



NetPrint

for NT or NetWare

Start_Up Guide

Copyright © 1999-2001 Syntaxis Technology Ltd.

Distributed in the UK by: -

Altman & Associates

Suite 5, 169 High Street, Boston Spa, West Yorkshire LS23 6BH

Tel: 01937 541400

Fax: 01937 541500

Email: info@altman.co.uk

NetPrint Start_Up

Version 1.

Ref. 4.6

For further information, or if you encounter any problems installing, please see the files **NP_Manual.pdf** (full NetPrint Manual) & **readme.txt** (particularly for information on applying any patches that may be needed after the normal installation). These are on the installation disk / in the download .ZIP file. Also, where reference is made to Pcounter, see our documentation for that, including the Pcounter.doc manual. For additional information, please contact Altman & Associates (support@altman.co.uk).

Please read this entire document before starting the installation. The installer must be logged into the NT Server as Administrator or equivalent, in order for the required files to be properly installed.

1. System Requirements:

Hardware requirements for NetPrint

NetPrint requires a TCP/IP-networked WinNT server (or workstation) to act as a controller for the MoneyLoader(s). Minimum memory, 32MB; Minimum free disk space, 64MB; Service Pack 5 recommended.

The MoneyLoader requires a 10Base-T network connection to a network running TCP/IP.

Networks (e.g. Switches, Routers) need to be setup to allow DHCP / BOOTP Ethernet packets (UDP ports 68 & 67) to be broadcast from the MoneyLoader to the DHCP server & back. Also TFTP Ethernet packets (UDP port 69) from the NetPrint controller to the MoneyLoader.

Software requirements for NetPrint

The ICS MoneyLoader uses a diskless boot ROM that requires a DHCP server running on the network to enable it to download its software program. If you are not using DHCP on your network, a special DHCP server configured just for the MoneyLoader is included with NetPrint. The NetPrint DHCP server uses RFC1541 packets.

If you are - or soon will want to be - using a DHCP server on your network, then you must be able to configure it to do one of two things.

Either:

Set it to ignore the MoneyLoader MAC address(es), when you can then use the supplied NetPrint DHCP server in conjunction with your DHCP server without conflicts.

Or:

Assign a **Fixed/Static/Reserved** address lease and specify DHCP options 13, 66 & 67 (or equivalents) to be passed to the MoneyLoader, using RFC1541 packets. Also, set the server to allow a renewal of the lease on the same basis.

Note: Not all DHCP server implementations support both options.

Once the MoneyLoader has received its IP address, it uses TFTP to have its kernel & programs (bootfile) downloaded. If you are not using TFTP on your network, a TFTP server for the MoneyLoader is included with NetPrint.

If you are - or soon will want to be - using a TFTP server on your network, then you should be able to configure it to serve the MoneyLoader's bootfile.

[NetWare] The NT controller needs the Novell Client32 installed on it.

2. Server Installation:

Server installation is accomplished from and on the NT server. There is no NetWare server setup.

If you have not already setup Pcounter, we would suggest doing this first; see the relevant Install-Guide and Start_Up documents for quick start information on this.

We recommend that all this section be completed before powering up the MoneyLoader, to prevent an erroneous IP address from being assigned. If the MAC address of the MoneyLoader is obtained from ICS before delivery it can all be done before the MoneyLoader is physically installed.

Run the self-extract install file, following the prompts.

Setting up DHCP

If you are going to utilise the NetPrint-included DHCP server for the MoneyLoader, ensure the DHCP server checkbox is set in the NetPrint Control Panel Applet.

If you are going to utilise a 3rd party DHCP server, then the following need setting:

Option 013 Boot File Size	0x8d4
Option 066 Boot Server Host Name	xxx.xxx.xxx.xxx
Option 067 Bootfile Name	syntaxis.bin

(where xxx.xxx.xxx.xxx is the IP address of the NT server where NetPrint is installed).

In addition, the MoneyLoader's MAC address needs to be given a reserved IP address.

Obtaining a Licence

The NetPrint software on the NT controller requires a licence code before it can run. If you attempt to start netprintman without this code, you'll get a licensing error.

Run the control panel applet and go to the licensing page. You'll need the license seed at the top of the page. Then, contact us with the license seed, ensuring you give us it exactly as it is displayed, including the dashes. We will then send you a 32 character (excluding dashes) code.

Click the register button and type the license key in. If the code is correct, the control panel will now reflect your licence and the manager will be able to start when you try.

At the end of the evaluation period (for an evaluation license), the manager will no longer start again.

Setting up NetPrint Impersonation User

A special user called the Impersonation User - is needed to act for the updating of Pcounter user balances. This user should be set-up to have Administrator privileges on the NT Domain. The details need to be entered into the "Impersonation Details" portion on the general setup page of the NetPrint control panel applet.

[NetWare] This user should also be set-up in NDS with the same password as the NT user and to have Browse privileges on the NetWare NDS tree.

This user requires the following Advanced NT rights:

- Act as part of operating system
- Create a token object
- Logon as Batch Job
- Logon as Service
- Replace a process level token

(Note: All these rights can be set using the Show Advanced User Rights in the User Rights Policy.)

If any of the standard Administrator Group rights have been taken away, they may also need adding back in the same way as above.

In addition, this user also requires the same admin rights to Pcounter and the user-balances as a real user would to use PAdmin.exe (see Pcounter documentation).

Leave the service to be run by System.

Security considerations

Because this user has powerful Administrator rights, we recommend preventing the userid from being logged on at any other "workstations" except that being used for NetPrint.

[**NT**] Set this from the User Manager. Highlight the userid, Properties, Logon to, User may logon to these workstations; then specify the name of the server where NetPrint is running.

[**NetWare**] Set this from NWAdmin. Highlight the userid, Details, Network Address Restriction, Add; then specify Network & Node.

Because the individual users require the NT "Log on locally" right to the NT server running NetPrint, we recommend this should be a member server, rather than a PDC/BDC.

Setting up Pcounter for NetPrint

The Pcounter supplied program account.exe in the (by default):

[**NT**] c:\Program Files\Pcounter for NT\NT

[**NetWare**] c:\Program Files\Pcounter for NetWare\NetWare

directory needs configuring for the server the Pcounter.log file should be written to. To do this: load a Command Prompt (i.e. MS-Dos box) on the server. CD to the correct directory - as above - & run:

account config

When prompted, enter the server name where the Pcounter.log is to be maintained.

Updating NetPrint

Before starting an update of NetPrint, please ensure that the control panel is shut, neither the NetPrint (moneycpl.cpl) nor the NetPrint Log (nplogcpl.cpl) applets are running & the Syntaxis service is stopped. All configurations are left as before the update.

3. Starting the MoneyLoader:

Ensure the Syntaxis service is started, the MoneyLoader is connected to the network & power the MoneyLoader on.

The LCD should flicker a few times, then display a message that the MoneyLoader is waiting to acquire DHCP lease.

Then the LCD should display the Syntaxis copyright information & any user-setup messages.

Debugging communications problems:

Occasionally, during initial setup, there may be some problems with the communications between the MoneyLoader & the NT server running the NetPrint service.

If this should happen, a couple of features are available to help debug the problem. Firstly, a VGA screen can be plugged into the PC-board of the MoneyLoader. This requires that the door be left open, so should only be done when testing. Secondly, in the NetPrint Control Panel Applet, the Enable debug-level logging checkbox can be set to allow the service to output information on communications to the (by default) c:\netprint\log\netprint.log file. Should it be necessary to do this, please Stop & re-Start the Syntaxis service afterwards, then power off & back on the MoneyLoader.

[**NetWare**] There is an additional debug file, c:\syn_npnw.log created when debug logging is enabled. This holds NetWare-specific debug information.

Registering NetPrint

Once the evaluation period for NetPrint is over, it's functions will cease to work. Before this time, if you wish to buy the software, please contact either ICS or Altman & Associates. After buying NetPrint, another registration code will be sent to you, this will allow you to obtain & upgrade to new versions of NetPrint while the maintenance period is valid. To register the software, follow the instructions above, headed Obtaining a Licence.

4. Overview:

The NetPrint system is a combination of hardware and software to allow clients to update network account balances via easy to use networked stations. There is one or more NetPrint 'servers', each of which is running Windows NT 4.0 and the NetPrint Manager Service software. Each NetPrint server may control one or more NetPrint stations. It is with the NetPrint stations that the end users interact.

Each NetPrint server will communicate with an account holding system to update and retrieve the user's balance. Currently, this is a Pcounter solution. Authentication of user credentials is configurable on a per-station basis.

Authentication is provided for the standard NT and NetWare NDS security managers. A simple plug-in interface also allows custom authentication to be performed as necessary.

Money Loader

The wall-mounted cabinet consists of a High Security steel case containing a processor and network connection, with high quality coin and note acceptor, panel mounted keyboard and display.

The system allows users to identify themselves by typing in their user name and password on the keyboard.

The system interfaces with Pcounter to display the amount of credit in the user's account and allows money to be added by the insertion of notes or coins. The display mounted on the top of the front panel provides visual feedback to users.

System Architecture

The controlling factor in any NetPrint installation is the NetPrint Server (or servers). These servers communicate with the stations using a custom communications protocol. TCP/IP is used as the transport layer. Installation of a NetPrint station is simply a matter of plugging the unit into the local 10Base-T network and configuring a NetPrint server to manage the new unit. The NetPrint stations contain no real software of their own - only a boot package to allow network based booting. This allows for trivial upgrades of the NetPrint station kernel software.

Since the stations boot off the network, appropriate support services must be provided. The distribution of the NetPrint software contains both DHCP and TFTP servers in order to boot the stations. These may be disabled if the local network already provides the requisite services.

Configuration of the system is achieved via a GUI interface in a Windows NT Control Panel Applet. This user-friendly applet is used to control every aspect of each NetPrint station individually. Also provided is a separate log enquiry applet to allow day-to-day administrative users to enquire of the system.

If required, the stations can be configured to display a set of rotating messages (for example, for advertisements or announcements) during idle periods.

The following features are supported:

- "Self Service" entry of Notes & Coins.

- Update of Pcounter user balance.

- Creation of a "cash content" audit trail of money received.

- Encryption of the information sent between MoneyLoader & NT server.

All trademarks contained in this document are the properties of their respective owners.