

Nome	RA
Davi Augusto Neves Leite	191027383
Giovani Candido	191021601

## ATIVIDADE AULA 06/12/21: Rota e IP Móvel

### ENUNCIADO

1) Utilizar a ferramenta “*tracert*” para rastrear a rota de um site qualquer. Enquanto ela está ativa, capturar os pacotes ICMP com *Wireshark* e entregar as capturas de tela referentes tanto ao terminal quanto ao *Wireshark*.

2) Fazer uma breve pesquisa sobre IP Móvel:

- Qual o objetivo?
- Como funciona?

### RESOLUÇÃO

1) Ao aplicar a ferramenta para traçar as rotas com relação ao site “*www.google.com*”, foram obtidos os seguintes resultados:

```

Prompt de comando
C:\Users\Davi Neves>tracert www.google.com

Rastreando a rota para www.google.com [2800:3f0:4001:822::2004]
com no máximo 30 saltos:

  1   7 ms    5 ms    7 ms  2804:14d:3283:47e9::1
  2  16 ms    *      17 ms 2804:14d:3283:1::1
  3  11 ms    *      *     2804:14d:3200:a4::1
  4  18 ms    *     23 ms 2804:14d:3200:1600:a::1
  5  17 ms    *     17 ms 2001:4860:1:1::e6a
  6  20 ms   15 ms  15 ms 2800:3f0:8005::1
  7   *      *      *     Esgotado o tempo limite do pedido.
  8  13 ms    *      *     2001:4860:0:1095::d
  9  19 ms   18 ms  15 ms 2001:4860::c:4001:86e0
 10  21 ms   17 ms  17 ms 2001:4860::9:4002:237
 11   *      *      *     Esgotado o tempo limite do pedido.
 12  17 ms   18 ms  11 ms 2001:4860:0:1::56ed
 13  18 ms   16 ms  18 ms 2800:3f0:4001:822::2004

Rastreamento concluído.

```

Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl>F

No.	Time	Source	Destination	Protocol	Length	Info
210	2.706359	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=113, hop limit=1 (no response found!)
211	2.707596	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
212	2.709459	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=114, hop limit=1 (no response found!)
214	2.715287	2804:14d:3283:47e9::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
215	2.717246	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=115, hop limit=1 (no response found!)
217	2.724461	2804:14d:3283:47e9::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
422	4.593138	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=116, hop limit=2 (no response found!)
424	4.609988	2804:14d:3283:1::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
426	4.611729	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=117, hop limit=2 (no response found!)
679	8.126989	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=118, hop limit=2 (no response found!)
682	8.145931	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
795	9.155930	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=119, hop limit=3 (no response found!)
798	9.170956	2804:14d:3200:a4::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
799	9.173152	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=120, hop limit=3 (no response found!)
1004	13.127933	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=121, hop limit=3 (no response found!)
1237	17.153502	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=122, hop limit=4 (no response found!)
1238	17.171416	2804:14d:3200:1600:a::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1239	17.173448	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=123, hop limit=4 (no response found!)
1437	19.624027	fe80::153f:6960:fb78:dc57	fe80::8e44:4fff:fe0b:414b	ICMPv6	86	Neighbor Solicitation for fe80::8e44:4fff:fe0b:414b from 64:32:a8:42:62:4c
1438	19.631376	fe80::153f:6960:fb78:dc57	fe80::8e44:4fff:fe0b:414b	ICMPv6	78	Neighbor Advertisement fe80::8e44:4fff:fe0b:414b (rtr, sol)
1475	20.551663	fe80::8e44:4fff:fe0b:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
1498	20.899095	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1506	20.919815	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1509	20.920194	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1511	20.920518	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1562	21.120749	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1568	21.122328	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=124, hop limit=4 (no response found!)
1573	21.145771	2804:14d:3200:1600:a::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1597	21.623397	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1634	22.157905	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=125, hop limit=5 (no response found!)
1635	22.175412	2804:4860:1:1::e6a	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)

> Frame 210: 126 bytes on wire (1008 bits), 126 bytes captured (1008 bits) on interface \Device\NPF\_{F0C0C6E7-A778-4279-8036-0009D8512B09}, id 0

> Ethernet II, Src: IntelCor\_42:62:4c (64:32:a8:42:62:4c), Dst: HJMAX\_e0:41:4b (8c:44:4f:e0:41:4b)

> Internet Protocol Version 6, Src: 2804:14d:3283:47e9:145a:d1aa:bd83:2c83, Dst: 2800:3f0:4001:822::2004

> Internet Control Message Protocol v6

0000 8c 44 4f e0 41 4b 64 32 a8 42 62 4c 86 dd 60 00 -DO-Akd2 -Bbl-...

Frame (frame), 126 byte(s)

Packets: 5323 · Displayed: 5323 (100.0%) · Dropped: 0 (0.0%)

Profile: Default

Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl>F

No.	Time	Source	Destination	Protocol	Length	Info
1636	22.177168	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=126, hop limit=5 (no response found!)
1667	22.906276	fe80::8e44:4fff:fe0b:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
1668	22.906856	fe80::8e44:4fff:fe0b:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
1686	23.122220	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1745	24.339274	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1750	24.361112	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1783	24.379533	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1786	24.380145	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1827	24.442215	fe80::8e44:4fff:fe0b:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
1828	24.449541	fe80::8e44:4fff:fe0b:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
1833	24.617406	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1835	24.617642	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1952	26.125753	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=127, hop limit=5 (no response found!)
1954	26.143051	2804:4860:1:1::e6a	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
1991	27.001661	fe80::8e44:4fff:fe0b:414b	ff02::1	ICMPv6	90	Multicast Listener Query
1995	27.121719	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
1997	27.200051	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=128, hop limit=6 (no response found!)
2000	27.220009	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
2001	27.222713	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=129, hop limit=6 (no response found!)
2002	27.238151	2800:3f0:0005::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
2003	27.240117	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=130, hop limit=6 (no response found!)
2006	27.255921	2800:3f0:0005::1	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
2052	28.278950	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=131, hop limit=7 (no response found!)
2413	32.118274	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=132, hop limit=7 (no response found!)
2491	32.616113	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
2599	33.616078	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
2641	34.115587	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
2687	34.628289	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
2729	35.115321	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
2856	36.128447	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=133, hop limit=7 (no response found!)
3463	40.123024	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=134, hop limit=8 (no response found!)

> Frame 1636: 126 bytes on wire (1008 bits), 126 bytes captured (1008 bits) on interface \Device\NPF\_{F0C0C6E7-A778-4279-8036-0009D8512B09}, id 0

> Ethernet II, Src: IntelCor\_42:62:4c (64:32:a8:42:62:4c), Dst: HJMAX\_e0:41:4b (8c:44:4f:e0:41:4b)

> Internet Protocol Version 6, Src: 2804:14d:3283:47e9:145a:d1aa:bd83:2c83, Dst: 2800:3f0:4001:822::2004

> Internet Control Message Protocol v6

0000 8c 44 4f e0 41 4b 64 32 a8 42 62 4c 86 dd 60 00 -DO-Akd2 -Bbl-...

Frame (frame), 126 byte(s)

Packets: 5323 · Displayed: 5323 (100.0%) · Dropped: 0 (0.0%)

Profile: Default

Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-F>

No.	Time	Source	Destination	Protocol	Length	Info
3465	48.135971	2001:4860:0:1095::d	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
3466	48.136454	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=135, hop limit=8 (no response found!)
3487	48.315480	fe80::8e44:4fff:fe0:414b	ff02::1	ICMPv6	190	Router Advertisement from 8c:44:4f:e0:41:4b
3611	41.831631	fe80::8e44:4fff:fe0:414b	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	86	Neighbor Solicitation for 2804:14d:3283:47e9:145a:d1aa:bd83:2c83 from 8c:44:4f:e0:41:4b
3612	41.831695	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	fe80::8e44:4fff:fe0:414b	ICMPv6	86	Neighbor Advertisement 2804:14d:3283:47e9:145a:d1aa:bd83:2c83 (sol, ovr) is...
3782	44.000434	fe80::8e44:4fff:fe0:414b	ff02::1	ICMPv6	190	Router Advertisement from 8c:44:4f:e0:41:4b
3785	44.115923	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=136, hop limit=8 (no response found!)
4075	48.205839	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=137, hop limit=9 (no response found!)
4078	48.225713	2001:4860::c:4001:8e00	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	206	Time Exceeded (hop limit exceeded in transit)
4079	48.227626	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=138, hop limit=9 (no response found!)
4082	48.240491	2001:4860::c:4001:8e00	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	206	Time Exceeded (hop limit exceeded in transit)
4083	48.248121	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=139, hop limit=9 (no response found!)
4085	48.263761	2001:4860::c:4001:8e00	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	206	Time Exceeded (hop limit exceeded in transit)
4153	49.348978	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=140, hop limit=10 (no response found!)
4154	49.370108	2001:4860::9:4002:1237	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
4155	49.372067	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=141, hop limit=10 (no response found!)
4156	49.389255	2001:4860::9:4002:1237	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
4157	49.391283	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=142, hop limit=10 (no response found!)
4159	49.409061	2001:4860::9:4002:1237	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
4250	50.472573	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=143, hop limit=11 (no response found!)
4274	50.958516	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4283	50.978231	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4287	50.978774	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4290	50.979104	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4340	51.066335	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
4341	51.070668	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
4351	51.129732	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4353	51.129882	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4498	53.626331	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
4522	54.125145	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=144, hop limit=11 (no response found!)
4543	54.547568	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query

> Frame 3465: 174 bytes on wire (1392 bits), 174 bytes captured (1392 bits) on interface \Device\NPF\_{F0C0C6E7-A778-4279-8036-0009D8512B09}, id 0  
 > Ethernet II, Src: HUPAX-e0:41:4b (8c:44:4f:e0:41:4b), Dst: IntelCor\_42:62:4c (64:32:a8:42:62:4c)  
 > Internet Protocol Version 6, Src: 2001:4860:0:1095::d, Dst: 2804:14d:3283:47e9:145a:d1aa:bd83:2c83  
 > Internet Control Message Protocol v6

0000 24 32 a8 42 62 4c 8c 44 4f e0 41 4b 86 dd 60 00 42-BbL-D 0-AK-...

Frame (frame), 174 byte(s) Packets: 5323 - Displayed: 5323 (100.0%) - Dropped: 0 (0.0%) Profile: Default

Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-F>

No.	Time	Source	Destination	Protocol	Length	Info
4546	54.622109	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4561	54.904203	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4568	54.926667	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4601	54.947836	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4605	54.948754	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4653	55.061591	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
4656	55.121335	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4658	55.121583	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4707	55.981440	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
4714	56.126113	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
4780	58.123862	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=145, hop limit=11 (no response found!)
4900	59.751573	fe80::8e44:4fff:fe0:414b	fe80::153f:6960:fb78:dc57	ICMPv6	86	Neighbor Solicitation for fe80::153f:6960:fb78:dc57 from 8c:44:4f:e0:41:4b
4910	59.751642	fe80::153f:6960:fb78:dc57	fe80::8e44:4fff:fe0:414b	ICMPv6	86	Neighbor Advertisement fe80::153f:6960:fb78:dc57 (sol, ovr) is at 64:32:a8:...
4961	61.042927	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
5004	62.046689	fe80::8e44:4fff:fe0:414b	ff02::1:3	ICMPv6	90	Multicast Listener Query
5006	62.124531	fe80::153f:6960:fb78:dc57	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
5007	62.129274	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=146, hop limit=12 (no response found!)
5008	62.147045	2001:4860:0:11:56ed	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
5009	62.149254	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=147, hop limit=12 (no response found!)
5010	62.149692	2001:4860:0:11:56ed	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
5011	62.169862	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=148, hop limit=12 (no response found!)
5013	62.181421	2001:4860:0:11:56ed	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
5054	63.258278	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=149, hop limit=13 (reply in 5055)
5055	63.276857	2800:3f0:4001:822::2004	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	126	Echo (ping) reply id=0x0001, seq=149, hop limit=59 (request in 5054)
5056	63.278754	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=150, hop limit=13 (reply in 5057)
5057	63.294904	2800:3f0:4001:822::2004	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	126	Echo (ping) reply id=0x0001, seq=150, hop limit=59 (request in 5056)
5058	63.296700	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	2800:3f0:4001:822::2004	ICMPv6	126	Echo (ping) request id=0x0001, seq=151, hop limit=13 (reply in 5059)
5059	63.314729	2800:3f0:4001:822::2004	2804:14d:3283:47e9:145a:d1aa:bd83:2c83	ICMPv6	126	Echo (ping) reply id=0x0001, seq=151, hop limit=59 (request in 5058)

> Frame 4546: 90 bytes on wire (720 bits), 90 bytes captured (720 bits) on interface \Device\NPF\_{F0C0C6E7-A778-4279-8036-0009D8512B09}, id 0  
 > Ethernet II, Src: IntelCor\_42:62:4c (64:32:a8:42:62:4c), Dst: IPv6mcast\_16 (33:33:00:00:00:16)  
 > Internet Protocol Version 6, Src: fe80::153f:6960:fb78:dc57, Dst: ff02::16  
 > Internet Control Message Protocol v6

0000 33 33 00 00 00 16 64 32 a8 42 62 4c 86 dd 60 00 33----d2-BbL-...

Frame (frame), 90 byte(s) Packets: 5323 - Displayed: 5323 (100.0%) - Dropped: 0 (0.0%) Profile: Default

2) O IP Móvel é um padrão aberto que permite a transmissão de dados entre uma rede física e um dispositivo móvel, como um celular, independente da localização do dispositivo. Em outras palavras, o aparelho pode ser movido para fora da área de cobertura da rede e permanecer conectado à rede por meio de uma segunda rede.

Para entendermos melhor como o mecanismo funciona, vamos tomar as operadoras de telefonia e os celulares como exemplo: inicialmente, um aparelho celular se conecta a célula de telefonia que cobre a região no qual ele se encontra no momento; caso o dispositivo móvel mude de posição, saindo da área de cobertura da

célula ao qual está conectado, ele pode se conectar a uma outra célula, que possui uma cobertura melhor para a nova localização.

Para que essa mudança de uma rede conhecida para uma rede estrangeira ocorra sem que a conexão do dispositivo seja interrompida, o protocolo IP Móvel implementa dois endereços IP para o dispositivo: o Home Address (HA) e o Care-Of-Address (COA). O primeiro endereço, o HA, é fixo, mesmo que o celular se conecte a uma outra célula, enquanto o segundo endereço é dinâmico e está associado a rede na qual o dispositivo está conectado no momento.

Sendo assim, a célula na qual o HA está associado é a que autentica a conexão do dispositivo a Internet e realiza as requisições necessárias, encaminhando os dados recebidos para a célula na qual o celular está conectado no momento, que, por sua vez, encaminha os pacotes para o celular.

## REFERÊNCIAS

<https://docs.oracle.com/cd/E19455-01/806-7600/6jgfbep0v/index.html>

<https://view.officeapps.live.com/op/view.aspx?src=http%3A%2F%2Fwww.ppgia.pucpr.br%2F~jamhour%2FPessoal%2FGraduacao%2FCiencia%2FTeoria%2FIPMovel.pt&wdOrigin=BROWSELINK>