



The API is dead.

Long live the protocol.

08:49

Simon Tennant
Buddycloud Towers

weatherbuddy

Savage, Ross 1 ★
thar's a storm a comin! 1

Max Emanuel Biergarten
Home

Seehaus ★

Helge Timenes ★
Office

Options Back

08:49

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- Seehaus ★
- Helge Timenes ★
Office

Options Back

08:49

- Buddycloud Towers**
*Berlinerstr. 18, Schwabing, München
80802, Germany*
- Population: 1
Visits: 164 (36.4 days)
Seen: 08:47 (1.1 mins)
- Ungererbad
Traubestr. 3, München 80805, Germany
- Black Bean GmbH
Munchner Freiheit 12, Neuhausen, Munch...
- Wirtshaus Tur Brez'n

Options Back

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Options Back

08:49

- Featured Channels
- Channels You Might Like**
- Followers' Favourites
- Most Popular Channels
- Channels Near To You

Options Back

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08:49

- Featured Channels
- Channels You Might Like**
- Followers' Favourites
- Most Popular Channels
- Channels Near To You

Options Back

08:40
UTICE

- Savage, Ross
Home
- Tuomas Koski**
Hasta la Victoria Siempre
- Lobstermonster HQ
On the road in Paris 19 Buttes-Chaumont
Cellfish Media
- wlcik
Near Work
- Update

Options Back

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Bean GmbH
ner Freiheit 12, Neuhausen, Münche...
haus für Brez'n

Back

15:50 - CA - Cloudheads Anonymous

Greasy turkey...

Actually it was just hung(a)ry :P

@shinerx why did u block me?

- deadcantdance**
Sunday at 15:15 ~ Kiel, Germany
..you start to call @elen and meet @fahrentuer
@michisite people in real
...you force ur real frnds to join bc.
fahrentuer forced @michisite to join bc...
Lol.. Ya tht happens

08:49

- Featured Channels
- Channels You Might Like**
- Followers' Favourites
- Most Popular Channels
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Options

Back

08:49

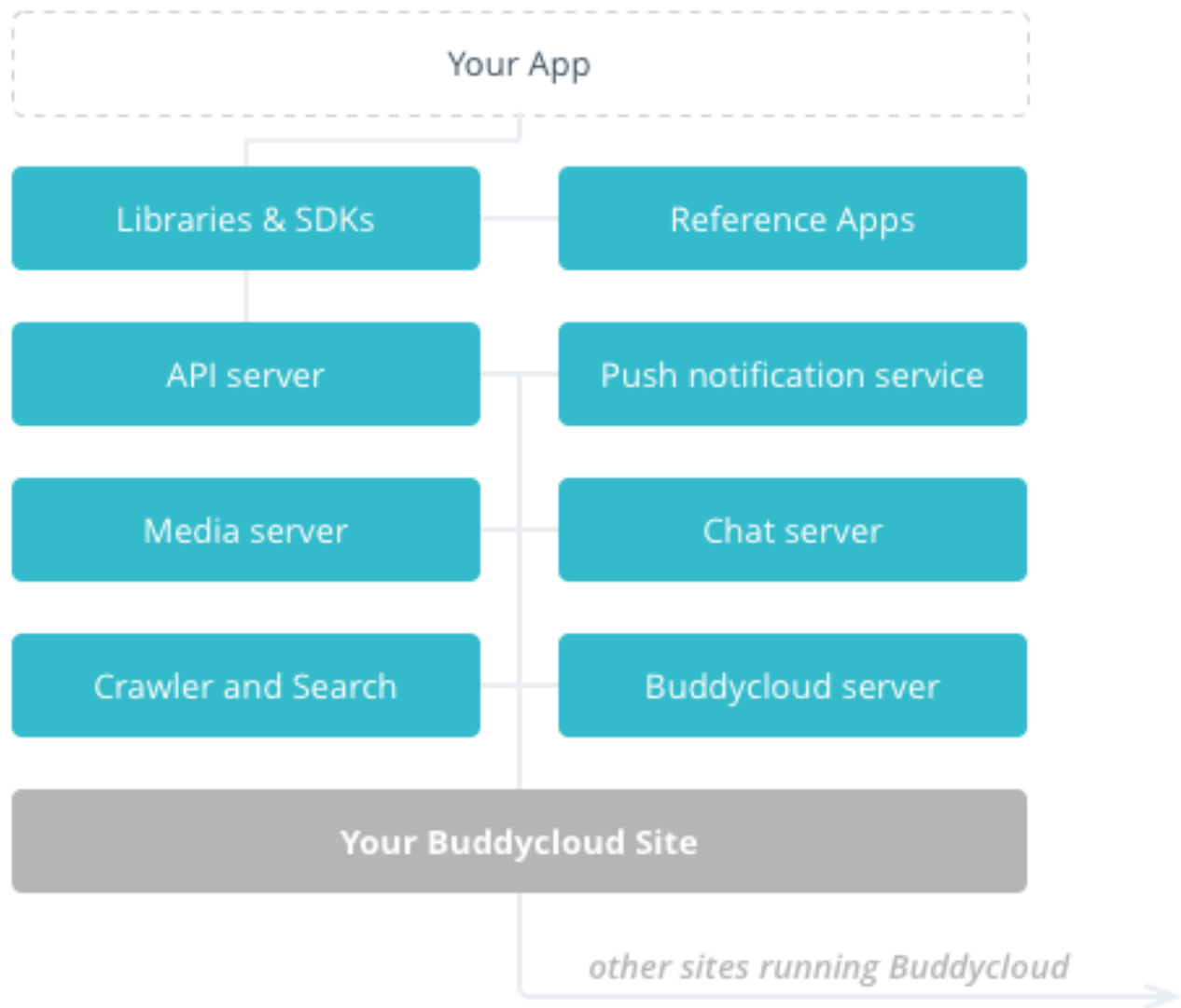
- Thomas Koski**
Hasta la Victoria Siempre
Lobstermonster HQ
On the road in Paris 19 Buttes-Chaumont
Cellfish Media
- wlcik
Near Work
- Update

Options

Back

Example 8. Recent items reply

```
<iq to="juliet@capulet.lit/bc-app" from="buddycloud.capulet.lit" type="result" id="recent-items:1">
  <pubsub xmlns="http://jabber.org/protocol/pubsub">
    <items node="/user/romeo@montague.lit/posts">
      <item id="tag:channels.capulet.lit,/users/juliet@montague.lit/posts,16584564008760001">
        ...atom payload...
      </item>
      <item id="tag:channels.capulet.lit,/users/juliet@montague.lit/posts,10070506450002">
        ...atom payload...
      </item>
    </items>
    <items node="/user/juliet@capulet.lit/posts">
      <item id="tag:channels.capulet.lit,/users/juliet@capulet.lit/posts,3252545492409">
        ...atom payload...
      </item>
    </items>
    <items node="/user/romeo@montague.lit/posts">
      <item id="tag:channels.capulet.lit,/users/juliet@montague.lit/posts,106876700003">
        ...atom payload...
      </item>
    </items>
  </pubsub>
</iq>
```

We need to add messaging to...




INITECH

Developers don't know who to trust or have a clear methodology.

Messaging is complex and developers spend a lot of time reinventing the wheel.

Running and scaling messaging... where to start?





digital VAX 11/780

CONSOLE CONTROL
ACCOUNTING POINT
ADDRESS DECODE GENERATOR
MICROCODE STORAGE
AND
CONTROL STORAGE
CLOCK, INTERRUPTS & EXCEPTIONS
ARITHMETIC AND
LOGIC DATA PATH
INSTRUCTION DATA PATH
CACHE (8KB) AND
FEB (256 ENTRIES)
BUS INTERFACE
UNIBUS ADAPTER
MAIN MEMORY
4 MEGABYTES
10-100 MODULES - 256KB BY PACKET
MASSBUS ADAPTER
CLUSTER INTERCONNECT ADAPTER

Central Processing Unit I/O Bus Memory I/O Bus Network & I/O Bus

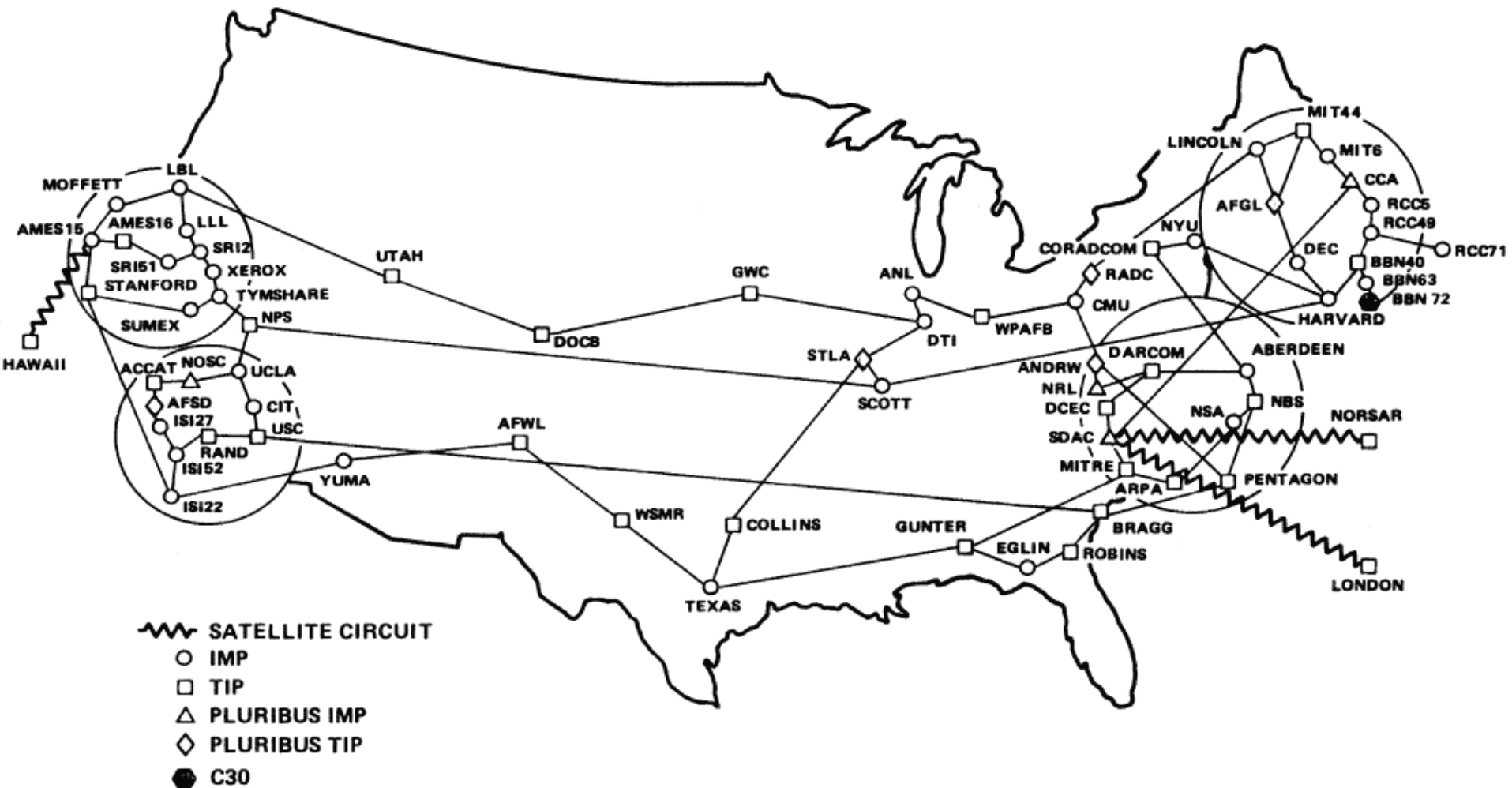
Power Supplies

5000000 17000A
5000000 17000A
5000000 17000A
5000000 17000A
5000000 17000A

5000000 17000A
5000000 17000A
5000000 17000A
5000000 17000A
5000000 17000A

1000 1000 POWER SUPPLY

ARPANET GEOGRAPHIC MAP, OCTOBER 1980



(NOTE: THIS MAP DOES NOT SHOW ARPA'S EXPERIMENTAL SATELLITE CONNECTIONS)

NAMES SHOWN ARE IMP NAMES, NOT (NECESSARILY) HOST NAMES

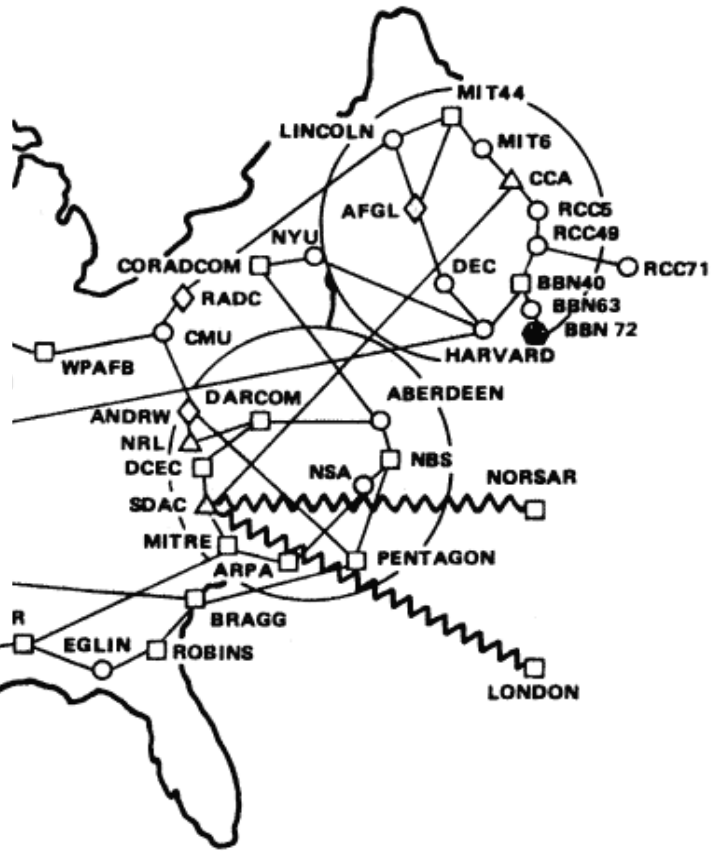
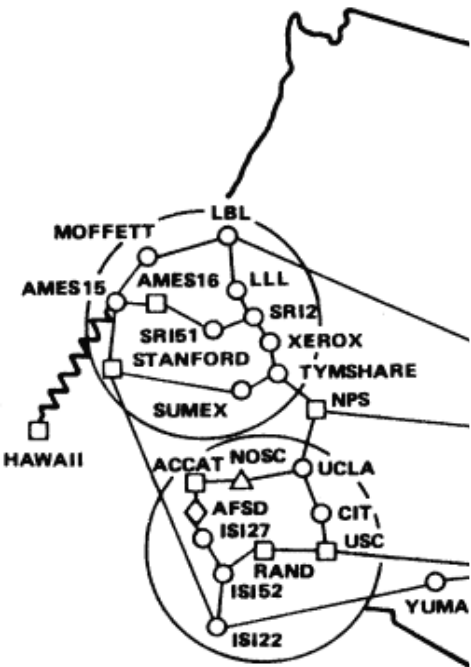
ARPANET GEOGRAPHIC MAP, OCTOBER 1980

Open: ✓

Federated: ✓

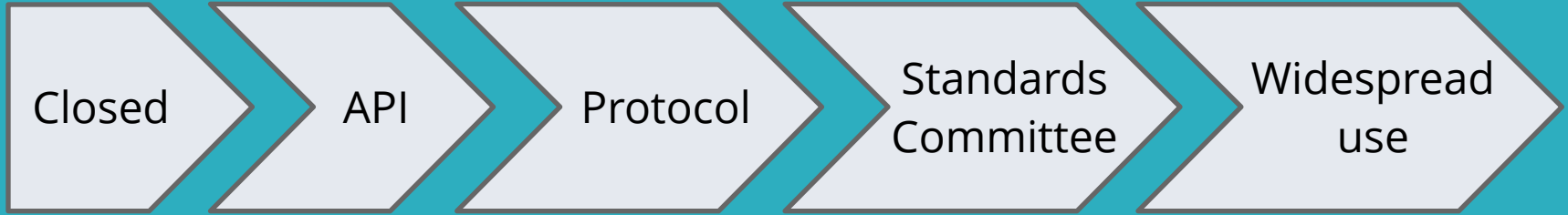
Realtime: ✓

Affordable: ✓



- ⚡ SATELLITE CIRCUIT
- IMP
- TIP
- △ PLURIBUS IMP
- ◇ PLURIBUS TIP
- C30

(NOTE: THIS MAP DOES NOT SHOW ARPA'S EXPERIMENTAL SATELLITE CONNECTIONS)
 NAMES SHOWN ARE IMP NAMES, NOT (NECESSARILY) HOST NAMES





Skype



Skype



Twitter

Slack



Skype

Twitter

Blockchain

Slack



Skype

Twitter

Blockchain

XMPP

Slack

DNS



Skype

Twitter

Blockchain

XMPP

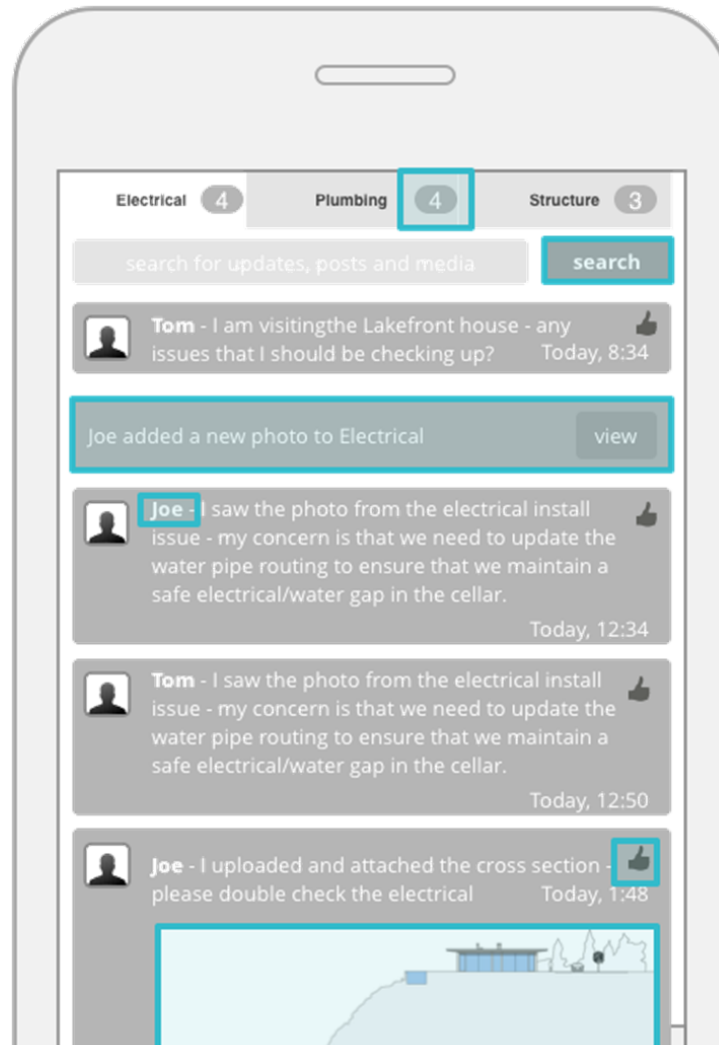
Email

Slack

DNS

PSTN

Buddycloud in use



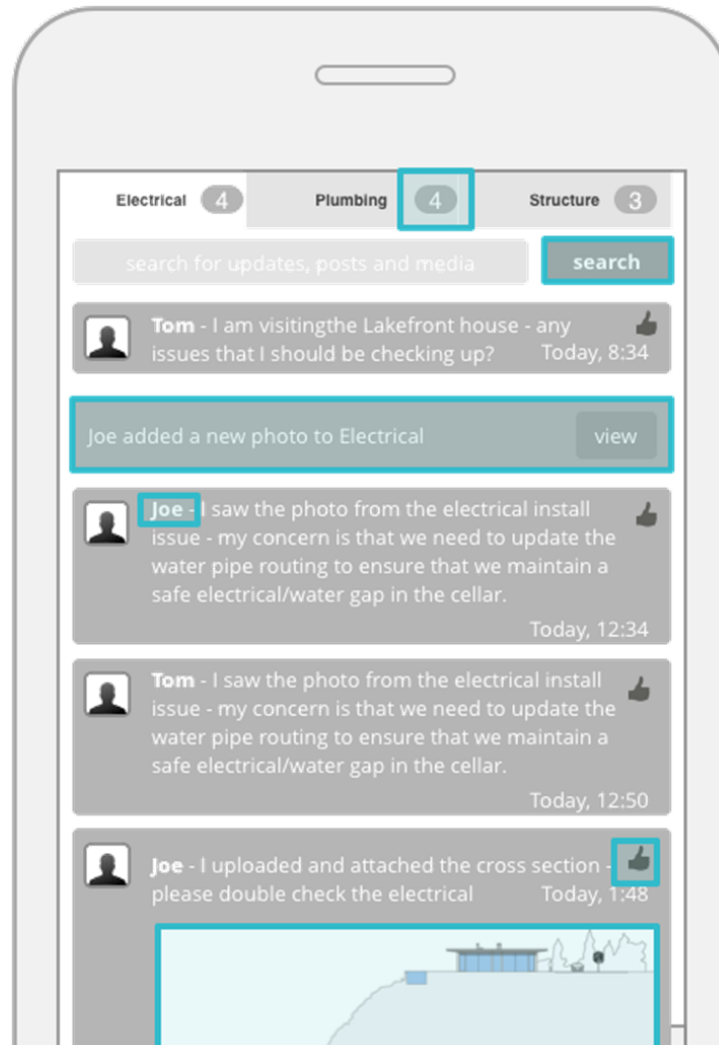
Buddycloud in use

Backend Services

User Management

Push

Search



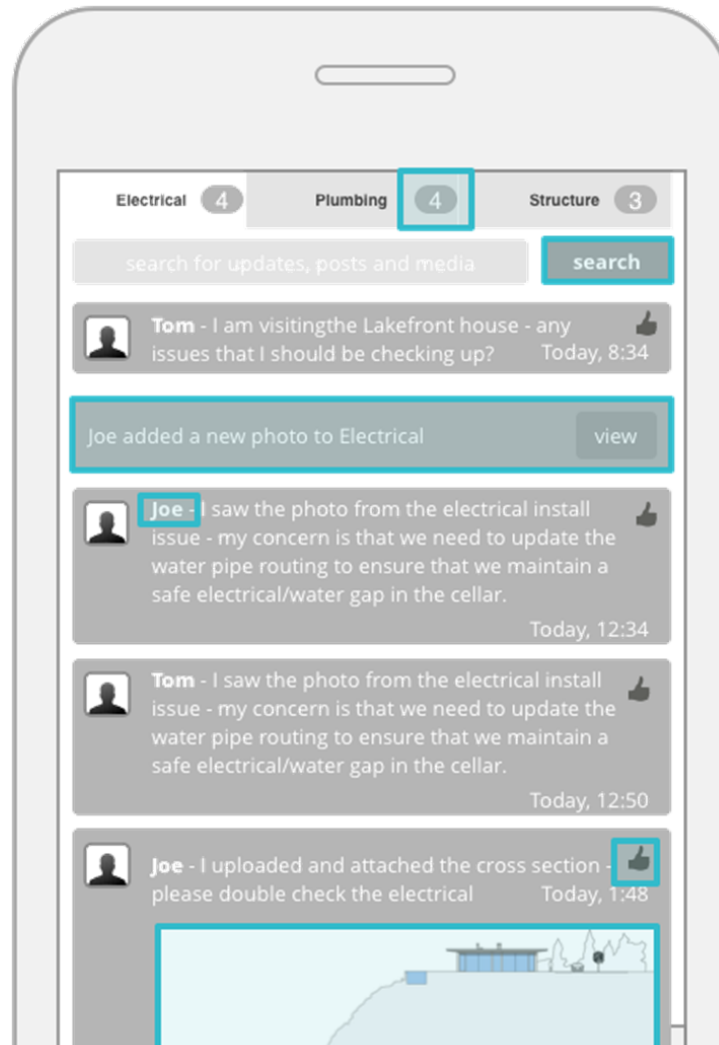
Buddycloud in use

Backend Services

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Client SDK

Group messaging

Social activity stream

File sharing

Buddycloud in use

Backend Services

User Management

Push

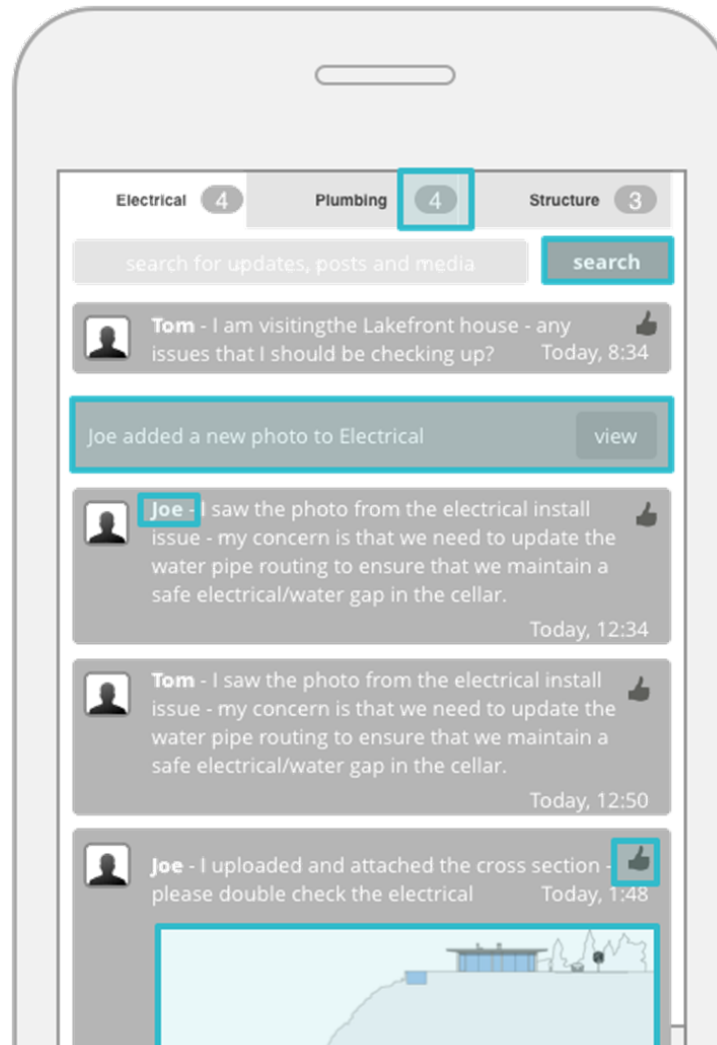
Search

Hosting

Scaling

Security

Portable data



Client SDK

Group messaging

Social activity stream

File sharing

Buddycloud in use

Backend Services

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Push

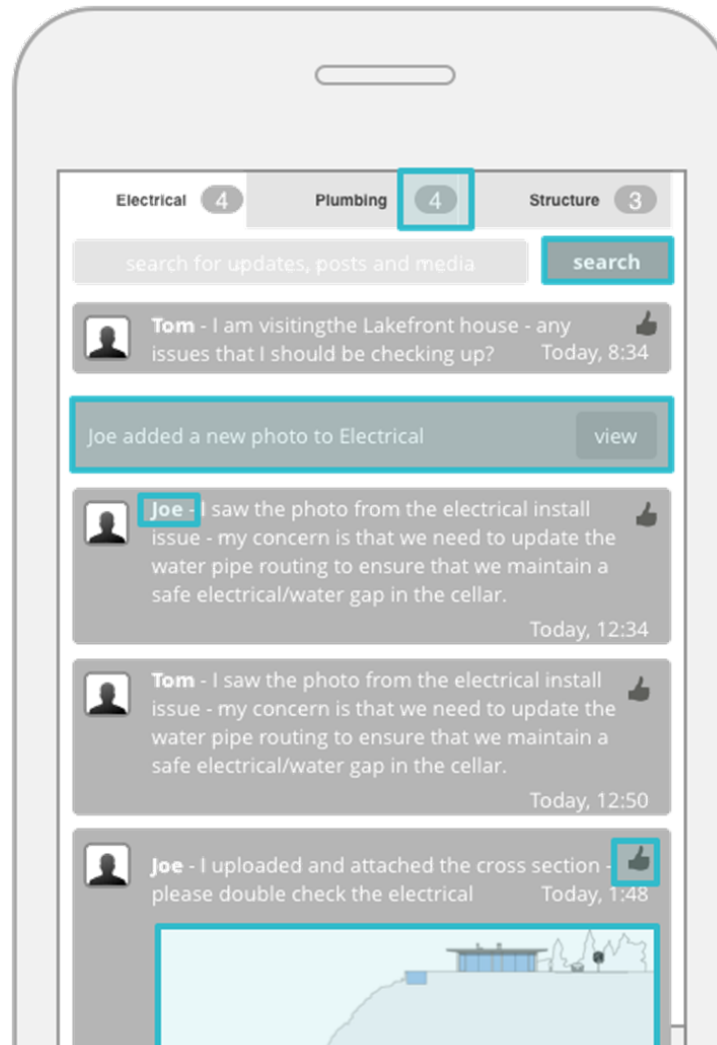
Search

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Client SDK

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Social activity stream

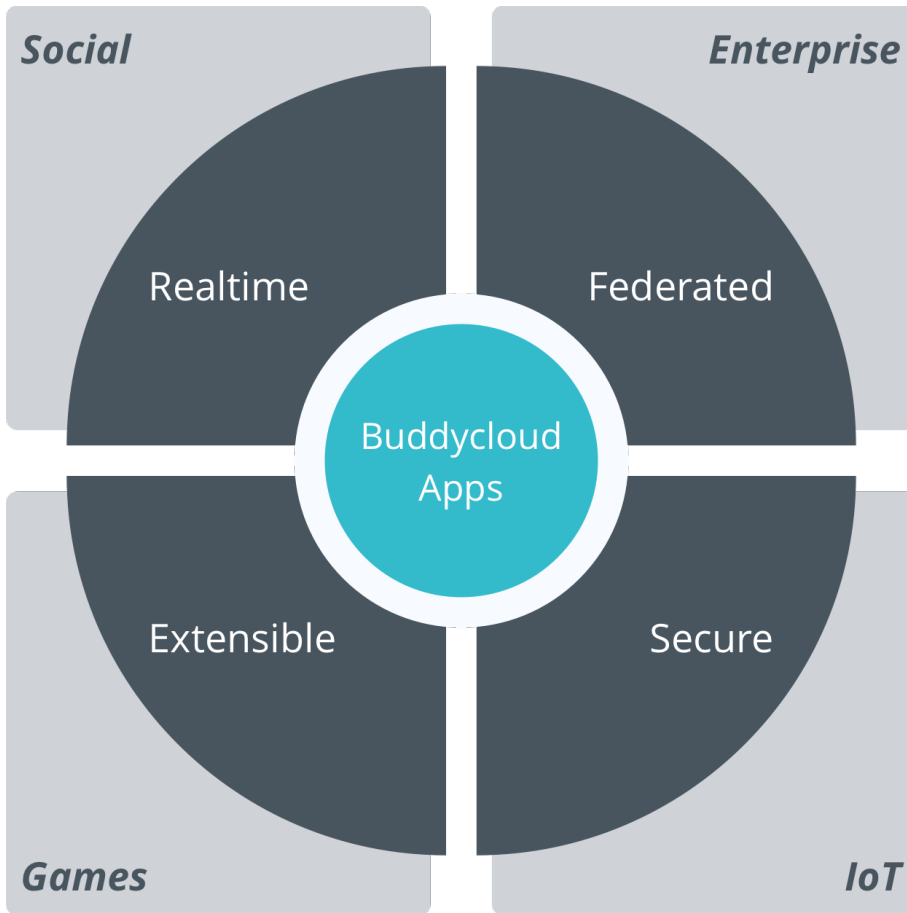
File sharing

Support

Documentation

Developer community

Licensing



HM Government

Goldman Sachs



PROJECT ISIZWE
Free WiFi for South Africa

SUREVINE

TEXTRAS

Evolution of in-app messaging

Erector Set → Fit for purpose

2013



2015



everything you need to know
about XMPP



Used by

Google



XMPP

XMPP

- Real Time

XMPP

- Real Time
- Identity

XMPP

- Real Time
- Identity
- Security

XMPP

- Real Time
- Identity
- Security
- Scalability

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery
- Interoperability

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery
- Interoperability
- Authentication

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery
- Interoperability
- Authentication
- Authorization

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery
- Interoperability
- Authentication
- Authorization
- Provisioning

XMPP

- Real Time
- Identity
- Security
- Scalability
- Discovery
- Interoperability
- Authentication
- Authorization
- Provisioning
- Presence

romeo@montague.lit

benvolio@montague.lit

balthasar@montague.lit

juliet@capulet.lit

nurse@capulet.lit

tybalt@capulet.lit

romeo@montague.lit

benvolio@montague.lit

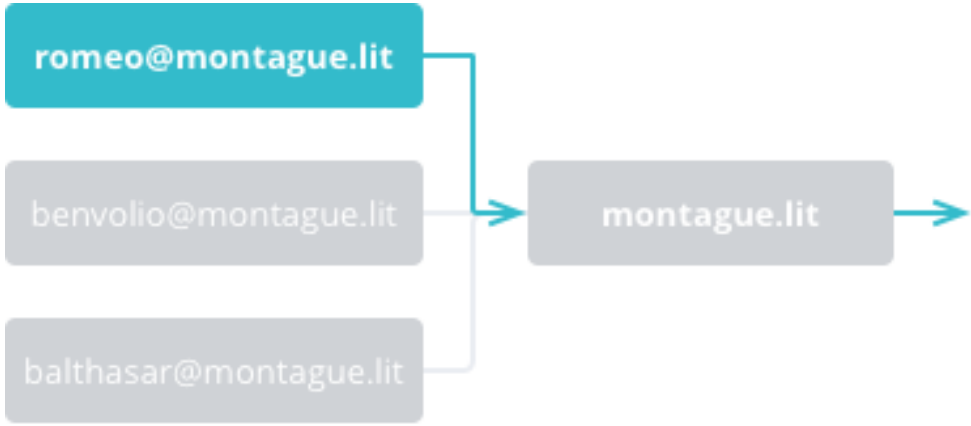
balthasar@montague.lit

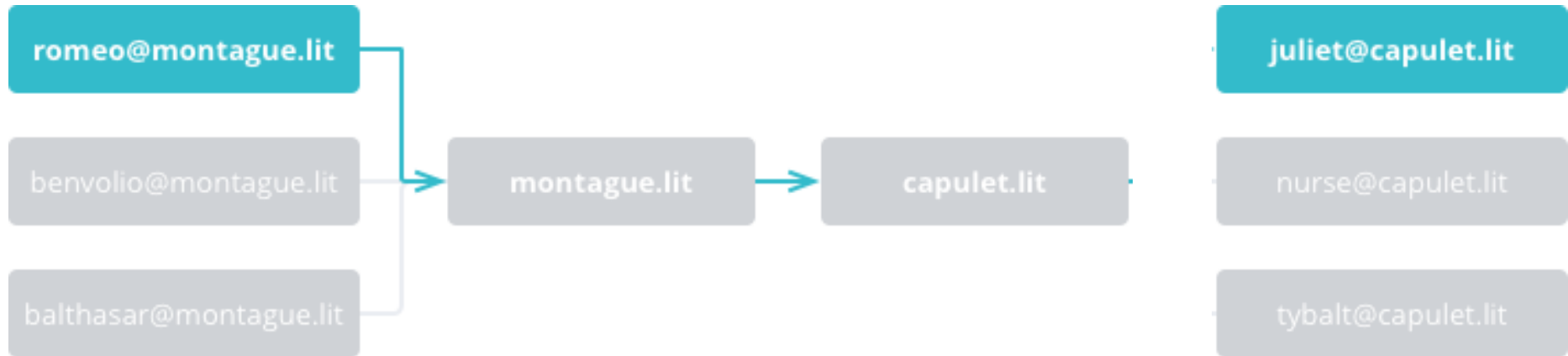
montague.lit

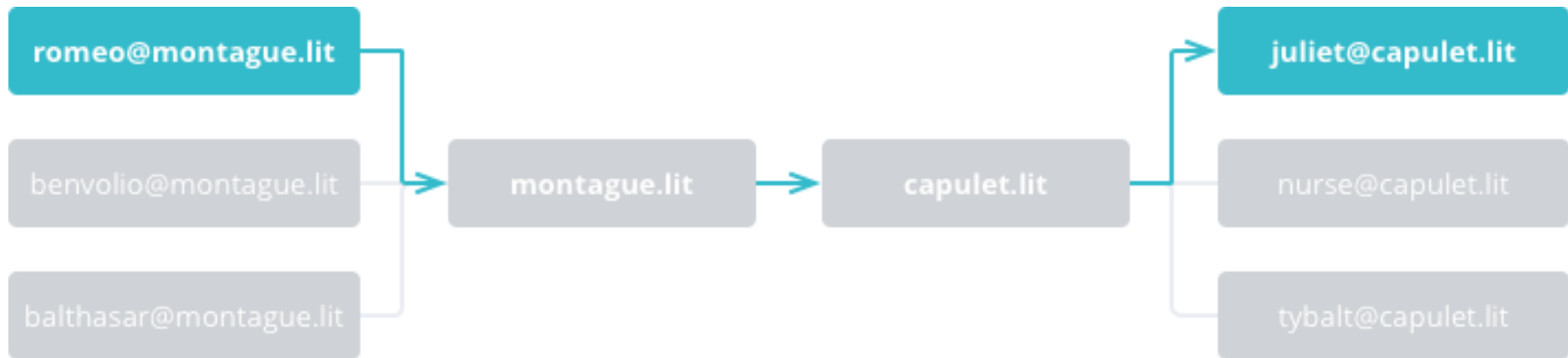
juliet@capulet.lit

nurse@capulet.lit

tybalt@capulet.lit







```
<message from='romeo@montague.lit'  
to='juliet@capulet.lit'  
type='chat'>  
<body>We have had a most delightful evening, a most  
excellent ball.</body>  
</message>
```



```
C: <?xml version='1.0'?>
  <stream:stream
    to='example.com'
    xmlns='jabber:client'
    xmlns:stream='http://etherx.jabber.org/streams'
    version='1.0'>
S: <?xml version='1.0'?>
  <stream:stream
    from='example.com'
    id='someid'
    xmlns='jabber:client'
    xmlns:stream='http://etherx.jabber.org/streams'
    version='1.0'>
... encryption, authentication, and resource binding ...
C: <message from='juliet@example.com'
  to='romeo@example.net'
  xml:lang='en'>
C:   <body>Art thou not Romeo, and a Montague?</body>
C: </message>
S: <message from='romeo@example.net'
  to='juliet@example.com'
  xml:lang='en'>
S:   <body>Neither, fair saint, if either thee dislike.</body>
S: </message>
C: </stream:stream>
S: </stream:stream>
```

But...

But...

XML?

But...

XML?

Where's my REST API?

But...

XML?

Where's my REST API?

Mobile and Push?

But...

XML?

Where's my REST API?

Mobile and Push?

I want to send a file?

But...

XML?

Where's my REST API?

Mobile and Push?

I want to send a file?

Just chat?

Everything you need to know about Buddycloud

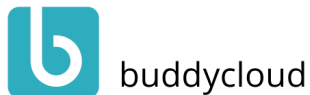
github.com/buddycloud

Buddycloud extends XMPP

Demo apps

The screenshot displays the web client interface for a channel named "Veras World". On the left is a sidebar with a search bar and a list of channels, each with a profile picture and a notification badge. The main content area shows the channel header with the name "Veras World" and the tagline "Hanging out with the world at my feet". There are buttons for "Messages" (with a badge of 2) and "Unfollow", and a "powered by buddycloud" logo. Below the header is a "New Topic..." input field. A notification states "Martin was denied to follow this channel." The main feed contains several posts from users like Vera, Mona, and Verena, each with a profile picture, name, location, and timestamp. A "post a comment..." input field is visible below the first post.

github.com/buddycloud/webclient



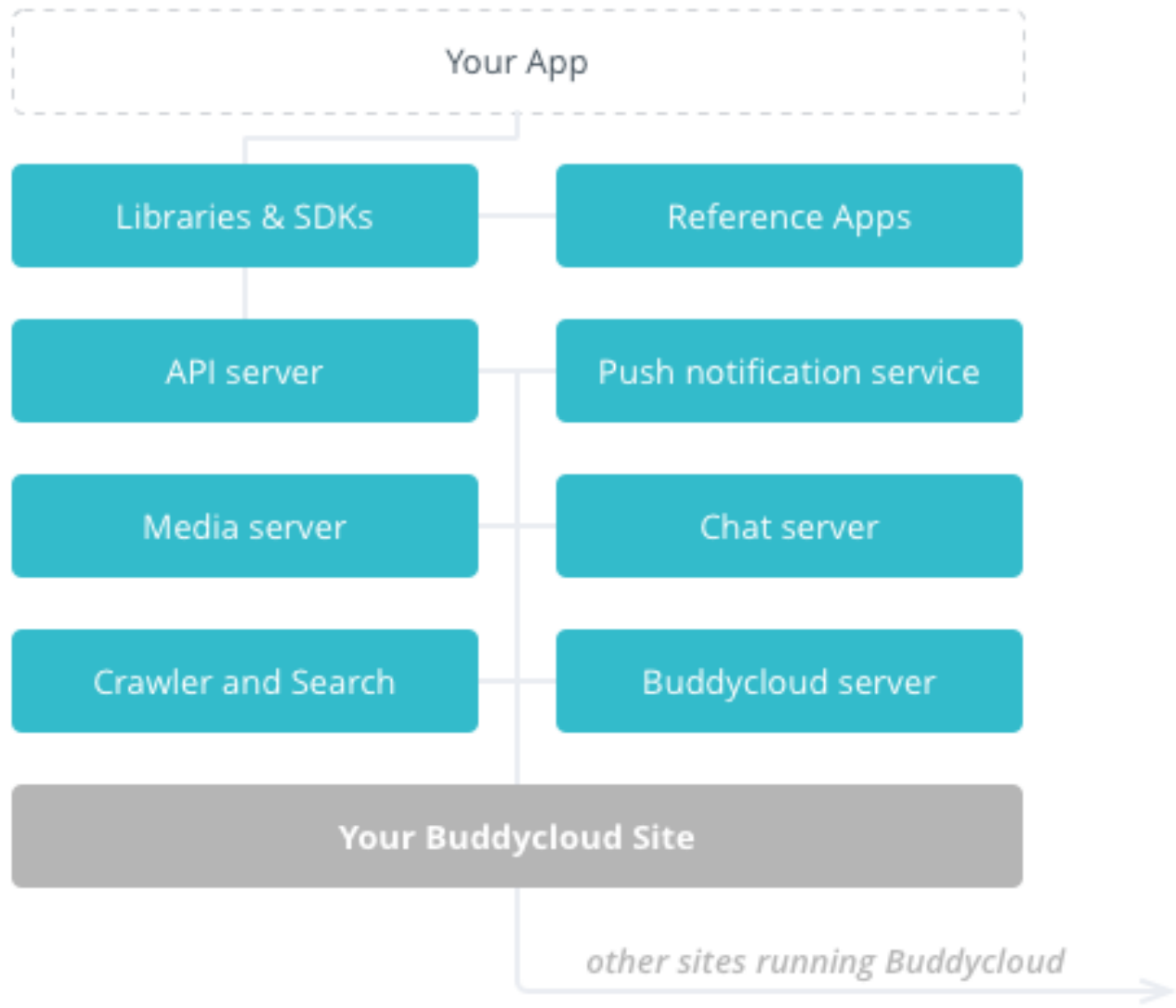
The screenshot shows the Android client interface for a post from "simon@buddycloud.org". The top status bar shows the time as 11:57 and various system icons. The app header displays the user's profile picture and name. The main content is a large photo of a white SUV parked in a scenic landscape with mountains and a lake. Below the photo is the text "Sleeping here tonight." and the date "8 Sep 2014". There are three comments from other users, each with a profile picture, text, and date. At the bottom, there is a "post a comment..." input field and a "+" button to add more content. The Android navigation bar is visible at the very bottom.

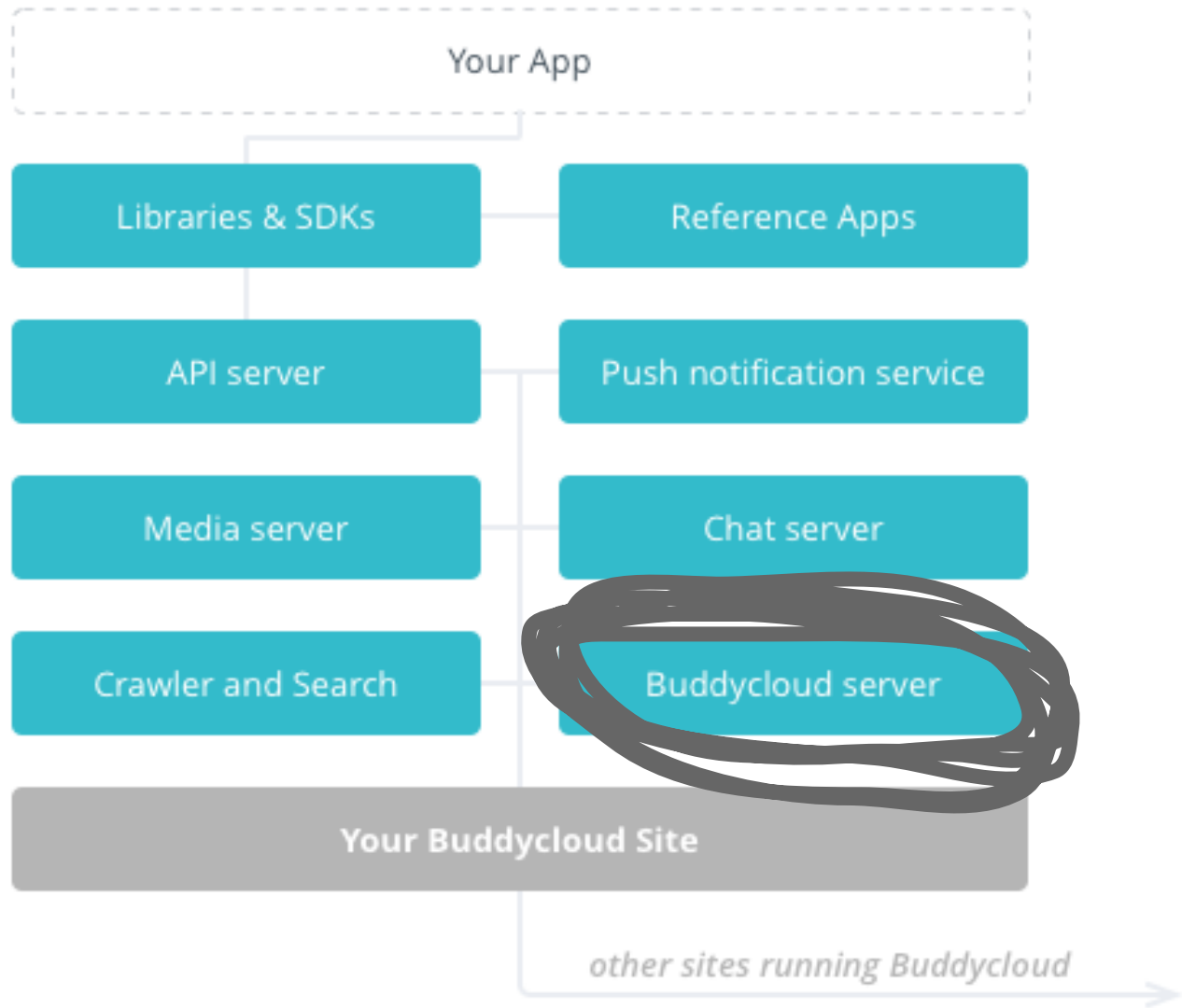
github.com/buddycloud/android-client

A small diversion into microservices

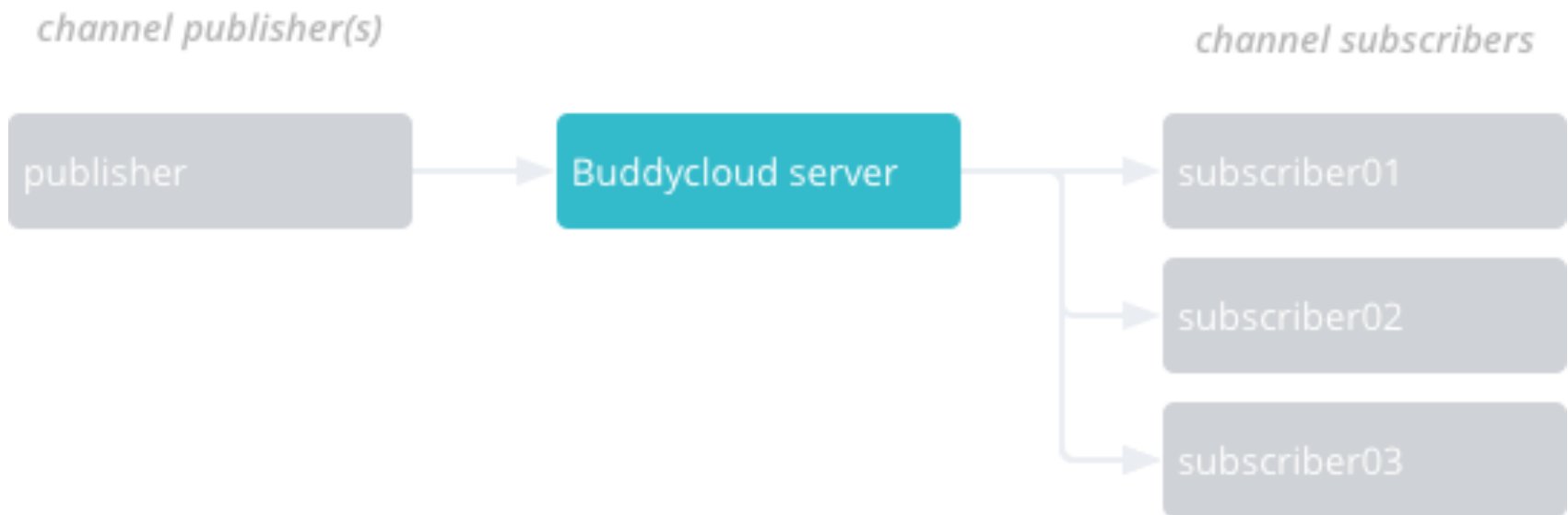
A small diversion into microservices

In computing, microservices is a software architecture style, in which complex applications are composed of small, independent processes communicating with each other using language-agnostic APIs. These services are small, highly decoupled and focus on doing a small task.





Everything is Publish-Subscribe



juliet@capulet.example

/posts (microblog)

post 1

post 2

...

/geolocation

past-location01

past-location02

...

/<your application>

app-event01

app-event02

...



juliet@capulet.example

channel metadata

title

description

channel type

access model

default role

creation time

follower roles

owner

moderators

follower+post

follower

banned

channel nodes

status

geolocation

posts

x-application-...



The inbox

The inbox

Problems

The inbox

Problems

- slow discovery and retrieval

The inbox

Problems

- slow discovery and retrieval
- networks aren't always online

The inbox

Problems

- slow discovery and retrieval
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The inbox

Problems

- slow discovery and retrieval
- networks aren't always online

Solution: The Inbox approach

The inbox

Problems

- slow discovery and retrieval
- networks aren't always online

Solution: The Inbox approach

- improves time to glass

The inbox

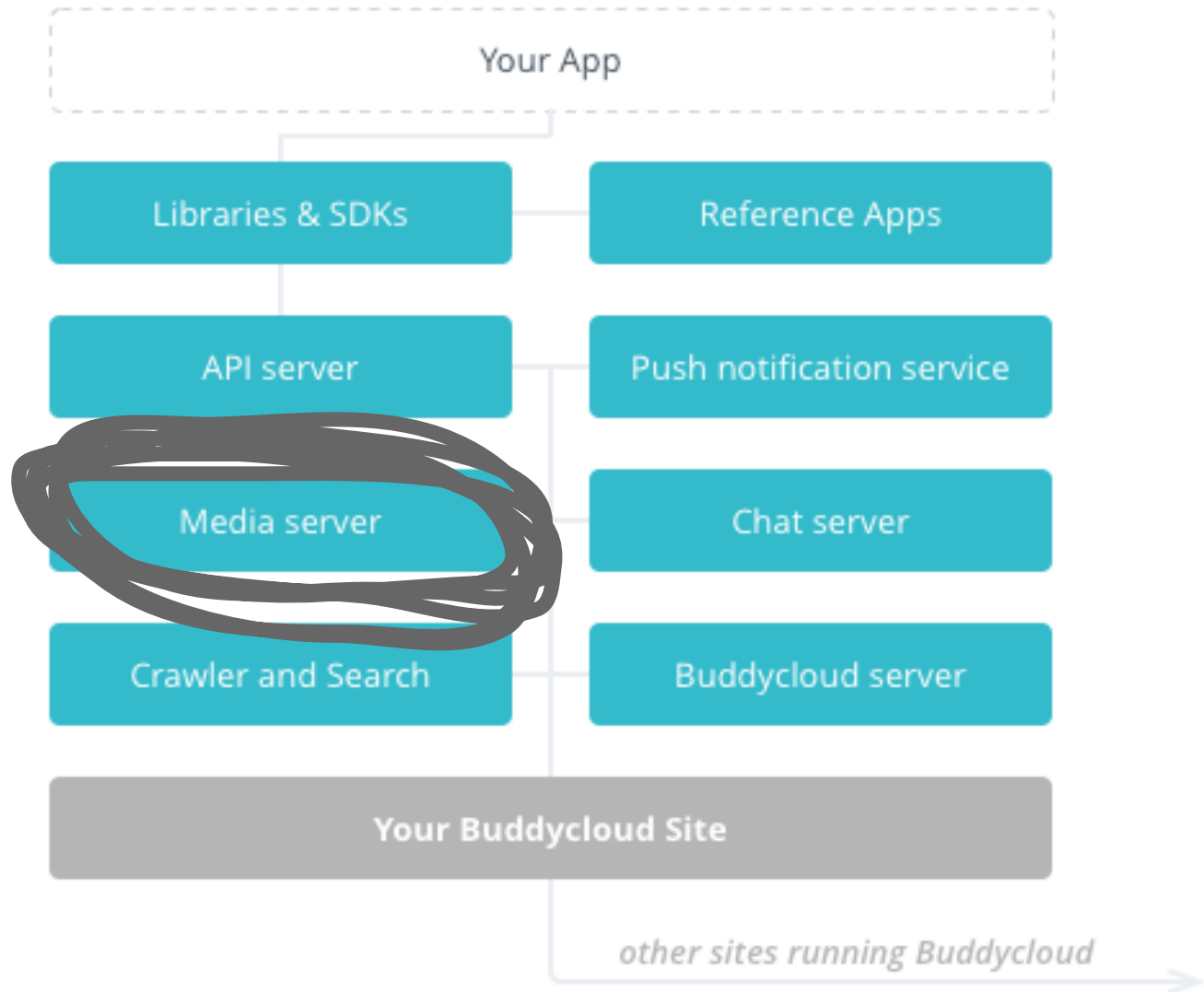
Problems

- slow discovery and retrieval
- networks aren't always online

Solution: The Inbox approach

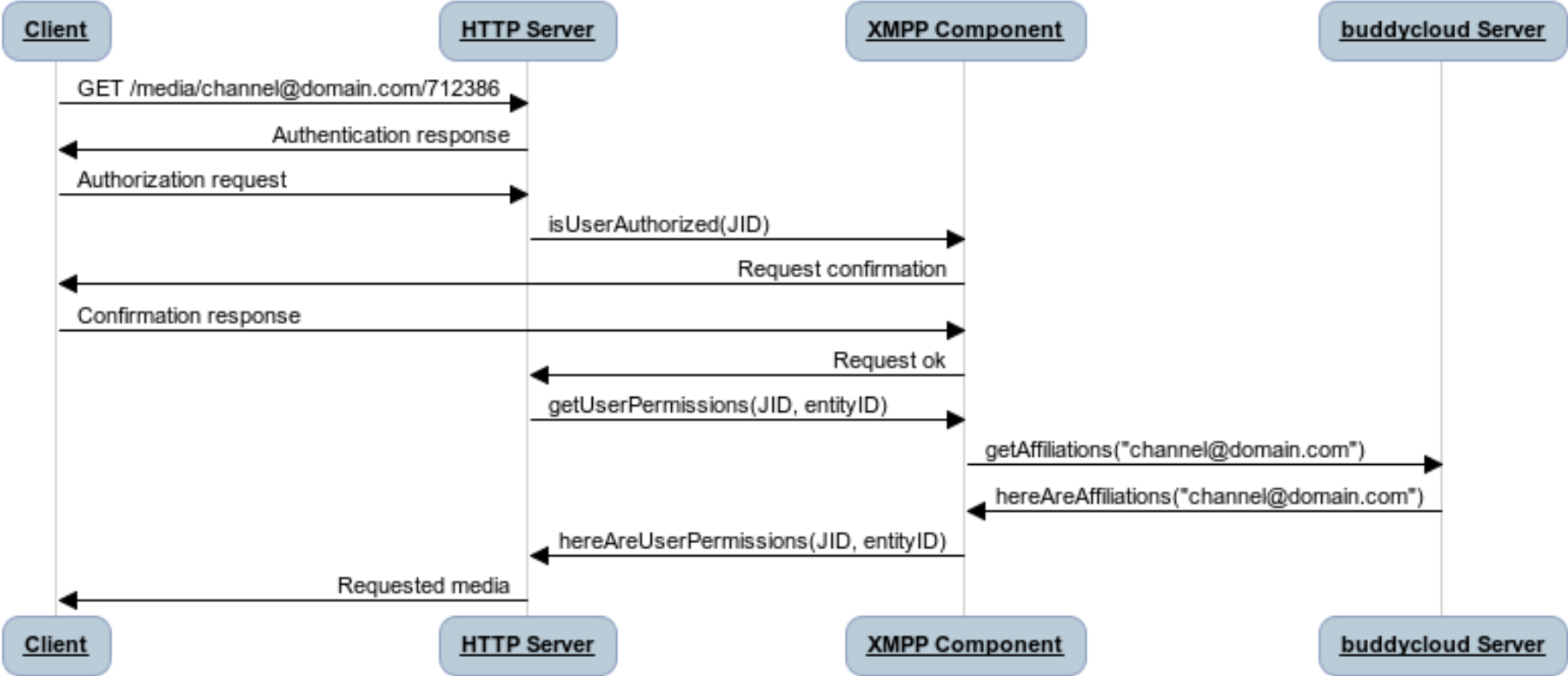
- improves time to glass
- catches up on missed posts when servers come back online

Looking at the media server



Requesting media

Successful Authentication Sequence



www.websequencediagrams.com

but wait there's more

but wait there's more

- **API server**

but wait there's more

- API server
- Push server

but wait there's more

- API server
- Push server
- Friend finder

but wait there's more

- API server
- Push server
- Friend finder
- Taste engine

but wait there's more

- API server
- Push server
- Friend finder
- Taste engine
- Search

Where next?

Make it easy to add messaging...

Leverage open standards to avoid lock-in and save time.

Flow: Slack-clone for customers with "behind the firewall" needs.

Standardise more Buddycloud services.