Call for adoption:

FCI: Additional Footprint Types
CI/T: 2nd Edition

Nov 2021. Nir. B. Sopher
v1.0
CDNi Footprint & Capability Interface

Additional Footprint Types
RFC 8006: Footprint Type & Object

- Footprint Types
  - IPv4 CIDR: e.g. 192.0.2.0/24
  - IPv6 CIDR: e.g. 2001:db8::/32
  - ASN: e.g. as64496
  - Country Code: e.g. us

- Footprint Object
  - Type
  - Values list

```json
{
  "footprint-type": "ipv4cidr",
  "footprint-value": ["192.0.2.0/24", "198.51.100.0/24"]
}
```
RFC 8008: Footprint & Capability Interface

```json
{
  "capabilities": [
    {
      "capability-type": "<CDNI capability object type>",
      "capability-value": "<CDNI capability object>",
      "footprints": [
        {
          "footprint-type": "asn",
          "footprint-value": ["as64496"]
        },
        {
          "footprint-type": "countrycode",
          "footprint-value": ["us"]
        }
      ]
    }...
```

...
New Footprint Type: Subdivision Code

- ISO3166-2 Subdivision code
  - Represents a state in the US, Province in Canada.
  - Format:
    - ISO3166-1 Alpha2 code
    - Alpha<=3 subdivision specific code
  - e.g. us-ny

```json
{
    "footprint-type": "subdivisioncode",
    "footprint-value": ["us-ny", "us-nj"]
}
```
New Footprint Type: Footprint Union

- Allows the creation of additive semantics
- Alternate name: “compound-footprint”
- Current narrowing semantics not effected

```json
"footprints": [
  {
    "footprint-type": "asn",
    "footprint-value": ["as64496"]
  },
  {
    "footprint-type": "footprintunion",
    "footprint-value": [
      {
        "footprint-type": "countrycode",
        "footprint-value": ["us"]
      },
      {
        "footprint-type": "subdivisioncode",
        "footprint-value": ["ca-ns"]
      }
    ]
  }
]
```
CDNi Control Interface / Triggers

2nd Edition
RFC 8007: CDNi Control Interface / Triggers

- Content/Metadata management
  - Preposition
  - Invalidation
  - Purge

- I-D draft-ietf-cdni-triggers-extensions
  O. Finkelman, S. Mishra, N.B. Sopher

- A new draft
  - draft-sopher-cdni-triggers-extensions-rfc8007bis
  - Merge I-D draft-ietf-cdni-triggers-extensions into RFC-8007
  - Obsolete RFC-8007
Added Functionality: Trigger Extensibility

- **RFC 8007**
  - Closed set of Trigger’s properties
  - Do not support fine control over trigger execution
    - Location
    - Time

- **I-D draft-ietf-cdni-triggers-extensions**
  - Generic Extensions
    - RFC 8006: GenericMetadata
  - Trigger/Error.v2 objects
    - New property: List of extensions
Added Functionality: Error Propagation

- RFC 8007
  - uCDN is not able to identify the dCDN originating the Error

- I-D draft-ietf-cdni-triggers-extensions
  - Error.v2 object
    - New property: cdn
Added Functionality: Content Selection

- **RFC 8007**
  - A set of properties
    - metadata.urls, content.urls, metadata.patterns …

- **I-D draft-ietf-cdni-triggers-extensions**
  - Support Regex and Playlist (HLS etc.)
  - Triggers.v2 / Error.v2 objects new properties
    - New properties: content.regexs & content.playlists
CDNi Control Interface / Triggers
Towards IETF 113
Additional Proposal (not in the current draft): Future Content Selection Methods

<table>
<thead>
<tr>
<th>Current Trigger Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>● type</td>
</tr>
<tr>
<td>● metadata.urls</td>
</tr>
<tr>
<td>● content.urls</td>
</tr>
<tr>
<td>● content.ccid</td>
</tr>
<tr>
<td>● metadata.patterns</td>
</tr>
<tr>
<td>● content.patterns</td>
</tr>
<tr>
<td>● content.regexs</td>
</tr>
<tr>
<td>● content.playlists</td>
</tr>
<tr>
<td>● extensions</td>
</tr>
<tr>
<td>● cdn-path</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suggested Trigger.V2 Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>● type</td>
</tr>
<tr>
<td>● objects (GenericTriggerObjects list)</td>
</tr>
<tr>
<td>● extensions</td>
</tr>
<tr>
<td>● cdn-path</td>
</tr>
</tbody>
</table>

- **Suggestion**
  - Benefit: Avoid future redefinition of the trigger/error objects
  - Trigger/Error new properties:
    - List of content/metadata-selection objects
  - The supported list of selection methods would be exposed by the FCI
  - To be added after the draft becomes a WG draft