

HostView: Annotating end-host performance measurements with user feedback

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Why did we build HostView?

Goal: Automatically detect network performance disruptions as perceived by end-users

Only performance disruptions that affect end-users

Performance of any networked application

HostView: Collect network traces from end-hosts annotated with user feedback

HostView data collection

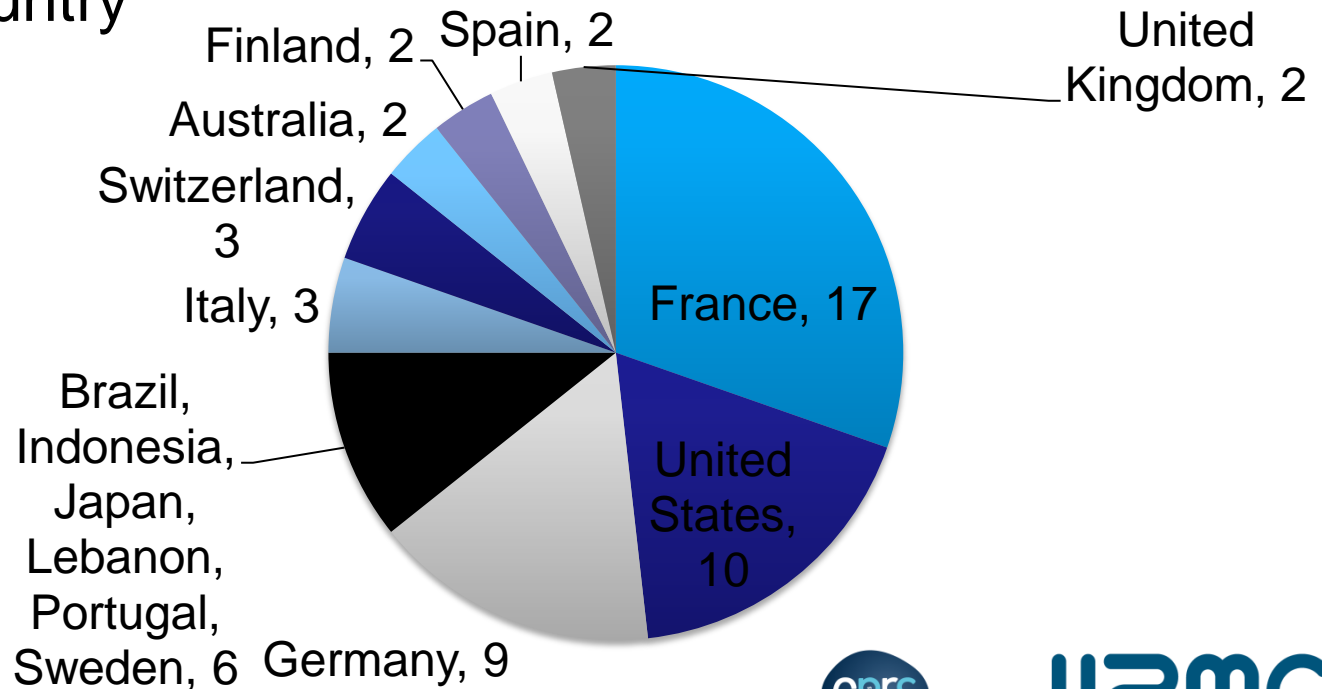
- Network performance
 - Packet headers (anonymized IP source)
- User environment and system performance
 - CPU load, OS, time zone, country
- Application-level context
 - Content-type for HTTP responses
 - Application (process names)
- User feedback
 - System-triggered questionnaires (3 times a day)
 - I'm annoyed button

Recruiting volunteers

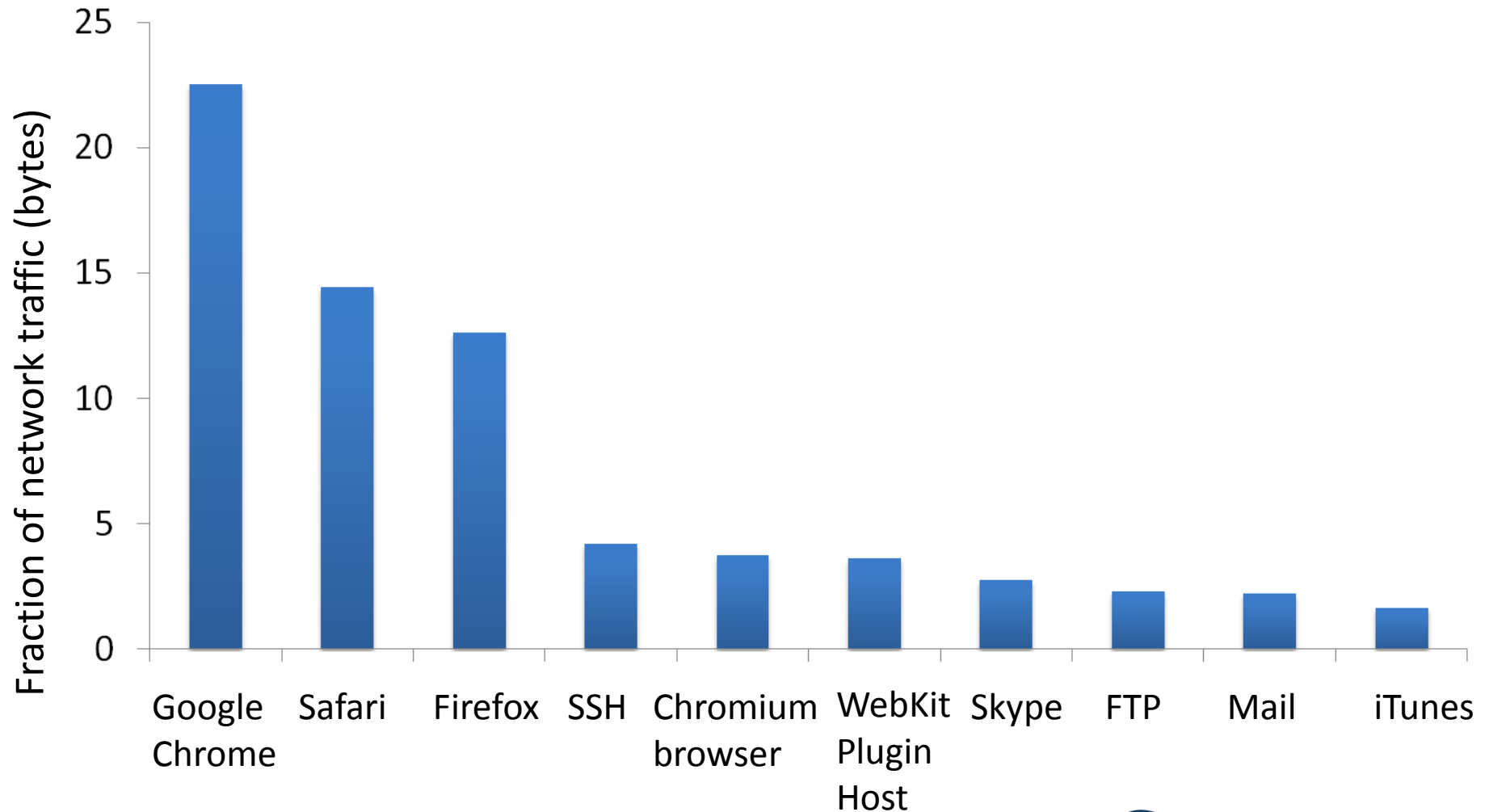
- **Publicity**
 - Leaflets at IMC 2010
 - CS Mailing lists in November 2010
- **Incentives**
 - 50 USD Amazon gift cards
 - Real-time feedback about network connection

Some numbers from the deployment

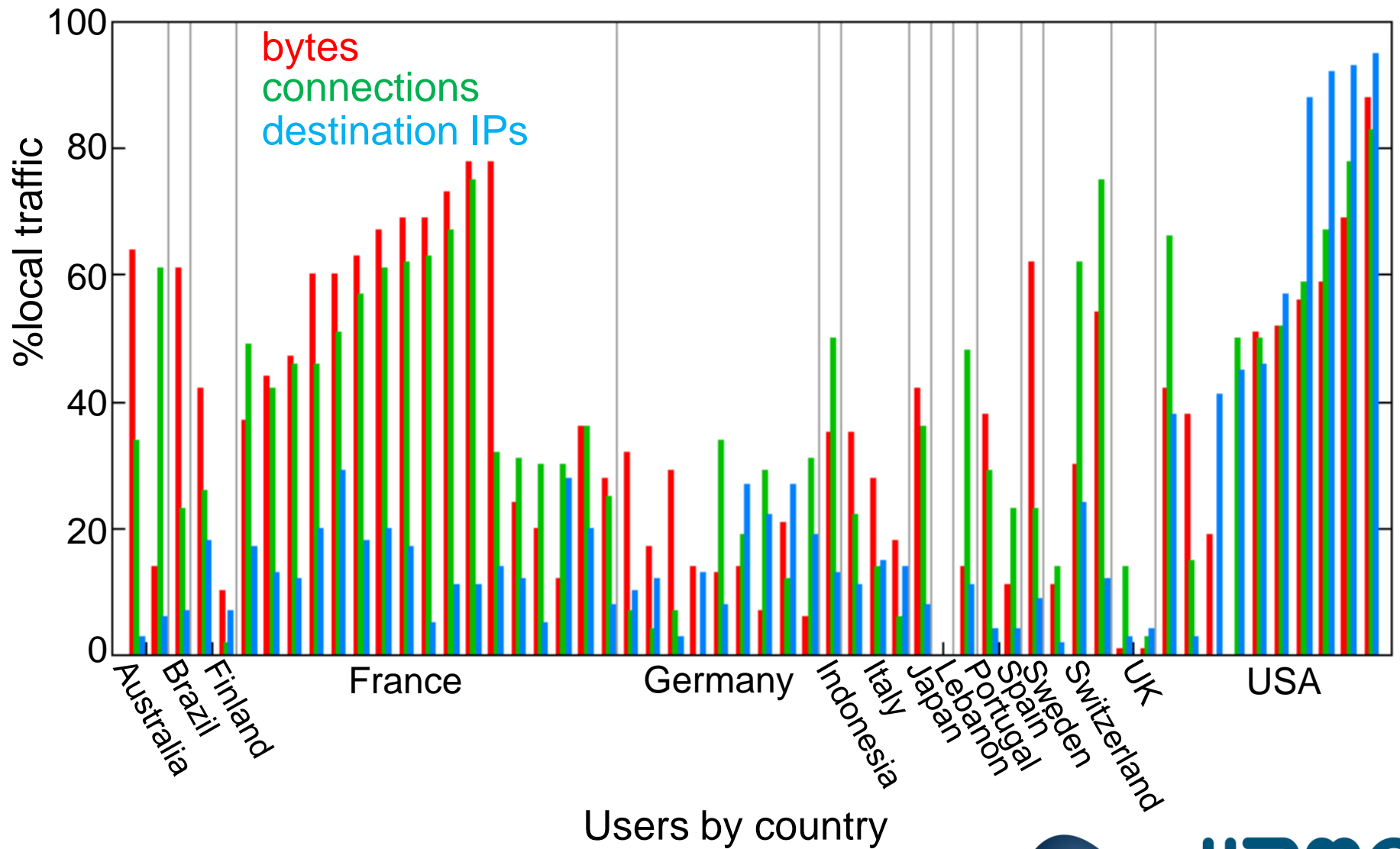
- A total of 78 downloads
 - 37 Linux and 41 MAC OS
 - 25 users ran it for at least a month
- Users per country



Top ten applications in terms of network bytes



Locality of users' connections



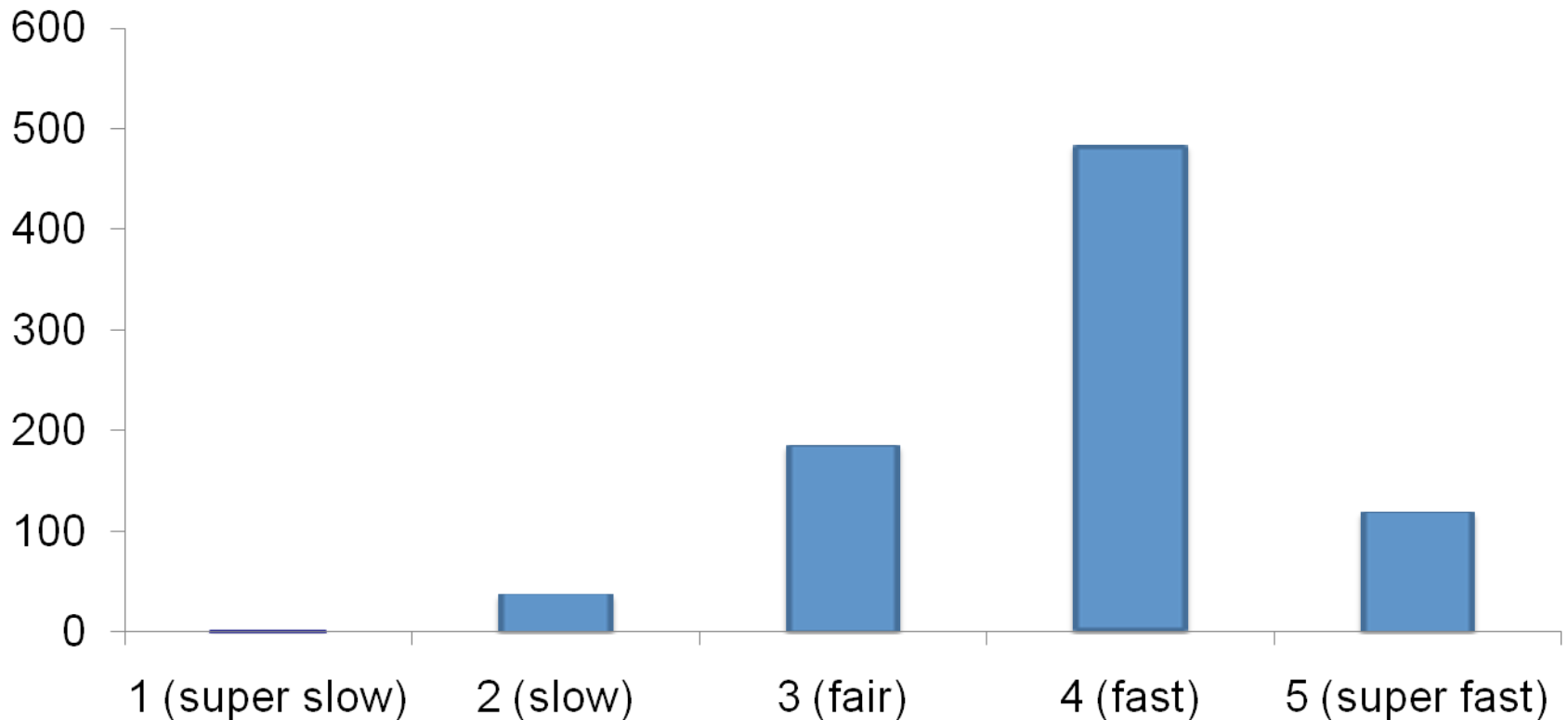
HostView user feedback detailed

- “I am annoyed” button
 - Click when a networked application is misbehaving
- Experience sampling mechanism (ESM)
 - Fill in a questionnaire about your network connection at most three times a day
 - Rate internet speed from 1 to 5
 - List applications if any that experienced network problems
 - Additional comments in free-form text box

How were feedback mechanisms used?

ESM			I am annoyed!
Completed	Deferred	Not answered	
825	813	5102	44

How would you describe your Internet speed?



Challenges

- HostView performance
 - Trace upload when user connection is slow
 - Adaptive upload algorithm
 - CPU
 - Changed HostView startup mechanism
- User feedback
 - Pop-ups are distracting
 - Bypass when network connection is good
 - Disable questionnaires, just use “I am annoyed” button

We need your help!

- Please download HostView at:

<http://cmon.lip6.fr/EMD>

- Platforms: Mac OS 10.5, 10.6 and Linux
- Amazon gift cards still available!

Thank you!