[matrix]

What is it? What’s changed lately? What’s next?

@benpa:matrix.org

benp@matrix.org

@matrixdotorg

What is Matrix?

What is Matrix?

Matrix is an open standard for *interoperable*, *decentralised*, *real-time* communication over the Internet.

What is Matrix?

Matrix provides a standard HTTP API for publishing and subscribing to real-time data in specified channels…

What is Matrix?

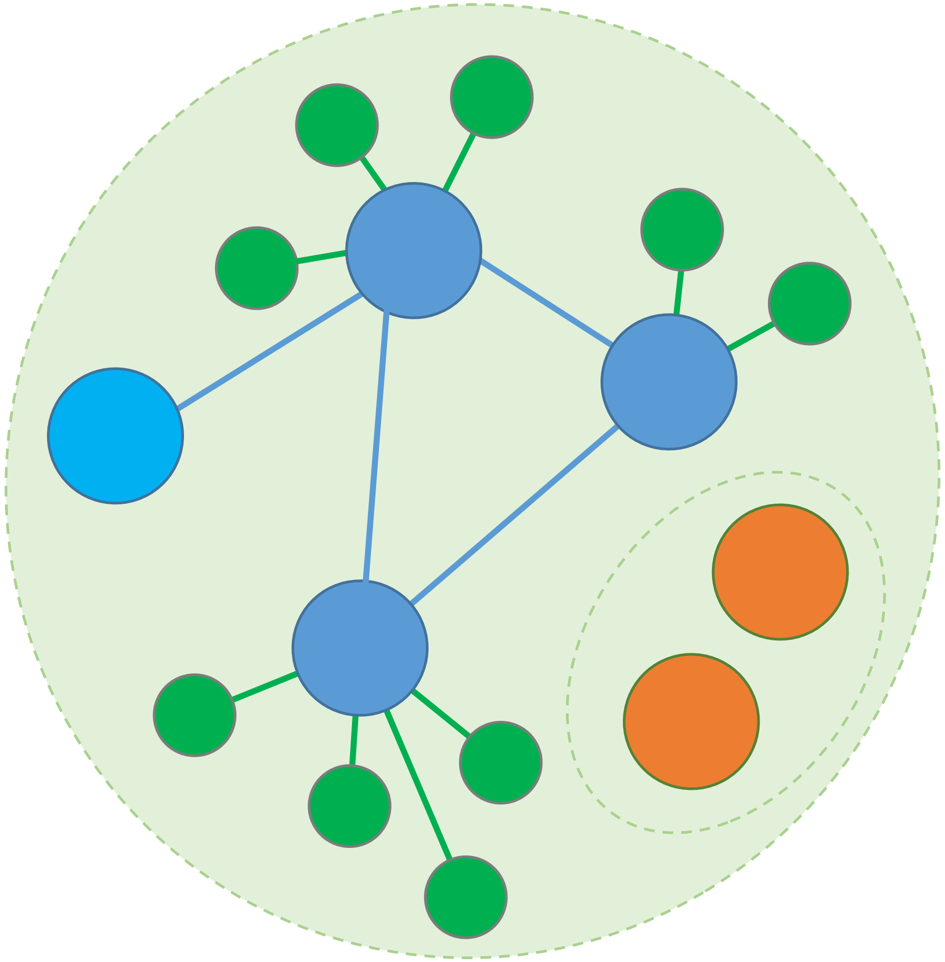
…which means it can be used to power IM, VoIP/WebRTC signalling, IoT communication…

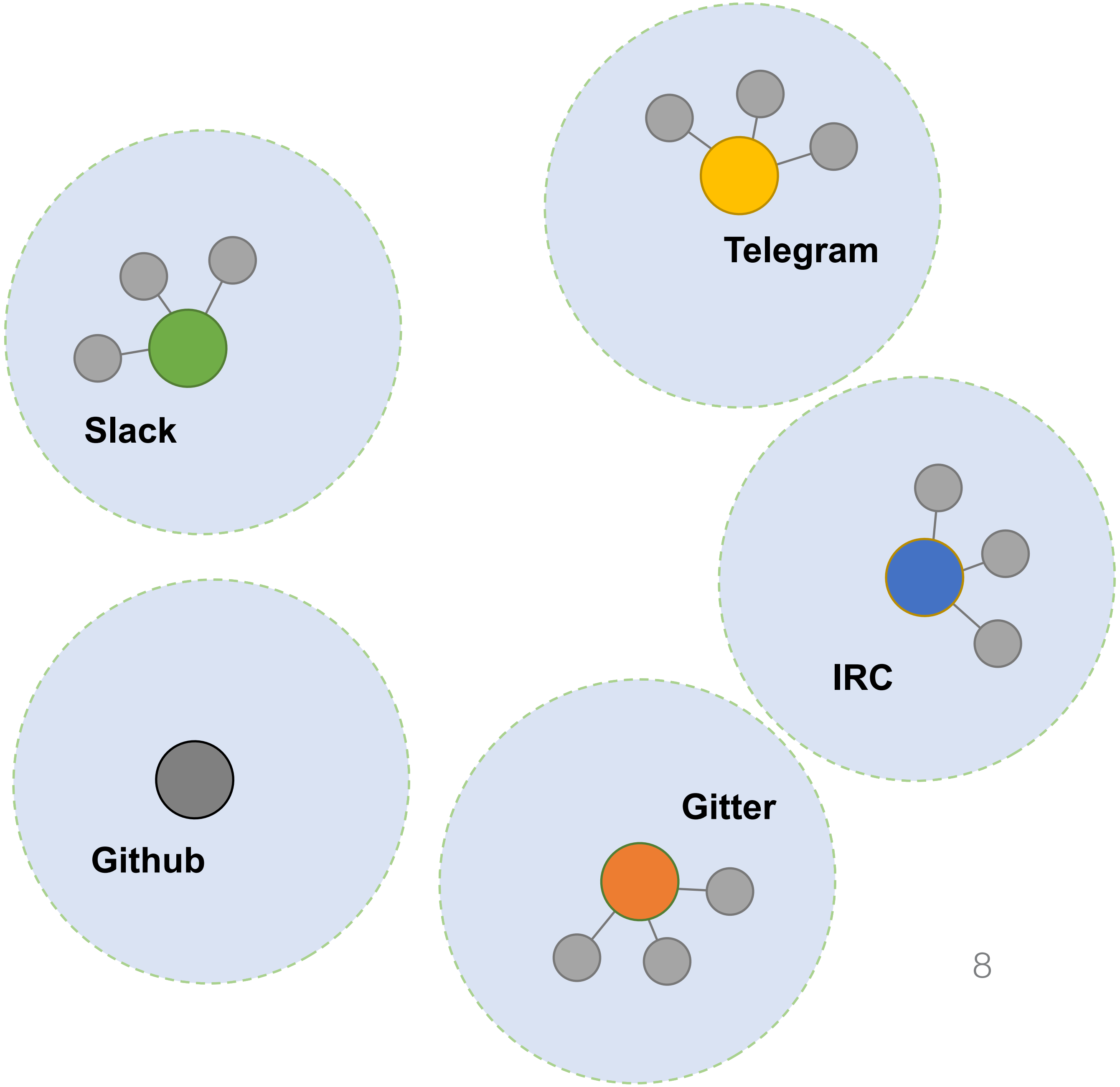
What is Matrix?

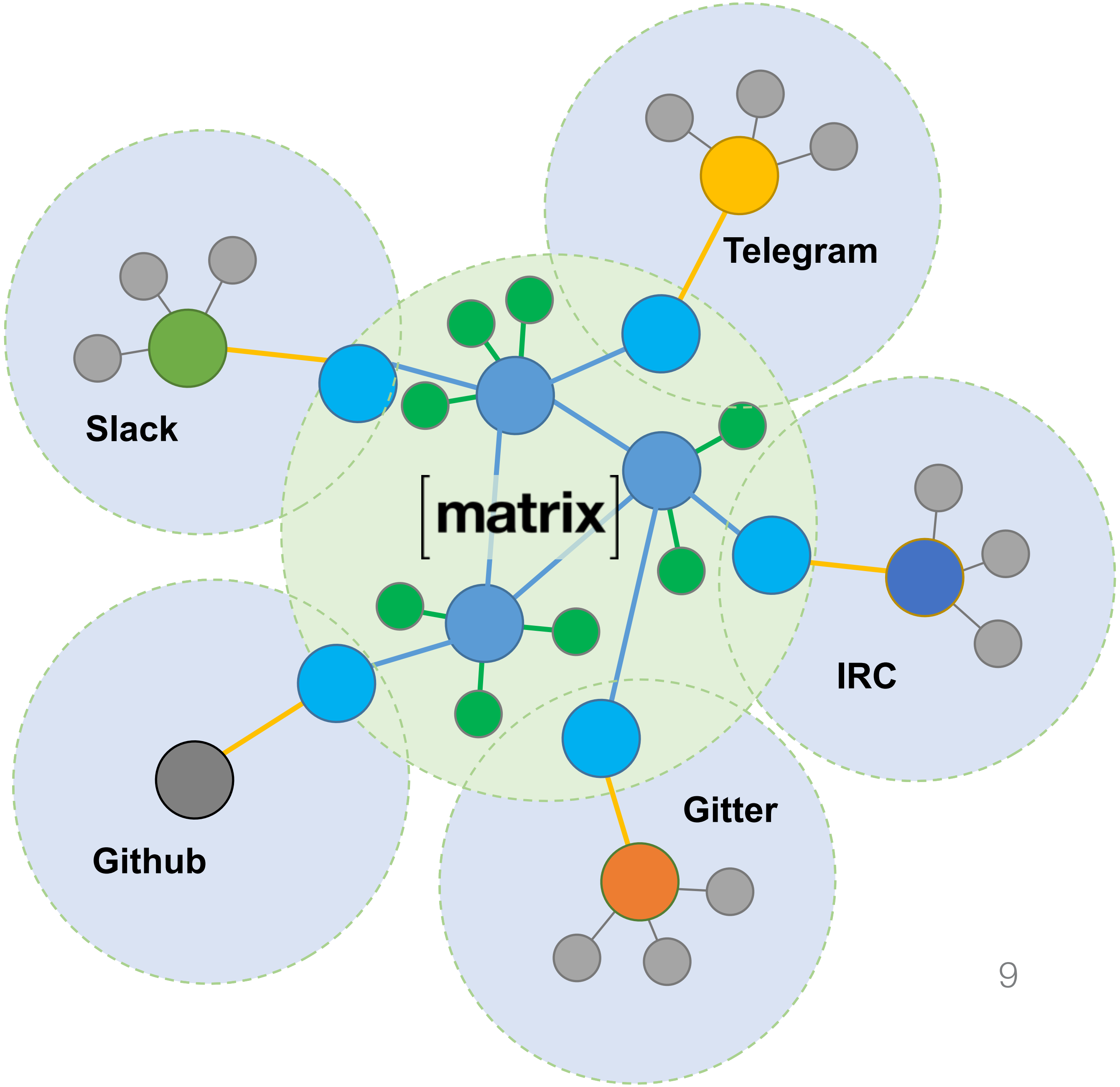
… and anything else that can be expressed as JSON and needs to be transmitted in real-time over HTTP.

Matrix: Distributed Architecture

- 🟢 Clients
- 🔵 Home Servers
- 🔵 Application Servers
- 🟠 Identity Servers




Telegram
Slack
IRC
Gitter
Github


Telegram
Slack
[matrix]
IRC
Gitter
Github

No single party owns your conversations.

Conversations are shared over all participants.

End to End Crypto with Olm and Megolm

- Without end-to-end encryption, Matrix’s replicated conversation history is a privacy problem.
  - ➔ Two years spent building decentralised E2E crypto into the heart of Matrix.
- Security Assessment
  - libolm 1.3.0 assessed by NCC Group in Sept 2016
  - Public results! Findings fixed in libolm or the Matrix Client SDKs.
  - No issues found in libolm since the audit!

Olm + E2E: What’s next?

- Turning it on by default!
- Improved UX for managing device trust
- Cross-signing device keys
- Better device verification
- Better push notification UX for E2E rooms
- Matrix daemon support
- Negotiating E2E with legacy clients

The Matrix APIs

- Client-Server API
- Server-Server API
- Application Service API
- Identity Server API

The Client-Server API

To send a message:

```
curl -XPOST -d '{"msgtype":"m.text", "body":"hello"}' "https://
alice.com:8448/_matrix/client/api/v1/rooms/ROOM_ID/send/
m.room.message?access_token=ACCESS_TOKEN"
```

```
{
    "event_id": "YUwRidLecu"
}
```

The Client-Server API

To control a Hue light:

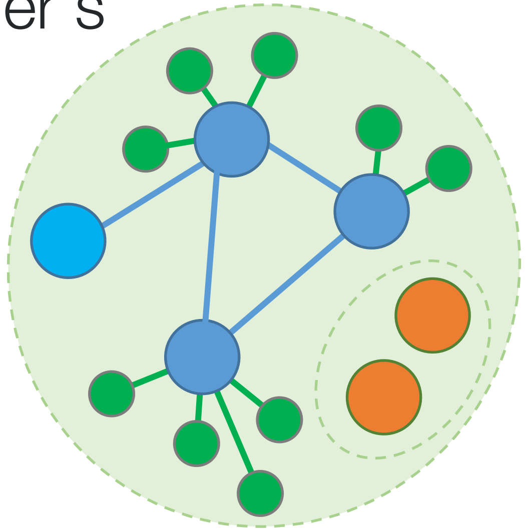
```
curl -XPOST —d '{\
    "room": "1",\
    "light": 2,\
    "brightness": 0.5,\
}' "https://alice.com:8448/_matrix/client/api/v1/rooms/ROOM_ID/send/
org.matrix.midi?access_token=ACCESS_TOKEN"
```

```
{ "event_id": “ORzcZn2” }
```

Server-Sever API

- Synchronises messages and room state between servers, in real-time
- Can retrieve historic messages from each other
- Query profile and presence information about users on each other's servers

Application Services API



- Have privileged access to the server
- Can subscribe to server traffic to provide custom application logic
- They can masquerade as 'virtual users'.

What happened in 2018?

Goals for 2018

- Get the specification to r0
- Update reference implementations to the specification
- Get everything out of beta and call it v1.0

Adoption

- Rate of adoption has been greater than we expected
- Time has been dedicated to improving stability and performance on matrix.org

Hosted Homeservers

Modular.im Launched

- Hosted Homeservers: paid hosting from the creators of Matrix
- Matrix as a SaaS (“MaaS”? “MaaSaaS”?)

- web3.foundation using it internally
- Other adopters not yet announced… soon!

modular

made for matrix

Modular.im: Next steps

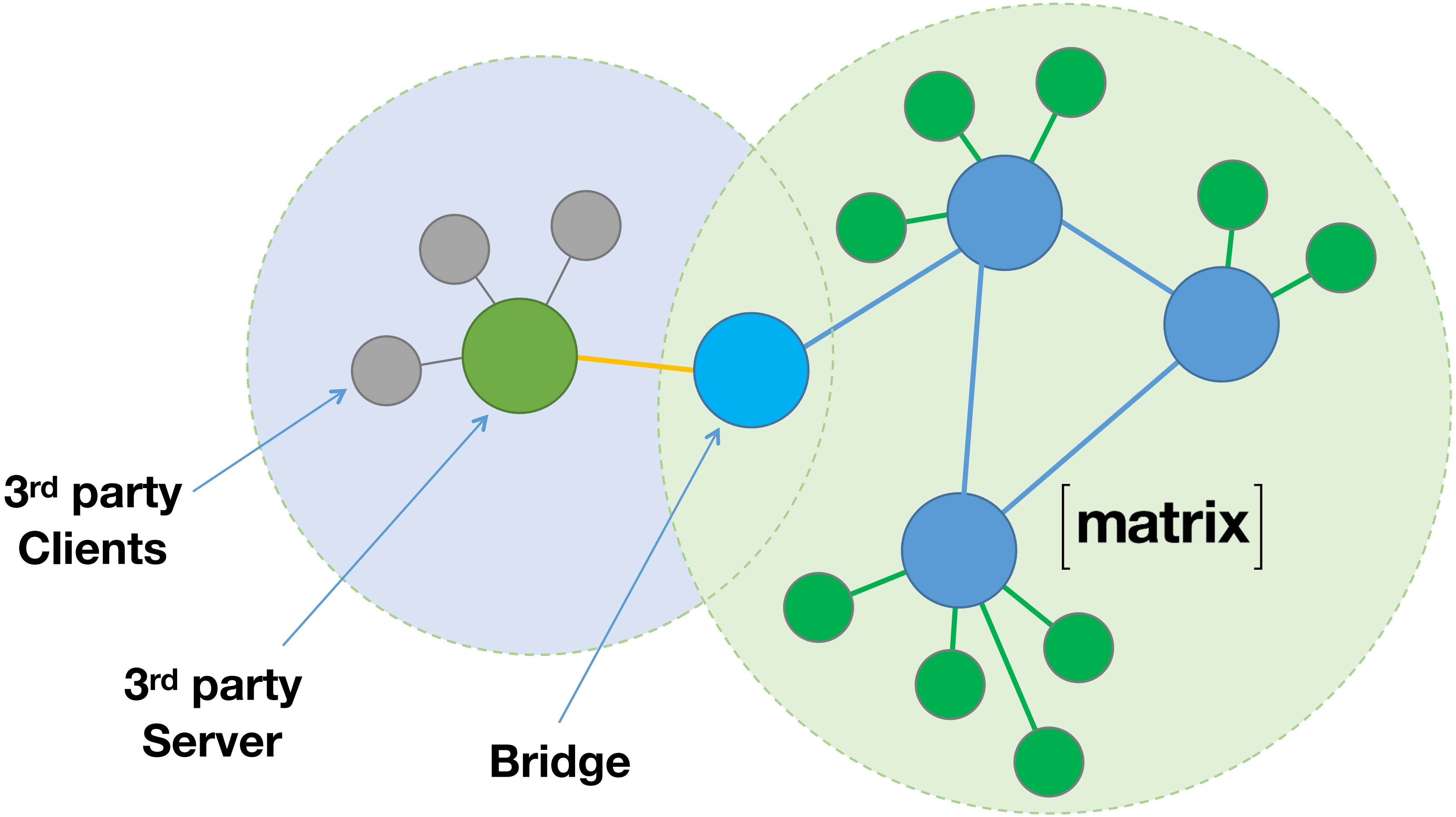
- Smaller servers for individuals
- Custom DNS
- Migration path for existing home servers

modular

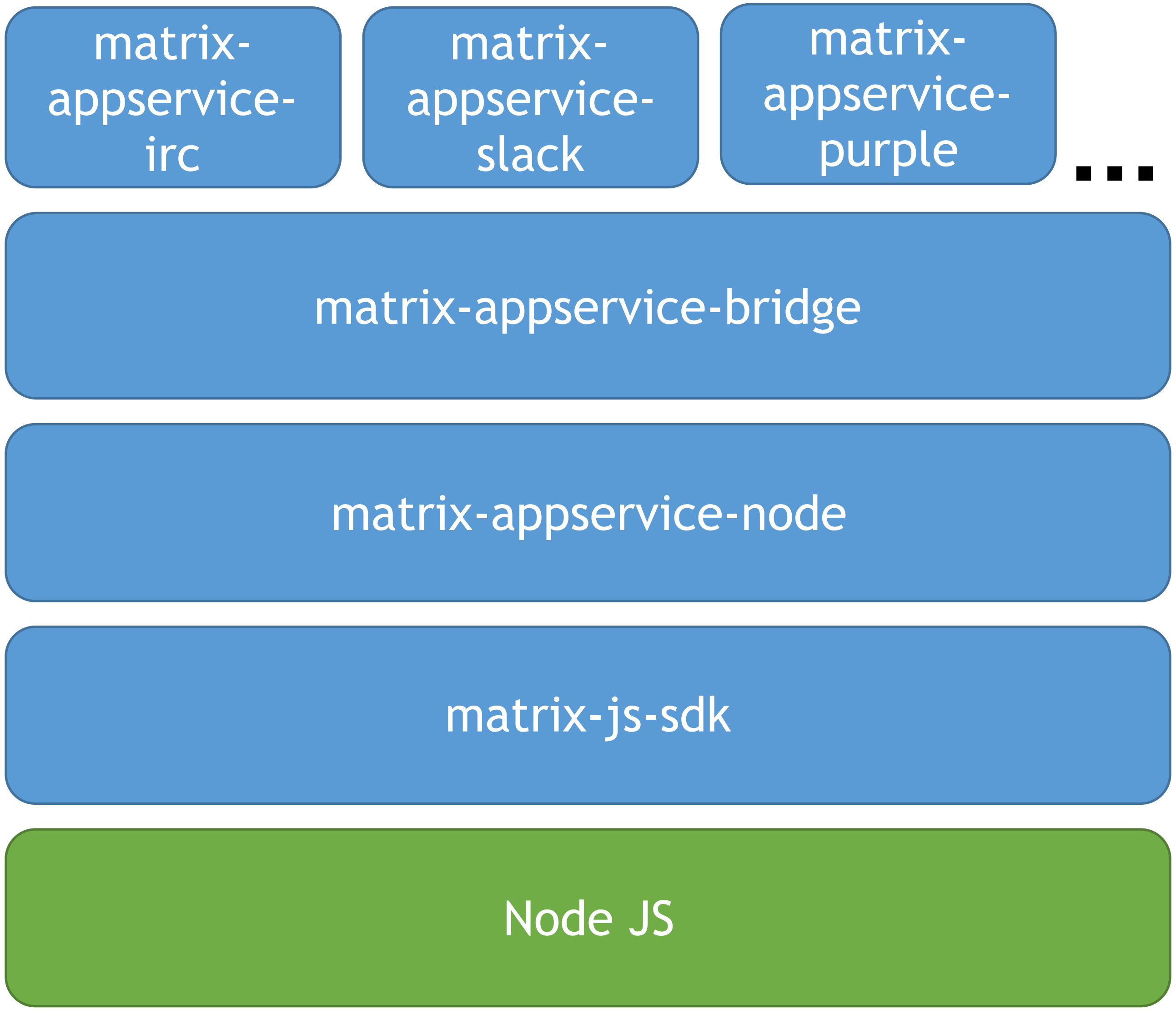
[made for matrix]

Bridges, improved

Building Bridges



Typical Bridging Stack



IRC Bridging

- Performance
  - Message sending is consistently fast
- Stability
  - No more mass rejoining
- New feature: replies

libpurple

New library created to support protocols available through libpurple

Discord Bridge

New maintainer

Many, many fixes for perf

Now version 0.3

Slack bridging

Now using event bridging

One-click setup on riot.im

Gitter Bridging

Lots of performance improvements

XMPP Bridging

Yes this is a real thing now

(TODO talk to HS)

More new Bridges

WhatsApp

Mastodon

more…

The Matrix Foundation

The Matrix.org Foundation

- A UK non-profit company
- Guardians (five total, including some not from the Matrix community)
- In progress:
    - Property being transferred
    - Articles of Association

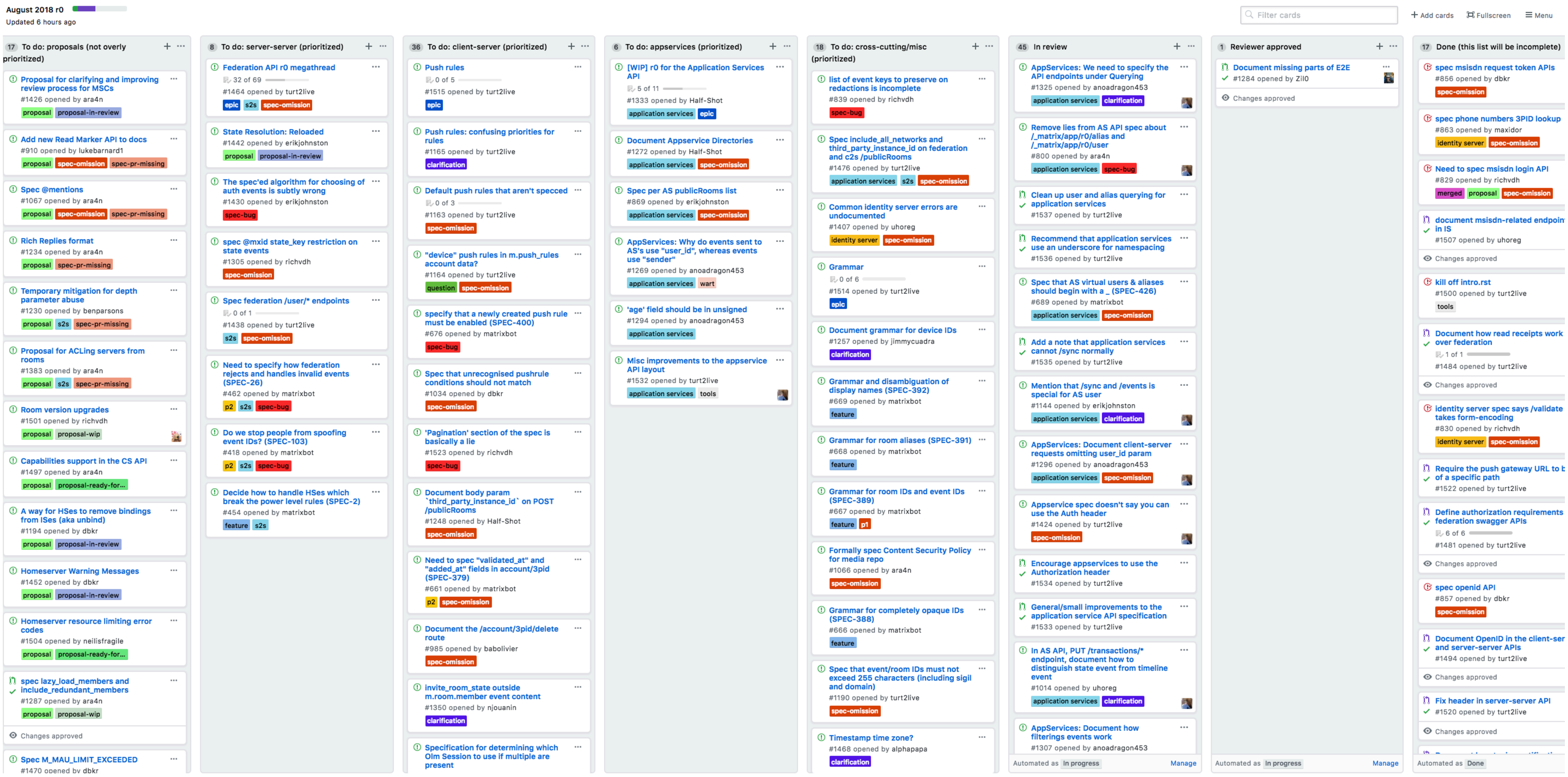
Specification

Spec Progress

- A known bottleneck
- Permanent Core Team member focused on driving this forwards
- So close……..
  - Client Server API is ready
  - Application Service (bots & bridges) API is ready

Spec r0 release

- Stable release of Matrix Spec
- We are so close!
    - Client Server API is ready
    - Application Service (bots & bridges) API is ready
    - Federation API expected in January
- https://github.com/matrix-org/matrix-doc/projects/1



August 2018 r0

Updated 6 hours ago

17 To do: proposals (not overly prioritized)

Proposal for clarifying and improving review process for MSCs
#1426 opened by ara4n
proposal | proposal-in-review

Add new Read Marker API to docs
#910 opened by lukebarnard1
proposal | spec-omission | spec-pr-missing

Spec @mentions
#1067 opened by ara4n
proposal | spec-omission | spec-pr-missing

Rich Replies format
#1234 opened by ara4n
proposal | spec-pr-missing

Temporary mitigation for depth parameter abuse
#1230 opened by benparsons
proposal | s2s | spec-pr-missing

Proposal for ACLing servers from rooms
#1383 opened by ara4n
proposal | s2s | spec-pr-missing

Room version upgrades
#1501 opened by richvdh
proposal | proposal-wip

Capabilities support in the CS API
#1497 opened by ara4n
proposal | proposal-ready-for...

A way for HSes to remove bindings from ISes (aka unbind)
#1194 opened by dbkr
proposal | proposal-in-review

Homeserver Warning Messages
#1452 opened by dbkr
proposal | proposal-in-review

Homeserver resource limiting error codes
#1504 opened by neilisfragile
proposal | proposal-ready-for...

✓ spec lazy_load_members and include_redundant_members
#1287 opened by ara4n
proposal | proposal-wip
Changes approved

Spec M_MAU_LIMIT_EXCEEDED
#1470 opened by dbkr

8 To do: server-server (prioritized)

Federation API r0 megathread
32 of 69
#1464 opened by turt2live
epic | s2s | spec-omission

State Resolution: Reloaded
#1442 opened by erikjohnston
proposal | proposal-in-review

The spec'ed algorithm for choosing of auth events is subtly wrong
#1430 opened by erikjohnston
spec-bug

spec @mxid state_key restriction on state events
#1305 opened by richvdh
spec-omission

Spec federation /user/* endpoints
0 of 1
#1438 opened by turt2live
s2s | spec-omission

Need to specify how federation rejects and handles invalid events (SPEC-26)
#462 opened by matrixbot
p2 | s2s | spec-bug

Do we stop people from spoofing event IDs? (SPEC-103)
#418 opened by matrixbot
p2 | s2s | spec-bug

Decide how to handle HSes which break the power level rules (SPEC-2)
#454 opened by matrixbot
feature | s2s

36 To do: client-server (prioritized)

Push rules
0 of 5
#1515 opened by turt2live
epic

Push rules: confusing priorities for rules
#1165 opened by turt2live
clarification

Default push rules that aren't specced
0 of 3
#1163 opened by turt2live
spec-omission

"device" push rules in m.push_rules account data?
#1164 opened by turt2live
question | spec-omission

specify that a newly created push rule must be enabled (SPEC-400)
#676 opened by matrixbot
spec-bug

Spec that unrecognised pushrule conditions should not match
#1034 opened by dbkr
spec-omission

'Pagination' section of the spec is basically a lie
#1523 opened by richvdh
spec-bug

Document body param `third_party_instance_id` on POST /publicRooms
#1248 opened by Half-Shot
spec-omission

Need to spec "validated_at" and "added_at" fields in account/3pid (SPEC-379)
#661 opened by matrixbot
p2 | spec-omission

Document the /account/3pid/delete route
#985 opened by babolivier
spec-omission

invite_room_state outside m.room.member event content
#1350 opened by njouanin
clarification

Specification for determining which Olm Session to use if multiple are present

6 To do: appservices (prioritized)

[WIP] r0 for the Application Services API
5 of 11
#1333 opened by Half-Shot
application services | epic

Document Appservice Directories
#1272 opened by Half-Shot
application services | spec-omission

Spec per AS publicRooms list
#869 opened by erikjohnston
application services | spec-omission

AppServices: Why do events sent to AS's use "user_id", whereas events use "sender"
#1269 opened by anoadragon453
application services | wart

'age' field should be in unsigned
#1294 opened by anoadragon453
application services

Misc improvements to the appservice API layout
#1532 opened by turt2live
application services | tools

18 To do: cross-cutting/misc (prioritized)

list of event keys to preserve on redactions is incomplete
#839 opened by richvdh
spec-bug

Spec include_all_networks and third_party_instance_id on federation and c2s /publicRooms
#1476 opened by turt2live
application services | s2s | spec-omission

Common identity server errors are undocumented
#1407 opened by uhoreg
identity server | spec-omission

Grammar
0 of 6
#1514 opened by turt2live
epic

Document grammar for device IDs
#1257 opened by jimmycuadra
clarification

Grammar and disambiguation of display names (SPEC-392)
#669 opened by matrixbot
feature

Grammar for room aliases (SPEC-391)
#668 opened by matrixbot
feature

Grammar for room IDs and event IDs (SPEC-389)
#667 opened by matrixbot
feature | p1

Formally spec Content Security Policy for media repo
#1066 opened by ara4n
spec-omission

Grammar for completely opaque IDs (SPEC-388)
#666 opened by matrixbot
feature

Spec that event/room IDs must not exceed 255 characters (including sigil and domain)
#1190 opened by turt2live
spec-omission

Timestamp time zone?
#1468 opened by alphapapa
clarification

45 In review

AppServices: We need to specify the API endpoints under Querying
#1325 opened by anoadragon453
application services | clarification

Remove lies from AS API spec about /_matrix/app/r0/alias and /_matrix/app/r0/user
#800 opened by ara4n
application services | spec-bug

✓ Clean up user and alias querying for application services
#1537 opened by turt2live

✓ Recommend that application services use an underscore for namespacing
#1536 opened by turt2live

Spec that AS virtual users & aliases should begin with a _ (SPEC-426)
#689 opened by matrixbot
application services | spec-omission

✓ Add a note that application services cannot /sync normally
#1535 opened by turt2live

Mention that /sync and /events is special for AS user
#1144 opened by erikjohnston
application services | clarification

AppServices: Document client-server requests omitting user_id param
#1296 opened by anoadragon453
application services | spec-omission

Appservice spec doesn't say you can use the Auth header
#1424 opened by turt2live
spec-omission

✓ Encourage appservices to use the Authorization header
#1534 opened by turt2live

✓ General/small improvements to the application service API specification
#1533 opened by turt2live

In AS API, PUT /transactions/* endpoint, document how to distinguish state event from timeline event
#1014 opened by uhoreg
application services | clarification

AppServices: Document how filterings events work
#1307 opened by anoadragon453

Automated as In progress Manage

1 Reviewer approved

✓ Document missing parts of E2E
#1284 opened by Zil0
Changes approved

Automated as In progress Manage

17 Done (this list will be incomplete)

spec msisdn request token APIs
#856 opened by dbkr
spec-omission

spec phone numbers 3PID lookup
#863 opened by maxidor
identity server | spec-omission

Need to spec msisdn login API
#829 opened by richvdh
merged | proposal | spec-omission

✓ document msisdn-related endpoin in IS
#1507 opened by uhoreg
Changes approved

kill off intro.rst
#1500 opened by turt2live
tools

✓ Document how read receipts work over federation
1 of 1
#1484 opened by turt2live
Changes approved

identity server spec says /validate takes form-encoding
#830 opened by richvdh
identity server | spec-omission

✓ Require the push gateway URL to b of a specific path
#1522 opened by turt2live

✓ Define authorization requirements federation swagger APIs
6 of 6
#1481 opened by turt2live
Changes approved

spec openid API
#857 opened by dbkr
spec-omission

✓ Document OpenID in the client-ser and server-server APIs
#1494 opened by turt2live
Changes approved

✓ Fix header in server-server API
#1520 opened by turt2live
Changes approved

Automated as Done

Synapse

Synapse improvements

- Reference implementation and 99.999% of active home servers
- Regular incremental performance and security improvements

- Noticeable improvement in responsiveness on matrix.org

- **It’s now Python 3**

- Installation streamlined and docs improved, new docker and ansible methods

Riot

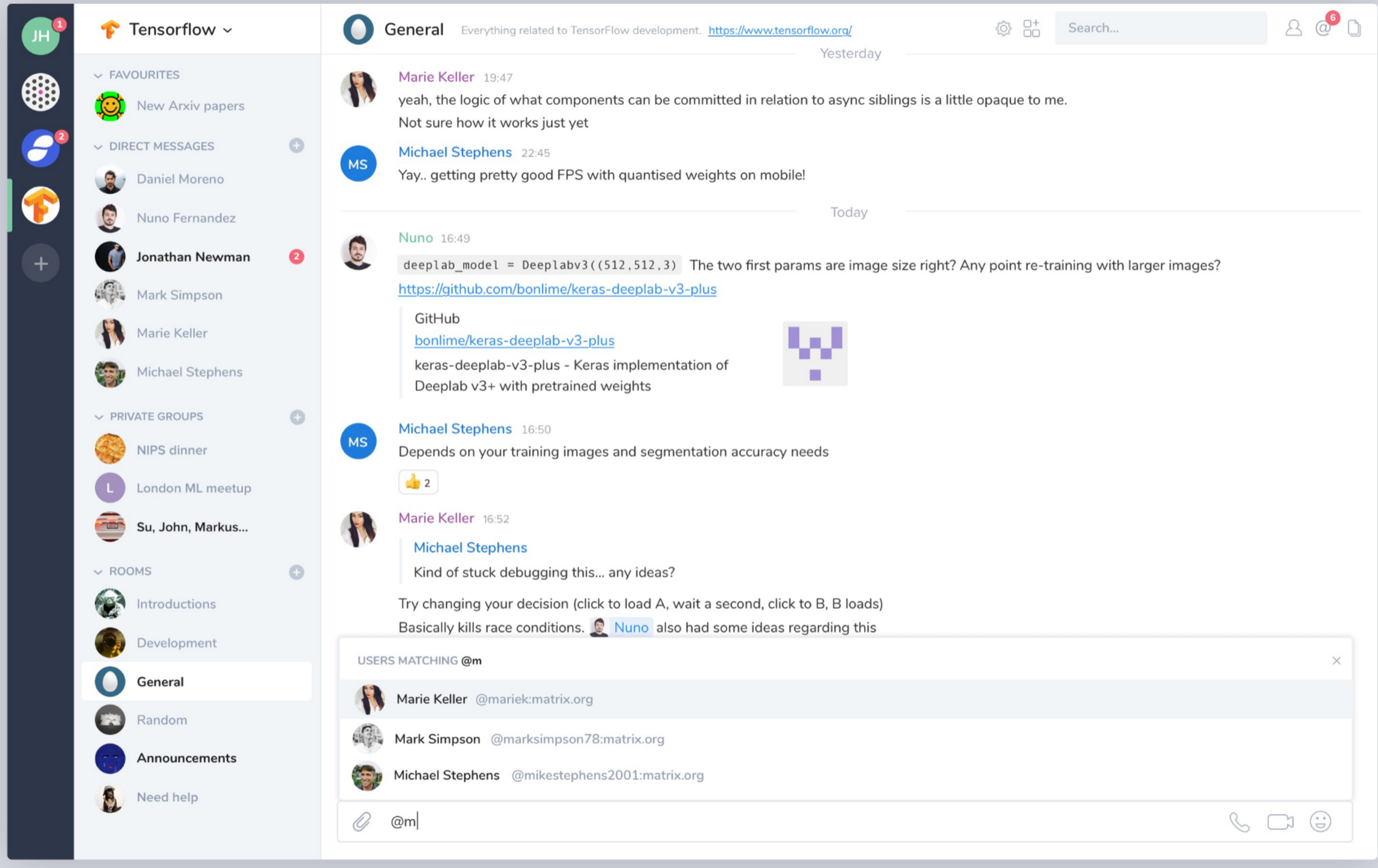
Riot Redesign

- Current Riot is not always attractive
- The colours are not …. right
- Messaging software ecosystem is mature, there are things which users are known to like (…Slack)
  - Riot will be a glossy client, with other clients available to taste

Riot Redesign Progress

Big progress on the web:

https://riot.im/experimental



Marie Keller 19:47
yeah, the logic of what components can be committed in relation to async siblings is a little opaque to me.
Not sure how it works just yet

Michael Stephens 22:45
Yay.. getting pretty good FPS with quantised weights on mobile!

Nuno 16:49
`deeplab_model = Deeplabv3((512,512,3)` The two first params are image size right? Any point re-training with larger images?
https://github.com/bonlime/keras-deeplab-v3-plus

> GitHub
> bonlime/keras-deeplab-v3-plus
> keras-deeplab-v3-plus - Keras implementation of Deeplab v3+ with pretrained weights

Michael Stephens 16:50
Depends on your training images and segmentation accuracy needs
👍 2

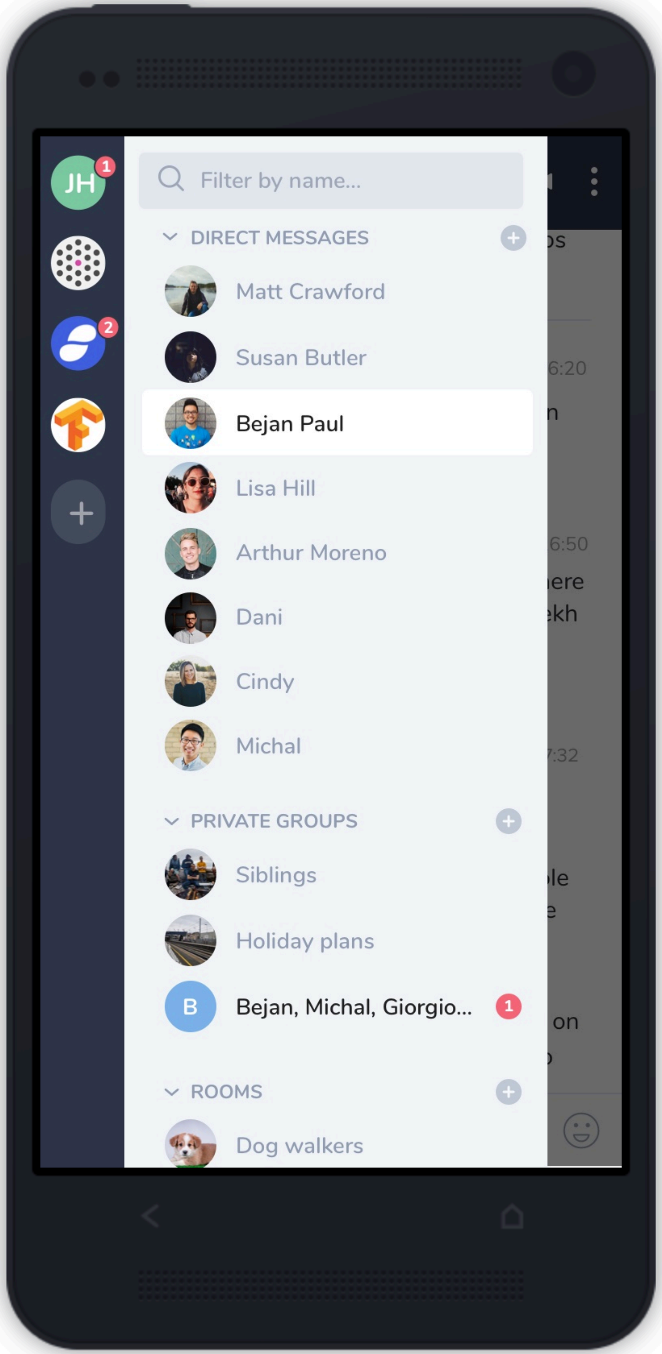
Marie Keller 16:52

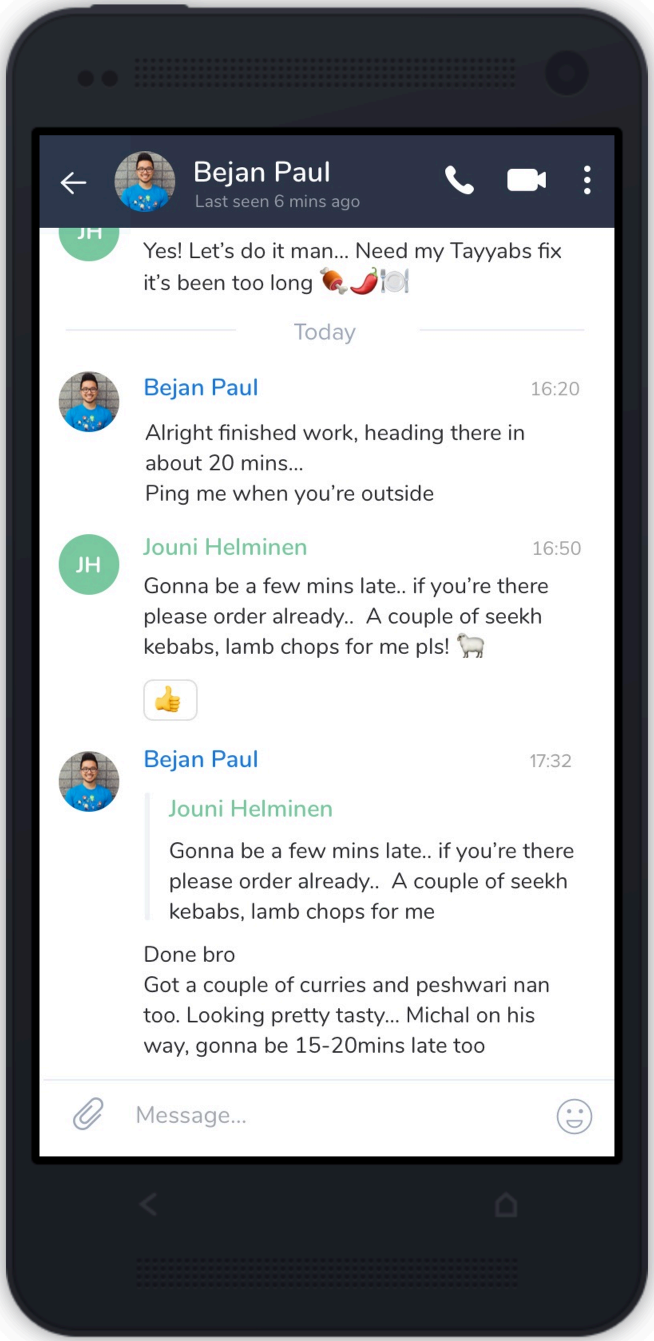
> Michael Stephens
> Kind of stuck debugging this... any ideas?

Try changing your decision (click to load A, wait a second, click to B, B loads)
Basically kills race conditions. Nuno also had some ideas regarding this

Marie Keller @mariek:matrix.org
Mark Simpson @marksimpson78:matrix.org
Michael Stephens @mikestephens2001:matrix.org

@m





Yes! Let's do it man... Need my Tayyabs fix it's been too long 🍖🌶️🍽️

Bejan Paul 16:20

Alright finished work, heading there in about 20 mins...
Ping me when you're outside

Jouni Helminen 16:50

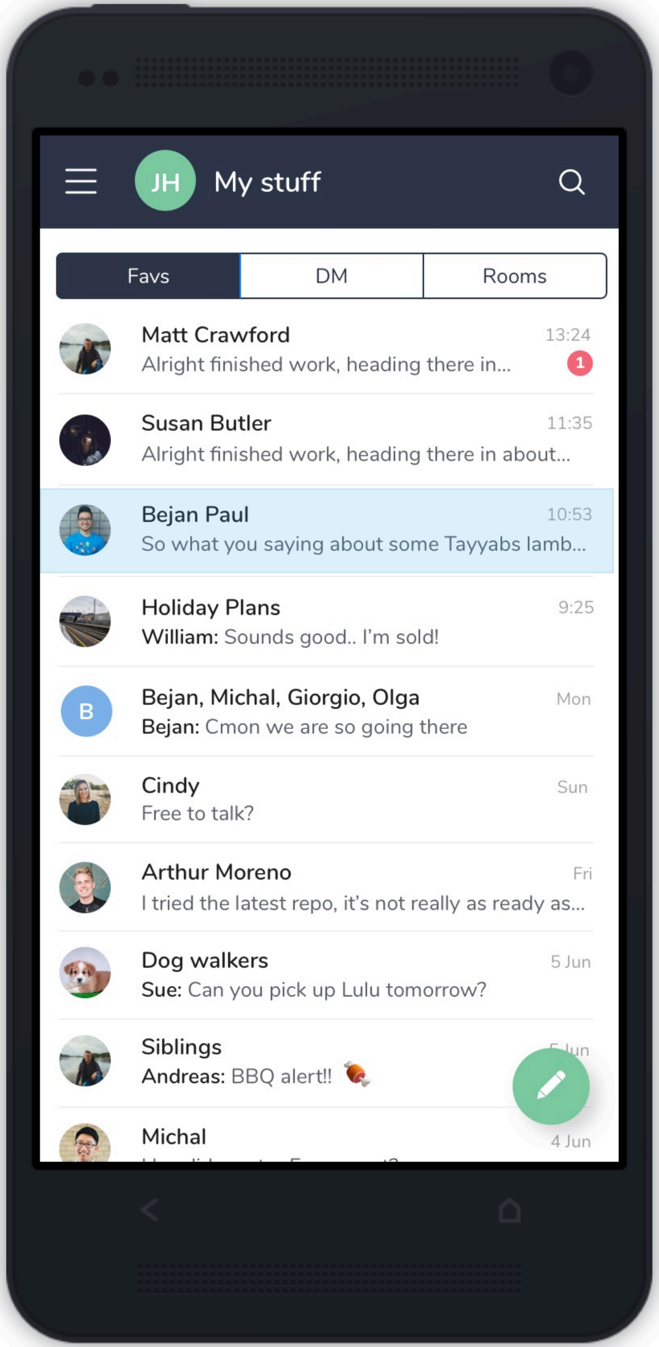
Gonna be a few mins late.. if you're there please order already.. A couple of seekh kebabs, lamb chops for me pls! 🐑

👍

Bejan Paul 17:32

> Jouni Helminen
>
> Gonna be a few mins late.. if you're there please order already.. A couple of seekh kebabs, lamb chops for me

Done bro
Got a couple of curries and peshwari nan too. Looking pretty tasty... Michal on his way, gonna be 15-20mins late too



Matt Crawford 13:24
Alright finished work, heading there in... 1

Susan Butler 11:35
Alright finished work, heading there in about...

Bejan Paul 10:53
So what you saying about some Tayyabs lamb...

Holiday Plans 9:25
William: Sounds good.. I'm sold!

Bejan, Michal, Giorgio, Olga Mon
Bejan: Cmon we are so going there

Cindy Sun
Free to talk?

Arthur Moreno Fri
I tried the latest repo, it's not really as ready as...

Dog walkers 5 Jun
Sue: Can you pick up Lulu tomorrow?

Siblings 5 Jun
Andreas: BBQ alert!! 🍖

Michal 4 Jun

E2E UX rework

Much work has been done to improve the UX of key-signing

Look for this in Riot soon

Riot-android rework coming

New Kotlin SDK

“RiotX”, an implementation of Riot using the new SDK will be available soon

Soooo fast!

French Government (DINSIC)

DINSIC (French Government usage)

- Deploying a private federation of Matrix homeservers
- Decentralised organisations (such as govt and academia) appreciate the decentralised design of matrix, they can have separate servers linked
  - they can have different settings for many things, event security - eg. AV severity

DINSIC (French Government usage)

- Developed a fork of Riot for use as their official secure communications client
  - Now ready on iOS, Android, Web
- Now live with 15 servers, one per ministry
- Security Audit (with involvement from ANSSI, govt Computer Security Service) happening in January!
  - We expect an increase in rollout speed after this

Client Ecosystem Explosion

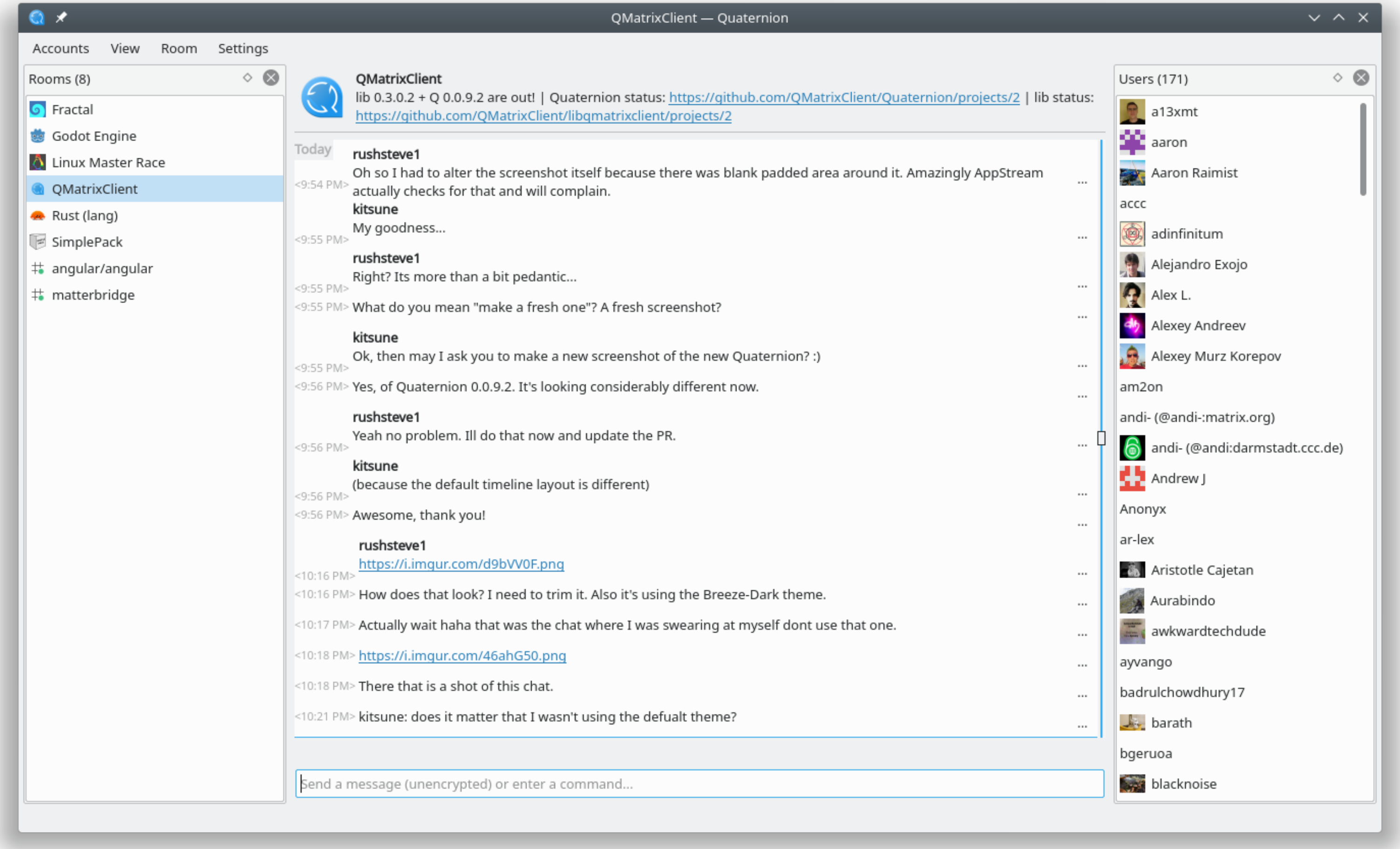
Client Ecosystem explosion

There were a lot of clients 12 months ago, but now there is a genuine choice of clients for day-to-day use

Not all of these were first released in the last year, but still, an “explosion” of work and client development is fair to claim!

Quaternion

- Qt, looks like a Qt app
  - Creator is also creator of libQMatrixClient, which supports many projects



QMatrixClient
lib 0.3.0.2 + Q 0.0.9.2 are out! | Quaternion status: https://github.com/QMatrixClient/Quaternion/projects/2 | lib status: https://github.com/QMatrixClient/libqmatrixclient/projects/2

rushsteve1
<9:54 PM> Oh so I had to alter the screenshot itself because there was blank padded area around it. Amazingly AppStream actually checks for that and will complain.

kitsune
<9:55 PM> My goodness...

rushsteve1
<9:55 PM> Right? Its more than a bit pedantic...
<9:55 PM> What do you mean "make a fresh one"? A fresh screenshot?

kitsune
<9:55 PM> Ok, then may I ask you to make a new screenshot of the new Quaternion? :)
<9:56 PM> Yes, of Quaternion 0.0.9.2. It's looking considerably different now.

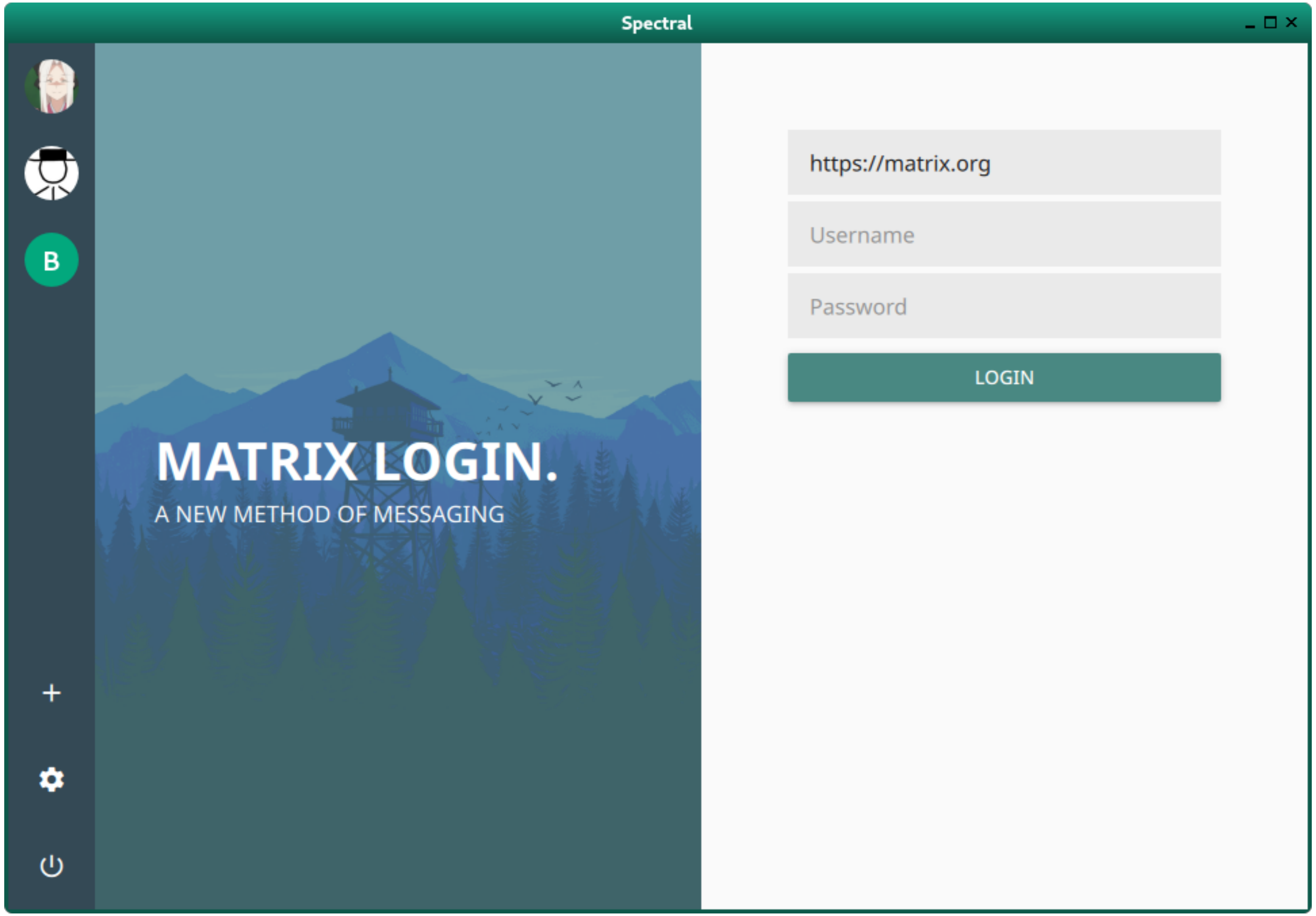
rushsteve1
<9:56 PM> Yeah no problem. Ill do that now and update the PR.

kitsune
<9:56 PM> (because the default timeline layout is different)
<9:56 PM> Awesome, thank you!

rushsteve1
<10:16 PM> https://i.imgur.com/d9bVV0F.png
<10:16 PM> How does that look? I need to trim it. Also it's using the Breeze-Dark theme.
<10:17 PM> Actually wait haha that was the chat where I was swearing at myself dont use that one.
<10:18 PM> https://i.imgur.com/46ahG50.png
<10:18 PM> There that is a shot of this chat.
<10:21 PM> kitsune: does it matter that I wasn't using the defualt theme?

Spectral

- Qt, uses libQMatrixClient
- Looks great



Spectral

MATRIX LOGIN.

A NEW METHOD OF MESSAGING

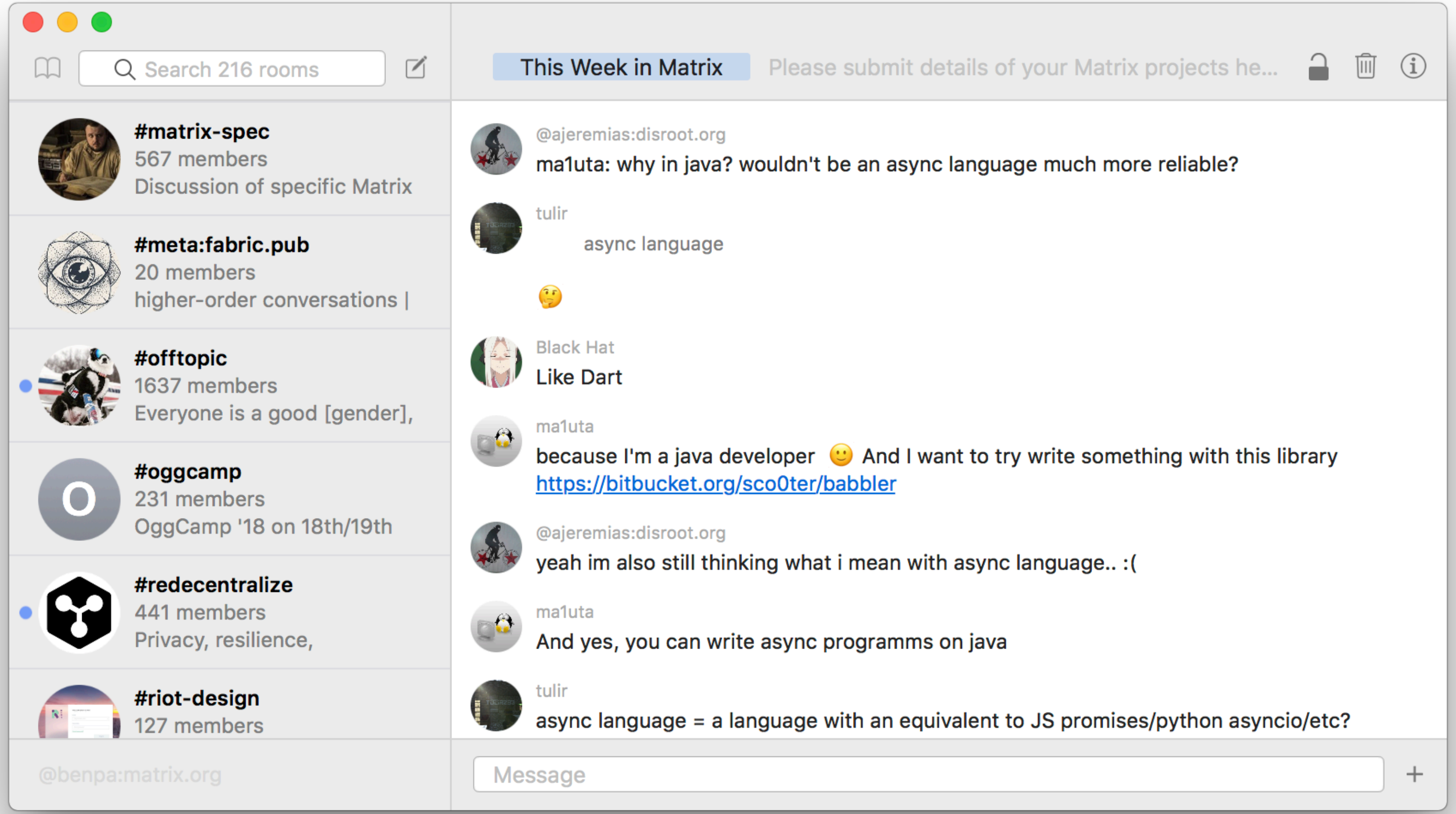
https://matrix.org

Username

Password

Seaglass

- Native macOS app
- supports E2E
- looks great



#matrix-spec
567 members
Discussion of specific Matrix

#meta:fabric.pub
20 members
higher-order conversations |

#offtopic
1637 members
Everyone is a good [gender],

#oggcamp
231 members
OggCamp '18 on 18th/19th

#redecentralize
441 members
Privacy, resilience,

#riot-design
127 members

@benpa:matrix.org

This Week in Matrix Please submit details of your Matrix projects he...

@ajeremias:disroot.org
ma1uta: why in java? wouldn't be an async language much more reliable?

tulir
async language

🤔

Black Hat
Like Dart

ma1uta
because I'm a java developer 🙂 And I want to try write something with this library https://bitbucket.org/sco0ter/babbler

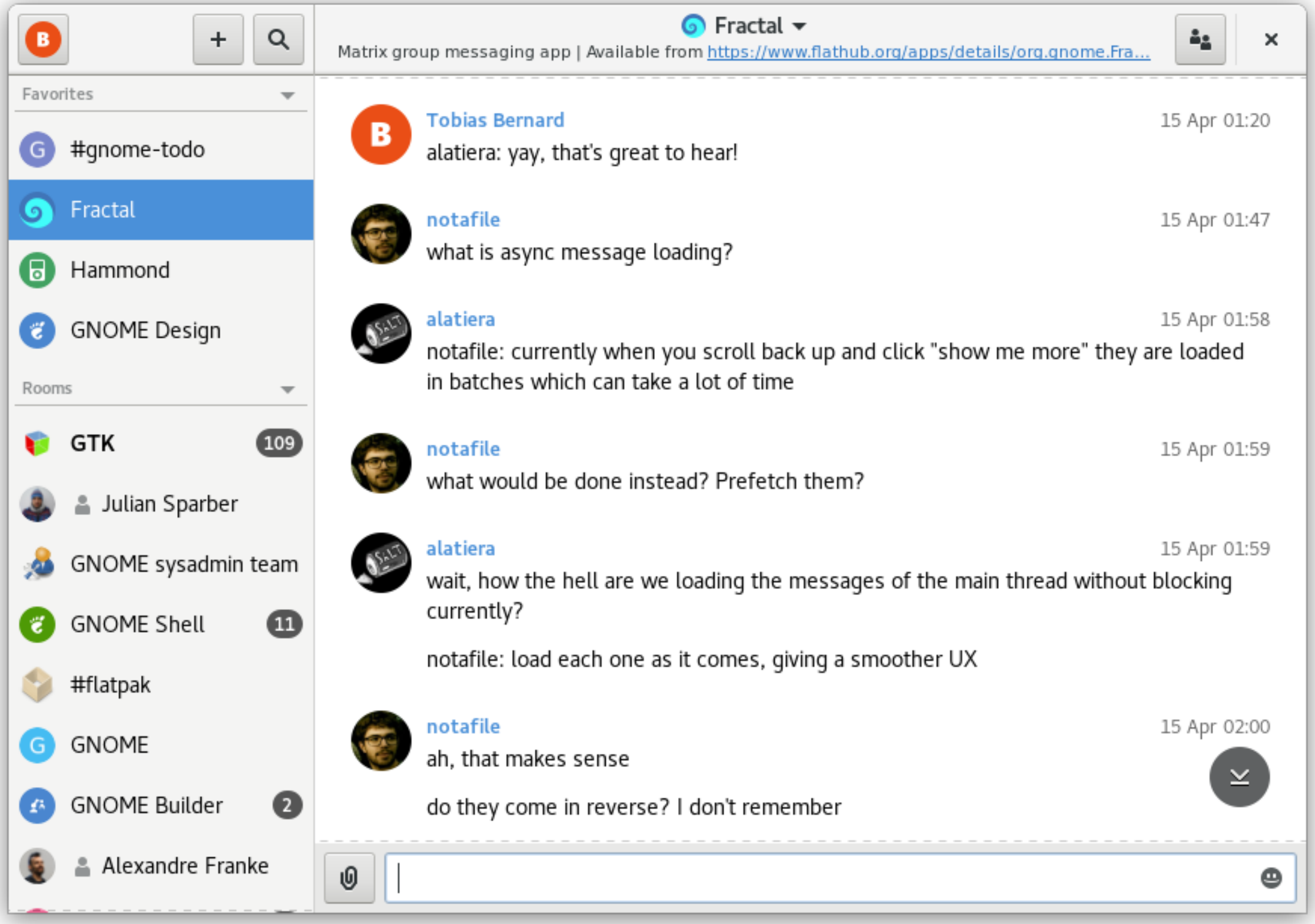
@ajeremias:disroot.org
yeah im also still thinking what i mean with async language.. :(

ma1uta
And yes, you can write async programms on java

tulir
async language = a language with an equivalent to JS promises/python asyncio/etc?

Fractal

- Gnome/GTK
- Rust
- rapidly evolving
- strong community
- Adding E2E soon, at the Rust-level, so will be client agnostic
- Supported by Purism for librem5 device



Matrix group messaging app | Available from https://www.flathub.org/apps/details/org.gnome.Fra...

Tobias Bernard 15 Apr 01:20
alatiera: yay, that's great to hear!

notafile 15 Apr 01:47
what is async message loading?

alatiera 15 Apr 01:58
notafile: currently when you scroll back up and click "show me more" they are loaded in batches which can take a lot of time

notafile 15 Apr 01:59
what would be done instead? Prefetch them?

alatiera 15 Apr 01:59
wait, how the hell are we loading the messages of the main thread without blocking currently?

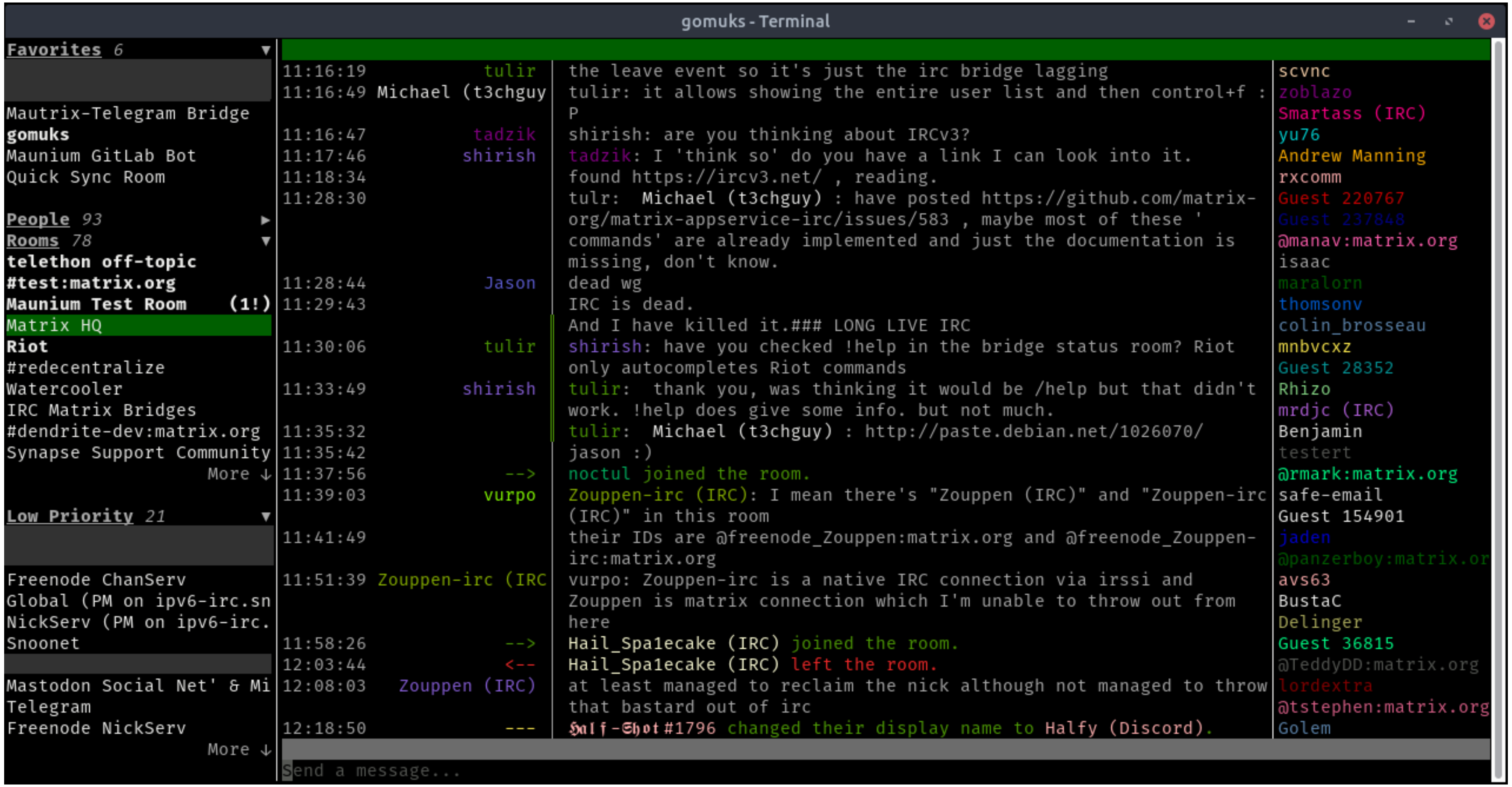
notafile: load each one as it comes, giving a smoother UX

notafile 15 Apr 02:00
ah, that makes sense

do they come in reverse? I don't remember

Gomuks

- TUI
- written in Go



```
Favorites 6                    ▼

Mautrix-Telegram Bridge
gomuks
Maunium GitLab Bot
Quick Sync Room

People 93                      ▶
Rooms 78                       ▼
telethon off-topic
#test:matrix.org
Maunium Test Room          (1!)
Matrix HQ
Riot
#redecentralize
Watercooler
IRC Matrix Bridges
#dendrite-dev:matrix.org
Synapse Support Community
                         More ↓

Low Priority 21                ▼

Freenode ChanServ
Global (PM on ipv6-irc.sn
NickServ (PM on ipv6-irc.
Snoonet

Mastodon Social Net' & Mi
Telegram
Freenode NickServ
                         More ↓
```

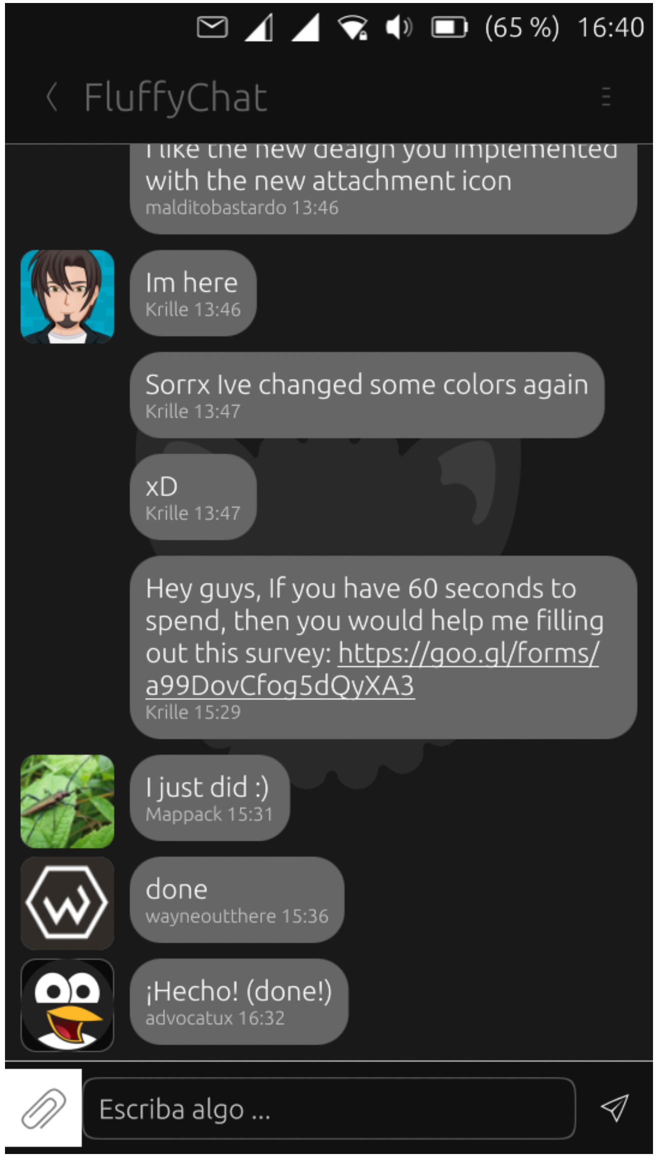
```
11:16:19             tulir  the leave event so it's just the irc bridge lagging
11:16:49 Michael (t3chguy   tulir: it allows showing the entire user list and then control+f :
                            P
11:16:47            tadzik  shirish: are you thinking about IRCv3?
11:17:46           shirish  tadzik: I 'think so' do you have a link I can look into it.
11:18:34                    found https://ircv3.net/ , reading.
11:28:30                    tulr:  Michael (t3chguy) : have posted https://github.com/matrix-
                            org/matrix-appservice-irc/issues/583 , maybe most of these '
                            commands' are already implemented and just the documentation is
                            missing, don't know.
11:28:44             Jason  dead wg
11:29:43                    IRC is dead.
                            And I have killed it.### LONG LIVE IRC
11:30:06             tulir  shirish: have you checked !help in the bridge status room? Riot
                            only autocompletes Riot commands
11:33:49           shirish  tulir:  thank you, was thinking it would be /help but that didn't
                            work. !help does give some info. but not much.
11:35:32                    tulir:  Michael (t3chguy) : http://paste.debian.net/1026070/
11:35:42                    jason :)
11:37:56               -->  noctul joined the room.
11:39:03             vurpo  Zouppen-irc (IRC): I mean there's "Zouppen (IRC)" and "Zouppen-irc
                            (IRC)" in this room
11:41:49                    their IDs are @freenode_Zouppen:matrix.org and @freenode_Zouppen-
                            irc:matrix.org
11:51:39 Zouppen-irc (IRC   vurpo: Zouppen-irc is a native IRC connection via irssi and
                            Zouppen is matrix connection which I'm unable to throw out from
                            here
11:58:26               -->  Hail_Spa1ecake (IRC) joined the room.
12:03:44               <--  Hail_Spa1ecake (IRC) left the room.
12:08:03     Zouppen (IRC)  at least managed to reclaim the nick although not managed to throw
                            that bastard out of irc
12:18:50               ---  Half-Shot#1796 changed their display name to Halfy (Discord).

Send a message...
```

```
scvnc
zoblazo
Smartass (IRC)
yu76
Andrew Manning
rxcomm
Guest 220767
Guest 237848
@manav:matrix.org
isaac
maralorn
thomsonv
colin_brosseau
mnbvcxz
Guest 28352
Rhizo
mrdjc (IRC)
Benjamin
testert
@rmark:matrix.org
safe-email
Guest 154901
jaden
@panzerboy:matrix.or
avs63
BustaC
Delinger
Guest 36815
@TeddyDD:matrix.org
lordextra
@tstephen:matrix.org
Golem
```

FluffyChat

- One of two clients for Ubuntu Touch*
- Huge features progress this year



I like the new design you implemented with the new attachment icon
malditobastardo 13:46

Im here
Krille 13:46

Sorrx Ive changed some colors again
Krille 13:47

xD
Krille 13:47

Hey guys, If you have 60 seconds to spend, then you would help me filling out this survey: https://goo.gl/forms/a99DovCfog5dQyXA3
Krille 15:29

I just did :)
Mappack 15:31

done
wayneoutthere 15:36

¡Hecho! (done!)
advocatux 16:32

* [Number of Matrix Clients for Platform] / [Number of users on Platform] gives Ubuntu Touch a great ranking

Still more clients

- Koma
  - using JavaFX
- matrix-client-el
  - Rebirth of the inevitable emacs client
- SimpleMatrix
  - A new client in development for Android
- Scylla
  - Elm, new web app
- And more…

What Else Is New?

Google Summer of Code

- Two students working with the core team
  - One made huge progress adding E2E bindings for the Python SDK
  - Another helped push Dendrite toward feature-completeness
- Gnome Project had two students working on Fractal (Gtk Client)
  - Assisting with redesign and implementation of fundamental features like room config screen

Lazy Loading

- Specifically Lazy Loading of member list for rooms
- A bottleneck for client performance but can be solved by the server.
- Current implementation suggests an initial RAM usage reduction of around 6x.

State Resolution: Reloaded

- The state of a room at an event is built up and updated by sending state events into the room.
- View of the state of the room should be consistent across all servers.
- Problem: room graph forks and then merges again (e.g. if two servers send events at the same time). State has to be resolved from the state of the two branches: this is called the **state resolution algorithm**.
- Entirely new consensus algorithm
- Ideal algorithm should not allow malicious servers to avoid moderation action by forking and merging the room graph

What will come next?

What’s after that?

- Dendrite, with other home servers filling the ecosystem
- Aggregations
  - Emoji Reactions
  - Editable messages
- Threading - future idea
- Decentralised identity
- Cross-signing

[matrix]

Thank You

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