# Registries for W3C Specifications

W3C Breakout Day
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# Logistics

- W3C Calendar Entry | Session Proposal on GitHub
- 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 X
- Quickly introduce yourself before speaking (now if there are not too many people)
- These slides are public. Link.
- The session is not recorded.

# 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
- Health Rules
  - Masks and tests are optional. Stay in your room and attend virtually if you do not feel well.

# Bringing some Context

Nature of this session:

- Brief presentation
- Discussion

Why:

- After a successful breakout day on 12th of March 2024, we identified the need to share our experiences as the W3C community.

Goal:

- Obtain more knowledge from others
- Find a place within W3C for this type of discussion

Required background:

- Rough understanding of standardization process at the W3C

Anyone not aware about the registries in general?
Write “reg” in IRC
If none, skip to slide 9

# 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, adapter for W3C process

# 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 3 registries so far (not a lot of experience as W3C):
   a. WebCodecs Codec Registry
   b. Alternative and Augmented Communication (AAC) Symbol Registry
   c. TTWG Registry Boilerplate and DAPT Registry Section

# What did the WoT WG do?

- Analyzed both W3C and IANA processes
  - Custom W3C Registries (before the official mechanism)
  - Official W3C Registries + TTWG Boilerplate
  - 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
  - And thanks to the last breakout, we could extend this with the registry experience from TTWG
- Started specifying Registry Rules at https://github.com/w3c/wot-binding-templates/blob/egekorkan-patch-4/registry-requirements.md (will be merged to main branch soon)

# Comparison and Summary of Findings

| | IANA | W3C Custom | W3C Official | **TTWG Boilerplate** |
|---|---|---|---|---|
| Submission Process | Varies: email, web form | Varies: email, PR, web form | Varies: GitHub issue, liaison | Issue or Email |
| 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) | Provisional to final. Deprecation is possible, deletion not |
| Review | Common review policies | Custom (Editors, WG Consensus) | Custom (Liaison, WG consensus) | WG Decision Process |
| Guidelines | RFC 8126 (can be extended per document) | Per-Document | Process Document (must be extended per document) | Boilerplate Checklist |

# TTWG Checklist

## § B. Checklist for applying this boilerplate to a real Registry

When adopting this boilerplate for use in a Registry, the following checklist may be helpful:

- Make a copy of this boilerplate and work on it in the appropriate repository;
- Write introductory text explaining the Registry, it's purpose and expected usage;
- Check that the custodianship rules are correct;
- Check that the change process is correct;
- Define the registry entry fields;
- Define which of the fields is/are used as the key;
- Create a table and populate it with any known values;
- Update any referencing specifications to link to it.

# 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.

TTWG Boilerplate and Checklist + WoT WG Analysis as a starting point?

If so, where should this live?

# Feedbacks and Whiteboard

# Archive

# W3C Reports with Official Registry Mechanism

Analyzed the following:

- WebCodecs Codec Registry
- Alternative and Augmented Communication (AAC) Symbol Registry
- TODO

# 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)

# 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 nam registry. If it exists, choose a different name or update th
2. **Prepare Registration Request:** Create a scheme registrat an Internet-Draft or submitted alone, following the guide
3. **Review and Request Feedback:** If the registration is for a to the uri-review@ietf.org mailing list and other relevant necessary revisions.
4. **Submit to IANA:** Submit the scheme registration request 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?