AfNOG 2003 Kampala, Uganda
Track 1 – Scalable Internet Services

Domain Name System – Exercise 1

Setting up a resolver on a FreeBSD System

We need to check if our PCs are currently resolving machine names to IP addresses so before setting up a resolver on a FreeBSD machine, we will perform the following tests.

1. Ping the IP address of the afnog workshops NOC machine.

   ```
   # ping 81.199.109.1
   ```

2. Ping the FQDN of the NOC machine.

   ```
   # ping noc.ws.afnog.org
   ```

Question: Can you explain why the first one works and the second does not?

_____

To setup a resolver on a FreeBSD system:

1. Use vi or any editor of your choice to edit the `/etc/resolv.conf` file.

   ```
   # vi /etc/resolv.conf
   ```

2. Make the following entries in the `/etc/resolv.conf` file and save the changes.

   ```
   nameserver      81.199.110.100
   nameserver      81.199.109.1
   ```

3. Test if your machine is able to resolve domain names now by pinging the FQDN of the NOC machine.

   ```
   # ping noc.ws.afnog.org
   ```

Question: Can you explain why the ping test now works? Or does it?_____
What is the IP Address of noc.ws.afnog.org? _____

4. Open a browser (konqueror) if you are running KDE or lynx if you are using the command line and point it to www.ws.afnog.org

   ```
   # lynx www.ws.afnog.org
   ```

Question: Were you able to get to the www.ws.afnog.org site?_____

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Domain Name System – Exercise 2

Using the dig utility to resolve domain names

In this exercise we will be using the dig utility to resolve domain names. It is designed to give you practice with the dig utility. Please pay particular attention to the results

1. Dig using your local /etc/resolv.conf file. Write down the TTL of response in the answer section of the dig output beside the command on this sheet. Repeat the command and write the down the TTL again. Do you notice any difference in the values? Are the responses in the dig output authoritative?

```
# dig www.ws.afnog.org a
# dig afnog.org mx
# dig afnogws.gh a
# dig yahoo.com ns
# dig <domain of your choice> a
# dig <domain of your choice> ns
# dig <domain of your choice> mx
# dig ripe.net a
```

2. Dig using another caching server.

```
# dig @mit.edu www.ws.afnog.org a
# dig @whois.nic.gh afnogws.gh a +norec
# dig @<a server of your choice> <domain of your choice> a
```

3. Reverse lookups using the dig utility.

```
# dig -x 81.199.109.1
# dig -x 81.199.110.100
# dig @<a server of your choice> -x <an IP address of your choice> a
```

4. Dig using your local resolver for a non-existent domain.

```
# dig geek.ws.afnog.org a
# dig <non-existent domain name> a
```