

## ***PCAP analysis from both the PCAP's (wifi capture and ethernet mirror capture***

Capture Time : Around 4 mins(269216 packets)

After observing the PCAP's we can observe there are mainly 6 protocol packets which are UDP(DNS,NTP),TCP,HTTP,TLSv1.3,ICMP and few other traces.

A sample packet is taken from each protocol and it is analysed in total 4 directions(forward-wifi,forward-ethernet,backward-wifi,backward-ethernet)

<b><i>Protocol</i></b>	<b><i>Percentage</i></b>	<b><i>Header Fields in Hop1(WiFi)</i></b>	<b><i>Header Fields in Hop2(Ethernet)</i></b>	<b><i>Comments and Conclusions in connection to our work</i></b>	
<i>DNS-Forward</i>	0.6%	<b><i>MAC</i></b> <i>Source::Alexa's MAC</i> <i>Dest:Router's MAC</i> <b><i>IP</i></b> <i>Source:Alexa's IP</i> <i>Dest:Router's IP</i> <b><i>Port:</i></b> <i>Source:14336</i> <i>Dest:53</i>	<b><i>MAC</i></b> <i>Source:Router's MAC</i> <i>Dest:Laptop's MAC</i> <b><i>IP</i></b> <i>Source:Alexa's IP</i> <i>Dest:Router's IP</i> <b><i>Port:</i></b> <i>Source:14336</i> <i>Dest:53</i>		
<i>DNS-Backward</i>		<b><i>MAC</i></b> <i>Source::Router's MAC</i> <i>Dest:Alexa's MAC</i> <b><i>IP</i></b> <i>Source:Router's IP</i> <i>Dest:Alexa's IP</i> <b><i>Port:</i></b> <i>Source:53</i>	<b><i>MAC</i></b> <i>Source:Router's MAC</i> <i>Dest:Laptop's MAC</i> <b><i>IP</i></b> <i>Source:Router's IP</i> <i>Dest:Alexa's IP</i> <b><i>Port:</i></b> <i>Source:53</i>		

		<i>Dest:14336</i>	<i>Dest:14336</i>		
<i>NTP-Forward</i>	35 packets(roughly 0.013%)	<b>MAC</b> <i>Source::Alexa's MAC</i> <i>Dest:Router's MAC</i> <b>IP</b> <i>Source:Alexa's IP</i> <i>Dest:Amazon's IP</i> <b>Port:</b> <i>Source:52586</i> <i>Dest:123</i>	<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Laptop's MAC</i> <b>IP</b> <i>Source:Alexa's IP</i> <i>Dest:Amazon's IP</i> <b>Port:</b> <i>Source:52586</i> <i>Dest:123</i>		
<i>NTP-backward</i>		<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Alexa's MAC</i> <b>IP</b> <i>Source:Amazon's IP</i> <i>Dest:Alexa's IP</i> <b>Port:</b> <i>Source:123</i> <i>Dest:52586</i>	<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Laptop's MAC</i> <b>IP</b> <i>Source:Amazon's IP</i> <i>Dest:Alexa's IP</i> <b>Port:</b> <i>Source:123</i> <i>Dest:52586</i>		
<i>TCP-Forward</i>	68.2%	<b>MAC</b> <i>Source::Alexa's MAC</i> <i>Dest:Router's MAC</i> <b>IP</b> <i>Source:Alexa's IP</i> <i>Dest:Amazon's IP(52.206.187.167)</i> <b>Port:</b> <i>Source:47150</i> <i>Dest:80</i>	<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Laptop's MAC</i> <b>IP</b> <i>Source:Alexa's IP</i> <i>Dest:Amazon's IP(52.206.187.167)</i> <b>Port:</b> <i>Source:47150</i> <i>Dest:80</i>		
<i>TCP-Backward</i>		<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Alexa's MAC</i>	<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Laptop's MAC</i>		

		<b>IP</b> Source:Amazon's IP Dest:Alexa's IP <b>Port:</b> Source:80 Dest:47150	<b>IP</b> Source:Amazon's IP Dest:Alexa's IP <b>Port:</b> Source:80 Dest:47150		
HTP-Forward	6 packets in total	<b>MAC</b> Source::Alexa's MAC Dest:Router's MAC <b>IP</b> Source:Alexa's IP Dest:Amazon's IP <b>Port:</b> Source:35352 Dest:80	<b>MAC</b> Source::Router's MAC Dest:Laptop's MAC <b>IP</b> Source:Alexa's IP Dest:Amazon's IP <b>Port:</b> Source:35352 Dest:80		
HTP-Backward		<b>MAC</b> Source::Router's MAC Dest:Alexa's MAC <b>IP</b> Source:Amazon's IP Dest:Alexa's IP <b>Port:</b> Source:80 Dest:35352	<b>MAC</b> Source::Router's MAC Dest:Laptop's MAC <b>IP</b> Source:Amazon's IP Dest:Alexa's IP <b>Port:</b> Source:80 Dest:35352		
TLSv1.3-Forward	2.1%	<b>MAC</b> Source::Alexa's MAC Dest:Router's MAC <b>IP</b> Source:Alexa's IP Dest:Amazon's IP(13.227.232.59) <b>Port:</b> Source:53908	<b>MAC</b> Source::Router's MAC Dest:Laptop's MAC <b>IP</b> Source:Alexa's IP Dest:Amazon's IP(13.227.232.59) <b>Port:</b> Source:53908		

		<i>Dest:443</i>	<i>Dest:443</i>		
<i>TLSv 1.3-Backward</i>		<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Alexa's MAC</i> <b>IP</b> <i>Source:Amazon's IP</i> <i>Dest:Alexa's IP</i> <b>Port:</b> <i>Source:443</i> <i>Dest:53908</i>	<b>MAC</b> <i>Source::Router's MAC</i> <i>Dest:Laptop's MAC</i> <b>IP</b> <i>Source:Amazon's IP</i> <i>Dest:Alexa's IP</i> <b>Port:</b> <i>Source:443</i> <i>Dest:53908</i>		
<i>ICMP-Forward</i>	31.2%	<b>MAC</b> <i>Source:</i> <i>Dest:</i> <b>IP</b> <i>Source:</i> <i>Dest:</i>	<b>MAC</b> <i>Source:</i> <i>Dest:</i> <b>IP</b> <i>Source:</i> <i>Dest:</i>		
<i>ICMP-Backward</i>		<b>MAC</b> <i>Source:</i> <i>Dest:</i> <b>IP</b> <i>Source:</i> <i>Dest:</i>	<b>MAC</b> <i>Source:</i> <i>Dest:</i> <b>IP</b> <i>Source:</i> <i>Dest:</i>		