Analysis of the IPR policy of IETF

This analysis is a supplement to *A study of IPR policies and practices of a representative group of Standards Developing Organizations worldwide*, prepared by Rudi Bekkers and Andy Updegrove. See http://home.tm.tue.nl/rbekkers/nas

This analysis has the following parts:

This analysis has the format of a structured survey, with numbered questions. Text in green indicates our own conclusions and observations. All the SDO's we analyzed were given the opportunity to review this document and comment on it. Text in orange are comments, complimentary explanations and corrections received by representatives of the SDO.

Note: this analysis has been performed to the best of our knowledge, using the various public documents concerning the IPR policy of your SDO. See also the disclaimers in the main report.

Note: in this analysis, the work 'policy' generally refers to the whole set of binding rules, not necessarily only to the document which is titled 'policy'. An exception is where we make specific references to documents.

Part A: Adoption and general aspects of IPR policy

A1. What is the most recent version of or a reference (internet) to the formal, current IP policy of your SDO? What are relevant to additional documents such as guidelines, explanations, forms, and so on?

IETF home page on web on IPR: http://www.ietf.org/ipr/. An overlapping but also somehow different page is at https://datatracker.ietf.org/ipr/about/. An IETF representative clarified: *"The above pages are simply summaries and explanations of the relevant policies, and are NOT to be regarded as policies themselves."*

RFC 3979, "Intellectual Property Rights in IETF Technology". Available at http://www.ietf.org/rfc/rfc3979.txt. It is dated March 2005.

RFC4879: "Clarification of the Third Party Disclosure Procedure in RFC 3979" Available at http://www.ietf.org/rfc/rfc4879.txt. It is dated April 2007.

An IETF representative clarified: *"The above RFCs (3979 and 4879], otherwise referred to collectively as Best Common Practice (BCP) 79, contain the IETF's patent policy. There are*

numerous other documents that contain relevant policies relating to copyright in IETF documents, but because the NAS study appears to focus on patents, BCP 79 is the correct reference. For purposes of our response, please consider any reference to "IPR" to relate solely to patents and not to copyrights."

There are a number of forms available:

- The Patent Disclosure and Licensing Declaration Template for Specific IPR Disclosures, https://datatracker.ietf.org/ipr/new-specific/ (to *File a disclosure about your IPR related to a specific IETF contribution).*
- The Patent Disclosure and Licensing Declaration Template for Generic IPR Disclosures https://datatracker.ietf.org/ipr/new-generic/ (to *File an IPR disclosure that is not related to a specific IETF contribution*).
- The Patent Disclosure and Licensing Declaration Template for Notification, at https://datatracker.ietf.org/ipr/new-third-party/ (to *Notify the IETF of IPR other than your own)*
- Note: the website also has a link on a form to 'Update an existing IPR disclosure' but this was a broken link: https://datatracker.ietf.org/ipr/update/. However, on another page it explained 'To update an existing IPR disclosure, find the original disclosure and select "update this IPR disclosure" (https://datatracker.ietf.org/ipr/about/)

A list of IPR disclosures is available at https://datatracker.ietf.org/ipr/, and a search engine at https://datatracker.ietf.org/ipr/search/

A2. What changes to the policy have been made over time, and have there been additional clarifications or additions? What prompted these changes?

The most recent policy changes to the EITF are summarized in the current policy document (see below). There were numerous changes prior to this. The full chain of patent-related RFCs is: 1310, 1602, 2026, 3668, 3979/BCP79.

An IETF representative clarified: *"These continue today, and a project to further update BCP 79 is under way"*

The IPR policy has been subject to 'rigorous debates' in IETF.

Sources and additional details:

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This memo updates RFC 2026 and, with RFC 3978, replaces Section 10 of
   RFC 2026.  This memo also updates paragraph 4 of Section 3.2 of RFC
   2028, for all purposes, including reference [2] in RFC 2418.
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(RFC3979, at Abstract)

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The rules and procedures set out in this document are not
   intended to modify or alter the IETF's current policy toward IPR in
   the context of the IETF Standards Process.  They are intended to
   clarify and fill in procedural gaps.
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(RCF 3979, at §2)

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In the years since RFC 2026 was published there have been a number of
   times when the exact intent of Section 10, the section which deals
   with IPR disclosures has been the subject of vigorous debate within
   the IETF community.  This is because it is becoming increasingly
   common for IETF working groups to have to deal with claims of
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> Intellectual Property Rights (IPR), such as patent rights, with regards to technology under discussion in working groups. The aim of this document is to clarify various ambiguities in Section 10 of [RFC2026] that led to these debates and to amplify the policy in order to clarify what the IETF is, or should be, doing. (RCF 3979 at §2)

Part B: Formal aspects and principles of the IPR policy

B1. What is the legal foundation of the IPR policy (statutes, undertaking, contract, etc.)? What is the legal status of those that are involved (e.g. member, participant)?

The main obligations arise because a submitter of a Contribution is 'deemed to agree' to terms of conditions.

An IETF representative clarified: *'We believe that the IETF's procedures are "sound" and that the IETF policies are binding on all IETF participants, as well as their employers/sponsors under well-established equitable and legal principles.'*

An IETF representative clarified: *"[there is a "formal relationship" between IETF and its participants]. Participants register for meetings, sign attendance sheets, receive notifications of policies (via the web site and a widely-distributed document known as the "Note Well" document, and must indicate their acceptance of the Note Well document prior to registering for an IETF meeting or mailing list. While IETF does not have a formally-constituted membership, we maintain that a legal relationship, and a set of binding legal arrangements, is in place between IETF and its participants.*

An IETF representative clarified: *"The document nomenclature used by IETF has been in place for 30+ years and is well-understood by regular participants in this community. Documents are explained in some detail in materials and tutorials for new participants, so it would only be a casual observer who did not take the trouble to learn the IETF nomenclature that might be confused."*

Sources and additional details:

> By submission of a Contribution, each person actually submitting the Contribution, and each named co-Contributor, is deemed to agree to the following terms and conditions, on his or her own behalf, and on behalf of the organizations the Contributor represents or is sponsored by (if any) when submitting the Contribution.
>
> This document specifies an Internet Best Current Practices for the Internet Community, and requests discussion and suggestions for improvements. Distribution of this memo is unlimited. (both TFC3979 and RFC 4879, at top)

B2. What is the nature of SDO membership (companies, individuals)? How does this relate to the rules on disclosure and/or commitments?

An IETF representative clarified: *"In IETF, participation is on an individual basis, and patent-related commitments fall to the individuals. This being said, an employer is welcome (and encouraged) to file patent disclosures relating to its employees' participation in IETF"*

See question B1.

Note, however, that for many important policy aspects, individuals are required to act as an employee / representative of a firm or sponsor. For instance, for IPR disclosure, there is a disclosure commitment of IPR owned by themselves, but also IPR held by their company.

Also a company can make a disclosure itself.

Sources and additional details:

By submission of a Contribution, each person actually submitting the Contribution, and each named co-Contributor, is deemed to agree to the following terms and conditions, on his or her own behalf, and on behalf of the organizations the Contributor represents or is sponsored by (if any) when submitting the Contribution. (RCF 3979, at §3.2.1)

This document refers to the IETF participant making disclosures, consistent with the general IETF philosophy that participants in the IETF act as individuals. A participant's obligation to make a disclosure is also considered satisfied if the IPR owner or the participant's employer or sponsor makes an appropriate disclosure in place of the participant doing so. (RCF 3979, at §6)

B3. Are the specific rules on firms that are subsidiaries? Do obligations that follow from the IPR policy also apply to parent companies?

The policy provides no information on this.

Part C: Patent disclosure

Patent disclosure, general

C1. What is the nature of disclosure rules? (E.g. obligation vs. invitation / encouragement)

Contributors are obliged to make IPR disclosures for their own or their company's IPR covered by their contribution.

Participants are obliged to make IPR disclosures for their own their company's IPR covered by their he standard ('contributions by others').

Participants are encouraged to disclose essential IPR by third parties.

Sources and additional details:

(RCF 3979, at §6 and onwards:) 6.1. Who Must Make an IPR Disclosure?

6.1.1. A Contributor's IPR in his or her Contribution

Any Contributor who reasonably and personally knows of IPR meeting the conditions of Section 6.6 which the Contributor believes Covers or may ultimately Cover his or her Contribution, or which the Contributor reasonably and personally knows his or her employer or sponsor may assert against Implementing Technologies based on such Contribution, must make a disclosure in accordance with this Section 6.

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   This requirement specifically includes Contributions that are made by
   any means including electronic or spoken comments, unless the latter
   are rejected from consideration before a disclosure could reasonably
   be submitted.  An IPR discloser is requested to withdraw a previous
   disclosure if a revised Contribution negates the previous IPR
   disclosure, or to amend a previous disclosure if a revised
   Contribution substantially alters the previous disclosure.

   Contributors must disclose IPR meeting the description in this
   section; there are no exceptions to this rule.

6.1.2.  An IETF Participant's IPR in Contributions by Others

   Any individual participating in an IETF discussion who reasonably and
   personally knows of IPR meeting the conditions of Section 6.6 which
   the individual believes Covers or may ultimately Cover a Contribution
   made by another person, or which such IETF participant reasonably and
   personally knows his or her employer or sponsor may assert against
   Implementing Technologies based on such Contribution, must make a
   disclosure in accordance with this Section 6.

6.1.3.  IPR of Others

   If a person has information about IPR that may Cover IETF
   Contributions, but the participant is not required to disclose
   because they do not meet the criteria in Section 6.6 (e.g., the IPR
   is owned by some other company), such person is encouraged to notify
   the IETF by sending an email message to ietf-ipr@ietf.org.  Such a
   notice should be sent as soon as reasonably possible after the person
   realizes the connection.
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C2. Are there any exemptions to the disclosure rules? (For instance, a policy could specify that if a company makes a RF / RAND-z commitment, there is no more requirement for specific patent disclosure).

No, disclosure is always obliged (under the conditions outlines elsewhere in this document).

Blanket disclosures are only allowed of the owner also commits itself to license its patents at FRAND-RF, and has disclosed all other licensing terms and conditions (see Question C13)

C3. At what point in time are parties required to disclose essential patents? Is it related to when a standardization activity reaches a particular state of advancement, and/or events relating to the specific member (joining the SDO, joining a WG, etc)?

For the three type of commitments discussed in Question C1:

Contributors are obliged to make IPR disclosures for their own or their company's IPR covered by their contribution.
-> Should be made ASAP after contribution is published, or at least as soon as contributor becomes aware

Participants are obliged to make IPR disclosures for their own their company's IPR covered by their he standard ('contributions by others').
-> Should be made ASAP after contribution is published, or at least as soon as participant becomes aware

Participants are encouraged to disclose essential IPR by third parties (see question C4)
-> Timing not specifically defined.

Sources and additional details:

IPR disclosures can come at any point in the IETF Standards Process, e.g., before the first Internet-Draft has been submitted, prior to RFC publication, or after an RFC has been published and the working group has been closed down; they can come from people submitting technical proposals as Internet-Drafts, on mailing lists or at meetings, from other people participating in the working group or from third parties who find out that the work is going or has gone on; and they can be based on granted patents or on patent applications, and in some cases be disingenuous, i.e., made to affect the IETF Standards Process rather than to inform. (RCF 3979, at §2)

(RCF 3979, at §6.2.1) Timing of Disclosure Under Section 6.1.1

The IPR disclosure required pursuant to section 6.1.1 must be made as soon as reasonably possible after the Contribution is published in an Internet Draft unless the required disclosure is already on file. For example, if the Contribution is an update to a Contribution for which an IPR disclosure has already been made and the applicability of the disclosure is not changed by the new Contribution, then no new disclosure is required. But if the Contribution is a new one, or is one that changes an existing Contribution such that the revised Contribution is no longer Covered by the disclosed IPR or would be Covered by new or different IPR, then a disclosure must be made.

If a Contributor first learns of IPR in its Contribution that meets the conditions of Section 6.6, for example a new patent application or the discovery of a relevant patent in a patent portfolio, after the Contribution is published in an Internet-Draft, a disclosure must be made as soon as reasonably possible after the IPR becomes reasonably and personally known to the Contributor.

Participants who realize that a Contribution will be or has been incorporated into a submission to be published in an Internet Draft, or is seriously being discussed in a working group, are strongly encouraged to make at least a preliminary disclosure. That disclosure should be made as soon after coming to the realization as reasonably possible, not waiting until the document is actually posted or ready for posting.

(RCF 3979, at §6.2.2) Timing of Disclosure Under Section 6.1.2

The IPR disclosure required pursuant to section 6.1.2 must be made as soon as reasonably possible after the Contribution is published in an Internet Draft or RFC, unless the required disclosure is already on file. Participants who realize that the IPR will be or has been incorporated into a submission to be published in an Internet Draft, or is seriously being discussed in a working group, are strongly encouraged to make at least a preliminary disclosure. That disclosure should be made as soon after coming to the realization as reasonably possible, not waiting until the document is actually posted or ready for posting.

If a participant first learns of IPR that meets the conditions of Section 6.6 in a Contribution by another party, for example a new patent application or the discovery of a relevant patent in a patent portfolio, after the Contribution was published in an Internet-Draft or RFC, a disclosure must be made as soon as reasonably possible after the IPR becomes reasonably and personally known to the participant.

C4. How is dealt with disclosure of patents owned by other (third) parties (non-members / non-participants)?

Participants are encouraged to disclose essential IPR by third parties.

When exactly does an individual become a participant (especially in the context of this policy)? What if, for instance, its involvement was very little, or only at the very early or very late stage?

Sources and additional details:

See Question C1 for sources.

Patent disclosure, relating to the knowledge of the party about its IPR

All the following items are about the knowledge the claimant has about its patents, or should have about its patents.

C5. Are the disclosure rules limited to patents (1) covering its own contributions, (2) standards developed in the working group the party is participating in, (3) any standard developed in the SDO?

Disclosure rules include both patent essential to a participant's own submissions (6.1.1 in the policy) as to the standard of the working group in which the participant participates (6.1.2).

Sources and additional details:

See Question C2 for sources.

C6. Does the policy refer to patents that 'are' essential, 'believed' to be essential, 'may' be essential, etc?)

The policy refers to the 'belief' that a patent 'covers or may cover' the standard.

Sources and additional details:

A Contributor's IPR in his or her Contribution:
Any Contributor who reasonably and personally knows of IPR meeting the conditions of Section 6.6 which the Contributor believes Covers or may ultimately Cover his or her Contribution, or which the Contributor reasonably and personally knows his or her employer or sponsor may assert against Implementing Technologies based on such Contribution, must make a disclosure in accordance with this Section 6. (RCF 3979, at §6.1)

C7. What knowledge is assumed to be known to the party and/or its representatives in meetings?

Something an individual knows personally or, because of the job the individual holds, would reasonably be expected to know. This wording is used to indicate that an organization cannot purposely keep an individual in the dark about patents or patent applications just to avoid the disclosure requirement. But this requirement should not be interpreted as requiring the IETF Contributor or participant (or his or her represented organization, if any) to perform a patent search to find applicable IPR no information on this.

Sources and additional details:

"Reasonably and personally known": means something an individual knows personally or, because of the job the individual holds, would reasonably be expected to know. This wording is used to indicate that an organization cannot purposely keep an individual in the dark about patents or patent applications just to avoid the disclosure requirement. But this requirement should not be interpreted as requiring the IETF Contributor or participant (or his or her represented organization, if any) to perform a patent search to find applicable IPR. (RCF 3979, page 4, at L)

C8. Are patent searches required, encourage, or not required?

Patent searches are not required.

Sources and additional details:

"Reasonably and personally known": means something an individual knows personally or, because of the job the individual holds, would reasonably be expected to know. This wording is used to indicate that an organization cannot purposely keep an individual in the dark about patents or patent applications just to avoid the disclosure requirement. But this requirement should not be interpreted as requiring the IETF Contributor or participant (or his or her represented organization, if any) to perform a patent search to find applicable IPR. (RCF 3979, page 4, at L)

in order for the working group and the rest of the IETF to have the information needed to make an informed decision about the use of a particular technology, all those contributing to the working group's discussions must disclose the existence of any IPR the Contributor or other IETF participant believes Covers or may ultimately Cover the technology under discussion. This applies to both Contributors and other participants, and applies whether they contribute in person, via email or by other means. The requirement applies to all IPR of the participant, the participant's employer, sponsor, or others represented by the participants, that is reasonably and personally known to the participant. No patent search is required. (RCF 3979, page 5, at (c))

Patent disclosure, relating to standard

C9. How exactly is 'essentiality' defined and/or to be interpreted? Is it 'purely' technical essentiality or are there elements of commercial essentiality?

Essentiality is defined as being necessarily infringed. This assumes that it is a definition of technical essentiality only.

Interestingly, the policy excludes expired patents, withdrawn applications, and patents held invalid by court.

Sources and additional details:

"Covers" or "Covered" mean that a valid claim of a patent or a patent application in any jurisdiction or a protected claim, or any other Intellectual Property Right, would necessarily be infringed by the exercise of a right (e.g., making, using, selling, importing, distribution, copying, etc.) with respect to

an Implementing Technology. For purposes of this definition, "valid claim" means a claim of any unexpired patent or patent application which shall not have been withdrawn, cancelled or disclaimed, nor held invalid by a court of competent jurisdiction in an unappealed or unappealable decision. (RCF 3979, page 4, at n)

C10. Do disclosures have to specify for which standard(s) the patents are believed to be essential? How specific is this information required to be? (e.g. WG/SC/TC, specific standard, version of the specific standard / year).

The specific document or activity affected must be indicated.

Sources and additional details:

6.4.1. The disclosure must list the numbers of any issued patents or published patent applications or indicate that the claim is based on unpublished patent applications. The disclosure must also list the specific IETF or RFC Editor Document(s) or activity affected. If the IETF Document is an Internet-Draft, it must be referenced by specific version number. In addition, if the IETF Document includes multiple parts and it is not reasonably apparent which part of such IETF Document is alleged to be Covered by the IPR in question, it is helpful if the discloser identifies the sections of the IETF Document that are alleged to be so Covered. (RCF 3979, at §6.4.1)

C11. How should the submitter deal with mandatory vs. optional portions of the standard, or with informative portions / informative references in the standard, etc.?

The policy provides no information on this.

An IETF representative clarified: *"However, it has never been the practice at IETF to make or expect patent disclosures covering references listed in a document."*

C12. How should the submitter deal with elements of the standards that only affect certain product categories (terminal vs. base stations, or encoders vs. decoders)?

The policy provides no information on this.

Patent disclosure, relating to patent identities

C13. Are blanket disclosures (general declarations) allowed and, if relevant, under what circumstances?

Blanket disclosures are only allowed if the owner also commits itself to license its patents on royalty-free terms, and has disclosed all other licensing terms and conditions.

Sources and additional details:

6.4.3. The requirement for an IPR disclosure is not satisfied by the submission of a blanket statement of possible IPR on every

> Contribution. This is the case because the aim of the disclosure requirement is to provide information about specific IPR against specific technology under discussion in the IETF. The requirement is also not satisfied by a blanket statement of willingness to license all potential IPR under fair and non-discriminatory terms for the same reason. However, the requirement for an IPR disclosure is satisfied by a blanket statement of the IPR discloser's willingness to license all of its potential IPR meeting the requirements of Section 6.6 (and either Section 6.1.1 or 6.1.2) to implementers of an IETF specification on a royalty-free basis as long as any other terms and conditions are disclosed in the IPR disclosure statement. ((RCF 3979, at §6.4.3)

C14. Do disclosure rules only apply to granted patents, or also to (published / unpublished) patent applications? Do other types of IP (copyright etc.) need to be disclosed?

Patent applications are covered, as well as unpublished applications.

Disclosure rules also means patent, copyright, utility model, invention registration, database and data rights

Sources and additional details:

> "IPR" or "Intellectual Property Rights": means patent, copyright, utility model, invention registration, database and data rights that may Cover an Implementing Technology, whether such rights arise from a registration or renewal thereof, or an application therefore, in each case anywhere in the world. (RCF 3979, page 4, at L)

> 6.4.1. The disclosure must list the numbers of any issued patents or published patent applications or indicate that the claim is based on unpublished patent applications. The disclosure must also list the specific IETF or RFC Editor Document(s) or activity affected. If the IETF Document is an Internet-Draft, it must be referenced by specific version number. In addition, if the IETF Document includes multiple parts and it is not reasonably apparent which part of such IETF Document is alleged to be Covered by the IPR in question, it is helpful if the discloser identifies the sections of the IETF Document that are alleged to be so Covered. (RCF 3979, at §6.4.1)

C15. Are there requirements for disclosing equivalent patents in different patent legislations? (i.e. patent family members)

The policy provides no information on this. Whereas an essential IPR is defined as 'anywhere in the world, there is no information on how to disclose patents in the same family.

Sources and additional details:

> "IPR" or "Intellectual Property Rights": means patent, copyright, utility model, invention registration, database and data rights that may Cover an Implementing Technology, whether such rights arise from a registration or renewal thereof, or an application therefore, in each case anywhere in the world. (RCF 3979, page 4, at L)

Patent disclosure, other

C16. Does the SDO make available specific (paper or electronic) patent disclosure forms? If so, is the use of these forms mandatory?

Yes, disclosure is done via the forms that are referred to in Question A1.

Note that, alternatively, parties can submit forms via email. However, if such emails do not comply with section 6 of the IPR policy they will be published but market as 'non-compliant'.

An IETF representative clarified*: "The web form is optional, not mandatory. It is provided for convenience only. If an email disclosure is received, IETF personnel will insert it into the web form for publication."*

Sources and additional details:

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If you wish to submit your IPR disclosure by e-mail, then please send it to
ietf-ipr@ietf.org. Submissions made by e- mail that do not comply with the
formal requirements of Section 6, "IPR Disclosures," of RFC 3979,
"Intellectual Property Rights in IETF Technology", will be posted, but will
be marked as "non-compliant".
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(Form for specific IPR disclosure)

C17. Are there provisions concerning updating of disclosures in case of changes in the (proposed / final) standard or the (applied / granted / rejected / expired) patent, or updated information concerning the patent identities?

IETF has a specific clause on updates of disclosed patents. In this procedure, the IETF executive director can ask a party that has previously disclosed to provide updated information, such as the grant of a patent, the publication of a previously unpublished patent application, or the abandonment of a patent. Note, however, that these update requests are trigged by the IETF, and that it is not a responsibility of a discloser to take such update initiatives by himself. Having said that, revised disclosures may be submitted at any time.

Sources and additional details:

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6.4.2.  If a disclosure was made on the basis of a patent application
   (either published or unpublished), then, if requested to do so by the
   IESG or by a working group chair, the IETF Executive Director can
   request a new disclosure indicating whether any of the following has
   occurred: the publication of a previously unpublished patent
   application, the abandonment of the application and/or the issuance
   of a patent thereon.  If the patent has issued, then the new
   disclosure must include the patent number and, if the claims of the
   granted patent differ from those of the application in manner
   material to the relevant Contribution, it is helpful if such a
   disclosure describes any differences in applicability to the
   Contribution.  If the patent application was abandoned, then the new
   disclosure must explicitly withdraw any earlier disclosures based on
   the application.

   New or revised disclosures may be made voluntarily at any time.
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(RCF 3979, at §6.4.2)

C18. Are there requirements to withdraw disclosures when patents 'lose' their essentiality (e.g. due to the surfacing of a new, alternative implementation that can also fulfill the required element of the standard in question)

The policy provides no information on this.

An IETF representative clarified: *"Disclosures can voluntarily be updated by the patent holder at any time"*

C19. In additional to the formal, written disclosure statements, what information on potentially essential patents do participants need to provide during standardization meetings? Is it different for own proposals vs. proposals by others? Is this information (oral statements?) recorded, and to whom is it available?

There is no other disclosure than that already discussed in Question C1.

C20. Are all patent disclosures being made public? Where and in what form? Is there any information in the disclosures that is not made public?

Submitted patent disclosures are made available on-line.

Sources and additional details:

> Copies of IPR disclosures made to the IETF Secretariat and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF on-line IPR repository at http://www.ietf.org/ipr. (RCF 3979, §4, at page 17)

C21. How does the SDO deal with situations in which a party claims that a disclosed patent is not in fact essential or not any longer essential? Have such situations occurred?

The policy provides no information on this.

Part D: Licensing commitments

D1. What best characterizes the commitment model? For instance, (1) Parties are committed to license by default and do not have to make a commitment statement (or make a general statement when joining the SDO); (2) Parties are *required* to issue a commitment statement (even if it's a statement of refusal to license) or (3) Parties are *invited* to issue a commitment statement.

There is no formal licensing commitment at IETF.

In principle, after the IETF becomes aware of essential IPR, the IETF Executive Director may send organizations a request to make a licensing commitment. An IETF representative clarified: "However, in practice, this rarely occurs."

An IETF representative clarified: "This being said, many IETF participants voluntarily make licensing disclosures to IETF. As noted in Contreras (2011), at 25-26, of 481 total patent disclosures made from 2007-2010, 366 (76%) contained a voluntary disclosure of licensing terms. Within this number, 283 such disclosures committed the patent holder voluntarily to offer RF terms or not to assert its patents."

For forms for disclosure and commitment seem to be intertwined, except for third party disclosures.

RCF 3979 specified that the *'Executive Director shall request from the discloser of such IPR, a written assurance*'. For disclosure of third party IPR (which is allowed in IETF) this creates an issue, as the party that made the disclosure is not the same party as the one that can make a commitment. This issue has been noted corrected in RFC4879, which explains that the Executive Director should go to the supposed IPR owner, not the discloser.

Sources and additional details:

> (C) Where Intellectual Property Rights have been disclosed for IETF Documents as provided in Section 6 of this document, the IETF Executive Director shall request from the discloser of such IPR, a written assurance that upon approval by the IESG for publication as RFCs of the relevant IETF specification(s), all persons will be able to obtain the right to implement, use, distribute and exercise other rights with respect to Implementing Technology under one of the licensing options specified in Section 6.5 below unless such a statement has already been submitted. The working group proposing the use of the technology with respect to which the Intellectual Property Rights are disclosed may assist the IETF Executive Director in this effort. (RCF 3979, §4, at c.)

D2. If licensing statements are used, when must they be made? For instance: (1) Upon joining the SDO, (2) when a patent disclosure is made, (3) when a draft standard reaches a particular state of advancement, (4) when requested by the SDO.

After receiving a request to do so by the IETF Executive Director. (Note that they remain voluntary).

However, we are talking here about submitting the same licensing forms as those for disclosure (of one one's patents) so the timing is as in question C3.

D3. Are there differences between licensing commitment policies between working groups or standardization activities? To what degree do the commitment requirements depend on whether a member/participant is actually participating in a working group (or standardization activity) or not?

Although a group does not a priori decide on a minimum licensing requirement, IETF working groups have the discretion to adopt technology with a commitment of fair and non-discriminatory terms, or even with no licensing commitment, if they feel that this technology is superior enough to alternatives with fewer IPR claims or free licensing to outweigh the potential cost of the licenses.

For security standards, however, there is 'a consensus' in IETF that FRAND-RF is the minimum level.

Sources and additional details:

> In general, IETF working groups prefer technologies with no known IPR claims or, for technologies with claims against them, an offer of royalty-free licensing. But IETF working groups have the discretion to adopt technology with a commitment of fair and non-discriminatory terms, or even with no licensing commitment, if they feel that this

> technology is superior enough to alternatives with fewer IPR claims or free licensing to outweigh the potential cost of the licenses.
>
> Over the last few years the IETF has adopted stricter requirements for some security technologies. It has become common to have a mandatory-to-implement security technology in IETF technology specifications. This is to ensure that there will be at least one common security technology present in all implementations of such a specification that can be used in all cases. This does not limit the specification from including other security technologies, the use of which could be negotiated between implementations. An IETF consensus has developed that no mandatory-to-implement security technology can be specified in an IETF specification unless it has no known IPR claims against it or a royalty-free license is available to implementers of the specification unless there is a very good reason to do so. This limitation does not extend to other security technologies in the same specification if they are not listed as mandatory-to-implement. (RCF 3979, §8)

D4. Does the SDO make available specific (paper or electronic) licensing commitment forms? If so, is the use of these forms mandatory?

See Question C16.

D5. Are issued licensing commitments binding to other members of the SDO only, or to any implementer of the standard requesting a license?

Any implementer.

An IETF representative clarified: *"As noted elsewhere, IETF does not require licensing commitments. If commitments are made voluntarily in IPR disclosures, then the scope of those commitments will be whatever scope the maker desires, as informed by applicable law."*

Sources and additional details:

> (C) Where Intellectual Property Rights have been disclosed for IETF Documents as provided in Section 6 of this document, the IETF Executive Director shall request from the discloser of such IPR, a written assurance that upon approval by the IESG for publication as RFCs of the relevant IETF specification(s), all persons will be able to obtain the right to implement, use, distribute and exercise other rights with respect to Implementing Technology under one of the licensing options specified in Section 6.5 below unless such a statement has already been submitted. The working group proposing the use of the technology with respect to which the Intellectual Property Rights are disclosed may assist the IETF Executive Director in this effort. (RCF 3979, §4, at c.)

D6. Is there a specific or 'minimal' commitment type required or requested by the SDO? (e.g. FRAND, FRAND-z, RF, non-assertion) If so, does this specific or 'minimal' commitment type depend on the working group or standardization activity?

No. Although probably only in rare cases, IETF working groups can even decide to incorporate technology for which no licensing commitment exist.

Sources and additional details:

In general, IETF working groups prefer technologies with no known IPR claims or, for technologies with claims against them, an offer of royalty-free licensing. But IETF working groups have the discretion to adopt technology with a commitment of fair and non-discriminatory terms, or even with no licensing commitment, if they feel that this technology is superior enough to alternatives with fewer IPR claims or free licensing to outweigh the potential cost of the licenses.

Over the last few years the IETF has adopted stricter requirements for some security technologies. It has become common to have a mandatory-to-implement security technology in IETF technology specifications. This is to ensure that there will be at least one common security technology present in all implementations of such a specification that can be used in all cases. This does not limit the specification from including other security technologies, the use of which could be negotiated between implementations. An IETF consensus has developed that no mandatory-to-implement security technology can be specified in an IETF specification unless it has no known IPR claims against it or a royalty-free license is available to implementers of the specification unless there is a very good reason to do so. This limitation does not extend to other security technologies in the same specification if they are not listed as mandatory-to-implement. (RCF 3979, §8)

D7. Is there any 'opt-out' option for patent holders (indicating it is not willing to license certain patents), or any 'opt-down' option (e.g. from RAND-z to RAND)? How does it work and when does it need to be exercised? What are the consequences of such a choice?

Yes. The forms explicitly allows parties to inform IETF that they are not willing to commit to licenses.

D8. Does the policy require, allow or forbid parties to include specific licensing terms as part of their commitment (such as conditions of bilateral or universal reciprocity, scope of use, etc.)? Does the policy (or the forms) explicitly specify such options, or does it simply tolerate it in practice?

An IETF representative clarified: *"Declaration filer is free to list any terms that it wishes."*

In the declaration form, the submitter can optionally list additional licensing conditions. It can also optionally indicate that there will be no other licensing conditions than those listed.

Sources and additional details:

6.4.3. The requirement for an IPR disclosure is not satisfied by the submission of a blanket statement of possible IPR on every Contribution. This is the case because the aim of the disclosure requirement is to provide information about specific IPR against specific technology under discussion in the IETF. The requirement is also not satisfied by a blanket statement of willingness to license all potential IPR under fair and non-discriminatory terms for the same reason. However, the requirement for an IPR disclosure is satisfied by a blanket statement of the IPR discloser's willingness to license all of its potential IPR meeting the requirements of Section 6.6 (and either Section 6.1.1 or 6.1.2) to implementers of an IETF specification on a royalty-free basis as long as any other terms and conditions are disclosed in the IPR disclosure statement. ((RCF 3979, at

§6.4.3)

[BOX TO TICK] The individual submitting this template represents and warrants that all terms and conditions that must be satisfied for implementers of any covered IETF specification to obtain a license have been disclosed in this IPR disclosure statement. Part of the patent Disclosure and Licensing Declaration Template for Specific IPR Disclosures. Also present on the general disclosure form.

D9. Does a commitment (1) cover any patents that are essential to the developed standards, (2) only cover those patents that are actually disclosed, or (3) only cover patents relating to the own contributions of the patent holder?

The literal text in the commitment statement refers to the disclosed patents.

Sources and additional details:

The Patent Holder states that its position with respect to licensing any patent claims contained in the patent(s) or patent application(s) disclosed above that would necessarily be infringed by implementation of the technology required by the relevant IETF specification ("Necessary Patent Claims"), for the purpose of implementing such specification, is as follows […](Form for specific IPR disclosure)

D10. Is a patent holder still bound to a licensing commitment should an earlier disclosed patent eventually turn out not to be essential? (e.g. differences in adopted standard, differences in granted patent)

The policy provides no information on this.

An IETF representative clarified*: "As there is no formal licensing commitment, this question is not entirely relevant. However, as a matter of law and equity, individual licensing commitments that are made may be binding on non-essential patents, depending on the wording of the individual commitment."*

When the standard form for specific IPR disclosure is used, however, the commitment would be limited to those patents actually essential, so if an earlier disclosed patent eventually turn out not to be essential any more it is no more covered by the commitment.

Sources and additional details:

The Patent Holder states that its position with respect to licensing any patent claims contained in the patent(s) or patent application(s) disclosed above that would necessarily be infringed by implementation of the technology required by the relevant IETF specification ("Necessary Patent Claims"), for the purpose of implementing such specification, is as follows […](Form for specific IPR disclosure)

D11. What is the geographic scope of the commitments? Relatedly, do commitments relate only to the disclosed patents, or also to all equivalent patents in other jurisdictions (i.e. patent family members)?

The policy provides no information on this.

An IETF representative clarified: *"Depends on wording of commitment, if any."*

See also question C15.

D12. Are commitments limited to the use of these patented technologies only in order to produce products that comply to specific standards? Or all standards developed by the SDO, or not limited at all?

An IETF representative clarified: "Depends on wording of commitment, if any."

When the standard form for specific IPR disclosure is used, however, the commitment covers only the use of the technology in order to implement the standard.

The commitment sought by the Executive Director in the process of a request is also one limited to products that comply to specific standards.

Sources and additional details:

> (C) Where Intellectual Property Rights have been disclosed for IETF Documents as provided in Section 6 of this document, the IETF Executive Director shall request from the discloser of such IPR, a written assurance that upon approval by the IESG for publication as RFCs of the relevant IETF specification(s), all persons will be able to obtain the right to implement, use, distribute and exercise other rights with respect to Implementing Technology under one of the licensing options specified in Section 6.5 below unless such a statement has already been submitted. The working group proposing the use of the technology with respect to which the Intellectual Property Rights are disclosed may assist the IETF Executive Director in this effort. (RCF 3979, §4, at c.)

> The Patent Holder states that its position with respect to licensing any patent claims contained in the patent(s) or patent application(s) disclosed above that would necessarily be infringed by implementation of the technology required by the relevant IETF specification ("Necessary Patent Claims"), for the purpose of implementing such specification, is as follows […](Form for specific IPR disclosure)

D13. Does the policy specify any legal restriction concerning commitments? (For instance, a policy may specify that a FRAND commitment implies that an injunctive relief may not be sought.)

The policy provides no information on this.

D14. Does the policy explicitly require that commitments are irrevocable? If so, does the policy mention allowable exceptions (such as defensive suspension, or if the licensee refuses to offer a reciprocal license)?

The policy provides no information on this.

D15. What does the policy specify about the eventual transfer of patents for which commitments have been made?

The policy provides no information on this.

D16. Does the policy specify anything about ex-ante disclosure of most restrictive licensing terms? (e.g. forbidden, voluntary, mandatory, recommended, endorsed)

No really, although organizations can (and are encouraged) to provide additional licensing information, which could arguably include specific licensing fees as well. But this is not being mentioned anywhere in the IETF policy.

An IETF representative clarified: *"As noted in D.1, the large majority of IETF participants do specify licensing terms in their patent disclosures, and the majority specify RF/non-assertion terms."*

D17. Is there any link between the IPR policy – or the SDO in general – and a patent pool or other licensing programs? Can you describe this link?

No.

D18. Are all licensing commitments being made public? Where and in what form? Is there any information in the disclosures that is not made public?

Yes, see question C20 as these are the same statement in which there is disclosure.

Part E: SDO procedures and public

E1. What are the remedies available to SDO in case of non-compliance with the policy (e.g. failure to disclose, failure to provide licensing commitments, other violations of the policy)?

Only disclosure is an obligation (not licensing).

There is a specific clause, however, that explains that confidentiality issues or not being allowed to disclose cannot be a reason not respect the disclosure obligation. In such a case, an individual should refrain from participation.

Should submitters not comply with the specific form of the statement, the procedure as detailed in Question C16 is followed.

An IETF representative clarified: *"In addition, a policy specifying the range of administrative penalties for non-compliance is currently under development."*

Sources and additional details:

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There are cases where individuals are not permitted by their
   employers or by other factors to disclose the existence or substance
   of patent applications or other IPR.  Since disclosure is required
   for anyone submitting documents or participating in IETF discussions,
   a person who does not disclose IPR for this reason, or any other
   reason, must not contribute to or participate in IETF activities with
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> respect to technologies that he or she reasonably and personally knows to be Covered by IPR which he or she will not disclose. Contributing to or participating in IETF discussions about a technology without making required IPR disclosures is a violation of IETF process. (RCF 3979, §7.)

E2. How does the policy deal with companies that chose not to enter into licensing commitments (insofar as the policy allows such a choice)?

Choosing not to license is allowed for any IPR holder. The reaction of IETF seems to depend on the view of the working group. If it believes it is appropriate (because the value of the included technology outweighs the licensing costs and the risks) it may continue its work by including the technology.

> The results of this procedure shall not, in themselves, block publication of an IETF Document or advancement of an IETF Document along the standards track. A working group may take into consideration the results of this procedure in evaluating the technology, and the IESG may defer approval when a delay may facilitate obtaining such assurances. The results will, however, be recorded by the IETF Executive Director, and be made available online. (RCF 3979, §4, at c.)

> But IETF working groups have the discretion to adopt technology with a commitment of fair and non-discriminatory terms, or even with no licensing commitment, if they feel that this technology is superior enough to alternatives with fewer IPR claims or free licensing to outweigh the potential cost of the licenses. (RCF 3979, §8)

E3. How does the SDO deal with non-members (third parties), for instance when it is brought to the attention of the SDO that such a third party owns IPR essential to one of its standards?

See question C4.

E4. What are the policy and practices about (1) handling and possible rejection of incomplete disclosure or licensing statement, (2) correction of clerical errors (including patent identities), (3) resubmission of statements in any of the above cases?

The policy provides no information on this, apart what was already discussed in Question C16.

Part F: Conflicts and enforcement

Not included

Part G: Other

G1. Is the content of meetings of Technical Committees, Technical Bodies or similar groups considered to be public information? This is especially relevant for patent examiners, who need to consider whether such information should or should not be considered when examining prior art in (new) patent applications.

An IETF representative clarified*: "All IETF proceedings are public."*

G2. Are there any specific provisions on software / copyright when that software is part of the content of the standard? (This question does not concern the copyright on the text of the standard as such.)

No. Copyright is included in the definition of essential IPR but all the regular provisions apply, there is not any specific provision.

An IETF representative clarified*: "Most of the provisions, however, are clearly written with only patents in mind ('granted', 'applications', 'unpublished') so the application to the copyright domain might create some issues"*

An IETF representative clarified*: "See RFC 5378 and Trust Legal Provisions. All code components included in IETF documents is automatically licensed under the BSD open source license."*

G3. Are there any rules in relation to IPR in standards of other SSOs that are normatively referenced in a standard?

The policy provides no information on this.

Part H: ADDITIONAL ASPECTS

Attitude towards patents in standards: Many IETF groups have a preference for not including IPR, unless they feel such inclusion is justified.

There is a preference for creating standards with no essential IPR at all. In general, IETF working groups prefer technologies with no known IPR claims or, for technologies with claims against them, an offer of royalty-free licensing. However, there is the freedom for groups to adopt technology with a commitment of fair and non-discriminatory terms, or even with no licensing commitment, if they feel that this technology is superior enough to alternatives with fewer IPR claims or free licensing to outweigh the potential cost of the licenses.

Sources and additional details:

the IETF following normal processes can decide to use technology for which IPR disclosures have been made if it decides that such a use is warranted (RCF 3979, §2 at b)

More than any other SDO, IETF stresses the one of the aims of its policy is to make informed decisions about the use of a particular technology.

Sources and additional details:

in order for the working group and the rest of the IETF to have the information needed to make an informed decision about the use of a particular technology, (RCF 3979, §2 at c)

Timely IPR disclosure is important because working groups need to have as much information as they can while they are evaluating alternative solutions. (RCF 3979, §6.2)

> The results of this procedure shall not, in themselves, block publication of an IETF Document or advancement of an IETF Document along the standards track. A working group may take into consideration the results of this procedure in evaluating the technology, and the IESG may defer approval when a delay may facilitate obtaining such assurances. The results will, however, be recorded by the IETF Executive Director, and be made available online.

(RCF 3979, §4, at c.)

Since IPR disclosures will be used by IETF working groups during their evaluation of alternative technical solutions, it is helpful if an IPR disclosure includes information about licensing of the IPR in case Implementing Technologies require a license. Specifically, it is helpful to indicate whether, upon approval by the IESG for publication as RFCs of the relevant IETF specification(s), all persons will be able to obtain the right to implement, use, distribute and exercise other rights with respect to an Implementing Technology a) under a royalty-free and otherwise reasonable and non-discriminatory license, or b) under a license that contains reasonable and non-discriminatory terms and conditions, including a reasonable royalty or other payment, or c) without the need to obtain a license from the IPR holder.

> The inclusion of licensing information in IPR disclosures is not mandatory but it is encouraged so that the working groups will have as much information as they can during their deliberations. If the inclusion of licensing information in an IPR disclosure would significantly delay its submission it is quite reasonable to submit a disclosure without licensing information and then submit a new disclosure when the licensing information becomes available.

In parallel to its IPR process, IETF has a unique element in its IPR policy that may promote the availability of licenses for its standards. The promotion to a "Draft Standard" is a major advance in status. One of the key requirements is that "at least two independent and interoperable implementations from different code bases have been developed, and for which sufficient successful operational experience has been obtained. [...] If patented or otherwise controlled technology is required for implementation, the separate implementations must also have resulted from separate exercise of the licensing process." Apart from demonstrating interoperability, meeting requirement creates the assumption IPR are available at reasonable terms. Indeed, the IPR policy states that the existence of two independent implementations of a specification presume that licensing terms are reasonable and to some degree non-discriminatory. As such, this requirement relieves IPR problems.

An IETF representative clarified: *"The above procedure is only rarely used. Not particularly relevant."*

Sources and additional details:

No Determination of Reasonable and Non-discriminatory Terms:

> The IESG will not make any explicit determination that the assurance of reasonable and non-discriminatory terms or any other terms for the use of an Implementing Technology has been fulfilled in practice. It will instead apply the normal requirements for the advancement of Internet Standards. If the two unrelated implementations of the specification that are required to advance from Proposed Standard to Draft Standard have been produced by different organizations or individuals, or if the "significant implementation and successful operational experience" required to advance from Draft Standard to Standard has been achieved, the IESG will presume that the terms are reasonable and to some degree non-discriminatory. (See RFC 2026, Section 4.1.3.) Note that this also applies to the case where multiple implementers have concluded that no licensing is required. This presumption may be challenged at any time, including during the Last-Call period by sending email to the IESG.

(RCF 3979, §4.1)

See also RFC 2026, at §4.1.2:

> A specification from which at least two independent and interoperable implementations from different code bases have been developed, and for which sufficient successful operational experience has been obtained, may be elevated to the "Draft Standard" level. For the purposes of this section, "interoperable" means to be functionally equivalent or interchangeable components of the system or process in which they are used. If patented or otherwise controlled technology is required for implementation, the separate implementations must also have resulted from separate exercise of the licensing process. Elevation to Draft Standard is a major advance in status, indicating a strong belief that the specification is mature and will be useful.
>
> The requirement for at least two independent and interoperable implementations applies to all of the options and features of the specification. In cases in which one or more options or features have not been demonstrated in at least two interoperable implementations, the specification may advance to the Draft Standard level only if those options or features are removed.

In contrast to many other SDO's. IETF allows discussion about IPR validity, enforceability or applicability in the SDO setting:

> It should also be noted that the validity and enforceability of any IPR may be challenged for legitimate reasons, and the mere existence of an IPR disclosure should not automatically be taken to mean that the disclosed IPR is valid or enforceable. Although the IETF can make no actual determination of validity, enforceability or applicability of any particular IPR claim, it is reasonable that a working group will take into account on their own opinions of the validity, enforceability or applicability of Intellectual Property Rights in their evaluation of alternative technologies. (RCF 3979, §8)

<< END >>