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## KOMUNIKASI DATA

### PERBANDINGAN HOPS ANTARA SITUS LOKAL DAN LUARNEGERI MENGUNAKAN DUA SUMBER JARINGAN BERBEDA

#### 1. Perbandingan hops situs local [www.gigapurbalingga.net](http://www.gigapurbalingga.net)

- Menggunakan jaringan wifi yang disediakan oleh myrepublic membutuhkan 9 hops.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.16299.192]
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C:\Windows\system32>tracert www.gigapurbalingga.net

Tracing route to www.gigapurbalingga.net [104.25.170.45]
over a maximum of 30 hops:

  0  1 ms    2 ms    1 ms  192.168.100.1
  1  3 ms    2 ms    3 ms  10.37.0.1
  2 122 ms  127 ms  120 ms host-103-47-132-57.myrepublic.co.id [103.47.132.57]
  3  99 ms  110 ms  114 ms 172.16.10.12
  4 116 ms  114 ms  104 ms host-103-47-132-245.myrepublic.co.id [103.47.132.245]
  5  98 ms  94 ms   87 ms ip-181-181.moratelindo.co.id [202.43.181.181]
  6 144 ms  109 ms  137 ms 103.56.234.65
  7  93 ms  119 ms  119 ms 13335.sgw.equinix.com [27.111.228.132]
  8 111 ms  110 ms  99 ms 104.25.170.45

Trace complete.

C:\Windows\system32>
```

- Begitupun dengan jaringan wifi yang disediakan oleh indiHome membutuhkan 9 hops.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.16299.192]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Fachrudin Abdau>tracert gigapurbalingga.net

Tracing route to gigapurbalingga.net [104.25.169.45]
over a maximum of 30 hops:

  0  1 ms    <1 ms  <1 ms  1.100.168.192.in-addr.arpa [192.168.100.1]
  1  2 ms    3 ms   2 ms  180.251.240.1
  2  3 ms    2 ms   6 ms  161.subnet125-160-14.speedy.telkom.net.id [125.160.14.161]
  3  3 ms    2 ms   2 ms  61.94.115.209
  4 13 ms   13 ms  13 ms  61.94.117.129
  5 11 ms   13 ms  11 ms  61.94.117.130
  6 12 ms   12 ms  11 ms  116.204.240.180.in-addr.arpa [180.240.204.116]
  7 13 ms   13 ms  13 ms  162.158.160.253
  8 13 ms   16 ms  15 ms  104.25.169.45

Trace complete.

C:\Users\Fachrudin Abdau>
```

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## 2. Perbandingan hops situs international [www.bbcamerica.com](http://www.bbcamerica.com)

- Pada jaringan indiHome, hops yang digunakan sebanyak 15 tanpa ada RTO (Request Time Out).

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.16299.192]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Fachrudin Abdau>tracert bbcamerica.com

Tracing route to bbcamerica.com [216.146.46.10]
over a maximum of 30 hops:

  0  2 ms  2 ms  2 ms  1.100.168.192.in-addr.arpa [192.168.100.1]
  1  3 ms  3 ms  2 ms  180.251.240.1
  2  7 ms  2 ms  2 ms  161.subnet125-160-14.speedy.telkom.net.id [125.160.14.161]
  3  4 ms  6 ms  2 ms  61.94.115.209
  4  13 ms  12 ms  14 ms  22.193.240.180.in-addr.arpa [180.240.193.22]
  5  11 ms  11 ms  10 ms  21.193.240.180.in-addr.arpa [180.240.193.21]
  6  183 ms  183 ms  182 ms  153.192.240.180.in-addr.arpa [180.240.192.153]
  7  183 ms  184 ms  183 ms  180.240.192.153
  8  183 ms  183 ms  183 ms  ae-14.a00.lsanca20.us.bb.gin.ntt.net [131.103.117.129]
  9  184 ms  183 ms  185 ms  ae-3.r01.lsanca20.us.bb.gin.ntt.net [129.250.2.233]
 10 185 ms  183 ms  183 ms  ae-8.r23.lsanca07.us.bb.gin.ntt.net [129.250.6.48]
 11 183 ms  183 ms  184 ms  ae-2.r01.lsanca07.us.bb.gin.ntt.net [129.250.4.107]
 12 185 ms  185 ms  193 ms  ae-0.a02.lsanca07.us.bb.gin.ntt.net [129.250.2.186]
 13 178 ms  178 ms  178 ms  xe-0-0-7-2.a02.lsanca07.us.ce.gin.ntt.net [198.172.90.174]
 14 178 ms  178 ms  178 ms  redirector1.dynect.net [216.146.46.10]

Trace complete.

C:\Users\Fachrudin Abdau>
```

- Sedangkan pada jaringan myrepublic membutuhkan hops maksimal yaitu 30 hops. Dan 21 dari hops tersebut RTO (Request Time Out).

```
Administrator: Command Prompt

C:\Windows\system32>tracert www.bbcamerica.com

Tracing route to bbca-dd.1ldns.net [68.142.70.21]
over a maximum of 30 hops:

  0  1 ms  1 ms  1 ms  192.168.100.1
  1  6 ms  4 ms  9 ms  10.37.0.1
  2  131 ms  103 ms  106 ms  host-103-47-132-57.myrepublic.co.id [103.47.132.57]
  3  109 ms  113 ms  113 ms  172.16.10.12
  4  174 ms  93 ms  97 ms  host-103-47-132-245.myrepublic.co.id [103.47.132.245]
  5  102 ms  103 ms  107 ms  ip-101-181.moratelindo.co.id [202.43.181.181]
  6  126 ms  114 ms  131 ms  193.56.224.65
  7  127 ms  151 ms  119 ms  27.111.228.143
  8  115 ms  123 ms  133 ms  ve5.fr4.sin.llnw.net [117.121.248.2]
  9  * * * Request timed out.
 10 * * * Request timed out.
 11 * * * Request timed out.
 12 * * * Request timed out.
 13 * * * Request timed out.
 14 * * * Request timed out.
 15 * * * Request timed out.
 16 * * * Request timed out.
 17 * * * Request timed out.
 18 * * * Request timed out.
 19 * * * Request timed out.
 20 * * * Request timed out.
 21 * * * Request timed out.
 22 * * * Request timed out.
 23 * * * Request timed out.
 24 * * * Request timed out.
 25 * * * Request timed out.
 26 * * * Request timed out.
 27 * * * Request timed out.
 28 * * * Request timed out.
 29 * * * Request timed out.
 30 * * * Request timed out.

Trace complete.

C:\Windows\system32>
```

## 3. Kesimpulan

Dari gambar diatas dapat disimpulkan menjadi beberapa poin:

- hops situs local dan international itu berbeda.
- Banyaknya hops pada setiap situs tergantung pada servis yang diberikan oleh provider.
- Kecepatan akses internet berpengaruh pada keberhasilan dalam tracert situs.
- Semakin sedikit hops dan kecilnya waktu ping dalam satuan ms-nya, semakin baik jaringan tersebut