WANem 1.1
Wide Area Network Emulator

Troubleshooting Guide

Performance Engineering Research Centre

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TATA CONSULTANCY SERVICES

TATA

Revision History

Date	Document Version	Tool Version	Description	Author
27-Apr-2007	1.1	1.1	TCS WANem Troubleshooting Guide	M K Nambiar
22-May-2007	1.2	1.1	Making corrections to document	M.K.Nambiar

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1 Troubleshooting Guide

First please read the WANem setup guide carefully to ensure that no step has been missed in the setup and use of WANem.

1. How do I know that the traffic between 2 hosts are going via WANem?

Ans: For checking this we need to use the command traceroute. In Windows O/S use the command tracert.

a. From host 1 run the command "traceroute **<ip2>**" - ip2 is the IP address of host 2. In the output you should be able to see the route passing thru "wanemip", the IP address of the WANem PC.
b. From host 2 run the command "traceroute **<ip1>** - ip1 is the IP address of host 1. In the output you should be able to see the route passing thru "wanemip", the IP address of the WANem PC.

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2. How do I know that the WANem can affect the traffic between 2 hosts?

Ans: We are assuming that by now you have sorted the routing of packets via WANem.
Using the WANem GUI enter a delay of 100 ms and click on "Apply settings".

If you are using multiple rule sets - then you will have to first add a new rule set and set the Source IP address and Destination IP address with Symmetrical network set to yes. For this testing purpose please leave port = "any" even if your project needs to specify a real port. You can do that later once you confirm that WANem works between the host 1 and host 2.

Run the following commands

1. From host 1 run the command "ping **<ip2>**" - In the output you should be able to see a ping response equal to or above 200 ms.
2. From host 2 run the command "traceroute **<ip1>** - In the output you should be able to see a ping response equal to or above 200 ms.

3. Help! I followed all the steps you mentioned in the setup. I set a delay of 100 ms and I am getting a ping response time of 200 ms. What do I do?

Ans: Nothing! This is how it should be. ping involves two messages – a request and response. Both the messages are delayed by WANem to give you a 200 ms response time.

4. Help! I set a delay of 100 ms and I am getting a ping response time of 100 ms. This document says that I should get 200 ms. I have defined a Symmetric Network in my rule set. What is happening?

Ans: You might have made a mistake in your routing setup. This is a classic case of asymmetric routing. In other words packets in only one direction are passing through the WAN emulator. Do a traceroute from each end to the other to check the routing anomaly.

5. Help! The WANem GUI is not coming up? OR The WANem GUI is taken too much time to load? It was working just fine before I applied the new settings?

Ans: There can be a combination of reasons why this can be happening

a. The Network characteristics specified are extreme – for e.g. very high loss (say greater than 50%) or large latencies, etc
b. No filter or IP address matching criteria has been specified while setting a rule

First it is essential to check whether the settings applied are realistic. If they are then it is essential that these characteristics are restricted to a certain set of hosts. The PC from which WANem GUI is being invoked should not be in this set. In order to rectify this problem following steps need to be executed

a. From the console of the WANem PC, reset the network settings using the command. Enter the command wanemreset
b. From your PC use Internet Explorer to access the WANemGUI and enter your network settings. Ensure that IP address matching criteria has been specified. This will ensure that the settings will apply only to the network between two hosts.
c. Click on “Apply Settings”