

Registries for W3C Specifications

W3C Breakout Day
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Logistics

- [W3C Calendar Entry](#)
- Please all join IRC at <https://irc.w3.org/?channels=%23registries>
 - Then type present+ to check in.
 - Type q+ to raise hand
- We will take minutes there manually.
 - Scribe will be Kaz
- Quickly introduce yourself before speaking (now if there are not too many people)
- These slides are public. [Link](#).

Participation Policies

- [Antitrust and competition policy](#)
 - W3C acts in a pro-competitive way that is ensured by this document.
- [Positive Work Environment at W3C: Code of Ethics and Professional Conduct](#)
 - Promote high standards of professional practice to ensure a positive work environment

Bringing some Context

Nature of this session:

- Brief presentation
- Discussion

Goal:

- Highlight a pressing matter
- Find a place within W3C for this type of discussion

Required background:

- Rough understanding of standardization process at the W3C

What is a Registry in General

A list

Really, that is all

Examples

IANA registries are well-known:

- [Media Types](#)
- [URI Schemes](#)
- [WebSocket subprotocols](#)
- [Language subtag](#)

W3C has also adopted [its own registry mechanism](#)

Registries and W3C RECs?

Normally all W3C REC Track documents cannot be changed at all after publication.

So even if we want to update a list, it becomes cumbersome.

Result: Registry mechanisms found in different SDOs

Why are we here?

- Share the registry analysis of the WoT WG with everyone
- Get input
- Discussion on managing registries in W3C
 - How to share this knowledge so that all WGs do not need have to do a similar work again
 - Process document? Extra document?
 - Best practices for registries in W3C

Analysis by the WoT WG

Why did we do an analysis?

1. WoT WG wants to have a binding registry as communicated in the charter:
“enable the integration of WoT into other ecosystems and communities”
2. W3C registry mechanism is very open by design. Each group needs to add the rules, and we should be more knowledgeable first.
3. Only [2 registry drafts](#) so far (not a lot of experience as W3C):
 - a. [WebCodecs Codec Registry](#)
 - b. [Alternative and Augmented Communication \(AAC\) Symbol Registry](#)

What did the WoT do?

- Analyzed both W3C and IANA processes
 - Custom W3C Registries (before the official mechanism)
 - Official Registries
 - Some IANA registries (URI schemes, Media types, WebSockets)
- Extracted and compared important procedures
- Documented the analysis at <https://github.com/w3c/wot/tree/main/registry-analysis>
 - Of course, open to feedback as with all our documents

Note: In TPAC23, there was an initial version of this session. [Slides are available.](#)

Switch to Jan

IANA Registries

Analyzed the following:

- URI Schemes ([RFC 7595](#))
- Media-types ([RFC 6838](#))
- Websockets Subprotocols ([RFC 6455](#))
- Websockets extensions ([RFC 6455](#))
- Websockets version number ([RFC 6455](#))

IANA Registries: Summary

Quite mature with various commonly accepted rules (as expected)

BUT it can be extended

Common review policies, as defined by RFC, include (order of strictness):

1. Private Use
2. Experimental Use
3. Hierarchical Allocation
4. First Come First Served
5. Expert Review
6. Specification Required
7. RFC Required
8. IETF Review
9. Standards Action
10. IESG Approval

URI Schemes (RFC 7595)

Registration policy for provisional: [First Come First Served](#)

Registration policy for permanent schemes : [Expert Review](#)

To register a new URI Scheme the RFC specifies the following

1. **Check Existing Entries:** Verify if the desired scheme name exists in the registry. If it exists, choose a different name or update the existing entry.
2. **Prepare Registration Request:** Create a scheme registration request as an Internet-Draft or submitted alone, following the guide.
3. **Review and Request Feedback:** If the registration is for a permanent scheme, submit it to the uri-review@ietf.org mailing list and other relevant mailing lists for necessary revisions.
4. **Submit to IANA:** Submit the scheme registration request to iana@iana.org.

Websockets sub-protocols (RFC 6455)

Registration policy : [First Come First Served](#)

The RFC adds a basic template with minor constraints/guidelines.

W3C Reports before the Registry Mechanism

- [DID Specification Registries](#)
- [XPointer Scheme Name Registry Policy](#)
- [Media Source Extensions Byte Stream Format Registry](#)
- [TTML Media Type Definition and Profile Registry](#)

W3C Reports before the Registry Mechanism: Summary

- Varying process complexity and formality, consensus as goal
- Varying entry formats
 - Links to formal specifications (exception: XPointer)
 - Specific requirements (e.g., JSON-LD context by DID)
- Deletion/deprecation processes (exception: XPointer)
 - Deleting only possible when requirements violated
 - DID only allows for deprecation
- Versioning as a blank spot
 - → Deprecation and Resubmission?

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W3C Reports with Official Registry Mechanism

Analyzed the following:

- [WebCodecs Codec Registry](#)
- [Alternative and Augmented Communication \(AAC\) Symbol Registry](#)

W3C Reports with Official Registry Mechanism: Summary

- Confirmation that the registry mechanism works
- Close collaboration with external communities/SDOs
- Not much in common between the two
- Can be a section in REC but no examples of it yet? What are the tradeoffs?
 - It is easy to update the table. No approval needed.
 - Values close to the place they are relevant to. Easy for the reader.

Comparison and Summary of Findings

	IANA	W3C Custom	W3C Official
Submission Process	Varies: email, web form	Varies: email, PR, web form	Varies: GitHub issue, liaison
Modification Process	Changes are allowed per RFC 8126. Removal not	In some cases, entries can be removed, some prefer deprecation	Not possible to remove or deprecate (theoretically possible)
Review	Common review policies	Custom (Editors, WG Consensus)	Custom (Liaison, WG consensus)
Guidelines	RFC 8126 (can be extended per document)	Per-Document	Process Document (must be extended per document)

Summary of Status at W3C

Despite the process document, the registry concept is still very custom per document and needs considerations from each WG, which is intended.

More exchange between the groups and developing best practices will be necessary for a wider/easier adoption of the registry mechanism.

Maybe involving the W3C Process Community Group?

Open Discussion

TTWG Inputs (from Nigel):

- <https://github.com/w3c/ttwg/tree/main/boilerplate/registry> -> Not to impose but used as an example -> Not approved yet
- <https://github.com/w3c/ttwg/discussions/241> -> This contains the different issues they have thought of
- <https://www.w3.org/TR/dapt/#registry-section> -> needs to be included in analysis
- Guide document would be a place for best practices

MiniApps (from Xiaoqian)

- +1 for information exchange

Check-out (to be extended in the end of the meeting)

A summary before the discussion ends:

- Main points of discussion, consensus, or disagreement?
 - i. Consensus on more exchange between groups
- What are the next steps?
 - i. Incorporating into the [Guide Document](#) if possible.
 - ii. Including registry sections into the results of [w3c search engine](#)
 - iii. WoT WG will clarify their requirements
- Who is responsible for carrying them out? (Could be a person from the session, or a group where work is ongoing, a new community group, the staff, etc.)
 - i. Contact the W3C team (Kazuyuki Ashimura)