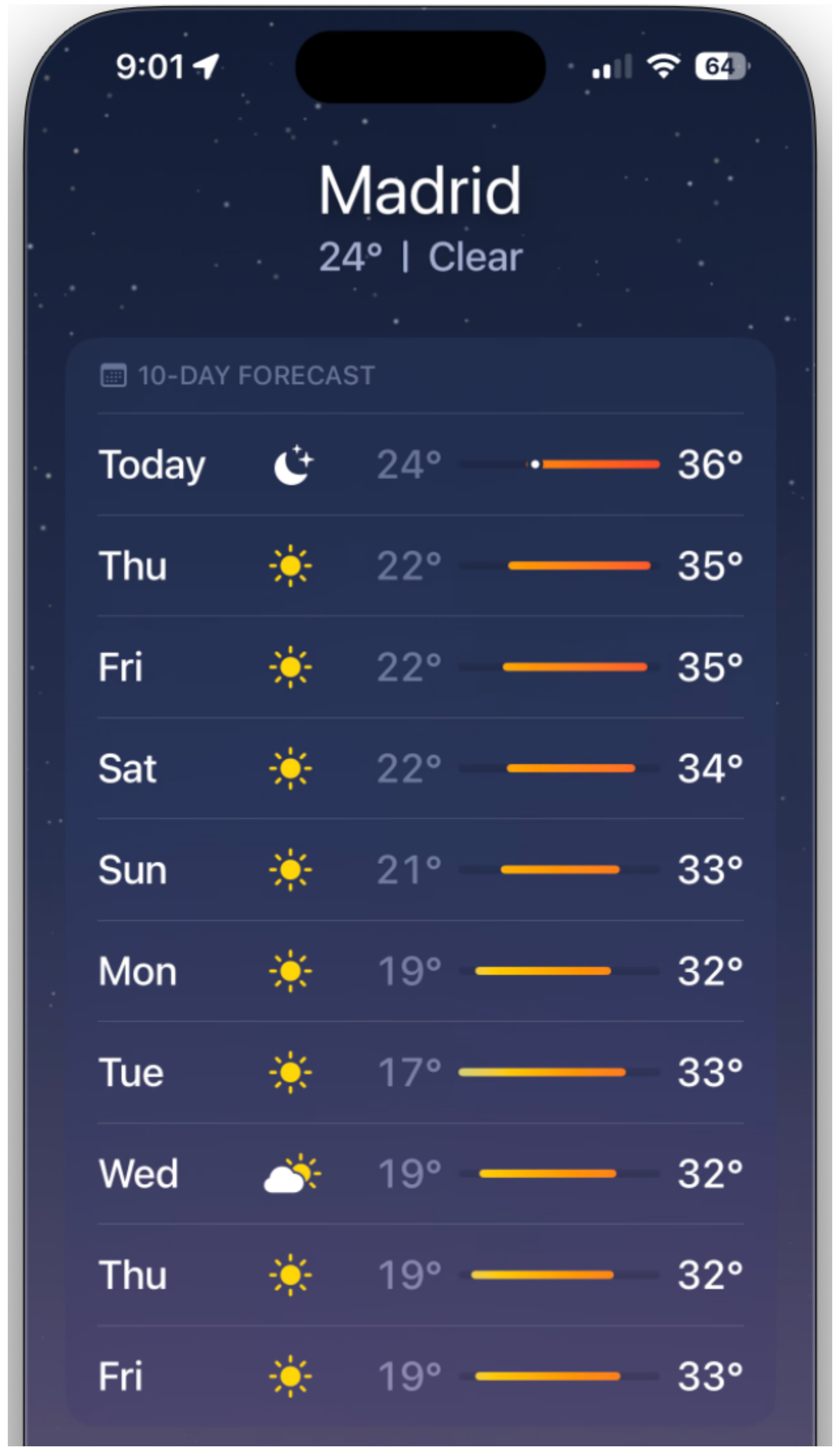
Service Binding Mapping for Background Requests

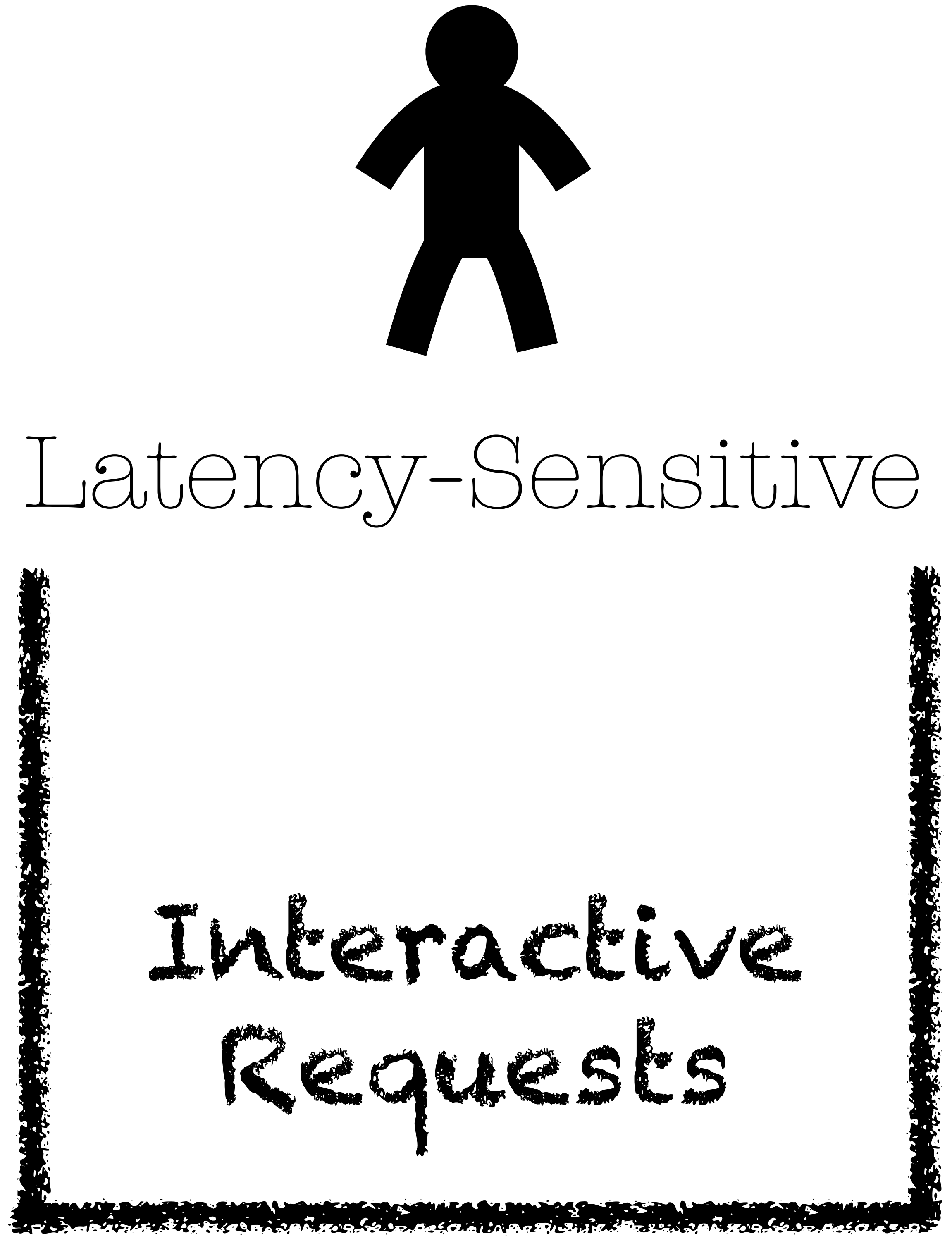
~~draft-gakiwate-dnsop-svcb-sla-parameter~~

draft-gakiwate-dnsop-svcb-bg-priority-parameter

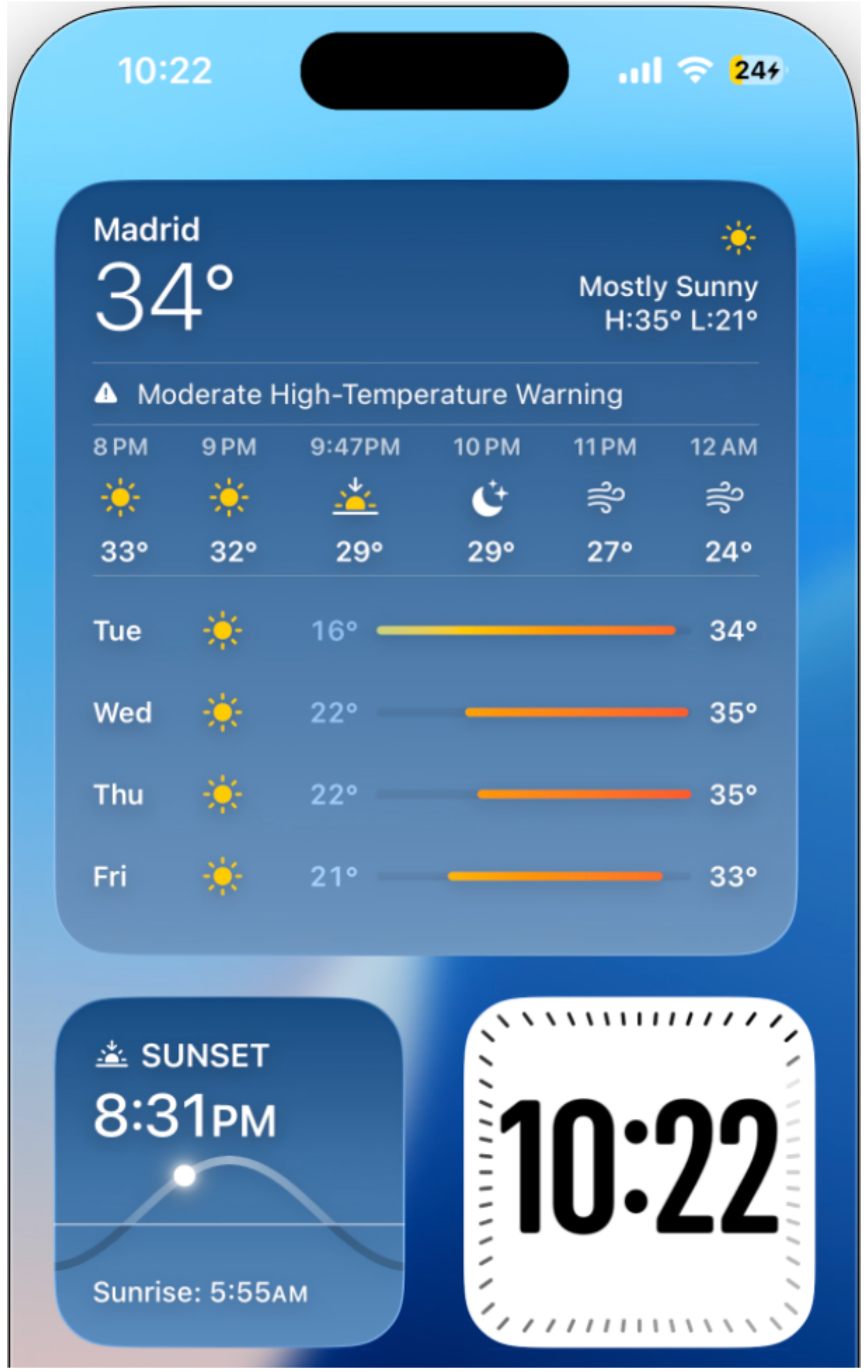
Gautam Akiwate
Tommy Pauly
DNSOP WG @ IETF 123

Motivation


9:01
64
Madrid
24° | Clear
10-DAY FORECAST
Today 24° 36°
Thu 22° 35°
Fri 22° 35°
Sat 22° 34°
Sun 21° 33°
Mon 19° 32°
Tue 17° 33°
Wed 19° 32°
Thu 19° 32°
Fri 19° 33°


Latency-Sensitive
Interactive Requests

Motivation



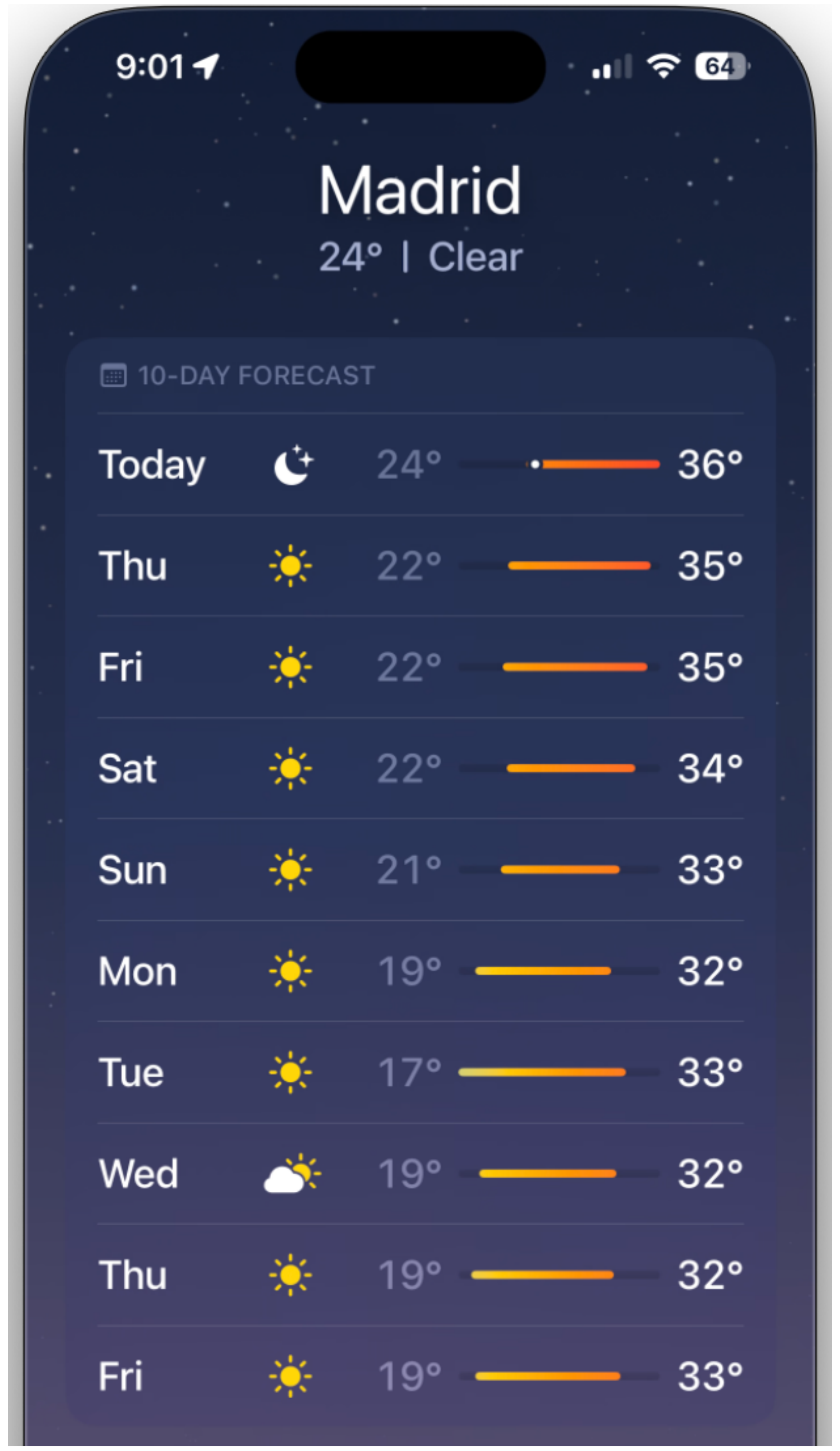
Widget Running in the Background

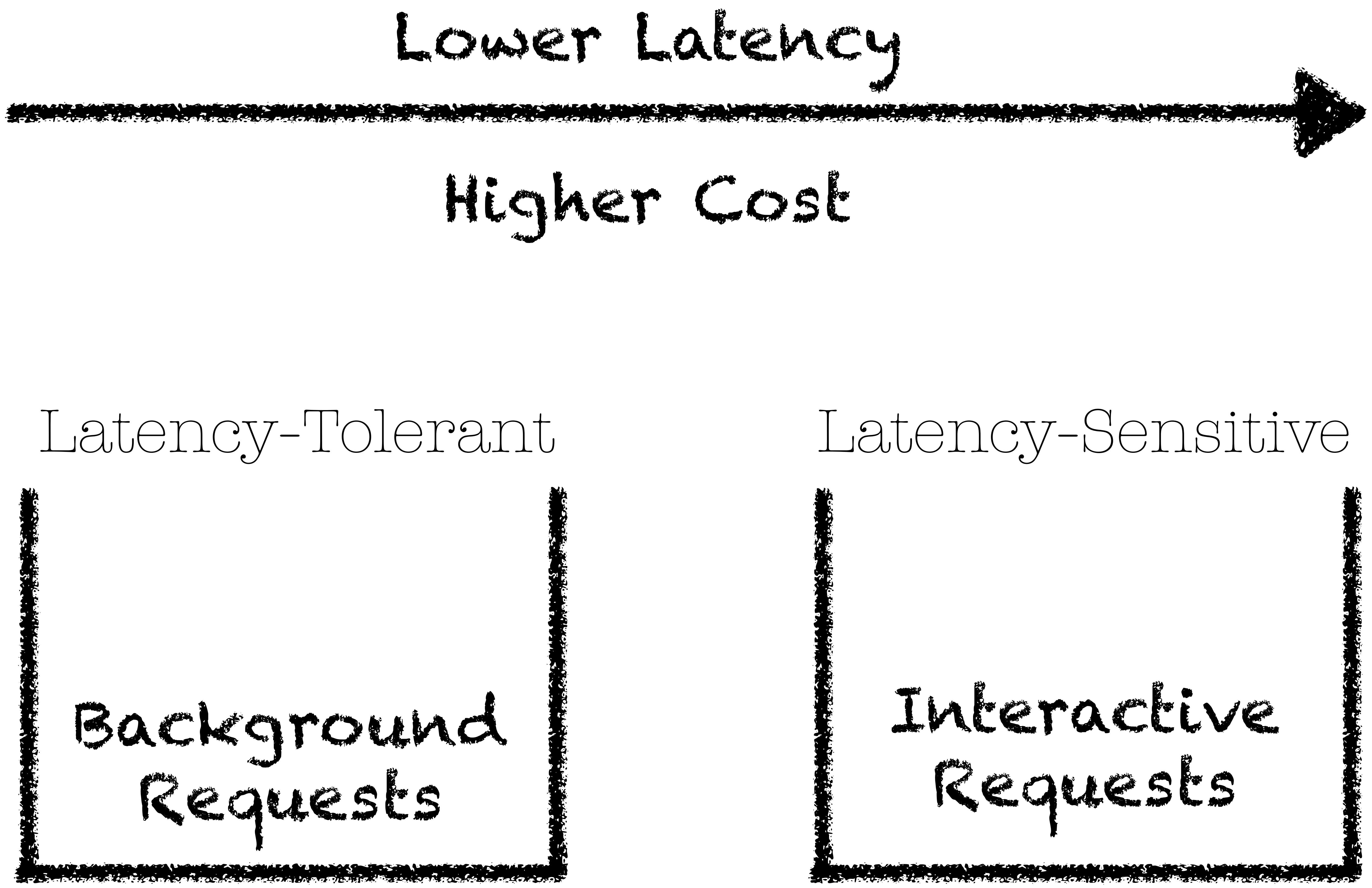
Latency-Tolerant

Background Requests

Motivation

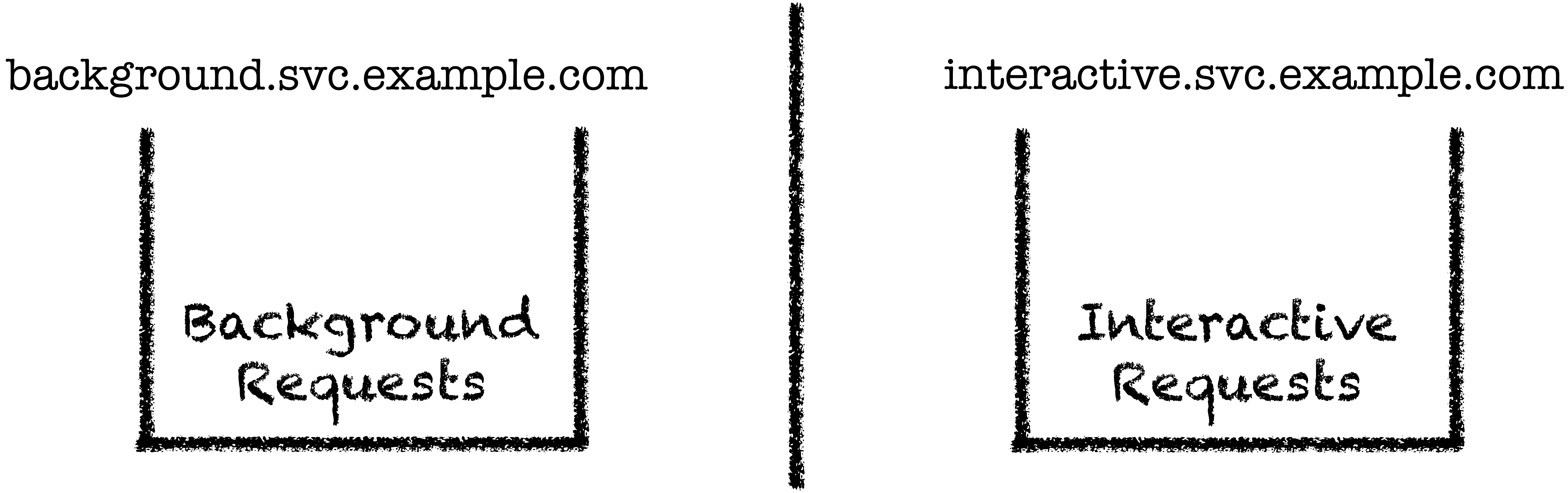
Can we reduce cost of serving background requests?





Current Approach

- Delineate tasks into background, interactive requests a priori.
- **Separate service endpoints** for different request types are **inflexible and difficult to update on clients.**



Allow clients to

dynamically discover service endpoints

for background requests

and then

utilize local context

to opportunistically use

cheaper and underutilized servers

New SvcParamKey “bg-priority”

Background Priority

- bg-priority=1
  - Endpoint optimized for background requests
- bg-priority=0
  - Endpoint optimized for interactive requests
- No bg-priority
  - Endpoint can be used for all requests

“bg-priority” SvcParamKey

Example Use

```
svc.example.com   HTTPS IN  1 interactive.svc.example.com (
        alpn="h2" ipv4hint="198.51.10.25" bg-priority=0 )

svc.example.com   HTTPS IN  2 background.svc.example.com (
        alpn="h2" ipv4hint="203.0.113.4" bg-priority=1 )
```

The “bg-priority” parameter allows authoritative DNS servers to indicate which service endpoints are optimized for background or interactive requests.

Client Behavior

- Client identifies if background handling is appropriate for request
- Uses “bg-priority” parameter to filter HTTPS / SVCB records

```
svc.example.com   HTTPS IN  1 interactive.svc.example.com (
        alpn=“h2" ipv4hint="198.51.10.25" bg-priority=0 )

svc.example.com   HTTPS IN  2 background.svc.example.com (
        alpn=“h2" ipv4hint="203.0.113.4" bg-priority=1 )
```

Client Behavior

“bg-priority” as a filter

- Client identifies if background handling is appropriate for request
- Uses “bg-priority” parameter to filter HTTPS / SVCB records
  - If background request, then filter down to “bg-priority=1”

~~svc.example.com HTTPS IN 1 **interactive.svc.example.com** (~~
~~alpn=“h2" ipv4hint="198.51.10.25" **bg-priority=0**)~~

svc.example.com HTTPS IN 2 **background.svc.example.com** (
alpn=“h2" ipv4hint="203.0.113.4" **bg-priority=1**)

Current Status

- Test Implementation **[Done]**
  - Applications mark requests with “background traffic class” so system knows background handling is appropriate.
    - Using “traffic class” marking is one approach.
- Draft intentionally does not specify how client applications signal background traffic to the system.

Questions? Next Steps?