Synthetic Transactions with a PacketShaper

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The purpose of this document is to provide you some basic steps to create baseline service response times from any PacketShaper in the network, elimininate delays in non-controllable parts of the network. This could be a baseline from a PacketShaper in Site-A to a PacketShaper in Site-B. Or if you have a specific web server hosted by an ISP, you can create a baseline service response from your Site-A to that specific web server. In this first example I start to create baseline from my PC connected via DSL to the Internet to one of my web servers hosted by an ISP.

This can be done with following command **synthetic add <minute interval> <transaction >** document

```
PacketShaper#
PacketShaper # synthetic add 10 "http://www.bemsel.com/MyPlanet/myplanet.html"
Added synthetic transaction st1.
PacketShaper #
```

After setting up synthetic transactions using the synthetic add command, you can verify the settings and check on how many transactions were attempted and how many connections were actually made. This can be done with following CLI Command **synthetic show**.

```
PacketShaper# syn sh

Transaction ID    URL
                  Interval  Repeat  Next Scheduled        Attempts  Connections
-------------------------------------------------------------------------------
st1               http://www.bemsel.com/MyPlanet/myplanet.html
                     10        1    26-Aug-2004 14:02:05     15          15

PacketShaper#
```

A Class has been added automatically to the class tree.

Traffic Class Name	Report	Class Hits	Policy Hits	Current (bps)	1 Min (bps)	Peak (bps)	Guar. Rate Failures	Pkt Exch (ms)
Inbound				105k	3624	292k	0	NA
SyntheticTransactions				0	597	722	0	NA
www.bemsel.com		15	NA	0	597	722	0	1

In the case, the Class has not been added to the class tree, you always can add this manually.

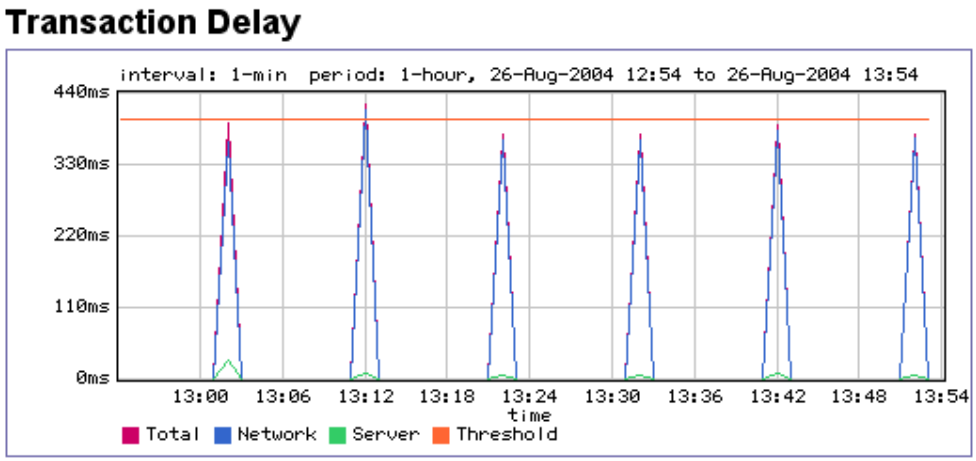
To retrieve response time statistics, you need to go to the appropriate class. Use the Child Class created for you in the Synthetic Transaction Class. As my web server is hosted by an ISP, the server location is Outbound located.

Outbound				45k	2305	199k	0	NA
SyntheticTransactions				31	31	40	0	NA
www.bemsel.com		15	NA	31	31	40	0	73

Next, you have to set Threshold to this server. On the web user interface browse to the **manage** tab, click on the server (in this case Outbound/SyntheticTransactions/www.bemsel.com) and go to STATISTICS – RESPONSE TIME. There you have to possibility to set the Threshold, you may consider. I've set mine lower, than the average to see negative SLA compliance.

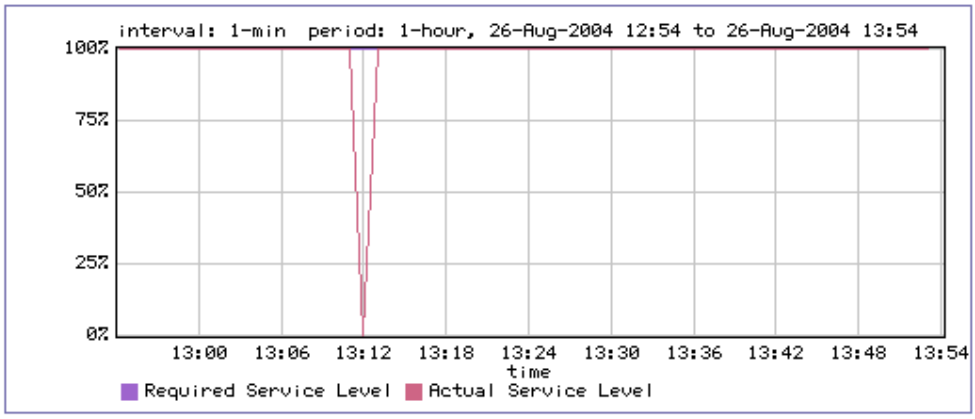
To review SLA's, click on GRAPHs on the Statistics window.

There are 3 different graphs on this screen.



At 13:12, there is a peak above 400ms, meaning in my example the SLA is "broken".

Service Level Compliance



In reverse to Transaction Delay, Service Level Compliance shows a break down to 0%. During all Synthetic Transaction, I had 3 unacceptable intervals.

Total Delay Threshold:
Maximum time for a good transaction.

400 ms

Total transactions: 8

Good transactions: 75%

For more information, refer to PacketGuide/Solutions/Analysis/use-syn-trans-for-analysis.htm

The 3rd Graph shows the transaction delay distribution. In this example, there were 6 transactions delayed 0.25 seconds.

Transaction Delay Distribution