

ALTO in the CDNI FCI Interface

draft-seedorf-cdni-request-routing-alto-07
draft-ma-cdni-capabilities-06

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CDNI FCI Status Quo

- Old: Competing Drafts
 - draft-seedorf-cdni-request-routing-alto-06
 - proposes an ALTO-based approach with ALTO maps
 - Expressing capabilities with ALTO maps not a perfect match
 - draft-ma-cdni-capabilities-04
 - CDNI-specific JSON format
 - Rudimentary security/error handling, not RESTful
- Now: Unified View among all Authors – “Best of two Worlds”
 - draft-seedorf-cdni-request-routing-alto-07
 - Specifies new ALTO service for CDNI FCI
 - Re-using ALTO security, error codes, RESTfulness, ...
 - draft-ma-cdni-capabilities-06
 - Specifies CDNI FCI object format (JSON) to be conveyed via new ALTO CDNI FCI service

Example: CDNI FCI object format, conveyed via new ALTO service

```
GET /fcimap HTTP/1.1
Host: alto.example.com
Accept: application/alto-fcimap+json,application/alto-error+json
```

```
HTTP/1.1 200 OK
Content-Length: 439
Content-Type: application/alto-fcimap+json
{
  "meta" : {
    "vtag": {
      "resource-id": "my-default-fcimap",
      "tag": "da65eca2eb7a10ce8b059740b0b2e3f8eb1d4785"
    }
  },
  "fcimap": [
    { "name": "delivery_protocol",
      "values": [
        "HTTP",
        "RTSP",
        "MMS"
      ]
    },
    { "name": "delivery_protocol",
      "values": [
        "RTMP",
        "HTTPS"
      ]
    },
    "footprint": [
      { "type": "IPv4CIDR",
        "values": [
          "10.1.0.0/16",
          "10.10.10.0/24"
        ]
      }
    ]
  }
}
```

Example: Footprint in ALTO network map

```
GET /networkmap HTTP/1.1
Host: http://alto.example.com/fcifootprint001
Accept: application/alto-networkmap+json,application/alto-error+json
```

```
HTTP/1.1 200 OK
Content-Length: TBA
Content-Type: application/alto-networkmap+json
```

```
{
  "meta" : {
    "vtag": [
      { "resource-id": "my-eu-netmap",
        "tag": "1266506139"
      }
    ]
  },
  "network-map" : {
    "south-france" : {
      "ipv4" : [ "192.0.2.0/24", "198.51.100.0/25" ], "cdni-fruit" : ["orange"]
    },
    "germany" : {
      "ipv4" : [ "192.0.3.0/24" ]
    },
    "rest" : { "ipv4": [0.0.0.0/0], "ipv6": [::/0] }
  }
}
```

Example: CDNI FCI object format, conveyed via new ALTO service, footprint via reference to ALTO network map

```
GET /fcimap HTTP/1.1
Host: alto.example.com
Accept: application/alto-fcimap+json,application/alto-error+json
```

```
HTTP/1.1 200 OK
Content-Length: 439
Content-Type: application/alto-fcimap+json
```

```
{
  "meta" : {
  },
  "fcimap": [
    { "name": "delivery_protocol",
      "values": [
        "HTTP",
        "RTSP",
        "MMS"
      ]
    },
    { "name": "delivery_protocol",
      "values": [
        "RTMP",
        "HTTPS"
      ]
    },
    "footprint": [
      { "type": "altonetworkmap",
        "values": [
          "http://alto.example.com/fcifootprint001",
          "germany",
          "south-france",
        ]
      }
    ]
  }
}
```

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