

World IPv6 Day Debrief



Igor Gashinsky
Principal Architect
Yahoo!
June 13th, 2010

Thank you

- **ISOC for coordinating and organizing the event**
- **RIPE & others for extra monitoring locations**
- **Google Chrome team for the “broken user” fixes**
- **All the organizations that participated**
- **All the people who made IPv6 work 😊**



Why did we do it?

- **Promoting IPv6 adoption**
 - **Breaking chicken/egg paradigm**
- **Last-ditch effort to help with “broken users” problem**
 - **Current “breakage stats” are ~ 0.022%**
 - **21 months ago this was 0.078%!**

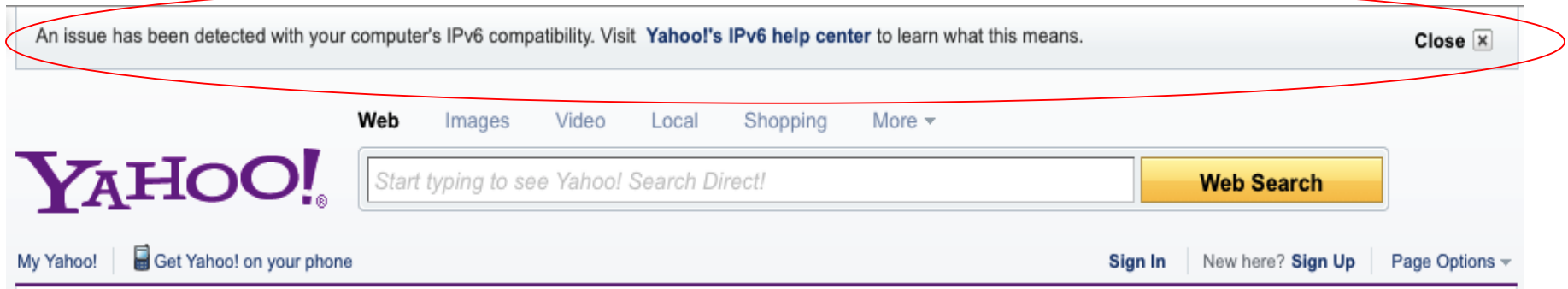


Preparation

- **Turned up 6to4 return tunnel infrastructure in all backbone/serving locations**
 - **Saw about 140ms performance improvement to 6to4 users as a result**
- **Dual-stacked our front-end proxy infrastructure**
- **Modified a *lot* of code (abuse, geo, ad-targeting, etc)**
- **IPv6 serving capacity over-provisioned x1000**
 - **All that was actually the easy part...**
- **Ran 2x 15 minute live tests ahead of time**
 - **Learned some interesting lessons along the way**
 - **5PM is a really bad time to start a test 😊**
 - **Just because you are monitoring something, doesn't mean that you are monitoring it via IPv6!**



Preparation



- **User education and outreach**
 - **Beaconing system in place to detect “broken” users**
 - **Window shade alert on the Y! front page notifying them**
 - **IPv6 help pages in 38 languages**
 - **IPv6 test tool**
 - **Lots and lots of PR**

June 8th, 2011

- **The day was a huge success**
 - **Great example of the industry collaboration and movement towards IPv6 adoption**
 - **The internet didn't melt down! 😊**
 - **Most anti-climactic “war room” ever..**
 - **One minor traffic optimization, no other issues**
 - **No significant increase in call center volume**



How did the users react?



Woohy I have defeated this IPV6 thing!
1 hour ago



@ [redacted] test your connection: test-ipv6.com
1 hour ago



@ [redacted] Thinks it is due to International IPv6 day. Dunno why i'm the only one affected but it makes sense with the sites not working.
4 hours ago



@ [redacted] Ah just read about it. So that's why FB and google etc won't properly work for me. I hope anyhow!
5 hours ago



I'll soon be throwing this macbook out the window! Work you fool. Twitter is good so is Flickr but I want other websites too!
5 hours ago

World IPv6 Day, by the numbers

- **Over 1.85 Million users served via IPv6**
- **Over 1 Million visits to Y! IPv6 help pages**
- **0.229% of users served via IPv6**

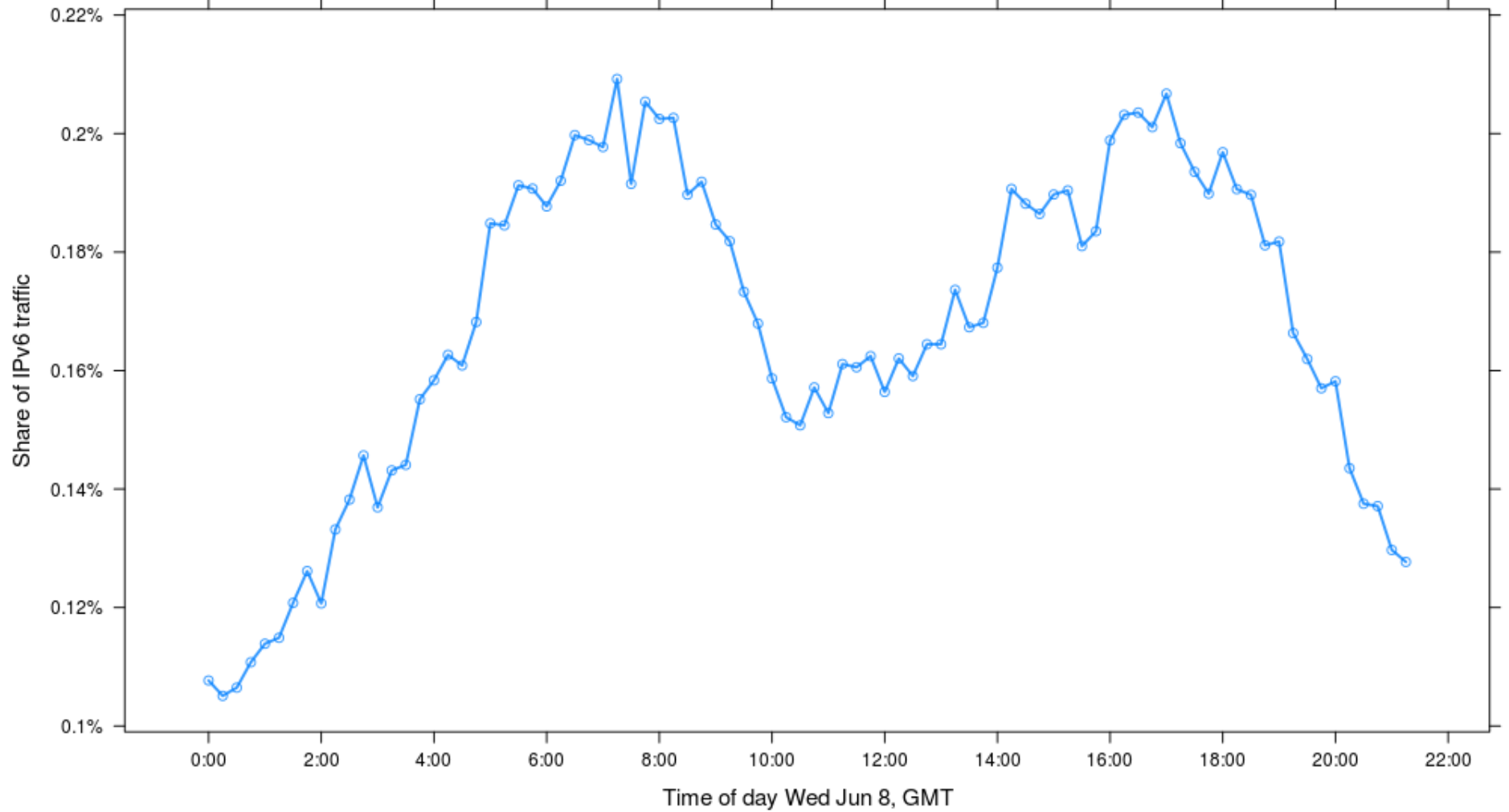
- **France led the pack with over 3% IPv6-enabled users!**
 - **Thank you Free.fr!**
- **US was at 0.37%**

- **Breakage stats remained the same (0.022%) ☹**

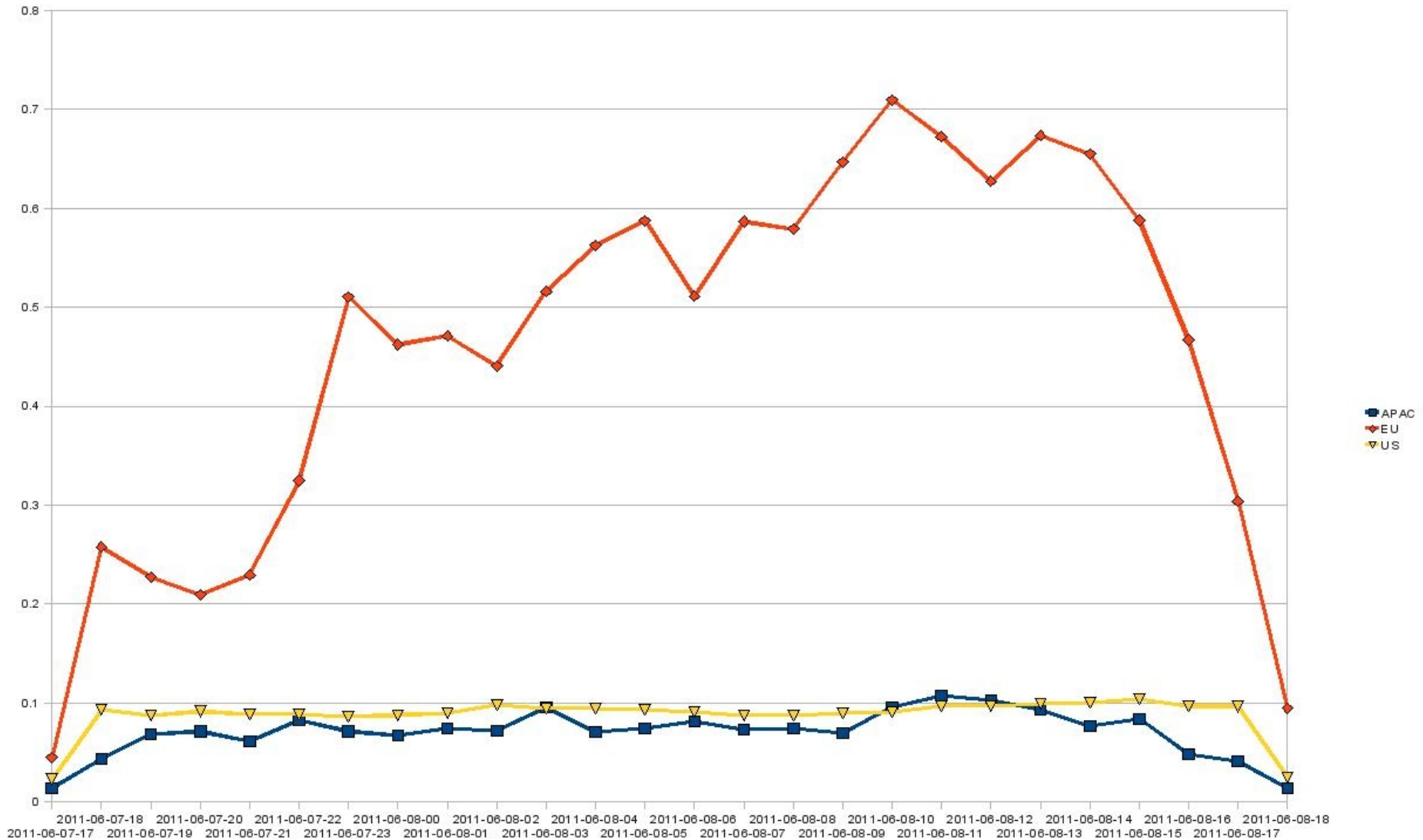


Per-hour IPv6 Statistics

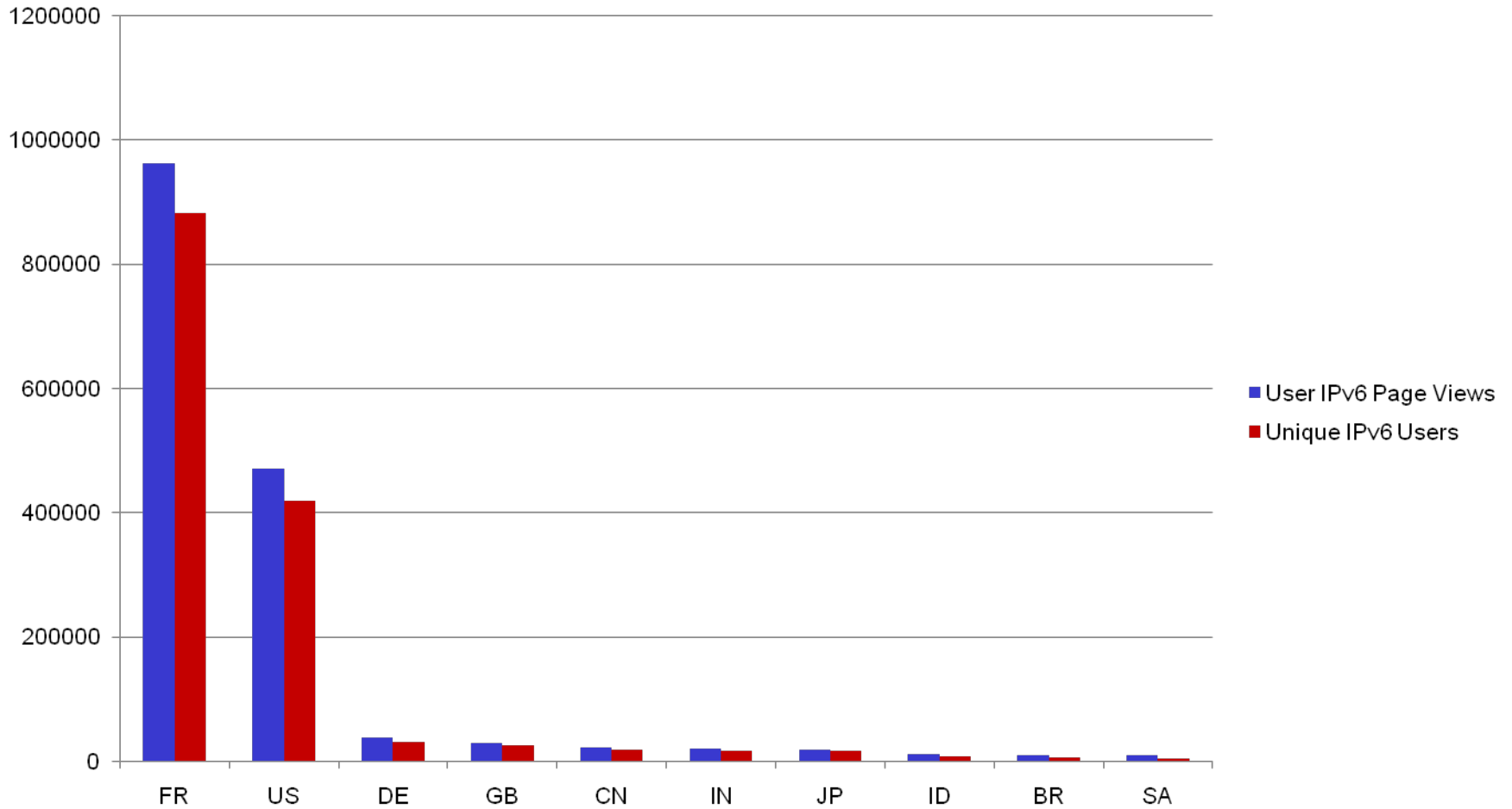
World share of IPv6 traffic



Per-hour Region Breakdown

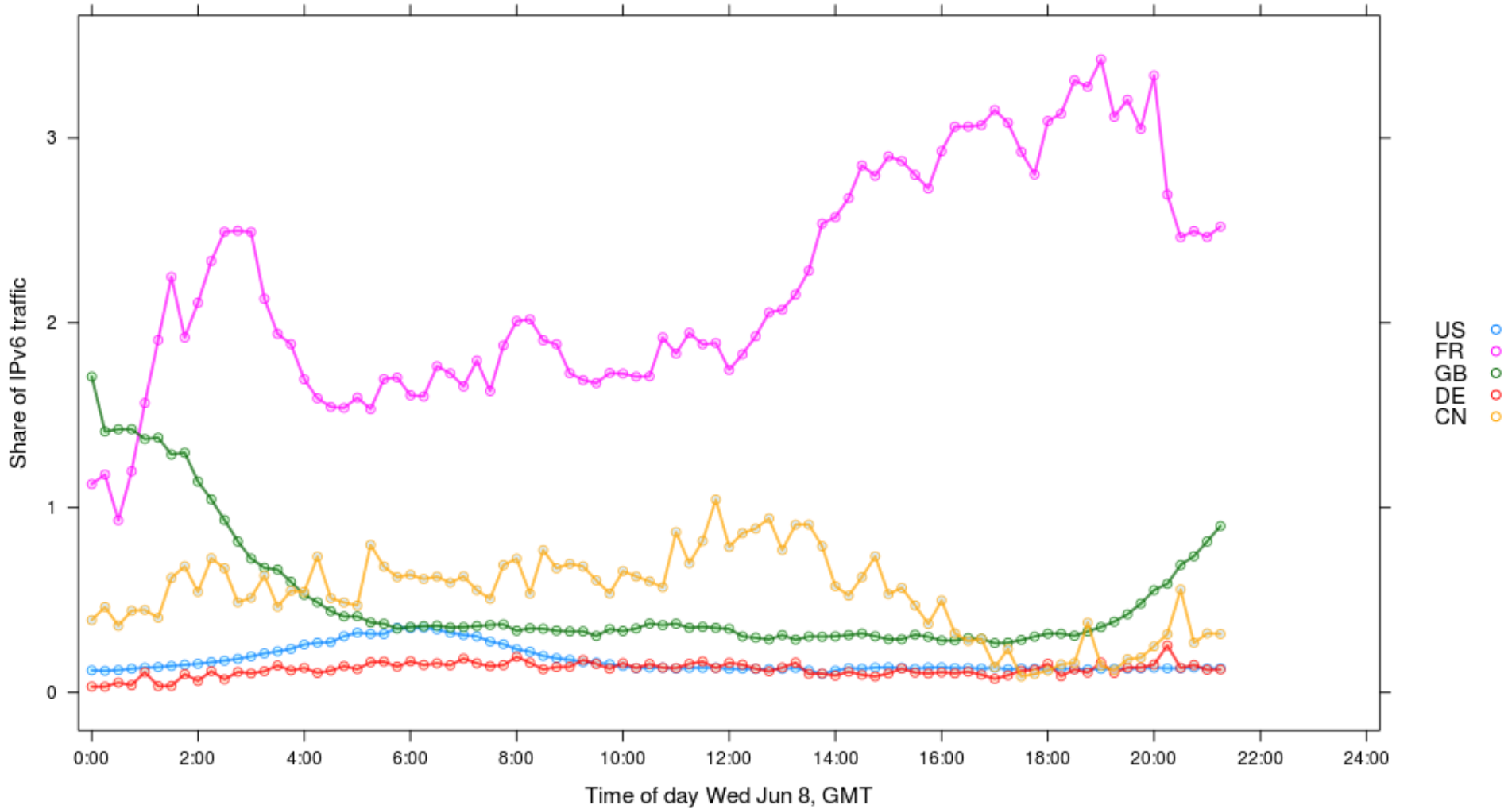


IPv6 users by Country



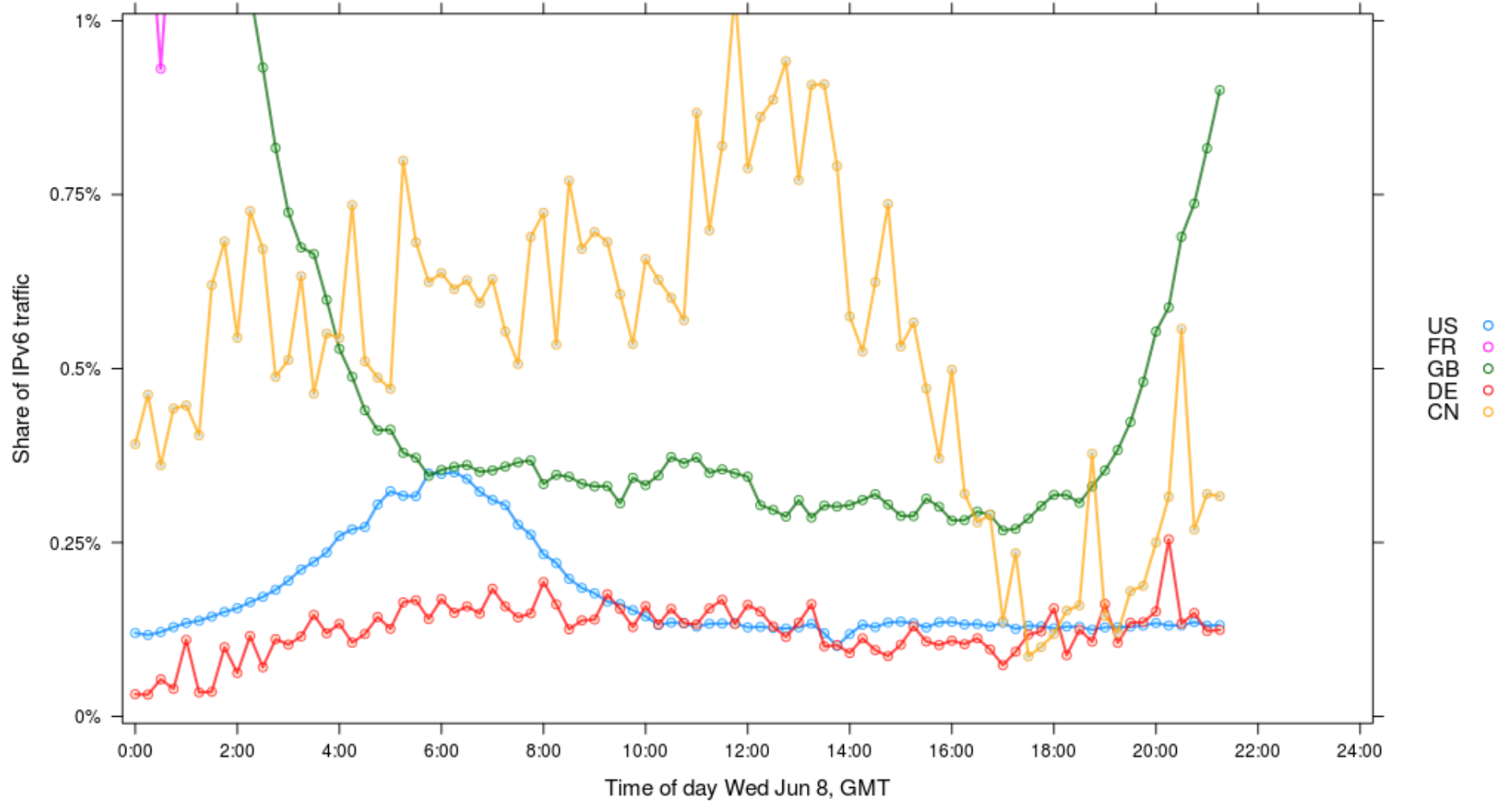
IPv6 users by Country per hour (top5)

Fraction of IPv6 traffic by country

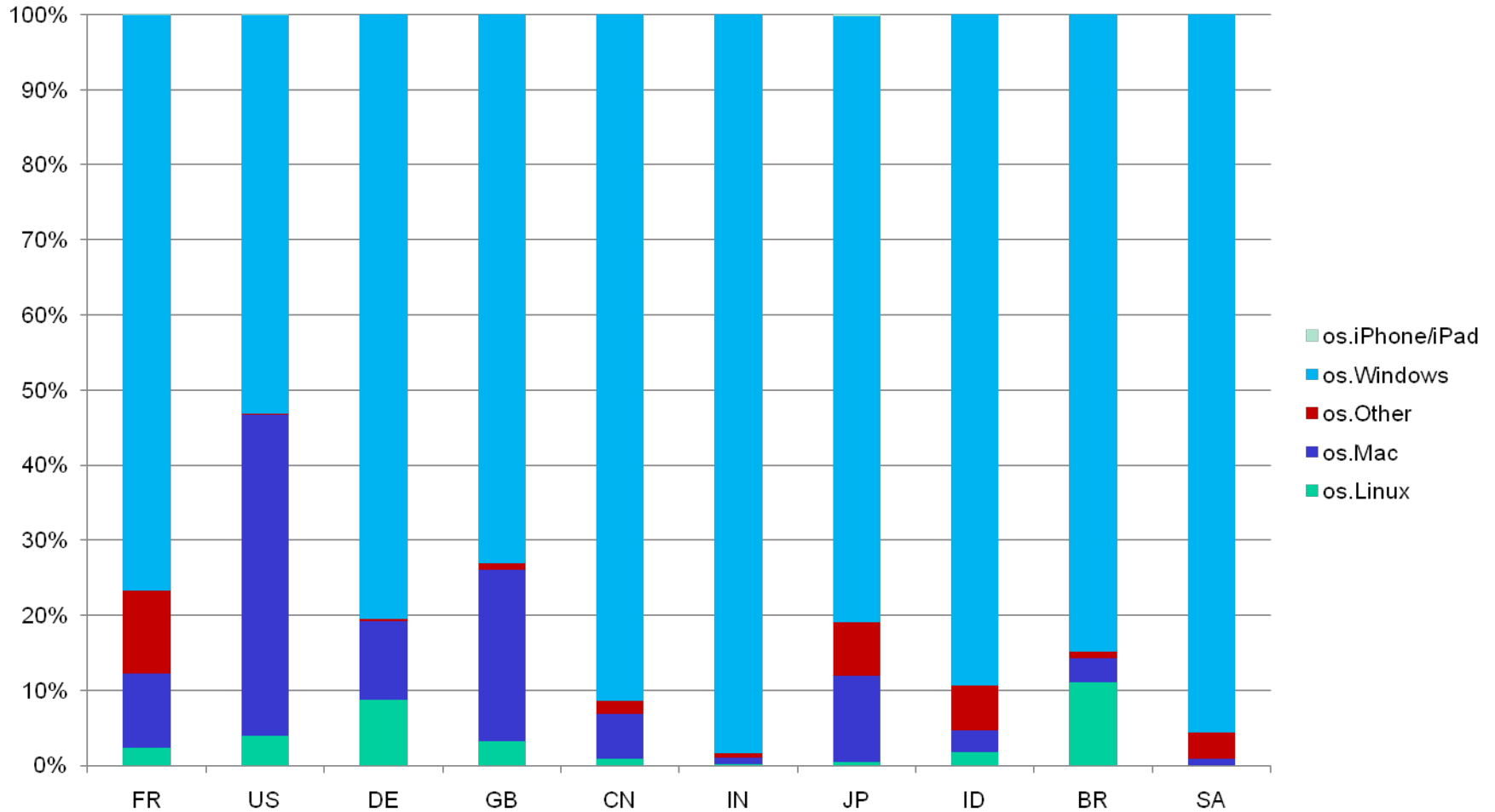


IPv6 users by Country per hour (top5) [zoom]

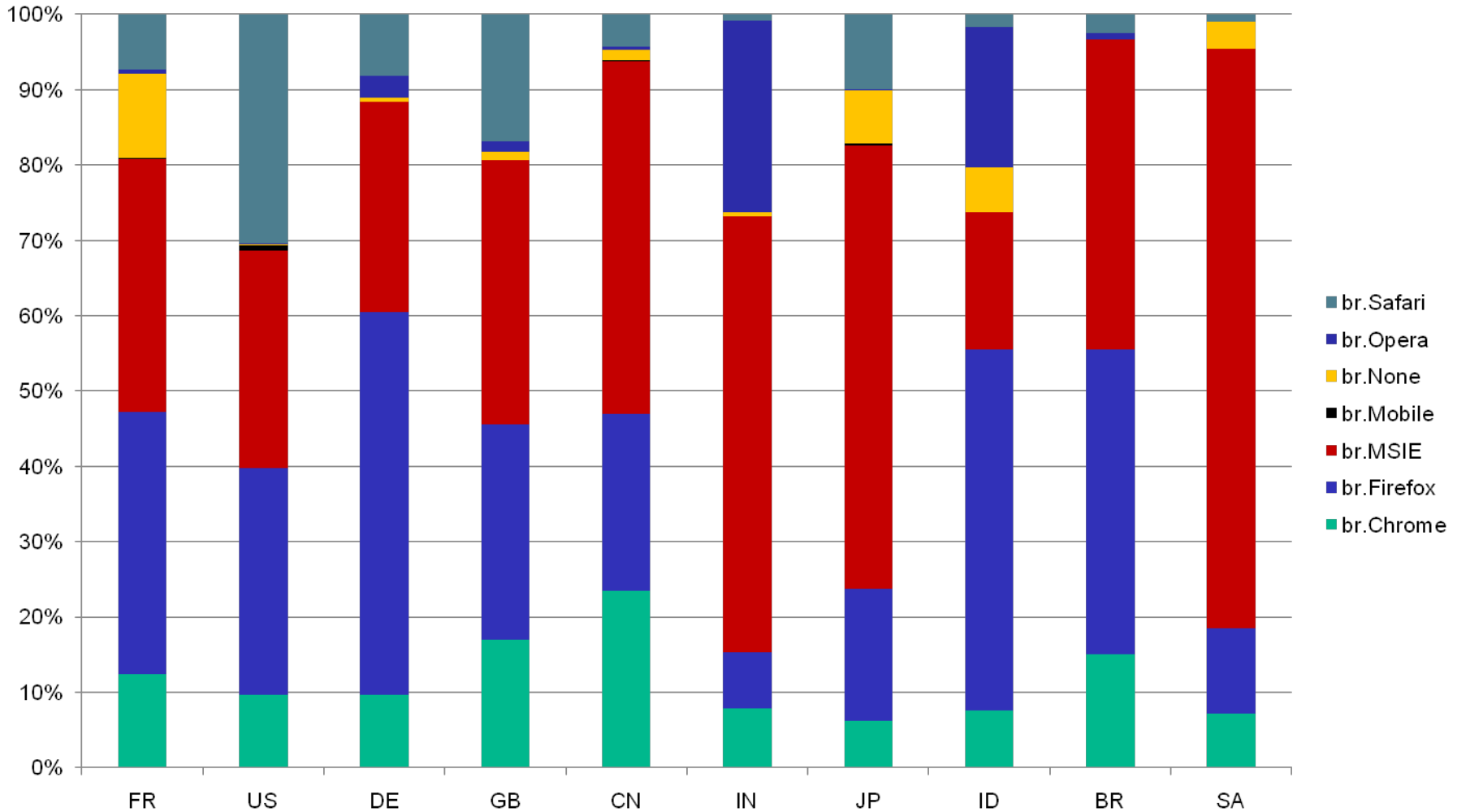
Fraction of IPv6 traffic by country



IPv6 users by Country/OS



IPv6 Users by Country/Browser



**That was a lot of work for
0.229%!**



Questions?

