LATEST NEWS FROM THE MONGOOSEIM TEAM

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1.

About me

About Me

- Happy husband and father
- Senior Developer at Erlang Solutions
- MongooseIM technical lead
- XSF member
- Amateur runner

2.

What I’m going to talk about

AGENDA

- MongooseIM
  - 2.0.0 and 2.0.1
  - 2.1.0
- Tide - continuous load testing
- MongooseIM Push
- MongooseIM ICE

3.1

MongooseIM 2.0.0 and 2.0.1

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MongooseIM platform 2.0.0: higher value and lower friction

https://www.erlang-solutions.com/blog/mongooseim-platform-2-0-0-higher-value-and-lower-friction.html

MongooseIM platform

- More than an just XMPP server
- Contribution to XMPP libraries:
  - Smack - for Android
  - XMPPFramework - for iOS
- Sample application to start from:
  - MangostaIOS
  - MangostaAndroid
- Other components:
  - WombatOAM
  - Tide
  - MongooseIM Push
  - MongooseIM ICE

MongooseIM - REST API for backend services

- For backend developers integrating other components with MongooseIM
- So far only mongooseimclt was the only option
  - Need to connect to the node and execute the command
- Starting from version 2.0.0 integration is possible with a simple REST API
  - Swagger spec for 2.0.0, 2.0.1 and 2.1.0beta1 and latest on mongooseim.readthedocs.io

MongooseIM - REST API for client's connection

- For client developers loving REST and JSON
- Some XMPP functionalities available over REST now
- Application prototyping made easier and faster
  - Basic functionalities for now:
    - sending/reading messages
    - group chats
    - SSE (Server Sent Events) from 2.0.1
  - Swagger spec for 2.0.0, 2.0.1 and 2.1.0beta1 and latest on mongooseim.readthedocs.io

MongooseIM - MUC Light

- Current MUC from XEP-0045 is very complex
- Mobile-only or mobile-first application needs only small subset of XEP-0045
- MUC light - presence less and much simpler group chat
  - Full specification at: mongooseim.readthedocs.io
  - More was said last year by Ludwik

MongooseIM - Pub Sub

- Not every MongooseIM installation is just about chat
- Non-chat real time solutions can be based on XEP-0060: PubSub
- This is a foundation for many systems based on a publish-subscribe pattern
  - Also some other XMPP extensions are based on PubSub
    - XEP-0163: Personal Eventing Protocol
    - XEP-0277: Microblogging over XMPP
    - XEP-0357: Push Notifications

“

MongooseIM 2.0.1: more stability for app developers

https://www.erlang-solutions.com/blog/mongooseim-2-0-1-more-stability-for-app-developers.html

MongooseIM 2.0.1

- HTTP File Upload
- SSE for REST clients
- Many improvements:
  - New cassandra backend for MAM
  - Simplified MAM configuration
  - MUC optimisation
    - Erlang-process hibernation
    - Deep hibernation
  - ODBC backend for MUC light

3.2

MongooseIM

2.1.0

“

What happens when you give your team freedom

https://www.erlang-solutions.com/blog/mongooseim-2-1-0beta1-what-happens-when-you-give-your-team-freedom.html

MongooseIM 2.1.0beta1

- XEP-0357: Push Notifications
  - Plus standalone component in Elixir
- Integration with Amazon SNS
  - Pushing system events
- Full text search for MAM
  - Riak KV
  - MySQL/Postgres
- XMPP pipelining
- Erlang distribution over TLS

4.

Continuous Load Testing

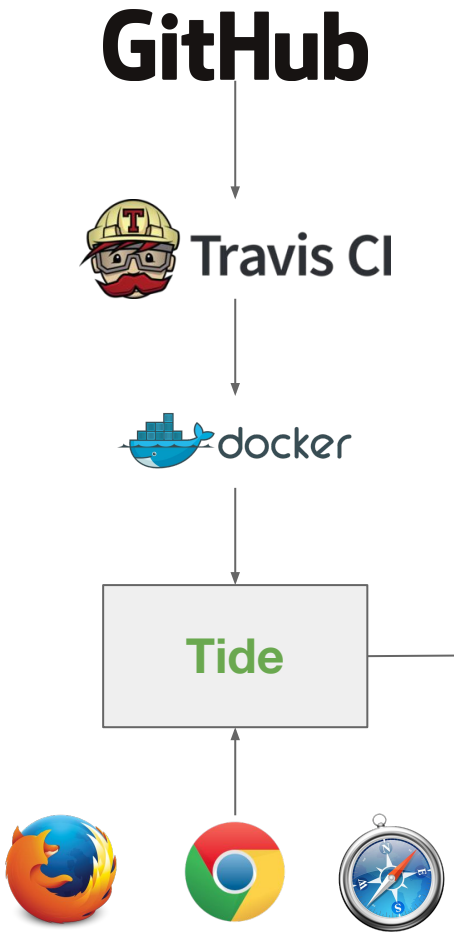
MongooseIM - keeping an eye on quality

- Big set of functional test suites
  - Run on travis-ci.org
  - 8 different jobs
    - Different Erlang/OTP version
    - Different MongooseIM configurations
    - 34-38 minutes
  - Dedicated job for dialyzer only
- Code coverage now over 70%
  - coveralls.io
- Coding style checking
  - Elivs CI by Inaka

MongooseIM - continuous load testing

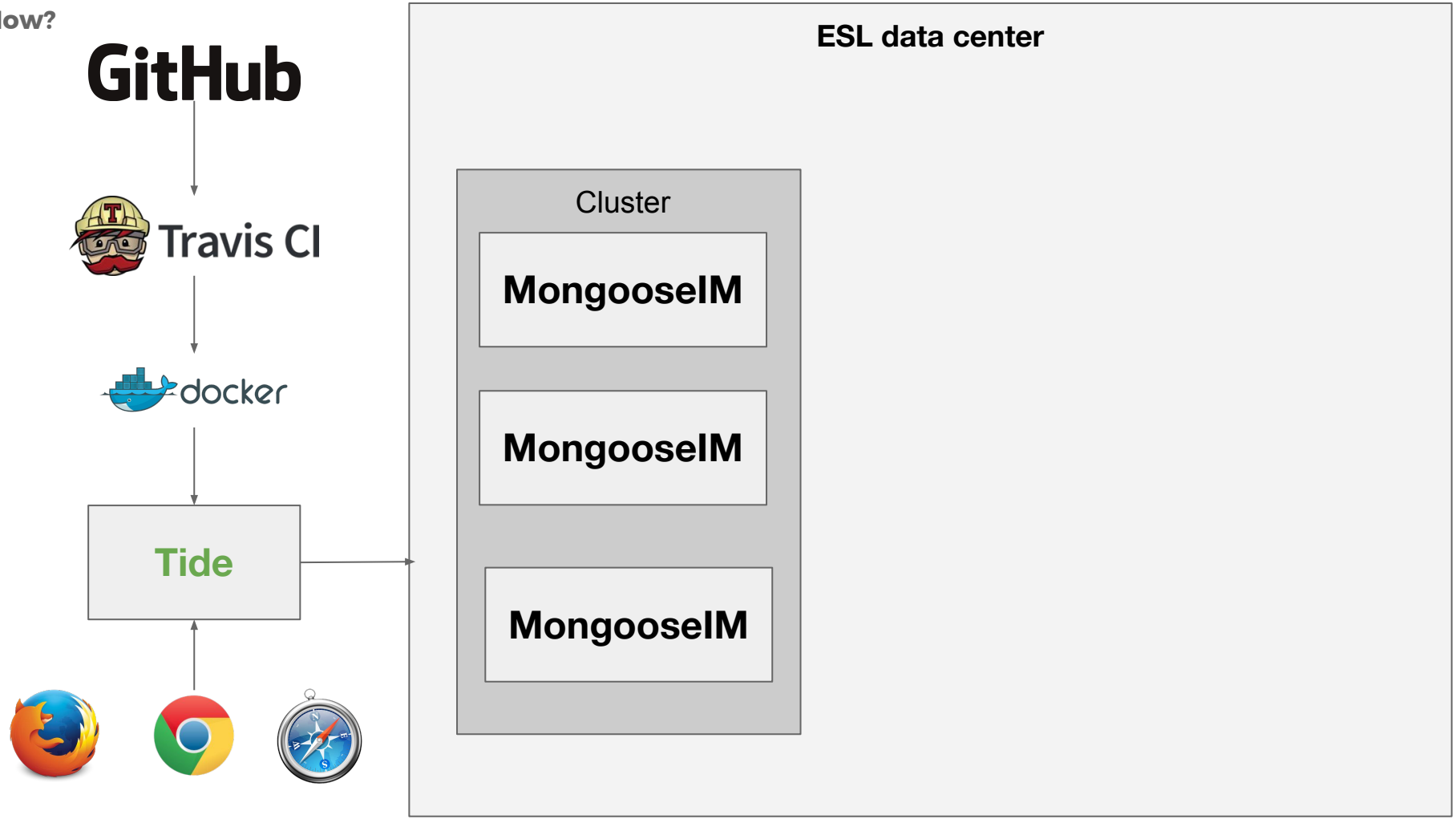
- Keeping an eye on performance
- tide.erlang-solutions.com
- Integrated with GitHub pull requests
- Automated load testing
  - Docker swarm
  - Setting and cleaning the infrastructure
  - Running load tests
  - Collecting metrics

How?

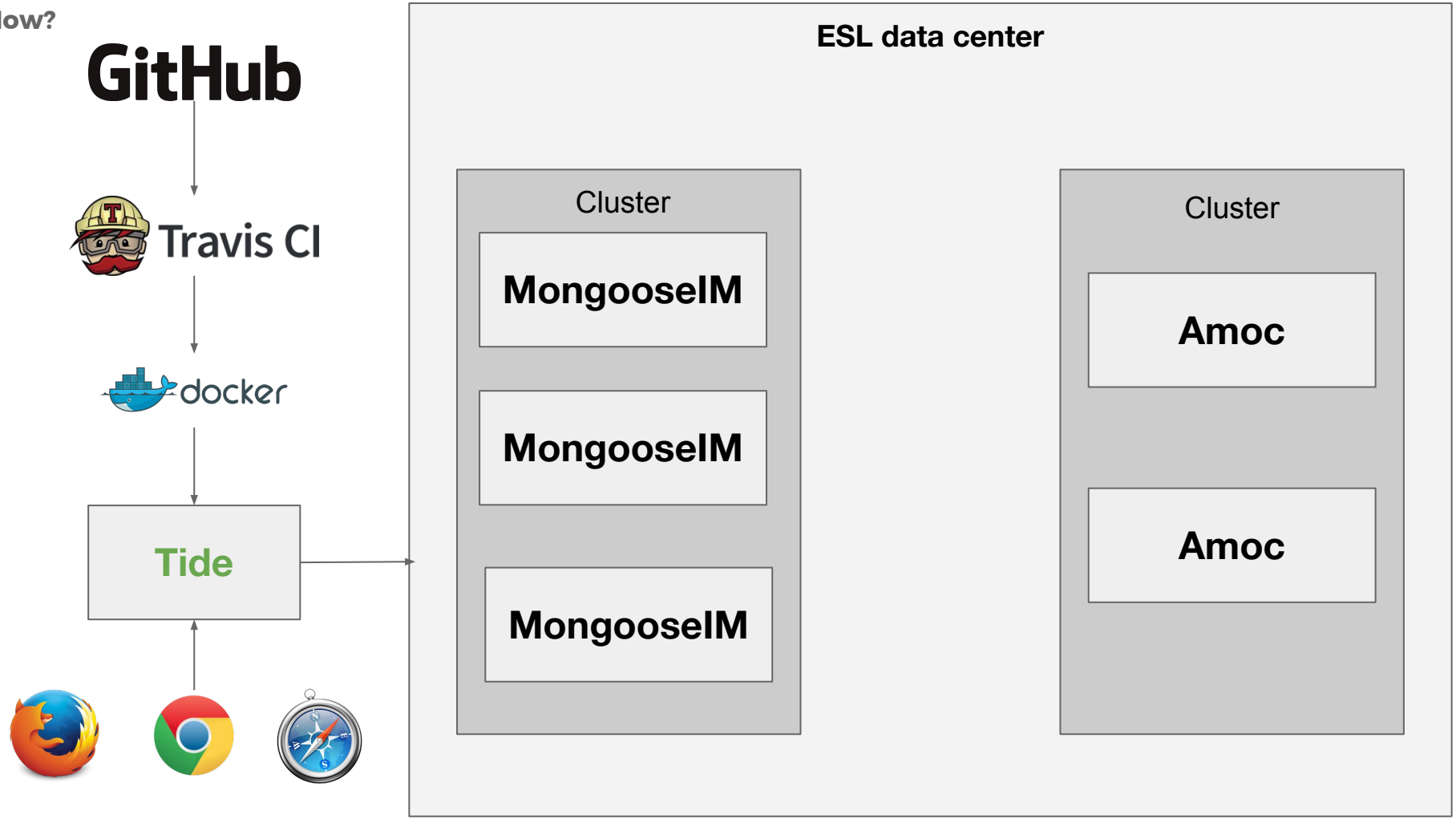


ESL data center

How?


GitHub
Travis CI
docker
Tide
ESL data center
Cluster
MongooseIM
MongooseIM
MongooseIM

How?


GitHub
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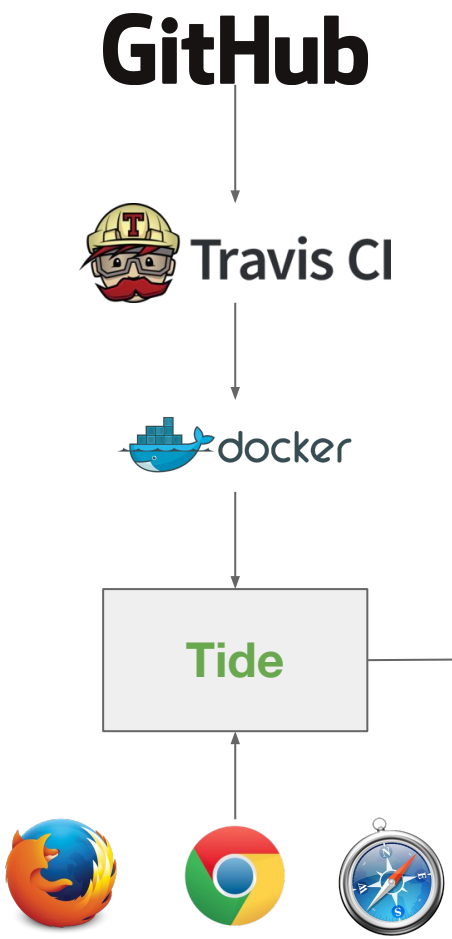
ESL data center
Cluster
MongooseIM
MongooseIM
MongooseIM
Cluster
Amoc
Amoc

How?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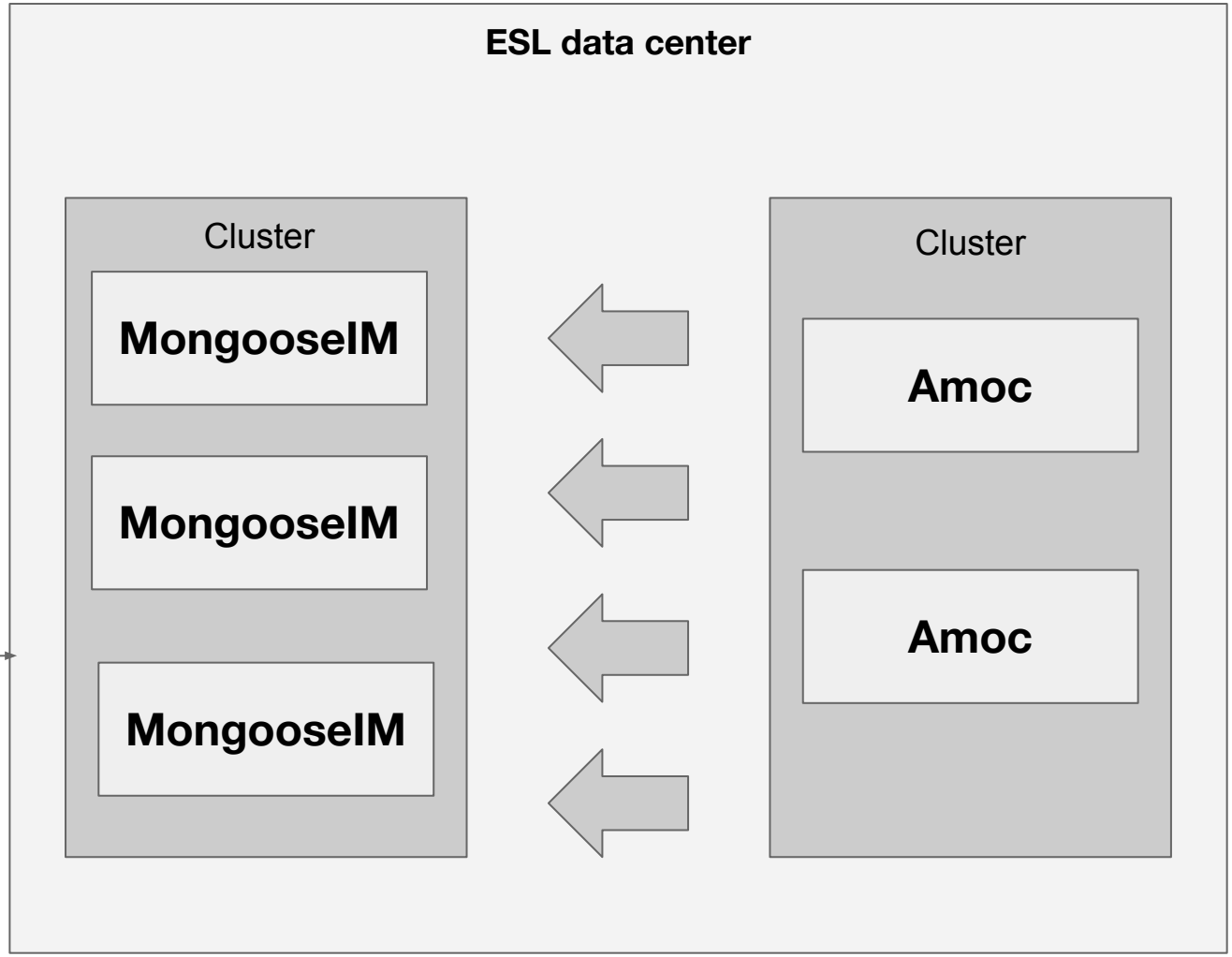
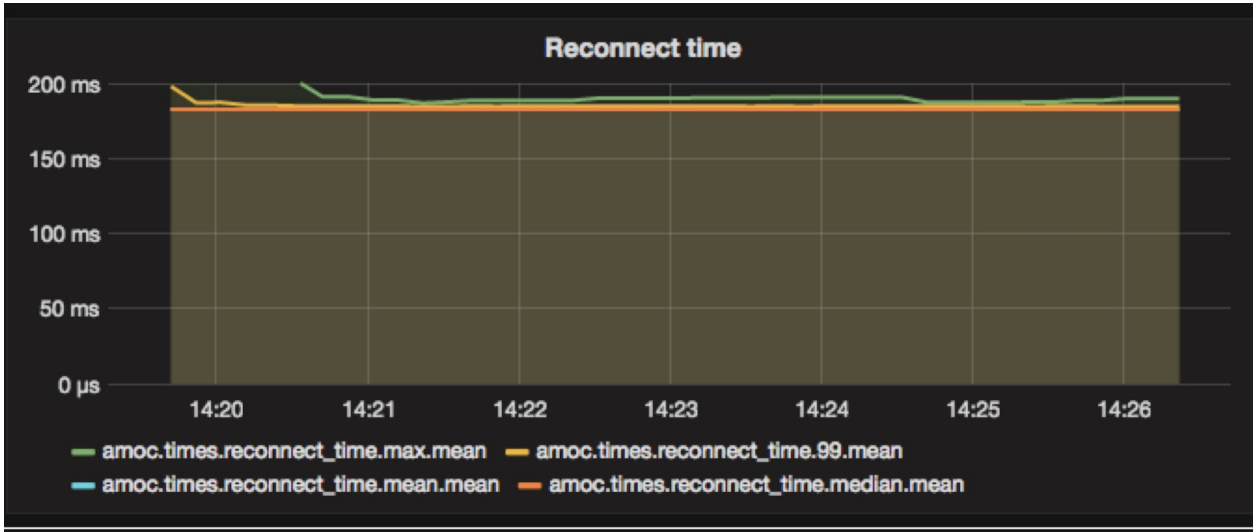
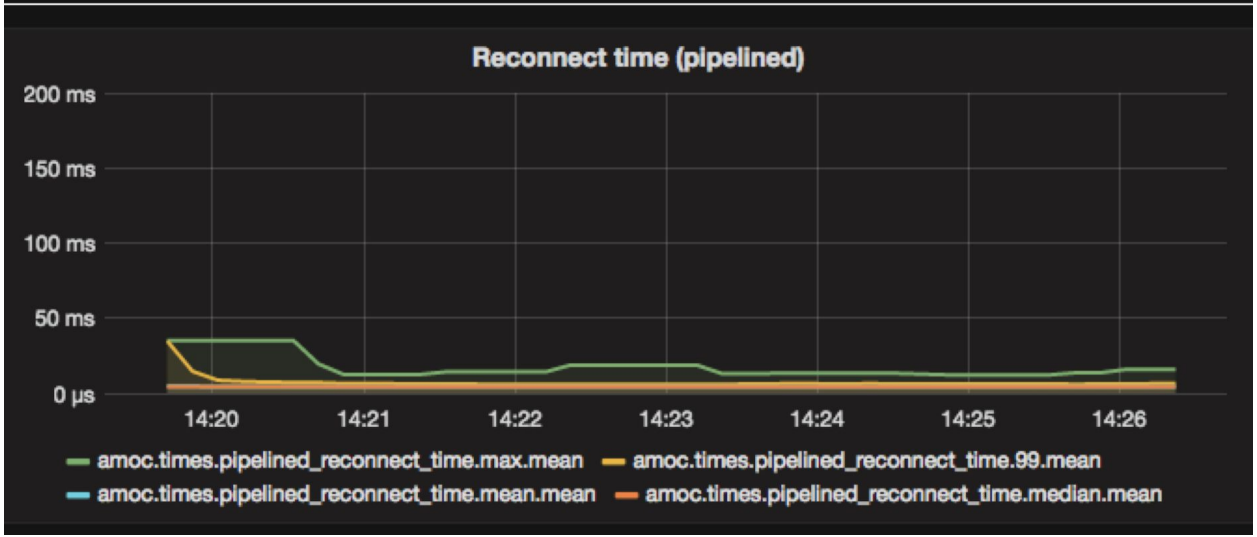
Tide


ESL data center
Cluster
MongooseIM
MongooseIM
MongooseIM
Cluster
Amoc
Amoc

MongooseIM - continuous load testing

- Predefined:
  - configuration files
  - load test scenarios
- Configurable:
  - Number of users
  - Number of nodes in the cluster
  - Arrival rate
- Possibility to upload custom
  - config files
  - scenarios


Reconnect time
200 ms
150 ms
100 ms
50 ms
0 µs
14:20
14:21
14:22
14:23
14:24
14:25
14:26
amoc.times.reconnect_time.max.mean
amoc.times.reconnect_time.99.mean
amoc.times.reconnect_time.mean.mean
amoc.times.reconnect_time.median.mean

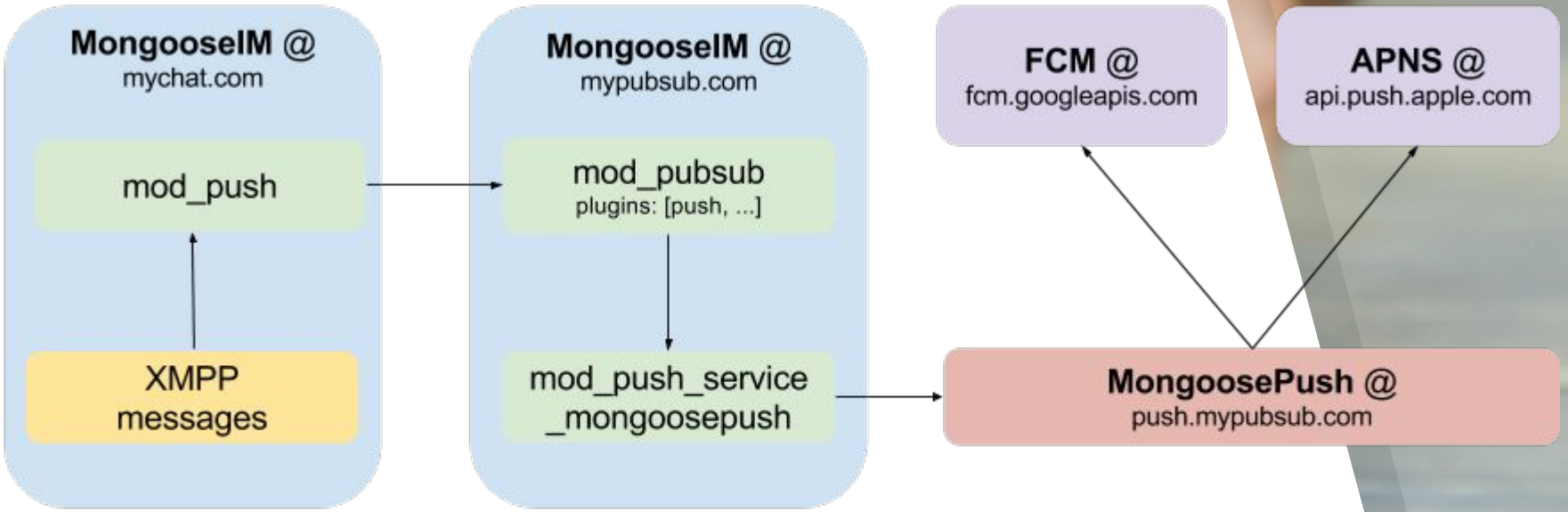

Reconnect time (pipelined)
200 ms
150 ms
100 ms
50 ms
0 µs
14:20
14:21
14:22
14:23
14:24
14:25
14:26
amoc.times.pipelined_reconnect_time.max.mean
amoc.times.pipelined_reconnect_time.99.mean
amoc.times.pipelined_reconnect_time.mean.mean
amoc.times.pipelined_reconnect_time.median.mean

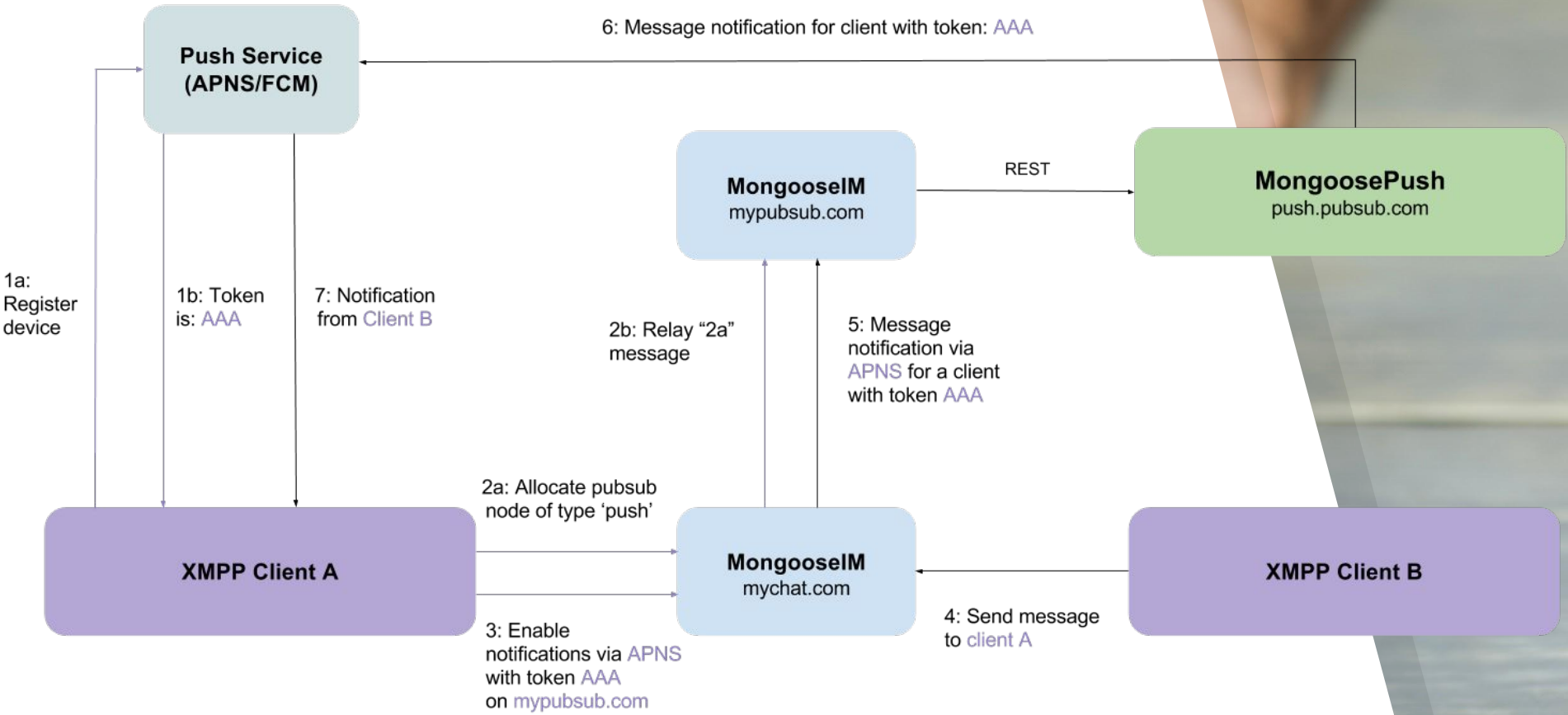
5.

MongooseIM Push

MongooseIM Push

- Standalone component
- Written in Elixir
- Exposing simple REST API
- Talking with FCM and APNS
- Used to enable push notification with MongooseIM
- Simple tutorial at mongooseim.readthedocs.io
- https://github.com/esl/MongoosePush


MongooseIM @
mychat.com
mod_push
XMPP
messages
MongooseIM @
mypubsub.com
mod_pubsub
plugins: [push, ...]
mod_push_service
_mongoosepush
FCM @
fcm.googleapis.com
APNS @
api.push.apple.com
MongoosePush @
push.mypubsub.com


Push Service
(APNS/FCM)
6: Message notification for client with token: AAA
MongooseIM
mypubsub.com
REST
MongoosePush
push.pubsub.com
1a:
Register
device
1b: Token
is: AAA
7: Notification
from Client B
2b: Relay “2a”
message
5: Message
notification via
APNS for a client
with token AAA
2a: Allocate pubsub
node of type ‘push’
XMPP Client A
MongooseIM
mychat.com
XMPP Client B
3: Enable
notifications via APNS
with token AAA
on mypubsub.com
4: Send message
to client A

5.

MongooseIM ICE

MongooseIM ICE

- Code name **fennec**
- Standalone component
- Written in Elixir
- STUN/TURN server
- Used to set up peer-to-peer connection
- Can be used as a relay server if p2p is not possible
- Simple tutorial at mongooseim.readthedocs.io

Thank you

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