# CDNI CAPACITY CAPABILITY ADVERTISEMENT EXTENSIONS

Andy Ryan

Ben Rosenblum

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# OBJECTIVES OF CDNI CAPACITY CAPABILITY ADVERTISEMENT DRAFT

- Provide framework for information exchange to facilitate traffic delegation decisions
- Establish limits that are specific to delegation relationship
- Define limits in unambiguous, mutually understood units

https://datatracker.ietf.org/doc/draft-ietf-cdni-capacity-insights-extensions/

# WHERE WE ARE?

▸ How could we define a limit specific to the type of traffic being delegated and keeping in mind, not all traffic is created equal. For example,

  ▸ Game download traffic might be high bps low rps

  ▸ Whereas, Low Latency HLS could be high rps and high bps.

▸ These different traffic profiles could have different impact on the underlying CDN

▸ Therefore, we want to allow for some additional granularity which would leverage an association of traffic type with the delivery host (or an identifier which maps to a configuration)

# WHAT ARE WE THINKING?

- Footprint provides the geographical/network boundary, which is consistent with FCI, but within the CapacityLimits FCI payload, we would leverage a scope object which would further define the limit to apply to not only the footprint but also this additional scope-type

# CAPABILITY ADVERTISEMENT

```
{
  "capabilities":[
    {
      "capability-type":"FCI.CapacityLimits",
      "capability-value":{
        "limits":[
          {
            "id":"capacity_limit_region1",
            "limit-type":"egress",
            "maximum-hard":50000000000,
            "maximum-soft":40000000000,
            "telemetry-source":{
              "id":"capacity_metrics_region1",
                "metric":"egress_5m"
            }
          },
          {
            "id":"capacity_limit_serviceA_region1",
            "scope":{
                "type":"published-host",
                "values":[
                "serviceA.cdn.example.com"
                ]
            },
            "limit-type":"egress",
            "maximum-hard":30000000000,
            "maximum-soft":20000000000,
            "telemetry-source":{
                "id":"capacity_metrics_serviceA_region1",
                "metric":"egress_5m"
            }
          }
        ]
    },
```

```
    {
      "capability-type":"FCI.CapacityLimits",
      "capability-value":{
        "limits":[
          {
            "id":"capacity_limit_region2",
            "limit-type":"egress",
```

```
            "maximum-hard":20000000000,
            "maximum-soft":10000000000,
            "telemetry-source":{
              "id":"capacity_metrics_region2",
                "metric":"egress_5m"
            }
          }
        ]
    },
    "footprints":[
        {
        "footprint-type": "ipv4cidr",
        "footprint-value": ["10.0.10.0/24"]
        }
    ]
  }
 ]
}
```

# IN SUMMARY

- The following is a summary of what the FCI.CapacityLimits payload specifies represented in a hierarchical manner of the IPv4 CIDR ranges.

  - 10.0.0.0/8
    - ALL traffic <= 50000000000
    - serviceA.cdn.example.com <= 30000000000

  - 10.0.10/24
    - ALL traffic <= 20000000000

- In a scenario a uCDN is considering how to delegate traffic for serviceA.cdn.example.com towards 10.0.10/24,   the following conditions need to be met:

  - traffic within 10.0.10/24 must stay under 2000000000 as per capacity_metrics_region2

  - traffic for serviceA.cdn.example.com within 10.0.0.0/8 must stay under 3000000000 as per capacity_metrics_serviceA_region1

Ideally, the scoping would be fully contained within the Footprint object but in lieu of that, we implemented sub-scope specific to the CapacityLimits object

# SO, WHAT'S NEXT?

Welcome any feedback on the topic

# THANK YOU