IETF Report

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About This Presentation

This presentation is an official IETF report

- **This report covers IETF 102 in Montreal**
- **This is not an in-depth IETF report lots of exercise for the reader**
- I am officially the ARIN IETF Reporter for 2018
- This is all my opinion and my view and I am not covering everything just highlights
- You should know I like funny quotes
- I hope you enjoy it
- Your feedback is greatly appreciated
- If you were there and I missed something interesting please share!
- Opinions expressed are solely my own and I include thoughts that I typed while at the meeting.

Highlights

- Something from from the v6ops mailing list!
  - https://ipv6excuses.com/
- New segment I'm calling.. Random draft I read

Highlights

- A discussion on the IETF list
  - "Diversity and offensive terminology in RFCs"
    - Blacklist/whitelist
    - Master/slave (Python language already removed this)
    - Man-in-the-middle

Drafts I've Recently Read

- IPv6 Point-to-Point Links
  - describes different alternatives for configuring IPv6 point-to-point links, considering the prefix size, numbering choices and prefix pool to be used.
  - RFC6164 - /127 prefix for p2p links, two address pools one for numbering the p2p links and another for delegating prefixes at the end of the p2p link.
  - Most common prefix is a /64
    - Future proof because of the link changes to multipoint or there are other devices to add there is space
  - Other prefix lengths, /126 (RFC3627 but is obsolete)
  - Other valid options /126, /120, /112
  - Also discusses GUA and ULA as well as unnumbered.
  - For customers use the first /64 of the customer's /48

Drafts I've Recently Read

- IPv6 Address Assignment to End-Sites
  - A draft that tries to examine all the current drafts that talk about addressing end-sites.
  - The gist of it is that it should be trivial for an end site to get a /48 if they want one.
  - A /128 (single address) and a /64 (one subnet) aren't really ever recommended.

IEPG – What is it?

- The IEPG is an informal gathering that meets on the Sunday prior to IETF meetings. The intended theme of these meetings is essentially one of operational relevance in some form or fashion - although the chair will readily admit that he will run with an agenda of whatever is on offer at the time!
- The IEPG has a web page and a mailing list
  - iepg@iepg.org - the usual subscription protocols apply.

IEPG

- Indefensible Neighbors
  - Since the definition of interface Ids and accompanying subnet sizes in RFC 1885, the potential has existed for the forwarding and control plane resources of a router to be greatly exceeded by locally or remotely triggered attempts to discover connected neighbors.
  - This talk talks about the approaches to solve this age old problem.
  - A prefix per host helps. Then filter destinations not in use on your subnet. More details in slides.

IEPG

- Prefix Hijack
  - May 7, 2018 AS132116 announces some prefixes that belong to another ASN.
    - Could have been prevented by origin validation
    - Filter based on 132116's IRR object
    - Prefixes were Fastly Anycast prefixes and the attack appeared to be malicious

IEPG

- In an effort to get ready for the KSK roll folks are looking around at old trust anchors. Found a lot in github.
  - 2000+ old trust anchors
  - 400ish new trust anchors
  - 1099 only have old trust anchors
  - 301 unique files (problem files)
  - Most of this is not really used and presenter is working on getting it cleaned up.

IEPG

- Dmap: Automating domain name ecosystem measurement and applications (domain name ecosystem mapper)
  - RESTFul web service developed in Java based on Spring Boot.
  - Crawls v4 and v6 DNS
  - Analyzer that says when things aren't working
  - Check out the slides. They crawled .nl and there are lots of interesting results
  - Download at https://dmap.sidnlabs.nl

GAIA – what is it?

- Global Access to the Internet for All
- The Internet Society's Global Internet User Survey 2012 reveals that a large majority of respondents believe that Internet access should be considered a basic human right. However, in the reality of today's Internet, the vision of global access to the Internet faces the challenge of a growing digital divide, i.e., a growing disparity between those with sufficient access to the Internet and those who cannot afford access to the essential services provided by the Internet.

GAIA

- This is where they hide all the work on community networks
  - Working on a BCP for community networks. 49% of people in the world are not connected.

GAIA

- Adisorn Lertsinsrubtavee, Asian Institute of Technology, **TakNet-A Community Network**
  - Community network in Northern Thailand
  - 15 remote communities
  - 1000+ users
  - started as volunteers. TaKnet II is not all volunteers.
  - 10-20% of traffic is local but no local infrastructure.
  - **AINTEC 2018 Asian Internet Engineering conference near IETF
  - **A wok is a DiY antenna.. Very cool**

GAIA

- Niel Harper, IEEE/ISOC On-line Wireless Training Course
  - Training to develop skills to transfer folks to the workforce and also train women. the training is 12 modules.. takes about 6 weeks. They also do training of trainers.
- Network Deployments for Universal Connectivity
  - **Quifi.net**
  - Trying to use unused bandwidth

GAIA

- University of Washington, Building Community LTE Networks with CoLTE
  - **Community Cell networks.**
  - long range, fewer boxes, fewer failure points
  - Community LTE package.. Everything you need to run your own LTE network. “CoLTE”
  - Internet access but not phone or text. Whatsap and skype instead
    - Indonesia working on
      - Community Repair
      - Services and Billing
  - **Internet Architecture - are we a telcom or ISP?**

Link State Vector Routing (LSVR)

- Data Centers have been steadily growing to commonly host tens of thousands of end points, or more, in a single network. Because of their topologies (traditional and emerging), traffic patterns, need for fast restoration, and for low human intervention, data center networks have a unique set of requirements that is resulting in the design of routing solutions specific to them.
- The Link-State Vector Routing (LSVR) Working Group is chartered to develop and document a hybrid routing protocol utilizing a combination of link-state and path-vector routing mechanisms. The LSVR WG will utilize existing IPv4/IPv6 transport, packet formats and error handling of BGP-4 consistent with BGP-LS NLRI encoding mechanisms (RFC7752) to facilitate Link-State Vector (LSV) routing information distribution. An LSV is intended to be specified as a data structure comprised of link attributes, neighbor information, and other and other potential attributes that can be utilized to make routing decisions.

LSVR

- Usage and Applicability of Link State Vector Routing in Data Centers
- Shortest Path Routing Extensions for BGP Protocol
- **“a solution which leverages BGP Link-State distribution and the Shortest Path First (SPF) algorithm similar to Internal Gateway Protocols (IGPs) such as OSPF.”**
- Benefits are
  - TCP based flow-control,
  - No periodic link-state refresh,
  - Completely incremental NLRI advertisement.

LSVR

- Neighbor and Liveness Requirements Discussion
  - Requirements for networks with more than 10,000 nodes.. other requirements
  - Requirements for the hybrid protocol. Usual ? around security

LSVR

- BGP Neighbor Autodiscovery
  - eBGP neighbor discovery?
  - Not a link discover but a neighbor discovery
  - eBGP as the IGP in a data center.
  - Hurts my brain for sure.

DNS Operations – What is it?

- The DNS Operations Working Group will develop guidelines for the operation of DNS software and services and for the administration of DNS zones. These guidelines will provide technical information relating to the implementation of the DNS protocol by the operators and administrators of DNS zones.
- More at charter-ietf-dnsop-04

DNS Operations

- Drafts being discussed
  - **draft-wessels-dns-zone-digest**
    - It describes how to compute, sign, represent, and use the message digest to verify the contents of a zone for accuracy and completeness.
    - new ZONEMD resource record conveys message digest data
    - root zones are spreading beyond (hyper local root)
    - non use cases - not for .com, nor rapid dynamic dns updating, etc..
  - draft-tariq-dnsop-iviptr
  - dns-ietf-dnsop-wireformat-http

Technical Plenary

- There was no technical topic this time
- The big news is about IASA 2.0
  - IETF is forming an LLC
  - Legal entity within ISOC
  - The LLC will be set up in August 2018
- The other big news
  - No official meetings on Friday of IETF but space left for meetings that aren't scheduled? Not sure what exactly that will mean. Maybe after 103 I'll just leave on Friday to go home.

Technical Plenary

- Other hot topic:
  - Hot RFC BoF
    - Why did the IAB set up this BoF and not follow the regular BoF procedures, etc.

The Label RFC BoF

- Very contentious BoF.
- All about whether all the IETF docs should be called RFC?
- How do we keep folks from thinking they're all the same?
- Should some be called something else?
- This BoF was done outside the normal processes of the IETF and without the RFC Editor's input. Interesting.

V6 Operations – What is it?

- The IPv6 Operations Working Group (v6ops) develops guidelines for the operation of a shared IPv4/IPv6 Internet and provides operational guidance on how to deploy IPv6 into existing IPv4-only networks, as well as into new network installations.
- The main focus of the v6ops WG is to look at the immediate deployment issues; more advanced stages of deployment and transition are a lower priority.
- http://datatracker.ietf.org/wg/v6ops/

V6 Operations

- Discussion on the mailing list
  - **Problems with v6 only networks**
    - Documentation assumes/uses v4
    - Listeners only configured for v4
    - Software repos that are v4-only
    - CA/CRL/OCSP that are v4-only
    - VPN software that is unaware of v6
    - Mail is still a mess
    - Bugs in home gateways
    - Chicken and egg provisioning/OSS need to run IPv6 but routers and firewalls have to run v6 to get to them.

V6 Operations

- World IPv6 Trends
  - George has been looking at the percentage of Google traffic that's IPv6
  - 18% of the internet *can* do IPv6 according to his research
  - Chart of economies and percentages
    - India is 44% of the globally visible v6
    - USA is 20%
    - 6% Brazil
    - Japan 4.7%
    - Germany 4.2%
    - China 3.6%
  - So this is weighted by those who will click on the ads that they use.. cat, video, hot, car, music are the keywords.
  - "it's shamwow it cleans your screen like nothing else"
  - Scaled for population and how many have access
  - He has a brake down by economic group like G20 .. there is no real correlation

V6 Operations

- Requirements for IPv6 Routers
  - some discussion about if this is useful and if it should require someone to do something
- Requirements for IPv6 Customer Edge Routers to support IPv4 Connectivity as a service
- NAT64/464XLAT Deployment Guidelines in Operator and Enterprise Networks

V6 Operations

- Discovering PREF64 in Router Advertisements
  - This document specifies a Router Advertisement option to configure the NAT64 prefix.
  - NAT64 [RFC6146] with DNS64 [RFC6147] is a widely-deployed mechanism to provide IPv4 access on IPv6-only networks. In order to support functions such as local validation of DNSSEC [RFC4033] responses, 464xlat [RFC6877], and local IPv4 address synthesis [RFC8305], the host must be aware of the NAT64 prefix in use by the network. **This document specifies a Router Advertisement [RFC4861] option to communicate the NAT64 prefix to hosts.**

V6 Operations

- Multi-Addressing Considerations for IPv6 Prefix Delegation
  - **the draft about why you'd want multiple addresses per host, all the different multi addressing cases, virtual interfaces, applications, etc.**

V6 Operations

- IP over Ethernet (IPoE) Session Health Checklist
  - IPoE (DHCP) vs PPPoE
    - **PPPoE has built in connection tracking but IPoE does not**
    - if something happens to the connection the host can be stuck with a stale DHCP lease for the lifetime
    - expedite the process and get user back online asap
  - Stuart C.. connections over connection-less network seems strange. Set timeout to 5 min

Measurement and Analsys of Protocols (MAPRG)

- The Measurement and Analysis for Protocols Research Group Research Group (MAPRG) aims to provide a forum for interchange between these two (IETF, IRTF) communities, supporting:
  - exchange of measurement-derived insight; discussion of techniques and best practices for measurement relevant to protocol
  - engineering and network operations;
  - collaborations to share data supporting these measurements; and
  - a "landing pad" for the Internet measurement community to introduce its efforts to the * IETF.

MAPRG

- Heads-up talk: Dmap: Automating Domain Name Ecosystem Measurements and Applications
  - Tool that allows you to do measurements with domain names. where are the services, data about http, smtp etc. http, https, dns, tls, smtp measurements
  - **Talked about this when talking about IEPG**

MAPRG

- Is Bufferbloat a Privacy Issue?
  - if you are bloated and ping shares the same queue you can ping and find out the size of the queue
  - original question is Privacy and RTT-based geolocation
  - roughly 1ms = 100km of distance
  - **can a remote entity armed only with ping extract info about the operation of the machines on my network?**
  - https://pingme.pto.mami-project.eu

MAPRG

- Heads-up talk: Monitoring DNS with open-source solutions
  - open source tools to monitor DNS servers.
  - measured authoritative servers in Chile
- Packet Reordering in QUIC
  - millions of users so lots of data
  - what percent of connections that have at least one reordered packet server sent - 5.4% client sent 9.4%

MAPRG

- Clusters in the Expanse: De-Aliasing IPv6 Hit lists
  - so they're looking for aliased prefixes..
  - I am not sure I get the point of this.
  - **trying to decide if it's the same machine you're talking to on a range of IP addresses..**

MAPRG

- Measuring the usable maximum packet size across Internet paths
  - seems like this is important. Path MTU discovery needs to work
  - the packets that say packet too big are unreliable
  - It's a mess out there for sure.
  - **PMTUD doesn't work reliably**

MAPRG

- When the Dyke breaks: dissecting DNS Defenses during DDoS
  - You can buy botnet attacks .. Cool
  - **choosing the right TTL can mitigate the DoS attack**
  - **so there's a trade off between TTL and propagating real changes.**
  - also need to have enough authoritative servers.
  - if you have a short TTL you can "serve stale" and that will help

MAPRG

- Finding the source of DNS resolver users that were using old DNSSEC keys
  - measuring dnssec and ksk roll
  - still a lot that only trust the old key and not the new key. wow..
  - it's been published for 9 months and new folks only trusting the old key
  - strange but looks like a vpn provider software that needed to update it's software.. they fixed their software
  - **now 8% still screwed up**
  - folks are slowly trying to fix the things that only use the old key

DNS Resolver Identification and Use

- Secure DNS Configuration over DHCP
  - DGCPv6 Threats
    - There is a list based on STRIDE method
    - Info disclosure, spoofing, tampering, repudiation, denial of service
    - DNSsec solves a few of these but not info disclosure or spoofing
    - need to identify the threats and then talk about how to secure them.

DNS Resolver Identification and Use

- Earlier DHC WG discussion on configuring other protocols (like SMTP) using DHCP: 10 minutes
  - really? "when to use DHCP"
  - DHCP configures all the services.. For that to be remotely not stupid.. network needs to be safe and host not move around. DHCPv6 has only what you need but relatively safe network and hosts don't move around.
  - DHCP is never going to be safe?
    - DHCP was designed to configure the stuff that changes when you change where you're connected
  - So this is articulating what DHCP should do and shouldn't do.
  - If you care about the privacy of your packets then not DHCP for DNS config.
- "when to use DHCP is not anymore"
- "DHCP sucks more than I even said it did"
- "I believe that many people in the room believe that you believe DHCP sucks"

DNS Resolver Identification and Use

- DHCPv6 Options for private DNS Discovery
- Choosing DoH servers from lists by target
  - DoH Digests (DNS over HTTPS)
    - “will you be my DoH server?”
    - Firefox should have a set of partners who provided DoH servers (right now just one Cloudflare). Lots of folks making faces and in line
    - Lots of these folks use Cloudflare for DoH

DNS Resolver Identification and Use

- Levels of security and privacy for different resolver transports
  - from a user perspective
  - contractual relationships (cloudflare) because no discovery mechanism
  - this is from a user's point of view

DNS Privacy Exchange-Dprive

- The DNS PRIVate Exchange (DPRIVE) Working Group develops mechanisms to provide confidentiality to DNS transactions in order to address concerns surrounding pervasive monitoring (RFC 7258).
- The set of DNS requests that an individual makes can provide an attacker with a large amount of information about that individual. DPRIVE aims to deprive the attacker of this information (The IETF defines pervasive monitoring as an attack [RFC7258]).

Dprive

- Some analysis of the RIPE Atlas probe data on DNS-Privacy
  - **DNS over TLS is in the probes. Cool**
  - DNS-over-TLS API
    - trying to get stats on the uptake of DNS over TLS
    - measure success rate and causes of failure

Dprive

- They're writing a BCP on Dprive
  - draft-bortzmeyer-dprive-rfc7626
- draft-annee-dprive-oblivious-dns
  - **Working on making it so now one can decouple the query with the IP address.**
  - Thus making DNS "private"

HOMENET – What is it?

- The purpose of this working group is to focus on this evolution, in particular as it addresses the introduction of IPv6, by developing an architecture addressing this full scope of requirements:
  - prefix configuration for routers
  - managing routing
  - name resolution
  - service discovery
  - network security
- charter-ietf-homenet-03

HOMENET

- - draft-ietf-homenet-front-end-naming-delegation-07
- - draft-ietf-homenet-naming-architecture-dhc-options-06
- - draft-ietf-homenet-simple-naming-02
  - These 3 drafts are all interrelated. Different parts of the naming arch.
  - **All about naming and getting from outside in and where your data is going to be visible.**
  - your ISP gives you an IP address and also does the in-addr.arpa

HOMENET

- draft-ietf-homenet-babel-profile-07
  - **How do keys and creds get distributed in a HOMENET context? Seems like a huge question that needs to be answered.**
- Outsourcing Home Network Authoritative Naming Service
  - drafts on front-end-naming-delegation and naming-architecture-dhc-options, and their implementation

HOMENET

- Simple Naming
- "I am kind of a repeat offender here"
- "HOMENET needs to be debugable"?
  - It seems like some of this stuff is already solved but I guess they're not standard solutions. How do you do DNSSEC for home.arpa? tofu by default, enrollment if you can do it.
  - Maybe some interim meetings to get this doc done.
  - **Huge list of unsolved problems. I wonder if this is ever going to be done?**
  - "if your IPv4 uplink goes down that HNCP unconfigures all the internal IPv4?" Really??

IPv6 over Networks of Resource-constrained Nodes – 6Lo

- 6lo focuses on the work that facilitates IPv6 connectivity over constrained node networks with the characteristics of:
  - limited power, memory and processing resources
  - hard upper bounds on state, code space and processing cycles
  - optimization of energy and network bandwidth usage
  - lack of some layer 2 services like complete device connectivity and broadcast/multicast

6Lo

- IPv6-over-NFC https://tools.ietf.org/html/draft-ietf-6lo-nfc
- IPv6 over PLC networks https://tools.ietf.org/html/draft-hou-6lo-plc
  - **Using an address format to encode hardware addresses in v6 addresses**

6Lo

- Fragment Forwarding Drafts
  - https://tools.ietf.org/html/draft-watteyne-6lo-minimal-fragment-01
  - https://tools.ietf.org/html/draft-thubert-6lo-forwarding-fragments-08
    - **So one draft is forwarding fragments and the other is recovering fragments.**

6Lo

- 6lowpan and Memory Constrained Devices
  - **Tested a slew of implementations and none of them could interoperate**! None of them implement every feature completely or correctly. Interesting problems and silent network failures.. big part is code size issues. Designers concerned about code size. So these are resource constrained devices but the spec is pretty vast and maybe takes too much resources. I think this talk is useful in the scheme of 6Lo devices. 4 Recommended Guidelines Capability Advertisements, Capability Spectrum (how stuff can be removed as space is needed), Provide Reasonable Bounds, Don't break layering within a protocol.

IPv6 Maintenance (6MAN) - ?

- The 6man working group is responsible for the maintenance, upkeep, and advancement of the IPv6 protocol specifications and addressing architecture. It is not chartered to develop major changes or additions to the IPv6 specifications. The working group will address protocol limitations/issues discovered during deployment and operation. It will also serve as a venue for discussing the proper location for working on IPv6-related issues within the IETF.

6MAN

- IPv6 Segment Routing Header
  - Multiple implementations
  - Tracking interoperability in SPRING group
- IPv6 Router Advertisement IPv6-only Flag
  - This flag tells hosts "no IPv4 here"
  - **This allows hosts on v6 only networks to not waste time with v4.**
- Privacy Extensions for Stateless Address Auto-configuration in IPv6
  - **Generating addresses to make eavesdropping and info collection more difficult.**

6MAN

- Packet Too Big (PTB) Messages, draft-leddy-6man-truncate
  - This is a way to do PMTU discovery. The initial packet gets sent with a truncate bit set. If the MTU is too small the packet gets truncated and at the destination an ICMP message is sent to the source to say the appropriate MTU.

6MAN

- Zero valid lifetimes on point-to-point links
  - Lifetime cannot be less that 2 hours to avoid a denial of service attack where a malicious attacker can cause a node's addresses to expire prematurely by advertising a low lifetime. If there can only be one router this is not necessary

6MAN

- IPv6 Neighbor Discovery Extensions for Prefix Delegation
  - This is an IPv6ND extensions for having a unified stateless/stateful autoconfiguration service.
- OAM in Segment Routing Networks with IPv6 Data plane
  - OAM for IPv6 segment routed networks.

6MAN

- Router Advertisement Extensions for On-Demand Mobility
  - **Two approaches to allow the router to specify service continuity type availability to mobile hosts.**
    - Extension to the router advertisement prefix info option
    - New RA options

SIDR Operations – What is it?

- The global deployment of SIDR, consisting of RPKI, Origin Validation of BGP announcements, and BGPSEC, is underway, creating an Internet Routing System consisting of SIDR-aware and non-SIDR-aware networks. This deployment must be properly handled to avoid the division of the Internet into separate networks. Sidrops is responsible for encouraging deployment of the SIDR technologies while ensuring as secure of a global routing system, as possible, during the transition.

The SIDR Operations Working Group (sidrops) develops guidelines for the operation of SIDR-aware networks, and provides operational guidance on how to deploy and operate SIDR technologies in existing and new networks.

SIDR Operations

- **The Use of Maxlength in the RPKI**
  - Maxlength specifies the maximum length prefix an AS can advertise.
  - The use of maxlength leaves prefixes subject to a forged-origin hijack.
  - The recommendation is to use “minimal ROAs” that specify only those prefixes that are actually originated by that AS. Avoid using maxlength

SIDR Operations

- draft-ymbk-sidrops-ov-signal
  - **This talks about allowing one router in a PoP to validate routes and tell the other routers. This is not using a third-party but it may not be desirable for every router in a PoP to do it's one route validation.**
    - A good candidate for this is a route reflector cluster.
  - This draft talks about the mechanism to do this verification and signaling.

SIDR Operations

- **Two drafts**
  - **A Profile for Autonomous System Provider Authorization**
    - A mechanism to verify that a Provider AS (PAS) has permission from a Customer AS (CAS) holder to send routes in all directions.
  - Verification of AS_PATH Using the Resource Certificate Public Key Infrastructure and Autonomous System Provider Authorization
    - **This defines the semantics of an Autonomous System Provider Authorization object in the Resource Public Key Infrastructure to verify the AS_PATH attribute of routes advertised in the Border Gateway Protocol.**

SIDR Operations

- **RPKI Publication What are the actual problems?**
  - A lot is not yet production quality
  - What happens when a "normal user" installs the RP software and starts to use it?
    - Not good
  - **There is no RPKI Trust Anchor roll software**
  - Problems take the CAs offline and the manifest EE cert lifetimes aren't long enough to survive the outage. The lifetime is now a week.
  - **This talks about outages and how bad and long they have lasted. RIRs do not have NOCs so problems don't get resolved**

SIDR Operations

- RPKI Signed Object for TAL (Trust Anchor Locators)
  - TALs are used by Relying parties in the RPKI to locate and validate Trust Anchor certificates in the RPKI
  - This is defines a TAL that can be used by TAs to perform a planned migration to a new key.
  - They can discover the new key for up to one year after the migration occurred.
  - **This is the trust anchor roll piece that's missing**

Applied Networking Research Workshop

- ANRW
  - Applied Networking Research Workshop 2018 (ANRW'18) is an academic workshop that provides a forum for researchers, vendors, network operators, and the Internet standards community to present and discuss emerging results in applied networking research. Our other goal is to create a path for **academics to transition research back into the IETF standards and protocols** and for academics to find inspiration from topics and open problems addressed at the IETF.

ANRW

- **Why (and How) Networks Should Run Themselves**
  - Network operators need real time detection of potential network problems.
  - Not just offline analysis of things that break.
  - An example is you can detect a potential attack based on bunches of similar DNS names being registered.

ANRW

- Semi-Oblivious Traffic Engineering with SMORE
  - Computes optimal paths using oblivious routing (shortest path, etc)
  - These paths are low-stretch, diverse, and naturally balance the load

IRTF Open Meeting

- Hijacking Bitcoin: Routing Attacks on Cryptocurrencies
  - Very interesting paper on attacks on cryptocurrencies.
  - Attacks are more on the infrastructure than the encryption. **Delay and partitioning**
    - Delay attack can cause double spending.
    - Partitioning - attacker announces more specific and attracts all the traffic

IRTF Open Meeting

- ECMACE: Scalable and Robust Identity and Credential Infrastructure in Vehicular Communication
  - Adding vehicle to vehicle communication to get better safety.
  - As I have said before.. I am not sure I want my car talking to your car.

References

- Cool Feed of new documents and what they are
  - http://tools.ietf.org/group/tools/trac/wiki/AtomFeeds
  - It's pretty cool and has info about all new documents, liaisons etc.
- General WG Info:
  - http://datatracker.ietf.org/wg/ (Easiest to use)
- Internet Drafts:
  - http://tools.ietf.org/html
- IETF Daily Dose (quick tool to get an update):
  - http://tools.ietf.org/dailydose/
- Upcoming meeting agenda:
  - http://tools.ietf.org/agenda
- Upcoming BOFs Wiki:
  - http://tools.ietf.org/bof/trac/wiki
- Also IETF drafts now available as ebooks

Going to your first IETF?

- Watch the video
  - https://www.ietf.org/newcomers.html
- Are you a woman attending first IETF?
  - IETF Systers
  - https://www.ietf.org/mailman/listinfo/systers
- Woman involved in NOGs?
  - Net-grrls
  - https://www.facebook.com/groups/netgrrls/

Questions?


www.crowdrise.com/o/en/campaign/cjs-route-66-ride/cjroute66ride