

Installing and Configuring LANtastic Power Suite NOS 6.1 Features

Introduction

LANtastic Power Suite comes with an enhanced version of NOS 6. The features of the NOS includes enhanced Printer support, enhanced SMB support, enhanced NDIS installation and much more.

This training module will familiarize you with some of the features of this enhanced version of NOS and provide you with procedures for configuring your network.

Performance Objectives

Upon completion of this module you will be able to efficiently perform the following actions:

- Install LANtastic NOS for DOS and Windows
- Set up HP JetDirect Printer Support
- Set up Central Station CSPRINT Printer Support
- Set up a Shared Printer Pool
- Install SMB Support and view the configuration files
- Install NCP Support and view the configuration files

Equipment Needed

Obtain the following materials:

- Two or three 80386SX-class or higher IBM compatible computers with at least 4MBytes of RAM.
- DOS 5.0 or higher and Windows 3.1 or higher.
- LANtastic Power Suite or an installation server with the necessary networking hardware.
- Central Station II.
- HP JetDirect device.
- Two printers with the same format(e.g. HP Laserjet series) (optional).

Installing the Software

1. If installing from floppies insert disk 1 into the appropriate drive start Windows and run SETUP, or if installing from an installation server redirect a drive to the proper resource and run the SETUP program from there.

NOTE: YOU CAN EXTRACT FILES BY PRESSING “ALT EX” AT THE WELCOME SCREEN. You will need to choose the library and enter the file name to be extracted. The files that can be extracted and their home directory on the installation disks are listed in the Packing.TXT file.

2. Select to continue without extracting any files.
3. Enter the appropriate information at the Product Registration screen and press Enter to continue.
4. Select to install LANtastic NOS files only.
5. Select Custom Install and press Enter to continue.

NOTE: The difference between choosing Custom Install and Quick Install is that the Quick Install will not give you the options for NCP, SMB, HP JetDirect, and/or WSCache.

6. Choose to Replace existing settings.
7. Enter the name for this computer.
8. Select to share this computer’s drives and printers, and to install the on-line docs.

Note that you have the option to change the installation path. This is not an available option if you choose to keep existing settings.

Also notice the lower right corner of the screen. There is an option to specify which LANtastic files to install. If this machine was being installed as a Workstation you would have the choice of installing the workstation files only or to install all files. The benefit of installing all files on a Workstation is that if you later decide to make the machine a Server all of the necessary files will already be installed on the HDD.

The Floppy files and Tiny floppy files are basically for the Install Services feature. If the customer is installing in a configuration that does not already have a network installed, the Install Services feature can be installed on the Server and a Floppy files installation can be performed to create a Floppy that can be used to boot the workstations up to the network. At that time you can install to the workstations across the network from the Install Server. The Floppy files feature is on available if LANtastic NOS is chosen as the only option.

9. Choose OK to continue.
10. At this point you have the option to establish permanent drive and/or printer redirections. Any connections established will be placed in the Connect.BAT file.
11. Choose OK to continue.
12. This screen gives you the option to connect to a SMB and/or NCP server.

If you choose to install SMB Support it will cause the Setup program to force a NDIS selection for the adapter choice. If you choose to install NCP Support it will force an ODI installation allowing only NodeRunner(NRODI/AI-ODI).

13. Choose to install SMB and NCP Support and press Enter to continue.
14. This screen allows you to set up HP JetDirect Support and enable Workstation Cache.

HP JetDirect uses MSDLC(Microsoft Data Link Control) to communicate across the network. LANtastic uses NDIS to communicate to MSDLC. The MSDLC is a TSR(39k) that loads either in the Autoexec.BAT or in the Startnet.BAT. The driver was originally designed to be used in a Windows for Workgroups network. If HP JetDirect Support is chosen it will for an NDIS installation. If NCP support is chosen on the previous screen a combined ODI/NCP installation using NRODI and ODINSUP will be forced.

If the Workstation Cache option is not enabled, you can still run the WSRUN.BAT file manually at the DOS prompt.
15. Select to install HP JetDirect support and press Enter to continue.
16. This screen allows you to enable Install Services.

To use the Install Services feature on an installation that does not already have any network drivers previously installed, you can perform a Floppy install to create a boot floppy to use at the workstations.

Remember, REDIR.EXE is the only file on the installation disks that is serialized and it is uncompressed on disk #1. Therefore, if a customer has purchased three 5-user licenses of LANtastic Power Suite, the same installation Server can be used to perform all of the installs and then you will just need to go to each node and copy the appropriate REDIR.EXE to the appropriate nodes.
17. Select to set up Install Services and press Enter to continue.
18. The next screen is the Adapter selection screen.

The default setting at this screen is the Artisoft NodeRunner adapter unless a particular option was chosen prior to this screen. The following describes available screen options based on selections made prior to this screen:

 - SMB Support - since SMB Support requires an NDIS stack, this option will force an NDIS installation. The adapter setup will default to the NDIS support for Artisoft adapters. If you have an AE2/3, deselect NodeRunner. If you have a third party adapter, select to use NDIS driver for non-Artisoft adapter.
 - NCP Support - since NCP Support requires an ODI stack, this option will force and ODI installation. The adapter setup will default to an NRODI installation with the NodeRunner as the only choice. If you have a third party adapter you will need to manually replace the driver in Startnet.BAT.
 - HP JetDirect Support - this installation requires an NDIS stack also and will force an NDIS installation.
 - If support for all three are selected(SMB,NCP,HP JetDirect), an NRODI installation will be forced. The ODINSUP will provide the NDIS stack required for SMB and the HP JetDirect.
19. Press Enter to accept the selection.
20. This next screen is the LANtastic Setup Summary screen. This screen gives you the option of going back and making changes if needed. View the Disk Space Summary and note the amount of hard drive space required. Press Enter to install.

Viewing the Configuration Files

Once the installation is finished reboot the computer to load all necessary drivers. If you have a multi-configuration Config.sys and Autoexec.bat, Setup will not alter them, instead Config.new and Autoexec.new will be created and you will have to manually make the appropriate changes.

The following is an example of what the Startnet.bat should look like after the previous installation:

```
Sample Startnet.BAT  
  
LSL  
NRODI (change to 3rd party driver if required)  
IPXODI /A  
ODINSUP (provides the NDIS layer required for SMB & HP JetDirect)  
NETBEUI (required for SMB support)  
MSDLC (required for HP JetDirect....can be loaded in Autoexec.bat)  
NETBIND  
AI-ODI  
AILANBIO @STARTNET.CFG  
  
REDIR LARRY @STARTNET.CFG  
  
SERVER C:\LANTASTI.NET @STARTNET.CFG
```

Notice that the ODI support is installed and ODINSUP is providing the NDIS layer required for the SMB and HP JetDirect. Compare this to your Startnet.BAT file.

1. Use LED to edit the Startnet.bat file.
2. View the configuration and make any necessary changes.
3. Next, edit the Protocol.INI and make any necessary changes(i.e. Iobase/IRQ)

Notice that there is a section for the NodeRunner[AEXNDIS_NIF], HP JetDirect [MS\$DLC], and SMB support[NETBEUI_XIF]. Compare to the sample Protocol.INI found on the next page.

4. Edit the Config.SYS and make the appropriate changes as shown in the Config.NEW. Remember Protman.DOS and Aexndis.DOS will not be added to the Config.SYS if a multi-configuration is being used.
5. Edit your NET.CFG and view it's configuration.
6. If you have access to an SMB and a NCP server attempt to login to each. You'll notice that once you're logged into a SMB server, you will get a list of the available resources.
7. Type MEM/C/P and note the amount of RAM each driver is using.

Sample Protocol.INI

```
[PROTMAN]
Drivername=PROTMAN$
Dynamic=Yes
Priority=NETBEUI

[NETBEUI_XIF]
Drivername=netbeui$
Sessions=6
NCBS=12
Bindings=NRODI
LANABASE=1

[MS$DLC]
Drivername=msdlc$
bufelements=128
dlcretries=5
stations=7
;change line below to swap=1 for token ring adapters
swap=0
;change line below to saps=<number of printer task>
saps=7
Bindings=NRODI

[AEXNDIS_NIF]
Drivername=AEXNDS$

IOBase=0x300
```

Setting Up a HP JetDirect Device

The HP JetDirect device allows a printer to be shared on the network without having to be connected directly to a machine. Instead it is connected to the network cabling as though it were a workstation.

From a hardware perspective the device comes in two flavors, Internal and External. Regardless to which you're using you will need to know the node ID or Network address of the device to use it properly on the network. This information can be found in two ways. Either on the device or by running the test utility which will print a status of the device giving the network address as well.

The first step in setting up this device is to ensure it is connected properly to the network. When using the external model it can be connected to a wide range of printers. The device comes with a power cord that will allow you to plug the power cord that comes with the printer into the power supply and then plug the printer into the power supply. The next connection to make is the network cabling. The choices are 10base2 and UTP. The last thing that needs to be connected is the printer cable.

At this point you can run the status test feature by pressing the TEST button on the front of the unit. Now you're ready to configure LANtastic to print to the device.

If an internal model is being used, insert the device into the appropriate printer and run the test to check the status of the device.

The following steps describe the procedure for setting up an HP JetDirect resource on the Server that is going to queue the print jobs. Before proceeding it is necessary to know the adapter number that the server will be using to communicate to the device as well as the Node ID. There can be multiple Servers setup to queue print jobs to the device. There can only be 8 HP JetDirect devices on the network.

1. Go to WNET_MGR and select Resources (or NET_MGR and select shared resources management).
2. Select Edit, Insert and ADD (or press insert to add a resource if you're using NET_MGR).
3. Select Shared Device.
4. Enter @HPJET for the resource name.
5. Select HP JetDirect as the output device.
6. Next you will be prompted for the Node ID. This is a 12 digit number which is actually the Network Address for the device. The number can be found on the back of the device after the letters AD. For example the node ID for the device may be AD:0800091FEC96. You can also get this number by running the test routine for the device.

You will also be prompted for the adapter number. This is referring to the adapter in the Server that is communicating with the device. If there are two adapters in the Server and the HP JetDirect device is on the same cable segment as the adapter 1, then the adapter number for the device is adapter 1. If there is only one adapter in the machine then the adapter number would be adapter 0, unless a different adapter number was specified when the adapter drivers were loaded.

7. Enter the appropriate Network ID and adapter number and press Enter to complete the process.

8. Select the resource and press Enter to view the detail information screen.
9. Note the ID for the resource and ensure it is correct.
10. Enable Immediate despool.
11. Increase CPS to 10,000.
12. Escape to the main menu of Net_Mgr.
13. Select Server startup parameters.
14. Select printing and press enter.
15. Ensure HP JetDirect Support is enabled.
16. Reboot the Server to load all of the proper drivers and configuration changes.
17. Type MEM/C/P and view the drivers loaded and the amount of memory used.
18. Reset the JetDirect device by disconnecting and reconnecting the power supply.
19. Establish a redirection to the @HPJET resource at either the server or a workstation.
20. Test print to the printer by typing "COPY AUTOEXEC.BAT LPT1".

Setting Up CSPRINT Support

This section describes the necessary procedures for setting up CSPRINT support on the network. The first step is to ensure the Central Station is working properly. The following steps describes how to setup the Central Station and printer, and how to set up the software for CSPRINT support. Perform steps 1-6 only if a Central Station is not already set up and configured on the network, otherwise skip to step #7.

NOTE: CSPRINT SUPPORT WILL NOT WORK PROPERLY WITH AI-ODI WHICH IS THE DEFAULT CONFIGURATION FOR NCP SUPPORT. HOWEVER, THE FEATURE WILL WORK PROPERLY WITH ODINSUP. YOU WILL NEED TO REPLACE AI-ODI WITH AI-NDIS BINDING TO NRODI.

1. Obtain a Central Station and printer to use for this exercise.
2. Connect the Central Station to the Network cabling using either a coax or UTP connection.
3. Connect the printer to the LPT port on the Central Station.
4. Run CSCONFIG NET to configure the Central Station LANtastic Printer Server.
5. Escape to save configuration changes
6. Reset the Central Station by toggling the power switch.
7. Go to WNET_MGR and select Resources (or NET_MGR and select shared resources management).
8. Select Edit, Insert, and ADD(or press Insert to add a resource if you're using NET_MGR).
9. Select Shared Device.
10. Enter @CSPRINT for the resource name.

11. Select CSPRINT as the output device.
12. Next you will be prompted for the Central Station's Name, Adapter number, and port the printer is attached to.
13. Enter TRAINING for the name, 0 for the adapter number and LPT1 for the port.
14. Escape to the main menu.
15. Select Server startup parameters and choose printing.
16. Be sure to enable CSPRINT support.
17. Escape to the DOS prompt.
18. Reboot the Server to establish the configuration changes.
19. Redirect a printer port to the @CSPRINT resource.
20. Test print by copying the Autoexec.BAT file to the redirected port.

Setting Up A Shared Printer Pool

The key thing to remember when setting up a shared printer pool is that all of the devices that are to be added to the pool must accept the same printer format. For example, you cannot put a HP LaserJet, HP DeskJet, and a Panasonic DotMatrix in the same printer pool because they accept different formats.

1. Go to WNET_MGR and select Resources (or NET_MGR and select shared resources management).
2. Select Edit, Insert, and ADD(or press Insert to add a resource if you're using NET_MGR).
3. Select Shared Printer Pool.
4. Enter @Pool for the resource name.
5. Select Pool at the bottom of the screen.
6. Select to add resources previously created. These can also be removed by selecting the remove option.
7. Select OK to accept the entries.
8. Press Enter to complete the setup process. You can now print to this resource in the same manner as though you were printing to a regular printer resource. The print job will print to the first available printer. There will not be an indication of which printer the job was performed on.

Performing An DOS Installation of LANtastic Power Suite

1. If installing from floppies insert disk 1 into the appropriate drive and run INSTALL, or if installing from an installation server redirect a drive to the proper resource and run the INSTALL program from there.

NOTE: YOU CAN EXTRACT FILES BY PRESSING “X” AT THE WELCOME SCREEN. You will need to choose the library and enter the file name to be extracted. The files that can be extracted and their home directory on the installation disks are listed in the Packing.TXT file.

2. Select to continue without extracting any files.
3. Enter the appropriate information at the Product Registration screen and press Enter to continue.
4. Select to install LANtastic NOS files only.
5. Choose to Replace existing settings.
6. Enter the name for this computer.
7. Select to share this computer’s drives and printers, and to install the on-line docs.

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8. Choose OK to continue.
9. At this point you have the option to establish permanent drive and/or printer redirections. Any connections established will be placed in the Connect.BAT file.
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11. This screen gives you the option to connect to a SMB and/or NCP server.

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18. Press Enter to accept the selection.

19. This next screen is the LANtastic Setup Summary screen. This screen gives you the option of going back and making changes if needed. View the Disk Space Summary and note the amount of hard drive space required.

20. Press Enter to install.

The DOS Installation is now complete. You need to reboot your computer to load all necessary drivers and configuration changes.

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**Module NOS61INS
Revision 1
05/26/95**

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