

Adding an Item to the TCP/IP Static VMS MISER Host Database

Overview

MISER VMS computers use static TCP/IP Host aliases for system elements, such as:

- Other VMS computers
- PCs
- Printers
- Switches and Routers
- Terminal Servers
- RTUs and PLCs

In VMS, the static Host database is not easily changed; it requires commands to add and delete records like a real database. However, there is a datafile and a script to simplify changing the Host database.

The datafile is: `SITE$DATA:TCPIP_HOSTS_<job>.DAT`.

The script (DCL Command Procedure) is: `SITE$COM:SET_TCPIP_HOSTS.COM`.

The `TCPIP_HOSTS_<job>.DAT` file has the following entry:

```
<SIMPLE_HOSTNAME>=<IP Address>           !<comment>
```

For example:

```
DCYR23=192.168.1.22           ! Not a real Daly City network RTU
```

`SET_TCPIP_HOSTS.COM` reads this datafile and translated the entries into Host database records, such as:

```
192.168.1.22           dcyr23, DCYR23, dcyr23.dcy.gov, DCYR23.DCY.GOV
```

The `dcy.gov` is the Internet Domain. This needs to have been set the same on all the VMS computers in the MISER system. The domain should be all lowercase.

`SET_TCPIP_HOSTS.COM` reads `TCPIP_HOSTS_<job>.DAT` line by line. If it encounters an IP address that is already in the Host database, it changes the hostname and aliases according to the entry in the datafile. If it encounters an IP address **not** yet in the Host database, it **adds** an entry to the Host database.

Therefore, if changing the hostname associated with an existing IP address or adding a network node with a new address and hostname, it is a straightforward process.

ADDING TO THE HOST DATABASE

However, when changing the IP address that goes with an existing hostname and before running SET_TCPIP_HOSTS, it is necessary to delete the existing Host database entry with the command:

```
TCPIP SET NOHOST/NOCONFIRM-<ip address>
```

For example:

```
DCYVSA$ TCPIP SET NOHOST/NOCONFIRM 192.168.0.22
```

The following is an example where a new network RTU (dcyr23) is added to the DCY system.

Steps

1. Add the item to SITE\$DATA:TCPIP_HOSTS_<job>.DAT
2. Run @MNET\$COM:SET_TCPIP_HOSTS.COM on one computer to update the Host database and verify it.
3. Use NET_DIST to copy SITE\$DATA:TCPIP_HOSTS_<job>.DAT to all the other computers.
4. Use NET_CMD to run SET_TCPIP_HOSTS.COM on the rest of the computers.
5. While still in NET_CMD, check the rest of the computers and then exit NET_CMD.

Details

1. Add the item to SITE\$DATA:TCPIP_HOSTS_<job>.DAT.

```
DCYVSA$ edit site$data:tcip_hosts_dcy.dat
```

Add the line -DCYR23=192.168.1.22 ! Not a real Daly City network RTU- and save the file.

2. Run @MNET\$COM:SET_TCPIP_HOSTS.COM on one computer to update the Host database and verify it.

```
DCYVSA$ set def sys$login:
DCYVSA$ ! Report current database entries to a text file.
DCYVSA$ tcpip show host /out=tcip-hosts-before.txt
DCYVSA$ @mnet$com:set_tcpip_hosts
... (Shows records it is writing) ...
DCYVSA$ tcpip show host /out=tcip-hosts-after.txt
DCYVSA$ diff tcpip-hosts-after.txt tcpip-hosts-before.txt
*****
File SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-AFTER.TXT;1
   7  192.168.1.22  dcyr23, DCYR23, dcyr23.dcy.gov, DCYR23.DCY.GOV
   8  192.168.1.87  dcycp0, DCYCP0, dcycp0.dcy.gov, DCYCP0.DCY.GOV
*****
File SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-BEFORE.TXT;1
   7  192.168.1.87  dcycp0, DCYCP0, dcycp0.dcy.gov, DCYCP0.DCY.GOV
*****
Number of difference sections found: 1
```

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Number of difference records found: 1

```
DIFFERENCES /MERGED=1-
  SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-AFTER.TXT;1-
  SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-BEFORE.TXT;1
DCYVSA$ ! Check that the hostname we changed still maps to only one
DCYVSA$ ! ip address - relevant only if we are changing the ip address
DCYVSA$ ! that a hostname maps to - did we forget to delete the old
DCYVSA$ ! entry first? - but checking is a good habit to maintain.
DCYVSA$ tcpip show host dcyr23
192.168.1.22    dcyr23, DCYR23, dcyr23.dcy.gov, DCYR23.DCY.GOV
DCYVSA$ ! Good, only one ip address showed up for that name.
```

Success! Only one entry was added to the database.

3. Use NET_DIST to copy SITE\$DATA:TCPIP_HOSTS_<job>.DAT to all the other computers.

```
DCYVSA$ tools
DCYVSA$ net_dist site$data:tcpip_hosts_dcy.dat
```

4. Use NET_CMD to run SET_TCPIP_HOSTS.COM on the rest of the computers.

Exclude the one that was already done. If it is not excluded no changes will be made on that node. Also exclude any computers that are not **UP**, NET_CMD will delay while it tries to communicate with them.

```
DCYVSA$ net_cmd
NET_CMD - Netowrk client.
  Node List:
DCYVSA, DCYVSB, DCYVS1, DCYVS2, DCYVS3, DCYVS4, DCYVS5
Indicate node names you which to exclude, separated by commas.
  DCYVSA
  New list of nodes:
DCYVSB, DCYVS1, DCYVS2, DCYVS3, DCYVS4, DCYVS5
Network Command> tcpip show host/out=tcpip-hsots-before.txt

*****
          Node      -      DCYVSB      *
*****
...
Network Command> @mnet$com:set_tcpip_hosts
*****
          Node      -      DCYVSB      *
*****
SET_TCPIP_HOSTS.COM
  "TCPIP$INET_HOST" = "dcyvsb" (LNM$SYSTEM_TABLE)
...
Network Command> tcpip show host /out=tcpip-hosts-after.txt
```

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```
*****
Node      -      DCYVSB  *
*****
...
Network Command> diff tcpip-hosts-after.txt tcpip-hosts-before.txt

*****
Node      -      DCYVSB  *
*****
*****
File SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-AFTER.TXT;1
   7  192.168.1.22  dcyr23, DCYR23, dcyr23.dcy.gov, DCYR23.DCY.GOV
   8  192.168.1.87  dcycp0
*****
File SYS$SYSDEVICE:[USERS.SYSTEM]TCPIP-HOSTS-BEFORE.TXT
   7  192.168.1.87  dcycp0, DCYCP0, dcycp0.dcy.gov, DCYCP0.DCY.GOV
*****
...
Network Command>
```

5. While still in NET_CMD, check the rest of the computers and then exit NET_CMD. Excluding the computer that had already run SET_TCPIP_HOSTS.COM, enter:

```
Network Command> tcpip show host/out=tcpip-hosts-before.txt
Network Command> @mnet$com:set_tcpip_hosts
Network Command> tcpip show host/out=tcpip-hosts-after.txt
Network Command> diff tcpip_hosts_after.txt tcpip_hosts_before.txt
Network Command> exit
```