New route connection Europe x South America

Lightning talk – IX Fórum17

São Paulo – Brasil



Darwin Costa – DE-CIX
darwin.costa@de-cix.net

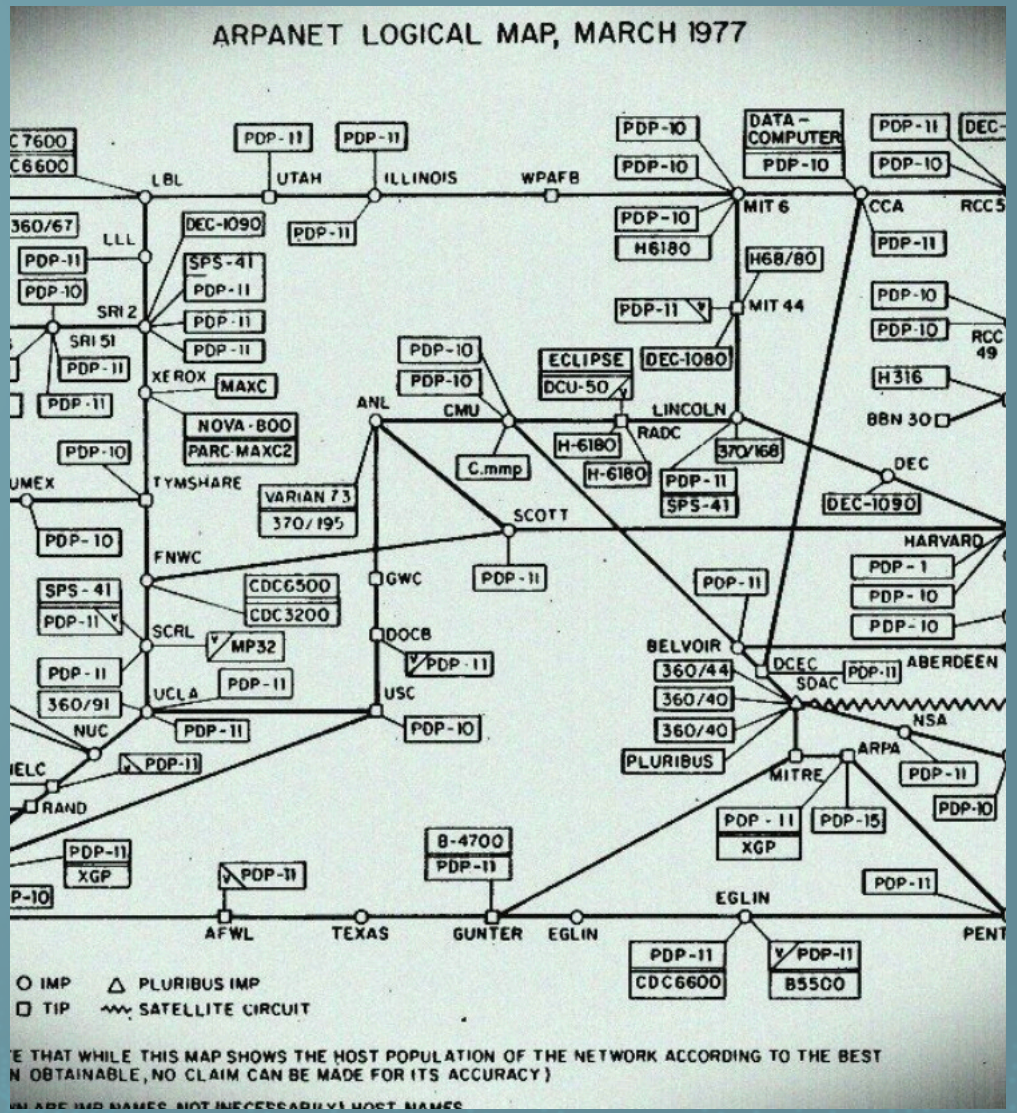
- Brief History
- New Hubs & Routes
- Measurements
- Q&A
- Beers & Gears ☺ !



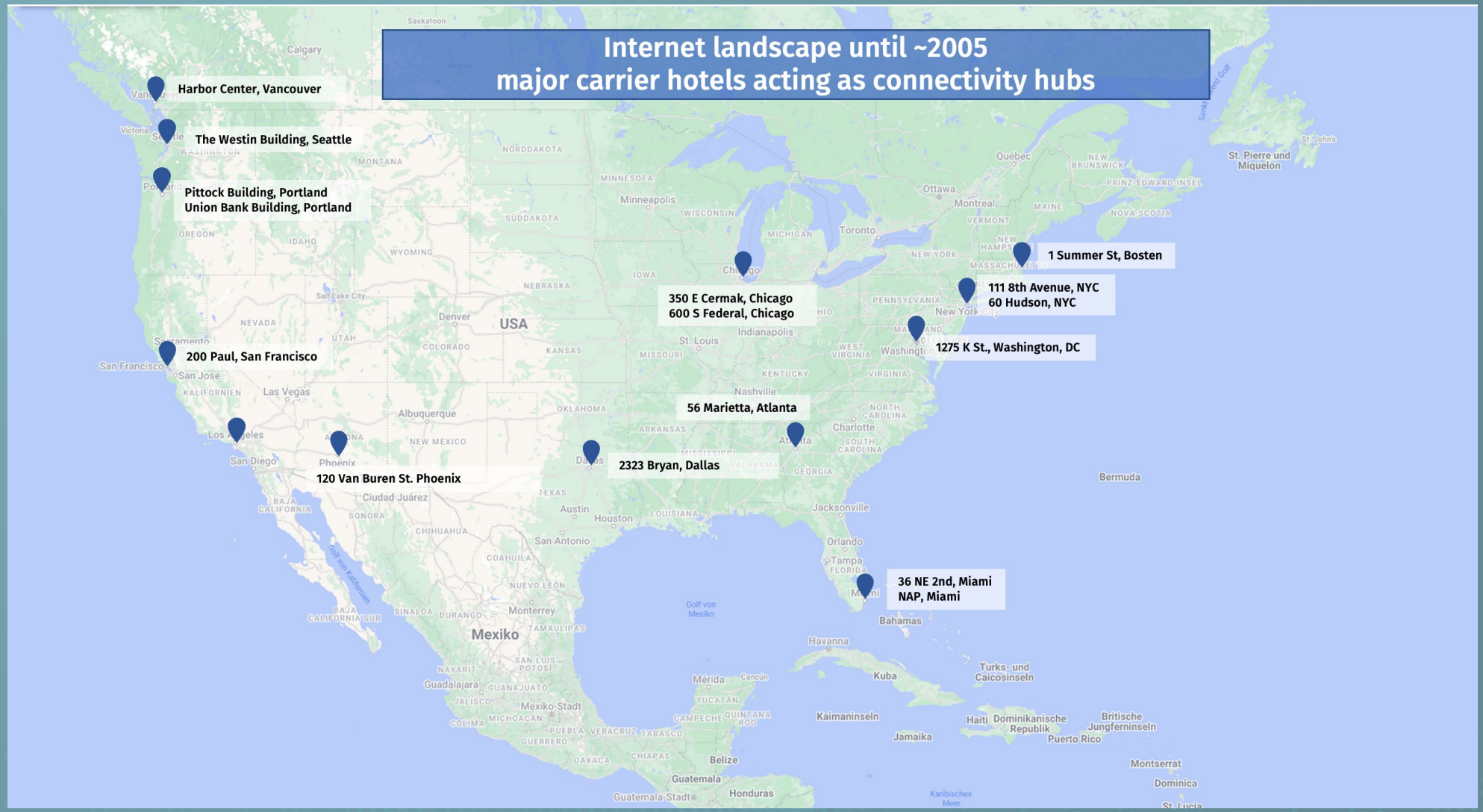
1 Brief History

Brief History

Nostalgy…!

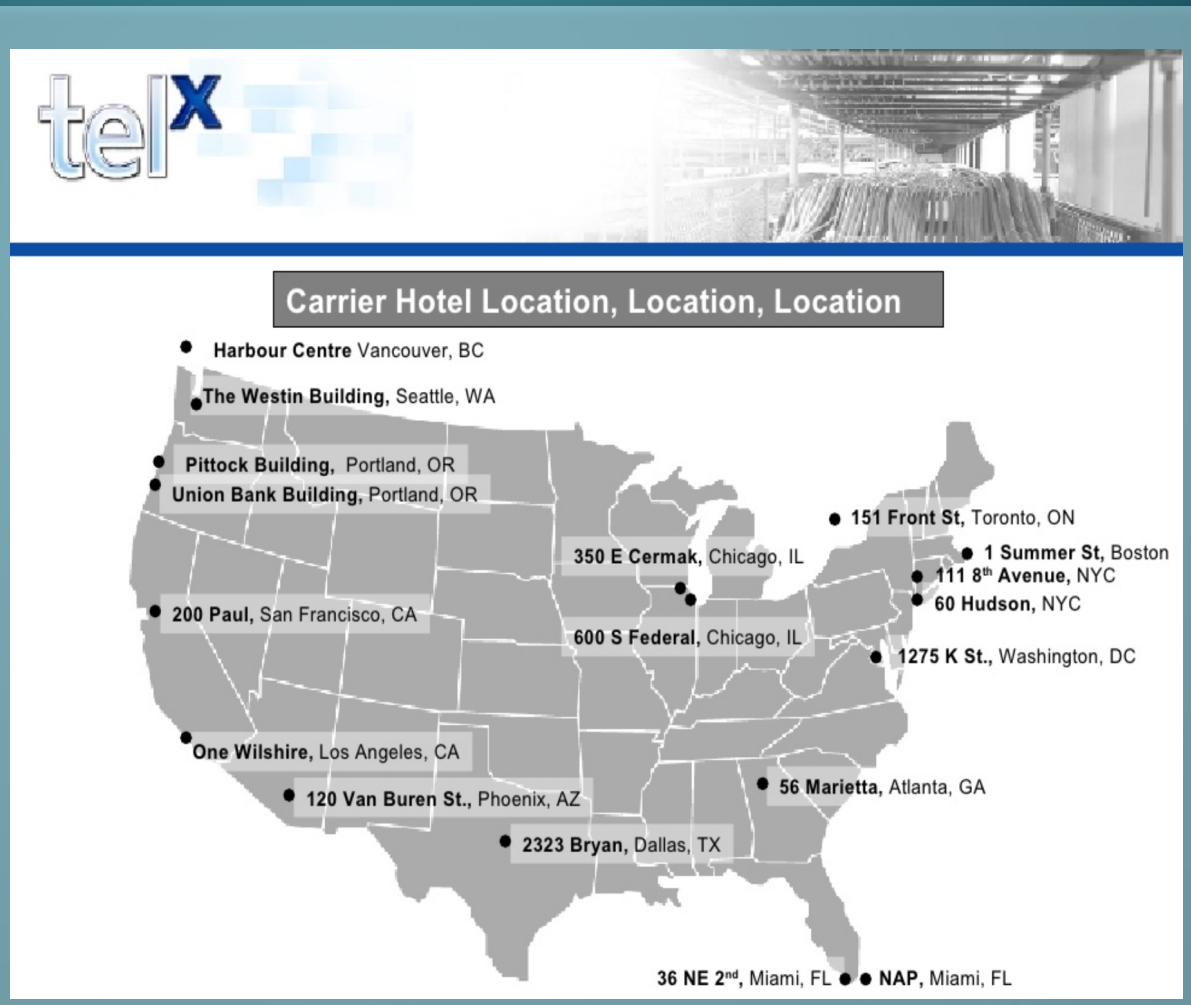


Internet landscape until ~2005
major carrier hotels acting as connectivity hubs



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2 New Routes & Hubs

Who remembers… Atlantis-II?

The Atlantis-2 submarine cable system became operational (ready for service/RFS) **around February 2000**.

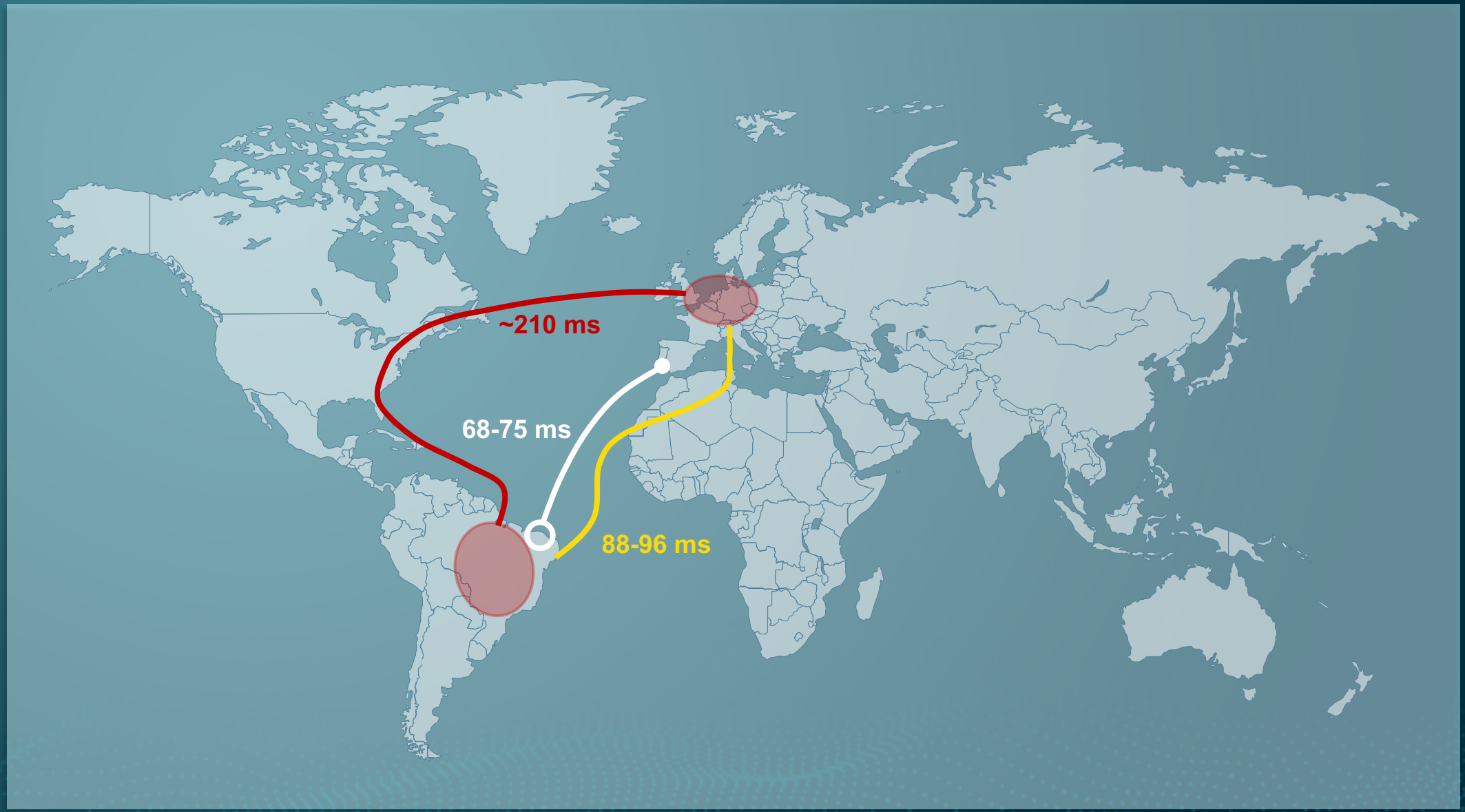


New Route: EllaLink FTZ<>LIS & MAD



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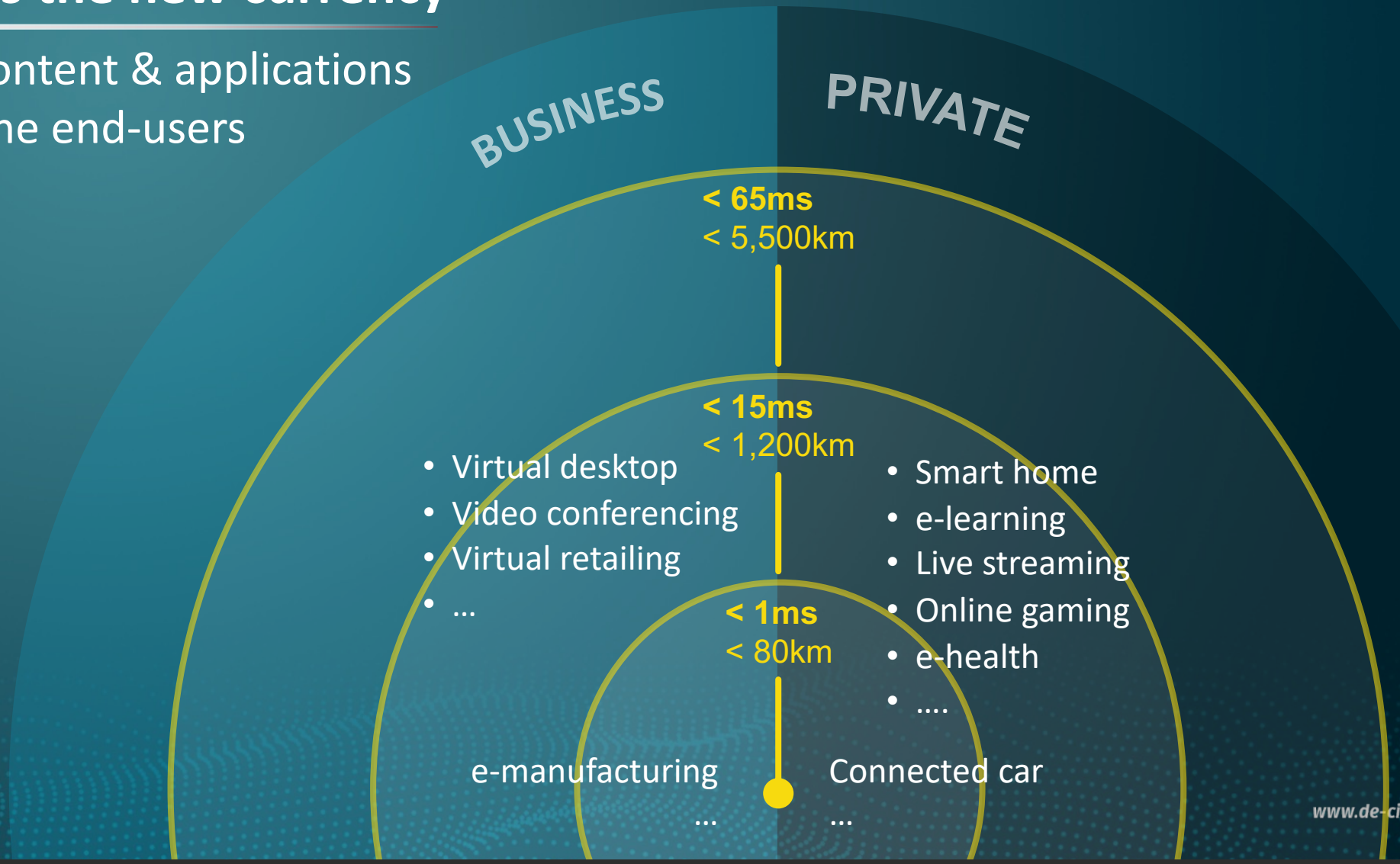


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Latency is the new currency

Bringing content & applications closer to the end-users



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Fortaleza a Brazilian hub on the rise!







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And....





3 Measurements

Latest Traceroute Result for Measurement #49857455

2023-02-09 18:49 UTC

Traceroute to 94.24.115.154 (94.24.115.154), 48 byte packets

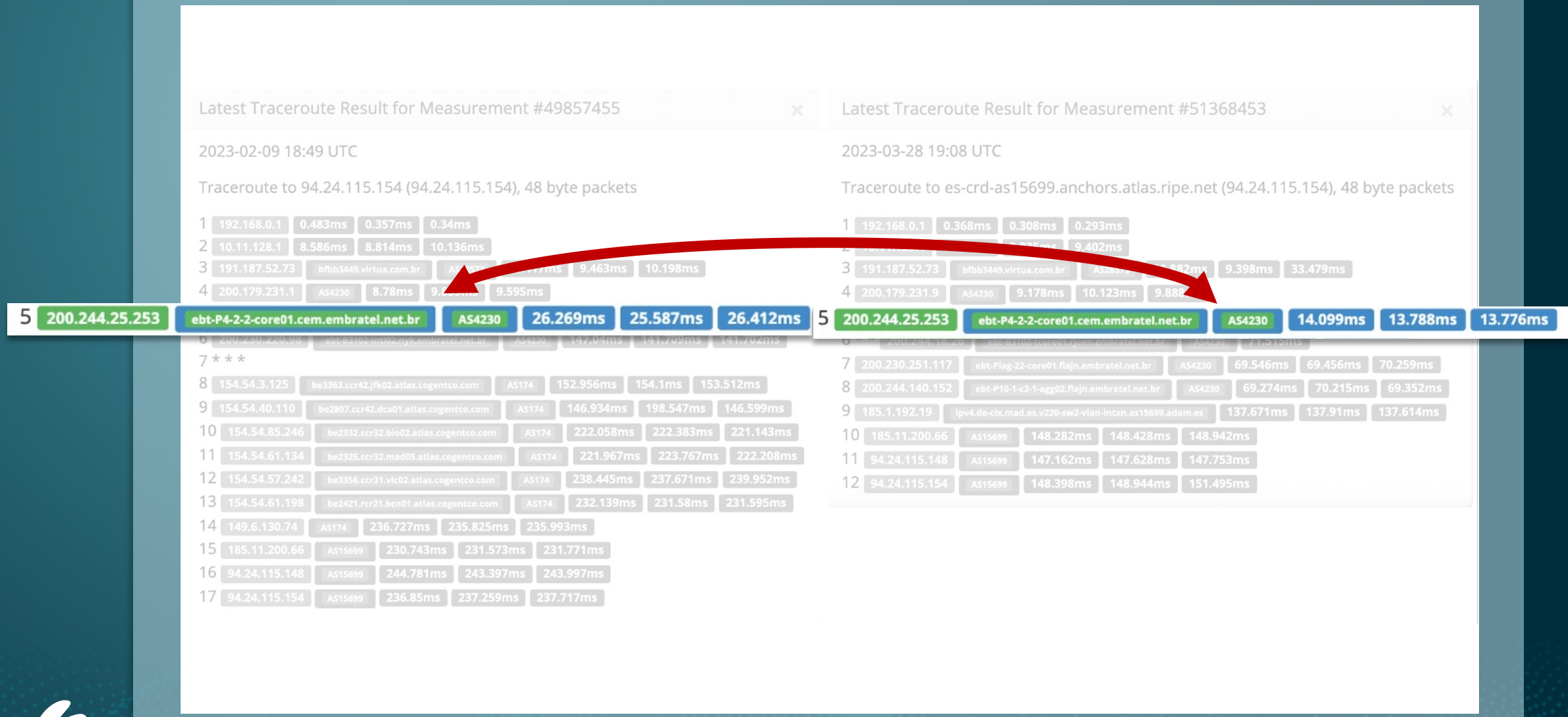
1	192.168.0.1			0.483ms	0.357ms	0.34ms
2	10.11.128.1			8.586ms	8.814ms	10.136ms
3	191.187.52.73	bfbb3449.virtua.com.br	AS28573	10.417ms	9.463ms	10.198ms
4	200.179.231.1	AS4230		8.78ms	9.859ms	9.595ms
5	200.244.25.253	ebt-P4-2-2-core01.cem.embratel.net.br	AS4230	26.269ms	25.587ms	26.412ms
6	200.230.220.98	ebt-B3102-intl02.nyk.embratel.net.br	AS4230	147.04ms	141.709ms	141.702ms
7	* * *					
8	154.54.3.125	be3363.ccr42.jfk02.atlas.cogentco.com	AS174	152.956ms	154.1ms	153.512ms
9	154.54.40.110	be2807.ccr42.dca01.atlas.cogentco.com	AS174	146.934ms	198.547ms	146.599ms
10	154.54.85.246	be2332.ccr32.bio02.atlas.cogentco.com	AS174	222.058ms	222.383ms	221.143ms
11	154.54.61.134	be2325.ccr32.mad05.atlas.cogentco.com	AS174	221.967ms	223.767ms	222.208ms
12	154.54.57.242	be3356.ccr31.vlc02.atlas.cogentco.com	AS174	238.445ms	237.671ms	239.952ms
13	154.54.61.198	be2421.rcr21.bcn01.atlas.cogentco.com	AS174	232.139ms	231.58ms	231.595ms
14	149.6.130.74	AS174		236.727ms	235.825ms	235.993ms
15	185.11.200.66	AS15699		230.743ms	231.573ms	231.771ms
16	94.24.115.148	AS15699		244.781ms	243.397ms	243.997ms
17	94.24.115.154	AS15699		236.85ms	237.259ms	237.717ms

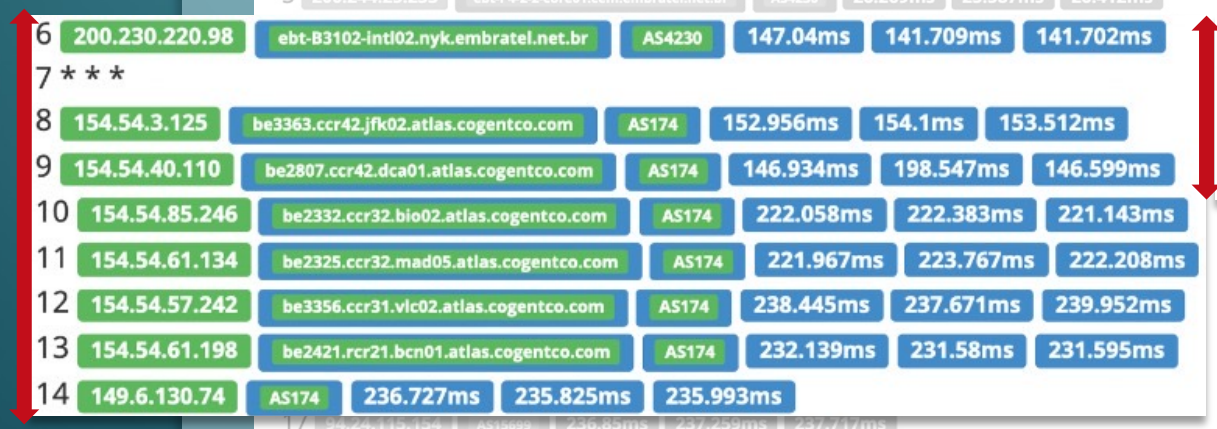
Latest Traceroute Result for Measurement #51368453

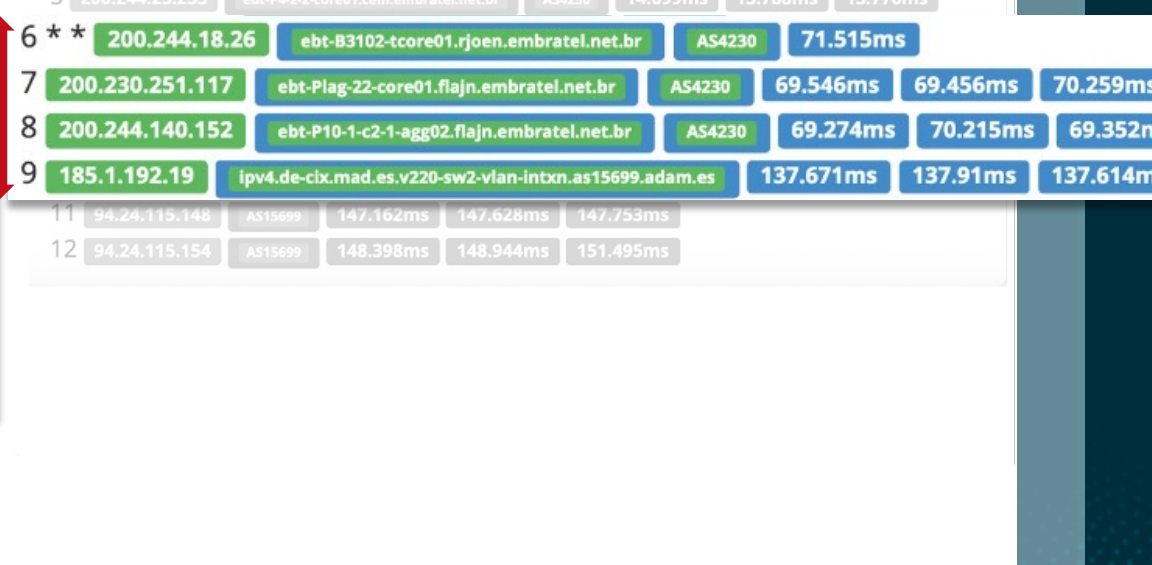
2023-03-28 19:08 UTC

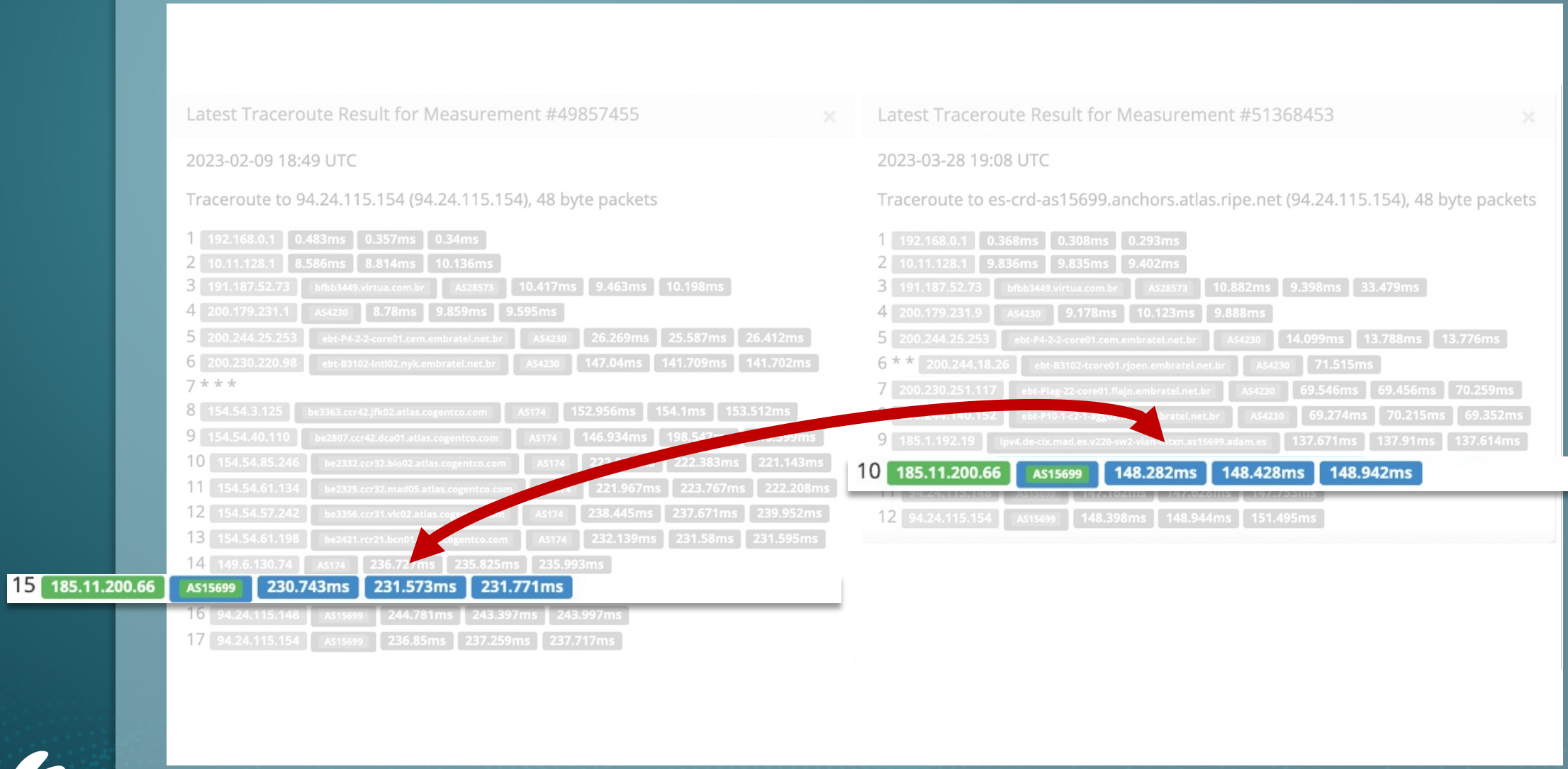
Traceroute to es-crd-as15699.anchors.atlas.ripe.net (94.24.115.154), 48 byte packets

1	192.168.0.1			0.368ms	0.308ms	0.293ms
2	10.11.128.1			9.836ms	9.835ms	9.402ms
3	191.187.52.73	bfbb3449.virtua.com.br	AS28573	10.882ms	9.398ms	33.479ms
4	200.179.231.9	AS4230		9.178ms	10.123ms	9.888ms
5	200.244.25.253	ebt-P4-2-2-core01.cem.embratel.net.br	AS4230	14.099ms	13.788ms	13.776ms
6	* * 200.244.18.26	ebt-B3102-tcore01.rjoen.embratel.net.br	AS4230	71.515ms		
7	200.230.251.117	ebt-Plag-22-core01.flajn.embratel.net.br	AS4230	69.546ms	69.456ms	70.259ms
8	200.244.140.152	ebt-P10-1-c2-1-agg02.flajn.embratel.net.br	AS4230	69.274ms	70.215ms	69.352ms
9	185.1.192.19	ipv4.de-cix.mad.es.v220-sw2-vlan-intxn.as15699.adam.es		137.671ms	137.91ms	137.614ms
10	185.11.200.66	AS15699		148.282ms	148.428ms	148.942ms
11	94.24.115.148	AS15699		147.162ms	147.628ms	147.753ms
12	94.24.115.154	AS15699		148.398ms	148.944ms	151.495ms

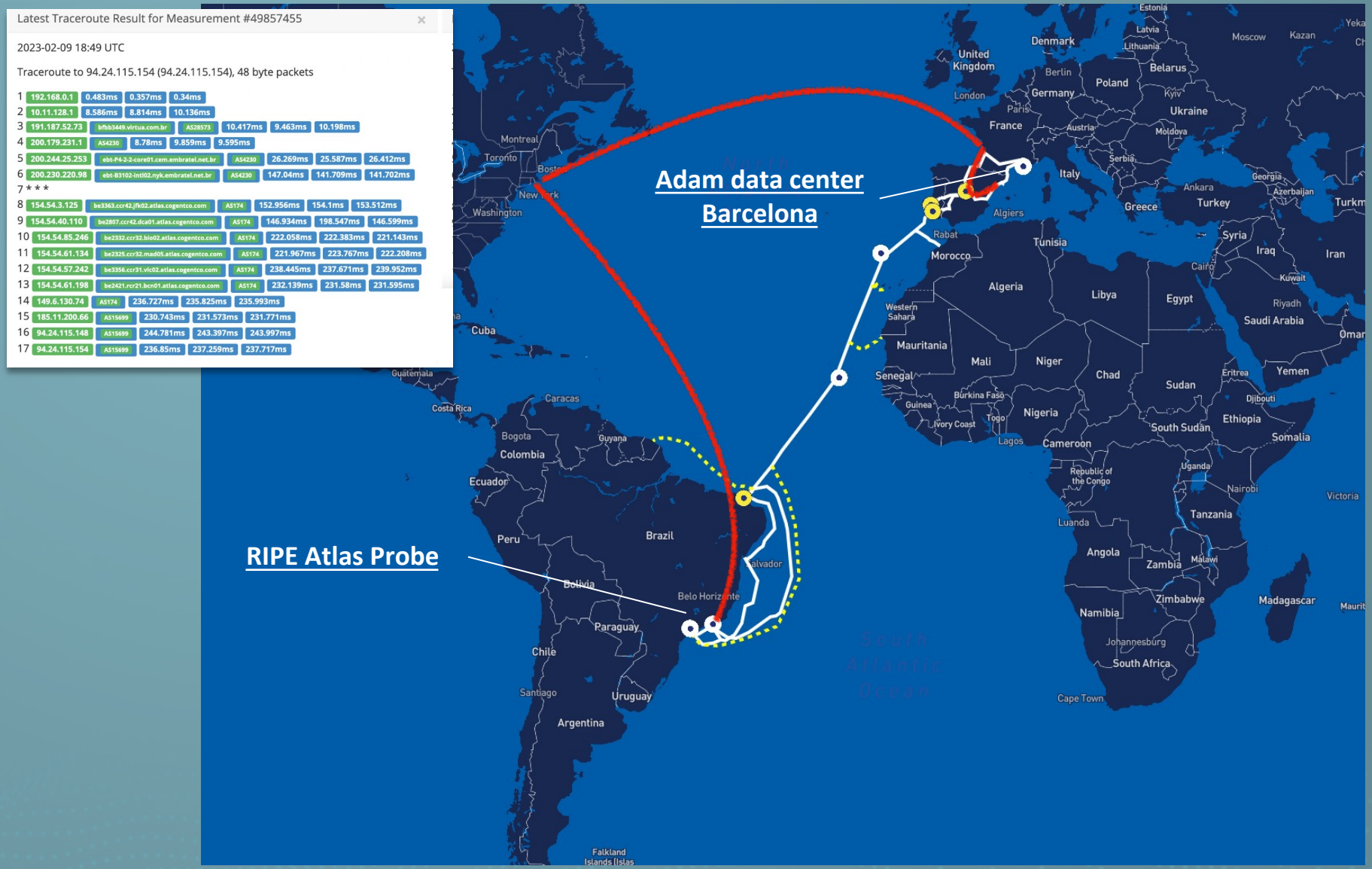

Latest Traceroute Result for Measurement #49857455
2023-02-09 18:49 UTC
Traceroute to 94.24.115.154 (94.24.115.154), 48 byte packets
1 192.168.0.1 0.483ms 0.357ms 0.34ms
2 10.11.128.1 8.586ms 8.814ms 10.136ms
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7 * * *
8 154.54.3.125 be3363.ccr42.jfk02.atlas.cogentco.com AS174 152.956ms 154.1ms 153.512ms
9 154.54.40.110 be2807.ccr42.dca01.atlas.cogentco.com AS174 146.934ms 198.547ms 146.599ms
10 154.54.85.246 be2332.ccr32.bio02.atlas.cogentco.com AS174 222.058ms 222.383ms 221.143ms
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12 154.54.57.242 be3356.ccr31.vlc02.atlas.cogentco.com AS174 238.445ms 237.671ms 239.952ms
13 154.54.61.198 be2421.rcr21.bcn01.atlas.cogentco.com AS174 232.139ms 231.58ms 231.595ms
14 149.6.130.74 AS174 236.727ms 235.825ms 235.993ms
15 185.11.200.66 AS15699 230.743ms 231.573ms 231.771ms
16 94.24.115.148 AS15699 244.781ms 243.397ms 243.997ms
17 94.24.115.154 AS15699 236.85ms 237.259ms 237.717ms
Latest Traceroute Result for Measurement #51368453
2023-03-28 19:08 UTC
Traceroute to es-crd-as15699.anchors.atlas.ripe.net (94.24.115.154), 48 byte packets
1 192.168.0.1 0.368ms 0.308ms 0.293ms
3 191.187.52.73 bfbb3449.virtua.com.br 9.398ms 33.479ms
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7 200.230.251.117 ebt-Plag-22-core01.flajn.embratel.net.br AS4230 69.546ms 69.456ms 70.259ms
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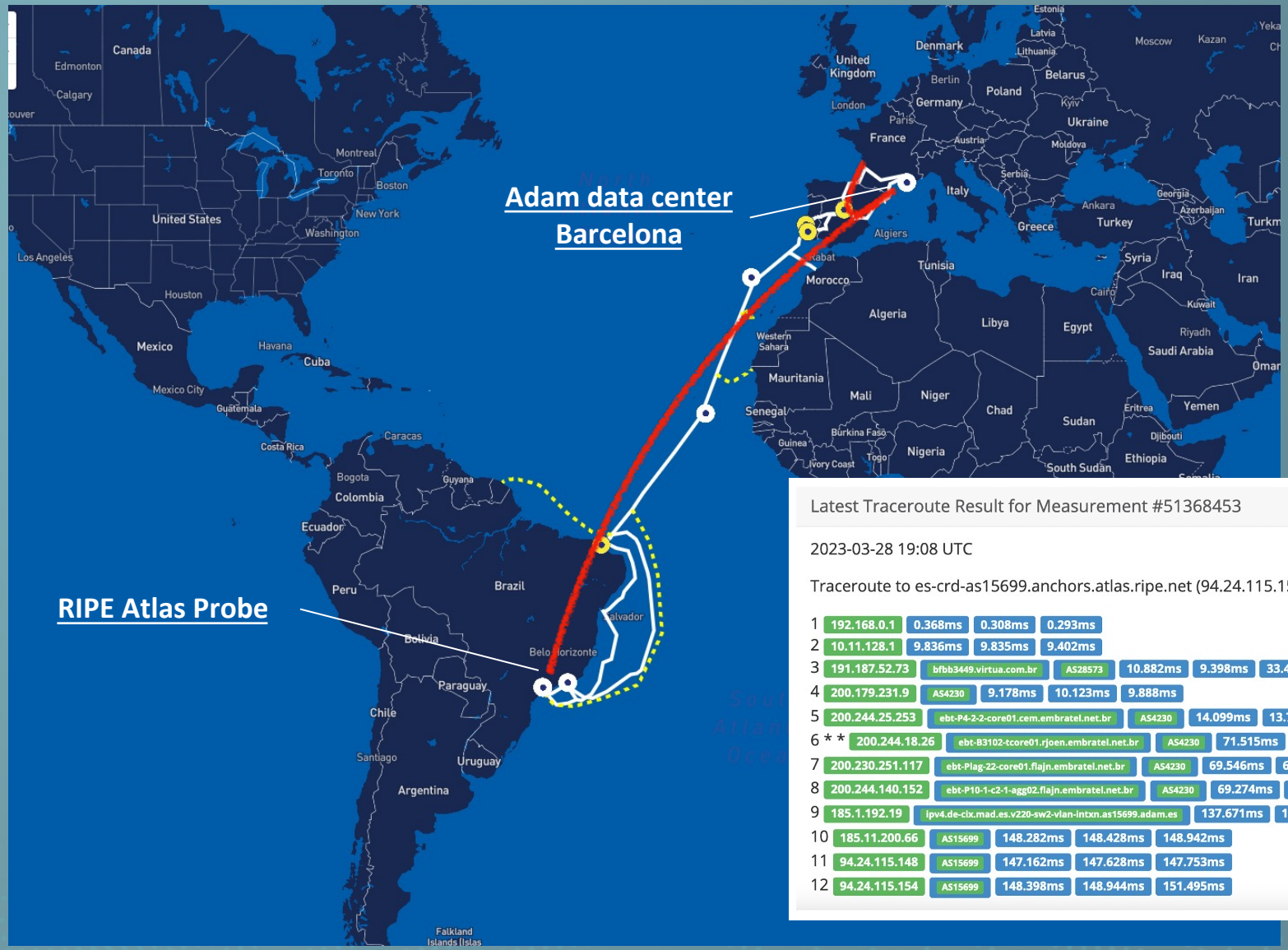

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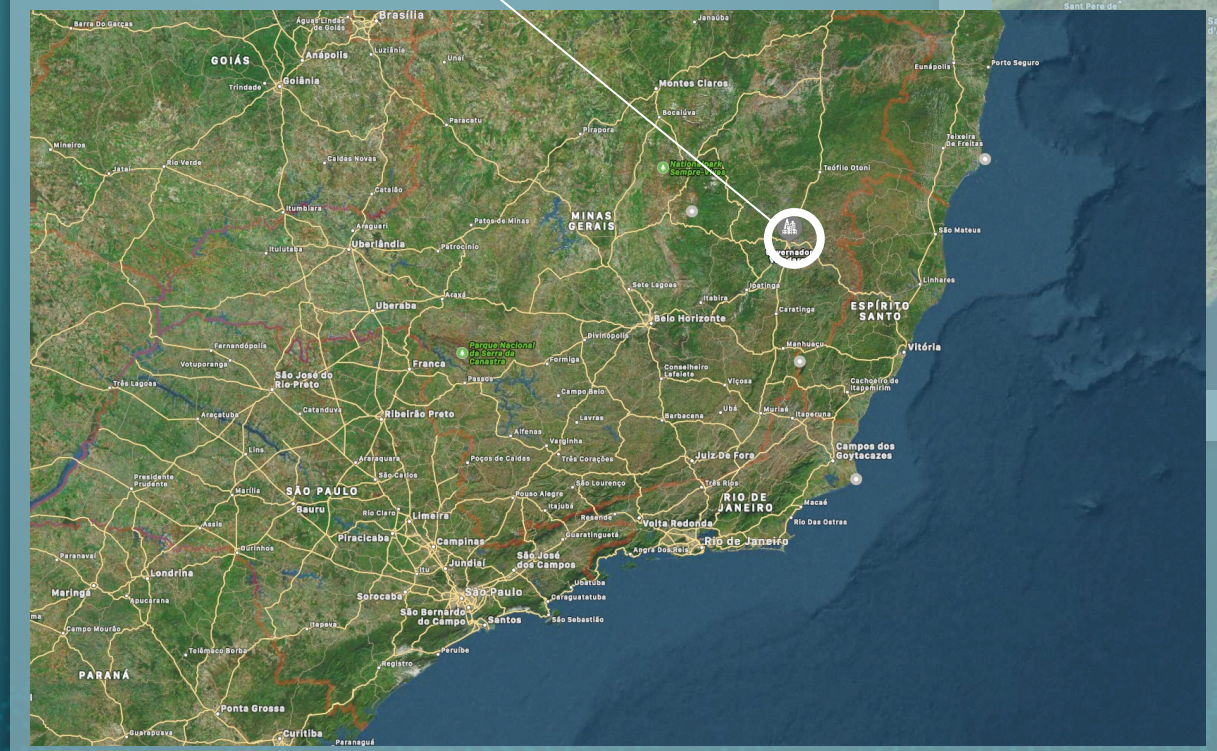
DE-CIX

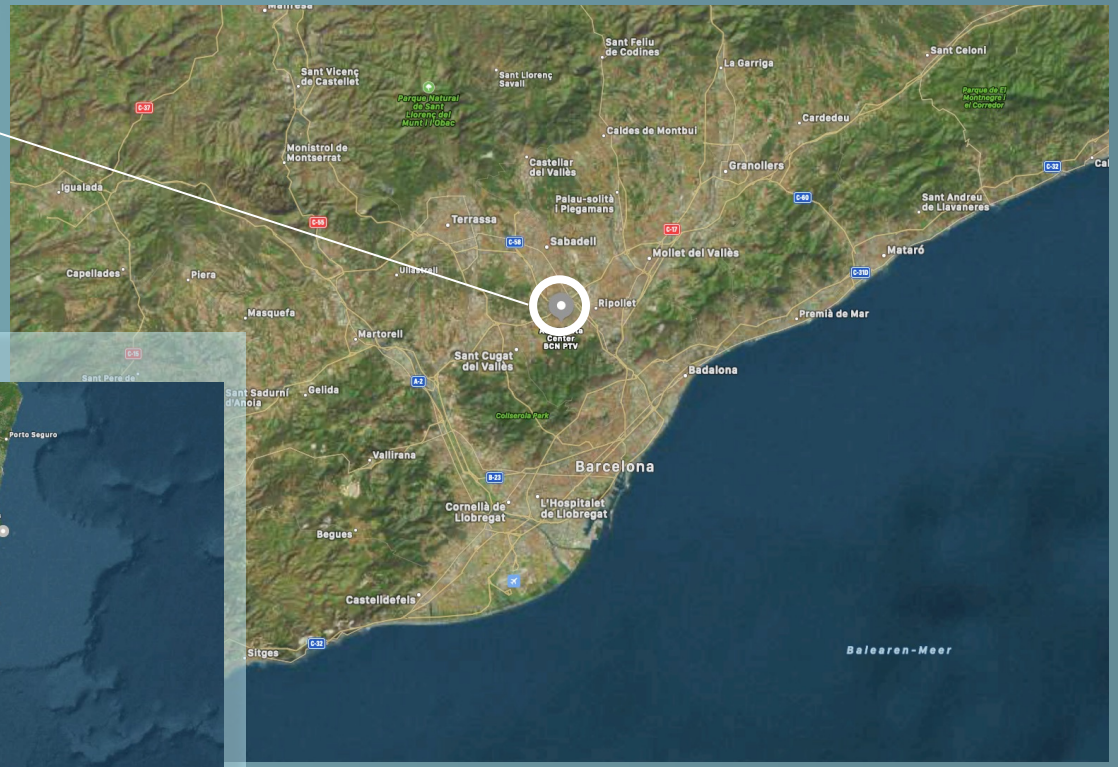
www.de-cix.net


Adam data center
Barcelona
RIPE Atlas Probe
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Adam data center
Barcelona

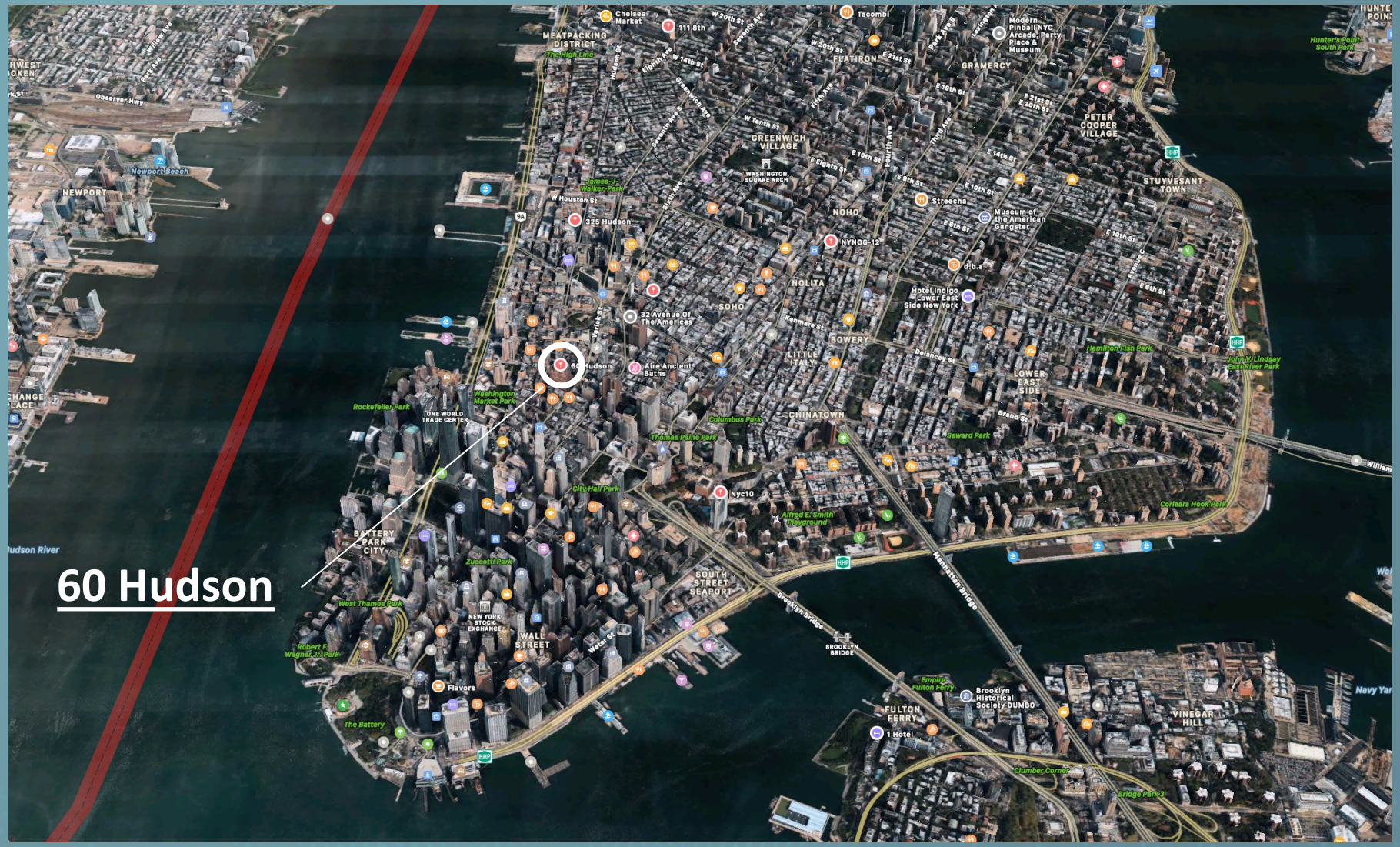
RIPE Atlas Probe





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```
                                   My traceroute  [v0.95]
indaiatuba (192.168.0.38) -> spainwisp.com (31.214.178.16)                2023-04-11T12:26:20-0300
Keys:  Help   Display mode   Restart statistics   Order of fields   quit
                                                        Packets               Pings
 Host                                                 Loss%   Snt   Last   Avg  Best  Wrst StDev
 1. AS???    sne.ayub.net.br                           0.0%     9    4.6   5.8   4.6   7.8   1.2
 2. AS???    10.40.32.1                                0.0%     9   16.6  16.4  15.0  20.7   1.7
 3. AS28573  b3d44cad.virtua.com.br                    0.0%     8   20.1  16.1  15.0  20.1   1.6
 4. AS28573  b3d44a2d.virtua.com.br                    0.0%     8   15.2  16.2  14.0  17.6   1.2
 5. AS4230   embratel-H0-3-1-1-agg01.sne.embratel.net.br  0.0%   8   16.5  16.6  14.4  18.8   1.2
 6. AS4230   ebt-B1122-core01.spo.embratel.net.br      75.0%     8   74.2  71.3  68.4  74.2   4.1
 7. AS4230   ebt-B2111-tcore01.rjo.embratel.net.br      0.0%     8   73.5  75.6  73.1  78.6   1.9
 8. AS4230   ebt-Plag-21-core01.fla.embratel.net.br    71.4%     8   71.7  72.2  71.7  72.8   0.8
 9. AS4230   200.244.80.15                             37.5%     8   73.9  74.3  69.3  83.6   5.5
10. AS4230   ebt-P10-1-c1-1-agg02.flajn.embratel.net.br  12.5%   8   73.9  73.5  72.2  76.1   1.3
11. AS???    xe1-decix-mad.net.scip.es                 0.0%     8  142.9 142.9 140.7 146.2   1.7
12. (waiting for reply)
13. AS57910  router-corefw-pmi.scip.es                 0.0%     8  147.9 148.3 144.4 149.8   1.7
14. AS57910  hostingsrv2.dondominio.com                0.0%     8  150.9 150.2 148.8 150.9   0.7
```

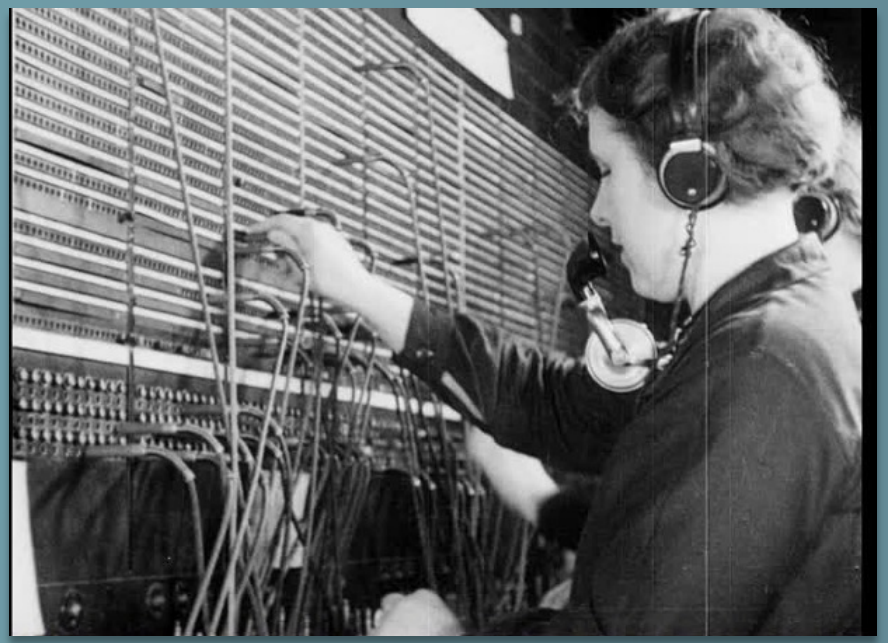

```
11. AS???    xe1-decix-mad.net.scip.es                 0.0%     8  142.9 142.9 140.7 146.2   1.7
12. (waiting for reply)
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14. AS57910  hostingsrv2.dondominio.com                0.0%     8  150.9 150.2 148.8 150.9   0.7
```


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Link to RIPE Atlas Measurement **before** ELLA Link (all Brazilian Ripe ATLAS Probe towards Barcelona Datacenter)
https://atlas.ripe.net/measurements/49857455/#probes

Link to RIPE Atlas Measurement **after** ELLA Link (all Brazilian Ripe ATLAS Probe towards Barcelona Datacenter)
https://atlas.ripe.net/measurements/51368453/#probes



Old maps available at

https://atlantic-cable.com/Maps/


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