Table of contents

RAS & Warp LAN Requester

Version date: 5 November, 1996

Written by: **Steve Mills**

Msgid: 100014.1312@compuserve.com

RAS & Warp LAN Requester

Introduction

This paper documents one way of achieving a NetBIOS over TCP/IP dialup connection with Warp 3 that will enable the workstation to NET USE other resources over a RAS Dialup via a NT server.

The document is written as a list of tasks and checks.

Setup

1. Install LAN Requester and TCP/IP - Peer Services are not required.

2. Check the SYSLEVEL for TCP/IP and for MPTS. The easiest way of doing this is, at a command prompt, type SYSLEVEL >SYSLEVEL.TXT and then use an editor to examine SYSLEVEL.TXT.

> Search for TCP/IP and an entry looking like the one below:-
> ```
> D:\TCPIP\BIN\SYSLEVEL.TCP IBM TCP/IP Version 3.0
> for OS/2
> Version 3.00     Component ID 562281300
> Current CSD level: UN00067
> Prior    CSD level: UN00001
> ```
> The Current CSD level must be at least UN00067, otherwise apply CSD UN00067.

> Search for "multi" and an entry looking like the one below:-
> ```
> D:\MPTN\SYSLEVEL.MPT IBM OS/2 Socket/Multi-Protocol
> Transport Services
> Version 5.00.1    Component ID 562290900
> Current CSD level: WR08210
> Prior    CSD level: WR08200
> ```
> The Current CSD level must be at least WR08210, otherwise apply CSD WR08210.

> These CSDs can be downloaded from ftp://service.boulder.ibm.com/ps/products/INDEX.TXT; but see Appendix A for details concerning how to apply them.

3. Configure TCP/IP as usual and ensure that all server names and IP addresses that are going to be used are in HOSTS. Be careful to determine which is the correct location for HOSTS: if TCP/IP was installed prior to LAN Requester then it will likely be in TCPIP\ETC otherwise it will likely be in MPTN\ETC.

4. Also edit the same list of names and addresses into IBMCOM\RFCNAMES.LST where the name comes first in double quotes followed by the IP address.

5. Run MPTS and configure the LAN adapter - if there is no real LAN adapter then configure the special IBM NULLNDIS adapter. Include protocols IEEE 802, TCP/IP and NetBIOS over TCP/IP.

6. Configure the parameters for each of the protocols. It is easier, for the purpose of this

document, to explain this by examining IBMCOM\PROTOCOL.INI rather than
reproducing the Warp configuration panels:-

[PROT_MAN]

   DRIVERNAME = PROTMAN$

[IBMLXCFG]

   LANDD_nif = LANDD.NIF
   TCPBEUI_nif = TCPBEUI.NIF
   TCPIP_nif = TCPIP.NIF
   NULLNDIS_nif = NULLNDIS.nif
   MYMAC_nif = EL3IBMO2.nif

[NETBIOS]

   DriverName = netbios$
   ADAPTER0 = tcpbeui$,0

[LANDD_nif]

   DriverName = LANDD$
   Bindings = MYMAC_nif
==>   ETHERAND_TYPE = "I"
   SYSTEM_KEY = 0x0
   OPEN_OPTIONS = 0x2000
   TRACE = 0x0
   LINKS = 8
   MAX_SAPS = 3
   MAX_G_SAPS = 0
   USERS = 3
   TI_TICK_G1 = 255
   T1_TICK_G1 = 15
   T2_TICK_G1 = 3
   TI_TICK_G2 = 255
   T1_TICK_G2 = 25
   T2_TICK_G2 = 10
   IPACKETS = 250
   UIPACKETS = 100
   MAXTRANSMITS = 6
   MINTRANSMITS = 2
   TCBS = 64
   GDTS = 30
   ELEMENTS = 800
   NETFLAGS = 0x0

[TCPBEUI_nif]

   DriverName = tcpbeui$
   Bindings = MYMAC_nif
==>   NODETYPE = "H-Node"

==>	SLIP = "YES"	
==>	NBNSADDR = "134.183.6.200"	NetBIOS name server. Things would probably work ok without this as long as HOSTS and RFCNAMES.LST have been fully populated.
==>	NBNSBACKADDR = "134.183.7.200"	As above.
==>	NBDDADDR = "134.183.6.200"	As above.
==>	NBDDBACKADDR = "134.183.7.200"	As above.
	OS2TRACEMASK = 0x0	
==>	SESSIONS = 30	See (1) below.
==>	NCBS = 225	See (1) below.
==>	NAMES = 21	See (1) below.
==>	SELECTORS = 15	See (1) below.
	USEMAXDATAGRAM = "NO"	
==>	NETBIOSTIMEOUT = 500	See (2) below.
==>	NETBIOSRETRIES = 2	See (2) below.
	NAMECACHE = 130	
	PRELOADCACHE = "NO"	
	NAMESFILE = 36	
==>	DATAGRAMPACKETS = 20	See (1) below.
==>	PACKETS = 50	See (1) below.
	INTERFACERATE = 300	

[TCPIP_nif]

    DriverName = TCPIP$
    Bindings = MYMAC_nif

==>	IfType = 23	Declares this as PPP/SLIP.

[XNSIDP]

    DriverName = XNSIDP$
    Bindings = MYMAC_nif

[NULLNDIS_nif]

    DriverName = NULLNDS$

[MYMAC_nif]

    DriverName = ELNK3$
    MaxTransmits = 20

Note: (1) The following information was found in IBMCOM\README.MPT...

2.2 - NETBEUI RAM CALCULATIONS

The information in the MPTS* Configuration Guide Appendix C should be
updated with the following information.   The following table and examples
should be used for NETBEUI RAM calculations:

```
 Data Area Item        Related Parameter       RAM usage in bytes
                       in NETBEUI_NIF Section      processor type
                                                286         386


 overhead for adapter
work and communication
area                   not applicable          4100**       6650**


each command          NCBS                        60          70
each session          SESSIONS                  600**       700**
each name             NAMES                       80         100
each selector         SELECTORS                   10          10
each I-packet         PACKETS                    100         110
each UI-packet        DATAGRAMPACKETS            120         130
each loopback packet  LOOPPACKETS               150         150
-----------------------------------------------------------------
```

** indicates that it has changed since NTS/2*.

overhead for NTS/2* 286 was 3390
overhead for NTS/2* 386 was 4990

value for the number of sessions for NTS/2* 286 was 570
value for the number of sessions for NTS/2* 386 was 670

The values for these parameters need to be chosen such that they can
be accommodated within a single 64Kb block.

(2)   TIMEOUT and RETRIES need to be set such that the product of the
two (TIMEOUT * RETRIES) is less than 6000.

7. Edit the wrkheuristics parameter in IBMLAN\IBMLAN.INI and change bit 37 to 0,
as follows:-

```
; 37  type of verification for the LAN Server logon
;       0 = no verification
;       1 = verify against local NET.ACC
;       2 = verify against domain NET.ACC (default)
;
; The next lines help you to locate bits in the wrkheuristics entry.
;                          1         2         3         4
;               0123456789012345678901234567890123456789
  wrkheuristics = 1111111121311111110001011120111221001011110
```

8. File MPTN\BIN\SETUP.CMD appears as follows (only significant lines are listed
here - not the whole file):-

```
route -fh
arp -f
```

> ifconfig lo 127.0.0.1
> ipgate off

9.   Configure the Dialler. Set the Primary Adapter check box on Page 2.

10. The installation procedures will have placed a NET START REQ in STARTUP.CMD followed by an error check. Remove these (or comment them out).

11. Using User Profile Management, create userids and passwords to match those that are to be used on the LAN.

Using the Connection

12. Ensure that the primary LAN adapter is down. Use IFCONFIG LAN0 DOWN. The state can be checked by typing IFCONFIG LAN0.

13. Use the dialler to make the connection. You can confirm that the dialup connection is up by typing IFCONFIG PPP0.

14. Use LAN Services LOGON (this will also start the LAN Requester) and give the userid, password and domain.

15. Attach drives using NET USE <drive:> \\<serverName>\<sharedDirectoryName> for example:-

> NET USE S: \\JSERVER\SDRIVE

Drives cannot be located by using the LAN resource browsers, but can be attached as described. Once attached they will appear in the DRIVES object as LAN Drives and can be accessed as usual.

Guarantees?

There are none!

This works for the author (Steve Mills - email 100014.1312@compuserve.com).

Appendix A - Applying CSDs

Once the CSDs have been downloaded from the internet and unzipped, there is a procedure described in the ZIP file for creating a set of floppy disks from which the CSDs will be applied.

It is necessary to have the following lines in CONFIG.SYS for this to work (i.e. both for creation of the disks and for applying the fixes):-

```
BASEDEV=IBM2FLPY.ADD
BASEDEV=XDFLOPPY.FLT
```

On the author's PC, normal floppy disks cannot be accessed with these lines present in CONFIG.SYS, so they are normally commented out. However, the CSD mechanisms will not successfully produce the CSD disks without these lines, and the CSD disks cannot be used without these lines.

The solution was to add them back in whilst carrying out this procedure and then to remove them again afterwards.

The XDFLOPPY.FLT is believed to be for a 2Mb floppy disk format used by IBM installations and IBM2FLPY.ADD is for MCA (Micro Channel Architecture) machines and so should not be required at all unless the target machine is of that type, however, the author found that this driver had to be present.