



Internet Society International Chapter Toolkit

# Tools for Promoting IPv6 Deployment

## About this toolkit

For a growing number of Internet Society Chapters, IPv6 migration and deployment issues are especially relevant; for other Chapters, while those issues are on the horizon, they may seem less directly linked to their own regional priorities. However, a clear understanding of the need for IPv6 and the obstacles to its deployment can motivate new work for your Chapter; prepare your Chapter and its members to educate and inform technologists, business leaders, and policy makers in your region; and help us advance the Internet Society's mission and goal of an Internet that is open and accessible to all.

This toolkit is for Internet Society Chapters getting involved in IPv6 deployment activities. Its contents comprise a set of tools for understanding, and engaging others about, the need to deploy IPv6.

In this toolkit you will find:

- ✓ Opportunities for Chapters to get involved
- ✓ The Internet Society's case for IPv6 deployment
- ✓ An overview of why IPv6 deployment has been slow – with suggested Chapter responses
- ✓ Examples of how Chapters promote IPv6 – and raise their own profile in the process
- ✓ Links to resources to help you fund and organize IPv6 activities
- ✓ Details of World IPv6 Day and World IPv6 Launch
- ✓ Links to many great IPv6 resources

## Introduction

Thursday 3 February 2011 is one of the major historical milestones of Internet development, yet few people outside the technical community know why.

On that day, the Internet changed forever. As the Internet Assigned Numbers Authority (IANA) distributed the last remaining Internet Protocol version 4 (IPv4) addresses to the Regional Internet Registries (RIRs), the Internet's first phase of growth and expansion finally hit the limits of the protocol deployed in 1981. But Internet growth is far from done. As mobile devices proliferate; citizens of emerging economies rush online; and connected devices, appliances, vehicles, and sensors hit the market, the next phase of Internet growth could vastly outstrip the first phase in both scale and pace. Such growth is only possible with IPv6.

But there's an obstacle.

IPv6 is not a newcomer. Engineers and developers knew long ago that the emerging Internet would one day outgrow IPv4, so they created a replacement to support a ubiquitous network far into the future. That replacement, IPv6 – featuring a vastly expanded address space and improved technical features – was first released in 1999, some 12 years before the end of IPv4 allocations. Unfortunately, for several reasons, deployment of IPv6 remains very low. Despite more than a decade of education and encouragement, most operators are yet to enable IPv6 on their networks.

Internet Society Chapters help drive the change.

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“There are now 2 billion people who connect to the Internet. We've got 6 billion people in the world who want to connect themselves and their devices. That is simply not possible with IPv4. It's just not doable. The business impact if you don't make the transition is the next 2 or 3 billion customers will run IPv6 only and will not be able to do business with you.”

—Olaf Kolkman, *Internet Architecture Board (IAB) Chair, at the time of IPv4 depletion.*

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## Opportunities for Chapters

IPv6 deployment presents terrific opportunities for Chapters to do important, tangible, and rewarding work that advances the Internet.

Chapters can lead many different types of activities, pitched at many different audiences, which all play a valuable role in accelerating IPv6 deployment. Some general approaches include:

- ✓ Motivating end users to demand IPv6 connectivity and services
- ✓ Arming technical staff with the facts they need to present a business case to management
- ✓ Connecting experts with operators, business leaders, and governments
- ✓ Raising awareness among regulators of the need for IPv6 deployment
- ✓ Educating operators and developers on the opportunities for IPv6 leaders – and the costs for late adopters
- ✓ Providing media a reliable source of IPv6 information
- ✓ Promoting research on deployment progress
- ✓ Distributing case studies and deployment stories

The Internet community already holds a wealth of IPv6 information and expertise, so there is no need for Chapter leaders or members to put themselves forward as experts (though many are). Chapters are, however, perfectly positioned to act as facilitators – trusted intermediaries able to make connections between consumers, businesses, technical experts, educators, governments, and all other relevant stakeholders.

This toolkit provides a diverse selection of Chapter activities that illustrate the many ways Chapters can contribute to ongoing and accelerated IPv6 deployment, which in turn will contribute to future Internet growth, innovation, and access. This work will also raise the public profile of your Chapter. The Internet Society Chapter network is rich in knowledge, experience, and imagination. And, as always, Chapter leaders are generous in sharing their insights.

This toolkit is not a technical document. We want to encourage Chapters to get involved in IPv6 deployment and spark ideas for activities that are suitable in your area, with your resources.

As a Chapter leader, it's not necessary for to be an IPv6 expert, but you will need access to up-to-date, reliable IPv6 information and advice. So follow the links to the resources and join the dialogue with other Chapters who have already taken action.

## The Internet Society's case for IPv6 deployment

The Internet Society believes that IPv6 is a “must have” technology. IPv4 has approximately four billion IP addresses; IPv6 provides more than 340 trillion, trillion, trillion. Now that the IPv4 address pool has been depleted, only IPv6 can ensure an open, fully connected network capable of bringing the next billions online.

Network Addressing Translation (NAT) and address sharing can extend IPv4 to some new users, but these techniques come at high administrative and technical costs, and they make the Internet far more complex than it was intended to be. Only with IPv6 can the Internet expand long into the future and remain an open, end-to-end platform of limitless innovation and possibility.

IPv6 is necessary for the good of the Internet. Just as important, deploying IPv6 is in the best interests of any network operator or online service provider who needs to ensure that their businesses and services remain continuous, effective, and globally available.

As the RIRs begin to run out of their final allocations, IPv4 addresses will become increasingly difficult to obtain and probably more expensive. In the near future, new enterprises will emerge without IPv4 addresses. Existing enterprises will need to deploy IPv6 themselves to be sure that they can reliably stay in touch with the growing number of IPv6-only networks. Business continuity requires smooth, rapid transition to IPv6.

For more detail about the Internet Society's position on IPv6, see <http://www.internetsociety.org/ipv6>

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“We can think of it as generational change. The older, previous generation doesn't go away, and has a lot to contribute, but it is the new generation that carries the future.”

—Lynn St Amour,  
CEO of the Internet Society,  
marking the end of the IPv4 era.

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“We recommend that service providers make their services available over IPv6. We urge those who will need significant new address resources to deploy IPv6. We encourage governments to play their part in the deployment of IPv6 and in particular to ensure that all citizens will be able to participate in the future information society. We urge that the widespread deployment of IPv6 be made a high priority by all stakeholders.”

*Position statement by the RIPE community (<http://www.ipv6actnow.org/community/position-statement>)*

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## Understanding why IPv6 deployment has been slow

To effectively encourage IPv6 deployment, Chapters need a clear understanding of the reasons networks operators in their region have been slow, or even reluctant, to deploy IPv6. A key role for Chapters is to challenge misperceptions of IPv6 and provide clear, reliable, realistic resources that will help network operators make informed decisions.



### **Ideas for Chapter responses**

*Chapters should think carefully about what they can do to stimulate customer demand in their region. This could involve education campaigns, media relationships, and other activities that raise awareness of the opportunities that IPv6 brings and the opportunity costs at stake when it is not available.*

*Now that some of the world's major operators are beginning to enable IPv6 across their service offerings, Chapters could consider events, which put those big operators in contact with the local industry to help communicate the evolving business case. Ask your community: "If these companies are joining the IPv6 world, why aren't you?"*

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"Demonstrating what potential growth IPv6 can generate has been more successful at unlocking investment than talking technical lingo."

"The technical community has warmed up sensibly to IPv6 and can now see its advantages. The decision makers who hold the purse strings and have no technical idea whatsoever still don't understand why IPv6 is needed."

"You need to talk to three types of stakeholders in parallel – the government, the major telcos and ISPs, and the information content providers – to break the chicken and egg scenario."

—Olivier Crepin-Leblond, Chair  
Internet Society England Chapter

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### **Customer demand and the "business case"**

One of the most commonly cited reasons for lack of IPv6 deployment is that operators have not been able to make a business case for the new protocol. Unfortunately, many operators do not yet perceive sufficient customer demand and, therefore, they may not see a compelling business case for IPv6.

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#### **IPv6 "heat map"**

<http://www.internetsociety.org/ipv6-isp-heatmpa>

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However, as new enterprises will soon find it hard to get IPv4 allocations, other business cases for IPv6 should begin to emerge more clearly. Nevertheless, customers will remain the loudest and most immediate concern for decision makers in business.



### **Ideas for Chapter responses**

*Chapters can consider activities which raise awareness of the architectural and administrative advantages of IPv6.*

*Training activities for network engineers and shared case studies can go a long way to breaking down prejudices and fears of the new protocol.*

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“Rather than spending money to replace a large quantity of equipment, plan to replace devices during normal hardware maintenance cycles.”

—Oxford University case study  
(<http://blogs.oucs.ox.ac.uk/networks/2010/07/15/the-state-of-the-ipv6-deployment/>)

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## **Perceived complexity and lack of expertise**

For networks that are growing, the only alternative to IPv6 is NAT. But increased levels of NAT will make the Internet far more complex and create serious challenges for many applications and services. Nevertheless, for engineers and operators used to IPv4, NATs are a familiar part of the landscape.

IPv6, on the other hand, remains an unknown quantity for many people, and all new technologies can be daunting. Certainly, the length of the addresses and the differences in notation make IPv6 seem more complex to manage. However, many who have deployed IPv6 report finding the experience much easier than they had expected.



### **Ideas for Chapter responses**

*Chapters can develop and adapt training materials and workshops, as well as providing their community with localized lists of hardware and software that support IPv6.*



### **Ideas for Chapter responses**

*While aspects of these advanced features are available in IPv4, it can still be useful for Chapters to hold training events or distribute educational materials that help their local technical community better understand how these features work in IPv6. Alternatively, if any members of your Chapter or local technical community have deployed or operated IPv6, having them share their hands-on experience can be very useful.*

### **Hardware and software support**

Unfortunately, not all software, hardware, and other services support IPv6 yet. However, many sources publish regularly updated lists of products and services that are IPv6 ready, and these lists are growing all the time. See the “Important IPv6 resources” section below for more information.

### **Features**

The vastly expanded address space in IPv6 is clearly its most significant feature. However, for network operators who currently hold sufficient IPv4 allocations, this feature may not yet seem compelling.

Other key features of IPv6 include:

- Automatic and simple configuration capabilities
- More integral security
- Mobility support
- Architectural simplicity

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### **Why not conduct a survey?**

*A lot of information about the status of and attitudes toward IPv6 deployment is already available. However, specific, localized information is always the most valuable. If you can't access relevant data for your region, consider a targeted survey as one of your first IPv6 deployment activities.*

*Not only is this a necessary step to inform your later activities, it's also an excellent way to raise your profile with stakeholders in your region and alert them to your priorities. Simply focussing network operators' attention to the lack of IPv6 readiness may itself accelerate their deployment plans.*

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## Chapters working with governments

Much of the focus around IPv6 deployment is on enterprise and network operators. But as a Chapter leader, you also need to consider the potential for government to be a key enabler – and sometimes even a driver – of change.

Governments have important roles to play in raising IPv6 awareness and encouraging its deployment. Several governments have stressed the need IPv6 deployment for service growth and continuity. Governments can raise awareness by engaging with stakeholders or providing test beds, incentives, or mandates. In addition, governments operate networks, provide content, and develop services and applications. This means they can play significant roles in leading by example and spurring IPv6 take-up.

If your Chapter does plan to approach government representatives, then you should stress the following vital needs:

- **Smooth transition** – Seamless addressing is taken for granted today, but a piecemeal transition to IPv6 could threaten the smooth functioning of the Internet.
- **Awareness** – Governments need to understand the potential implications for the continuity of their online services, ranging from filing tax returns to voting.
- **Stability** – This is essential for the evolution and functioning of the Internet and flourishing digital economies.

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“With the Government of India focus on implementing IPv6 and having created a taskforce, the road ahead for IPv6 deployment is paved and it’s matter of time before it becomes a reality.”

—Anupam Agrawal, Chair Internet Society Kolkata Chapter

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## Chapters and members in action

Many Chapters already have a strong history of promoting IPv6 deployment. The following summaries are great examples of what Chapters can do to make a difference in their regions.

- ✓ We encourage you to learn from these activities and ask yourself the following questions:
- ✓ Which of these activities would work well for our stakeholders?
- ✓ Which of them are realistic and affordable activities for our Chapter?
- ✓ What would we need to do to adapt these activities for our region?
- ✓ What resources have these activities created or identified that would best suit our needs?
- ✓ What new ideas can we contribute?

The Internet Society Chapter community is generous, helpful, and inclusive. Don't hesitate to contact the leaders of any of the Chapters who have already run IPv6 promotion activities. And never underestimate the benefits of sharing notes and brainstorming ideas with people from a variety of different perspectives.

### **Tailor your message to your audience**

Your Chapter can choose to promote IPv6 deployment at many different levels. But whichever audience you decide to reach out to – end users, enterprises, or governments – you need to select the right messages for that audience.

Apart from the resources listed later in this toolkit, the Internet Society also has the following specific IPv6 “short guides”:

- Everyday users  
<http://www.internetsociety.org/veryday-users-short-guide-ipv6>
- Businesses and Industries  
<http://www.internetsociety.org/businesses-and-industries-short-guide-ipv6>

- Governments  
<http://www.internetsociety.org/governments-short-guide-ipv6>

Not only is this a necessary step to inform your later activities, it's also an excellent way to raise your profile with stakeholders in your region and alert them to your priorities. Simply focussing network operators' attention to the lack of IPv6 readiness may itself accelerate their deployment plans.

Remember, if you plan to work with media organizations, you can contact your regional bureau or Internet Society Global offices via Chapter Support ([chapter-support@isoc.org](mailto:chapter-support@isoc.org)) to discuss the key IPv6 messaging statements.

### Chapter examples

The following examples are far from exhaustive, but do provide a range of ideas and examples for activities to suit all types and sizes of Chapters (listed alphabetically by Chapter name). You can find a list of more Chapter activities from World IPv6 Launch here:

<http://www.internetsociety.org/who-we-are/chapters/world-ipv6-launch-chapter-events>

#### *Argentina Chapter*

The Internet Society Argentina Chapter has published *IPv6 for All: A Guide for IPv6 Usage and Application in Different Environments*, a practical guidebook for deploying IPv6. *IPv6 for All* promotes IPv6 use in the most common environments and includes configuration examples for end users, residential and home offices, enterprises, academic and research environments, and ISPs.

The Argentina Chapter leveraged the value of *IPv6 for All* by launching the book at an INET meeting in Buenos Aries as the focus of two IPv6 panel discussions. The guidebook is currently available in Spanish, English, Catalanian, Basque, and Galician. It was funded by an Internet Society Community Grants Programme award and further supported by the 6DEPLOY Project and LACNIC. Additional translation support was also provided by the Internet Society Catalan Chapter.

For World IPv6 Launch, the Chapter held events in two cities, with conference material, hands-on training, and a video conference.

Chapter: <http://www.isoc.org.ar>

*IPv6 for All: A Guide for IPv6 Usage and Application in Different Environments*: <http://www.internetsociety.org/deploy360/blog/2012/01/isoc-argentina-chapter-releases-excellent-ebook-ipv6-for-all>

### ***Australia Chapter***

For the Internet Society Australia Chapter, IPv6 has been a major focus area for many years, especially by way of the Australian IPv6 summit. Since 2005, the Chapter has played a key role as an organizer and host of this annual, multi-day event.

Within the Chapter is the IPv6 Special Interest Group, which is also the operational arm of the IPv6 Forum of Australia and is a key driver of national IPv6 promotion activities. The IPv6 SIG also developed *IPv6 for e-Business*, a groundbreaking study of IPv6 readiness in Australia.

Through this high profile work, the Australian Chapter builds strong contacts with business and industry and is a frequent contributor to government initiatives, including a major, comprehensive IPv6 transition plan for the national government.

Chapter: <http://isoc-au.org.au>

Australian IPv6 summit: <http://www.ipv6.org.au/summit>

### ***Bangladesh Dhaka Chapter***

The Bangladesh Dhaka Chapter worked with APNIC to deliver a three-day workshop on IPv6 Deployment, which was attended by more than 40 participants representing major operators, ISPs, and universities in Bangladesh. The Chapter also worked with APNIC to deliver a seminar and training event on World IPv6 Launch.

Chapter: <http://www.facebook.com/groups/isoc.bd.dhaka>

### ***Benin Chapter***

The Internet Society Benin Chapter conducted a capacity-building project focused on IPv6 adoption and training for engineers. The project featured a public IPv6 information day, and an intensive, week-long technical workshop for more than 30 network technicians and engineers from Benin and neighbouring countries.

This Community Grants Programme funded activity not only helped with IPv6 promotion in the region, it also helped the Chapter to regain momentum with its activities and contribute to the launch of an IPv6 task force in Benin.

Chapter: <http://www.isoc.bj>

IPv6 Benin: <http://www.isoc.bj/ipv6>

### ***Brazil Chapter***

The Internet Society Brazil Chapter strongly supported World IPv6 Launch with simultaneous hub events in four cities, in conjunction with NIC.br.

Chapter: <http://www.isoc.org.br>

IPv6 World Launch, Brazil: <http://www.isoc.org.br/component/content/article/1-novidades-noticias/101-ipv6launch>

### ***Cameroon Chapter***

In Cameroon, the Internet Society Cameroon Chapter realized that local operators did not appreciate the importance of IPv6. With the support of Community Grants Programme funding, the Chapter has launched a training programme to raise awareness of IPv6, including challenges and benefits, impact on network management, and service deployment to users.

The training – titled “Impact IPv6” – is for students, company engineers and technicians, trainers, and teachers in information technology and communication. The ultimate goal of Impact IPv6 is to help make Cameroon IPv6-ready.

Chapter: <http://www.isoc-cameroon.org>

Impact IPv6: <http://www.isoc-cameroon.org/impactipv6>

### ***Colorado Chapter***

The Internet Society Colorado Chapter’s commitment to IPv6 deployment and promotion is exemplified in its support for major IPv6 events, in particular, the annual Rocky Mountain IPv6 Summit – an event drawing hundreds of networking professionals, including leading systems architects, technical engineers, and researchers. The Chapter is a sponsor of this major event,

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“IPv6 deployment is slow. We need a business driver to help justify the initial investments. For example, IPv6-only hosts starting to show up on the Internet could force the rest of the Internet to enable IPv6. ... If you have questions on how to run an IPv6 event, please contact the Colorado Chapter; we will be happy to help.”

—Ognian Mitev, Treasurer Internet Society Colorado Chapter

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featuring IPv6 networking professionals from all over the world. Several members of the Chapter's leadership team take prominent roles in both organizing the event and delivering technical training and other content.

Chapter: <http://www.coisoc.org>

North American 2012 IPv6 Summit: <http://www.coisoc.org/index.php/2012/north-american-2012-ipv6-summit-supported-colorado-isoc>

### ***England Chapter***

The "IPv6 Crawler" project is a major initiative of the Internet Society England Chapter. The Crawler is an automated system to crawl through the DNS at preset intervals to detect the presence of services such as IPv6 DNS servers, IPv6-compliant web servers, SMTP mailers, and NTP servers. The Chapter hopes the IPv6 Crawler will promote IPv6 adoption by showing the spread of IPv6 across top level domains. The Chapter also maintains an archive of the data as a resource for strategic network planners working on the future of the Internet. The IPv6 Crawler is funded by a Community Grants Programme award.

For World IPv6 Launch, the Chapter held a special presentation of the project results.

Chapter: <http://isoc-e.org>

IPv6 Crawler (The IPv6 Matrix Project): <http://isoc-e.org/ipv6-matrix-project>

Webinar on IPv6 Matrix Project results: <http://isoc-e.org/isoc-england-event-for-world-ipv6-launch-on-6-june-2012/>

### ***Hong Kong Chapter***

"IPv6 in Action!" is a major project of the Internet Society Hong Kong Chapter. This Chapter works across many different sectors of the Internet community, but in this project their focus is on the general public and Small and Medium Enterprises (SMEs). The project includes an education campaign combining local and international experiences and is designed as a potential model for other governments and agencies to follow.

IPv6 in Action! is sponsored by Hong Kong's Office of the Government Chief Information Officer, funded in part by an Internet Society Community Grants Programme award, and supported by a number of other partners. The Chapter also works on several other fronts; for example, it now partners with a commercial provider to deliver Hong Kong's first IPv6 Certification and Training Program.

The Chapter also held a special half-day event for World IPv6 Launch.

Chapter: <http://www.isoc.hk>

IPv6 in Action!: <http://www.ipv6now.hk/en>

Webcast for World IPv6 Launch event: <http://www.youtube.com/playlist?list=PLF39DA640FEBFAAB5>

### ***India Chennai Chapter***

The Internet Society's India Chennai Chapter has made IPv6 one of its key priority areas, organizing panel discussions and workshops that attract participants from all over India. The Chapter's events have featured international experts and industry leaders and hands-on technical training (provided by APNIC).

The Chapter's events have drawn important funding and support from several local and international Internet companies and other organizations, thus boosting the Chapter's profile and the impact of its activities.

Chapter: <http://www.isocindiachennai.in>

Webcast archives: <http://www.livestream.com/internetsocietychapters>

### ***India Kolkata Chapter***

The Internet Society's India Kolkata Chapter has established an IPv6 Special Interest Group, and has a long record of IPv6 activities, including annual seminars, technical workshops for engineers and ISPs, train the trainer programmes, a collection of training resources, and a lecture series for tertiary level students. Chapter representatives have observed that, among their stakeholders, hands-on training on IPv6 configuration have been the most well received activities.

The Chapter has so far held two workshops in partnership with APNIC and NIXI (the National Internet Exchange of India) and has entered an MoU with APNIC for collaborative training programmes and technical assistance for stakeholders in the region.

The Chapter also developed a broad three-month agenda of activities to tie in with the World IPv6 Launch.

Chapter: <http://www.isocindiakolkata.in>

IPv6 Seminar: <http://isoc.org/wp/asianews/2010/06/06/ipv6-seminar-by-isoc-india-kolkata-chapter>

### ***Israel Chapter***

Global promotional events have also helped focus activities for the Internet Society Israel Chapter, which called on Israeli ISPs, major website operators, and the public to join in the World IPv6 Launch event. On World IPv6 Launch day, the Chapter held a special, high level business and technical event.

Chapter: <http://isoc.org.il>

IPv6 events: [http://isoc.org.il/conf\\_heb/ipv6.html](http://isoc.org.il/conf_heb/ipv6.html)

### ***Lebanon Chapter***

The Internet Society Lebanon Chapter chose World IPv6 Launch as a platform for a special event making the business case for IPv6 deployment and the launch of the Lebanese IPv6 Task Force and Roadshow.

Chapter: <https://sites.google.com/site/isoclebanon>

World IPv6 Launch event: <http://www.beirutix.net/ipv6launch.htm>

### ***Mali Chapter***

The Mali Chapter of Internet Society collaborated with AfriNIC to hold a three-day workshop in Bamako to prepare technology experts for the transition from IPv4 to IPv6. The workshop welcomed technical participants from the public and private sectors and included a train-the-trainer approach to spread the knowledge to those not able to attend.

Chapter: [http://www.ml.refer.org/isoc/KOUYATE\\_et\\_DIONI/accueil.htm](http://www.ml.refer.org/isoc/KOUYATE_et_DIONI/accueil.htm)



### ***Mauritania Chapter***

The Internet Society Mauritania Chapter has focused its efforts on working with some of the major network players in the country – including the main telecom companies and the University that manages the .mr top level domain – to develop awareness and help prepare for IPv6 services.

### ***Netherlands Chapter***

The Internet Society Netherlands Chapter participated in a range of activities for both World IPv6 Day and the World IPv6 Launch, for which the Chapter organized a special event with some of the major Internet organizations in The Netherlands, featuring talks, tutorials, and debates around cutting edge Internet developments.

Chapter: <http://www.isoc.nl>

World IPv6 Launch (NL): <http://ipv6launch.nl>

### ***New York Chapter***

The Internet Society New York Chapter capitalized on World IPv6 Day by hosting a special “wrap up” event, immediately following the end of the official period. This event was free and open to the public. The Chapter also focused other informal activities around World IPv6 Launch.

Chapter: <http://isoc-ny.org>

### ***Portugal Chapter***

For World IPv6 Day, the Internet Society Portugal Chapter held a special event at the Communications Museum in Lisbon featuring keynotes from leading IT companies, a press conference, and a discussion panel on the future of the Internet. The chapter also contacted all Portuguese Local Internet Registries to explain the importance of quickly meeting basic parameters about IPv6 address management. IPv6 awareness activities in Portugal seem to be paying dividends: the country is one of the most highly rated for “ripeness” in RIPE NCC’s IPv6 RIPLEness rankings.

Chapter: <http://isoc.pt>

RIPE NCC IPv6 RIPLEness: <http://ripeness.ripe.net>

### ***Sénégal Chapter***

In Sénégal, the Chapter has provided IPv6 training to network administrators and engineers, exploring the possibilities of IPv6, its structure, and the path to migration.

Chapter: <http://www.isoc.sn>

IPv6 ISP training: <http://www.isoc.sn/node/59>

### ***Taiwan Taipei Chapter***

The Internet Society Taiwan Taipei Chapter received a Community Grants Programme award for a project deploying dual stack IPv6 network access across four schools. Backing up the deployment activities were IPv6-focussed training courses for students.

This project, which also had support from the Taiwan Ministry of Education, was a pilot for similar work across the education sector. The Chapter is also behind the “IPv6 – I like it!” Facebook campaign.

Chapter: <http://www.isoc.org.tw>

### ***Armenia (Global member – Community Grants project)***

The Armenia National Research and Education Network (AM NREN) consists of university, educational, and academic networks. With an award from the Internet Society’s Community Grants Programme and support from the Internet Society Armenia Chapter, Global Member Vladimir Sahakyan is leading a project to build operational capacity and promote IPv6 deployment in the Academic Scientific Research Network of Armenia (ASNET-AM) – the biggest segment of AM NREN. This project is the first phase of a larger project to upgrade the whole AM NREN to IPv6 readiness.

Chapter: <http://isoc.am>

ASNET-AM: <http://www.asnet.am>

### ***Ireland (Global member – Community Grants project)***

Irish Global member Kevin Quinn used Community Grants Programme funding to hold a conference and workshop for organizations in Ireland – both government bodies and private and public companies. After the conference, the 6ASSIST project

also created a website to provide ongoing education and encouragement for Internet improvements.

6ASSIST project interim report: [http://www.internetsociety.org/sites/default/files/6Assist\\_Interim\\_Report.pdf](http://www.internetsociety.org/sites/default/files/6Assist_Interim_Report.pdf)

Irish IPv6 Task Force: <http://ipv6.ie>

### ***Uganda (Global member – Community Grants project)***

In Uganda, Internet Society Global member Wilson Abigaba received a Community Grants Programme award to develop the project “Uganda Internet Exchange Point (IXP) Upgrade and IPv6 Training”, to build IPv6 capacity and awareness and encourage Ugandan ISPs to deploy IPv6. The starting point for the work is the Uganda Internet Exchange Point (UIXP).

IXPs are a focal point for local Internet development and, particularly in developing regions, are a major factor in improving services and driving down costs. By starting at the IXP, this type of work can set a powerful example to the local industry.

Chapter: <http://www.internetsociety.org>

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### ***The Itojun Service Award***

Named to honour and commemorate the memory of Jun-ichiro “itojun” Hagino, who passed away in 2007, the award recognizes the extraordinary dedication exercised by itojun over the course of IPv6 development. It is focused on pragmatic contributions to developing and deploying IPv6 in the spirit of serving the Internet. The recipient receives a presentation crystal, a USD 3,000 honorarium, and a travel grant.

Chapters should consider nominating leading members of their own communities for this award, both to inspire Chapter members and raise awareness of important regional activities.

More details are available at <http://www.internetsociety.org/itojun>

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## Suggestions for funding and organizing IPv6 activities

- ✓ The Internet Society website is a great source of useful guidance for Chapters that are planning activities such as:
- ✓ Events and presentations
- ✓ Campaigns
- ✓ Education and training
- ✓ Information and communication products

All Chapters are required to conduct at least one mission-related activity every year. IPv6 deployment activities could be a perfect option, as the challenges – and therefore the solutions – involve education, awareness, policy, and community coordination.

Advice for Chapters on Creating Effective Programmes and Activities – including links to potential funding sources – starts here: <http://www.internetsociety.org/node/1141>

You can also find many more great ideas and resources in the document “Tools for Mobilizing Volunteers”:

- <http://www.internetsociety.org/volunteertoolkitpdf> [English]
- <http://www.internetsociety.org/volunteertoolkitfrpdf> [French]
- <http://www.internetsociety.org/volunteertoolkitespdf> [Spanish]

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“The support of IPv6 from thousands of organizations delivers a critical message to the world: IPv6 is not just a ‘nice to have’; it is ready for business today and will very soon be a ‘must have’. We believe that the commitment of these companies to deploy IPv6 will ensure that they remain industry leaders. Any company wishing to be effective in the new Internet should do the same.”

—Leslie Daigle, Chief Internet Technology Officer, Internet Society

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## World IPv6 Day and World IPv6 Launch

For many years, the Internet Society has been instrumental in promoting IPv6 deployment and awareness. In addition to our commitment to standards development and the vital work we do at regional and intergovernmental level, we also work hand-in-hand with the Internet technical community to drive public awareness of IPv6 and motivate some of the Internet's biggest players to lead the way in deployment activities. This work is best reflected in World IPv6 Day and World IPv6 Launch.

### World IPv6 Day

On 8 June 2011, several hundred leading websites, ISPs, and organizations participated in World IPv6 Day for a successful global-scale IPv6 trial. By providing a coordinated 24-hour “test flight”, the event helped demonstrate that major websites around the world are well-positioned to move toward a global IPv6-enabled Internet, opening the door to its continued exponential growth.

More details of World IPv6 Day, including a full list of participants and links to presentations and papers about the results of the trial, are available at <http://www.worldipv6day.org>

### World IPv6 Launch

- Building on the success of World IPv6 Day, World IPv6 Launch took IPv6 deployment one giant leap further. Rather than simply testing IPv6 services, this time all participants committed to switching on IPv6 throughout their services – and leaving it on.
- Coordinated by the Internet Society, major Internet service providers (ISPs), home networking equipment manufacturers, and web companies around the world permanently enabled IPv6 for their key products and services on 6 June 2012.
- World IPv6 Launch stands as a major milestone in the global deployment of IPv6.

For more information about World IPv6 Launch – including participating organizations, products and services covered, traffic



*World IPv6 Launch participants show their support for the global deployment of IPv6 by displaying the World IPv6 Launch badge.*

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### Linking Chapter activities to IPv6 Days

*Many Chapters have been able to successfully take advantage of events such as World IPv6 Day or World IPv6 Launch. With global events such as these, technical publications and media outlets need local perspectives for their news channels.*

*As a Chapter leader, if you can be prepared in advance and target the right media contacts, you stand an excellent chance of putting your Chapter in the spotlight as a “go-to” resource for IPv6 promotion and deployment.*

*For more ideas about coordinating effective activities to tie in with global IPv6 promotion activities, see the Internet Society newsletter for June 2011: <http://www.internetsociety.org/publications/isoc-monthly-newsletter-vol-10-issue-06>*

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measurements, and links to useful information for users and companies – visit <http://www.worldipv6launch.org>

You may also find these Chapter specific resources useful for getting your Chapter's stakeholders involved:

- Videos and recorded presentations  
<http://www.internetsociety.org/world-ipv6-launch-resources>
- Presentation  
<https://fileshare.tools.isoc.org/groups/chapters/public/20120521-WorldIPv6Launch-Presentation.pdf>

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“We built the Internet. Not they. It’s our network; it’s our content; it’s our system. But if you want that to continue, if you want to be part of the Internet yourself, just as much as I do, you need an open network, and open networking means open addressing. If you’re not putting pressure on your provider, on the folk you get your computers from, the folk you get your modems from, to have IPv6 in it now, if you’re not doing that, you’re doing yourself a disfavor, just as much as you’re doing me harm as well. Our network needs IPv6. It’s as simple as that if we want it to remain ours, not just theirs.”

—Geoff Huston,  
Chief Scientist at APNIC

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## Important IPv6 resources

This toolkit is not intended as a technical implementation guide, but the sites below are full of great technical, business, policy, and educational resources that can inform and enrich Chapter activities.

*We encourage all Chapter leaders to share their own experiences and to pass on resources they have found useful.*

### **Internet Society Deploy360 Programme**

The Deploy360 Programme is the Internet Society's flagship site for up-to-date, relevant, and informed resources on some of the Internet's core technical deployment issues, including IPv6.

<http://www.internetsociety.org/deploy360>

### **IPv6 Act Now**

RIPE NCC's dedicated site hosts a full range of IPv6-related resources. Of particular use for Chapters are checklists for small businesses, enterprises, ISPs, decision makers, and governments about how to take action on IPv6 deployment now.

<http://www.ipv6actnow.org/info/how-to-act-now>

### **APNIC – Learn about IPv6**

The RIR for the Asia Pacific region focuses on helping network operators, Internet service providers, content providers, application developers, and enterprises establish a clear plan for IPv6 deployment.

<http://www.apnic.net/community/ipv6-program/learn>

### **Portal IPv6**

LACNIC's IPv6 portal is a great resource with statistics and materials in Spanish, Portuguese, and English.

<http://portalipv6.lacnic.net/en>

### **ARIN IPv6 Wiki**

The ARIN community contributes to this wiki of essential IPv6 information and guides, with a particular emphasis on the ISP perspective.

<http://www.getipv6.info>

For a striking overview of the relative sizes of IPv4 and IPv6, see also ARIN's "IP Address Block Size Equivalents" document at

<https://www.arin.net/knowledge/cidr.pdf>

### **IPv6 @ AfriNIC**

AfriNIC is the Regional Internet Registry for Africa and its IPv6 site is the starting point for IPv6 deployment information in the region with some of the greatest potential for future Internet growth.

<http://www.afrinic.net/IPv6>

### **Test Your IPv6 Connectivity**

This site checks your system and connection and gives you an instant report on your IPv6 readiness.

<http://test-ipv6.com>

### **6 Deploy**

6 Deploy is an EU-funded project featuring tutorials, case studies, testbeds, an events calendar, and links to many other IPv6 statistics, deployment guides, and other resources.

<http://www.6deploy.eu>

### **BT Diamond IP – IPv6 Resource Centre**

This is a rich repository of training materials, white papers, presentations, and many other IPv6 resources.

[http://btdiamondip.com//IPv6\\_Resource\\_Center](http://btdiamondip.com//IPv6_Resource_Center)

### **Lars Eggert's IPv6 Deployment Trends**

This site features meters showing current levels of IPv6 deployment around the world.

<http://eggert.org/meter/ipv6.html>

### **Hurricane Electric IPv6**

This commercial provider publishes a range of free, live statistics on IPv4 exhaustion and IPv6 deployment, including a popular dashboard meter available on their website or as an app on mobile devices.

<http://ipv6.he.net>