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Area Review Teams for  
Early Cross-functional Reviews

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Abstract

This document contains a proposal for cross-functional IETF review process that can be initiated at early stages of a document life cycle. The approach is based on existing experience with area directorates and other expert groups within the IETF.

Please send any comments on this document to the IESG ([iesg@ietf.org](mailto:iesg@ietf.org))

**1. Introduction**

Cross-functional (intra-area and cross-area) review are the properties of the IETF that are supposed to ensure high quality of

the produced technologies, their scalability and safety for the Internet as a whole. It has been widely acknowledged that these properties are among the core values of the IETF and have to be preserved in order for the IETF to continue being a successful engineering and standards organization.

Currently, the AD review and IESG review processes are the only formal ways within the IETF to ensure cross-functional, and in particular cross-area reviews. Since these reviews happen only when the documents are submitted for final approval, issues are brought up late in the process, often when contributors have invested a lot of cycles into the document, the technology has possibly been implemented, and changes in direction or certain technical details are painful and frustrating. If interim cross-functional or cross-area review is needed, it is currently done informally, and this process is not necessarily coordinated with the following review by the IESG members.

Creating a more formal and better described mechanism for cross-area review that would be coordinated with the IESG review process, and could be involved at any point within a life cycle of a document should substantially improve the quality of the documents submitted to the IESG and minimize the number of substantial issues identified late in the process. A straight-forward way to do this could be to request interim IESG review before the document is completed and submitted for final approval. However, if applied to a considerable number of documents (and we do want more documents to benefit from cross-area review), this would put additional load on the IESG and could impact document processing time.

This document proposes a cross-area review process that should have better scaling characteristics. The method is based on delegation of the document review function from ADs to the area review teams, currently known as "area directorates" in some areas, or "doctor groups" in others. Note that the described process does not obviate the need for the cross-functional peer review performed by regular IETF participants (members of the review teams or not). On the other hand, the peer review process can be improved by directly (and informally) soliciting comments from the review teams.

The proposed method is based on the experience several IETF Area Directors have with involving groups of experts in the process of early document review and during the IESG review cycle.

More specifically:

- o the Routing Area Directors have been using the Routing Area Directorate group (rtg-dir) for review of the documents coming



out of the WGs within the Routing Area before they are submitted for final approval to the IESG. The directorate is also asked to review certain documents appearing on the IESG agenda from time to time.

- o Operations directorate (ops-dir) has also been used for early document review and during the IESG review period.
- o The MIB-Doctors group is consistently involved in preparation of MIB documents before they are brought to the IESG

<comment> Should add info on the Transport-Doctors group here  
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At this point the process of document review by these expert groups is not described and has no formal standing with the IETF. Not all areas have similar expert groups and/or they are not publicly known to the wide community. There is also no described way for WG chairs to request review by experts groups in other areas and expect a guaranteed follow-up.

This proposal formalizes the notion of such expert review teams, describes how they are used for cross-functional review, the relation of this process to the final IESG review process, and how the cross-functional review can be requested and should be followed up on.

## **2. Proposal**

### **2.1 Overview**

Briefly, the cross-functional review process may be described as follows.

Each area has an area review team (ART) which ADs delegate the interim document review function to. When necessary (early in the process, or during the WG Last call, or both), the WG chairs request the review for a document by sending an e-mail to all required ARTs (at a minimum the ART of the area the WG belongs to). The IETF-wide Last Call announcement is cc'ed to all ARTs. Provided feedback is taken to the WG for discussion. Consistency with the later IESG review process is ensured through training of the reviewers by the ADs and reviewers communicating the recommendations wrt the documents to the ADs.

The following sections provide more details regarding the proposed approach.

### **2.2 Assumptions**



The described proposal is predicated on certain assumptions that are worth spelling out:

1. The IESG remains the body responsible for final approval of the IETF documents.

The implication of this assumption is that the documents will finally have to go through the IESG review process with individual IESG members checking the document. This implies that interim reviews performed before that stage should be coordinated with later IESG reviews. Otherwise it is possible that the issues discussed previously will be brought up again. The coordination is also needed to usefully off-load (part of) the document review function from individual ADs.

2. The ADs remain to be trusted by the community (through the NomCom process) to function as final document reviewers and are responsible for the document quality.

The implication here is that since the ADs are held responsible for the results of the document review, they need to feel comfortable delegating this review function to the ART members, which will have bearings on the method of ART member selection.

The reasoning behind using these assumptions is to use the existing mechanisms and tools (known running code) as much as possible and avoid extreme changes to the document approval process that may result in a DoS on it.

### 2.3 Area Review Teams

Each area creates an Area Review Team (ART) that is addressable through a well-known mailing list address (e.g. "<area-name>-review@ietf.org"). At a minimum, the group includes the ADs, however it is expected that it will include technical experts, willing to contribute their time to reviewing the IETF documents from the same and other areas and providing consultation to the area directors. The ADs will delegate the review function for some (or all) documents to ART members.

Selection of the ART members is done personally by the ADs. Possible variations, however, may include open call for nominations, followed up by ADs interviewing the candidates and personally approving them.

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See assumption 2 in [section 2.2](#) for the reasons



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When a document needs to be reviewed by ART, the AD assigns two ART members as "token holders". All ART members are encouraged to review the document, however, the token holders are held responsible for providing comments within a 2-week time frame and following up on them with the document authors and/or the hosting WG. The token holders will also provide the ADs with their recommendation including the summary of the discussion, the list of issues and how they have been addressed.

#### 2.4 Cross-Area Review Process

This section describes the actual cross-functional review process that can be initiated at any point within the life cycle of a document. This process is automatically initiated whenever an IETF- wide Last Call is started for a document.

1. The set of area review teams engaged is determined by the initiator of the review process in consultation with the responsible AD. At a minimum, this set includes the ART of the hosting area. For the IETF Last Call, this set includes all ARTs.

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the stimulus behind choosing the right set of review teams is to get the review comments that are likely to be brought up during the final IESG review earlier in the process

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The set of review teams may also include the IAB review team (assuming this is a subset of IAB members, or the IAB itself otherwise).

2. An e-mail message with the review request is sent to the mailing lists of all ARTs that need to be engaged.
3. ADs for each engaged ART have the choice of either "signing off" on the referred document if they believe that the document does not need a detailed review from the perspective of that area, or assigning the token holders (2 persons) that will conduct the document review within a 2-week time frame. Other members of the review teams are strongly encouraged to provide feedback, but will not be held responsible for this by the ADs.





4. Document reviewers bring their concerns to the attention of the document authors and/or the WG via e-mail communication on the WG mailing list and (if necessary) the mailing list of the ART they are members of.
5. Based on the discussion with the authors/within the WG, the reviewers provide their responsible AD with a recommendation regarding the document. The recommendation includes the summary of the review, as well as the list of issues and their resolution.
6. The authors/WG treat the feedback as part of the WG or IETF-wide review process

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An important point here is that the discussion initiated by this review process is integrated within the normal WG process, rather than treated as a pronouncement from a higher authority.

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7. If a document returns to an ART (e.g., the document is under the IETF Last Call and was reviewed during the WG Last Call), the same token holders will "own" the document whenever possible. The token holders check that the new revision of the document reflects the previous discussion correctly. If no additional concerns arise, the recommendation to the ADs of the ART remain the same.
8. The ADs have the power to bring up during the IESG review process the reviewers' comments that were not addressed by the authors/WG if they believe this is appropriate. The ADs also have the power to override the comments from their corresponding review teams.

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The above gives the ADs the ability to insist on fixing certain comments that they believe represent serious issues if they were discarded while processing the cross-area review feedback during the WG process as described above. This also gives them the right to withdraw certain points from the consideration or change them if they believe this is appropriate for the progress of a document. This is consistent with the concept that the ADs are responsible for the final document approval and that the review teams provide their expert



recommendations based on the discussions within the WG.

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## 2.5 Role of Cross-Area Review within the Standards Process

The cross-function review process is integrated within the IETF Standards Process as described below:

### 1. WG process:

When initiated early within the life cycle of a document, the feedback from the cross-area review process is considered part of the WG discussion and consensus forming process.

### 2. WG Last Calls:

It is expected that the cross-area review will also be requested during the WG LC period. Procedurally, this will have the same value as during the WG process, but would ensure that final cross-area checks are performed before the documents comes to the IESG.

### 3. AD-review process

It is expected that the ADs will use the review teams to delegate the review function and thus off-load a considerable part of this function when and as deemed appropriate. The ADs are expected to coordinate with the ART members to ensure that consistent review criteria is applied to documents so that most issues that would otherwise be brought up during the AD-review process are resolved earlier in the life cycle of the document.

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Note that ADs are given a tool they can use to off-load document review to the extent they believe is necessary, but they are not required to do so. It is then left to the ADs to make sure they are using this tool appropriately and sufficiently.

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### 4. IETF Last Call

As all ARTs are informed about IETF Last Calls, it is expected that by the time the documents is on the IESG agenda, it will



have received adequate cross-functional review and all ADs will have some recommendation on the document from their ARTs.

## 5. IESG review process

It is expected that individual ADs will organize the review process in the review teams in such a way that a positive recommendation from the review team should be sufficient for the ADs to feel comfortable that most of the possible technical issues have been identified, followed up on, and resolved, and that the ADs only need to look for very high-level, architectural issues. This, in turn, should a) decrease the amount of time the ADs need to spend on the document review and follow up, and b) minimize the number of "late surprises" arising during the IESG review process.

### 2.6 Initiation of Review Process

The cross-functional review process can be initiated either by an AD or by a WG chair after consultation with the ADs.

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Consultation with the AD is a sanity check to make sure the set of engage ARTs is chosen right

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The review process may be initiated at an early stage of a document (e.g. when the WG is starting to consider an approach) to ensure architectural validity and correctness of the general direction

The review process should be initiated as part of the WG LC to minimize late surprises during the IESG review process

The review process must be initiated for all documents going through the IETF Last Call.

The same process may be used by the ADs and the RFC-Editor to request cross-functional review for individual submissions they are shepherding or checking for conflicts.

A simplified version of this process (no token holders, no issue tracking within ARTs, etc.) can be used to inform ART members about technical discussions and solicit their comments.

### 2.7 Documenting Results of Review



It is important that the feedback from ARTs and the results of the discussion with the authors/WG are documented for later reference during the IESG review process.

For WG documents this is ensured by the WG chairs who keep track of the issues (as part of the improved WG process) and summarize them when submitting the document to their ADs for IESG processing.

For individual submissions this function is either performed by the review initiator (an AD) or delegated to a member of the review team with a consequent report to the ADs

For ARTs in the other (non-hosting) area, token holders within the review team assigned to the documents are responsible for tracking the issues on their side and summarizing them in their recommendation to the ADs

## 2.8 Trust, Responsibility, and Accountability

An important aspect of the proposal documented here is that the models of trust, responsibility, and accountability currently used and practiced within the IETF are not changed.

More specifically, the ADs, selected by the NomCom process as individuals "trusted" by the community to perform the ultimate technical review and document approval functions, are still held responsible and accountable for these functions. In other words, the tool of delegating the document review function to the review teams does not remove the responsibility of the ADs for the results of such review. The ADs are expected to personally ensure that the individuals selected by them as members of the review teams have appropriate qualification (through required training if needed) to perform this function. It is also the AD's responsibility to adjust the list of members (hire more members or fire ill-performing ones) to maintain adequacy of the review process and require level of off-loading.

## 2.10 Motivation and Credit

The following methods are proposed to make the role of an ART member attractive and keep ART members motivated and acknowledged:

1. Formalization of the review team role.

Formal introduction of ARTs within the IETF standard process should result in recognition of this role individual members and their employers.





2. Open area meetings (plenary)

It is possible to give ART members public exposure by holding ART plenary during the open area meetings

3. Acknowledging reviewers

Reviewers engaged in ARTs are acknowledged in the published RFCs.

4. Dots on the badges

ART members are identified at the face-to-face meetings with dots on their badges

### **3. Problems being addressed**

The proposal described here addresses the following problems experienced within the IESG and IETF in general:

1. Low document quality

It is expected that additional review of the documents should substantially improve the quality of the IETF documents.

2. Individual AD load

It is expected that improved quality of the documents submitted to the ADs for AD-review, should decrease the amount of time spent on document review and follow-up on the issues. Delegation of the document review function should also result in considerable off-loading.

3. Overall IESG load

It is expected that improved quality of the documents submitted to the IESG should decrease the document review load on the IESG. Reports from the ARTs on previously reviewed documents should also make it easier for individual IESG members to assess the quality of incoming documents.

4. Late surprises

Earlier cross-functional review coordinated with later IESG review should minimize the number of unexpected issues identified at the later stages of a document life cycle.



5. Lack of cross-area review

This proposal directly encourages cross-area review

6. Lack of cross-functional expertise

This proposal should encourage learning of technologies in different areas of IETF and should help growing cross-area expertise.

7. Growing future management

Involvement of more IETF participants in the Standards Process should help increase the number of individuals capable of performing the tasks of WG chairs and IESG members.

#### **4. Security Considerations**

This type of non-protocol document does not directly affect the security of the Internet. However, the cross-functional review process described here should improve the security aspects of specific approaches being reviewed.

#### **5. References**

#### **6. Acknowledgements**

The author would like to thank Harald Alvestrand and Ted Hardie for their comments on the document.

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