

Keynote Address

The New, New Internet IPv6: Technology's Next Big Step

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If you missed the internet boom or got in too late, this is your second chance!

The new internet will be a symmetrical and interactive two-way Internet while the current one is just a one-way Internet. IPv6 will be largely driven by technology refresh and technology/business case. The perception that IPv6 will replace IPv4 is incorrect since IPv6 was designed to cater for many deployment scenarios, starting with extension of the packet technology and therefore supporting IPv4 with transition models to keep IPv4 working even for ever and then to cater for new uses and new models that require a combination of features that were not tightly designed or scalable in IPv4 like IP mobility, end to end connectivity, end to end services, ad hoc services; to the extreme scenario where IP becomes a commodity service enabling lowest cost deployment of large scale sensor networks, RFID, IP in the car, to any imaginable scenario where networking adds value to commodity. This is called progress.

IPv6 Readiness

IPv6 readiness is key and the lowest cost option will be achieved by technology refresh and would make the network future-

proof, though a careful review of the firewall security is called for. There's an educational process involved. Again, the scenarios are quite wide and there's no size that fits all. The geopolitical dimension is crucial for any country to remain or become the most advance IT nation in the world. The simplest scenario is that International companies that deal with Asia would be asked to support the new protocol. So, you can deduct the impact of rest of the scenarios from here.

Impact of IPv6 on the end-user

IPv4 was designed unintentionally to share the complexity with the end-user while IPv6 will try to take away that complexity from the end-user. This is the goal of the design and the deployment of IPv6 will have to make this vision happen and it will happen. IPv6 should not be even a concern to the end-user as it's part of the plumbing and should be transparent to the end-user and make his new internet experience an easier one.

Impact of IPv6 on eLearning

IPv6 will restore the end to end model to facilitate innovative eLearning models especially in the collaboration applications

and ad hoc set-up of mobile networks where communities can form instantly a network with no effort. Microsoft Vista using exclusively IPv6 will enable new peer to peer collaboration tools that will change dramatically the way we network with each other locally or globally. IPv6 will refresh eLearning with simplicity, mobility, multicasting and P2P collaboration and will accelerate adoption of eLearning experiences from the Assumption university led by Dr. Charmonman to a worldwide scale never seen before.

Leadership

The US has missed recently a few "deployment" leadership milestones, ironically not listening to its best engineers who have helped the world to move forward: The cell phone leadership went to Europe and broadband went to Asia. IPv6 is the next victim. Thanks to the tireless work of the North American IPv6 task Force led by Jim Bound, CTO IPv6 Forum, the DOD adoption of IPv6 has restored the leadership of the US as it validated IPv6 deployment to the rest of the world. Again, the message was rather heard by Asia and to a certain extend by Europe and has confirmed the beginning of the race to leadership while the US industry remained deaf to that message, with the exception of international vendors. But I am confident the US industry can pick up the ball fast and recover the lost space if they are well consulted and this is where the IPv6 Forum lends a hand in distilling key messages and multiply awareness at senior level at Corporate and political level. But the task remains a huge undertaking.

Role of the IPv6 Forum

The IPv6 Forum has a worldwide mission and a moral responsibility and would encourage any country or continent with the same objectives and goals. To make

this happen, The IPv6 Forum has established 35 IPv6 Forum chapters around the world with 5 new chapters under formation in Africa and Asia. The IPv6 Forum trains over 25000 engineers worldwide per year. The prime goal is to accelerate massive deployment of IPv6 to become the dominant protocol to benefit from its many features designed to move the Internet from an elitist space with just 15% penetration worldwide and make the 6 B people potentially use the Internet enabling a digital lift so that every kid on planet will be a resident on the Internet and not just a simple sporadic tourist . Added to this, the new end-user experience based on IPv6 will be dramatically enhanced.

Why is Asia first this time?

Without mentioning 9/11, the US was hit by the Internet bubble (Y2K too!) and Europe by the 3G spectrum disaster that depleted industries from investment potential and had to go thru a period of restructuring back to core business which is a repellent process to new innovation. So, the 21st century did not have a good start at all but the worldwide economy survived these massive hacks which is very promising for the future. It would help to have entrepreneurs that built the US economy to come back to leadership as bean-counters are running the US industry today and innovation is a very fragile process that can only flourish in the hands of passionate people about new technologies, extending patience and care until the innovation becomes a profit source. Today's gratification in instant money making is anti-progress.

Impact the IT industry and IT professionals

The Department of Commerce released the first independent study of the fast

emerging IPv6 market space, with focus on the ROI when transitioning to IPv6. The reports concludes that IPv6 will create a services market of 25 Billion dollars over the next quarter century generating 10 Billion dollars of cost savings EVERY YEAR. Every dollar invested, returns 10 dollars in cost savings. The press however went ranting with sensational headlines that the move to v6 will cost 25 M\$ over the next 25 years. Either people cannot do the math or some people do not want to take strong stances. In both cases, an excellent report got wasted missing a major opportunity to show leadership.

Again, the IT industry is called for action. IT professionals are always seduced in the end by simplicity when they have pushed complexity to its extreme and the last code line won't make it. The return to end to end will blow fresh oxygen into design of new superior networks and end to end applications.
