



CDNi Footprint & Capability Interface

Additional Footprint Types
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v1.1

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"]  
}
```

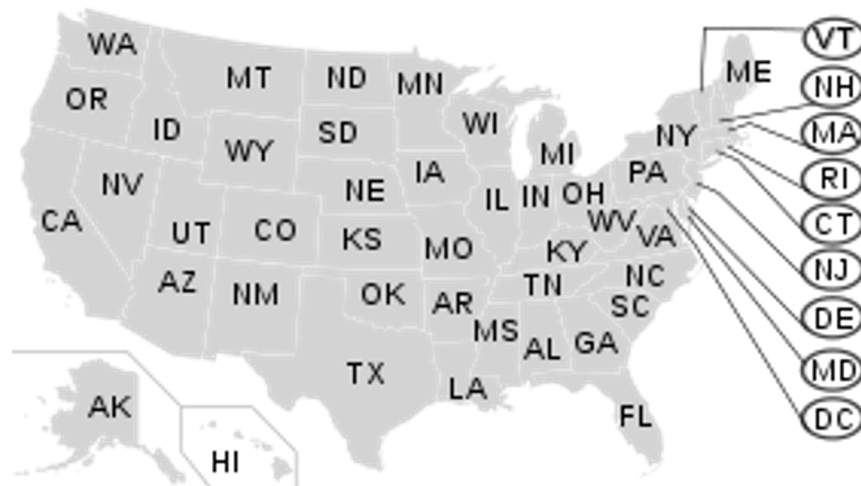
RFC 8008: Footprint & Capability Interface

```
{
  "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: ISO3166-2 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": "iso3166-2code",  
  "footprint-value": ["us-ny", "us-nj"]  
}
```

RFC 8008 Narrowing Semantics [1]

```
{
  "capabilities": [
    {
      "capability-type": capability-type-1,
      "capability-value": capability-value-1,
      "footprints": [
        {
          "footprint-type": "asn",
          "footprint-value": ["as64496"]
        }, {
          "footprint-type": "countrycode",
          "footprint-value": ["us"]
        }
      ]
    }
  ]
  ...
}
```

RFC 8008 Narrowing Semantics [2]

```
{
  "capabilities": [
    {
      "capability-type": capability-type-1,
      "capability-value": capability-value-1,
      "footprints": [
        {
          "footprint-type": "countrycode",
          "footprint-value": ["us"]
        }
      ]
    }
  ]
  ...
}
```

RFC 8008 Narrowing Semantics [2]

```
{
  "capabilities": [
    {
      "capability-type": capability-type-1,
      "capability-value": capability-value-1,
      "footprints": [
        {
          "footprint-type": "countrycode",
          "footprint-value": ["us"]
        }, {
          "footprint-type": "iso3166-2code",
          "footprint-value": ["ca-ns"]
        }
      ]
    }
  ]
  ...
}
```

RFC 8008 Narrowing Semantics [3]

```
{
  "capabilities": [
    {
      "capability-type": type-1,
      "capability-value": value-1,
      "footprints": [
        {
          "footprint-type": "countrycode",
          "footprint-value": ["us"]
        }
      ]
    }
  ]
  ...
}
```

```
{
  "capabilities": [
    {
      "capability-type": type-1,
      "capability-value": value-1,
      "footprints": [
        {
          "footprint-type": "iso3166-2code",
          "footprint-value": ["ca-ns"]
        }
      ]
    }
  ]
  ...
}
```


RFC 8008 Narrowing Semantics [4]

```
{
  "capabilities": [
    {
      "capability-type": capability-type-1,
      "capability-value": capability-value-1,
      "footprints": [
        {
          "footprint-type": "countrycode",
          "footprint-value": ["us", "ca"]
        }
      ]
    }
  ]
  ...
}
```

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": "iso3166-2code",  
        "footprint-value": ["ca-ns"]  
      }  
    ]  
  }  
]
```

RFC 8008 Narrowing Semantics [IP]

```
{
  "capabilities": [
    {
      "capability-type": "FCI.Telemetry",
      "capability-value": <CDNI Telemetry Source Definition>,
      "footprints": [
        {
          "footprint-type": "ipv4cidr",
          "footprint-value": ["192.0.2.0/24"]
        },
        {
          "footprint-type": "ipv6cidr",
          "footprint-value": ["2001:db8::/32"]
        }
      ]
    }
  ]
  ...
}
```