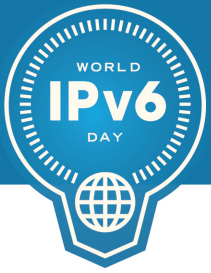


IPv6 en el IETF

Alvaro Retana

aretana@cisco.com

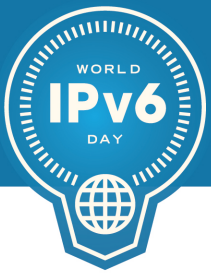




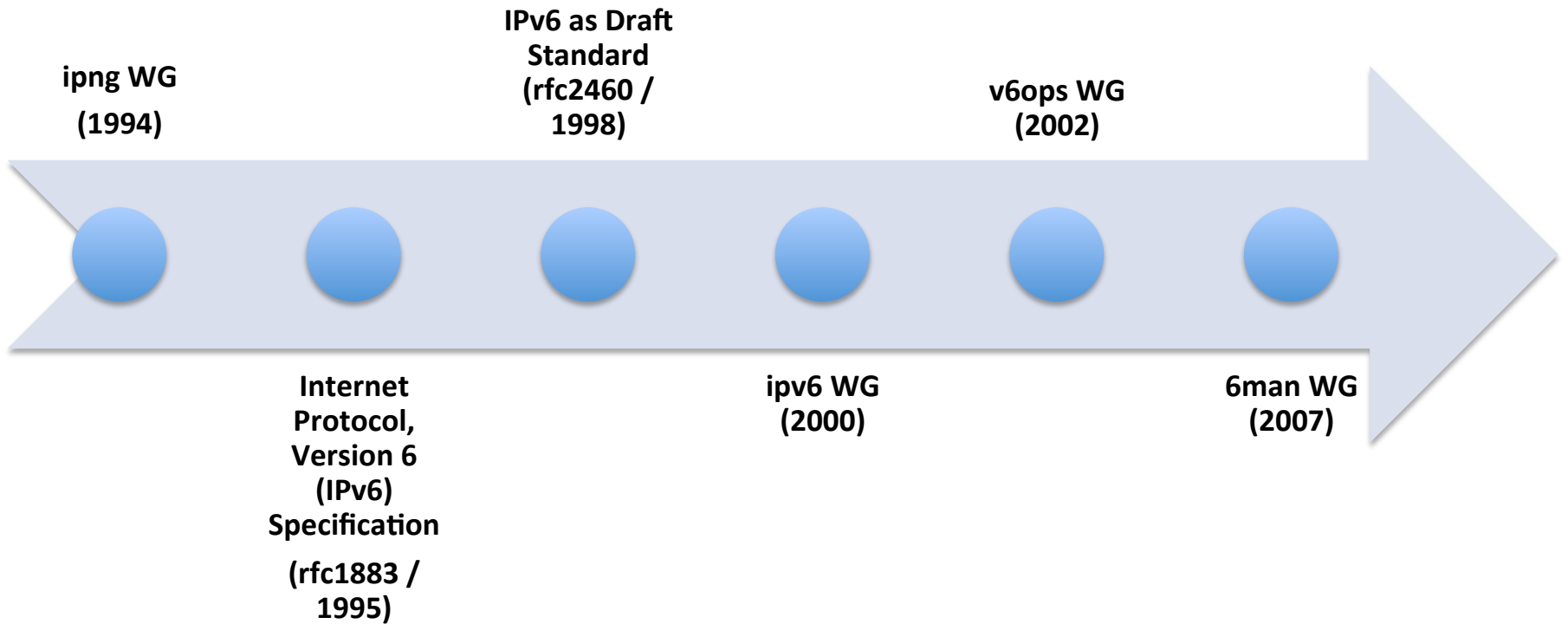
“The mission of the IETF is to produce high quality, relevant technical and engineering documents that influence the way people design, use, and manage the Internet in such a way as to ***make the Internet work better***. These documents include protocol standards, best current practices, and informational documents of various kinds.”

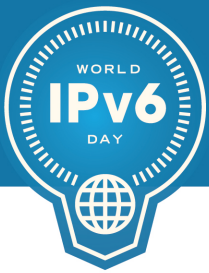
RFC 3935

A Mission Statement for the IETF



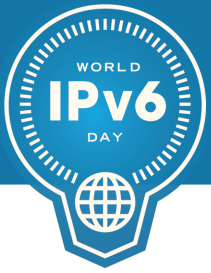
IPv6 IETF Timeline





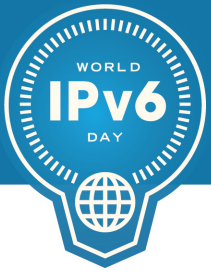
No one is in charge, anyone can contribute and everyone can benefit.

standards
global
innovation
Internet
infrastructure
volunteers
researchers
IETF
engineers
OPEN
participation
processes
collaborating
scientists



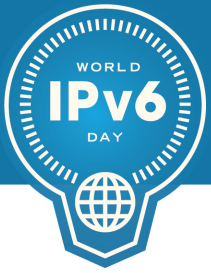
IPv6 Maintenance (6man)

- ...responsible for the maintenance, upkeep, and advancement of the IPv6 protocol specifications and addressing architecture...
- RFCs Published in the Last Year
 - [RFC 7346](#) IPv6 Multicast Address Scopes
 - [RFC 7371](#) Updates to the IPv6 Multicast Addressing Architecture
 - [RFC 7421](#) Analysis of the 64-bit Boundary in IPv6 Addressing
 - [RFC 7527](#) Enhanced Duplicate Address Detection
 - [RFC 7559](#) Packet-Loss Resiliency for Router Solicitations



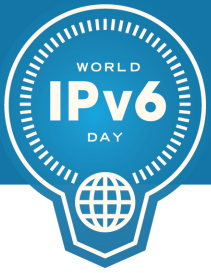
IPv6 Maintenance (6man) (2)

- Current Work
 - Recommendation on Stable IPv6 Interface Identifiers ([draft-ietf-6man-default-iids](#))
 - Deprecating the Generation of IPv6 Atomic Fragments ([draft-ietf-6man-deprecate-atomfrag-generation](#))
 - Privacy Considerations for IPv6 Address Generation Mechanisms ([draft-ietf-6man-ipv6-address-generation-privacy](#))
 - Validation of IPv6 Neighbor Discovery Options ([draft-ietf-6man-nd-opt-validation](#))
 - Security Implications of Predictable Fragment Identification Values ([draft-ietf-6man-predictable-fragment-id](#))
 - IPv6 Neighbor Discovery Optional RS/RA Refresh ([draft-ietf-6man-rs-refresh](#))



Home Networking (homenet)

- ...focuses on the evolving networking technology within and among relatively small "residential home" networks.
- General Routing Requirements:
 - knowledge of the homenet topology
 - inclusion of the PHY layer characteristics in path computation
 - Multi-homing
 - self-configuring
- Reading List
 - IPv6 Home Networking Architecture Principles (rfc7368)



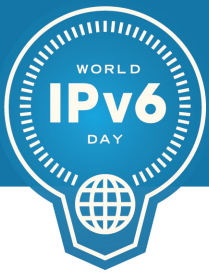
IPv6-Related Working Groups

Internet Area

- ...IP layer (both IPv4 and IPv6), implications of IPv4 address depletion, co-existence between the IP versions..., and various link layer technologies.
- IPv6 over Networks of Resource-constrained Nodes (6lo)
- IPv6 over the TSCH mode of IEEE 802.15.4e (6tisch)

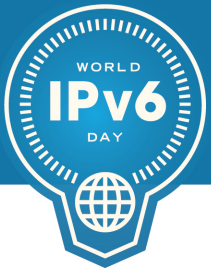
Routing Area

- Routing Over Low power and Lossy networks (roll)
- Source Packet Routing in Networking (spring)



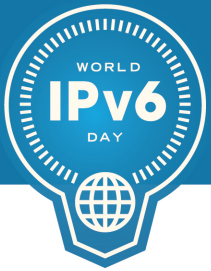
Softwires (softwire)

- ... standardization of discovery, control and encapsulation methods for connecting IPv4 networks across IPv6 networks and IPv6 networks across IPv4 networks...
- RFCs Published in the Last Year
 - [RFC 6908](#) Deployment Considerations for Dual-Stack Lite
 - [RFC 7040](#) Public IPv4-over-IPv6 Access Network
- Current Work
 - Lightweight 4over6: An Extension to the DS-Lite Architecture ([draft-ietf-softwire-lw4over6](#))
 - Mapping of Address and Port with Encapsulation (MAP) ([draft-ietf-softwire-map](#))
 - Mapping of Address and Port using Translation (MAP-T) ([draft-ietf-softwire-map-t](#))



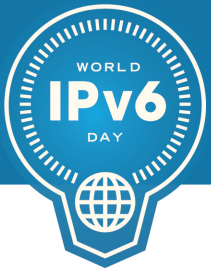
IPv6 Operations (v6ops)

- ... main focus of the v6ops WG is to look at the immediate deployment issues...
- RFCs Published in the Last Year
 - [RFC 7269](#) NAT64 Deployment Options and Experience
 - [RFC 7335](#) IPv4 Service Continuity Prefix
 - [RFC 7381](#) Enterprise IPv6 Deployment Guidelines
 - [RFC 7445](#) Analysis of Failure Cases in IPv6 Roaming Scenarios
 - [RFC 7526](#) Deprecating the Anycast Prefix for 6to4 Relay Routers



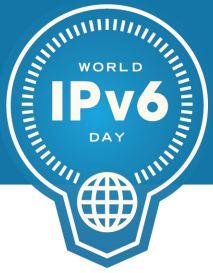
IPv6 Operations (v6ops) (2)

- Current Work
 - IPv6 Prefix Length Recommendation for Forwarding ([draft-ietf-v6ops-cidr-prefix-03](#))
 - Some Design Choices for IPv6 Networks ([draft-ietf-v6ops-design-choices-07](#))
 - DHCPv6/SLAAC Interaction Problems on Address Auto-configuration ([draft-ietf-v6ops-dhcpv6-slaac-problem-04](#))
 - SIIT-DC: Stateless IP/ICMP Translation for IPv6 Data Centre Environments ([draft-ietf-v6ops-siit-dc-00](#))
 - SIIT-DC: Dual Translation Mode ([draft-ietf-v6ops-siit-dc-2xlat-00](#))
 - Explicit Address Mappings for Stateless IP/ICMP Translation ([draft-ietf-v6ops-siit-eam-00](#))
 - Considerations For Using Unique Local Addresses ([draft-ietf-v6ops-ula-usage-recommendations-05](#))

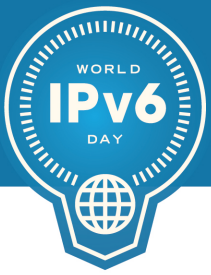


Sunsetting IPv4 (sunset4)

- ... facilitate the graceful "sunsetting" of the IPv4 Internet in areas where IPv6 has been deployed.
- Reading List
 - Gap Analysis for IPv4 Sunset ([draft-ietf-sunset4-gapanalysis-07](#))

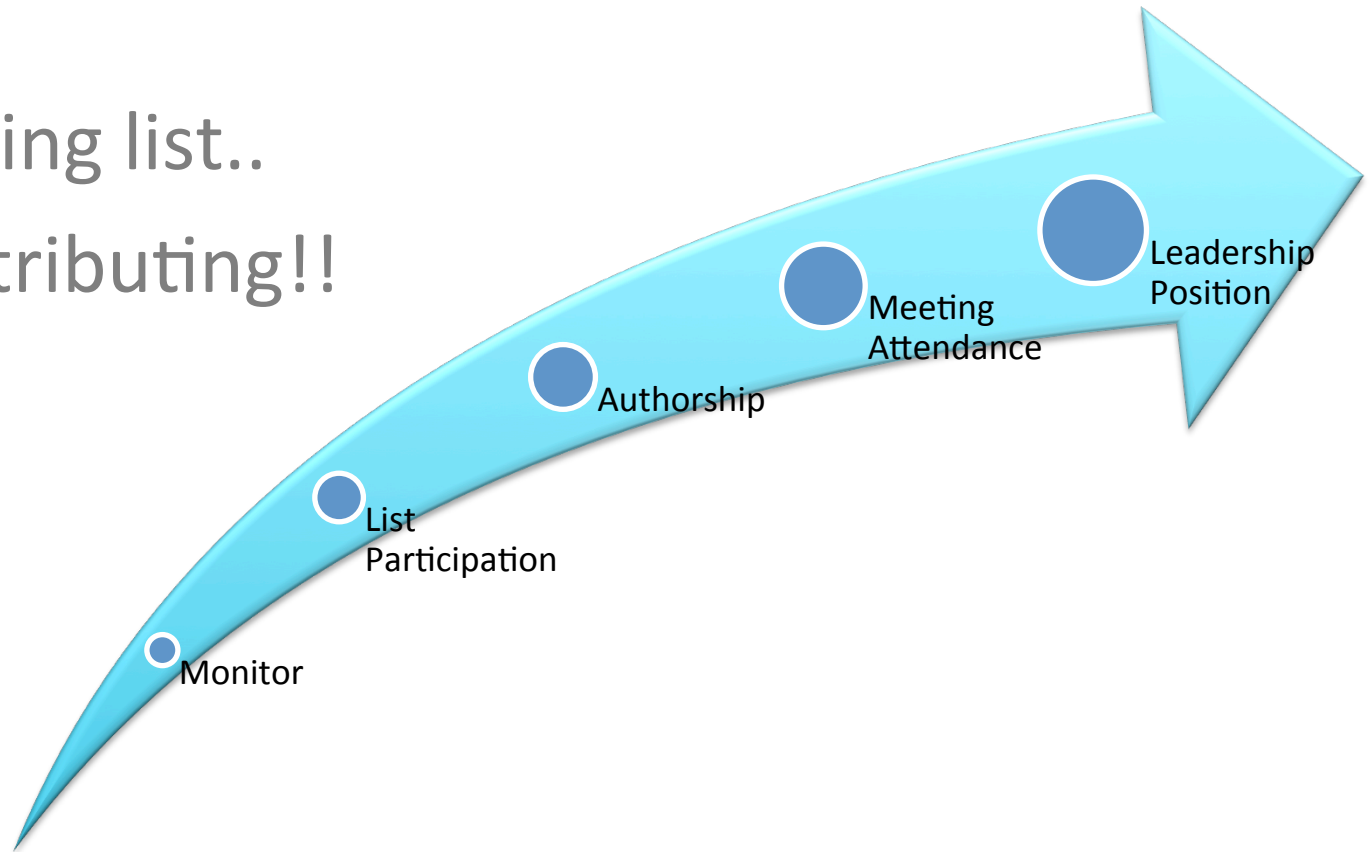


CÓMO PARTICIPAR EN EL IETF?

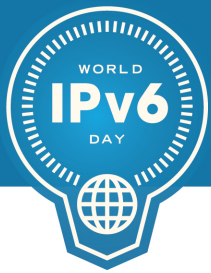


How to Participate in the IETF?

Join a mailing list..
..start contributing!!



<http://datatracker.ietf.org/wg/>



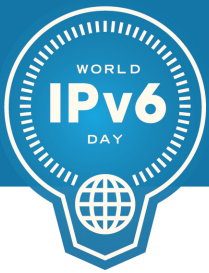
IETF Meetings

Recent Meetings

- **90th IETF**
July 20-25, 2014
Toronto, ON, Canada
- **91st IETF**
November 9-14, 2014
Honolulu, HI, USA
- **92nd IETF**
March 22-27, 2015
Dallas, TX, USA

Upcoming Meetings

- **93rd IETF**
July 19-24, 2015
Prague, Czech Republic
- **94th IETF**
November 1-6, 2015
Yokohama, Japan
- **95th IETF**
April 3-8, 2016
Buenos Aires, Argentina

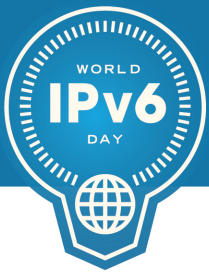


IETF LAC Task Force

- LACNOG creó el Grupo de Trabajo IETF LAC en Mayo del 2013 con el objetivo de fomentar la participación de personas de la región en las discusiones y procesos del IETF.
- Algunas de las metas son:
 - Ser un mecanismo para introducir nuevas personas en el IETF
 - Facilitar la discusión de ideas en el idioma local (Español, Portugués, Inglés)
 - Proveer un lugar en el cual los autores latinos puedan compartir sus drafts y recibir comentarios de sus colegas

<http://mail.lacnic.net/mailman/listinfo/ietf-lac>

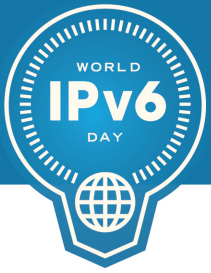
#YoSoyIETF



Actividades y Enfoque Local

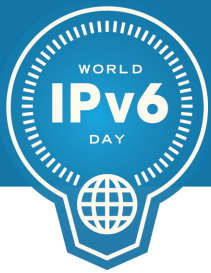
- ietf-lac@lacnog.org
- Pre-IETF
 - Eventos Virtuales antes de cada reunión del IETF.
 - Conferencias Locales y Regionales
- Educación y Evangelización
- Publicación de Documentos





Participación Remota

- Idea: "hub remoto" de participación
 - grupo de personas locales con intereses comunes
 - sin tener que viajar a la reunión
- Experiencia:
 - IETF 91 (Honolulu): 1 WG, 7 hubs, 50 personas
 - IETF 92 (Dallas): 10+ WGs, 15+ hubs, ~100 personas



Llamado a Acción

Aumentemos la Participación Local en el IETF!

- Creación de Grupos de Interés Común
- Discusiones de Temas Importantes
- Participación en las Listas de Correo
- Participación en Reuniones de Grupos de Trabajo
- Patrocinio para la Asistencia a Reuniones del IETF
- Educación y Evangelización

