Lab 3-7 Using Network Monitor

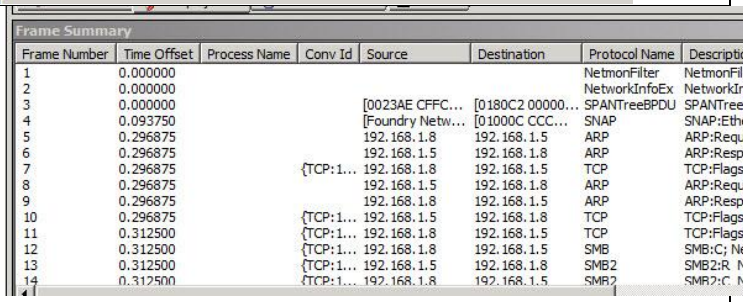
On this lab you're going to use a Windows 2008 Server computer (or Windows 2003) to take a peek at some data packets. Windows comes with some built in and extra programs that you can use to monitor different types of network performance.

Get the following:

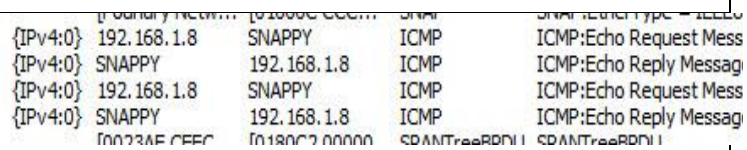
- A computer running Windows 2008 Server with Active Directory installed
- A workstation connected to server's domain
- A crossover cable or hub and cables to connect the two computers together
- Windows Server 2008 disk

1. Open up your ADDC1 and log in as administrator.
2. Download Microsoft Network Monitor (search for Netmon Server 2008 and go to the MS download site).
3. Download the 64 bit version (not the ia version, which is for Itanium CPUs).
4. If it says your security settings don't allow the download, change the security settings.
5. Tools→Internet Options→Security Tab→Internet Button→Custom Level
6. Go to the downloads section and enable downloading.
7. Install the software.
8. Use Windows Update (when it asks).
9. It will install Network Monitor (aka NETMON) and the NETMON Parsers.

10. Open netmon.
11. Netmon is for capturing and looking at packets on a network. You can use it to identify problems on your network. For example, let's say your network bandwidth is suddenly being eaten up. You know something is going on, but you don't know what.
12. You can use Netmon to capture the packets and find out where they are coming from. What you might find is a Broadcast Storm. This happens when a malfunctioning NIC sends a bunch of "noise" out onto a network, slowing everything down.
13. You get a LOT of information using Netmon, so don't be overwhelmed. Let's just start a capture.
14. Click New Capture.
15. Go to that capture and click the Start button and let it run.
16. Scroll down and you can see what your packets are doing. In mine, for example, I see that one computer asked for IP address to MAC address resolution to talk to it.
17. I see some SMB (server message blocks) negotiating a connection (at the transport layer, I might add).
18. Notice you're connecting to a "tree" (a tree is a bunch of domains in a forest).

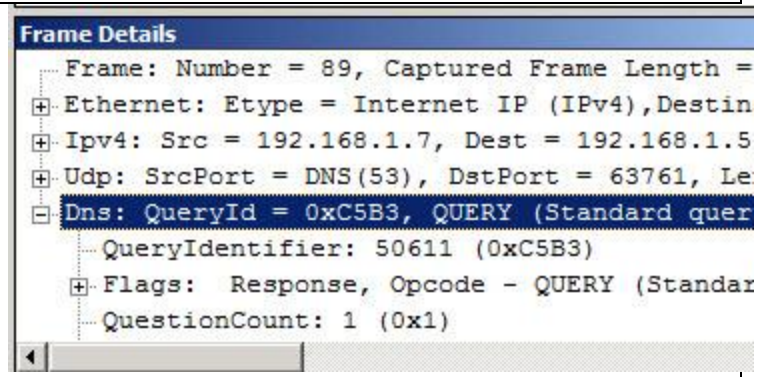


19. Now go into your Windows 7.
20. Open your command prompt and type **ping *nameofserver* –t**. The –t switch tells it to keep running a ping command until you stop it. (Where it says name of server, put the name of YOUR server.
21. Now go back to your server. Scroll down in Netmon.
22. You'll see something like the picture to the right.
23. You can see it's using IPv4 (Internet Protocol Version 4), that 192.168.1.8 is pinging the

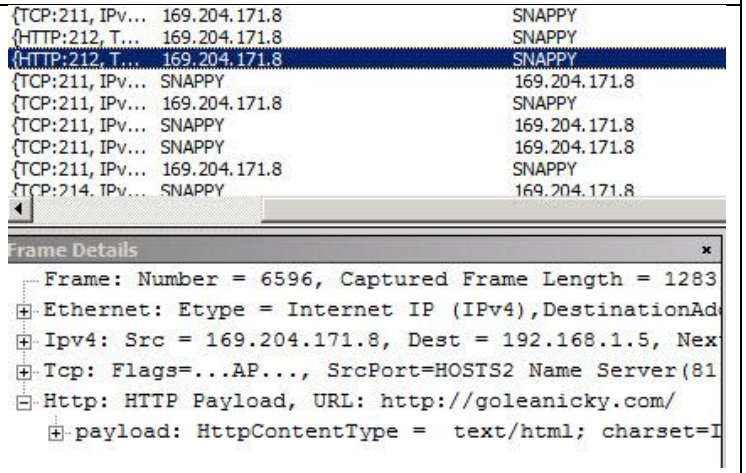


computer named SNAPPY and the ICMP protocol is sending requests. Then it is getting requests.

24. Now click on any one of those frames and look at the Frame Details window.
25. What is the frame number?
26. What is the length of the frame?
27. What is the media type?
28. What is some of the other information you see?



29. Now start another capture. Go to your IE and open a website. Click a few links.
30. Go back to Netmon.
31. Click on Internet Explorer to filter only queries that come from IE.
32. What do you see?
33. Go to your IE and type in a URL that doesn't exist (I used www.goleanicky.com). Make sure you get an error (probably Could Not Connect to Server).
34. Now go back and look at the Frame Summary. Scroll over so you can see, under description, the HTTP Payload that corresponds to the bad URL. (Payload is what is delivered in request to www.goleanicky.com.)
35. Right above it should be a RESPONSE. Click that frame. Click on HTTP: Response in the Frame Details window.
36. It'll say "StatusCode"" somewhere. Why couldn't it find this URL?



1. Why use NetMon on your server?
2. Look at your traffic and answer the following questions:
   a. Locate an ARP Request. What IP address is making the request?
   b. What is it asking for?

c. What is the response (it should show the MAC address)?

d. ARP is Address Resolution Protocol where you can give the computer an IP address and it will resolve it to the MAC address of the device.

e. Go under Filter→Display Filter→Load Filter→DNS→Protocol Filter DNS. Apply that filter. What do you see?

f. Play around with a few other things. Don’t worry if you don’t completely understand it right now.