HELLO!

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Erlang SOLUTIONS

MongooseIM - Messaging for Mobile

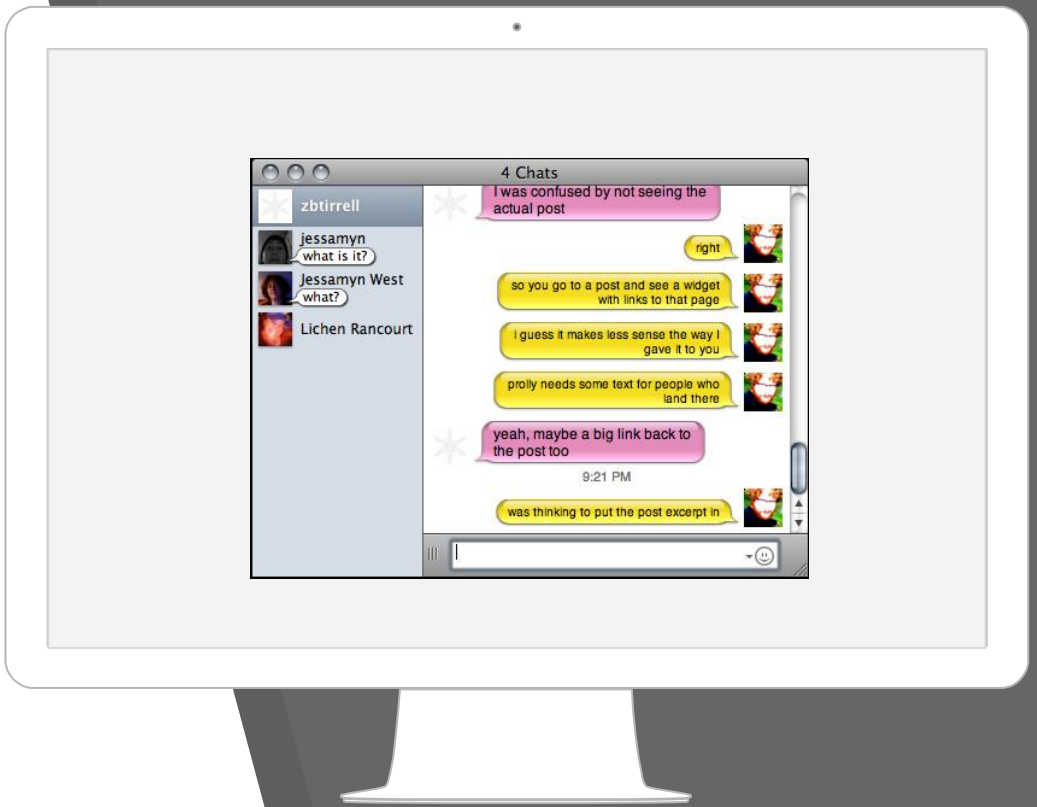
What is XMPP?
What is MongooseIM?

MONGOOSEIM

XMPP

XMPP has a lot of Extensions(XEPs):

- Friends list (roster)
- Message archive
- Built-in encryption
- Authentication methods
- **groupchat**



Join room:

```
<presence to="room@muc.localhost/s">
<x xmlns="http://jabber.org/protocol/muc"/>
</presence>
```

... (talk) ...

Leave room:

```
<presence type="unavailable"
to="room@muc.localhost/s"/>
```

Sample session:

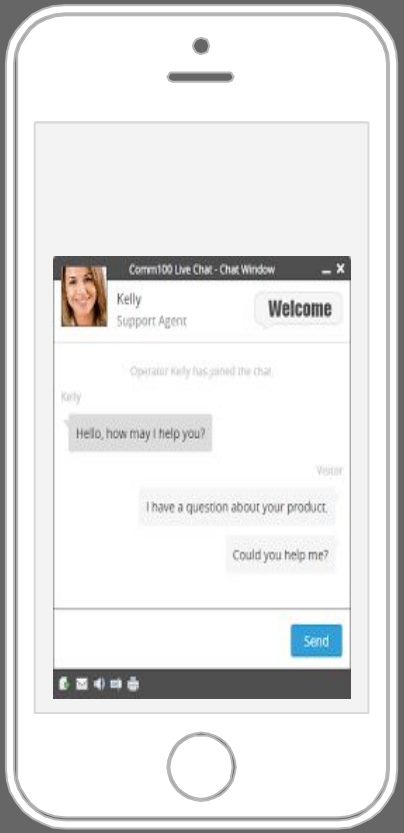
Join room:

```
<presence to="room@muc.localhost/s">
<x xmlns="http://jabber.org/protocol/muc"/>
</presence>
```

????????

Leave room:

```
<presence type="unavailable"
to="room@muc.localhost/s"/>
```



Imagine...

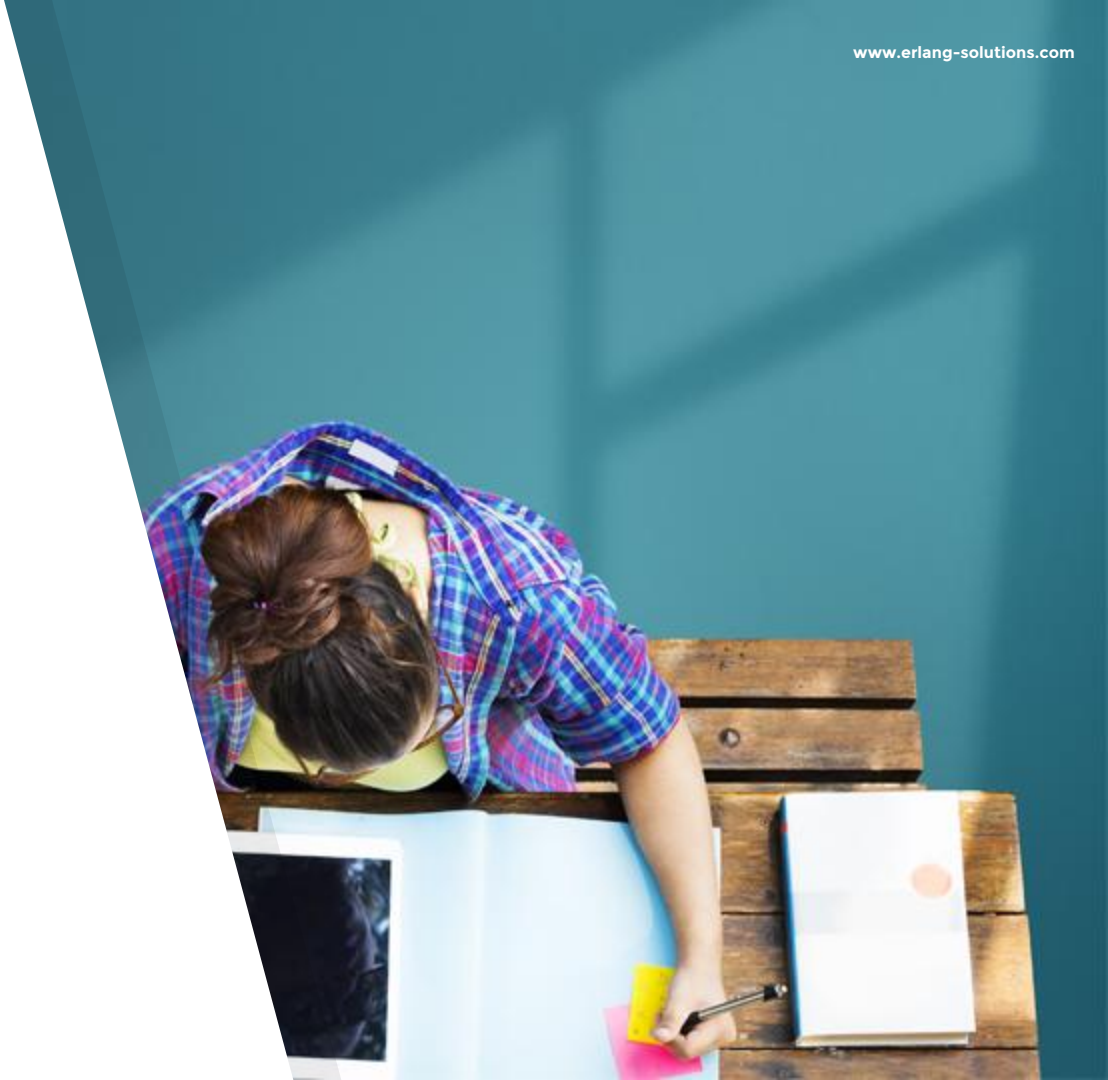
- **1000 Members** in the room
- Presence size is **324 bytes**
- User disconnects every 10 minutes
- Users receives 999 * 6 * 324 * 3
- = 3884112 bytes = **~5.6 MB** per hour

And this is just presence...

“

Those who do not move, do not notice their chains.

~ Rosa Luxemburg



MUC Light

Table of truth

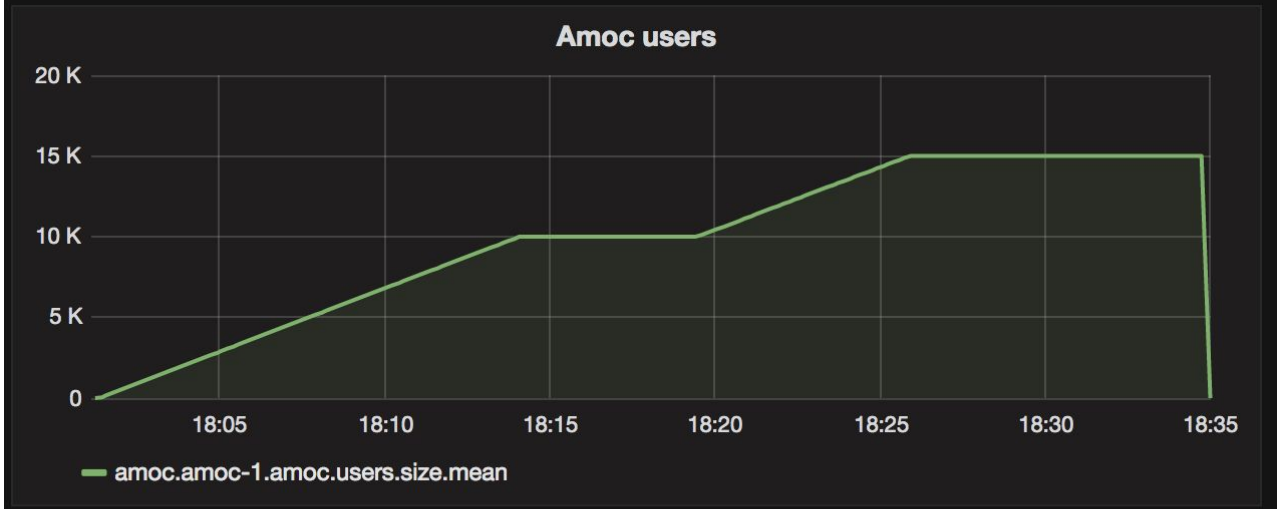
	MUC	MUC Light
presence-driven	**yes**	**no**
Message routing	**separate MUC process**	**In context of user process**

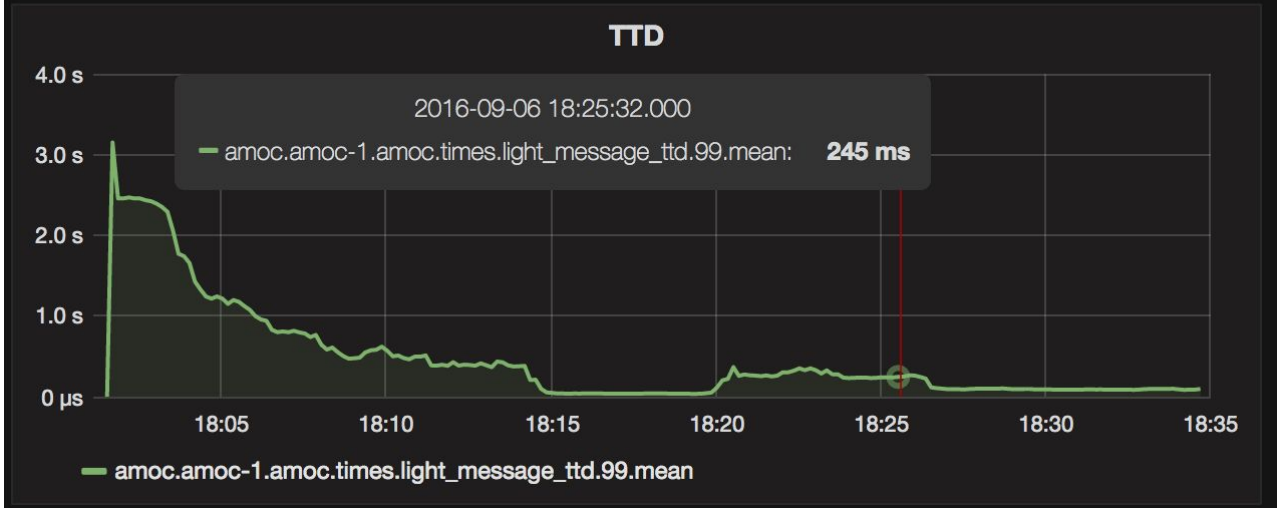
MUC

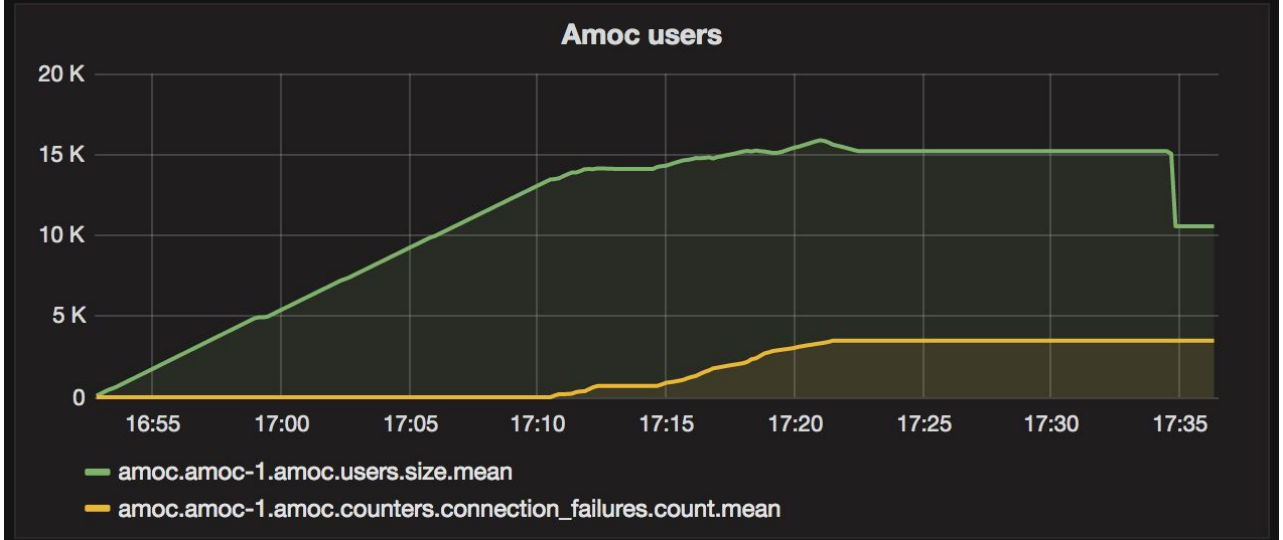
MUC Light

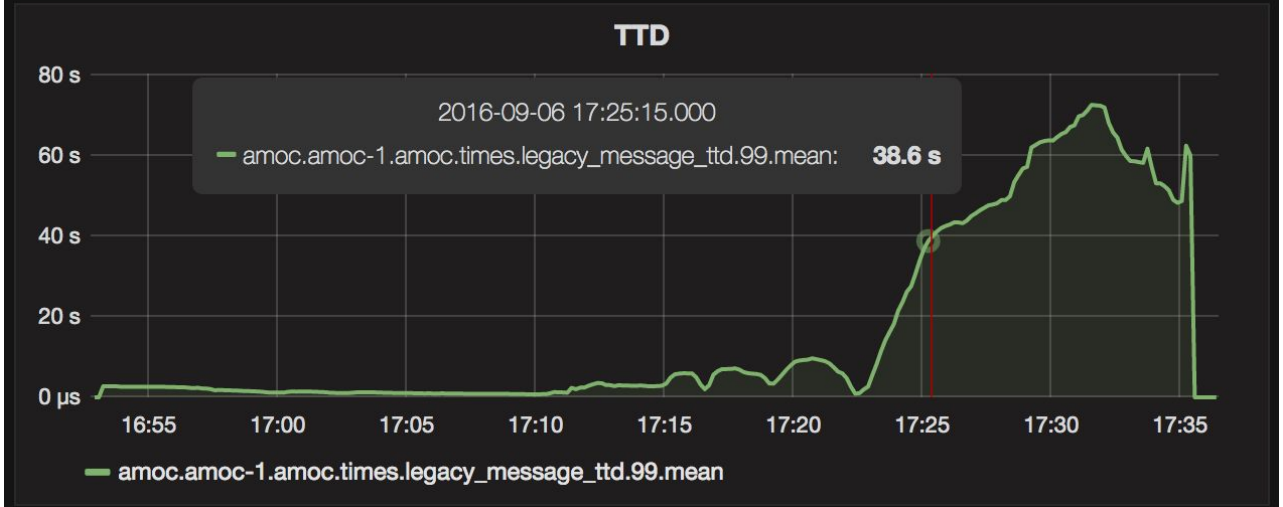
Table of truth

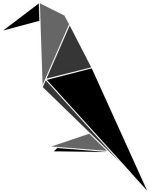
	MUC	MUC Light
Distributed	**no**	**yes**
Easily handle big rooms	**no**	**yes**
User joining room	**Can join on his own**	**Must be invited**


Amoc users
20 K
15 K
10 K
5 K
0
18:05
18:10
18:15
18:20
18:25
18:30
18:35
amoc.amoc-1.amoc.users.size.mean


TTD
4.0 s
3.0 s
2.0 s
1.0 s
0 µs
2016-09-06 18:25:32.000
amoc.amoc-1.amoc.times.light_message_ttd.99.mean: 245 ms
18:05
18:10
18:15
18:20
18:25
18:30
18:35
amoc.amoc-1.amoc.times.light_message_ttd.99.mean

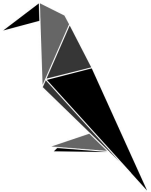

Amoc users
20 K
15 K
10 K
5 K
0
16:55
17:00
17:05
17:10
17:15
17:20
17:25
17:30
17:35
amoc.amoc-1.amoc.users.size.mean
amoc.amoc-1.amoc.counters.connection_failures.count.mean


TTD
80 s
60 s
40 s
20 s
0 µs
2016-09-06 17:25:15.000
amoc.amoc-1.amoc.times.legacy_message_ttd.99.mean: 38.6 s
16:55
17:00
17:05
17:10
17:15
17:20
17:25
17:30
17:35
amoc.amoc-1.amoc.times.legacy_message_ttd.99.mean



How have we tested it?

- Dedicated internal infrastructure
- MongooseIM nodes in docker
- Amoc
- Metrics (graphite API) - server + client
- Grafana for visualization



How have we tested it?

- Dedicated internal infrastructure
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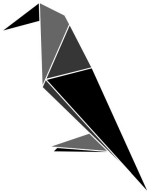
- Metrics (graphite API) server + client

```
start(MyId) ->
        Cfg = make_user_cfg(MyId, <<"res1">>),
        {ok, Client, _, _} = escalus_connection:start(Cfg),
```



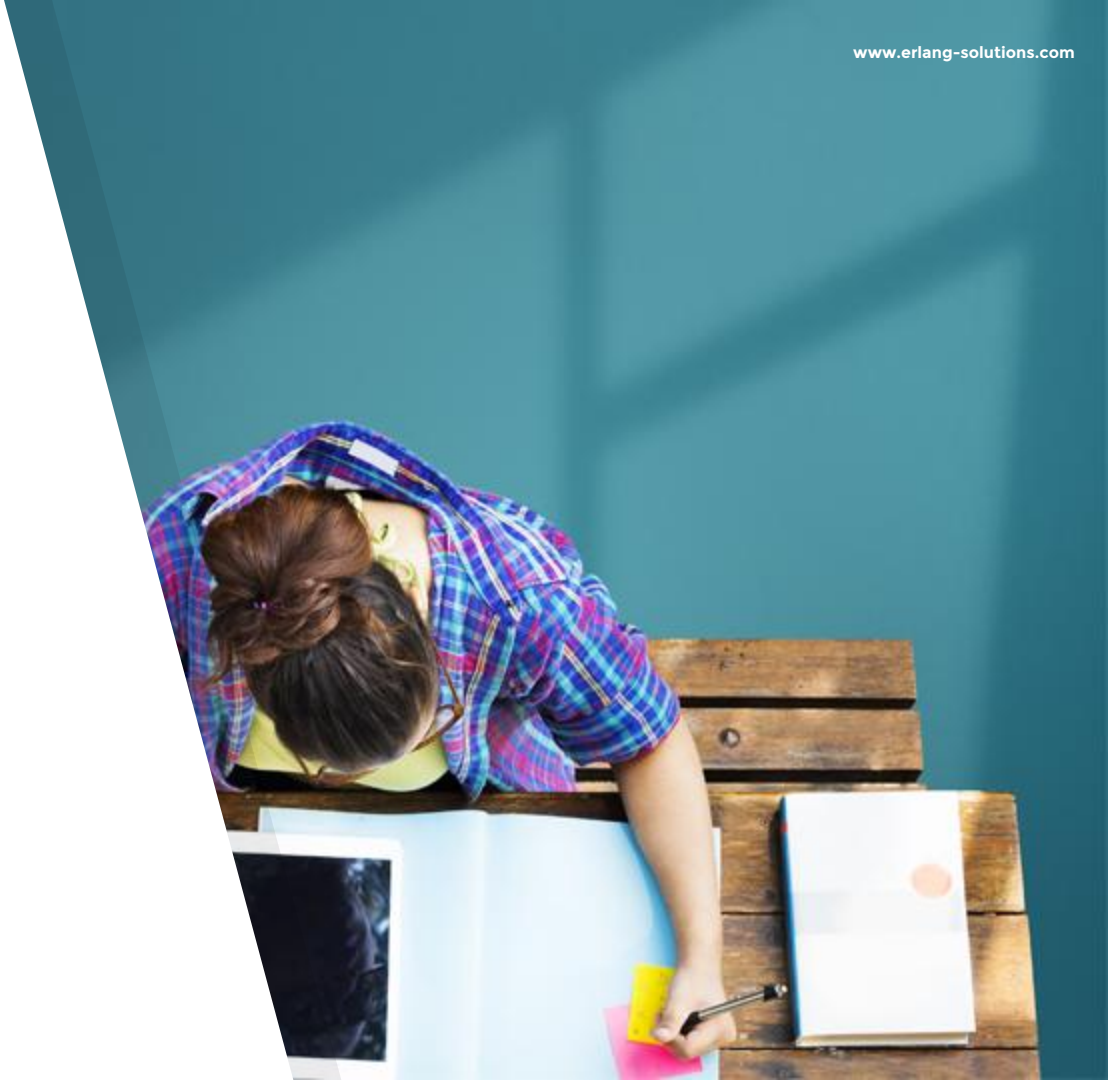
How have we tested it?

- Black box + white box tests
- Parallelised tests
- Coverage and continuous integration
- Escalus + Exml

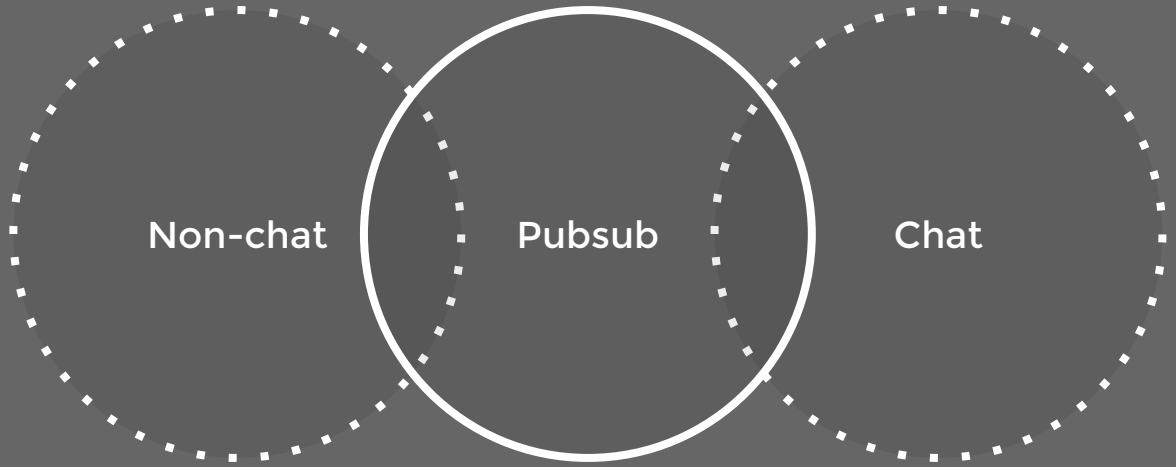
```
escalus:story(Config, [{alice, 1}, {bob, 1}, {kate, 1}],
                    fun(Alice, Bob, Kate) ->
                    (...)
```

Back to mobiles ...

Publish Subscribe



- XEP 0060 - Publish Subscribe
- plugins



Time for **REAL-TIME** applications

	Groupchat	PubSub
Tree structure	**no**	**yes**
Participant list	**yes**	**no**
Administration	**yes**	**no**
Notification instead of payload	**no**	**yes**
Presence	**yes (MUC only)**	**no**

Thanks!

Mongooseim - https://github.com/esl/MongooseIM

Amoc - https://github.com/esl/amoc

Escalus - https://github.com/esl/escalus

Exml - https://github.com/paulgray/exml