Express-Guide
~to~
Testing Web/Network Application With

DUMMYNET

Tweaking Network Latency & Bandwidth

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::Task Detail::

◆ Any service allowing to tweak Network Latency as per desire for testing Application Performance at different network latency scenarios.

::Background::

◆ Normally, the difference which comes in Development and Deployment environment of Web Applications is of bandwidth and latency.

◆ To test the applications in actual scenario, one needs to tweak the latency as per deployment scene and then use it.

◆ There are few paid VE Technology based services like 'Shunra' for this. But we required a free, open-source application, if possible for windows. DummyNet, it's an old Italian university project started for BSD systems, recently ported for Windows also.

◆ It helps in reducing latency of NIC to desired level.

::Execution Method::

◆ Install NDIS Driver
  ○ Open the configuration panel for the network card in use {right click on the sys-tray icon, or go to 'Control Panel' > 'Network' to select}
  ○ Click on 'Properties' > 'Install' > 'Service' > 'Add'
  ○ Click on 'Driver Disk' and select 'netipfw.inf' in the folder it has been extracted to.
  ○ Select 'ipfw+dummynet' which should be the only service visible.
  ○ Click 'Accept' on the warnings for the installation of an unknown driver.

◆ Create a BAT-File for your Application to be run under test bandwidth & latency with following content

- --

```
@echo on
@set CYGWIN=nodosfilewarning
@ipfw -q flush
@ipfw -q pipe flush
@echo ################
@echo ## Setting up ##
@echo ################
ipfw pipe 3 config delay 1000ms bw 500Kbit/s mask all
ipfw add pipe 3 ip from any to any
ipfw pipe show
your_command_running_your_app
pause
@echo ################
@echo ## Cleaning up ##
@echo ################
ipfw -q flush
ipfw -q pipe flush
pause
```

- Here, 1000ms is latency set and can be changed to desired value 500 Kbps is bandwidth set and can be changed to desired value 'delay x' and 'bw x'; both can be used separately also as per need either place a command running your application to be tested in place of '***your_command_running_your_app***'; or simple remove that line and when the command gets paused at the first pause, run your application manually.

::Tools/Technology Used::

◆ DummyNet: http://info.iet.unipi.it/~luigi/dummynet/

::Inference::

◆ Different latency settings disturbs only certain network applications, not all of them.
◆ If a Web Application is supposed to run on variable latency system, say for now on cloud.
◆ Then it needs to be rigorously tested at different latency settings.

::Troubleshooting/Updates::

- **_Requirement:_** to test if it gets installed properly as a network services
  Solution:
  it has a testme.bat file showing different tests, just run it and check stats

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