virtual full screen on NETiON. Each virtual screen can be displayed by pressing Ctrl.-Alt.-Fx, where Fx equals function key F1, F3 ... F10. As mentioned before, Ctrl.-Alt.-F2 is always reserved for the NETiON desktop.
- **XDMCP Session in a Desktop Window:** Standard X-Terminal mode for Linux and Unix, where the users Desktop Environment running on the host is displayed in a desktop window on the NETiON desktop.
- **SSL X Login:** A XDMCP like session over a secure connection. The communication between host and NETiON is encrypted and

compressed and therefore secure and optimizing network bandwidth.

- ***xRDP with Seamless Application Support:*** Incorporates 2 technologies: xRDP (RDP 5.x compatible) to connect to a Windows Terminal Server (NT4/2000/2003), combined with a RemoteView Seamless Application client to connect to Ericom RemoteView for Windows 2000/2003. A plain xRDP session will present an entire Windows Desktop to the user – just like a regular PC Windows Desktop. In RemoteView client mode a single application running on Windows Terminal Server 2000/20003 will be displayed per connection window. RemoteView is similar to Citrix published applications, without the Citrix penalty. A Terminal Server add on needs to be installed, which is available from our WEB site reseller section at no additional cost. You need to use or request your unique reseller username and password to access the protected reseller support area which provides the link to this Ericom RemoteView Server Extension.
- ***xRDP:*** xRDP (RDP 5.x compatible) to connect to a Windows Terminal Server (NT4/2000/2003). A plain xRDP session will present an entire Windows Desktop to the user – just like a regular PC Windows Desktop.
- ***Citrix ICA:*** The trusted and widely used ICA client, needed to connect to a Citrix server. PNA mode and ssl/https are supported.
- ***Legacy Emulator (Ericom Powerterm):*** A terminal emulator suite with numerous terminal emulators connecting to Unix and Mainframe systems to access legacy applications (character based applications). A key mapping tool is provided.
- ***Tarantella:*** A native Tarantella AIP client to access a Tarantella server.
- ***VNC:*** A VNC client to access the widely popular VNC server, allowing remote display sessions to all VNC supporting operating systems (Unix, Linux, Windows ...)
- ***NoMachine NX:*** A SmartFLex optimized NoMachine NX client to access the widely popular No Machine server, allowing remote display sessions to all No Machine supported operating systems (Unix, Linux, Windows ...). This client supports USB port access and remote sound streaming.
- ***In addition a NETiON can incorporate all or a mix of the following local applications (requires NETiON with 128 MB Flash and 128 MB RAM):***
 - Mozilla Browser (additional local flash user space or external

- flash drive is needed to save browser preferences)
- E-Mail Client supporting POP3, IMAP, Secure IMAP (e-mails and e-mail account settings are saved to external or internal flash space)
- (SUN) JAVA (JRE)
- Browser Plugins (requires Browser Module)
- PDF Viewer (requires Browser Module)
- Media Player (requires Browser Module)
- Consumer Module (includes OpenOffice.org and the resulting product is then called the **EPSiON SilentPC**.)
- An image viewer to turn the unit into a dedicated advertising box.

All client sessions are configured by invoking the NETiON setup agent and then clicking "terminal" --> "add". A list of all available client modules and local applications will be displayed. Double click an entry to start configuration. After a client module is configured click the "o.k." button. Once all desired sessions and applications are added and configured click "save settings" and quit the setup. No reboot is required to use the configured sessions. All available sessions are now displayed in the session window of the desktop launcher.

Setup:

Click on the <Setup> menu option or press F2 to enter the units graphical setup system.

The setup menu should appear within about 2 sec.

On the left side of the setup window are icons, representing the available setup topics. A single click on one of these icons will show the setup options in the right setup window.

The setup window consists of a variety of "push buttons" that change color to red when set, pull down menus to select pre-defined options, and "free type" fields to enter text and numbers.

Wandering through the setup options will show setup options that are very familiar to any experienced system administrator. Some setup options display sub menu option, accessible via tabs.

Network:

Use DHCP :
IP Address (default IP address: 192.168.100.99):

Select if the unit is to receive its local IP address via DHCP (default setting or optional depending on base configuration) or via a static IP address entered into the IP address field after clicking off DHCP.

Host Name: Enter a name for the unit or use the default

Gateway: Enter the IP address of the available gateway. If an IP address is entered here, make sure it is a valid address and that the gateway device is functional, to avoid start up problems.

force 10baseT: If the unit is attached to a 10 MBit/s Ethernet port click the “force 10 MBit/s “ checkbox to force the unit into a 10 MBit/s Ethernet mode. By default (checkbox is unchecked) the unit is set to 100 MBit/s Ethernet mode. This procedure is more reliable than auto-sensing, which caused problems with certain Ethernet hubs and switches in the past while connecting to a 10 MBit/s Ethernet network.

Wakeup on LAN: Select if the unit should allow to be booted via a network trigger signal (CMS function).

Font Server: Enter the IP address of an available font server to supply additional fonts to the unit.

NFS Font Server and Path: Provide IP address and NFS path information to access fonts available on an available NFS font server.

Font Download: This option allows to download fonts to units flash system to extend the local font system.

Admin Password: Provides an option administrator password to protect the NETiON settings from playfull end users.

Enable Remote Admin: Check off this box if you do not want to allow this unit to be remote managed via the SmartFLex Client Management System (CMS).

Check for CMS server: Check this box to force this NETiON unit to accept CMS commands only from one CMS controller station.

Network Disks Tab: Here a NFS Directory can be mounted to the client. In case this NETiON is equipped with local applications the mounted NFS share can be used to store configurations and data. All application will access the NFS share with UID/GID 99/99. A system administrator need to make sure that these permissions are set correctly for the NFS share.

To enable this feature set the “Mount NFS Directory” box and provide the appropriate NFS-Server address and NFS-Directory path.

A local SMB disk can be enabled as well to be exported to certain clients (currently ICA, RDP, NX).

If your NETiON is equipped with a local flash user space it can be enabled to save browser and mail client settings.

Click the <save settings> button to write all configuration settings to the units flash memory or click the <quit setup> button to close setup.

Terminal:

Here client sessions to hosts can be set up and configured.

To set up a new session click the <Add> button. To edit a already set up session click the <Edit> button. To delete a set up session click the button.

Only the sessions (clients) that have been specified at the time of purchase will be available. Some clients come with a full range of clients, but your client may have been defined to include only some client options (customization option(s)).

The terminal session offers the SmartFLex **SignOne Technology**. Available for RDP, NoMachine NX, X Application (Seamless X Applications over SSL) and SSL X Login.

If enabled, a user name and password will be given to the terminal itself which has to be supplied during boot. This user name and password will be used as the session login for the above client sessions. Of course the user name and password needs to be valid on the respective servers. This allows the user to type the user name and password only one if multiple sessions are configured. All users using this SignOne enabled terminal need to use the same login, which might pose a security risk in your organization.

The following Client Sessions are available:

All Client setups are performed by selecting System --> Setup from the launcher menu bar. Select terminal --> add and select the appropriate client.

- ***X Application (Seamless X Applications over SSL):***
Enter a session name and a server IP address to connect to. Finally enter the full path name to start the application on the host.
Click the autostart button if the application should be started after the NETiON unit completes the boot procedure.
- ***XDMCP Session on Virtual Screen:***
Enter a session name and a XDMCP Server IP address to connect to.
Select if access to the server is indirect.
Select if the local keymap should be applied (default is remote desktop settings).
Click the autostart button if the session should be started after the NETiON unit completes the boot procedure.
Each configured session will be started on the next available virtual desktop, which can be accessed via Ctrl.-Alt.Fx, where Fx equals function

key F1, F3 ... F10. As mentioned before, Ctrl.-Alt.-F2 is always reserved for the NETiON desktop.

- **XDMCP Session in a desktop window:**

Enter a session name and a XDMCP Server IP address to connect to.
Select a desktop window size for the session.

Click the autostart button if the session should be started after the NETiON unit completes the boot procedure.

Each configured session will be started in a desktop window, which can be freely moved around.

- **SSL X Login:**

Enter a session name and a server IP address to connect to.

Select the server type, which is needed as different server use different SSL setups.

Click the autostart button if the session should be started after the NETiON unit completes the boot procedure.

- **XRDP:**

The SmartFLeX xRDP client consists of two clients. It is either a standard RDP client or a combined RDP and RemoteView client for the Ericom RemoteView technology for Windows Terminal Server 2000/2003. In standard RDP mode NETiON will establish a RDP session to a Windows NT or Windows 2000/2003 server. This connection will display a full Windows desktop providing a Windows PC like desktop experience. Any available application can be automatically started after the RDP session is displayed on the screen.

In RemoteView Mode, also called Seamless Application Mode, a single RDP session will load a single application and display it in a NETiON desktop window without showing the full Windows Desktop and without giving the end user an option to perform any other functions not related to this particular application. If the user terminates the application or closes the Seamless Application window the RDP connection to the Server will be closed orderly. Only one WTS license will be used if one user establishes multiple seamless application connections.

This new function is similar to the Citrix published application feature but without the Citrix price penalty. The optional seamless application feature requires a Windows Terminal Server add on that can be downloaded from our Web Site's download section at no additional cost.

General Tab:

Enter a session name and the IP address of the Windows Terminal server. Enter a valid user name, optional domain name, and a valid password for this connection. Optionally the user name and password can be provided during login as well.

Display Tab:

Set the desired color depth for this RDP session

Select a Window Size for this session

The window size is only relevant for a regular RDP session. In seamless application mode this setting will be ignored as the window size depends on the default settings of the application.

If the RDP setup ends here and the settings in the Program tab are not entered a standard RDP session with a full Windows desktop will be established and displayed on the NETiON desktop.

Program Tab:

This section defines the settings if a program is supposed to be started with the RDP session in either regular mode (application within a fully RDP desktop) or seamless application mode.

Set the “Start the following Program” flag by clicking the button with the mouse

Enter the full path and program name of the application to be started on the Windows Terminal Server.

Set the working directory (optional)

Provide arguments that are required by the application to be started (optional)

Set the “Seamless” flag if the application is to be started in seamless application mode.

Make sure to set the autostart button if the session should be started after the NETiON unit completes the boot procedure.

- **Citrix ICA:**

This ICA client requires detailed knowledge on how a Citrix environment works. Since the implemented ICA client is 100% compatible to the Citrix ICA client for Linux, any Citrix experienced system administrator will have no difficulty to set the parameters. A description of all options, and ins and outs of this ICA client and the associated Citrix server would fill an entire book, going well beyond the scope of this manual.

- **Tarantella AIP client:**

Provide a session name and the address of an available Tarantella server.

Provide the information to the optional parameter fields of needed

Click the autostart button if the session should be started after the NETiON unit completes the boot procedure.

- **VNC client:**

Enter a meaningful session name

Enter the address of the VNC server to connect to.

Note:

The actual displayed window size of a VNC session is set by the VNC

server and not by the client on the NETiON desktop, regardless to what mode the client is set to.

Click the autostart button if the session should be started after the NETiON unit completes the boot procedure.

- **Network Tools:**

All NETiON units come with a network tools that allows to ping another station or server within the available network.

Once a network tool session has been started provide an IP address to ping to or click the netstat button to display relevant network statistics.

Each function can be aborted by pressing "Ctrl. C".

- **Terminal Emulator Session:**

Legacy Unix/Linux session to provide support of legacy applications.

Session Name: Provide a session name, without any blanks in it, to be displayed in the launcher window.

Server: Provide the IP address of the server to connect to.

Terminal Type: Select the emulator to be used to connect to the server. All emulator types will set the keyboard layout similar to a keyboard of such an terminal.

Terminal-ID: Select one of the pre-defined IDs or over-write the pre-defined value with your own ID.

Connection: Select un-secure or network from the pull-down menu.

Code Page: Select one of the code-page selections

Display rows: Select the amount of rows to be displayed in the session.

Display Columns: Select the columns to be displayed on the screens

Background Color: (default: use host color) Select a color for the background of the session

Key mapping: Switches to a new screen to allow for re-mapping the keys of the keyboard.

Key mapping supports single character, single function (".", "/", "+" ...), and in addition ESC-sequence and simple script mapping for the function keys.

ESC-sequence mapping:

Escape-sequences are for F1 - F12 only:
\x1b\[OP equals ESC+[+O+P or

\x0a equals a simple linefeed
where
\x describes a key code in hexadecimal code.

This way almost any code (including spaces) can be assigned!

To enter a simple script:

Let's say you want to send A+B <enter>
In the Emulator setup define the emulator to be used and then enter in keymapping in the F1 field:

"AB<enter>" (the "" need to be included)

After logging into the session press the F1 key and the system will show the characters AB on the screen after which the key command for <enter> will be executed.

<backspace> / <delete>: Select if the backspace key delivers a backspace or delete function. Default is delete.

• **Integrated Mozilla Browser:**

The integrated Browser is the fully fledged Mozilla Browser (without the e-mail client and composer). If so desired your unit may also contain the most common Mozilla browser plugins, media player and (SUN) Java (JRE). No setup is needed to configure such plugins, mediaplayer and JRE. **To start the Browser a USB Flash or the internal User local flash (Setup -> Netowrk -> Disk [tab]) needs to be enabled.** The Mozilla browser can be configured to run in 3 different modes:

a) Preset for a particular URL in the device setup, either in manual mode or autostart mode:

- Go to setup and click on terminal --> add --> browser
- Enter a session name (no spaces within the session name)
- Provide a target URL
- Click on autostart if you need the browser to be started directly after the unit displays the desktop during start.
- Don't forget to save all settings whenever a "save settings" button is displayed.

b) Preset for a particular URL in the device setup in kiosk mode:

- Go to setup and click on terminal --> add --> browser
- Enter a session name (no spaces within the session name)
- Provide a target URL
- Click on kiosk mode if you need the browser to be started on a virtual screen directly after the unit displays the desktop during start.
- Don't forget to save all settings whenever a "save settings" button is displayed.

Note:

In kiosk mode the browser will be started on the first available virtual screen. You can switch between the Desktop and the virtual screen(s) by pressing Ctrl. Alt. Fx, where Ctrl. Alt. F2 is always the desktop itself. The browser will be started without any controls and will display the URL designated in setup. To guide the user, all controls must be supplied by the web application itself. To exit the browser screen simply switch to the desktop by pressing Ctrl. Alt. F2.

c) From within the Desktop Taskbar Start Menu if the launcher is disabled in setup:

- Go to setup and click on display --> Don't show launcher.
- Don't forget to save all settings whenever a "save settings" button is displayed.
- Reboot. After reboot the desktop should not show the launcher window anymore and the taskbar should now have a start button. In the start menu you will see at least the entry for the browser and setup. You can now start the browser as you would on a PC.

Note:

Browser preferences and downloads can be saved to the internal flash memory if this option was selected when the device was purchased. The space available depends on the flash size ordered. **This can lead to a deteriorating internal flash card** (flash memory is designed to handle millions of read cycles, but write cycles in the low 100,000's only) **since flash memory can loose capacity or even become corrupted (leading to a no-boot condition) after too many write cycles. Alternatively,** browser preferences and downloads can be saved to a USB R/W device like a Flash Thumbdrive or to Compact Flash via a user supplied USB card reader. This method is the preferred storage method since it protects your internal flash card from a corrupted file system due to a deteriorating flash system.

Printer:

Create and setup a local printer device. This printer can be addressed by any authorized network device within the same subnet (print server capability).

Setting up a printer invokes a printer setup wizard that leads to the options of the CUPS and BSD/lpr setup options:

Local (CUPS) printing:

- **Name:** Enter a printer name
- **Info:** Free style text to provide information about the printer
- **Location:** Free style text allowing to describe the physical location of

the printer

- **Connect to:** Select a connect option (lp0 refers to the local print que and device)
- **Driver:** Select a printer driver that is compatible to your printer

Some examples on directing a print job to the embedded CUPS print engine:

For RedHat Linux: Use the RedHat printer configuration tool and add an IPP Printer. The printer path is /printers/<printer name as configured on the NETiON unit>

For Unix: Create a lpd network printer. This procedure depends on the Unix system deployed. The local printer acts as it would be a PostScript Printer. If the print data are PostScript no other driver is needed. If the print data are not PostScript an converter is needed. Converting data is only possible if the host deploys lpd version 2.0.1 or higher! After the printer is configured the following print command can be used to print a "file":

lpr -P <local printer name> <file> ,

where <local printer name> is the chosen printer name as created on the host (not the printer name as created on the NETiON client).

For Windows: Open the printer installation tool in the control panel. Select add a network printer. The network browser should show the NETiON unit as a host on the network with the printer name available as a valid printing device. Select the printer and Windows will prompt to install a printer driver for this device. From there on the printer is handled as any other available printer.

Raw Printing:

Unlike most other Thin Clients on the market, NETiON supports multiple concurrent printers on all available ports.

Printing is assigned as one function of a port. The following print methods are supported:

- *BSD/lpd (on port 515)*
- *JetDirect (on port 9100)*
- *rsh (on port 514)*
- *RDP*
- *Transparent Printing (also called InStream Printing)*
- *redirect*

Select the port(s) (=device) function accordingly if a printer is attached to:

- *LPT*

- COM1
- COM2
- USB

Each port displays a series of possible functions that can be assigned.

If a serial port is used for printing, set the appropriate parameters for the serial port to match the settings of your serial printer device.

Print Server supported on Linux or Unix Server side:

- BSD/lpd incl. CUPS

How does the printing work?

- **BSD/lpd on port 515:** Once a printer is assigned in setup to LPT, COM1, COM2 or USB, the embedded lpd daemon will recognize this printer. On the server a network printer has to be setup. The procedure to do this depends on your Server OS! During setup you will be asked for the IP address of the network printer server and port. Type the IP address of the terminal and the port (LPT, COM1, COM2 or USB) where the printer is attached to. Your application should direct its printer output data to the network printer defined on your server.
- **JetDirect on port 9100 (LPT only):** Once a printer (one only, since there is only one port 9100) is assigned in setup to LPT, the embedded JetDirect daemon will recognize this printer. On the server a JetDirect printer software has to be setup. The procedure to do this depends on your Server OS! Your software needs to support the JetDirect printing method.

To test the JetDirect printing on a Linux or Unix system type:

```
cat <filename of printer formatted print file> | netcat <IP address of terminal> 9100
```

- **“rsh” printing on port 514:** For rsh printing the the following sequence MUST be used:

```
cat <filename> | rsh <IP-Address of Terminal> LPT or COM1 or COM2 or USB)
```

The LPT (COM1, COM2, USB) statement at the end is needed and addresses the port related print queue. “filename” means a file that is formatted for a particular

printer!

Note:

If a port is used that does not have a printer assigned to it, the print job will still be accepted but rerouted to the NULL device and will therefore be lost. This avoids a hung system.

The embedded rsh daemon can only be used for printing! It is a proprietary software module that does not support any other functionality.

Printing from Windows Terminal Server 2000 or 2003 to a NETiON attached printer:

- Option 1: Attach the local printer to the unit and configure it as a raw (driver: raw) local printer (local printer tab in printer setup) if unit is ordered with CUPS. This allows to control the printer with the appropriate Windows printer driver from the Windows Terminal Server.
- Option 2: Alternatively, we have introduced a RDP port in the redirect port section of the printer/port setup. Set the port that hosts the printer to RDP and it will show up in the WTS printer setup to be configured with the appropriate Windows printer driver. This requires to create printer maps on the server. See you WTS administration manual for details.
- On the Windows Terminal Server install a new local printer as you would with any other printer. In the pull-down device selector search for the device that starts with the name of the NETiON device as defined in the network setup. It is therefore important that each NETiON device within the network has its own unique name.
- Make sure to print a test page before sending a 100 page document to the local printer!

Display:

Select a preferred screen resolution, compatible with the monitor to be used. Select if the launcher window should be visible or not and if the taskbar should be visible at all times or pop up only if the mouse reaches the lower screen boundary.

Sound:

This setup is only important if an application from a network host needs to send an audio stream directly to the NETiON sound system or Microphone input from the NETiON unit needs to be streamed to the application on the host. Thin Client sound support is handled via the respective client software

modules automatically – is supported at all.

- **Sample Rate:** Select a sample rate
- **Channel:** Select stereo or mono operation
- **Size:** Select 16 or 8 Bit mode
- **Enable microphone:** Select if microphone is to be used
- **Stream Port:** (Default is 9138)
- **Enable control channel:** (default is on)
- **Ctrl. Port:** (Default is 9139)

Input:

- **Keyboard:** (default US) Select a keyboard language and layout

*US_[104_key]
Germany_[105_key]
Switzerland (French)
Switzerland (German)
Italian_[105_key]
Spanish_[105_key]
French_[105_key]
UK_[105_key]*

Note:

NETiON keyboard support is based on xmodmap keyboard configuration files. If your country's keyboard layout is not supported we can add support for your keyboard only if you can provide us with a valid xmodmap file or a sample keyboard so we can create the needed xmodmap file.

- **Mouse:** Select a mouse device (default PS/2, Standard)

Firmware Update:

This SmartClient unit supports a firmware update feature, allowing the replacement of the internal Flash-Linux based OS with a new revision, supplied by our company. This procedure requires a stable network environment and can only be initiated locally on the unit itself.

- **Local address [required]:** Provide temporary local IP address even if unit runs in DHCP mode! If unit runs in static IP mode the IP address selected here can be identical to the IP address used in normal operation mode, otherwise use network compatible valid temporary IP address.
- **FTP server information:** Provide the IP address of the FTP server that provides the new “firmware system file “pro.upd” ” in its root directory. You also need to supply a user name, password and ftp path to the update file.

During the update procedure the status of the connection and the update is displayed next to the “Connection” and “Flashed” fields.

To start the update click the <start update> button

NOTE:

Information about the most current image version is available in the support section of our WEB site. To download update images a user name and password is required to access a special directory to download these update files. Update images are always free of charge. Update images always need to be created by demand for your particular device by SmartFLeX Technology. Please, call or e-mail our support department for details.

End users and Resellers can order available feature enhanced images on a new flash module. The price depends on the size of the flash module. Please, call or e-mail our sales department for details.

Emergency setup

If all goes wrong and the display does not show the desktop due to an ill configured screen setup or cannot completely boot due to dhcp server problems if dhcp is selected in the network configuration part of the NETiON setup, you can boot into the emergency setup by pressing the ESC button on your keyboard a few times once the SmartFLeX boot screen and the message “Loading Linux kernel” appears. At the prompt type “setup” and press enter. The boot procedure should continue and enter directly into the setup agent, without presenting the normal desktop. Correct the problem, save your changes made and reboot.

Specifications:

Hardware:

- Processor: VIA 533 MHz, Chipset: VIA Eden (NETiON/333: AMD 333 Mhz) or VIA 800 MHz
- Memory: 128 MB (512 MB max.) SDRAM (NETiON/333: 128 MB max.) or 128 MB (512 MB max.) DDR (800 MHz unit only)
- Video: Shared 8MB (up to 32 MB with 800 Mhz unit), color depth up to 24 bit true color (depending on selected resolution)
- Video Resolution: 1600 x 1200 max, default: 800 x 600 pixels / 60 Hz
- Flash System: 32, 64, 128 or 256 MB DOM (IDE)
- Network: Realtek 8139C, 10/100 Mbit/s
- Power Supply: 90 – 240 V, 1 A max., auto-sensing
- Ports: 2x PS/2, 1x parallel, 1x serial (2 x serial on some models), 2x USB (4x USB on some models), Sound in/out, VGA
- Environment: 5 – 40 °C, Humidity 20 – 80% non-condensing

Software:

- Embedded Operating System: NETiON™ embedded Linux
- X-Window system: Xfree86, Version 4.x
- Printing: CUPS (optional), BSD/lpr, rsh, InStream (Transparent), redirect (includes RDP)

Client Support (maximum configuration):

- XDMCP,
- X Application (SSL) and Secure X login
- ICA
- xRDP including RemoteView Seamless Application for WTS 2000/2003
- Ericom PowerTerm Emulator Suite
- NoMachine NX
- VNC
- Tarantella (native Linux AIP Client)
- Internet Browser (incl. File Viewers, Plug-Ins, Media Streams)
- Java (JRE)

Optional local Applications (can be selected individually):

- OpenOffice.org
- Browser
- Java
- Media Player
- PDF Viewer
- E-mail Client (POP3, IMAP and IMAP over SSL)

Server Support:

- Linux / Unix
- XDM, KDM, GDM and other compatible Remote X Systems
- SmartFLEx Applix Suite
- NoMachine NX
- VNC
- Windows Terminal Server
- Ericom RemoteView
- Citrix WinFrame, MetaFrame, XP
- Tarantella
- Internet

Warranty: 1 year

Support: For support call SmartFLEx Technology, Inc. +1 (610) 746-2390, or send Fax to +1 (610) 746-2393, or send e-mail to support@smartflectech.com Unlimited Installation support for original owner. Integration support (consulting) is fee based.

Firmware Update Images:

"Bug-fix" images are always cost free for the life-time of the product. Additional Feature Releases may be charged a fee.



Software License for SmartClient Products

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The Flash Memory Disk containing the OS for this product contains copies of the GPL and LGPL.

Copies of GPL and LGPL can also be downloaded from our WEB sites download section for your convenience.

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The content of this Flash Memory Disk can only be accessed and 'read' to operate the terminal under normal operating conditions. It cannot be accessed or 'read' for any other means than operating the unit for its intended purpose.

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