

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
 - IPv4CIDR: e.g. 192.0.2.0/24
 - IPv6CIDR: e.g. 2001:db8::/32
 - ASN: e.g. as64496
 - Country Code: e.g. us

- Footprint Object
 - Type
 - Values list

```
{  
  "footprint-type": "ipv4cidr",  
  "footprint-value": ["192.0.2.0/24", "198.51.100.0/24"]  
}
```

RFC 8008: Footprint & Capability Interface

```
{
  "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



```
{
  "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

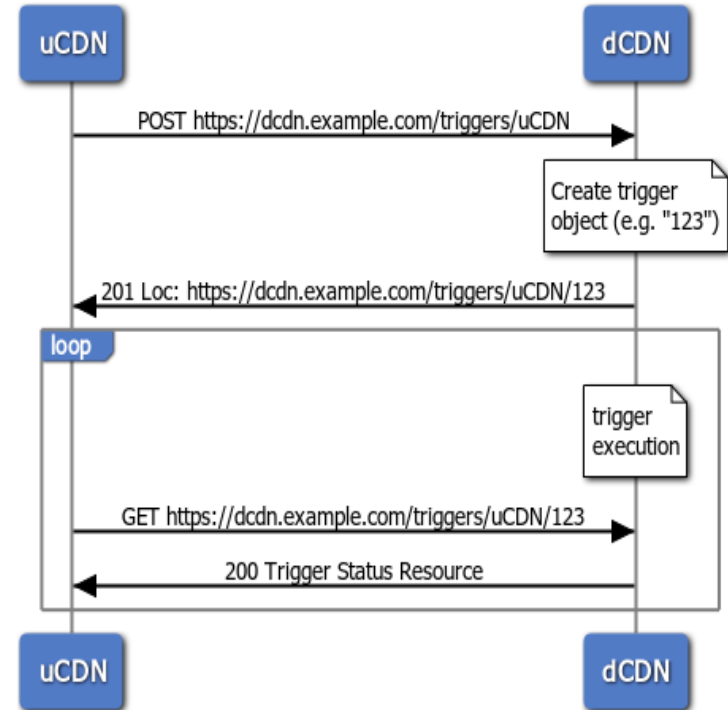
```
"footprints": [  
  {  
    "footprint-type": "asn",  
    "footprint-value": ["as64496"]  
  },  
  {  
    "footprint-type": "footprintunion",  
    "footprint-value": [  
      {  
        "footprint-type": "countrycode",  
        "footprint-value": ["us"]  
      },  
      {  
        "footprint-type": "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

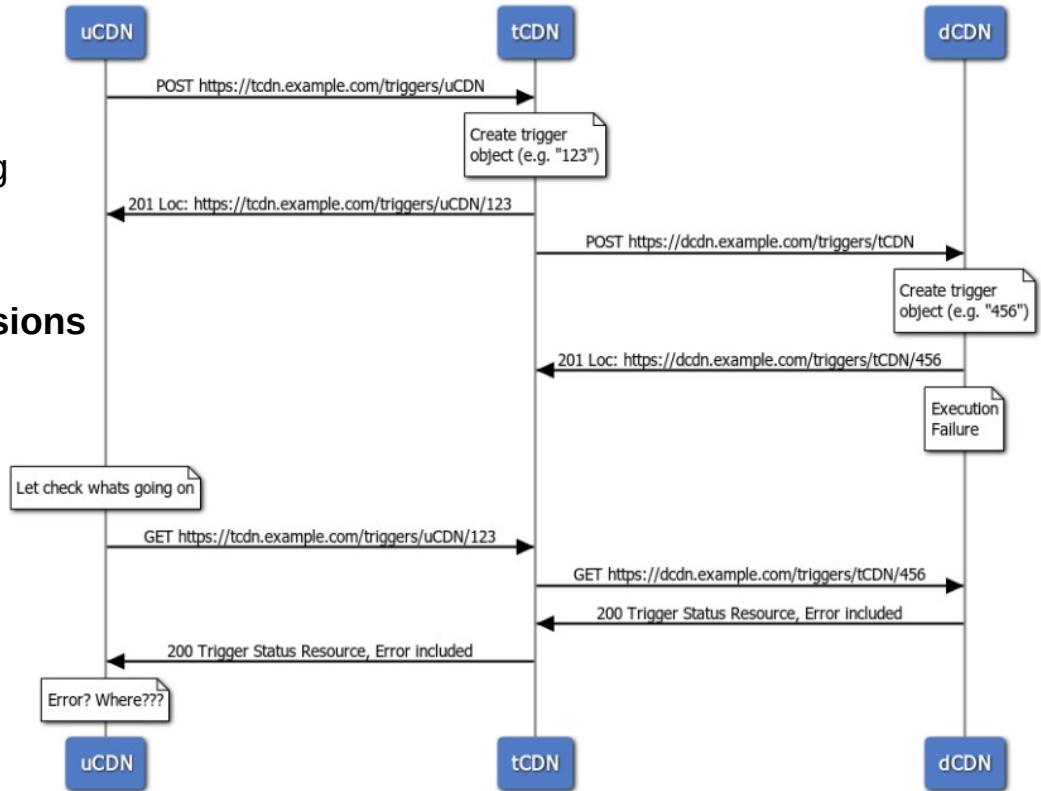


Added Functionality: Trigger Extensibility

- **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

Current Trigger Properties

- type
- `metadata.urls`
- `content.urls`
- `content.ccid`
- `metadata.patterns`
- `content.patterns`
- `content.regexs`
- `content.playlists`
- extensions
- cdn-path

Suggested Trigger.V2 Properties

- type
- `objects (GenericTriggerObjects list)`
- extensions
- cdn-path

- **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