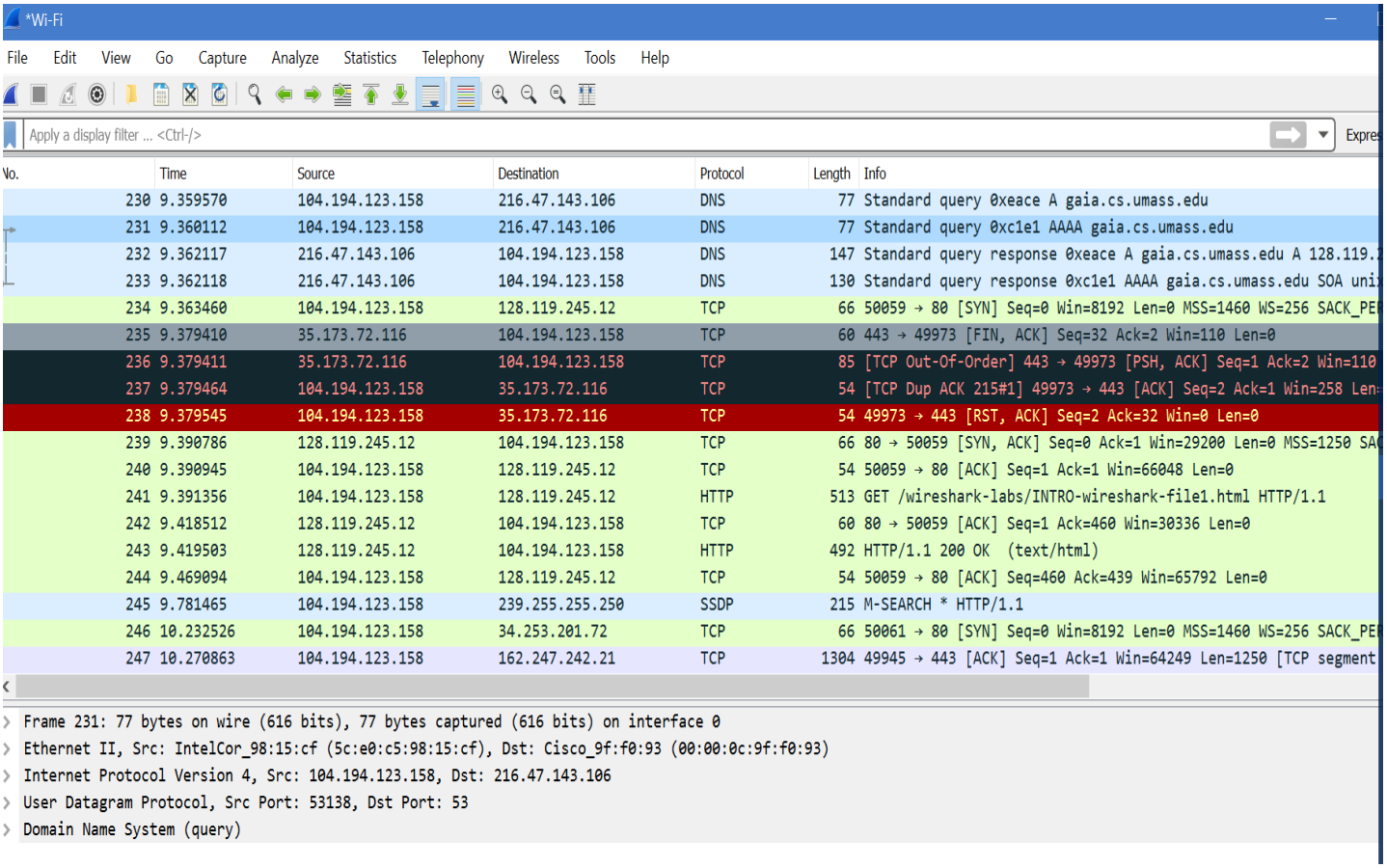
1. List 3 different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 above. Support your answer with an appropriate screenshot from your computer.

The following protocols appeared in the protocol column in the unfiltered packet listing window after downloading a webpage: **TCP, DNS, HTTP and SSDP.**

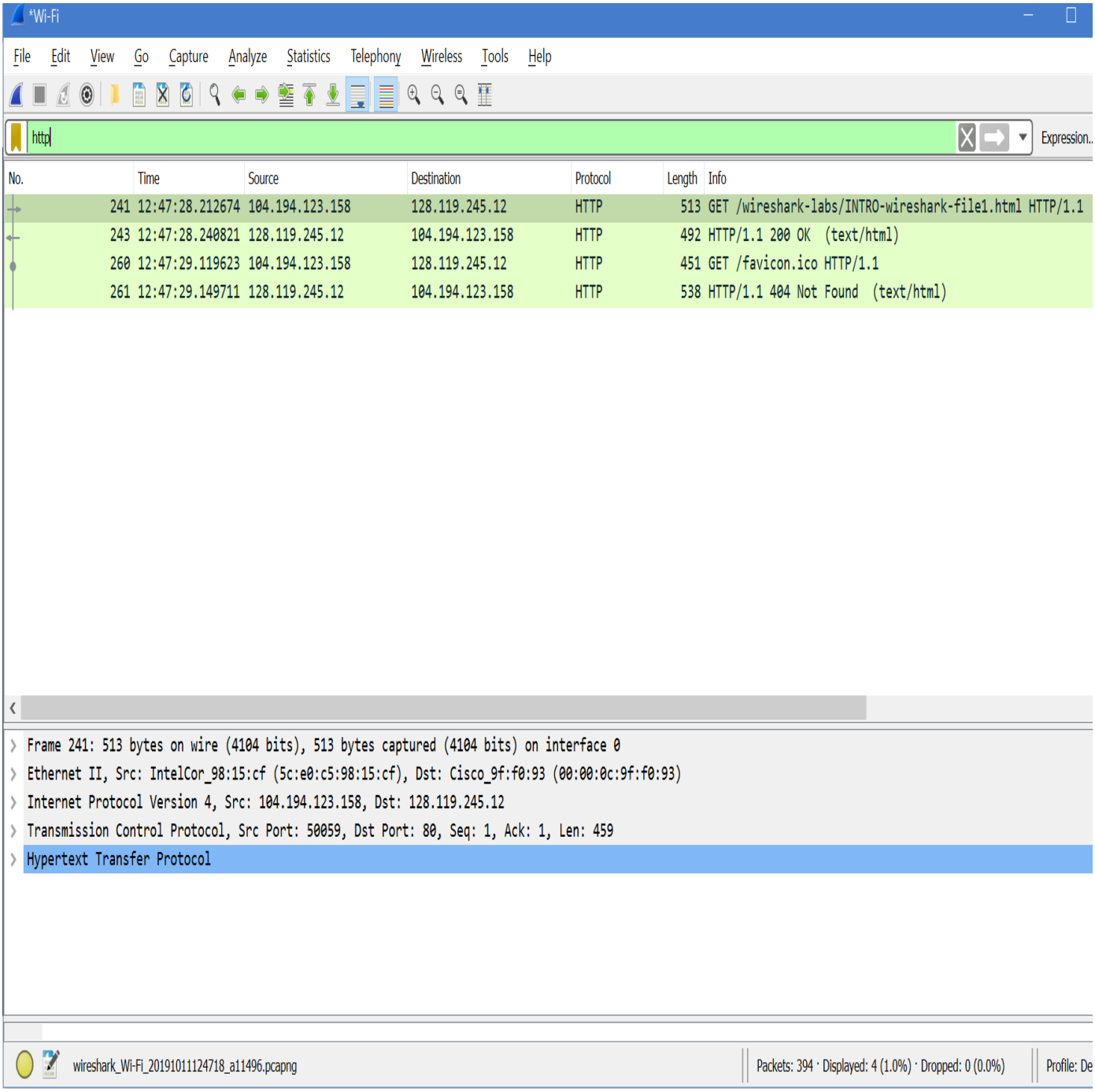


2. How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received? (By default, the value of the Time column in the packet-listing window is the amount of time, in seconds, since Wireshark tracing began. To display the Time field in time-of-day format, select the Wireshark View pull down menu, then select Time Display Format, then select Time-of-day.)

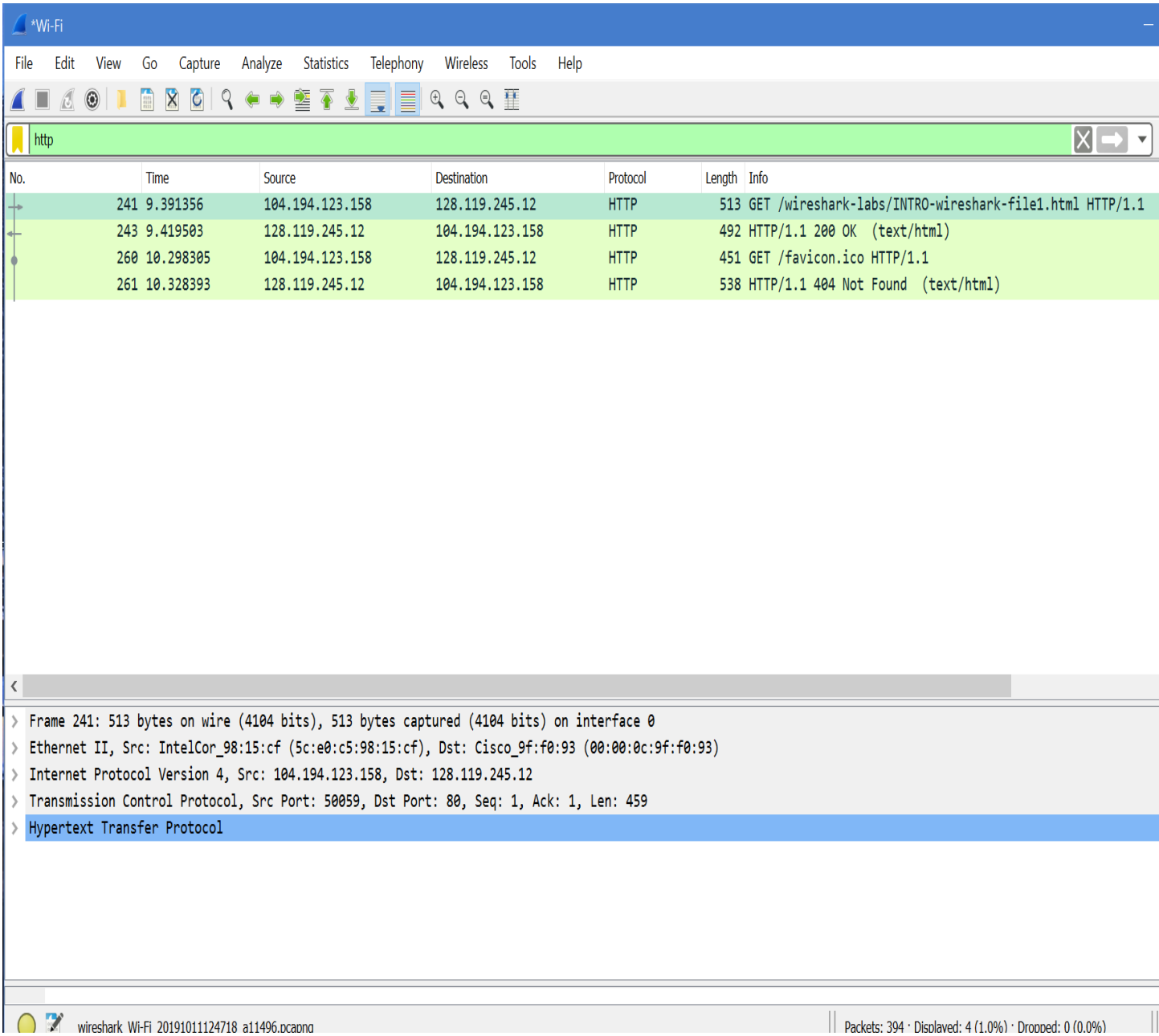
Frame section of the GET request is 12:47:28.212674 and the same section for the HTTP OK shows an arrival time of 12:47:28.240821.

The difference of these two gives:

.240821 - .212674 = **0.028147 seconds**



3. What is the Internet address of the gaia.cs.umass.edu? What is the Internet address of your computer? Support your answer with an appropriate screenshot from your computer.



IP section of the GET request, the source and destination are shown:

Source: 104.194.123.158

Destination: 128.119.245.12

Source is the local machine's address and destination is the web server's public address.

My address (local machine): 104.194.123.158

Destination IP address: 128.119.245.12

4. Print the two HTTP messages (GET and OK) referred to in question 2 above. To do so, select Print from the Wireshark File command menu, and select the “Selected Packet Only” and “Print as displayed” radial buttons, and then click OK.

Here is the information for the HTTP GET and OK packets:

HTTP GET:

```
No.     Time              Source               Destination          Protocol Length Info
DSCP
    241 12:47:28.212674    104.194.123.158      128.119.245.12       HTTP     513    GET /wireshark-labs/INTRO-wireshark-file1.html HTTP/
1.1         Default
Frame 241: 513 bytes on wire (4104 bits), 513 bytes captured (4104 bits) on interface 0
Ethernet II, Src: IntelCor_98:15:cf (5c:e0:c5:98:15:cf), Dst: Cisco_9f:f0:93 (00:00:0c:9f:f0:93)
Internet Protocol Version 4, Src: 104.194.123.158, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 50059, Dst Port: 80, Seq: 1, Ack: 1, Len: 459
Hypertext Transfer Protocol
```

HTTP OK:

```
No.     Time              Source               Destination          Protocol Length Info
DSCP
    243 12:47:28.240821    128.119.245.12       104.194.123.158      HTTP     492    HTTP/1.1 200 OK  (text/html)
Default
Frame 243: 492 bytes on wire (3936 bits), 492 bytes captured (3936 bits) on interface 0
Ethernet II, Src: Cisco_0d:da:3f (78:0c:f0:0d:da:3f), Dst: IntelCor_98:15:cf (5c:e0:c5:98:15:cf)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 104.194.123.158
Transmission Control Protocol, Src Port: 80, Dst Port: 50059, Seq: 1, Ack: 460, Len: 438
Hypertext Transfer Protocol
Line-based text data: text/html (3 lines)
```