Jan 11 2013

Briefing from the 3rd Workshop on Internet Economics @UCSD: “Definitions and Data”

Silvia Elaluf-Calderwood

On December 12-13 2012, CAIDA and the Massachusetts Institute of Technology (MIT) hosted the 3rd (invitation-only) Workshop on Internet Economics at the University of California San Diego in La Jolla, CA. LSE Tech Research Fellow Silvia Elaluf-Calderwood gives an overview of the workshop and stresses the advances and main challenges about terms and concepts used as well as data issues on communications infrastructure.

The Workshop on Internet Economics at the University of California, San Diego is a multi-disciplinary event organized by CAIDA and MIT. This year was the third consecutive workshop and it was focused on definitions and data for internet measurement. The 20 invited participants included regulators, incumbents, academic researchers, Tier-1 Internet service providers, economists and industry specialists from the USA and Europe.

The workshop was split into four broad themes introduced by to two or three brief presentations with wide discussions on a theme. These themes were: 1) regulatory distinctions in a converged world –focusing on broadband and market power definitions and differentiation for regulators and practicioners, 2) interconnection issues, 3) emergence of private IP networks and, 4) defining acceptable practices for data-gathering.

The very first presentation sparked a very lively discussion on the raise of shadow common carriers. We were introduced to a set of concepts that describes a whole sector that specialises in exploiting the current internet layout and are creating systemic risks that will in the long term affect the sustainability of the current internet model. There was very good discussion about the differences between the legacy networking view of interconnection and the current business practices and models for defining interconnection and peering. It is worth noting that many were split between the known definition of interconnection from RFC 4084 and current business practices.

These differences became clearer as we discussed the emergence of private IP networks and the current and potential options to increase the acceptable practices for data gathering. Growth indicators currently collected are generally acknowledged to be inadequate to describe the current shape and size of the internet. The CAIDA ranking for AS numbers for example gives only a partial view of the AS system and the type of traffic (e.g. content, consumer, network) being transferred. Although much is measured by different of communities, the full overview of data and traffic is not visible to any one party at all. Furthermore some of what is being counted is not relevant for many reasons. For example the type of traffic is only estimated, while average speed is widely available. While some of this is linked with more meaningful economic indicators such as metrics on pricing and trends.

Part of this problem is due to the network models failing to match the actual value creation from the business models used by the likes of Google, Akamai, Amazon and others. Current value chain analyses focus too much on a traditional manufacturing approach to the process of service delivery, which is not really applicable to digital and network industries. Furthermore, the static approach of the layered model is inappropriate to explain to non-technical regulators the implications of regulation and how present and future regulation impacts future sensible measurement collection and business models.

Additionally, many of the efforts to understand the measurement of the internet focus in a misguided emphasis on quality of experience/service (QoE/S). Whilst the end user experience and the quality of the service delivery have an impact on the perceptions for the ability from telecom operators to satisfy customers, current metrics do not help to asses such experience properly or describe how it can be enhanced. Not enough thought is given to the change of metrics; expectations changes and the relationships to when there is an issue of service deliver vs. customer retention as part of a more complex issue of competition law. To continue the focus of the discussion on quality based on current metrics such as latency, jitter, outages, etc. does not lead to understand better what is actually happening to the emergent properties of the internet “ecosystem”. There is a clear need to do so at least for the sake of addressing legal and regulatory perspectives.

Telecommunications and internet analysts are already able to show the dramatic disconnect between revenue and volume for different kinds of traffic. It would be simple and important to deal also with cost, much of which is the same despite revenue. This is a key, but poorly understood element of the net neutrality debate. It seems to be general knowledge that the likes of Akamai, Google, Comcast or others aggravate the problem of double counting, and there are recurring disputes about incompatible measures, categories of measures, and concepts of measures.

The workshop put a strong emphasis on the US internet and we (LSE) came to describe that as a “special case” of the internet as seen from an international perspective. The LSE prepared presentation emphasized both the character of the European internet and also the ways that we hope to measure directly and indirectly other metrics that help to bridge traffic and economic models.

At the conclusion of the meeting everybody agreed that new metrics for the internet are required. It is especially poignant that just after the conference the US Federal Communication Commission announced a major initiative for collecting of data for broadband. A full report on the CAIDA event will be released later this month on the CAIDA website.

Updates: read the report from CAIDA here: http://blog.caida.org/best_available_data/2013/04/19/third-workshop-on-internet-economics-wie2012/

———

Dr Silvia Elaluf-Calderwood is LSE Research Fellow and holds wide experience in the telecommunications industry in the UK and the Netherlands. Her PhD was completed at the Information Systems Group – Department of Management at the LSE. Area of specialization: Mobile Work and Mobile technology. She has worked for the LSE Department of Media and Communications for the EU-FP6 Digital Business Ecosystem (DBE) project to define a Knowledge Base of Regulatory Issues for establishing trust in SMEs for e-business and later in the EU project Bio-Inspired Service Evolution for the Pervasive Age (BIONETS). She is a contributor to the Digital Infrastructures at the LSE . She has provided IT consultancy work for the UK Parliament. At the Department of Management (LSE) she has worked on EPSRC-Mobile VCE funded project, Nokia research and her current work is sponsored by ETNO (European Telecommunications Network of Operators).

We welcome your comments! Please take a look at our comments policy

This entry was posted in broadband, CAIDA, Europe, internet, LSE Tech, MIT, Silvia Elaluf-Calderwood, Telecoms, Workshop briefing and tagged data, internet economics, internet metrics, internet traffic. Bookmark the permalink.