

Lynn St. Amour, Internet Society speech - 2010 PARADISO workshop

Ladies and gentlemen, it is a real pleasure to be here and to open this Paradiso workshop on “Understanding the interaction between Internet and societal developments”.

I am pleased to be participating in the Paradiso initiative and look forward to today’s discussions, the first on “visions of the future of our societies”, the second on “visions of the future Internet” and the third “how could the future Internet support a better society?” There will no doubt be many different perspectives and ideas.

I have been asked to provide the Internet Society’s views on these topics. As an organization founded to provide leadership in Internet related standards, education, and policy, and to address issues that confront the future of the Internet, we have a particular interest in understanding how the future Internet is envisioned. I very much look forward to sharing perspectives.

So what is our vision of the future of society?

Visions of the future of our societies
--

The Internet Societies mission “is to promote the open development, evolution, and use of the Internet for the benefit of all people throughout the world.” This is supported by a set of key principles, principles that indirectly say a lot about society. These principles are:

- Open, unencumbered, beneficial use of the Internet.
- Self-regulated content providers; no prior censorship of on-line communications.
- On-line free expression is not restricted by other indirect means such as excessively restrictive governmental or private controls over computer hardware or software, telecommunications infrastructure, or other essential components of the Internet.
- Open forum for the development of standards and Internet technology.
- No discrimination in use of the Internet on the basis of race, color, gender, disability, language, religion, political or other opinion, national or social origin, property, birth, or other status.
- Personal information generated on the Internet is neither misused nor used by another without informed consent of the principal.
- Internet users may encrypt their communication and information without restriction.
- Encouragement of cooperation between networks: connectivity is its own reward, therefore network providers are rewarded by cooperating with each other.

These principles point to a society that is open, without censorship, characterized by free expression, without discrimination, in which privacy is respected, and individuals and communities collaborate and cooperate. This type of society is one that embraces and is enabled by the open Internet.

With this aspiration in mind let me offer some thoughts on why I think we are in the midst of a very rich period of societal change, one that is characterized by unprecedented knowledge, empowerment and opportunity, and one that could help realize the vision that we have at the Internet Society.

For those of us lucky enough to live in countries where the Internet is ubiquitous, the differences between the online and offline worlds are increasingly blurred - indeed I might even suggest seamless. We move from one world to the other without hesitation, without borders, barriers or other artifices. They have become so much a part of our everyday existence that they are no longer easily distinguishable.

While in the past there were concerns over the homogenization of language and culture, I believe that today's societies are increasingly aware of and have a greater appreciation for diversity, and the Internet has played a large part in that development. We are exposed to a greater breadth of news, perspectives and views, from parts of the globe many would likely not have been exposed to previously. Our own societies are becoming more heterogeneous, more diverse in culture and language, more diverse in social mores, backgrounds, experiences and perspectives. The concept of community is taking on many different forms and hues, both in terms of how and why they are formed – community is no longer physical or location-dependent, and is increasingly driven by common issues, interests and concerns such as global warming.

I believe that this increased access to unprecedented amounts of knowledge is changing society more than anything else. Access to knowledge is liberating - the explosion of data that has become such an important part of our Internet experience is causing us to rethink old ways, to initiate change, to redress imbalances whether economic or societal. Access to knowledge is resulting in more informed, engaged and active individuals and communities around the globe.

As individuals and communities, we are able to do things as never before. We are empowered and emboldened to build communities, businesses, and movements. Citizen engagement, whether in the community or in politics, is empowered by the Internet, the mobile phone and the myriad of applications that build social networks and virtual communities. And with knowledge and empowerment comes opportunity. Never before have we experienced such an explosion of individual engagement across society as we have in the past few decades. From entrepreneurial endeavor to community activism, the individual, not government or business, is the driver of change.

The importance of “knowledge” and “individual empowerment” were recently highlighted in the report from the Reflection Group to the European Council on the challenges that are likely to face the EU in 2030. One of the chapters of the report is

entitled: Growth through knowledge: empowering the individual.¹ The report recognizes that for the future of European economy “intelligence, innovation and creativity have become the relevant benchmarks” and that “the creative economy will continue to evolve faster than the political processes intended to support or regulate it. Every day it reveals new horizons and revolutionary prospects.”

Such an economy thrives on access to knowledge, it relishes empowerment and is not afraid to create or seek out opportunity. This is what I hope will characterize the society of the future, and I hope that the Internet will have a central role in making it so.

Vision of the future Internet

Of course, for the Internet to enable and encourage such a society it will have to share many of the characteristics of “today’s” Internet. As Neelie Kroes, European Commission Vice-President for the Digital Agenda said recently: *“the core of the Internet should remain a robust, best effort Internet to which everyone has access.” It must leave room for future innovation, especially with regard to special managed services. However, managed services should not be at the expense of choice and quality, putting at risk the open Internet which everyone wants to preserve.*

*Commissioner Kroes continued “So, our future efforts must be aimed at delivering: **effective competition, transparency to allow consumer choice, and ease of switching.** Competition is the open Internet’s best friend...”*

At the Internet Society, we obviously agree with Commissioner Kroes. However, an open, globally accessible Internet is NOT a foregone conclusion.

The Internet Society recently undertook an exercise to reveal plausible trajectories for the Internet, and tried to imagine how those futures might change the way in which people around the world are able to use the Internet. We developed four scenarios to describe those possible futures. We are sharing these scenarios with the public on our website in the hope that they will inspire thought, awareness and discussion.

I would like to share with you the video of the preferred scenario of the 4 we have developed. And then I would like to briefly describe the three less desirable scenarios.

First let us consider the preferred scenario, entitled: Common Pool

The Common Pool scenario will be familiar to you. It reflects the Internet we know today. It has positive “generative” and “distributed & decentralised” properties. Opportunity and growth abound, with no insurmountable barriers to entry for those wishing to take part. Disputes and challenges are resolved through competition, as opposed to negotiation or inherited rights. Constant evolution, featuring a healthy ecosystem of interlinked network operators, developers, infrastructure providers, resource management organisations, etc. Organisation and operation tends to be “horizontal”, not “vertical”, so that the underlying building blocks (technologies, networks, etc.) are available to all to build upon. The “win” for the Internet is that it

¹ <http://www.reflectiongroup.eu/2010/05/08/project-europe-2030-challenges-and-opportunities/>

remains able to react and respond to new requirements.

Let's take a look:

[RUN VIDEO] <http://www.youtube.com/watch?v=rVp3hFJ7ooc> 3.53mins

Now I'll briefly describe the other scenarios. These are based pointers and trends that we are noticing in policy, commercial and network architecture thinking, among others.

First the scenario we call Moats and Drawbridges:

This scenario suggests the world of the Internet would be heavily centralised, dominated by a few big players with their own rules. Conflicts would be resolved through negotiation, not competition. Connections between networks would be the result of extensive negotiation and deal making. There would likely be strong regulation as governments seek to impose some public interest obligations and perhaps even controls on the equipment users can connect to the network. Much content would be proprietary and protected by strong intellectual property rights. Governments would control the behaviour of networks and network users through legal mechanisms and sanctions. Barriers to entry would be high, with little incentive to expand networks beyond the largest and richest customers or regions. Innovation would be slow, only occurring when it would benefit the network owners. All players would have close political links to their mutual benefit.

In the two scenarios I have just described we can see opposing forces at play. In the Common Pool we see an empowered user; in the Moats and Drawbridges we see a hapless user at the mercy of large corporations and big government.....

The third scenario is called: Boutique Networks:

This scenario envisions a future in which political, regional and large enterprise interests fail to maximise the social and economic potential of a shared, global set of richly connected networks (the Internet). It carries the weight of self-interest brought by factions seeking to optimise control in small sectors (political and otherwise). It also suggests these fractionalised networks will continue to leverage the benefits of existing Internet standards and technology. Each proprietary provider draws as much as possible from the common pool while giving little back.

And, finally, the last is called: Porous Gardens

This scenario foresees networks staying global but with access to content and services tied to the use of specific networks and associated information appliances. Individual (business) viability would triumph over the economic potential of the common pool of the Internet. Financial incentives for content producers and software developers would mean continued innovation within the appliance-based model. Control over content, pricing, licensing and other concerns would be firmly in the hands of relatively few large commercial organisations. Proprietary, closed technologies would abound and exclusive deals with content producers and physical communications networks would oblige consumers to purchase multiple appliances

and associated subscriptions to avail themselves of the full range of innovation on the network.

At the same time as we put these scenarios up on the Internet Society website for discussion and comment, we also asked viewers to prioritize 5 key pressing issues related to the Internet:

What's the biggest threat to the future of the Internet?

Increased government control	38.82%
Limited access to content and services	24.83%
Increase in Internet security threats	15.91%
Lack of privacy	12.48%
Limited IPv6 deployment	7.96%

This was out of a total of 729 responses (as of 4 November 2010)

There are some that see such threats as an indication that the Internet is broken – that the current security challenges are overwhelming and the decentralized nature of the Internet is a critical weakness. Some suggest that there is no alternative than a blank slate approach. Others suggest fixes that seem to be little more than variations on the 3 less desirable scenarios I have outlined above. Others just “know” that the “future Internet” has to be different.

But does it? Is it really broken? And what would a blank slate approach deliver? And why, when we have come so far in terms of individual liberties, access to knowledge and unparalleled opportunity, would we wish to see an Internet that is constrained, hindered or closed? Those that feel that the Internet is on its last legs fail to see or understand the flexibility and adaptability that the Internet has shown to date. Yes there are challenges, but the Internet has shown itself to be remarkably resilient.

How could the future Internet support a better society?

When we consider how the future Internet can support a better society we have to first ask what is this “future Internet”? My response may come as somewhat of a surprise given that I am the President and CEO of the Internet Society which is the umbrella organization for the Internet Engineering Task Force – the IETF.

My view is that the “future Internet” is not about engineering, technology, a particular architecture or standard. Nor is it about game changing services or applications either.

The “future Internet” is about something far more basic and fundamental, driven by the individual and society. The “future Internet” is what we make of the Internet of today. The future Internet will not be shaped by network architectures but by our imaginations, our aspirations, our very personal visions of the future and what the Internet means to us individually and collectively. The “future Internet” is what we, as users, make it.

Why? Because the underlying principles embodied in the Internet's functioning allow and encourage all of us to shape it as we will.

The Internet pioneers who worked on the various projects that became the Internet were visionary – not because they foresaw a particular future, but because they helped create a future of infinite possibilities. Rather than prescribing a future, they recognized the unpredictable and infinitely dynamic and creative nature of the human imagination and innovative capacity. They provided us with an open environment and a flexible, evolving platform that drives the innovative and creative urges within all of us. This is why the Internet will never cease to surprise and amaze. That is why today's Internet will also be tomorrow's Internet.

And this is why the “future Internet” is us.

Of course if we squander the Internet through allowing the realization of the three less desirable scenarios I outlined earlier then we will have truly abdicated our responsibility to shape the Internet as a tool for greater knowledge, empowerment and opportunity. We must preserve the Internet illustrated in the Common Pool scenario – we should not take the Internet of today or tomorrow for granted.

Let me also highlight a key underlying Internet principle – that of openness. The Internet Society believes that openness is the key technical and operating principle that has ensured the success and growth of the Internet to date. This openness characterized the development and architecture of the basic building blocks of the Internet - packet switching and TCP/IP - and continues to allow our Internet experience to be as creative and connected as it is today.

But this is about more than open standards. The Internet's openness has empowered and involved citizens and communities, collaborating and cooperating around the globe. They are using the Internet as their communication medium, are bringing about a pervasive global awareness of issues related to inequality, resource scarcity, sustainability, and opportunity. They are developing content and applications, sharing information, building communities like never before.

Ensuring the continued development and deployment of the open Internet is essential to economic and societal development around the globe. Yet, this will only happen if we continue to promote and protect the values that underpin its success. Safeguarding the fundamentally open, transparent, inclusive and collaborative nature of the Internet will go a long way to ensuring that it has the long-term societal impact that we all hope it will.

I would like to leave you with the following thought:

I think we can agree that the Internet is becoming an increasingly important element in the development of individuals, communities and societies. Which begs the question - is the Internet now such a part of our lives that it can be used as a measure of a society's openness? Can we say that the more open the Internet, the more open the society, and vice versa? If we envision a future in which the Internet is not the open and inclusive medium that it is today, then are we condemning society to be the same. If we envision a future in which the Internet is open and inclusive, then

wouldn't society share the same characteristics? I believe that the health and well-being of the Internet and society are inextricably intertwined.

I look forward to a future society that is open, empowering, inclusive and provides the individual and community with unprecedented opportunity to thrive. I cannot imagine that this will happen with anything other than an open Internet.

I am sure that we will have a stimulating and thoughtful day and that our collective expertise will make a substantive contribution to the outcome documents of the Paradiso initiative.

Thank you.
