Per Resource Events

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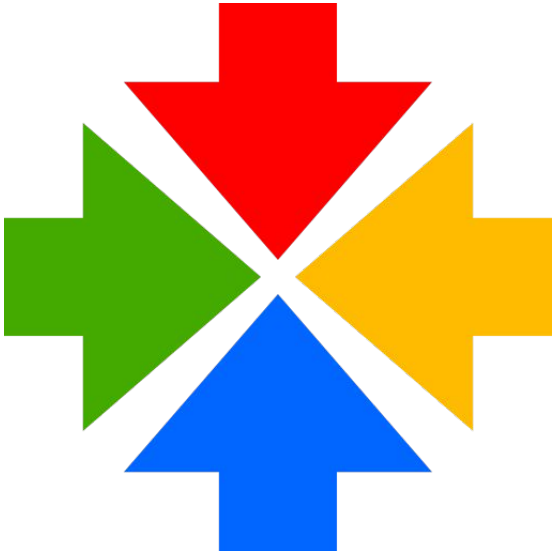
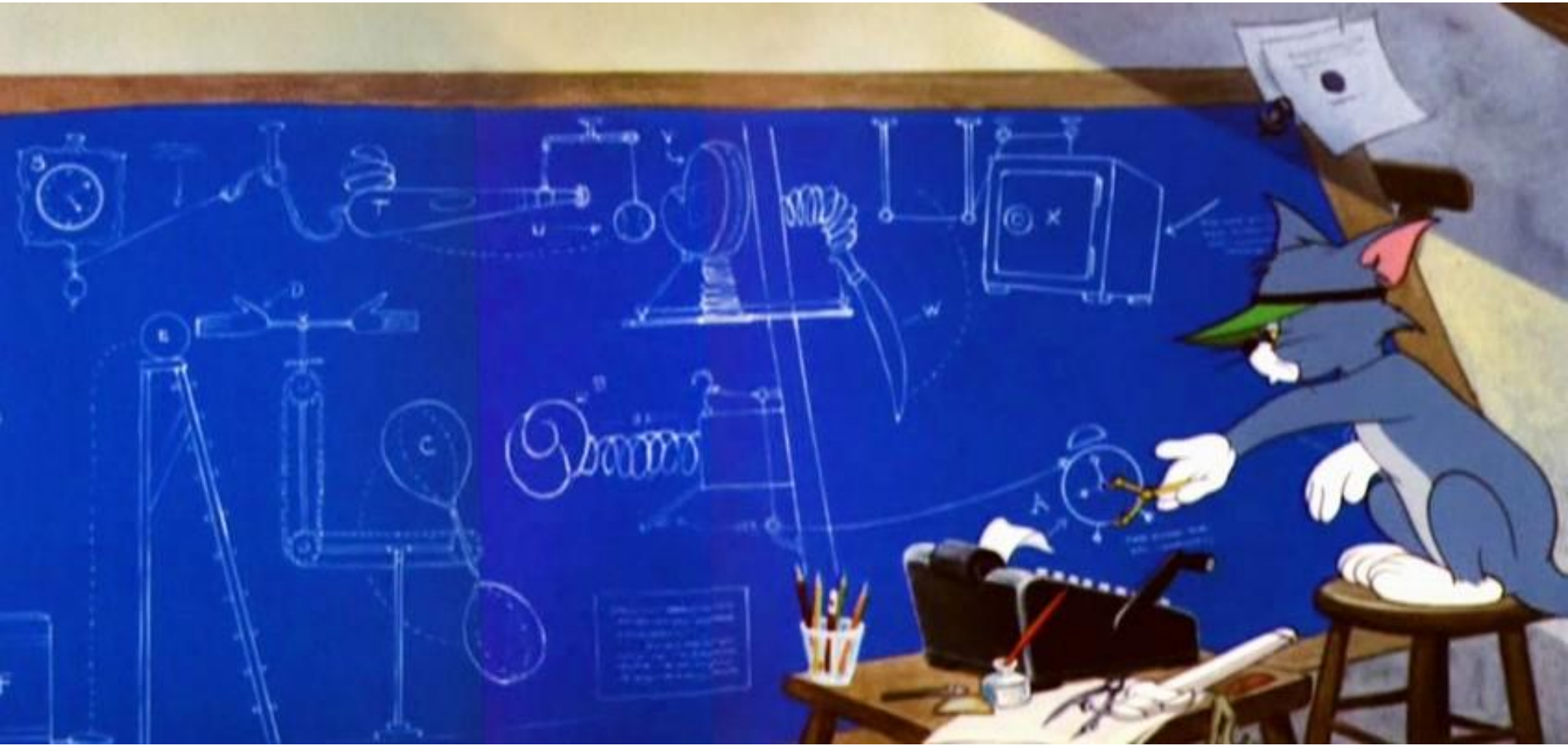
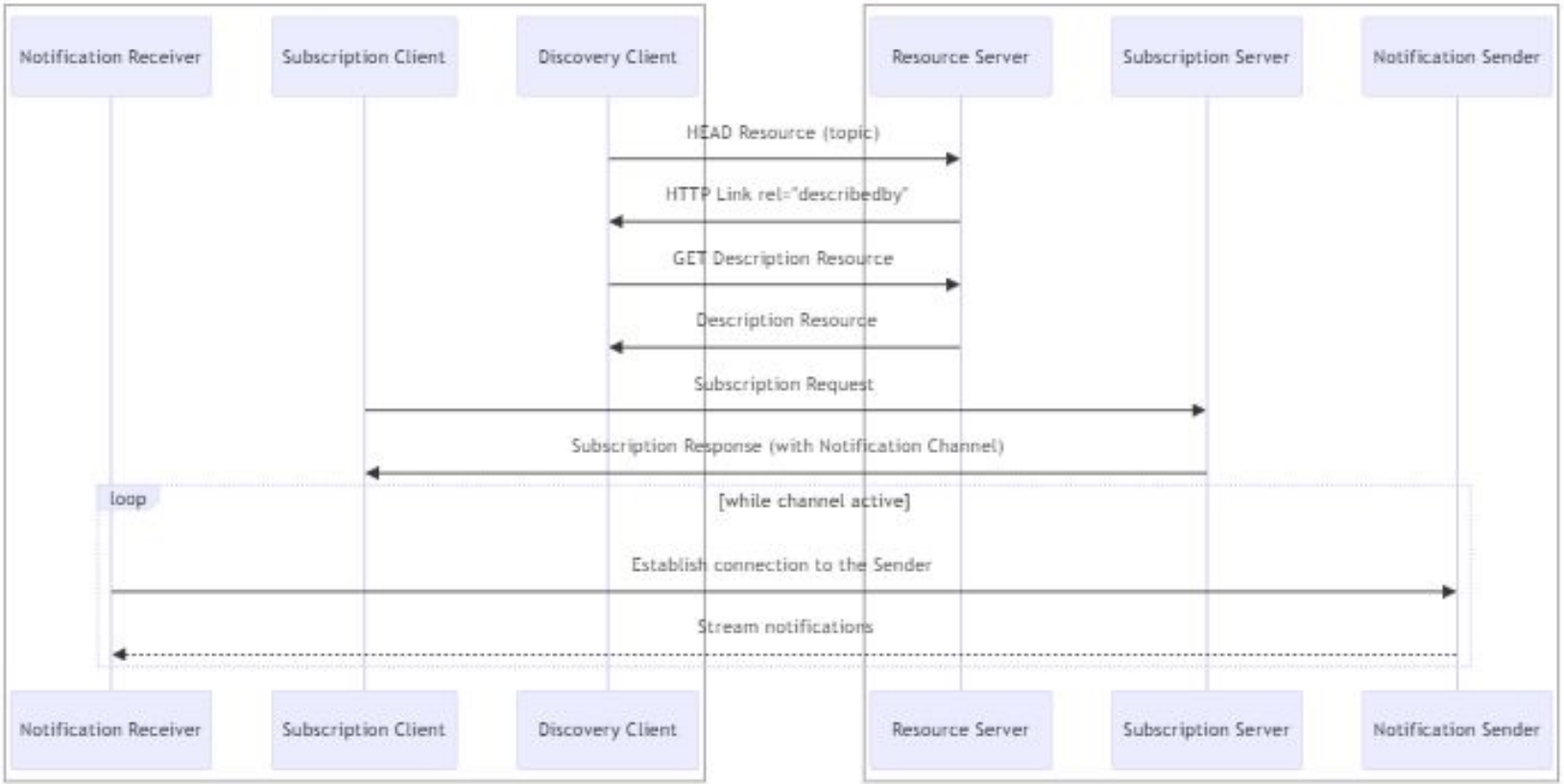
HTTPbis, IETF 118 Prague

SYNTROPIZE
MOTIVATION
PROPOSAL
FEATURES
APPEAL
SYNTROPIZE
Re-imagine Computing!
TELL ME MORE
DOWNLOAD





Solid Notifications Protocol



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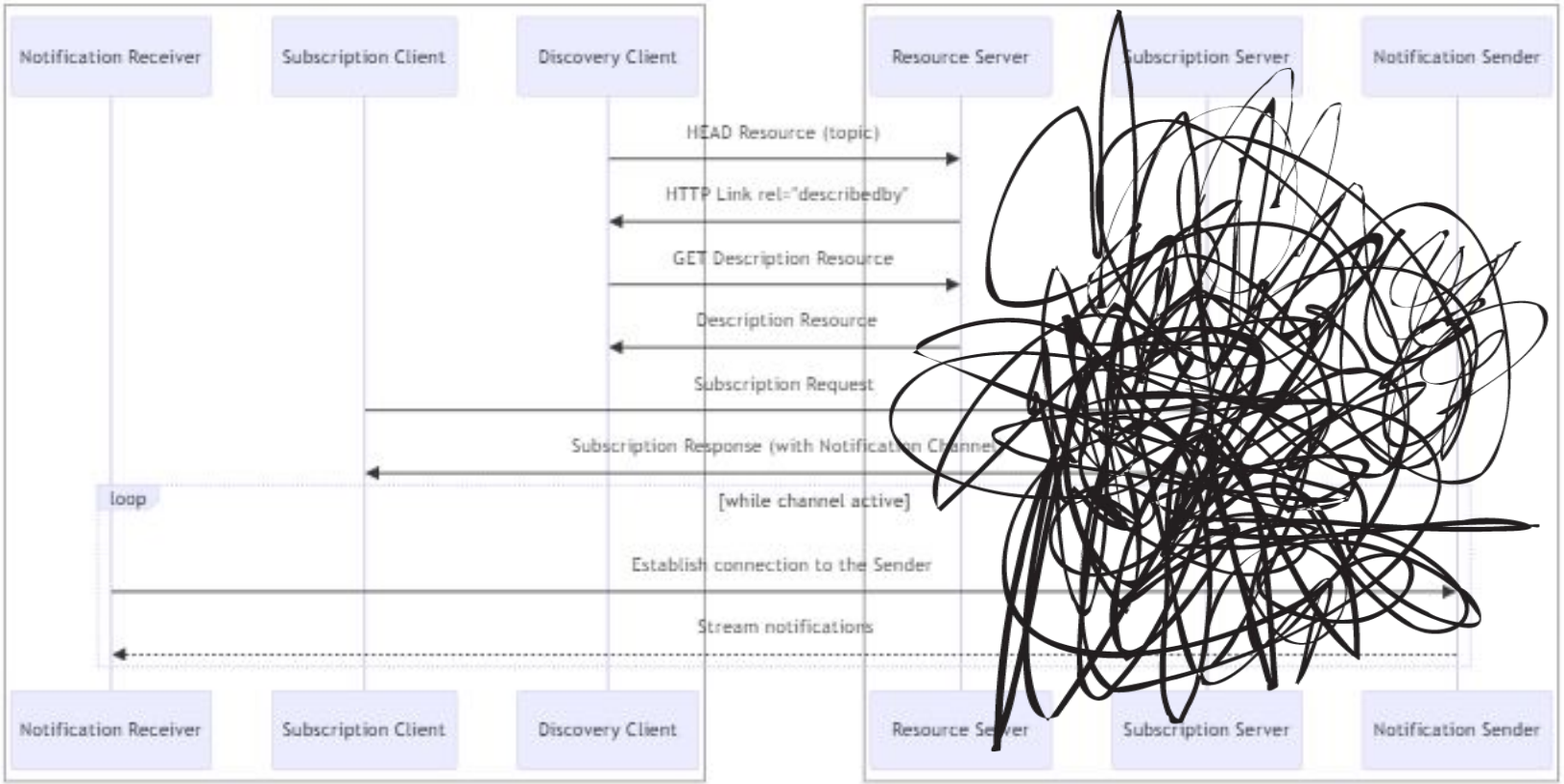

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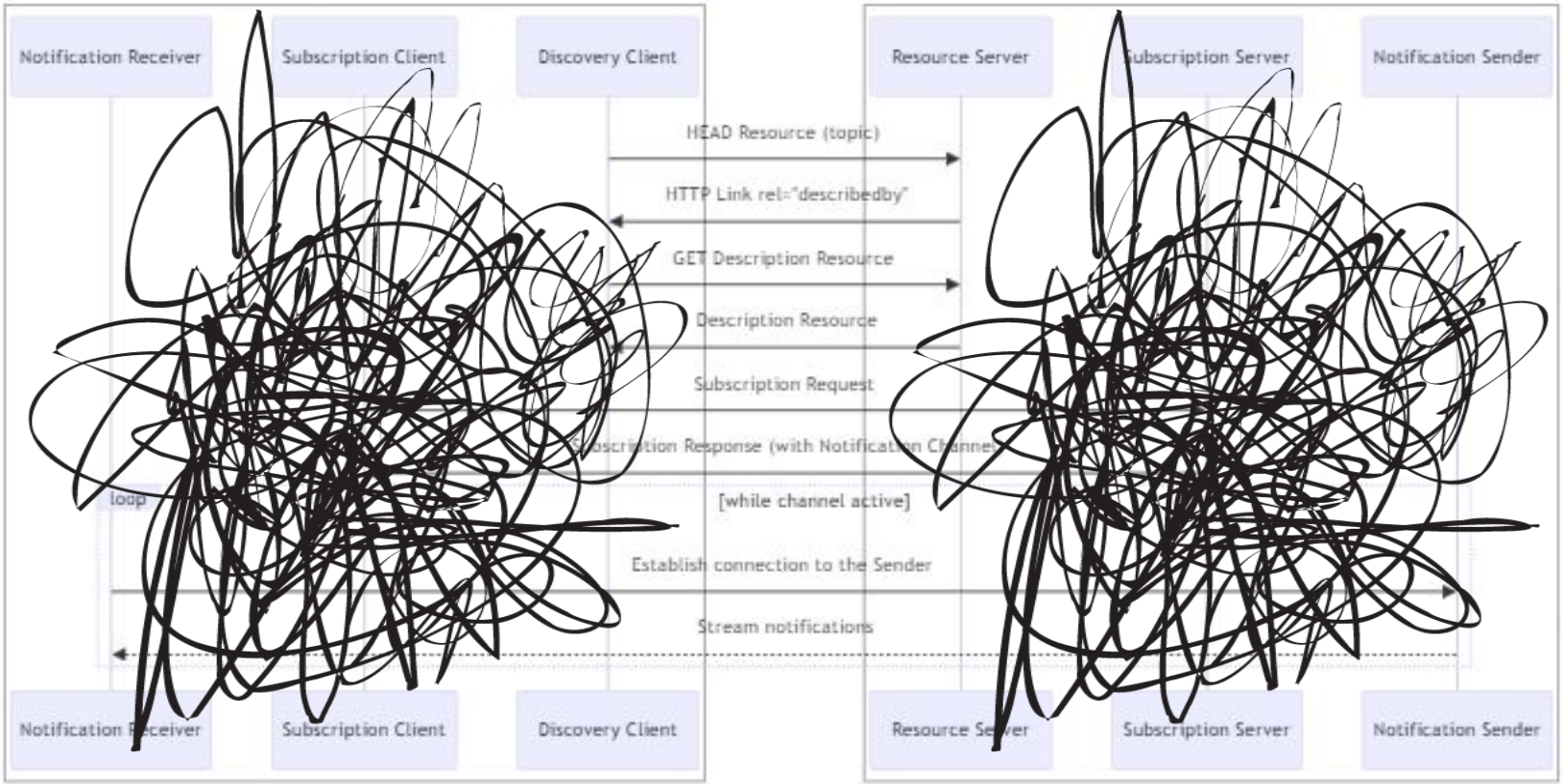
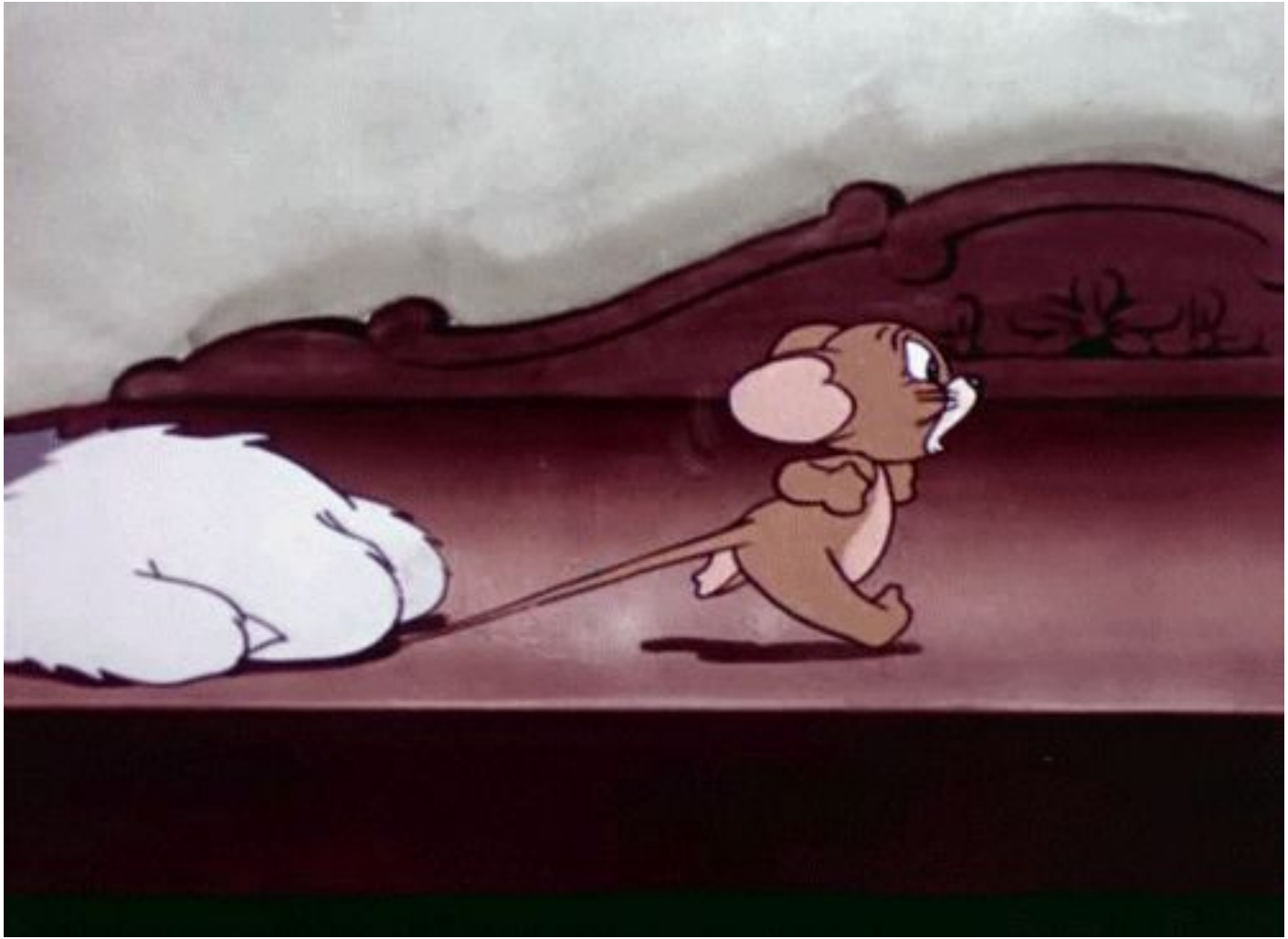
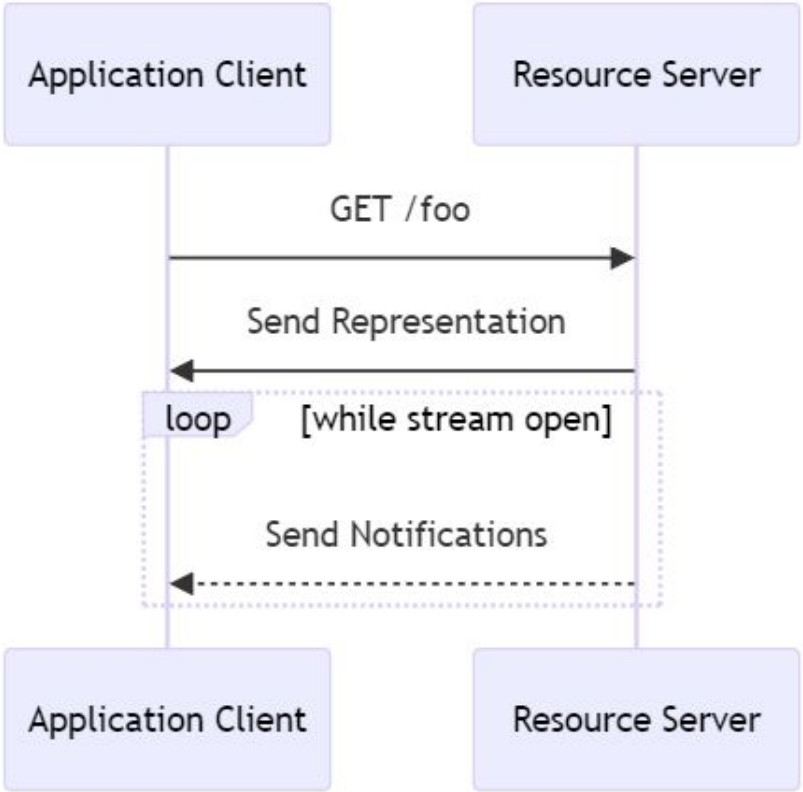




Per Resource Events



Ordinary Request

```
GET /foo HTTP/1.1
Host: example.org
Accept: text/plain
```

Notifications Request

```
GET /foo HTTP/1.1
Host: example.org
Accept: text/plain
Accept-Events: PREP
```

Ordinary Response

```
HTTP/1.1 200 OK
Last-Modified: Sat, 1 April 2023 10:11:12 GMT
Transfer-Encoding: chunked
ETag: 1234abcd
Content-Type: text/plain

Hello World!
```

Response/1

```
HTTP/1.1 200 OK
Last-Modified: Sat, 1 April 2023 10:11:12 GMT
Transfer-Encoding: chunked
ETag: 1234abcd
~~Content-Type: text/plain~~
Vary: Accept-Events
Accept-Events: PREP; accept=message/rfc822
Events: protocol=PREP, status=200
Content-Type: multipart/mixed; boundary=MAIN-SEPARATOR

Content-Type: text/plain

Hello World!
--MAIN SEPARATOR
```

Response/2

```
Content-Type: multipart/digest; boundary=MESSAGE-SEPARATORc

Method: PUT
Date: Sat, 1 April 2023 10:11:12 GMT
Event-ID: 1234
E-tag: abc123
--MESSAGE-SEPARATOR

Method: DELETE
Date: Sat, 1 April 2023 10:11:12 GMT
Event-ID: 1234
--MESSAGE-SEPARATOR--
--MAIN-SEPARATOR--
```

Request

Content Negotiation with PREP

```
GET /foo HTTP/1.1
Host: example.org
Accept: text/n3
Accept-Events: PREP; accept=application/ld+json
```

Request

PREP Notifications Only

```
GET /foo HTTP/1.1
Host: example.org
Accept: text/plain
Accept-Events: PREP
Last-Event-ID: *
```

Why Not: Eventsource/SSE

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You can have it in any colour as long as it is black.

- Henry Ford

Why Not: Eventsource/SSE

You can have it in any ~~colour~~ `Content-type` as long as it is ~~black~~ `text/eventstream`.

\- WHATWG

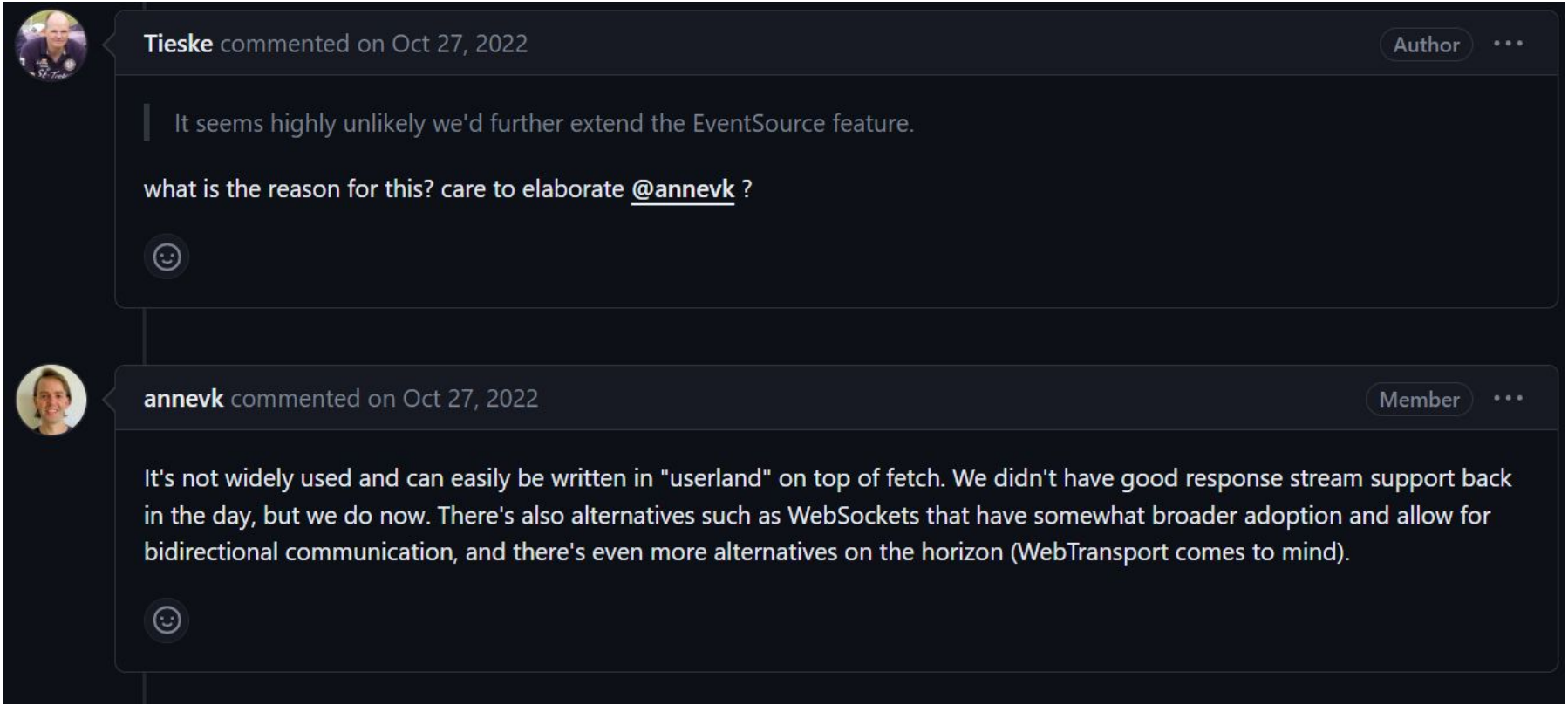
```
: test stream

data: first event
id: 1

data:second event
id

data:  third event
```

Why not EventsourceSSE



Tieske commented on Oct 27, 2022 — Author

> It seems highly unlikely we'd further extend the EventSource feature.

what is the reason for this? care to elaborate **@annevk** ?

annevk commented on Oct 27, 2022 — Member

It's not widely used and can easily be written in "userland" on top of fetch. We didn't have good response stream support back in the day, but we do now. There's also alternatives such as WebSockets that have somewhat broader adoption and allow for bidirectional communication, and there's even more alternatives on the horizon (WebTransport comes to mind).

Why not WebSockets/Webhooks etc.

- Protocol Hopping
- Need for Discovery
- Bespoke Semantics
- Funnelling/Filtering of Data

Implementation (Interest)

- Companion specification for Solid/Linked Data called Solid-PREP
  - https://github.com/CxRes/solid-prep
- Green Light from the Community Solid Server
  - Implementation will take some time. Maybe before IETF 119.
- Public Interest from another Solid Server vendor
- Private Interest from multiple Solid application developers

How HTTPbis can help

- Identify a better framing for notifications
  - Upgrading from multipart to frames with h2/h3
- Identify better semantics for the default case
  - (even though it is only specified for minimum interoperability)
- Alternative ideas on headers?
- Other Suggestions for improvement?