

Happy Eyeball Measurementのこと

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きっかけは・・・

これEchigo-IXでいかがですかー？



@shtsuchi



いいネ！

@yyasuyuki

どんなものかというと

- ✦ Happy Eyeballsって本当に役立ってるのかしら？
- ✦ もっとアルゴリズムを向上させられるのではないか？



motivation

- happy eyeballs algorithm [RFC 6555]:
 - initiate a TCP connect(...) with the first endpoint, give it 300ms
 - switch over with a TCP connect(...) to a different address family otherwise
 - the competition runs fair after 300ms

Happy Eyeballs [RFC 6555]

time

- does the algorithm help improve the user experience?

<https://ripe66.ripe.net/presentations/263-ripe66-happy-slides.pdf>

どんなものかというと

- というわけで、プローブを作ってみました。
- 計測して分析するぜ！



metric and implementation

- developed a simple TCP happy eyeballs [RFC 6555] probing tool

```
graph LR; A["1) service name  
2) port"] --> B(happy); B --> C["connection  
establishment  
times (us)  
1) endpoint  
2) endpoint  
3) endpoint  
...  
n) endpoint"]
```

- uses getaddrinfo(...) to resolve service names to endpoints
- uses non-blocking connect(...) to connect to all endpoints of a service
- uses a short-delay between connection attempts to avoid SYN floods
- the service name resolution time is not accounted in the output
- can produce either human-readable or machine-readable output
- file locking capability

```
>> ./happy -q 1 -m www.google.com www.facebook.com  
HAPPY.0;1360681039;OK;www.google.com;80;173.194.69.105;8626  
HAPPY.0;1360681039;OK;www.google.com;80;2a00:1450:4008:c01::69;8884  
HAPPY.0;1360681039;OK;www.facebook.com;80;2a03:2880:10:6f01:face:b00c::8;170855  
HAPPY.0;1360681039;OK;www.facebook.com;80;31.13.72.39;26665
```

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<https://ripe66.ripe.net/presentations/263-ripe66-happy-slides.pdf>

- ✦ SamKnowsというプロジェクト？のプローブらしい
 - ✦ <http://www.samknows.com/>
- ✦ 箱はTP-LINKのブロードバンドルータ
 - ✦ TL-WR741ND
- ✦ 中身はOpneWRT
 - ✦ OpenWrt Backfire 10.03.1
(Linux 2.6.32)
- ✦ 自動設定、管理権限なし
 - ✦ 2222/tcpでssh動いてるけど…





- ✦ SamKnowsにはレポート機能があるらしい
 - ✦ ログインできるのか不明・・・(問い合わせ中)



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- ✦ 簡単にできることなら協力してあげよう
 - ✦ We have performed a preliminary study on measuring the effectiveness of happy eyeballs. (snip) We are working towards running this test on a large-scale measurement platform to develop a more comprehensive picture to help improve the algorithm.
 - ✦ “Measuring the Effectiveness of Happy Eyeballs” July 04, 2013
<http://tools.ietf.org/html/draft-bajpai-happy-00>
- ✦ 日本の典型的なアクセス環境においてみたいかな
 - ✦ フレッツ光ネクスト IPoE/PPPoE
 - ✦ auひかり

