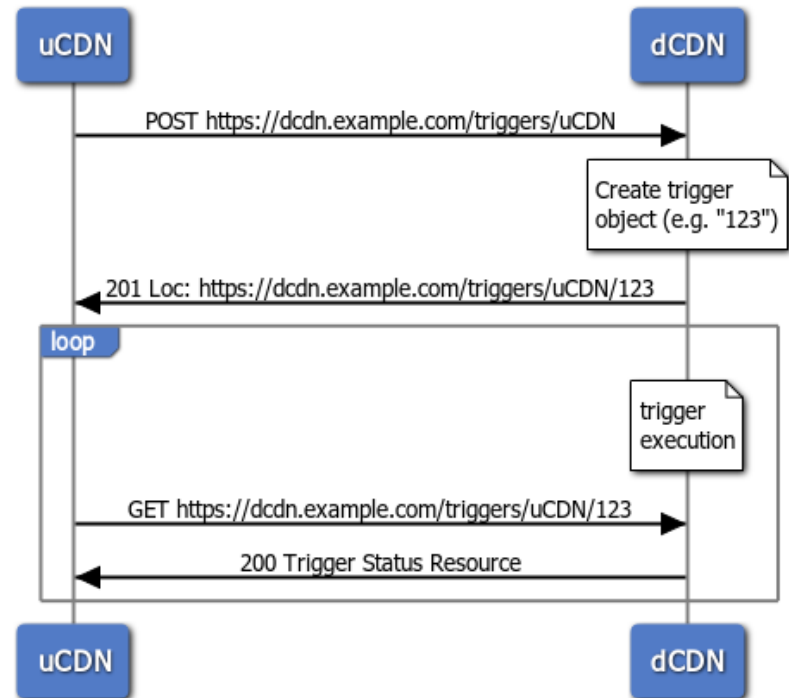


CDNi Control Interface / Triggers - 2nd Edition

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RFC 8007: CDNi Control Interface / Triggers

- Content/Metadata management
 - Preposition
 - Invalidation
 - Purge
- I-D draft-ietf-cdni-ci-triggers-rfc8007bis
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RFC8007bis: Added Functionality

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

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

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

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

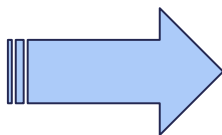


New Trigger.v2 Object Properties

- 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

Generic “Spec” Object

- Specifies targets to execute the trigger on
- Generic - several types are already defined
 - UrlsSpec
 - CcidSpec
 - UriPatternsSpec
 - UriRegexesSpec
 - ContentPlaylistsSpec
 - Future ...
- Applies to a specified Trigger-Subject
 - Metadata
 - Content
 - Future ...

Generic “Spec” Object - Structure

Properties

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

```
{
  "spec-subject": "CIT.Metadata",
  "generic-trigger-spec-type": "CIT.UrlSpec",
  "generic-trigger-spec-value": {
    "urls": [
      "https://metadata.example.com/a/b/c"
    ]
  }
}
```

Suggested Rename: trigger type → action

- Preposition
- Invalidation
- Purge

Trigger.v2: An example

```
"trigger.v2": {
  "action": "CIT.Preposition",
  "specs": [
    {
      "spec-subject": "CIT.Metadata",
      "generic-trigger-spec-type": "CIT.UrlSpec",
      "generic-trigger-spec-value": {
        "urls": [
          "https://metadata.example.com/a/b/c"
        ]
      }
    },
    {
      "spec-subject": "CIT.Content",
      "generic-trigger-spec-type": "CIT.UrlSpec",
      "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.UrlSpec",  
        "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"  
  },  
],
```

Error.v2 Object - Suggestion - Positional Values

- Simplifies Error parsing by preserving the position of the listed specs

```
"errors.v2": [  
  {  
    "specs": [  
      {}, // A Place holder for a spec that the error does not applies to  
      {  
        "spec-subject": "CIT.Content",  
        "generic-trigger-spec-type": "CIT.UrlSpec",  
        "generic-trigger-spec-value": {  
          "urls": [  
            "", // A Place holder for a urls that the error does not applies to  
            "https://www.example.com/a/b/c/2"  
          ]  
        }  
      }  
    ],  
    ...  
  },  
  ...  
]
```

A Thought: CIT Trigger.v2 vs. CIT2 Trigger

- CIT newly defined objects
 - Trigger.v2
 - Status.v2
 - Error.v2
- Renaming the interface itself may simplify thing
- As the protocol itself had not changed, we stayed with .v2 objects

Footprint and Capability Interface: CI/T Scope Capability - Requirements

- dCDN may support only some of the actions
 - May depend on the trigger subject
 - e.g. A dCDN supports “preposition” of “content” but on of “metadata”
- The supported actions may also have limitations
E.g.
 - Preposition of Content supports “TimePolicy” extension, while “purge” doesn’t
 - Content selection via “patterns” is supported, while “regexes” are not supported.

Footprint and Capability Interface: CI/T Scope Capability - Purpose

- For each combination of
 - Action (preposition, invalidate, purge, ... (future))
 - Subject (content, metadata, ... (future))
- Specify the supported
 - Generic Spec Types (i.e. targets selection methods)
 - Generic Extension Types (i.e. the “how to” instructions)
- Within the specified footprint

Footprint and Capability Interface: CI/T Scope Capability Object

List of:

trigger-scope-capabilities

- trigger-action
- trigger-subject
- trigger-specs
- trigger-extensions

```
{
  "capabilities": [
    {
      "capability-type": "FCI.TriggerScope",
      "capability-value": {
        "trigger-scope-capabilities": [
          {
            "trigger-action": "CIT.Preposition",
            "trigger-subject": "CIT.Content",
            "trigger-specs": ["CIT.UrlSpec", "CIT.CcidSpec"],
            "trigger-extensions": ["CIT.TimePolicy"]
          },
          {
            "trigger-action": "CIT.Invalidate",
            "trigger-subject": "CIT.Content",
            "trigger-specs": ["CIT.UrlSpec", "CIT.CcidSpec"]
          }
        ]
      },
      "footprints": [
        <Footprint objects>
      ]
    }
  ]
}
```

Next Steps

- Get remarks and submit an updated draft
- Finalize draft prior to IETF 114 (July)
- Ask for a WGLC by IETF 114