



Technology Taskforce

Dev Anand Teelucksingh, Judith Hellerstein | October 31 2017

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ABU DHABI
28 October-3 November 2017



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Introduction to the Technology Taskforce

2

Update of selected projects

- Policy tracking
- TTF wiki layout
- Review/Report of Conferencing Solutions
- TTF recommendation to ALAC re: group chat

3

Selected Technology Issues Updates

- upgrade of the LACRALO mailing list translation tool
- making recordings of conference calls playable on mobile devices
- ICANN's Adobe Connect issues

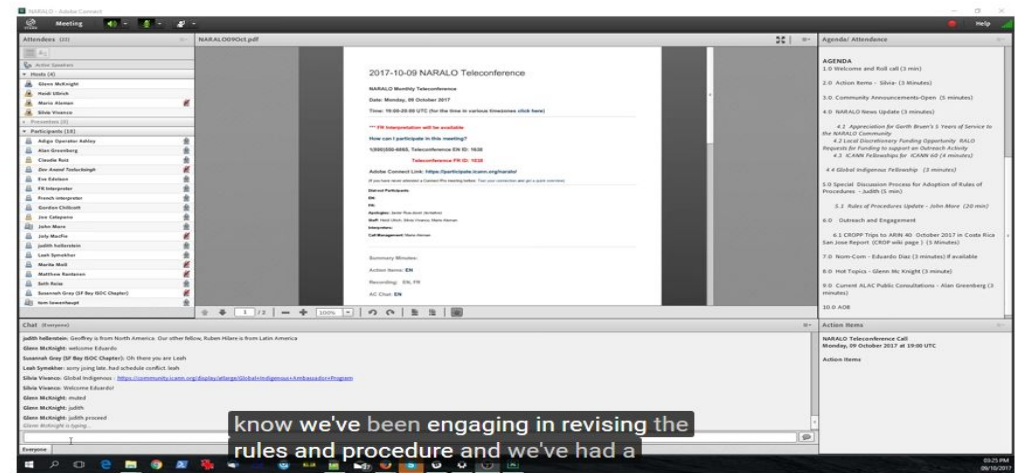
4

What are your Technology Issues in ICANN?

Introduction to the Technology Taskforce

About the Technology Taskforce (TTF)

- The Technology Taskforce (TTF) evaluates and reviews different technologies and tools that can help the ICANN At-Large Community communicate, collaborate and accomplish their goals and objectives for ICANN activities.
- Examples of these technologies include Chat or Web conferencing tools, Captioning, Knowledge Management tools, or anything that helps Individual Internet users become active within ICANN.



Test of NARALO Conference call livestream

About the Technology Taskforce (TTF)

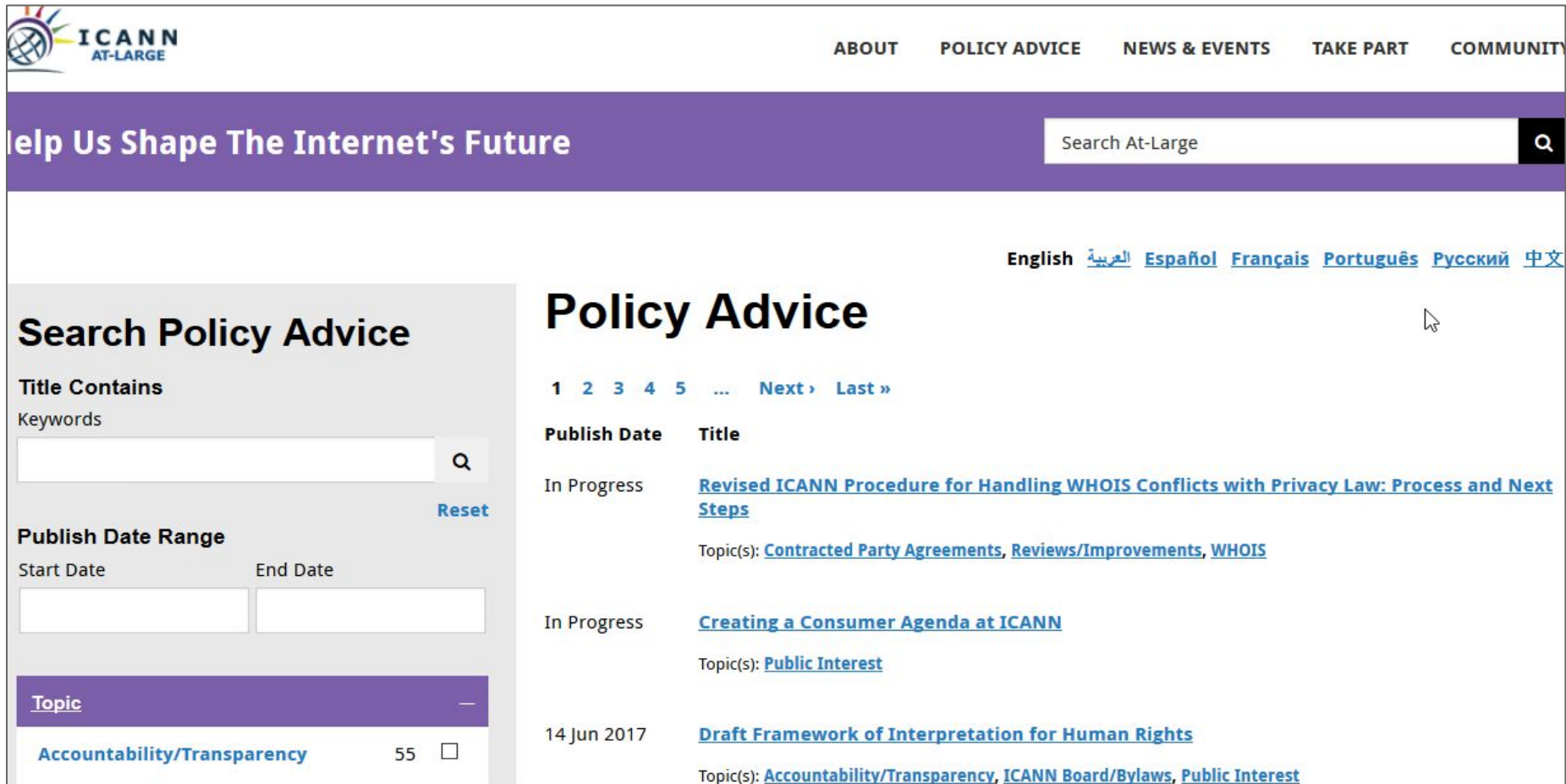
- The TTF is open to anyone in the ICANN community interested in Information and Communication Technology and how they can be applied to solve the needs of ICANN At-Large and other ICANN Constituencies.
- The TTF has 1 to 2 conference calls a month.
- TTF work and Projects can be found at <http://bitly.com/TTF-work>
- The TTF wiki page <http://bitly.com/Technology-Taskforce>
- To join the TTF, email At-Large Staff at staff@atlarge.icann.org



Update on Selected Projects

Policy Tracking Proposal

The At-Large website has a [policy summary page](#) listing all of the correspondence issued by the ALAC (advice to the Board, and responses to public comments) since 2003 and allows for searches by Topic Keywords assigned to the correspondence.



The screenshot shows the ICANN AT-LARGE website's "Policy Advice" search interface. The page features a purple header with the slogan "Help Us Shape The Internet's Future" and a search bar. Below the header, there are navigation links for "ABOUT", "POLICY ADVICE", "NEWS & EVENTS", "TAKE PART", and "COMMUNITY". A language selection menu is visible, with "English" selected and other options like "العربية", "Español", "Français", "Português", "Русский", and "中文".

The main content area is titled "Policy Advice" and displays a list of items. The list includes a pagination control (1 2 3 4 5 ... Next › Last ») and a table with columns for "Publish Date" and "Title".

Publish Date	Title
In Progress	Revised ICANN Procedure for Handling WHOIS Conflicts with Privacy Law: Process and Next Steps Topic(s): Contracted Party Agreements , Reviews/Improvements , WHOIS
In Progress	Creating a Consumer Agenda at ICANN Topic(s): Public Interest
14 Jun 2017	Draft Framework of Interpretation for Human Rights Topic(s): Accountability/Transparency , ICANN Board/Bylaws , Public Interest

On the left side, there is a "Search Policy Advice" sidebar. It includes a "Title Contains" field, a "Keywords" search box, and a "Publish Date Range" section with "Start Date" and "End Date" input fields. Below these is a "Topic" filter menu, currently showing "Accountability/Transparency" with a count of 55 and a checkbox.

Here's what can be found when details about an ALAC comment is sought

ALAC Statement

Follow-up on the Public Interest Commitment

Topic(s):
[New gTLDs](#)
[Public Interest](#)

Penholder(s):
Evan Leibovitch

Publish Date:
19 Nov 2014

Status


1. Develop First Draft Ended: 13 Nov 2014	2. Open for Comment Ended: 13 Nov 2014	3. Finalize Final Draft Ended: 13 Nov 2014	4. ALAC Vote Ended: 18 Nov 2014	5. Submission Submitted: 19 Nov 2014
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Submitted a Statement

Submission due: 19 Nov 2014 23:59 UTC

Background

ALAC Statement



English 230 KB [Download](#)

Recommendations to the Board

The Board receives recommendations from a variety of sources from the ICANN community, including advice from the Advisory Committees as set forth in [Article 12](#) of ICANN's Bylaws.

This page provides information on the status of advice to the Board from the Advisory Committees identified below:

- At-Large Advisory Committee (ALAC)
- Root Server System Advisory Committee (RSSAC)
- Security and Stability Advisory Committee (SSAC)

Actions and updates on advice from the Governmental Advisory Committee (GAC) are not currently included on this page. Please refer to GAC Advice Scorecards adopted from time to time by the Board on the GAC website. Most recently, the Board [adopted](#) the GAC Advice from the ICANN 59 Johannesburg Communiqué.

Latest Advice to the ICANN Board

As of 30 Sep 2017 (since previous month end)

Advisory Committee	Advice Document
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The limitations with the search function

- The ICANN Board responses to the advice submitted by the ALAC cannot be found as they are not linked to the database, but they exist here at <https://features.icann.org/board-advice>
- Staff responses to ALAC's inputs to ICANN public comments cannot be found as they are not linked to the database.
- The texts of the PDFs are not indexed, limiting the ability to search for persons who acted as penholders for the advice statements and looking for specific wording in the policy statements.

This proposal seeks to have ICANN allocate resources to design and build a system that will remove or significantly reduce these limitations by initially:

- Adding the ICANN Board responses and Staff Responses to the ALAC statements database on the At-Large website. This would be of benefit to At-Large and the public to show the impact of our work both within and outside of At-Large.
- Having the text inside the PDFs of our ALAC documents fully searchable. Additional data fields for each ALAC statement such as penholders can be added.

This would pave the way for a wider ranging phase 2 - a Policy Management Process System, by aligning databases to a common standard based on Open Data standards, interoperability and interactivity.

- At present, all coordination of databases (from the Board's response to ALAC advice to RALO involvement and At-Large Structure input to policy) is done manually, resulting in a high workload on At-Large Staff and in inaccurate and sporadic updating of policy according to overall workload and key personnel.
- Whilst this proposed is a short term measure (phase 1 of a wider "Policy Management Process System"), ICANN needs to treat this in a holistic fashion.
- The full proposal can be downloaded at <https://go.icann.org/2IjkKjf>

Policy Tracking Proposal

- Liane Champagne Of ICANN Spoke to the TTF about the Action Request Registry which is a project that ICANN is working on to improve policy tracking.
- This project will first roll out for the GAC and the Board and then added to other constituencies
 - Under the ARP, ICANN hopes to process requests it gets processed in parallel for greater efficiency.
 - Board and GAC Advice often contain multiple action requests within a single document
 - Processing of an advice document is not complete until all its action requests have been completed
 - This is a five step process
 - Phase 1 Document & Acknowledge
 - Phase 2 Understand Request
 - Phase 3 Evaluate & Consider
 - Phase 4 Implement
 - Phase 5 Close

TTF Subgroup to develop review of conferencing solutions

- Project leads : Justine Chew, Satish Babu

<https://community.icann.org/x/MpvbAQ>

1

About this Review
of Conferencing
Solutions

2

Adobe Connect
Challenges

3

Key desired
features for a
conferencing
solution(s)

4

Progress made
amidst Challenges
Faced

5

Next step,
feedback,
suggestions

About this review of Conferencing Solutions

1

Initiation

Commenced by At-Large Technology Taskforce (TTF) since early 2013.

4

Key Desired Features

Based on an **evolving set of key desired features**.

2

Adobe Connect Challenges

Undertaken as a result of Adobe Connect connectivity challenges.

5

Progress & Challenges

Notwithstanding limited resources and numerous challenges, and complicated by introduction of new solutions over time, some progress has been made.

3

Identifying Alternatives

Involves **ongoing usability review of alternative solutions** to Adobe Connect.

6

Next Steps

To continue review subject to constraints in resources to critically assess alternatives in light of continued proliferation of solutions / solution providers.

- The TTF explored a variety of conferencing solutions when ICANN appeared to be switching to *LucidMeetings*, a cloud based conferencing solution in mid 2013.
- The TTF held several meetings with *LucidMeetings* and used it for its WG calls from late 2013 to mid 2014, before returning to *Adobe Connect*.
- Since then, the TTF has focused on continued research on plugins for *Adobe Connect* to further enhance/improve the benefits of conference calls for At-Large.
- However, the TTF continues to review other solutions as and when they (including new versions / features) become accessible.

- ◉ Connectivity challenges
 - Since ICANN switched to the new vendor in recent times many users have complained about connectivity issues ranging from an inability to connect to poor audio quality, constant dropping or crashing of Adobe Connect
 - When screen sharing, users' screen tends to crash more frequently and also the tool bar, which includes the chat, queue, audio column, attendees' list, disappears when doing screen share
 - Mobile users cannot see when someone has shared their screen in Adobe Connect, and cannot use all pods (eg. cannot participate in polls during calls)
 - Adobe Connect can only display one audio channel, would be better if can have a separate audio feed
- ◉ Recording administration / archiving
 - Resource intensive

Accessibility

Needs to support:

- ❑ Most popular desktop browsers running on MS Windows, Apple OS, Linux with **minimal required plugins**
- ❑ Variety of **mobile / tablet devices** running on iOS, Android
- ❑ Users with **low bandwidth internet access**
- ❑ **Voice dial-in**
- ❑ Small to large participant numbers

Functionality

Should feature or allow integration of:

- ❑ Whiteboard - **presentation sharing of multiple format documents by any participant**
- ❑ **Management of agenda** during conference
- ❑ **Queueing** for speaking order
- ❑ **Polling** of attendees
- ❑ Public and private **text chats**
- ❑ Separate or multiple **audio feeds, translations**
- ❑ **Captioning**, notes generation

User Experience

Ease of use with minimal guidance needed for both participants and administrators, intuitive UI

Administrative Ease

Needs to support:

- ❑ **Meeting scheduling**
- ❑ **AV recording in reusable format**
- ❑ **Archiving and posting** of recording – video streaming, audio file etc

Vendor Reliability

For technical support:

- ❑ Standby, online - chat, email, telephone
- ❑ Responsiveness
- ❑ Ease of integration with additional plugins
- ❑ Upgrades, new feature rollout
- ❑ Cost, licensing

Factors / Challenges

The TTF has and continues to face inevitable circumstances which impact its review:

- New solutions, features become available over time as industry matures, making it more difficult to conduct apple-to-apple comparisons
- Desired features list changes/grows over time
- Not all solutions are open source or available for trial without cost. Those which are require use of own servers, volunteer resources etc.
- Workability of solutions often subject to quality of Internet connections which is beyond a vendor's control /remit.
- TTF trials should ideally involve a reasonably large number of testers in various locales, using various devices running a variety of operating systems

VS

Solutions Reviewed / Tested

- Up to February 2015, the TTF had reviewed over a dozen web conferencing solutions apart from Adobe Connect
- Special purpose calls were done with TTF members testing each of the solutions, looking at usability, features, accessibility, cost and cross platform availability
- Comparison table of the solutions tested (Adobe Connect, Lucid Meetings, Blue Jeans, ReadyTalk, Webex.com, GoToMeetNow, join.me, MeetingBurner, Infinite Conferencing, AnyMeeting, Jitsi Meet)
<https://community.icann.org/x/O1R-Ag>
- The TTF continues to identify/test newer alternatives as they become available/accessible (Zoom, MegaMeeting, Clearside, MeetEcho, Blackboard, ClickMeeting)

- As at October 2017, the TTF has not yet made any suggestions in terms of a viable alternative conferencing solution
- In light of recent developments with *Adobe Connect*, coupled with the time & cost investments made thus far, TTF continues to focus on research on plugins for improving use of *Adobe Connect*

Moving forward, TTF will continue to identify, review & test (where feasible) solutions:-

- ❑ Based on evolving key desired features list, but not necessarily meeting all
- ❑ Which are open source and/or available without/at low cost
- ❑ To suggest for use by smaller groups of At-Large Community
- ❑ On an as-and-when basis

TTF subgroup to look at redesign of TTF wiki page

- Project leads : Dustin Phillips, Sarah Kiden

<https://community.icann.org/x/YTrwAw>

Pages / ... / At-Large Technology Taskforce REDESIGN



Prototype At-Large Technology Taskforce Main Page

Created by Dev Anand Teelucksingh, last modified by Justine Chew on Sep 18, 2017

[Get Involved](#) | [Activity](#) | [Monthly Reports](#) | [Meetings](#) | [Members](#) | [About](#)



The At-Large Technology Taskforce (TTF) evaluates and reviews different technologies and tools that can help the ICANN At-Large Community (including the At-Large Advisory Committee (ALAC) communicate, collaborate and accomplish their goals and objectives for ICANN activities. These tools range from chat tools, web conferencing tools, captioning to anything that will help Individual Internet users become active in the At-Large Community. Technology provides the tools that enable people to connect, collaborate, and work towards making the world more accessible, enabling the benefits of the Internet to be available to all.

Get Involved

We welcome anyone who is interested in collaborating and seeing how we can better meet the needs of ICANN At-Large to participate, suggest ideas, and become an active member. We have recently opened up the group to other ICANN constituencies and look forward to working with all ICANN communities to solving common problems. All who are interested to join are welcome. We look forward to your participation and involvement.

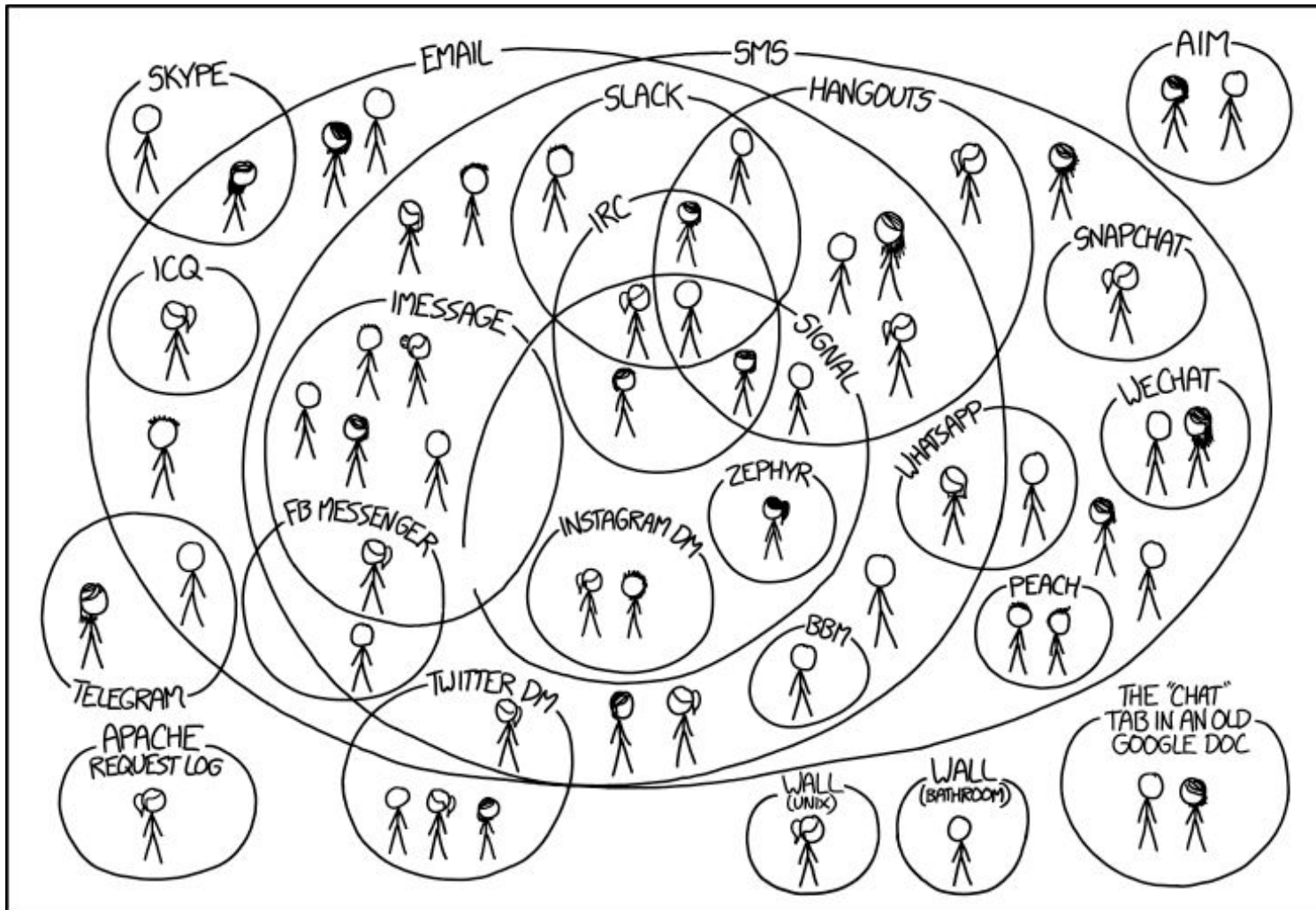
TTF subgroup to look at redesign of TTF wiki page (updates)

- Had a subgroup team call to discuss the redesign and implemented changes here:

<https://community.icann.org/x/alvwAw>

- Had a call with At-Large staff to discuss project in the context of this project in the larger context of their effort to standardize and restructure the layout of the community wiki pages
- We concluded that we will merge the Prototype wiki page with the current homepage in a way that makes sense in this context

How At-Large should use Group chat?



I HAVE A HARD TIME KEEPING TRACK OF WHICH CONTACTS USE WHICH CHAT SYSTEMS.

Credit : XKCD <https://xkcd.com/>

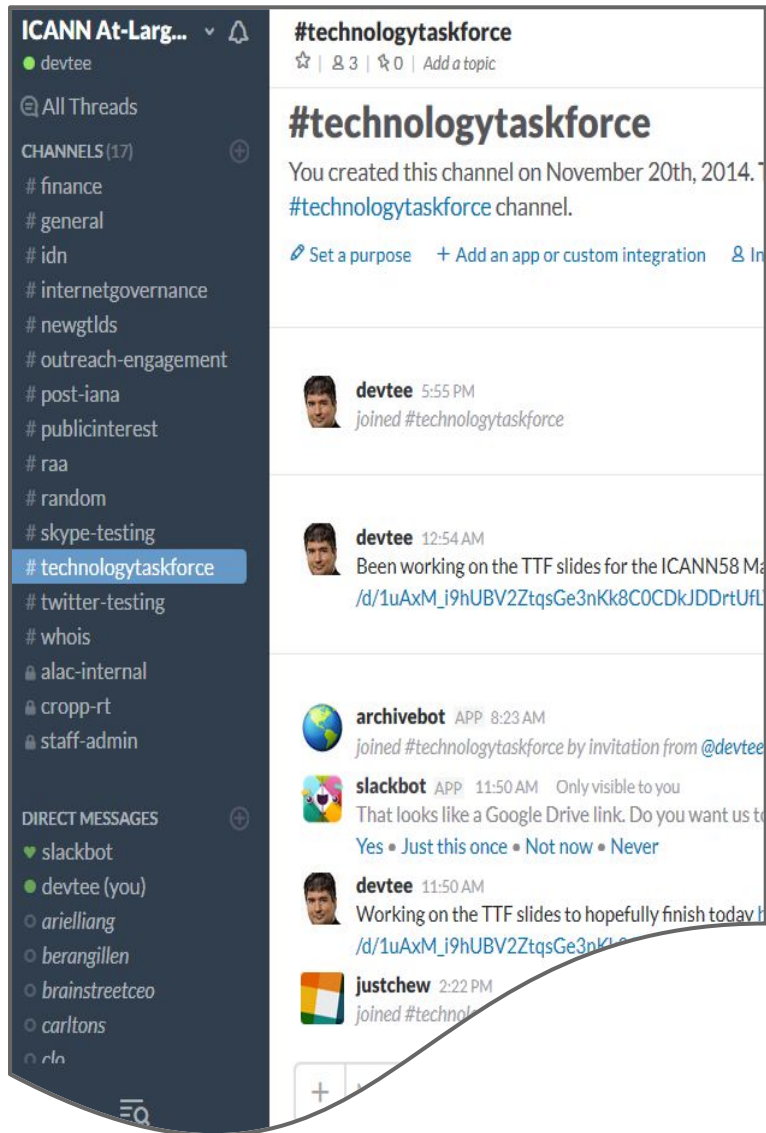
How At-Large should use Group chat?

At-Large uses Skype for chat/instant messaging.

Some of the disadvantages with using Skype:

- Chat history is not preserved. A number of At-Large discussions over the years have been lost as persons upgrade their machines.
- Conversations on various topics happens in one group so as multiple persons chime in at different times, potential conversations on a particular topic/issue are lost in the one stream.
- No ability to search messages across all skype groups - one has to remember what skype group a message was in to find it.

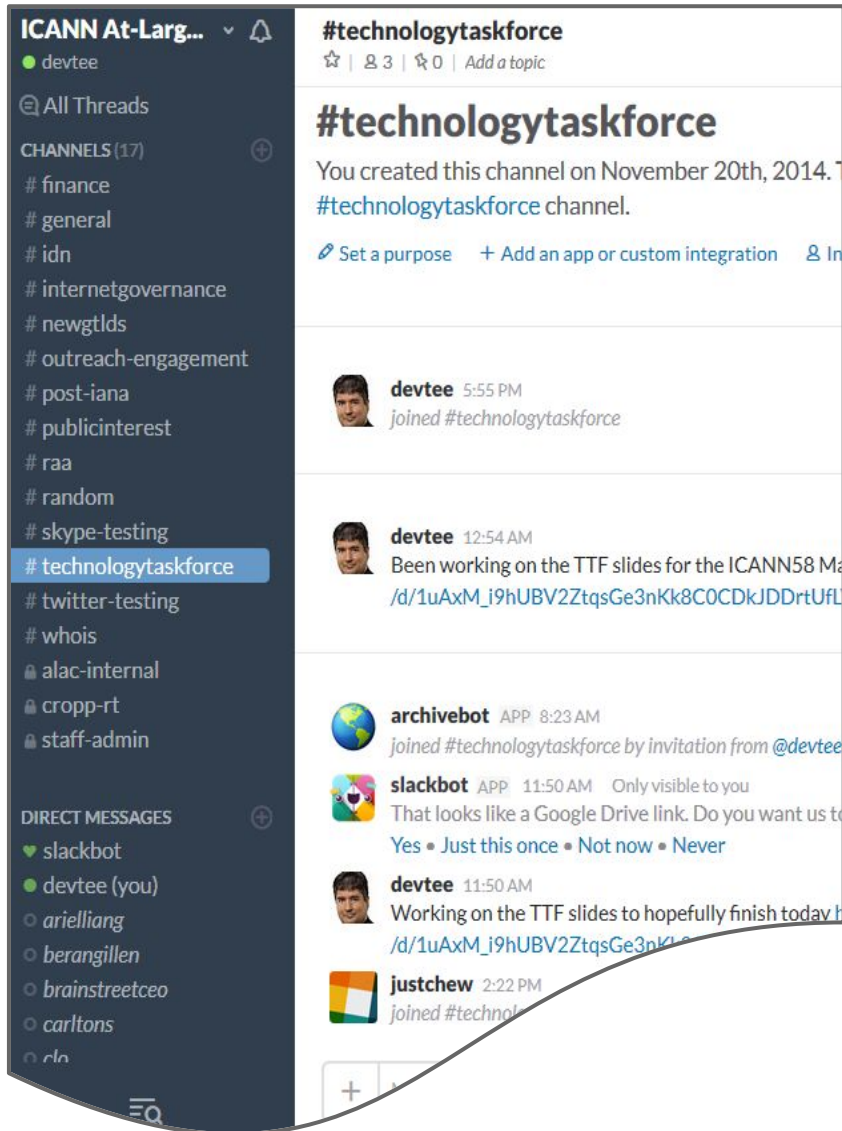
Features of Group Chat



[Slack](#), [Mattermost](#), [Rocket.chat](#), [HipChat](#) all share common features:

- creating public rooms or channels for groups and/or topics
- creating private groups not visible to persons not in the group
- mobile apps to send push notifications to senders on mobile devices
- ability to search across your channels and rooms
- can be administered by staff to create, archive, delete rooms/channels
- staff/admins have more control to add, remove, and invite persons
- allows for extensions/integrations so that different services can be integrated (eg Twitter)

Benefits of Group Chat



Group Chat ([Slack](#), [Mattermost](#), [Rocket.chat](#), [HipChat](#)) offers significant benefits over Skype

- At-large community members can be added by Staff and added to channels of their particular interest and/or group.
- potential for discussions on topics they are interested in, reducing email clutter and increasing participation.
- ability to find messages and conversations of interest to them.

- The TTF first tested and used Slack before the ICANN50 meeting in 2014 for the At-Large Summit II, to assist with the At-Large Social Media. Channels were created for each of the Thematic Groups, and Staff used to coordinate with Social Media volunteers to send pictures and information from the Thematic Groups sessions for resharing on At-Large's social media.
- We looked at [Hipchat](#) and [Hall](#) in 4Q 2014 (which was acquired by Hipchat in 2015).
- The TTF has had a demo of Rocket.chat by [James Gannon](#) from the NCUC at the ICANN56 Helsinki meeting and a followup demo on the [2016-09-19 At-Large Technology Taskforce Call](#)
- The TTF tested [Sameroom.io](#) which bridges different chat systems so that messages from one chat system can appear on another chat system (e.g Skype to Slack)
- The TTF tested [Mattermost](#), in February 2017 thanks to Niran Beharry installing Mattermost and making it available to the TTF for using.

What approach to use?

ICANN should deploy its group chat solution that can be controlled and supported internally by ICANN.

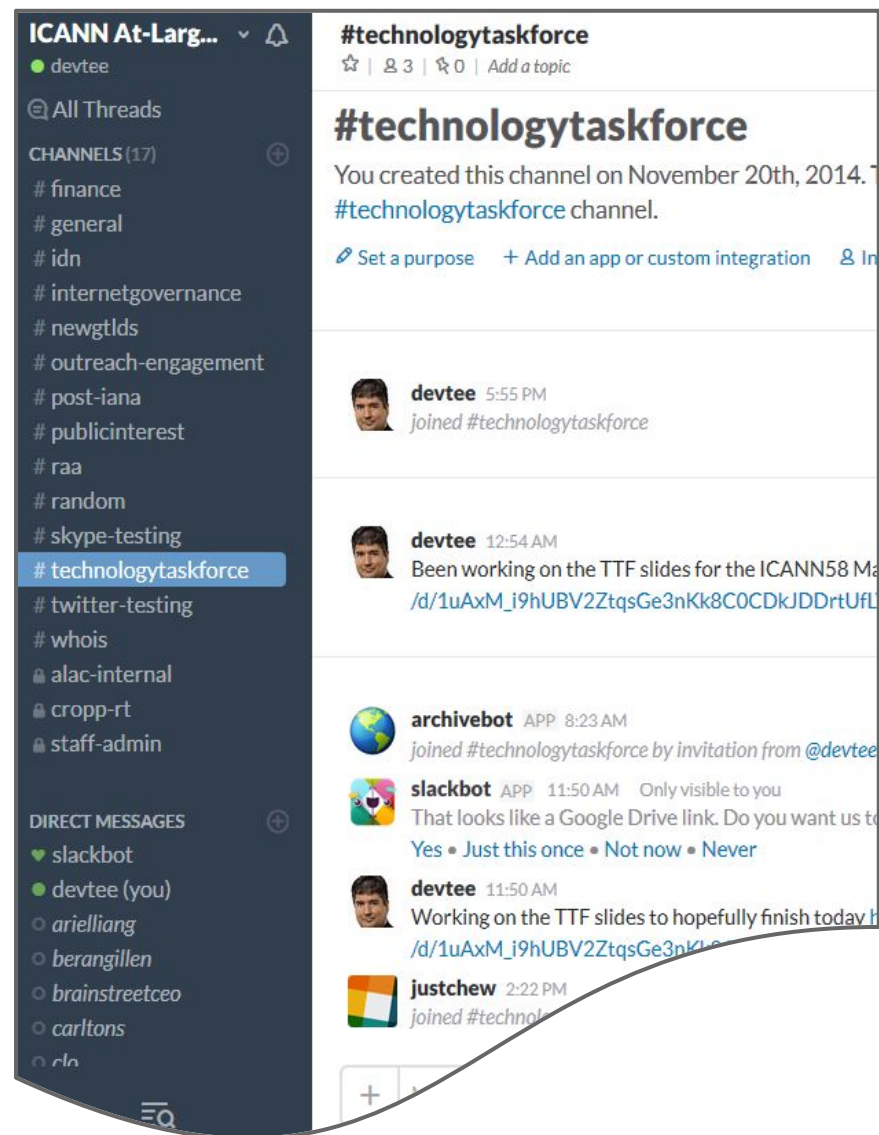
An ICANN deployed solution would allow ICANN to customise the group chat solution to suit the AC/SOs which have varying needs.

Such an approach will require some planning, investment and testing by ICANN before such a solution could be publicly available.

Therefore, in the meantime.....

What approach to use?

However, one approach the TTF has investigated is for the At-Large Community to use the free tier Slack version that we have at <https://icannatlarge.slack.com/>

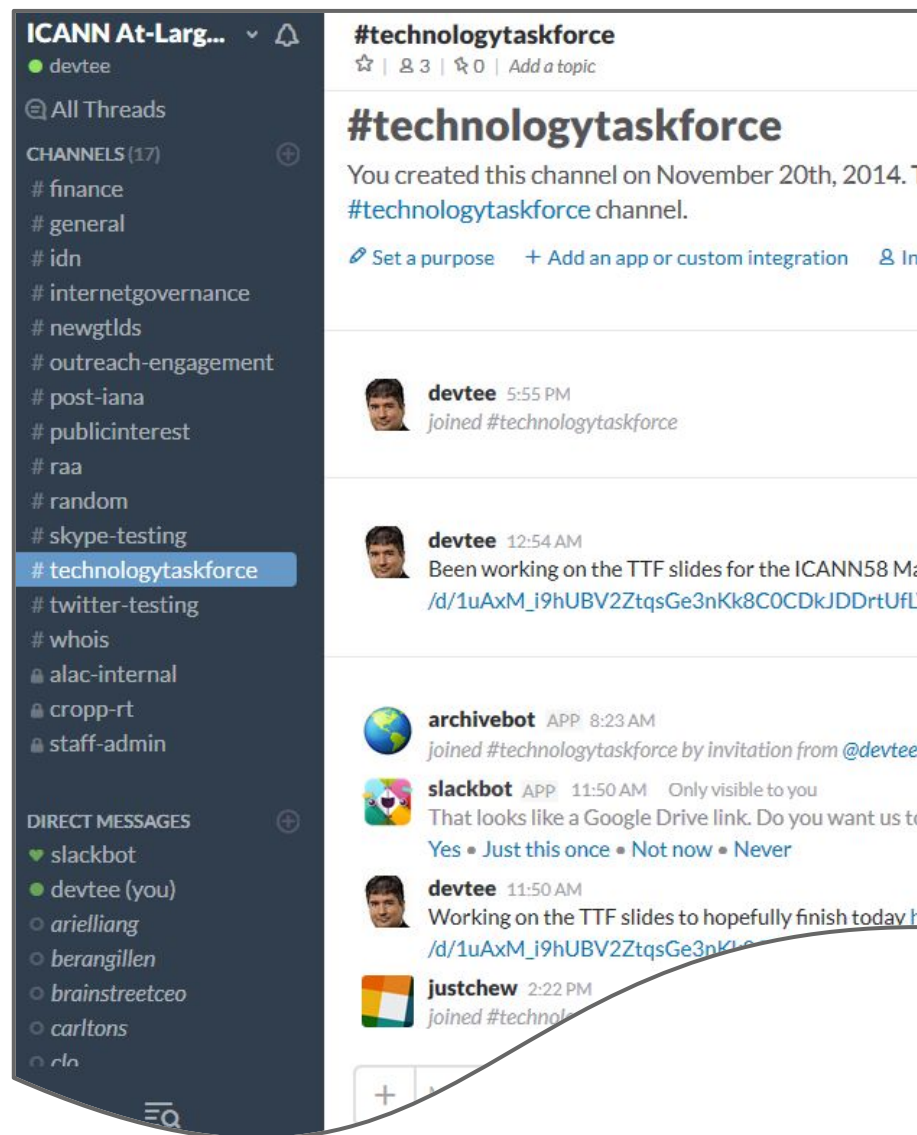


Key reasons for using Slack free tier

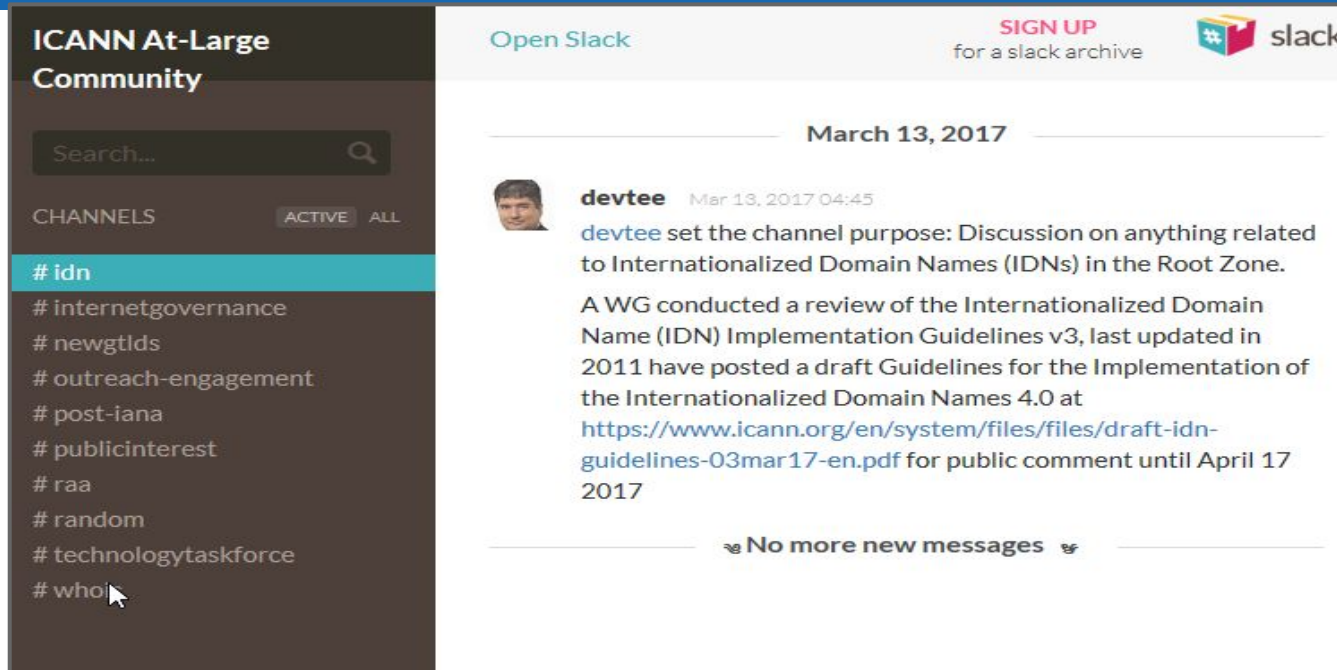
- The challenge of a volunteer to deploy an open source solution for a large number of users using their resources without payment and support it to configure or fix things is too much and runs the risk of a volunteer unable to fulfil such a task after valiantly starting and the self hosted version goes down.
- ICANN may be considering group chat solutions longer term but given Slack export capabilities, the At-Large Slack Chat can be exported to a future chat solution.
- From an end user perspective, Slack works. It has the key features we want in group chat - threaded conversations, mobile apps, ability to create public channels, private rooms, and direct messages, search across channels.

What approach to use?

- The free tier offers 10 integrations
 - the TTF has installed several integrations in Slack
 - Twitter notifications to Slack channel
 - Have Voice/Video chat with Skype
 - Google Calendar to send notifications from the At-Large Calendar
 - Translate tool for persons to translate text inside of Slack



What approach to use?



- The TTF also installed a bot to create a public facing website of the Slack chats at <http://icannatlarge.slackarchive.io/> . So our chats can be linked from a wiki or At-Large website to specific channels like <http://icannatlarge.slackarchive.io/idn/>
- The chats can be exported from Slack by Staff on a regular basis as a backup.

Questions, Comments?

Selected Technology Issues

About Technology Issues Page

The TTF maintains a [Technology Issues Page](#) to track possible technology related issues noted by the TTF and the At-Large Community for raising with ICANN Staff to develop solutions and/or workarounds. <http://bitly.com/ttf-issues>

At-Large Technology Issues

Created by Dev Anand Teelucksingh, last modified on Oct 23, 2017

- [Current Technology Issues](#)
- [Adobe Connect Issues](#)
- [Resolved Technology Issues](#)

This page seeks to track possible technology related issues noted by the [At-Large Technology Taskforce Working Group](#) and the At-Large Community for raising with ICANN Staff.

Current Technology Issues

Status of Issue	Updated	Description of Issue	Solution / Workarounds
IN PROGRESS	22 Oct 2017	LACRALO mailing list issues - see discussion-of-LACRALO-mailing-list-issues for a deeper background behind this issue.	The TTF filed a budget request to the At-Large FBSC in FY17 for ICANN to finance the hiring of a programmer to assist the volunteer ICANN staff member to fix outstanding bugs - see At-Large FY17 Budget Development Workspace , this was approved by the At-Large FBSC and filed with ICANN Finance. On the 2016-08-08 At-Large Technology Taskforce Call, ICANN Staff member @Corinna Ace

Some of the key technology issues noted:

- ★ New LACRALO mailing list translation tool
- ★ Making Adobe Connect recordings accessible to mobile users
- ★ Adobe Connect connectivity Issues

- The TTF has long noted [the severe translation problems with the LACRALO mailing lists](#) and for FY17 submitted to ICANN a [budget request for ICANN to get resources to fix the LACRALO email translation issues](#). This was approved by ICANN and ICANN staff is developing an improved translation tool which is being evaluated by the TTF.

Here's what happens when an email is posted to the LACRALO en list



and what happens when an email is posted to the LACRALO es list



LACRALO Mailing list translation tool

To test the new translation tool, two test email lists: [new-transbot-en](#) and [new-transbot-es](#) were created where ICANN staff and TTF volunteers can test and report [bugs](#) at <http://bitly.com/LACRALOmail> .

New versions of the translation tool were deployed to these transbot lists in late Dec 2016 and March 2017.

In May 2017, emails from the existing LACRALO mailing lists were reposted to the new transbot lists to get a sense of how the new tool will handle how current users are using the email lists.

Key features of the new translation tool

- Subject line of emails is not translated to preserve email threads
- The translation tool will notify the sender if the email couldn't be translated.
- translated emails will also include attachments (TXT, PDF, DOC, JPEG, PPT, PNG, GIF) from the original email.
- If there is text that you do not want to be translated (e.g names), you can enclose text with a <DNT> </DNT> tags

Challenges noted:

- An email sent to both lists at the same time causes problems
- The generic notification to the sender when his/her email cannot be translated doesn't identify exactly where the translation failed.

After ICANN59, the TTF chairs discussed with ICANN IT and At-Large Staff on implementing the new version of the translation tool to the LACRALO mailing lists.

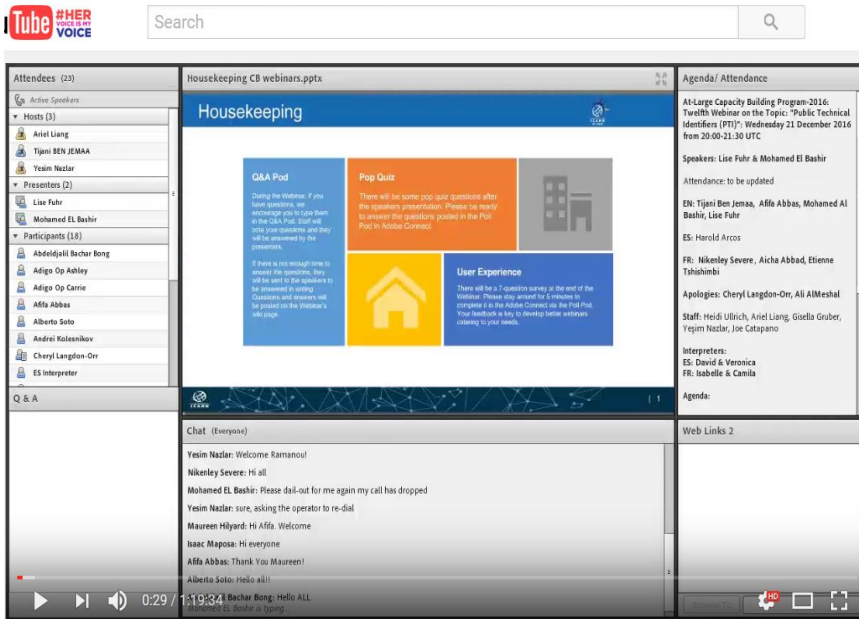
A [LACRALO conference call on Tuesday Sept 5 2017](#) was done to raise awareness of the planned changes to the translation tool.

To minimize the issue of persons posting to both lists at the same time which would create problems, a [online survey](#) was sent to the members of the LACRALO mailing lists to identify:

- * which lac discuss list do you wish to RECEIVE emails from (English, Spanish, or both)
- * which lac discuss list do you wish to be able to SEND emails to. You can post to one list.

The tool was deployed to the main LACRALO lists on October 6 2017.

Making Adobe Connect recordings accessible on mobile devices



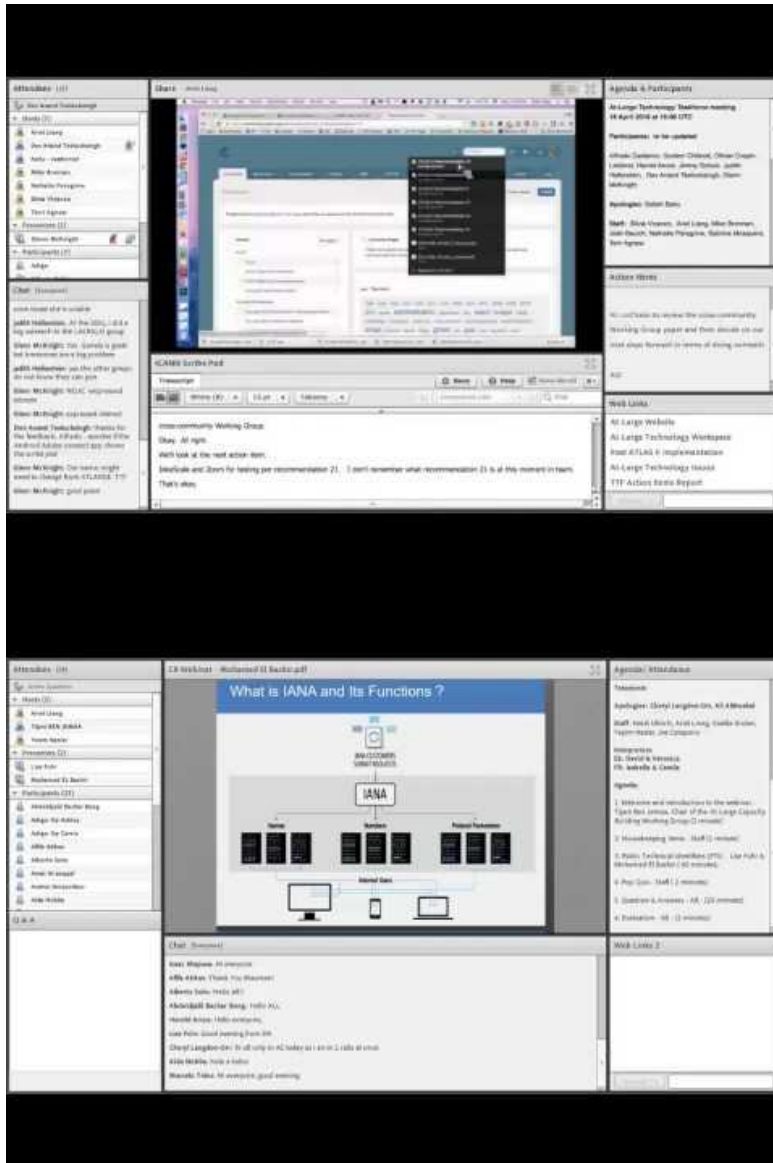
At-Large Capacity Building Webinar: Public Technical Identifiers (PTI)



19 views

- All of the ICANN At-Large conference calls and webinars are done using Adobe Connect. However, the recordings from this conferencing solution are encoded in Adobe Flash.
- Such recordings are therefore unplayable on mobile and tablet devices and playback of recordings on a PC with Flash installed is cumbersome compared with video sharing websites.

Making Adobe Connect recordings accessible on mobile devices

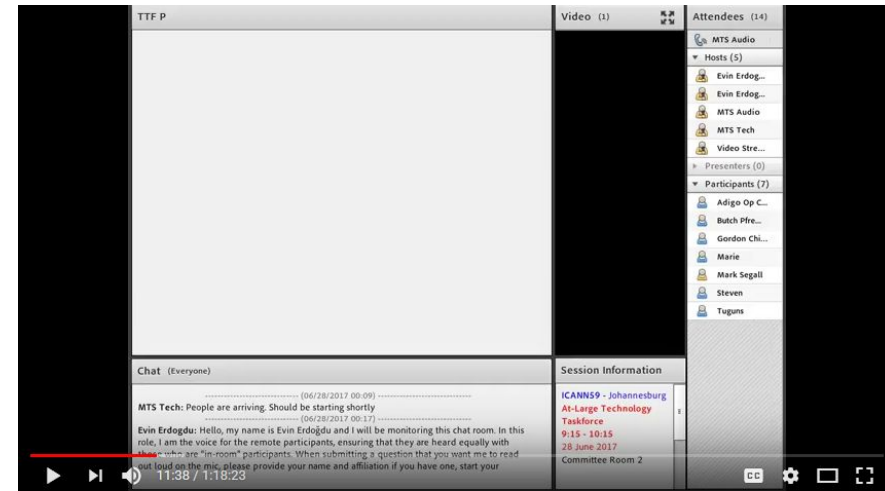


- The TTF noted that with [Adobe Connect 9.5](#), [ICANN has the ability to save recordings in MP4 format](#) using the Adobe Connect add-in on Staff's computers.
- Formats like MP4 can be edited and put on video sharing websites for easier re-sharing on websites and social media and accessible to the At-Large community using computers or mobile devices.
- At-Large Staff has created two recordings and uploaded to YouTube
 - [Technology Taskforce 08-04-2016](#)
 - [Capacity Building on PTI](#)

Making Adobe Connect recordings accessible on mobile devices

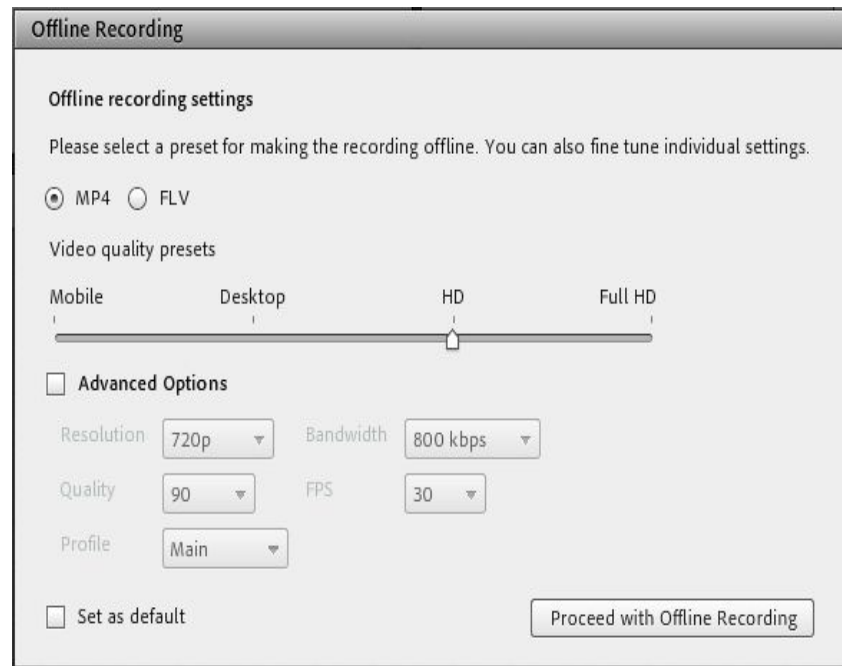
- At ICANN59, Billy Einkamerer noted that YouTube supports Flash video (FLV) uploads. ICANN staff made available a FLV recording and this was uploaded to YouTube directly without any conversion to MP4.

[ICANN 59 TTF session on YouTube](#)



Challenges noted:

- Staff have to download/playback the recording in real time to do the conversion of the adobe connect recording to MP4 or FLV.
- On Macs, only one instance of Adobe Connect add-in can be launched at a time so staff cannot attend a meeting while creating an offline recording.
- High bandwidth need to stay connected to the Adobe Connect room to download the FLV file and to upload the video to YouTube - Staff may not have enough bandwidth where they work and be able to do both regular duties and do the conversion.



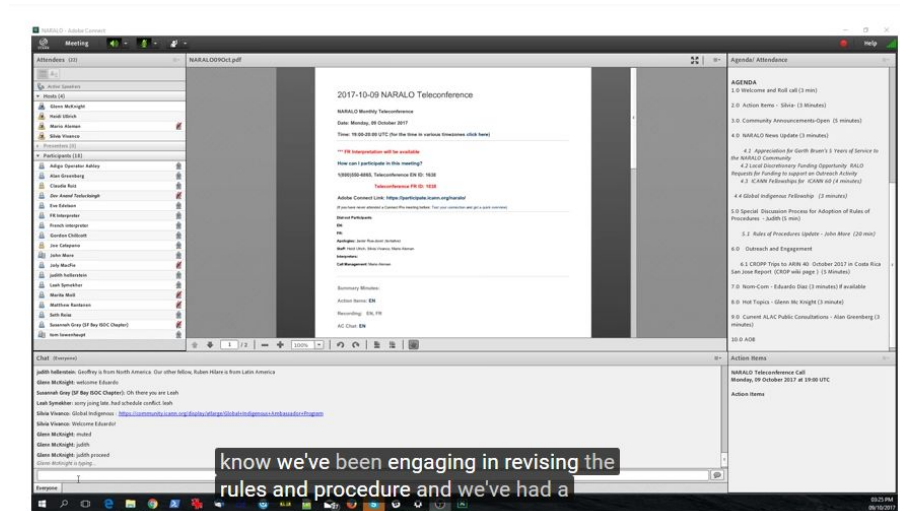
(Credit : [Adobe](#))

Another approach : Livestream conference calls to YouTube

As a test, Dev Anand Teelucksingh used [OBS Studio](#) to stream his desktop to YouTube while attending the [NARALO October 9 2017](#) in Adobe Connect.

Advantages:

- Can post to social media to watch the livestream as the meeting happens
- Eliminates the need to download recordings and then upload to YouTube after the call.



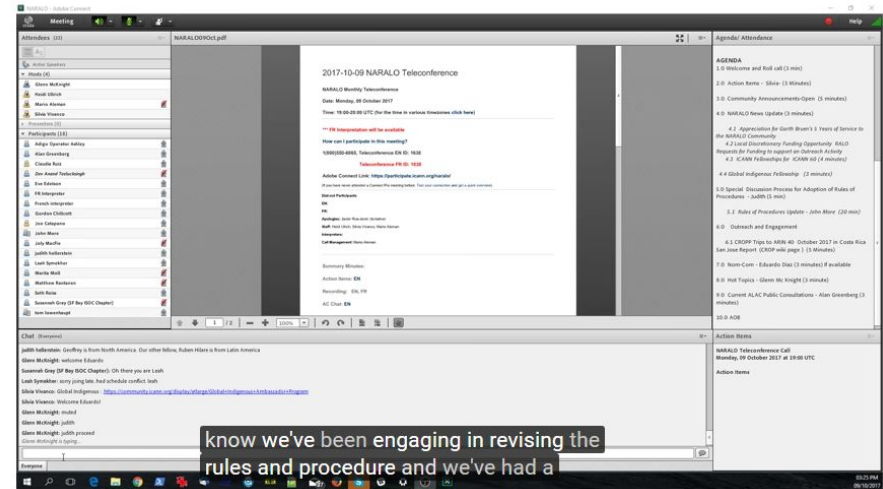
Test of NARALO Conference call livestream

Livestream of NARALO October 9 2017 call
<https://youtu.be/8tV5yALgl8A>

Another approach : Livestream conference calls to YouTube

Challenges

- Requires bandwidth to both attend and stream at the same time.
- Care needed to mute system sounds and microphone
- Care also needed to not switch away from Adobe Connect or have other programs pop up over the screen



Test of NARALO Conference call livestream

Livestream of NARALO
October 9 2017 call
<https://youtu.be/8tV5yALgl8A>

We need to have the At-Large's Community meetings available on sites like YouTube.

Two possible approaches

- Use a computer at a location such as an ICANN office (which should have sufficient bandwidth) to do the download of the recording after the call and uploading to YouTube, alleviating the need for At-Large staff's computers to be tied up doing the download/export. The computer can be run by a staff person at the office or remote controlled by At-Large Staff.
- Use a computer at a location such as an ICANN office (which should have sufficient bandwidth) to enter the Adobe Connect room at the beginning of the meeting, stream the desktop showing the Adobe Connect room to YouTube for the duration of the meeting and ending the livestream when the meeting ends.

Questions, Comments?

- Since ICANN switched to the new vendor many users have complained about connectivity issues ranging from an inability to connect to poor audio quality, constant dropping or crashing of Adobe Connect.
- When screen sharing, the users' screen tends to crash more frequently and also the tool bar, which includes the chat, queue, audio column, attendees' list, disappears when doing screen share.
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- Adobe can only display one audio channel, would be better if can have a separate audio feed.

Adobe Connect Connectivity challenges

- In an effort to allow for Adobe to work better on the Mac, PC, and Mobile platforms, Adobe has focused its efforts on creating and distributing desktop versions of Adobe Connect not only for the Mobile market but also for the desktop/laptop market.
- This effort has resulted in more audio and connectivity problems but many of these go away when using the desktop versions and launching from there then from the browser.
- It is hoped that these new versions that do not use Flash will solve some of the interoperability issues

Learn more on the TTF page on Adobe Connect at <https://community.icann.org/x/6xcQAg>

What are Your Technology Issues in ICANN?

TTF work and Projects can be found at <http://bitly.com/TTF-work>

The TTF wiki page : <http://bitly.com/Technology-Taskforce>

To join the TTF, email At-Large Staff at staff@atlarge.icann.org