RFC 8007: CDNI Control Interface / Triggers

- Content/Metadata management
  - Preposition
  - Invalidation
  - Purge
RFC8007bis: Added Functionality

- Error Propagation
  - Identifying the error originating dCDN
- Trigger Extensibility
  - Time Policy
  - Location Policy
- Additional Content Selection Methods
  - content.regexs
  - content.playlists

- I-D draft-ietf-cdni-ci-triggers-rfc8007bis
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RFC8007 Trigger Object Properties

- Type (e.g. preposition)
- cdn-path
- metadata.urls
- content.urls
- content.ccid
- metadata.patterns
- content.patterns
Trigger.v2 Object Properties

- Type (e.g. preposition)
- cdn-path
- Trigger Extensions
  - metadata.urls
  - content.urls
  - content.ccid
  - metadata.patterns
  - content.patterns

Added
Trigger.v2 Object Properties

- Type (e.g. preposition)
- cdn-path
- Trigger Extensions
- metadata.urls
- content.urls
- content.ccid
- metadata.patterns
- content.patterns
- content.regexes
- content.playlists

Added
Trigger.v3 Object Properties

- Type (e.g. preposition)
- cdn-path
- Trigger Extensions
  - metadata.urls
  - content.urls
  - content.ccid
  - metadata.patterns
  - content.patterns
  - content.regexes
  - content.playlists
  - content.new-method
New Trigger.v2 Object Properties

- Type (e.g. preposition)
- cdn-path
- Trigger Extensions
  - metadata.urls
  - content.urls
  - content.ccid
  - metadata.patterns
  - content.patterns
  - content.regexes
  - content.playlists

- Type (e.g. preposition)
- cdn-path
- Trigger Extensions
- Trigger Specs

- Introduced additional flexibility to the trigger interface, allowing the specification of the trigger's targets via a list of "trigger specs" objects
- Furthermore, defined a generic trigger spec object that acts as a wrapper for managing individual CDNI trigger spec in a transparent manner, allowing future extension of the interface
Generic “Spec” Objects

- Specified targets to execute the trigger on
- Generic (several) types are already defined
  - UrlsSpec
  - CcidSpec
  - UriPatternsSpec
  - UrlRegexesSpec
  - ContentPlaylistsSpec
  - Future ...

- Apply to a specified Trigger-Subject
  - Metadata
  - Content
  - Future ...

Defined an initial set of trigger spec objects, and register (to do) the defined trigger specs' types as CDNI Payload Types [RFC7736] under the namespace CIT
Properties

- spec-subject
- generic-trigger-spec-type
- generic-trigger-spec-values

```json
{
  "spec-subject": "CIT.Metadata",
  "generic-trigger-spec-type": "CIT.UrlsSpec",
  "generic-trigger-spec-value": {
    "urls": [
      "https://metadata.example.com/a/b/c"
    ]
  }
}
```
Suggested Rename: trigger type → action

- Preposition
- Invalidation
- Purge

Trigger Action Type is used in a Trigger Specification to describe trigger action.
Trigger.v2: An example

"trigger.v2": {
  "action": "CIT.Preposition",
  "specs": [
    {
      "spec-subject": "CIT.Metadata",
      "generic-trigger-spec-type": "CIT.UrlsSpec",
      "generic-trigger-spec-value": {
        "urls": [
          "https://metadata.example.com/a/b/c"
        ]
      }
    },
    {
      "spec-subject": "CIT.Content",
      "generic-trigger-spec-type": "CIT.UrlsSpec",
      "generic-trigger-spec-value": {
        "urls": [
          "https://www.example.com/a/b/c/1",
          "https://www.example.com/a/b/c/2",
        ]
      }
    }
  ]
}
Status.v2 / Error.v2 Object

• Error.v2 Object - adjusting the “Error” object
  – Remove the “metadata.urls” etc. properties
  – Add the “spec” list
• Only the “specs” the error applies to are listed
• Only the spec-values the error applies to are listed
• The Status (status.v2) object is added with a “errors.v2” list
  – As well as a “Trigger.v2” internal object
Error.v2 Object - Example

```
"errors.v2": [
  {
    "specs": [
      {
        "spec-subject": "CIT.Content",
        "generic-trigger-spec-type": "CIT.UrlsSpec",
        "generic-trigger-spec-value": {
          "urls": [
            "https://www.example.com/a/b/c/2"
          ]
        }
      }
    ],
    "description": "The dCDN rejected a regex due to complexity",
    "error": "ereject",
    "cdn": "AS64500:0"
  }
],
```

Done
What is still left to be done?

- Do a broad sweep review of aforementioned changes including
- Check for consistent changes across, for example,
  - There are specs like the `url` spec that are built of plain strings
  - Other specs have multiple fields and are therefore based on dictionaries - e.g. `uri_pattern` spec
  - For consistency we might want to change all specs to be built of dictionaries (tbd)
- Submit an updated draft prior to IETF 115
- Ask for a WGLC at IETF 115