CDNI CI/T v2
IETF 124

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RFC 8007bis Status

- **Draft v17 was an intermediate draft to extend draft timeline**
- **Published draft v18 on October 20th 2025:**
  - https://datatracker.ietf.org/doc/html/draft-ietf-cdni-ci-triggers-rfc8007bis-18
- **v18 incorporates responses to the detailed review from Kevin Ma**
- **What's next: WGLC OR v19**

Draft 18
Mandatory and Optional Support

- **IANA Registry management: RFC vs. Spec required?**

Manage trigger specs, trigger subjects and URL types via RFC, and trigger extensions and objectlist types via spec to permit 3rd party specifications

- **What support is mandatory for trigger actions (“purge”, “invalidate”, “preposition”), trigger specs (“urls”, “ccid” etc.), trigger subjects (“content”, metadata”), object types and trigger extensions?**

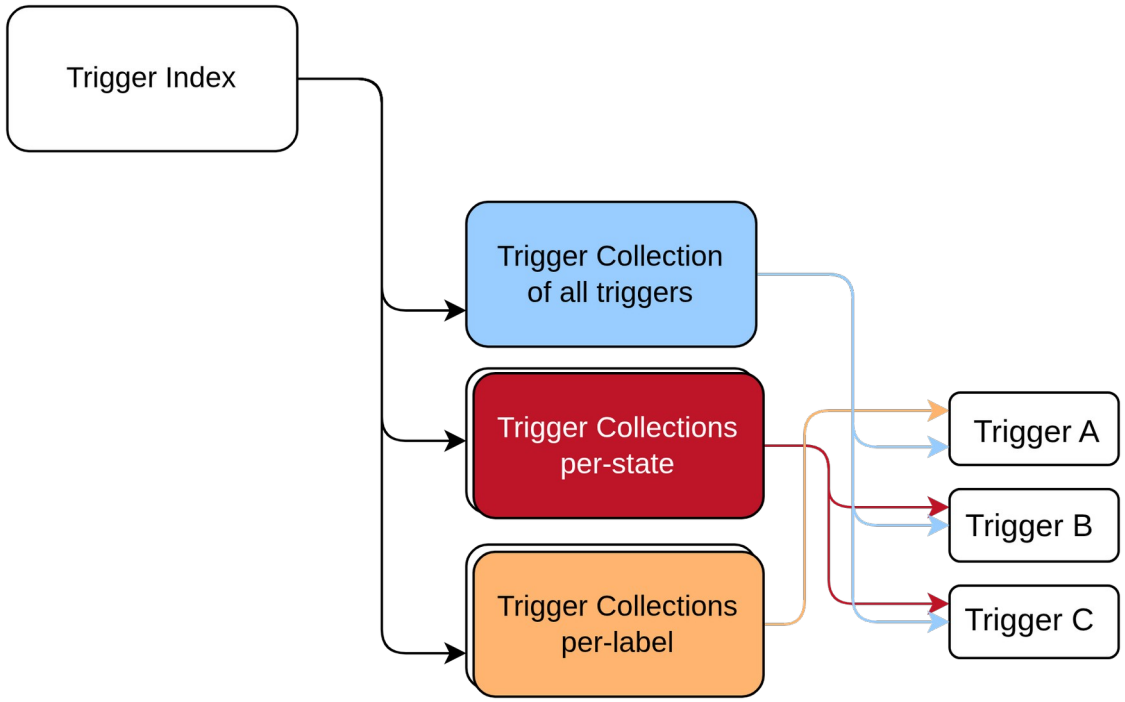
Allow for lowest common denominator implementation to be compliant - any one of trigger actions, any one of trigger actions and “urls” trigger specs.

dCDN MAY advertise only one trigger subject (e.g. “content”) or advertise separate CI/Tv2 end points per subject.

Trigger extensions are all optional for implementation.

Draft 18
Refactoring of Trigger Collections

- Draft v16 specified Trigger Collection as the root-level object that has filtered representations based on state and label
- Draft v18 introduced Trigger Index (ci.trigger-index.v2 MIME type) as a new root-level object, that stores all trigger collections as well as top-level attributes (e.g. CDN PID and trigger TTL)
- The trigger collection of all objects and per-state collections are mandatory
- Per-label collections are created dynamically, as labeled triggers are created
- Trigger collections may represent triggers using their URLs or have an extended representation that includes the trigger resources



Draft 18
Support for request for immediate trigger execution

- The ability for uCDN to request immediate processing can be supported using standar REST-based tool by setting trigger resource “state” to active
- Draft v16 support explicit request to change trigger state for existing “pending” triggers
- Draft v18 added support for same request to be made at creation time
- “Urgent” support removed from the ExecutionPolicy extension

Draft 18
Decision Tree for Multi-Extension Triggers Processing

Key Topics

- Priority deadlock prevention
- Conditions for immediate trigger processing at creation time
- Pending trigger queue re-evaluation to comply with TimePolicy extension
- Trigger queue re-evaluation driven by trigger completion and cancellation events
- Trigger modification request processing, including changes in TimePolicy, priority and requests to start immediate trigger processing

Draft 18
Trigger resource status enhancements

- Previous drafts introduced “total-objects-count” and “total-objects-size” as a way to gauge trigger impact and detect errors without providing extended status, e.g., purge trigger that didn’t affect any files, or preposition trigger that resulted in fewer objects prepositioned than expected
- These counters are aggregate across all nodes
- Draft v18 adds “total-nodes-count” to indicate the number of node involved in trigger processing

Draft 18
Location Policy: Examples

- Added non-US footprints in various examples
- Allow-deny logic clarifications: implicit blocking of footprints that are not explicitly announced, exclusion logic (“all of US except for Massachusetts”)

```
{
  "cit-extension-type": "location-policy",
  "cit-extension-value": {
    "locations": [
      {
        "action": "allow",
        "footprints": [{
          "footprint-type": "countrycode",
          "footprint-value": [ "us" ]
        }]
      },
      {
        "action": "deny",
        "footprints": [{
          "footprint-type": "subdivisioncode",
          "footprint-value": [ "us-ma" ]
        }]
      }
    ]
  }
}
```

Draft 18
FCI Modifications and Fixes

- Added two missing IANA registries for FCI payloads
- FCI.CITScope syntax fix: multiple objects per subject+action combination (e.g., *content+preposition, metadata+preposition, content+purge*)

```
{
    "capabilities": [
       {
          "capability-type": "FCI.CITScope",
          "capability-value": {
             "trigger-action": "preposition",
             "trigger-subject": "content",
             "trigger-specs": [ "urls", "ccids" ],
             "trigger-extensions": [ "time-policy" ]
          },
          "footprints": {
            "footprint-type": "countrycode",
            "footprint-value": [ "us" ]
          }
       },
       {
          "capability-type": "FCI.CITScope",
          "capability-value": {
             "trigger-action": "invalidate",
             "trigger-subject": "content",
             "trigger-specs": [ "urls", "ccids" ]
          },
          "footprints": {
            "footprint-type": "countrycode",
            "footprint-value": [ "us" ]
          }
       }
    ]
}
```

Next Steps

- Review of Trigger Collections (4.2 and 4.3) and Decision Tree (4.1.3.3.4)
- Additional reviews welcome
- If no further issues found, moving to WGLC, otherwise proceed with v19 to address