



# perfSONAR on IPv6 only Hosts

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May 2024

## /etc/host file differences on different Operating Systems

- Localhost entries are different between Ubuntu and Debian

- Debian + IPv4 = IPv6 Localhost

Ubuntu + IPv4 = IPv6 Localhost

- Debian + IPv6 = IPv6 Localhost

Ubuntu + IPv6 = NO IPv6 Localhost

### Debian

```
127.0.0.1 localhost
127.0.1.1 ps

# The following lines are desirable for IPv6 capable hosts
::1      localhost ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters
```

### Ubuntu

```
# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0  ip6-localnet
ff00::0  ip6-mcastprefix
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters
```

# Improvements on 5.1.0 version

## 5.0.6 Version

VS

## 5.1.0 Version

/usr/lib/perfsonar/elmond/app.py

```
if __name__ == '__main__':  
    create_app().run(debug=True, host='127.0.0.1')
```

```
if __name__ == '__main__':  
    create_app().run(debug=False, host='localhost')
```

/etc/perfsonar/toolkit/configdaemon.conf

```
address    127.0.0.1  
port       9000  
firewall_script /usr/lib/perfsonar/scripts/configure_firewall
```

```
address    localhost  
port       9000  
firewall_script /usr/lib/perfsonar/scripts/configure_firewall
```

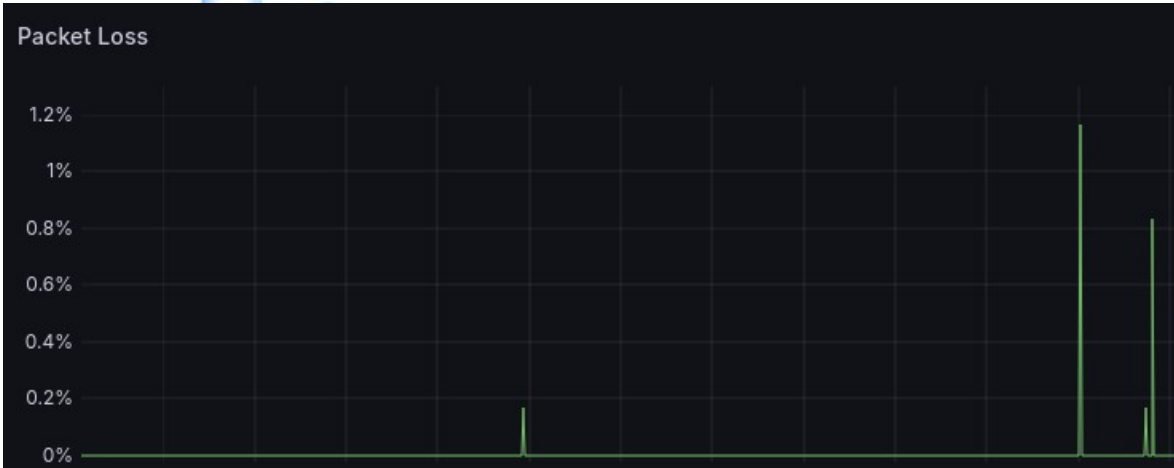
/usr/share/perl5/perfSONAR\_PS/NPToolkit/ConfigManager/Utils.pm

```
my $default_url = "http://127.0.0.1:9000/";
```

```
my $default_url = "http://localhost:9000/";
```

# Dashboards

- **Packet Loss**



- **Throughput**



- **Jitter**



- **Latency**





## Current Issues with perfSONAR IPv6 only How to Solve?

- Some Services Listen on Localhost but System/Server Shows only 127.0.0.1(IPv4)

- **Elmond**

```
if __name__ == '__main__':
    create_app().run(debug=False, host='localhost')
```

- **Apache**

```
ProxyPass /esmond/perfsonar/archive http://localhost:5000 status=+I
ProxyPreserveHost On
```

```
ProxyPass /perfsonar_host_exporter http://localhost:11284 status=+I
ProxyPassReverse /perfsonar_host_exporter http://localhost:11284 status=+I
ProxyPreserveHost On
```

- **Perfsonar Host exporter**

```
parser.add_argument('--host', dest='host', action='store', default='localhost', help='Host to connect to')
parser.add_argument('--port', dest='port', action='store', type=int, default=11284, help='Port to connect to')
```

### Netstat Command Output

```
root@ps:~# netstat -lntp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 127.0.0.1:11284          0.0.0.0:*               LISTENING
tcp        0      0 127.0.0.0.53:53         0.0.0.0:*               LISTENING
tcp        0      0 127.0.0.1:5000          0.0.0.0:*               LISTENING
```

- **IPv4 Loopback Interface:**

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
  link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
  inet 127.0.0.1/8 scope host lo
    valid_lft forever preferred_lft forever
  inet6 ::1/128 scope host
    valid_lft forever preferred_lft forever
2: ens18: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 10000
  link/ether bc:24:11:4e:61:a4 brd ff:ff:ff:ff:ff:ff
  altname enp0s18
  inet6 2a13:3b07:0:3::9/64 scope global
    valid_lft forever preferred_lft forever
  inet6 fe80::be24:11ff:fe4e:61a4/64 scope link
    valid_lft forever preferred_lft forever
```

- **These services has built in system, which resolves localhost to itself and not asking server to resolve?**

```
root@ps:~# ping localhost
PING localhost(localhost (:::1)) 56 data bytes
64 bytes from localhost (:::1): icmp_seq=1 ttl=64 time=0.060 ms
64 bytes from localhost (:::1): icmp_seq=2 ttl=64 time=0.095 ms
```



# Thank You

Home page: <https://www.perfsonar.net/>  
perfSONAR mailing list: [perfsonar@lists.geant.org](mailto:perfsonar@lists.geant.org)

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