Report of IETF 86 Orlando

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for the CENTR secretariat

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Highlights

New IETF Chair: Finnish smart Internet expert follows NSA/VeriSign sponsored security expert

Jari Arkko, Finnish Engineer from Ericsson Research and well-known for his fancy IPv6- and smart-device-wiring of his home was selected by the IETF nominating committee to serve as new IETF Chair. Taking on the task with the beginning of March the IETF meeting in Orlando marked Arko's first public meeting in his new role. The new IETF Chair underlined the progress in the administrative reform made under outgoing Chair Russ Housley and started by Harald Alvestrand in 2000.

Alvestrand had initiated the process that finally led to the establishment of the IETF Administrative Supporting (IASA) overseen by the IETF Administrative Oversight Committee. IASA and the IAOC are in charge of hiring staff, meeting organization and administering the budget (and looking for additional revenue streams). The later established trust also formalized the assertion of Intellectual Property of the IETF over its document streams. Also the tools used for the standardization process were much more advanced and transparency of the IETF major bodies' work was up.

Arkko said with the administrative engine now working smoothly he intended to address a series of new challenges, including what he called „end to end-delays" in the standardization process (time from BoF to published RFC tended to be too long) and also a re-focusing on new work areas. There was still a lot of work ahead of the IETF in the Internet of things, small and smart objects, the tackling of resulting power constraints. „Our highest priority is to produce timely, relevant, and high-quality standards. As long as the industry and users adopt our solutions, then we are on the right path," Arkko wrote in one of the first posts of the new IETF Chair blog. Implicitly the new IETF chair by this also acknowledged that basic Internet standards are done at this point.

Internationalization and diversity of the IETF

The toughest issue Arkko had to address in his first IETF plenary meeting as a Chair was a raving debate about diversity in the organization. Naming internationalization and diversity in the IETF as yet another challenge he would prioritize, an hour long discussion started due to frustration of many members of the community about this year's selection by the nominating committee for various IESG and IETF bodies.

The roster of the original nominees, according to Mary Barnes, had been much more diverse than the final selection. The IESG i one tweet was sardonically characterized as a „catholic conclave" (all white males over a certain age, for the newly selected members see IETF News below). The discussion that had raged on the IETF mailing list already for some time, with some statistics published in an open letter to the IETF leadership that illustrate the problem:

In February of 2013, there were 32 members of the IETF leadership (12 IAB members, 15 IESG members and 5 IAOC members). Of those 32 members, there was one member of non-European descent, there were no members from countries outside of North America or Europe, and there was only one woman. There were only 19 companies represented (out of a total of 32 seats).

These numbers were a step back from more diversity a few years ago. The rejection of over a dozen potential candidates as new area director for the transport area added to anger of plenary participants.

In the quoted letter the signatories, which included two former IAB Chairs, therefore asked for a design team to consider changes in the nomination procedures to allow for a better balance, geography and gender-wise.

Arkko said he had already started to gather the design team and was looking for a chair. Arkko said the group would address both issues, internationalization and internal diversity. The IETF had been making some progress over the years with regard to internationalization (with document authors from 60 countries), but the organization was still missing some areas of the world completely. One step he announced

to take in order to broaden the participant space, was an IETF meeting in Latin America which was in the planning after a site meeting had been payed to a potential venue in Buenos Aires.

Arkko also explicitly spoke of the need to „go out more and explain what the IETF does" and it also had to talk to governments and government agencies (and include them in the IETF work. So far US agencies do participate heavily (for more on US agencies participating in the IETF see below). Non-US-governments do not participate. If the new European multi-stakeholder *platform* on *ICT standardisation* (in which Olaf Kolkman, former IAB-Chair participates for the IETF) will bring a change with regard to Europe is open. A potential invitation of MSP members to an IETF meeting in Europe (presumably London 2014) is considered by Kolkman.

From „we do not believe i governments" to „governments should embrace the IETF standards".

A message to governments also concluded the speech of outgoing Chair Russ Housley who took on the role of the new Chair of the Internet Architecture Board (IAB) taking over from Microsoft engineer Bernard Aboba at the same time.

Housley closed his farewell speech in which he also appealed to engineers to keep the standards simple (a standard is not ready when you cannot add anything else, but when you cannot take away anything anymore), addressed governments saying: „If you've embraced the Internet, you should also embrace the standards that make the Internet work". Answering questions from this author Housley offered the following explanation:

More than two billion people around the world use the Internet every day. Nearly every government on Earth makes use of the Internet to provide services and information to its citizens. However, many of these governments do not recognize the standards that allow the Internet to function. The Internet is valuable, and global interoperability is the key property that makes it valuable. However, no one is in charge of the Internet.

Instead, many people cooperate to make it work. Collaboration is essential to the operation of the Internet, and that aspect of the Internet is mirrored in the IETF standards process. Each person brings a unique perspective of the Internet, and this diversity sometimes makes it difficult to reach consensus. Yet, when consensus is achieved, the outcome is better, clearer, and more strongly supported than the initial position of any participant.

Despite the global acceptance of the Internet as well as use of an open and transparent standard process, some governments have no way to reference these IETF standards in their regulations. I strongly encourage all governments to find a way to formally recognize the IETF standards that allow the Internet to work each and every day.

The appeal to governments was a reaction to last year's heavy debates about a potential privileging of standards of the International Telecommunication Union via the International Telecommunication Regulations Treaty (ITR). Housley had presented the OpenStand principles for open standards jointly with representatives of IEEE and W3C during the Global Standards Symposium attached to the World Conference on International Communication (WCIT).

During Housley tenure there were constant fights with the ITU over MPLS, yet a necessary code point has now been assigned and the IETF wants for the moment to limit liaison work, and should – according to the IAB report from Orlando – wait for results of an ongoing review of the ITU-T (the ITU's standardization sector). Some anti-ITU voices have called to limit the ITU's mandate. How the IETF should react to the WCIT results was discussed during an IAB/ISOC organized information meeting (see below).

Government Agency Work in the IETF: Broadband Measurement, aggregated service discovery, emergency and security monitoring

During the post-mortem about WCIT ISOC policy expert Sally Wentworth said that government agencies were more and more interested in the work of standardization bodies. In the IETF this has been true for

US government agencies mainly so far. While the strong interest of NTIA in DNSSEC is history, in Orlando for example, there were several new work items in BoFs that were initiated or co-initiated by government agencies.

With regard to Google Street View, for example, German data protection concerns were taken up for the services in general. In some instances services, on the other hand, were not offered, for example, there was no official Gmail offer in China in order to avoid being legally obliged to hand over sensitive data. When asked with regard to a listing of companies as enemies and friends of "Netistan" Jones put the US, Australia and France to the countries "on probation" because of attempts to establish domain name blocking and three-strikes regimes, respectively.

Large-Scale Measurement of Access Networks (LMAP)

The start of a working group on Large-Scale Measurement of Access Networks (LMAP) which got consensus from participants at the LMAP BoF, had been instigated by Henning Schulzrinne, long-time IETFer and currently CTO of the US Federal Communication Commission. The declared goal of the LMAP effort is to standardize an architecture and a number of infrastructure-agnostic protocols, according to the draft Schulzrinne has put forward to the IETF community to initiate the IETF work. The standardization shall „make it possible to build measurement capabilities into home and enterprise edge routers, personal computers, mobile devices and other edge devices." (see the Schulzrinne draft here)

The FCC had started their measurement efforts with 13 ISPs (covering 86 percent of the US population, with 9000 voluntary users participating) measuring 16 data points (including sustained download and upload rates, packet loss, domain name system (DNS) failures, and latency under load) and this year plans to measure four mobile networks. According to Schulzrinne the FCC is interested in LMAP provided data for „ISP diagnostics and planning, consumer diagnostics, and public policy data gathering." IPv6 and DNSSEC measurements have been mentioned as potential options during the Atlanta meeting.

The BoF in Orlando mainly focused on the scope of the work in limiting the use cases and on a potential reuse of existing IETF protocols (presentations were given YANG for data modeling, IPFix and ALTO for sharing collected information, overlap and need for cooperation with IPPM). On the potential use cases, Mark Linsner presented the end-user and the third-party network use case, the latter including multi-provider, over the top and regulator measurements receiving hesitant reactions as to multi-provider measurements (which would mean that several providers/and or regulators work together). For the end-user case it is envisaged that end-users should be able to start tests on their own (not pre-scheduled tests). For ISPs a standardized architecture is expected to allow checks of problems in their network, either self-initiated or triggered by their customers again, to allow locating the source.

The main elements of the architecture have been described by Schulzrinne and – during the BoF the Chairs – as measurement agent (MA), a controller (who would instruct MA what to do) and a collector (accepting results from the measurement agent). Work for the LMAP would be how the different parts communicate (protocols), what data model would be used and how the reports would look like, for example.

During the debate there was some discussion about how multi-provider measurements providers could be interested in „cheating". A big German telecom provider asked how to ensure fairness (obviously afraid that city networks would score higher).
Schulzrinne, while pointing to a code-of-conduct like agreement with the US Measuring Broadband project-providers, has a long list of „Must implement"-characteristics, at the end of his LMAP draft, including authentication, integrity and confidentiality in the system. When asked how LMAP was related to existing large measurement infrastructures (like RIPE Atlas) and to measurement projects by non-US agencies, said, ATLAS had been gone ahead doing „their own protocol" and he expected that entities in other countries would have their own policies for measurements, but could use the system.

Security Automation and Continuous Monitoring (SACM)

Another BoF driven by US agencies was the SACM BoF. The idea of National Institutions on Standards and Technology (NIST), which was supported by a colleague from the National Security Agency (NSA), according to the draft use case and requirement document from Dave Waltermire (NIST) to create

„Automation tools and continuous monitoring solutions that provide visibility into the state of endpoints, user activities, and network behavior. Stakeholders will be able to use these tools to aggregate and analyse relevant security and operational data to understand the organizations security posture, quantify business risk, and make informed decisions that support organizational objectives while protecting critical information.   Other automation tools will be able to integrate with these capabilities to enforce policies based on human decisions to harden systems, prevent misuse and reduce the overall attack surface“.

During the BoF in Orlando Waltermire and co-author Adam W. Montville from Security Provider Tripwire offered a much narrower interpretation of what a potential WG would do. From the three use cases Montville said the WG should focus on end-point posture assessment, and leave aside (for the moment?) the other two which still are visible in the written use case document quoted above – enforcement of acceptable state and security control verification and monitoring aside. Data flows described by Waltermire in Orlando are content retrieval (data collection and analysis from endpoints in the network, including routers, firewalls or (based on RFC5209) „any computing device that can be connected to a network“via an IP address), collection tasking and data publication (in the respective data stores).

The motivation for the work quite obviously is to harden systems against attacks caused by potential weak points in the network (reduce attack surface) or by somehow „non-behaving“ endpoints. Two of the more intensively discussed issues were if network-oriented sensors should be included and if monitoring „behavior“ (which was not clearly defined) should be in or outside of the scope.

It was very intriguing to see the SACM WG proposal going through rather smoothly, when compared to other proposals that equally raised a lot of scoping issues. The proponents of a potential „aggregated service discovery“ WG for example were bluntly asked to go back to the drawing Board once more. Yet, for the neutral bystander, some NIST Bonus might have helped to push the proposal for the SACM WG through. Now Ads and the IESG have to make the final decisions if SACM will start as full-fledged WG.

Plenary Talk: End of Pots

There will be no flag-day for circuit-switched telephony, the so called plain old plain old telephone system (pots), FCC CTO Henning Schulzrinne said at the opening day of the 86. Internet Engineering Task Force (IETF) in Orlando Monday. With „voice“ just becoming one application inside browsers – a development mirrored by ongoing IETF new standard work on real-time web communication– the engineering community urgently had to address open challenges of IP-based telephony. There were some things to keep from pots, namely availability regardless of geography, income and disability, and also some security features. Conversation travelling over the old telephone system had a relative strong privacy protecttion, Schulzrinne said, that was not true for Internet conversation. Availability and quality issues of IP-telephony had to be addressed. „We as a community need to grow up, “Schulzrinne who has been a regular contributor to the IETF before taking his FCC position said. „We were used to have a second network to call our provider if the Internet did not work“. Yet that very channel would be gone by then. Other issues the regulator was concerned about was reliability of emergency call channels. The FCC will start open consultations of its „Technology Transitions Policy Task Force“ on March, 18th. Schulzrinne asked if regulatory steps were in the basket of the Task Force's work, said, the FCC was looking for an analysis of the status quo of the changes from copper to fiber, from fixed network to mobile and from circuit to packet switch. He hoped the IETF community would step up and tackle open issues.

More Bits from the Plenaries: MAC Addresses

The IEEE registry authority wants to prevent scarcity of Mac addresses. Based on consumption over the exponential growth over recent years MAC addresses might be depleted in 25 years, Glen Parsons, until recently Chair of the IEEE registry authority (RAC) reported in Orlando. Compared to Ipv4 depletion which has reached the last /8 block in Asia and Europe (and ARIN and LACNIC expected to get there next year) this looks like a much more comfortable spot. Yet a [restructuring](#) of MAC address allocation shall, according to Parsons, prologue the current address pools life cycle, while longer 128Bit dresses would be considered – 128 Bit addresses would make the MAC addresses the same length as IPv6.

RAC since 1986 has been allocating the 24Bit (in fact 22Bit) so-called organizationally unique identifiers ([OUI addresses like AC-DE-48)](#) under which companies could assign the 48Bit EUI addresses (MAC AC-DE-48-00-00-01) or other addresses. Some vendors, according to Parsons assign as much as 32 million Mac addresses per month, some much less, resulting in many unused numbers due to one address block size. The complete address space handed out by today has reached the impressive number of 260 Million MAC addresses. The fast growing demand (resulting from the assignment of MAC addresses to all kind of devices) caused RAC to start the development of a conservation effort.

Steps in the draft new allocation standard are the creation of different allocation sizes for the EUI blocks (16 million, 4 million, 1 million, 4000) of MAC addresses and decouple OUI company numbers from the MAC address blocks, reducing the number of unused address space by those with a smaller throughput. Addresses and Company Identifiers are disconnected. IEEE has asked for input from the IETF community on potential „breakage" before implementing it in 2014. With 128bit large addresses, one participant warned, problems could arise as IPv6 only expects to see MAC addresses up to 64 Bit.

Working Groups

DNSOP WG

The DNS WG had a short (one hour) meeting (see [minutes](#)). The DNS development controversies took place elsewhere, see Highlights above. All of the presented working drafts were in general accepted to go on.

The [Jason profile for DNS](#) data presented by Stéphane Bortzmeyer was welcomed by several WG participants (Andrew Sullivan, Chris Griffith) for DNS looking glasses (and potentially other things). Bortzmeyer reiterated the need of looking glasses to allow views on the DNS from different points of observation. These looking glasses were necessary because depending on the source IP address answers to DNS queries today did look differently (due to cache poisoning, DNSSEC effects, lying resolvers, legal requirements on DNS censorship). The looking glasses are well-known from BGP. (for more information on the looking glasses see Bortzmeyer's [blogpost](#)). On Bortzmeyers question if JSON was welcome as a format (instead of XML) Georg Michaelson (APNIC) said JSON would work with more languages than XML and was preferable. For the smaller questions still under discussion see the [presentation](#).

The draft on [negative trust anchors](#) for DNSSEC by Jason Livinggood and Chris Griffith (both Comcast) also got the nod of the WG in Orlando. Negative trust anchors shall allow temporary disabling of DNSSEC validation (stop of validation of the DNSSEC authentication chain in a caching resolver) in order to allow for mitigation for DNSSEC misconfiguration events. The technique should be used as a tool only during the global transition to DNSSEC with misconfiguration happening more often, and only after investigation about the nature of the misconfiguration (key-rollover? Intentional?). Ed Lewis during the WG noted that it had to be ensured that the local cache should be authoritative.

A slightly longer discussion took place on the proposal by Warren Kumari and Olafur Gudmundsson for "automation of DNSSEC delegation trust maintenance". The idea that has already been put before the WG is to allow for the registrar, registry (parent) to poll signed domains (children) he has registered/is hosting. By this polling and updating the DS records respectively the mostly manual process to inform the parent about key-roll overs by the child becomes unnecessary. The Child DS record (CDS) will trigger the change of the DS record at the parent after which the CDS can be deleted. The WG discussed if this measure would allow bypassing the registrar (a concern by Peter Koch, Denic). But most participants did not see it as a bypassing and agreed that it could help mitigation the tedious process to push new DS records to the registrar/registry). In his role as WG Co-Chair, Koch acknowledged statements that tool vendors did express interest to implement it. Wes Hardeker (Network Associates) said his company had a toolkit that did everything proposed in the draft expect publishing to the parent (using DNS as a channel). The WG agreed to work on the document.

Finally a potential update to RFC 6304 (AS112) was discussed very briefly. The idea by Kumari and others is to allow AS112 servers to "answer authoritatively for all possible zones" eliminating the add/drop problem. The WG signaled interest and work will continue.

On a personal note, the Co-Chairs explained that WG Co-Chair Steve Morris will step down, the new AD Joel Jaeggli accepts suggestions for potential candidates.

WEIRDS WG

The WEIRDS WG also had only booked an hour slot at Orlando which proved to be not enough time for presentations and discussions, so a second slot was obtained which unfortunately split the community as it was in parallel to the DNSOP WG. During the Orlando meeting there was a first on-site test of the protocol by Jean-Philippe Dionne, Simon Perreault and Marc Blanchet (all Viagenie) using .js. Results were „nice", they said, but also listed some bugs and recommended that registries should all provide a list of sample records for further testing. Alexander Mayrhofer (nic.at) in the discussion asked to introduce a case that would give back the answer „non-disclosed data" (for data resident at the RDAP server, but not available to the party who queries for it).

The other two big topics of the sessions were on how much and how fine-grained search options WEIRDS should implement and on the difficulties and still to do work with regard to internationalization.

The search options have been addressed in two different documents. While the draft by Scott Hollenbeck targets the search for „domain" and „entity" an alternative draft on the Registration Data Access Protocol RESTful Searching by a group of CNNIC engineers includes a basic search profile (IP and AS number, domain, name server and entity) and an extended search profile which goes even beyond this („partial or exact match capabilities on some fields, such as contact name, city, street, postal code etc").

The extended search function according to the CNNIC draft was defined in the new gTLD Applicant Guidebook of ICANN. There was a considerable debate about how far search functions should be provided for in the draft RFC. Steve Sheng (ICANN) himself said that extending the search had a lot of „policy questions", but Andy Newton called it a „can of worms" and also including a complex search with boolean modifiers would mean the WG would risk to make the protocol as complex as its predecessor IRIS. An extended and broad search function certainly would push yet another button for a privacy discussion over Whois.

Solutions with regard to internationalization also caused some headaches for the RDAP proponents. It looks as if the hard problems have been kept to the later stages of the WEIRD WG. Andy Newton from ARIN recommended in his talk that the document should be very „explicit about domains being in A-labels." U-labels in queries were a not to good idea, yet ICANN stands for allowing users to be mono-lingual (use the U-Labels also for the search?)

The second session was only partly recorded; big chunks at the beginning and the end are not documented. The session (as far as available) did focus a several security issues, including the need for

federated authentication, server authentication, updated authentication approach, data integrity and data abuses (like excessive data querying or querying private data not available). For several issues like authentication of server, but also answering requests violating any policy limitations there have been solutions in IRIS. Also there was a question why there were additional needs to TLS and data authentication. The discussion in Orlando was inconclusive, not the least because the session was an extra session.

The back and forth between the IETF and ICANN seems to be a little bumpy. While the IETF seems to need more time to discuss issues, ICANN is looking for quicker results presumably. It has its own restful Whois session and also a 'Thick' Whois Policy Development Process - F2F Meeting during the upcoming ICANN conference in Beijing (also there is a session of the ALAC Whois WG) at the upcoming ICANN meeting in Beijing.

A WCIT BoF: How should IETF react to WCIT?

A bigger engagement of the Internet and IETF community in the discussions following the split between countries at the World Conference of International Telecommunication (WCIT) was discussed in a session hosted by the Internet Architecture Board in Orlando. A thorough summary about the WCIT was given by ISOC public policy expert Sally Wentworth as an introduction.

ISOC WCIT summary

Wentworth talked about the events leading up to the conference, the tensions at the conference and its results and also made some comments about potential consequences. While Wentworth recapped the „worse of the worst" from the proposals tabled in the run-up to the conference (including sovereignty over national Internet segments, Internet naming and numbering, government control over routing and mandatory ITU standards) she acknowledged that „nothing as bad" was in the final text that has been signed by 89 ITU member states (with 55 withholding their signature or declining to sign, numbers could change when countries did join later).

According to Wentworth, no new definitions on „Internet" or „ICT" made it to the text, ITU standards/recommendations will remain voluntary, there was a recognition that operators were the ones to decide on routing and references to numbering were limited to the e164-numbers (phone numbers which are under ITU management). Things people still wracked their brains around where the meaning of caller party identification obligations or the inclusion of measures on unsolicited commercial communication (while content issues were especially excluded from the whole treaty).

The latter (article 5 B) together with the graph on security (5 A) belonged to those points many developed nation delegations listed as reasons for their disapproval of the final treaty text. Another major issue had been the non-binding resolution no 3 *"To Foster an Enabling Environment for the Greater Growth of the Internet"* which was characterized by Wentworth as „very government centric" and falling behind the consensus on multi-stakeholder solutions in Internet governance earlier in the World Summit of the Information Society process. In fairness one has to acknowledge that while the resolution in its action points is addressing governments and the ITU, it at least is referencing the other stakeholders and the WSIS Tunis Agenda.

Two lines of throught

Wentworth fully agreed to a comment made by the re-elected Chair of the IETF Advisory Oversight Committee (IAOC), Bob Hinden said he expected the ITU to take the ITR and the Internet resolution especially „as a charter to be much more involved in the Internet". That would affect the IETF-work.

Wentworth pointed to a recently established new site by the ITU about its „Internet governance activities" as a proof for this. Governments over the WCIT preparations and process had shown increased interest in Internet standardization work and made clear their concerns about security (they „want to know if we write a law will it fix the problem"). Besides regaining control over a medium seemingly outside government control, they wanted a seat at the Internet governance table.

While some engineers asked that companies (beside non-ITR-signing governments) might consider their financial contributions, there was also acceptance for imbalances in the Internet governance field. Both US- and non-US engineers declared that the prominent US role with regard to the root was a valid concern. Phlip-Halam Baker (Comodo) even considered the delegation of national IPv6 blocks a possible mitigation step.

With regard to a potential engagement of the IETF community Lee Howard and others (Time Warner Cable) recommended that the IAB could host technical information meetings in developing countries, potentially co-located with Network Operator Group meetings.

RTCWEB: Patent War over Videocodec

The RTCWeb Working Group after finishing work on a common audio codec and in the middle of work on authentication and other security mechanisms for future „seamless" real-time web communication has set upon another ambitious goal: settling on a must-to-implement videocodec. In Orlando the big part of the second session of the rather busy WG fought about which codec to chose, an issue complicated mainly by issues of intellectual property rights.

Two camps faced off in Orlando with Google (supported by Mozilla) pushing for VP8
for which it holds according to Google developer and former RTCWeb Chair the core IPR, especially after it came to an agreement with the patent licensing platform MPEG-LA LLC a week earlier which according to Google allowed royalty free licensing.

The second camp for which representatives of Ericsson, Cisco and Microsoft took the floor in Orlando favors the older H.264 videocodec, for which there is only one open source variant in x.264. H.264 is not available royalty free. This camp challenged the statement that VP8 would allow for easier licensing, pointing to potentially unresolved claims from patent owners not part of the MPEG-LA consortium. A spokesman of Nokia, for example, in Orlando announced that his company (which has also rights in H.264) was preparing an IPR disclosure to the IETF on VP8.

Cisco engineer Cullen Jennings furthermore announced during the session: „If the WG ends up with using H.264 it is Cisco's intent to open source a good H.264 video codec with licensing terms that will work for Firefox and probably also work for Chrome as well, but make sure that there is one under common open source licensing terms that are not GPL and widely available". The announcement especially targets Mozilla that is not prepared to accept GPL licensed x264, the only open source version of H.264. He could not, though, promise licensing free implementation. Cullen had argued that three of four browser implementers anyway had H.264 already licensed for their products. Yet a Google developer asked, if Cisco was against having a fifth, new browser provider in the future. Licensing H.264 was hard, he said.

With regard to quality, Alvestrand in Orlando argued that VP8 (which is much younger) was not only equally or better adapted for real-time applications, but was also widely deployed already. Interestingly Skype also switched to VP8 last year.

A tough issue for the VP8 proponents is that for real chat in mobile handsets transcoding to H.264 would be necessary, which is costly. The VP8 camp argues that the RTC WG should stick to WG charter which is focused on implementations in Browsers in the first place. On the RTCWeb mailing list arguments are made that both specs should be made mandatory to implement while the fight over the presented test results of both (not objective) rages on.

IETF History

Elisabeth Feinler, Chair of the Stanford Research Institute NIC between 1973-91- and as such partner for the ccTLD managers in early times initiated a discussion in the IETF about possible procedures to document Internet/networking history. Feinler herself has made her own vast collection of documents of

the NIC (and the work of her boss Douglas Engelbart) available to the [Computer History Museum](#) in Mountain View California. Engelbart's papers were originally in danger to be destroyed by the University administration after Engelbart left the SRI, Feinler kept over thirty boxes of papers over the years in her garage. She said, what might be good would be to catalogue what was needed for documentation and ask in IETF oldtimers for contributions from their own garages (potentially also including hardware, as routers for example were under represented) While many IETF participants said, they certainly had something to contribute in their „closets" it is unclear for the moment how this effort might be continued structurally in the IETF. Documenting the collection or documentation procedures in an RFC did not seem to get a lot of traction in Orlando. Feinler nevertheless also said, that the community should also make an effort to fill gaps in documenting the history of the Internet in developing countries. A [book project](#) about the history of the Internet in Asia is underway under the chairmanship of Korean Internet pioneer Kilnam Chon.

IETF News

People

There have been some leadership changes, beside the handover of the IETF-Chair position from Russ Housley to Jari Arkko. Housley obviously was thought to be indispensable somehow and got elected IAB Chair, with the very geek-natured Bernard Aboba stepping down while staying on as an IAB member. Aboba has signed the letter on lack of diversity in the new leadership interestingly. Additional new members of the IESG are: Ted Lemon, Joel Jaeggli, Richard Barnes and Jari Arkko (IETF Chair and General Area AD), the TSV AD position will be filled within the next weeks.

And of new entrants for the IAB are: Elliot Lear, Xing Li, Andrew Sullivan (for David Kessens, Danny McPherson, Jon Peterson)

Bob Hinden remains IETF Trust Chair.

Chris Griffiths has been elected IETF Trust Chair (replacing the intermediate Trust Chair Ole Jacobson after the demise of Marshal Eubanks).

Randy Bush follows Dave Crocker in the IAOC.

Budget

The IETF closed its 2012 books with revenues above budget (by 388 Million Dollar) and expenses below budget (by 222 Million Dollar), the ISOC contribution to IETF operations therefore was 1,872 instead of 2,360 Million Dollar.

The new budget ([2013](#)) assumes total revenues of 3,346 Million US Dollar, and expenses of 5,275 Million US Dollar. Registration fees for participants will remain 650 Dollar for the full meeting. Additional sponsoring is searched for example for the Berlin meeting (no host, only three main sponsors Denic, Eurid and Deutsche Telekom). What will give the IETF more financial planning security is the newly established a multi-year host-agreement. It shall allow companies to host three meetings in nine years for which they can make smaller annual payments. Both Cisco and Junipper have announced to host one meeting each in North America, Europe and Asia over the coming nine years.

The biggest expenses budgeted for 2013 are secretariat services (general and meeting organization 2,7 Million Dollar). The second biggest slice are RFC services 893.000 US Dollar).

The next IETF will take place in Berlin, July, 28 to August, 2.