General Area Review Team (Gen-ART) Experiences

Abstract

   The General Area Review Team (Gen-ART) has been doing reviews of
   Internet-Drafts (I-Ds) since 2004. This document discusses the
   experience and the lessons learned over the past 7 years of this
   process. The review team initially reviewed the I-Ds before each of
   the IESG telechats. Since late 2005, review team members have been
   assigned to review I-Ds during IETF Last Call, unless no IETF Last
   Call is necessary for the I-D. The same reviewer then reviews any
   updates when the I-D is placed on an IESG telechat agenda.

Status of This Memo

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1. Introduction

   The General Area Review Team (Gen-ART) was created personally by the
   General Area Director in 2004. This document discusses the
   experiences and the lessons learned as the process has evolved over
   the past 7 years. The process described in this document reflects
   that which was in place at the time this document was published.

This process is likely to continue to change over time. The review
team has been retained by subsequent General Area Directors. It has
no official role in the IETF standards process, except as a set of
individuals entitled, like everyone, to comment on Internet-Drafts
(I-Ds). Its volunteers, including a secretary and the team of
reviewers, serve at the invitation of the General AD. Both the
reviews and the reviewer names are public.

2. Who Are the Gen-ART Members?

The reviewers are typically individuals that have a fair amount of
experience within various IETF Working Groups (WGs), have authored WG
I-Ds and RFCs, and are often considered to be subject matter experts
(SMEs) in their particular areas of work. The current review team is
comprised of such technical experts, including several WG chairs as
well as past and current Internet Architecture Board (IAB) members.
Several past and current ADs have served as reviewers. Two past
General ADs have also served as reviewers, with one currently
serving.

Members of the review team sometimes excuse themselves from the team
for various reasons, typically due to "day job" demands. However,
they often rejoin (for periods of time) as their schedules allow.
Also, some reviewers remain on the team, while their review workload
is decreased by assigning them just one I-D (at Last Call time) to
review each month. Section 11 provides a list of currently active
reviewers, along with those who have served on the review team in the
past.

3. Goals of Gen-ART

The original and continuing goal of the Gen-ART was, and is, to
offload from the General AD some of the burden of IESG reviews. The
load for the bi-weekly IESG reviews is often quite large;
occasionally, there are more than 20 I-Ds scheduled for discussion in
a single telechat. Thus, ADs also have less than a week's notice for
many of the I-Ds on the telechat agenda.

Gen-ART was based on a model that had proved productive in the
Operations (OPS) Directorate: quick review close to telechat time, to
advise the AD on issues that remain serious. By having a trusted
group of reviewers read and evaluate the I-Ds, the General AD would
be able to concentrate on those I-Ds where there was a concern
expressed by the reviewer. The reviewers are expected to provide
feedback based on a whole set of criteria, including the criteria

   summarized in Section 4.3. The overall objective is to ensure that
   the I-Ds are well structured; can be easily understood, at least at a
   high level; and provide a reasonable basis for implementation (for
   I-Ds intended for the Standards Track).

   While other area (and WG) directorates/review teams existed prior to
   Gen-ART and more have been established since Gen-ART, the roles of
   each are fairly distinct. Thus, there is little overlap between the
   goals and review criteria for the various review teams. It is also
   very valuable for these other review teams to operate independently.
   For example, when both Gen-ART reviews and Security Directorate
   (SecDir) reviews raise the same sorts of concerns, it's a clear red
   flag that the I-D needs more work before progressing. In addition,
   due to the typical thoroughness (and objectiveness) of the various
   review teams' reviews, the sponsoring AD and document shepherd are
   often able to work with the editors/WG (and vice versa, depending
   upon area and WG structure) to improve the overall quality of the
   final I-D. It should also be noted that some ADs take the Gen-ART
   reviews into consideration when preparing their own evaluations.

   Statistics from the Gen-ART reviews over the past 6+ years show a
   trend of increased quality and readiness for progression of I-Ds by
   the time they are placed on the telechat agenda. Additional
   statistics are discussed in Section 6.

4. Gen-ART Reviews

4.1. IETF Last Call Review Process

   While the original process was meant only for reviews just before the
   IESG telechat, the decision was made to include IETF Last Call (LC)
   reviews in early 2005. Over time the latter has proven to be quite
   effective. Assigning the I-Ds at IETF LC time typically gives a
   reviewer more time to review an I-D. And, in some cases, the IETF LC
   version is the one to appear on the telechat. Thus, by the time I-Ds
   are added to the telechat agenda, a majority (typically at least 70%)
   have already been reviewed. For those I-Ds that have been
   up-versioned, the amount of time dedicated to re-review depends upon
   the review summary for the IETF LC review.

   The assignments at IETF LC time evolved to minimize the gap between
   LC announcements and assignment time, with the secretary doing LC
   assignments every Thursday night. This typically allows the reviewer
   at least one week and sometimes two to three weeks to complete the
   review. The reviews are obviously most helpful when done on or
   before the end of the IETF LC.

The Last Call assignments are done on a fairly strict round-robin
basis to ensure a fair workload amongst all the reviewers. Reviewers
that are unavailable (vacations, etc.) during the review period
timeframe obviously are excluded from that round of assignments, but
remain in the same queue position for the next round. The order is
occasionally modified to avoid assigning an editor/author or WG chair
their own I-Ds. A reviewer may also NACK an assignment if they feel
they may have some bias (although corporate affiliations are not
considered to be sources of bias) or they don't feel they can review
the I-D in a timely manner.

The assignment process is completely manual, although a spreadsheet
tremendously facilitates the process. The details are described in
Section 5. Ideally, this process could be automated. However,
manual intervention would still be required to maintain the
appropriate available reviewer list (unless reviewers took on the
task of maintaining their data in some sort of database). Further
details on the tools necessary to automate the entire process are
provided in Section 8.

4.2. IESG Telechat Review Process

The process for reviewing I-Ds when they appear on the IESG agenda is
as follows:

o The "nearly final" IESG meeting agenda generally appears on
   Thursday night, less than one week before the IESG telechat. The
   Gen-ART secretary uses this as the input for the assignment
   process.

o For I-Ds reviewed at IETF Last Call, a new review is only asked
   for if the I-D is revised. In this case the reviewer, typically
   the person who did the Last Call review, only needs to check that
   any open issues were resolved. Often the draft will not have
   changed between IETF LC and the IESG telechat review. Section 4.4
   provides the step-by-step telechat review assignment process, with
   specific details on the maintenance of the review assignment data,
   which is in turn maintained in review spreadsheets (Section 5).

4.3. Form of Review

Rather than invent new guidelines, the Gen-ART requirements for the
form of a review stole liberally from "Careful Additional Review of
Documents (CARD) by Senior IETF Reviewers (SIRS)" [SIRS], making
adaptations for the special "late, quick review" case and the nature
of the General Area's concerns.

Each review must start with a summary statement chosen from or
adapted from the following list:

o This draft is ready for publication as a [type] RFC, where [type]
   is Informational, Experimental, etc. (In some cases, the review
   might recommend publication as a different [type] than requested
   by the author.)

o This draft is basically ready for publication, but has nits that
   should be fixed before publication.

o This draft is on the right track but has open issues, described in
   the review.

o This draft has serious issues, described in the review, and needs
   to be rethought.

o This draft has very fundamental issues, described in the review,
   and further work is not recommended.

o Unfortunately, I don't have the expertise to review this draft.

The length of a review can vary greatly according to circumstances,
and it is considered acceptable for purely editorial comments to be
sent privately if it's obvious that the I-D needs substantial
revision. All substantive comments, however, must be included in the
public review. Wherever possible, comments should be written as
suggestions for improvement rather than as simple criticism.
Explicit references to prior work and prior IETF discussion should be
given whenever possible.

Reviewers are asked to review for all kinds of problems, such as
basic architectural or security issues, Internet-wide impact,
technical nits, problems of form and format (such as IANA
Considerations or incorrect references), and editorial issues. Since
these reviews are on I-Ds that are supposed to be finished, the
review should consider "no issue too small" -- but should cover the
whole range, from the general architectural level to the editorial
level.

All reviews should apply generally agreed-upon IETF criteria,
such as:

o [RFC1958]: "Architectural Principles of the Internet"

o [RFC3426]: "General Architectural and Policy Considerations"

o [RFC3439]: "Some Internet Architectural Guidelines and Philosophy"

o ID-Checklist: The "ID checklist" document maintained by the IESG

o [RFC2223bis]: "Instructions to Request for Comments (RFC) Authors"
   as updated by [RFC-STYLE]: "RFC Document Style"

o [RFC5226]: BCP 26 - "Guidelines for Writing an IANA Considerations
   Section in RFCs"

o [RFC3552]: BCP 72 - "Guidelines for Writing RFC Text on Security
   Considerations"

o Any other applicable architectural or procedural documents. It is
   considered important that reviews give precise references to such
   criteria when relevant to a comment.

Of special interest to the General area, because they do not fall
under any other area, are:

o A clear description of why the I-D or protocol is useful to the
   Internet.

o Adherence to IETF formalities, such as capitalized "must",
   "should", etc. in normative statements, per the ID-Checklist.

o Useful and reasonable IANA considerations. Ensure that all
   necessary registries are defined/referenced, and ensure definition
   and compliance with IANA assignment criteria.

o Correct dependencies for normative references.

o That the I-D is written in reasonably clear English.

o Checking the updates/obsoletes information.

o Running idnits and checking the output.

o Checking that things imported by reference, especially from other
   RFCs, make sense (notably definitions of terms, security
   considerations, and lists of criteria) and ensuring they are used
   as intended by the referenced document.

o That examples (e.g., Fully Qualified Domain Names (FQDNs),
   telephone numbers, IP addresses) are taken from the right spaces.

4.4. Gen-ART Process Overview

   The following provides a general overview of the Gen-ART process
   along with some basic rules associated with assignments. The very
   precise details of the secretary's process are provided in Section 5.

   o The availability of reviewers and the order of assignments for the
      next round of Last Call document assignments are updated weekly
      and are available on the directory where all the assignments and
      reviews are cached.

   o At telechat assignment time, all previously reviewed I-Ds are
      assigned to the reviewer who reviewed them previously, assuming
      that reviewer is available. Otherwise, these I-Ds are assigned to
      a new person in the process described below.

   o The secretary attempts to avoid assigning I-Ds that might conflict
      with other IETF roles such as WG chairs, other directorates, etc.
      However, in the cases where the secretary doesn't note the
      conflict, the reviewer should notify the secretary and Gen-ART
      mailing list so another reviewer may be assigned.

   o It should be emphasized that assignment is never made according to
      a reviewer's technical specialty. Even though it happens, when,
      for example, routing I-Ds fall on routing experts or MIB documents
      fall on MIB doctors, it is coincidental. To the reviewer, the
      choice looks random.

   o There is an attempt to evenly distribute I-Ds amongst reviewers at
      LC time by using a round-robin process, starting from where the
      previous week's assignments stopped.

   o Typically, there is no attempt made to actually equalize the load,
      as the length and complexity of the I-Ds are not taken into
      account in this process. (Thus, a reviewer could end up with a
      couple of hundred-page I-Ds, but this is statistically rare.)
      However, in the case of a reviewer that might receive more than
      one new LC I-D at one time, the secretary does try to ensure that
      both are not large I-Ds.

   o Once the assignments are made, the web pages that list the reviews
      and the assignments are posted. Since the telechat agenda is not
      published until the end of the day on the Thursdays prior to the
      telechats (i.e., one week prior), the secretary needs to complete
      the assignments on that Thursday evening. This often requires
      working later in the evening and also requires an Internet
      connection even when traveling.

o If the reviewers notice any problems or conflict of interest, a
   bargaining process, shifting I-Ds from one reviewer to another,
   takes place. The secretary updates the assignment files with any
   new assignments.

o Once the review has been completed, the reviewer sends the review
   to the Gen-ART list, ideally using the template provided in the
   review assignment emails. Typically, reviews are also sent to
   authors, the responsible AD, and the WG chairs/document shepherd.
   The only case where this might not be done is when there are no
   issues found for a re-review and none had been found on an initial
   review. Sending the review to the authors, ADs, and/or WG chairs/
   Proto Shepherds was originally voluntary but is now considered
   standard practice. Reviewers may also send the reviews to the
   IETF discussion list, but that is entirely at the discretion of
   the reviewer, in which case the author must be copied on the
   review to ensure they see any follow-up discussion. Reviewers may
   also send the comments to the WG; however, this typically causes
   the review to end up in the moderation queue, as most reviewers do
   not want to subscribe to the WG lists for the I-Ds they review.
   Thus, it is expected that any of the original recipients (i.e.,
   authors, WG chairs/document shepherd, or responsible AD) may
   forward the review to the WG mailing list if they believe it is
   necessary. In the past, sending these reviews resulted in
   confusion among the authors, who may not have been expecting a
   Gen-ART review and may not be familiar with Gen-ART. Thus,
   reviewers are reminded to prepend to the email the description of
   Gen-ART and the purpose of the review. This information is part
   of the standard template provided in the review assignment emails.

o The secretary gathers the reviews, sometimes edits them for
   format, and records the review in the spreadsheet on the web
   pages, including the synopsis. This is typically done on
   Thursday. This is one aspect of the process that can be easily
   delegated such that one volunteer uploads all the reviews and then
   the secretary need only update the fields in the spreadsheet. If
   the reviewer has not provided a synopsis ("Summary" field in the
   template), the secretary makes a best guess based on the review
   details. Note that in most cases the reviewers do include a
   synopsis.

o Ideally, the reviews should be posted to the Gen-ART mailing list
   by close of business on the East coast on Tuesday. This is
   necessary to allow the General AD time to consider the reviews
   prior to the telechat. If the reviews are received after Tuesday,
   the review may not be read by the AD before the IESG telechat.
   Due to time constraints, the spreadsheets containing review
   summaries/assignments are only updated on Thursday evenings when

      the new LC assignments and upcoming telechat assignments are done.
      Ideally, the reviews would get uploaded on the Tuesdays prior to
      the telechat along with the updated spreadsheets.

   o If the AD concludes that the concerns raised by the reviewer
      warrant placing a DISCUSS comment on the I-D, the AD will do so,
      and the DISCUSS must be resolved before the I-D advances.
      Usually, the reviewer will be involved in the resolution process,
      but the responsibility for the DISCUSS rests with the AD.

5. Secretarial Process

   This section summarizes the details of managing the review materials,
   including the spreadsheet used to track all reviews and the HTML
   files containing the review assignments. Please note that these
   details represent a snapshot of a process that has been implemented
   -- the details are very likely to change over time, in particular as
   the needed improvements highlighted in Section 8 are carried out.

5.1. Maintaining Review Spreadsheet

   A spreadsheet is used to enter all the I-Ds at the time of assignment
   and to capture all the reviews. For IETF LC assignments, the
   assignments are completed before adding the I-Ds to the spreadsheet
   as described in Section 5.2. For telechat assignments, I-Ds are
   obviously only added in the cases where there is no previous LC
   assignment. For the other I-Ds, the appropriate fields are updated
   as described in Section 5.3.

   All the reviews can be accessed from the spreadsheet via hyperlinks
   from specific fields, as summarized below. The following information
   is maintained in the spreadsheet (in the order listed):

   1. "Chat/LC Date": Indicates either the date on which the LC review
       is due or the date of the telechat.

   2. "Document": Filename for the I-D, which includes a hyperlink to
       the IETF I-D tracker.

   3. "Assigned": Name of the reviewer assigned to that I-D.

   4. "Category": This field contains one of the following self-
       explanatory values: "Doc - WG", "Doc - Ind/AD", or "IETF LC".
       Note that Gen-ART does not review I-Ds submitted directly to the
       RFC Editor. The "IETF LC" value is of course entered for all
       I-Ds at LC time. It is changed to one of the other appropriate
       values, based on the information in the telechat agenda.

5. "Previous Review": This includes a link to any previous reviews.
    For example, when a doc appears on a telechat agenda, if an IETF
    LC review was done, this field is updated with the review summary
    for the LC review (i.e., the information from the "Current Review
    Summary" as described below is copied to this column). The field
    is set to "New" when an I-D is first assigned/added to the
    spreadsheet. In the case of returns, this field has a value of
    "Return" or "Return/IETF-LC" for I-Ds for which there is an LC
    review. It should be noted that since Gen-ART started doing
    reviews at LC time, there seem to be far fewer returns on the
    agenda.

6. "Current Review Summary": This field includes the review type and
    version number of the document that is to be reviewed or has been
    reviewed (e.g., LC: -02). When the field also contains a review
    summary after the review type/version number (e.g., Telechat: -06
    Ready), the active hyperlink points to the review. Occasionally,
    a reviewer will re-review an I-D prior to its telechat
    assignment, in which case it is added to the spreadsheet, but the
    date does not change to maintain consistency in the date field,
    since the reviews themselves contain the review date.

The following summarizes the steps to add a new I-D to the
spreadsheet:

1. In order to optimize steps, blank rows are first inserted for the
    number of new I-Ds to be added.

2. To minimize data entry, a row with default fields (including the
    hyperlinks) is kept at the end of the file. There is a separate
    default row for IETF LC versus telechat assignments. This row is
    copied into each of the new blank rows. The dates are then
    entered (this allows double-checking that all I-Ds from the
    review assignments are accounted for, especially LC).

3. The I-D name is then copied to the name field as well as being
    appended to the hyperlink for the "Review Summary" field. The
    hyperlink is included as part of the default row. This minimizes
    the steps to enter the reviews in the spreadsheet.

4. The data is also sorted by "Chat/LC Date", "Assigned", and
    "Document". The file is then saved and closed.

5. The file is then reopened and saved as HTML.

6. The file is opened a second time and sorted by "Assigned",
    "Chat/LC Date", and "Document" to provide the I-D reviewers an
    easy way to find any outstanding assignments.

5.2. Last Call Assignment Procedure

   The secretary can cache the Last Call assignments as they are
   announced and/or check the IETF announcement mailing list archives.
   The assignments are done on Thursday evening, along with any telechat
   assignments. This optimizes the process in terms of batch changes to
   files.

   The assignments are listed in an HTML file. The following are the
   steps in creating that file:

   1. The order of assignment is actually created the week before, with
       the details below. Thus, before starting the new assignments,
       the current file is saved for editing for the following week.
       The current file-naming convention is "reviewersyymmdd-lc.html"
       (e.g., for July 8th, 2010, the file reviewers100708-lc.html was
       created, and the file for the following week is named
       reviewers100715-lc.html).

   2. Since the file is already prepared with the appropriate ordering
       of reviewers, the assignments are done in the order of due dates.
       The link to the I-D in the Datatracker is copied into the
       assignment file along with the intended RFC status for each of
       the new LC I-Ds.

   3. The "Due Date" paragraph from the Last Call announcement is
       shortened as follows: "IETF LC ends on:", keeping the date.

   4. Once the assignment file is complete, the new I-Ds are added to
       the spreadsheet as described above.

   5. The assignment file for the next week is then updated to reflect
       the next reviewer in the round-robin process, by simply cutting
       and pasting the names in the list in a block and removing any
       "one doc per month" reviewers (annotated with an "*") that have
       already received their monthly assignment. If the next round of
       assignments occurs at the beginning of a new month, the "one doc
       per month" reviewers are added back into the list (in the normal
       order -- alphabetically by first name).

   6. The assignment files and updated spreadsheets are then cached on
       the Gen-ART server.

   7. An email providing a link to the assignment file along with the
       updated spreadsheets is sent to the Gen-ART mailing list. This
       email has a standard form, such that the reviewers can simply cut
       and paste the template to include the Gen-ART context statement
       and link to the FAQ.

5.3. Telechat Assignment Procedure

   Since LC assignments are now the starting point for Gen-ART I-D
   reviews, the telechat assignments are generally straightforward, as
   the majority of the I-Ds are already in the spreadsheet. The
   following details the steps:

   1. The telechat agenda is typically available around 6PM PDT. In
       order to create the assignment HTML file, the agenda is created
       from the email announcing the upcoming telechat agenda. The
       filename has the following format, with the date corresponding to
       the telechat date (versus the date of assignment, as is the case
       for Last Call assignments): "reviewersyymmdd.html".

   2. Rows are added to the agenda for the reviewers' names.

   3. The reviewers' names are then added to the weekly assignment
       file.

   4. As each reviewer is added to the assignment file, the review
       spreadsheet is updated as follows:

       * "Chat/LC Date" is changed to the telechat date.

       * The link to the LC review, if available, is copied as the link
          for the "Previous Review" column.

       * The "text" for the "Current Review" is updated to reflect the
          new review type (i.e., Telechat) and version.

   5. In the case of an I-D that did not go through IETF LC, a reviewer
       is assigned using the order in the file to be used for Last Call
       assignments for the next week.

   6. Once the reviewer(s) have been determined, the LC assignment file
       for the next week is updated.

   7. Any new I-Ds are then added to the spreadsheet (and the updates
       saved) per the steps described in Section 5.1.

   8. The assignment files and updated spreadsheets are then cached on
       the Gen-ART server.

   9. An email providing a link to the assignment file along with the
       updated spreadsheets is sent to the Gen-ART mailing list. This
       email has a standard form, such that the reviewers can simply cut
       and paste the template to include the Gen-ART context statement
       and link to the FAQ.

5.4. Capturing Reviews

   As noted in Section 4.4, the spreadsheet is typically updated with
   the review summaries on Thursday evenings just prior to entering the
   data for that week's LC and any telechat assignments. The following
   summarizes the steps to capture the reviews:

   1. Currently, an additional volunteer is assisting the secretary in
       caching the email reviews as they arrive.

   2. In the cases where the review is included inline in the body of
       the email, the review is cut and pasted into a text file and
       saved with the reviewer's last name appended to the filename --
       e.g., draft-ietf-xyz-00-smith.txt.

   3. In the case where the review is included as an attachment to the
       email, the file can be directly saved and uploaded.

   4. The volunteer uploads the reviews by around 5PM CST on Thursdays;
       thus, they are available to the secretary at the time that week's
       assignments are done. This sequence is necessary to ensure the
       information for I-Ds on the upcoming telechat is up to date.

   5. The review summary is entered into the "Current Summary" field.
       Note that the hyperlink to the review (added at assignment time)
       will automatically work when the file is uploaded.

   6. Once all the reviews have been entered and the spreadsheets
       formatted, the review spreadsheet is saved and files uploaded per
       the last three steps in Section 5.1.

6. Results

   Over the past 7 years, the Gen-ART has provided reviewing services to
   3 ADs and has done around two thousand publicly available reviews.
   The reviews have been executed with a team of around a dozen full-
   time reviewers and other reviewers receiving one I-D assignment each
   month. There are currently 9 reviewers in the latter category. The
   full-time reviewers receive 2-3 assignments each month. In terms of
   improving quality, the number of I-Ds that are now "Ready" at the
   time of the telechat (since the reviews are now initiated at LC time)
   has increased. The review term "Ready" means the reviewer believes
   that the document has no outstanding editorial or technical issues.
   Based on the data from 2007, there were over 250 I-Ds assigned at LC
   time that went through IESG review. Of those 250 I-Ds, 82% of the LC
   reviews (205 I-Ds) were completed. Of the completed reviews, 70%
   (144 I-Ds) were "Ready" at the time of the telechat. Of those 144
   I-Ds, roughly 1/4 had been deemed "Ready" (with no nits) at LC time

(based on a sample of 50 reviews). For the I-Ds that were not
reviewed at LC time, only about 1/4 of those were deemed "Ready" when
they were reviewed for the telechat. So, doing the Gen-ART reviews
at Last Call time does seem to improve the quality of the I-Ds for
the telechat.

7. Impressions

   This section is divided into 3 subsections: the impressions as
   gathered from the Gen-ART, the impressions of the ADs for whom they
   worked, and the impressions of the secretaries of Gen-ART.

7.1. Reviewers' Impressions

   The following list of comments are excerpted and edited from comments
   sent in by the reviewers of Gen-ART in response to the request:

   "We'd like to ask you each to write a few lines about your personal
   experience and lessons learned as a Gen-ART reviewer".

   o We really do find problems, but we don't find problems with
      most I-Ds.

   o Comments seem to be in three areas: editorial/grammar, editorial/
      what-the-heck-does-this-mean, and actual problems. I'm seeing
      fewer reviews in the first category, which is a good thing.

   o It is becoming rarer that we hear back "these guys have suffered
      enough; I'm voting no objection" (I'm remembering an LDAP I-D that
      had been around so long it had 2119 referenced AS A DRAFT -- some
      people suffered a lot).

   o The direct assignment of reviews is necessary and effective. It
      does not matter much as far as I can tell what scheme is used to
      actually do the assignment.

   o Folks are very open to the reviews that come out of Gen-ART. This
      somewhat surprised me, because I have seen resistance to outside
      reviews in other cases.

   o The improvements that have come about (for example, one of my
      latest, an I-D about the SIPPING conference) have made a big
      difference to the comprehensibility and usability of the I-Ds --
      and provide a useful incentive to keep going.

   o Some form of review like this is desperately needed. While most
      of the stuff we see is good, every once in a while really bad
      errors have made their way all the way to IESG vote.

o Reading this stuff is interesting. I like having a reason to read
   a wide range of materials.

o I am more than convinced that this can be, and is, a valuable
   process. It is, in my opinion, a pity that Senior IETF Reviewers
   (SIRS) and so on did not take off, because this late-stage
   reviewing is a poor substitute for doing the same thing at a much
   earlier stage. Very few of the drafts that have come past my
   screen are truly fully ready for IESG review. It is actually a
   joy to find the occasional nugget that is both well written and is
   a proper technical job, such that the reviewer really can say
   "This is ready".

o I have certainly found the process intellectually stimulating! It
   encourages me to take a wider interest in what is going on in the
   IETF, but consumes a fair bit of time to do a proper job, and
   requires a very wide knowledge to be able to properly catch the
   cross-area implications: I hope (believe!) that this is something
   that one gets better at with experience and doing a few of these
   reviews.

o There is probably a very limited pool of people who have both the
   time and the inclination to keep on doing these reviews. It does
   require a fair bit of dedication.

o It is difficult to avoid correcting the English, even if that is
   not really the point: Often, really bad English (whether as a
   result of non-mother-tongue authors with limited grasp or mother-
   tongue authors using informal language) obscures/corrupts what is
   being said or just makes it impossible to read.

o Mostly authors welcome the comments: I think most of them
   understand the concept of "ego-free reviewing", and we have
   generally been constructive rather than destructive.

o Part of the job of Gen-ART is to think the unthinkable from
   another point of view, to challenge (apparently undocumented)
   assumptions, and apply experience from other fields.

7.2. General Area Directors' Impressions

   It should be noted that these impressions are from multiple General
   Area Directors; thus, the "I"s are not necessarily associated with a
   specific AD.

   o It's essential. The reviewing load for the IESG <shout>DOES NOT
      SCALE</shout>.

   o Without Gen-ART, I would be a much less effective General AD.

   o On a single fortnight example, the IESG had 21 drafts on the
      agenda. It is just impossible (to conscientiously review all the
      documents), and no wonder we sometimes miss serious issues.

   o So I think a distributed review team with about 30 trusted
      reviewers needs to be institutionalized. I suspect that will need
      to be formalized in a BCP sooner or later -- with their reviews
      having a formal position in the standards process, and the
      expectation that the whole IESG truly reviews all I-Ds being
      relaxed.

   o We've learned that polite, well reasoned, constructive reviews are
      very positively received by authors and WGs. Dismissive reviews
      are counter-productive. And reviews sent in private eventually
      show up in public, so it's better to go public at the start.

   o Normally, LC reviews are available in good time for the draft to
      be revised before reaching the IESG agenda. It is important that
      this happens, except for an emergency situation where the
      responsible AD has good reason to place the draft on the agenda
      immediately. In that case, it would be preferable for the AD to
      inform the Gen-ART, so that the review can be expedited.

   o The other problem is a big detail -- between late Thursday or
      early Friday when the secretary sends out the assignments, and
      Wednesday when the General AD likes to start filling in ballots
      based on the reviews received by close of business on Tuesday,
      there are only three work days (plus possible volunteer time over
      the weekend). Now even with only one I-D to review, that may be a
      real challenge. Sometimes, a lucky reviewer will get 130 pages
      (e.g., draft-ietf-nntpext-base-27). That doesn't compute.

   o There are some mechanical issues. The process followed is far too
      manual. Everything needs to be robotic except for the judgment
      calls about which reviewer gets which draft. Similarly, the
      reviewer should be able to just paste the review into a web form,
      click, and it's sent off to everyone appropriate and posted to the
      review site.

7.3. Gen-ART Secretaries' Impressions

   Serving as the secretary of Gen-ART is a worthwhile experience. From
   a personal point of view, it gives the secretary an easy way to track
   all of the work going through the IESG review process and see how the
   work flowed through that process. Also, by reviewing and sometimes
   creating the one-line abstracts that go on the review web page, the
   secretary has an opportunity to really get a survey of the work being
   approved by the IETF.

   The nature of these reviews is informal, and originally the reviews
   were only intended for the General AD, though they were made public.
   During 2004, there was little if any interaction between authors and
   reviewers. There was some discussion during 2004 about trying to
   expand the role of Gen-ART to a more formal, early-review model,
   i.e., to evolve it into a form of SIRS. The original Gen-ART
   secretary was against such a transformation, because she felt it
   would put at risk something that worked. She believed that there
   were risks inherent in formalizing the reviews and adding mechanisms
   for standardizing the resultant review process. Another concern
   involves the interaction between reviewers and authors. As discussed
   above, it has become the practice to send reviews to the authors with
   an explanation about the nature of Gen-ART reviews. While it is
   clear that this has resulted in improved RFCs, it has also resulted
   in increased workload for the reviewers.

   The secretary thinks that Gen-ART is an experiment that works well,
   but she also believes it is fragile. The secretary is often
   concerned about overburdening reviewers, and feels it is her
   responsibility to keep them from burning out. Adding additional
   reviewers to the review team would help to alleviate this concern.
   In terms of the process, adding additional reviewers has minimal
   impact.

8. Needed Improvements

   The current size of the review team introduces a fairly heavy
   workload for the individual reviewers that are not on the "one doc
   per month" assignment cycle. Additional reviewers would be really
   helpful to alleviate this workload. It is also important to note
   that having additional reviewers adds minimal workload to the

secretary's process; thus, the only blocking point is finding the
right folks that are interested in this type of volunteer role. As
noted in Section 7.2, 30 would be a good size for the review team.
This would cut the workload for an individual reviewer in half (given
the current model of 9 reviewers on the "one doc per month"
assignment cycle).

Obviously, automation of the process would be a good thing. However,
Gen-ART secretaries are not necessarily highly motivated to
transition to a more automated approach until a significant part of
the process is automated. In more recent consideration of this
situation, it likely would be best to first automate the process of
entering the reviews, as that benefits the review team as a whole.
This automation should allow the reviewers to enter the reviews via a
web interface that would automatically generate the appropriate
emails -- quite similar to how the draft "Upload" tool currently
works. Also, given consistent naming conventions for the review
forms, this step would automate some of the process for the
secretary, as the reviews would automatically appear via the
spreadsheet hyperlinks, although there would still be a need to
manually enter the summary. But this would eliminate the need to
edit/normalize and upload files and, hopefully, eliminate the problem
encountered with unflowed text in emails and getting the review
properly formatted using some text editors.

Section 5 was written to facilitate the process of determining tools
requirements, by providing the very detailed steps currently applied
to the process. As noted above, automating the upload of the reviews
could be a good first step. This is somewhat starting at the end of
the process. However, it seems that by automating in this direction,
we may have optimal results; since one of the earliest steps in the
process is the task of assigning reviewers, it likely needs the most
manual intervention, even with tools available.

The current SecDir secretary does use some tools for assignments and
generating assignment emails. These tools could be considered for
use by the Gen-ART secretary. Since the SecDir reviews are not
cached and the information maintained for those reviews is less
detailed, there would be no reusability of that aspect. However, if
the Gen-ART spreadsheet can be automatically populated (with
assignments and completed reviews), the SecDir may be able to make
use of that same tool.

9. Applicability

   As implemented today, the process has no formal role in the IETF
   standards process. But as trust in the review team has built, and as
   the team itself has learned to deliver reviews that are generally
   well received, they have had a significant impact on I-D quality and
   on timeliness. Rather than becoming a roadblock, they have (in
   general) allowed the General AD to feel more confident in reaching
   decisions and be more precise in resolving issues. Since reviews now
   typically appear during IETF Last Call, the reviews, like the SecDir
   reviews, are now generally expected. So, the role of the team has
   evolved to be more formal than in the past (i.e., when this document
   was first drafted in 2005). However, the handling of the reviews
   remains entirely within the scope of the ADs, document shepherds, WG
   chairs, and authors as they deem appropriate.

10. Security Considerations

   Since this is an informational I-D about an open process, the
   security considerations are specific to the process and users
   involved in the process. The primary concern would be to limit the
   people that have the ability to create and update the Gen-ART data/
   files to ensure that the integrity of the data is maintained. For
   example, each Gen-ART reviewer should have a unique user name/
   password, just as folks do to access any other IETF-maintained data,
   as appropriate.

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