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Early IANA Code Point Allocation
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Abstract

This document describes the requirements for securing IANA code point assignments while IETF Stream Internet-Drafts are still in development and, in certain cases, when the lack of an IANA allocation would block standards publication outside the IETF. This document obsoletes RFC 7120.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at https://datatracker.ietf.org/drafts/current/.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on 5 August 2026.

Table of Contents

1. Introduction

In protocol specifications documented in RFCs, there is often a need to allocate code points for various objects, messages, or other protocol entities so that implementations can interoperate. Assignments from these code point spaces are handled by the Internet Assigned Numbers Authority (IANA) in accordance with processes described in [I-D.ietf-ianabis-rfc8126bis].

In situations where code points are a scarce resource and/or the IETF community has consensus to retain tight control over which proposed assignments qualify for registration, policies such as "IETF Review" or "Standards Action" are used. However, these allocation policies present a problem in situations where implementation and/or deployment experience is desired or required before the document has been finalized and approved for publication by the IESG.

Because IANA normally waits for the IESG to approve publication before allocating values for Internet-Drafts, some document authors have historically chosen seemingly-unused code points to facilitate pre-publication testing, often by selecting the next available value in the registry.

However, values cannot be guaranteed until IANA allocates them. If IANA later assigns values that don't match the values specified in the draft (for example, because those expected values were allocated for another purpose while the document was in development), that mismatch can result in interoperability problems between early "pre-RFC" implementations that use the unofficial values and

implementations that adhere to the official IANA assignments published in the registry and the RFC. This is contrary to the main purpose of standards: namely, to facilitate interoperable implementations.

Organizations that publish standards outside the IETF ecosystem can run into a different timing issue. The "Specification Required" policy described by [I-D.ietf-ianabis-rfc8126bis] requires both IESG-designated expert approval and a "permanent and readily available public specification, in sufficient detail so that interoperability between independent implementations is possible." Some organizations, however, are unable to publish any version of a specification until they receive code point assignments.

This memo establishes early code point allocation procedures for two document types: IETF Stream Internet-Drafts in development and non-IETF standards nearing publication. These procedures make allocations otherwise prohibited by publication status available on a time-limited basis, provided the allocation request meets certain eligibility criteria. When appropriate, these early allocations will be carried through to the final published specification.

1.1. Changes Since RFC 7120

This is the third edition of the document that describes the policy for early allocations. This edition, which obsoletes [RFC7120], makes two major changes: 1) it creates an early allocation procedure for standards-related organizations that need "Specification Required" allocations in order to publish finalized specifications, and 2) it extends the term of registration for all early allocations from one year to two. It also creates a registry of standards-related organizations recognized by the IESG; clarifies aspects of the renewal process available to IESG Stream Internet-Drafts; and notes that where registries require both document publication and expert approval for permanent registration, IANA requests expert approval for early allocation as well.

2. Conditions for Early Allocation

The term "early allocation" is typically used to refer to the process that allows for temporary but renewable assignments from registries that would ordinarily require an IESG-approved Internet-Draft, as described in Section 2.2. However, there are two other forms of early allocation: permanent allocations from registries that have limited or, more often, no publication requirements (Section 2.1), and a new process available to standards-related organizations that need allocations from IANA in order to publish (Section 2.3).

2.1. Permanent Early Allocation

If the desired code points come from a "First Come First Served" or "Expert Review" space, authors can request permanent registration from IANA at any time, regardless of document origin or status. (However, registry-specific eligibility criteria may apply, and IESG-designated experts may wish to postpone approval until the document advances.) Some "Specification Required" registries also make permanent registration available to Internet-Drafts, with expert approval.

Temporary registration from a "First Come First Served" or "Expert Review" registry is available only when the registry has its own bespoke early allocation procedure, as with the IS-IS process defined in [RFC7370].

2.2. Time-Limited Early Allocation for IETF Stream Internet-Drafts

The following conditions must hold before IANA can process a request for early allocation of code points that would otherwise require an Internet-Draft approved for publication by the IESG:

a. The code points must come from a space that requires RFC publication. Most registries of this type use the "RFC Required," "IETF Review," and/or "Standards Action" registration procedures defined by [I-D.ietf-ianabis-rfc8126bis], but some use combined or custom procedures. Additionally, this process can be applied to requests for early assignment from a "Specification Required" registry under the following conditions:

   * The registry does not accept Internet-Drafts for permanent registration

   * If approved by the IESG, the specification will be published as an IETF Stream RFC

   * IANA can obtain expert approval, as described in Section 2.2.1.1

b. The format, semantics, processing, and other rules related to handling the protocol entities defined by the code points (henceforth called "specifications") must be adequately described in an IETF Stream Internet-Draft.

c. The specifications of these code points must be stable; i.e., if there is a change, implementations based on the earlier and later specifications must be seamlessly interoperable.

d. The Working Group chairs and Area Directors (ADs) must determine that there is sufficient interest in the community for early (pre-RFC) implementation and deployment, or that failure to make an early allocation might lead to contention for the code point in the field.

2.2.1. Process for Early Allocation

There are three processes associated with early allocation for IETF Stream Internet-Drafts: making the request for code points, following up on the request, and revoking an early allocation.

The processes described below assume that the document in question is the product of an IETF Working Group (WG). If this is not the case, replace "WG chairs" below with "Shepherding AD."

2.2.1.1. Request

The process for requesting and obtaining early allocation of code points for IETF Stream Internet-Drafts is described below:

1. The authors (editors) of the document submit a request for early allocation to the Working Group chairs, specifying which code points require early allocation and to which document they should be assigned.

2. The WG chairs determine whether the conditions for early allocations described in Section 2.2 are met, particularly conditions (c) and (d).

3. The WG chairs gauge whether there is consensus within the WG that early allocation is appropriate for the given document.

4. If steps 2) and 3) are satisfied, the WG chairs request approval from the AD(s). The AD(s) may apply judgment to the request, especially if there is a risk of registry depletion.

5. If the ADs approve step 4), the WG chairs contact IANA to request an early allocation.

6. If the allocation comes from a "Specification Required" registry, or another registry that requires both RFC publication and review by an IESG-designated expert, IANA asks the expert(s) to approve the request.

7. IANA makes an allocation from the appropriate registry, marking the allocation as temporary, valid for a period of two years from the date of allocation. The date of first allocation and the date of expiry are also recorded in the registry and made visible to the public.

Note that Internet-Drafts should not include a specific value of a code point until IANA has completed the early allocation for this value. If a desired value must be named in the document before IANA can allocate the code point, it should be clearly labeled as, e.g., "(suggested)" or "(TBD)."

2.2.1.2. Follow-Up

It is the responsibility of the document authors and the Working Group chairs to review changes in the document, and especially in the specifications of the code points for which early allocation was requested, to ensure that the changes are backward compatible.

If at some point changes that are not backward compatible are nonetheless required, a decision needs to be made as to whether previously allocated code points must be deprecated (see Section 2.2.1.3 for more information on code point deprecation). The considerations include aspects such as the possibility of existing deployments of the older implementations and, hence, the possibility for a collision between older and newer implementations in the field.

If the document progresses to the point at which IANA normally makes code point allocations, it is the responsibility of the authors and the WG chairs to remind IANA that there were early allocations and of the code point values allocated in the IANA Considerations section of the RFC-to-be. Allocation is then just a matter of removing the "temporary" indicator from the registration.

2.2.1.3. Expiry

As described in Section 2.2.1.1, each temporary assignment is recorded in the registry with the date of expiry of the assignment. If an early allocation will expire before the IESG approves the document for publication, IANA will contact the WG chairs and AD to ask whether they wish to renew the code points for an additional two-year period.

After the first extension, any further renewal requests must also be approved by the IESG. The renewal request to the IESG must include the reason(s) another renewal is necessary and the WG’s plans for the specification.

If an extension is not approved, IANA will ask the WG chairs whether they recommend deprecating the code point; completely de-allocating it, making it available for assignment again; or leaving the allocation in place, but with its "temporary" marker, and an expiration date indicating that it is no longer valid. Factors influencing this decision will include whether there may be implementations using the previous temporary allocation and the availability of other unallocated code points in the registry.

Implementers and deployers need to be aware that deprecation and de-allocation could take place at any time after expiry. An expired early allocation is therefore best considered as deprecated.

Note that if a document is submitted for review to the IESG, and at the time of submission some early allocations are valid (not expired), these allocations must not be considered to have expired while the document is under IESG consideration.

2.3. Time-Limited Early Allocation for Standards-Related Organizations

%% QUESTIONS FOR IANABIS: assuming that the IESG is satisfied that the organization qualifies, and the expert believes that all other registration criteria have been met, what needs to be true of an SDO spec in order for it to qualify for early allocation? Our understanding is that this process is meant only to break a deadlock where the SDO can’t publish until they have values. RFC 8392 solves this by saying, "to allow for the allocation of values prior to publication, [its] Designated Experts may approve registration once they are satisfied that such a specification will be published."

1. Should we simply say that the experts can approve if they’re satisfied that the document will be approved within a single non-renewable two-year early allocation period?

2. Are there other criteria that should be considered/described here?

3. Should these registrations be renewable? (Presumably, if a registration were to expire, the same codepoints could be registered by the organization at a later date, if the expert agrees, as they could for IETF Stream early allocations.)

PROPOSED TEXT:

If a standards-related organization needs one or more codepoints from a "Specification Required" registry in order to publish the required specification, and the IESG-designated expert is satisfied that the document will be published within two years, the expert can recommend a non-renewable two-year early allocation. The allocation will be marked as temporary in the registry, with an expiration date.

Registrations of this type are available only to organizations listed in the "IESG-Recognized Standards-Related Organizations" registry described in Section 3. If the organization has not been registered, IANA will ask the IESG for permission to add the organization to the registry.

If an early allocation expires before the document can be published, the expert will determine whether the allocations should be marked as "deprecated," marked as "obsoleted," left in place with the original expiration date, or deleted (in which case any registered value would be returned to the pool of assignable values).

The expert, rather than IANA, is responsible for tracking whether the document has been published. However, IANA will track the allocation’s expiration date and, if necessary, contact the expert for handling instructions.

3. IANA Considerations

IANA will continue to register approved early allocations as described in this document, requesting IESG-designated expert approval when the registry requires it; track and report expiring early allocations; and initiate the early allocation renewal process.

%% QUESTION FOR IANABIS: We believe that 1) the new registry of standards-related organizations should be added to https://www.iana.org/assignments/iesg-recognized-organizations, where we keep the registry of organizations that have registered standards-tree media types, and 2) the registry group at that URL should then be renamed "IESG-Recognized Standards-Related Organizations," which should probably be the name for the registry itself. Our question is: should we create a new registry of standards organizations or modify the existing one created for media types by RFC 6838? (If they’re separate registries, we assume that we won’t be pre-populating the current registry with entries from the existing one.)

POSSIBLE TEXT:

OPTION 1 (new registry): IANA will change the name of the registry group at https://www.iana.org/assignments/iesg-recognized-organizations, which currently refers only to media type

registrations, to "IESG-Recognized Standards-Related Organizations," and create a registry of the same name at that location. The registration procedure will be "IESG Approval" [I-D.ietf-ianabis-rfc8126bis], and the fields "Organization Name" and "Reference." The registry will initially be empty.

OPTION 2 (repurposing RFC 6838 registry): IANA will change the name of the "Standards-related organizations that have registered Media Types in the Standards Tree" registry created by [RFC6838] to "IESG-Recognized Standards-Related Organizations" and list this document as an additional reference for it. Organizations considered by the IESG to qualify for standards-tree media type registration, as described by [RFC6838], will continue to be added to this registry.

4. Security Considerations

It is important to keep in mind that denial-of-service attacks on IANA are possible as a result of the processes defined in this memo. There are two that are immediately obvious: depletion of code space by early allocations and process overloading of IANA itself. The processes described here attempt to alleviate both of these potential attacks, but they are subject to scrutiny by IANA to ensure that they work. IANA may at any time request that the IESG suspend the procedures described in this document.

There is a significant concern that the procedures in this document could be used as an end-run around the IETF process to achieve code point allocation when an RFC will not be published. For example, a WG or a WG chair might be pressured to obtain an early allocation for a protocol extension for a particular company or for another Standards Development Organization even though it might be predicted that an IETF LC or IESG Evaluation would reject the approach that is documented. The requirement for AD consent is an important safeguard, and ADs with any concerns are strongly recommended to escalate the issue for IESG-wide discussion.

%% QUESTION FOR IANABIS: do we need text concerning the new standards-related organization procedure? If so, can the WG supply it?

5. References

5.1. Normative References

[I-D.ietf-ianabis-rfc8126bis]
Baber, A. and S. Tanamal, "Guidelines for Writing an IANA Considerations Section in RFCs", Work in Progress, Internet-Draft, draft-ietf-ianabis-rfc8126bis-00, 21 October 2025, <https://datatracker.ietf.org/doc/html/draft-ietf-ianabis-rfc8126bis-00>.

5.2. Informative References

[RFC6838] Freed, N., Klensin, J., and T. Hansen, "Media Type Specifications and Registration Procedures", BCP 13, RFC 6838, DOI 10.17487/RFC6838, January 2013, <https://www.rfc-editor.org/info/rfc6838>.

[RFC7120] Cotton, M., "Early IANA Allocation of Standards Track Code Points", BCP 100, RFC 7120, DOI 10.17487/RFC7120, January 2014, <https://www.rfc-editor.org/info/rfc7120>.

[RFC7370] Ginsberg, L., "Updates to the IS-IS TLV Codepoints Registry", RFC 7370, DOI 10.17487/RFC7370, September 2014, <https://www.rfc-editor.org/info/rfc7370>.

Appendix A. Acknowledgments

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