

Technote 0011

Configuring MassTransit for Multihoming

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2/26/2004

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This Technote describes how to configure MassTransit on a computer that has multiple IP addresses.

Configuring MassTransit

By default MassTransit listens for incoming calls on all available IP addresses. Often this is not desirable on a computer that may be on two different networks [multi-link multihoming] or have multiple IP addresses on the same network [single-link multihoming]. The default behavior may be changed by placing a configuration file in the same folder as the MassTransit application. This configuration file must be named “MT IP Addresses.txt” and should lists, in order, the IP addresses to use for both TCP/IP and TCP/IP Secure incoming calls. Below is a sample configuration file.

The first section, “TCP/IP Secure Incoming Calls,” lists the IP addresses to use for incoming calls that use TCP/IP Secure [SSL]. In the example MassTransit will use 209.183.196.33 for the first incoming call and 209.183.196.109 for the next. Note that the number of entries in the “MT IP Addresses.txt” configuration file must match the number of incoming calls configured in the Configuration dialog box. If there are more incoming calls defined than there are entries in the configuration file then the additional incoming calls will revert to the default and listen on all IP addresses.

The second section, “TCP/IP Incoming Calls”, lists the IP addresses to use for incoming calls that use standard TCP/IP.

```
%%  
%% MT IP Addresses.txt - Configuration file for MassTransit that  
%% controls which interfaces are monitored for incoming calls.  
%%  
%% Copyright (c) 2002 Group Logic, Inc.  
%%  
  
%% TCP/IP SECURE INCOMING CALLS  
%%  
%% ssl=209.183.196.33  
%% ssl=209.183.196.109  
  
%%  
%% TCP/IP INCOMING CALLS  
%%  
%% tcpip=209.183.196.33
```

On Mac OS X, make sure that you edit the “MT IP Addresses.txt” file with TextEdit so that it is saved with Mac-style line endings.

Configuring a Macintosh for Multihoming: Mac OS 9

Mac OS 9 offers limited support for multihoming. OpenTransport 1.3 and later supports “single-link multihoming” which allows for multiple IP addresses on a single network interface. In Mac OS 9 there is no user interface to configure multihoming. Instead, a configuration file must be placed in the Preferences folder.

Configure a system to use multiple IP addresses as follows:

1. The TCP/IP Control Panel must be set for manual addressing.
2. You create a text file with the required name "IP Secondary Addresses" and put it into the Preferences folder in the System Folder.

Each line of the IP Secondary Addresses file contains a secondary IP address to be used by the system, and an optional subnet mask and router address for the secondary IP address. If there is no subnet mask entry, then a default subnet mask for the IP address class will be used. If there is no router address entry, then the default router associated with the primary address will be used.

Each secondary address entry must be prefixed by "ip=". Each subnet mask entry must be prefixed by "sm=". Each router address entry must be prefixed by "rt=". Lines preceded by a ; are ignored. An example of the contents of the IP Secondary Addresses file follows.

'ip=' for ip address, 'sm=' subnet mask, 'rt=' router address. There should be no commas in this line as shown between entries. There should also be no spaces in 'ip=192.168.22.200'

```
ip=192.168.22.200      sm=255.255.255.0      rt=192.168.20.1
ip=192.168.22.201      -                      rt=192.168.20.1
ip=192.168.22.202      -                      -
```

The order of the entries is important. The "rt=" entry must follow the "sm=" entry if used.

When Open Transport activates TCP/IP, the primary address will be obtained from the TCP/IP Control Panel setting. Open Transport then looks for the IP Secondary Addresses file in the Preferences folder to determine if additional addresses should also be configured. If there are duplicate IP address entries in the IP Secondary Addresses file, the duplicate addresses will be ignored.

When Open Transport binds a TCP/IP connection, if there is an address conflict with either the primary or any secondary addresses with another host, Open Transport will present an error message using a dialog box and unload Open Transport/TCP from memory. The error dialog will display the conflicting IP address, the hardware address of the conflicting computer and note that your TCP/IP network interface has been shut down.

To resolve the conflict, quit all of the TCP/IP applications on both conflicting computers, reconfigure TCP/IP on one of the computers so there is no longer an address conflict, then relaunch your TCP/IP applications.

Configuring a Macintosh for Multihoming: Mac OS X

Mac OS X offers support for both “single-link multihoming” and “multi-link multihoming”. Single-link multihoming allows for multiple IP addresses on a single network interface. Multi-link multihoming uses multiple network interfaces with different IP addresses.

Multi-link multihoming is achieved by configuring each network interface. Note that MassTransit will only listen on the default interface unless you specify otherwise in the “MT IP Addresses.txt” file.

To configure single-link multihoming:

1. Launch System Preferences and go to the Network Preference Pane.
2. In the Show pull-down menu, select "Active Network Ports."
3. Select one of your interfaces and click on the Duplicate button just to the left of it. Now you have two of that interface. You can configure both of these as you normally would any other interface.

Keep in mind that only one of your duplicated interfaces has AppleTalk active. This also applies if you have multiple interfaces connected to the same physical network. If AppleTalk is active on more than one interface your computer will see its own AppleTalk name already on the network from the other interface. This will cause Mac OS X to shut down AppleTalk on all interfaces, since there can't be two machines with the same name on the network. The system will actively alert you to the fact that AppleTalk can't run on both interfaces at the same time.