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Native Sliding Sync Simplification

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Superseded by Proto MSC — Simplified Sliding Sync

This is the outline of the changes we are planning on making when implementing Sliding Sync natively in Synapse

Context API changes

We want to change the context API so that when clients receive notifications they can query basic information about the room easily.

Changes needed:

- ☐ Ensure that `/context` can be called on all events pushed to the client, in particular it doesn't work for invites.
  - We need to be careful not to leak state that the user otherwise wouldn't be able to see.
- ☐ **Maybe** we need to add the number of users joined to the room.
  - This gets used in push rules logic.

New `/sync/e2ee` endpoint

Clients currently run two sliding sync loops, a main loop and one that handles device lists, to-device messages, etc. This allows clients to more easily fetch just E2EE data in e.g. the push process, as well as ensuring that to-device messages don't get stuck behind processing the rest of the response.

We should add an API that returns the same data as in the current sliding sync (and proto-MSC).

We should keep the request and response formats as similar to the main sync API to help ensure that in future we can merge the two endpoints if necessary. In particular, having multiple long-polling requests may be problematic for web applications.

TODO: Do we want to add an ability to limit the amount of device list changes we send down? Though perhaps the ability to reset the connection and to trickle down updates is good enough.

Changes needed:

- ☐ Implement the new API
    - Ability to fetch new data, including to-device messages, device lists, etc.
    - Ability to “reset” the connection, i.e. say the “since” token is from too long ago and the client should do an “initial” sync. (Like in sliding sync)

Room lists and windowing

The current room lists API is overly complicated for the requirements of EX and other standard applications.

c.f. Sliding sync native room lists — Working doc

TODO

Request parameters

The handling of request parameters is complicated to implement and easy to get wrong.

TODO