



# Open Cloud Mesh



**A dating protocol**



For computers

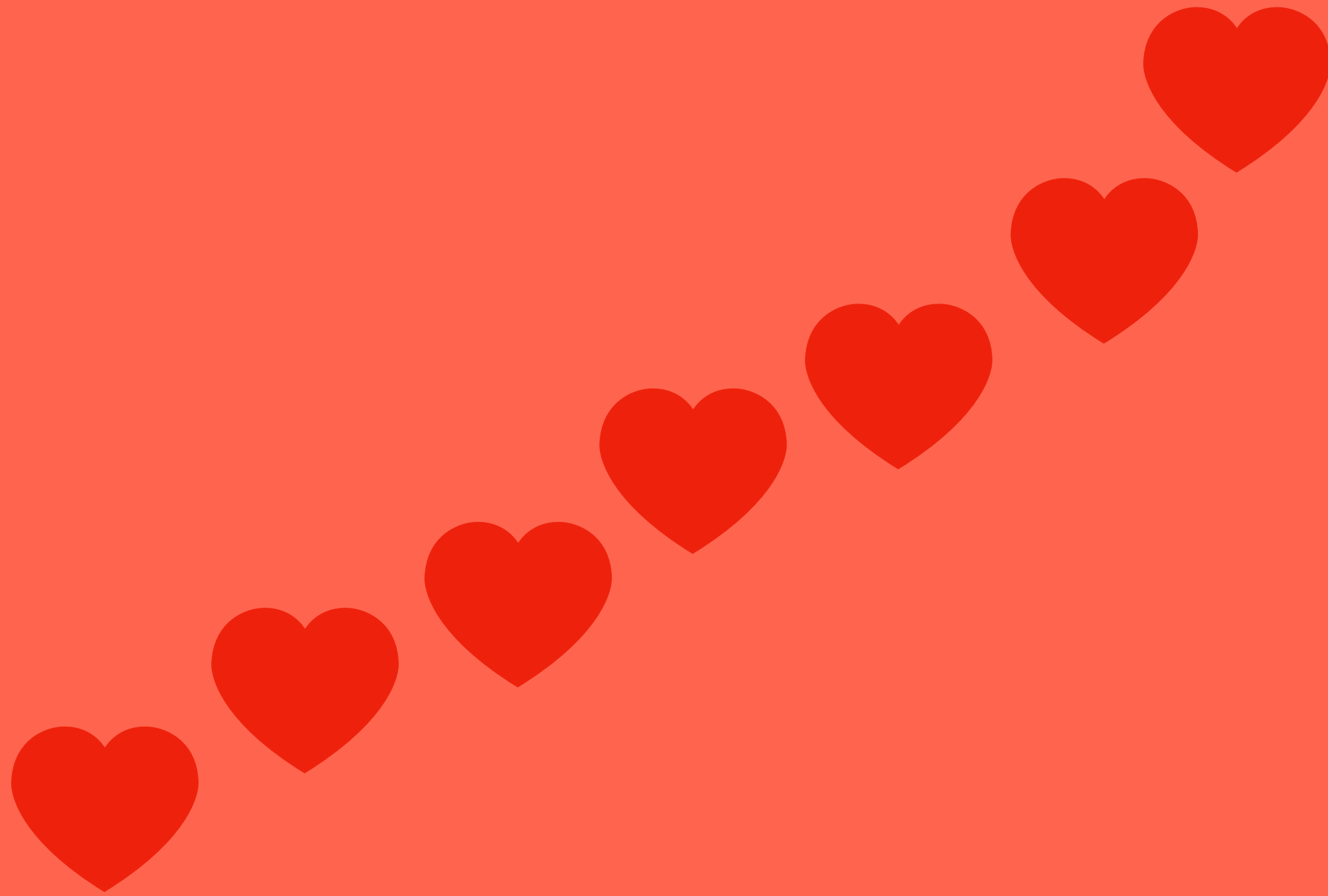
Establish

Contact

Between computers







Exchange

User

Identifiers



Exchange

Resource

Identifiers



Establish  
Sharing  
Of resources

Establish

Sharing

Between users

Establish

TRUST

Between computers

It

LOOKS

so simple...

Click 'share with'

Select recipient

Or type user@host





All files

Favorites

Shared with you

Shared with others

Shared by link

Tags

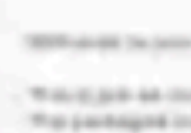
All files



Name ▴

Size

Modified



share-with-oc1-to



&lt; 1 KB

seconds ago

Welcome to your

This is just an exi

The packaged an

share-with-oc1-to-nc1.txt



★ &lt; 1 KB, seconds ago

Comments

Sharing

Tags

Versions

User and Groups

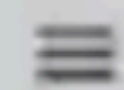
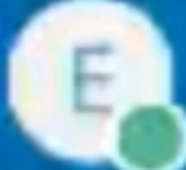
Public Links

einstein@nextcloud1.docker

Get notified

Click 'accept'

Start collaborating



## Remote share

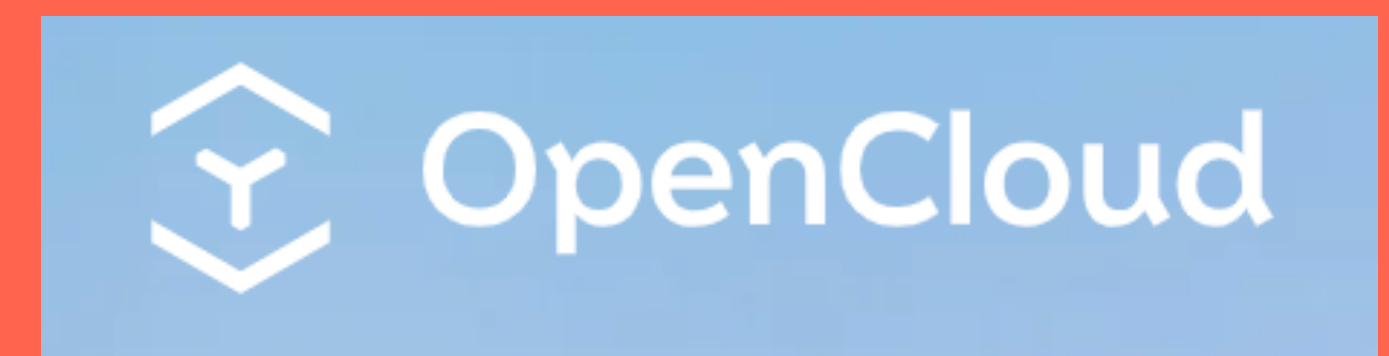


! Do you want to add the remote share /share-with-oc1-to-nc1.txt from marie@owncloud1.docker/?

No

Yes

# Vendors



# Funding (gap year)





# draft-lopresti-open-cloud-mesh-00



Workgroup: Network Working Group  
Internet-Draft: draft-lopresti-open-cloud-mesh-00  
Published: 15 November 2024  
Intended Status: Standards Track  
Expires: 19 May 2025  
Authors: G. Lo Presti M. B. de Jong M. Baghbani M. Nordin  
*CERN Ponder Source Ponder Source SUNET*

## Open Cloud Mesh

### Abstract

Open Cloud Mesh is a server federation protocol that is used to notify a Receiving Party that they have been granted access to some Resource. It has similarities with authorization flows such as OAuth, as well as with social internet protocols such as ActivityPub and email.

Open Cloud Mesh only handles the necessary interactions up to the point where the Receiving Party is informed that they were granted access to the Resource. The actual resource access is then left to protocols such as WebDAV and others.

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### 1. Terms

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

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**SHARE WITH**

Click 'share with'

Select recipient

Or type user@host



All files

Favorites

Shared with you

Shared with others

Shared by link

Tags

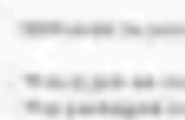
All files



Name ▴

Size

Modified



share-with-oc1-to



&lt; 1 KB

seconds ago

Welcome to your

This is just an exi

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share-with-oc1-to-nc1.txt



★ &lt; 1 KB, seconds ago

Comments

Sharing

Tags

Versions

User and Groups

Public Links

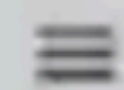
einstein@nextcloud1.docker

Get notified

Click 'accept'

Start collaborating





## Remote share



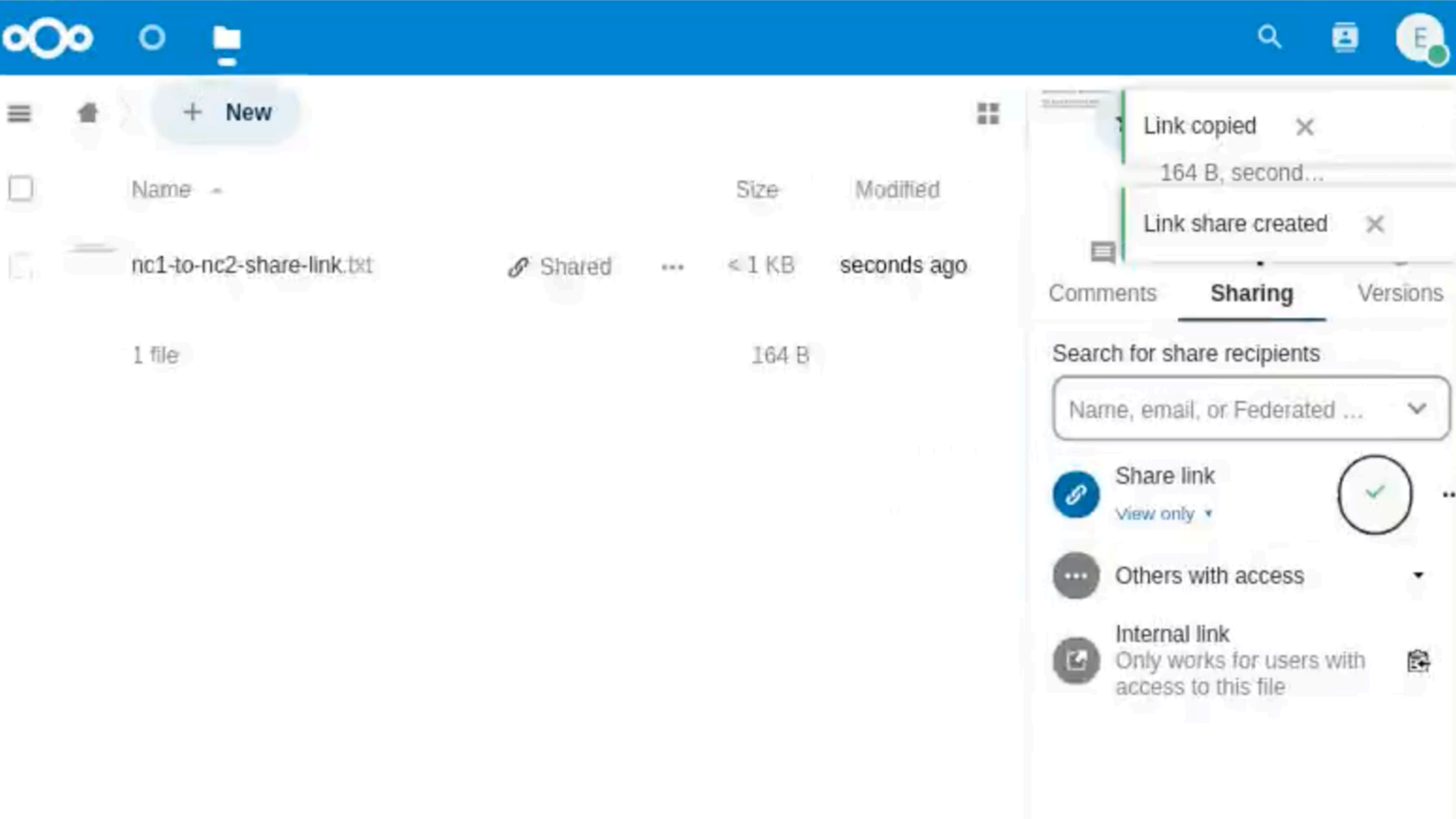
! Do you want to add the remote share /share-with-oc1-to-nc1.txt from marie@owncloud1.docker/?

No

Yes

**SHARE LINK**

Click 'create link'



+ New

Name

Size

Modified

nc1-to-nc2-share-link.txt

Shared

< 1 KB

seconds ago

1 file

164 B

Link copied

164 B, second...

Link share created

Comments

Sharing

Versions

Search for share recipients

Name, email, or Federated ...



Share link

View only



Others with access



Internal link

Only works for users with access to this file

Click 'save'





Welcome to your Nextcloud account!

This is just an example file for developers and git users.

The packaged and released versions will come with better examples

nc1-to-nc2-share-link.txt (164 B)

↓ Download

↓ Download (164 B)

🔗 Direct link

<https://nextcloud1.docker...>

📁 Add to your Nextcloud

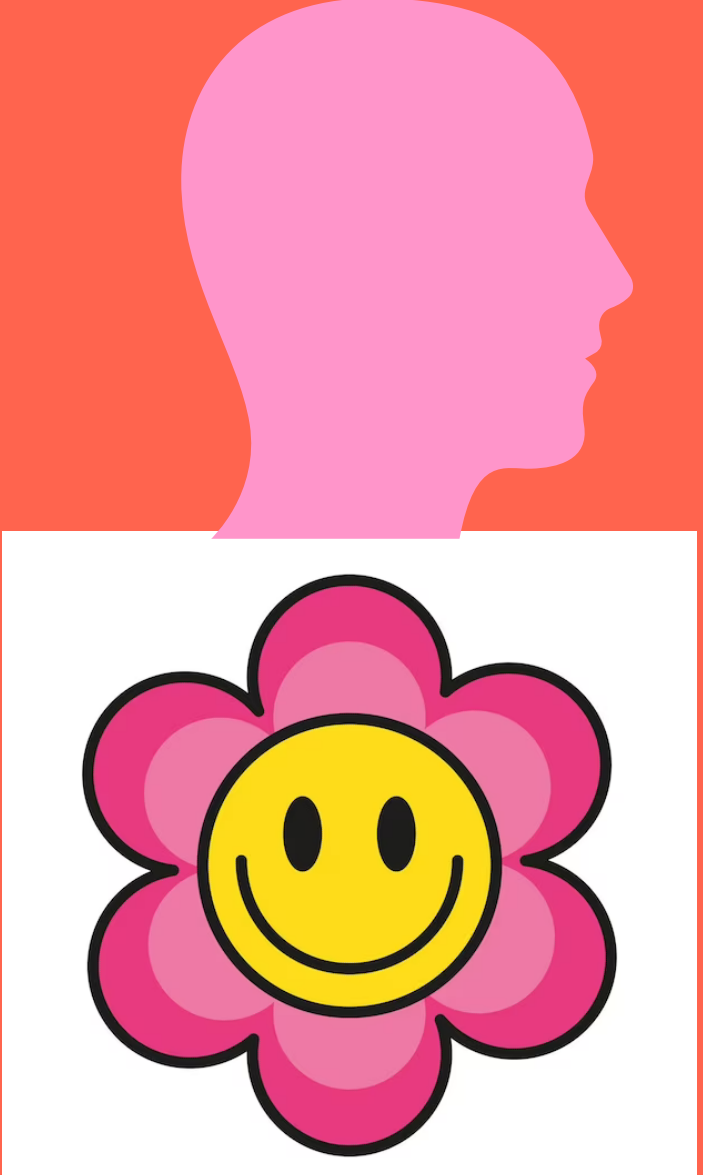
[michiel@nextcloud2.dc](#) →









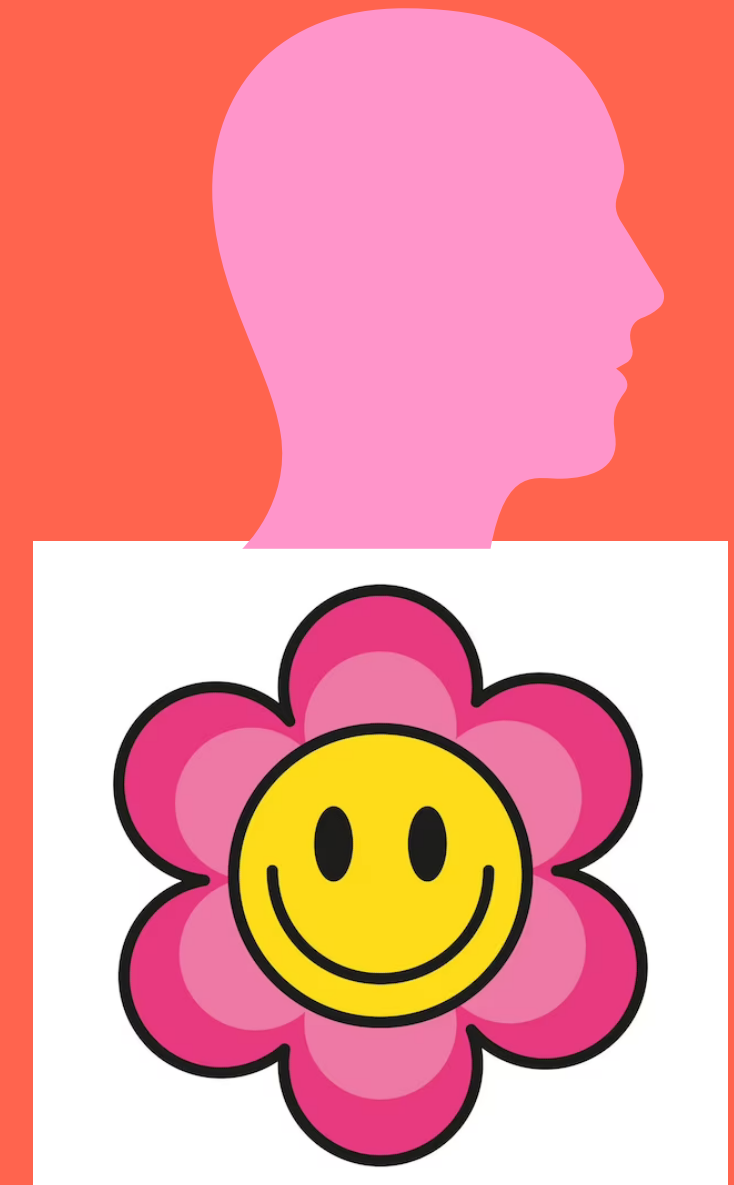
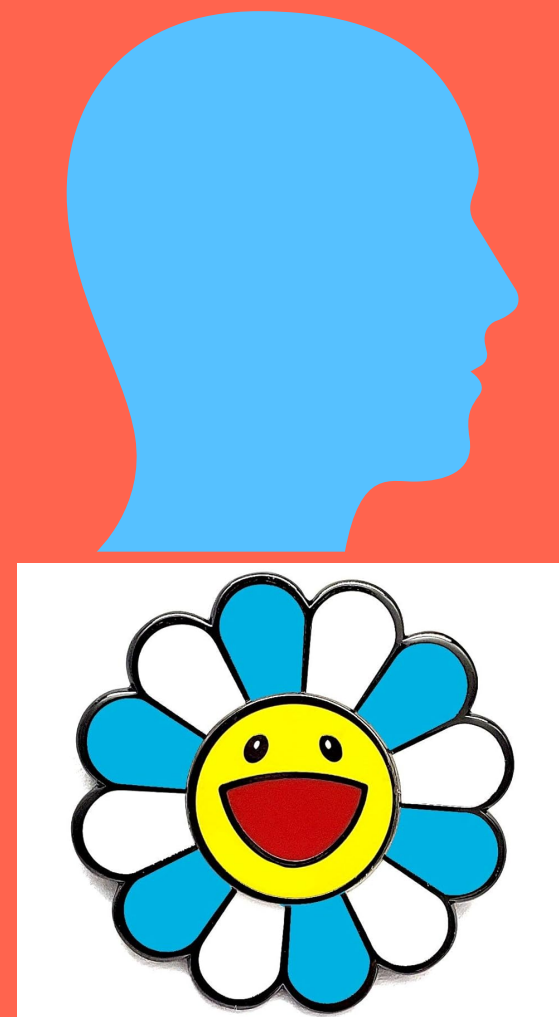




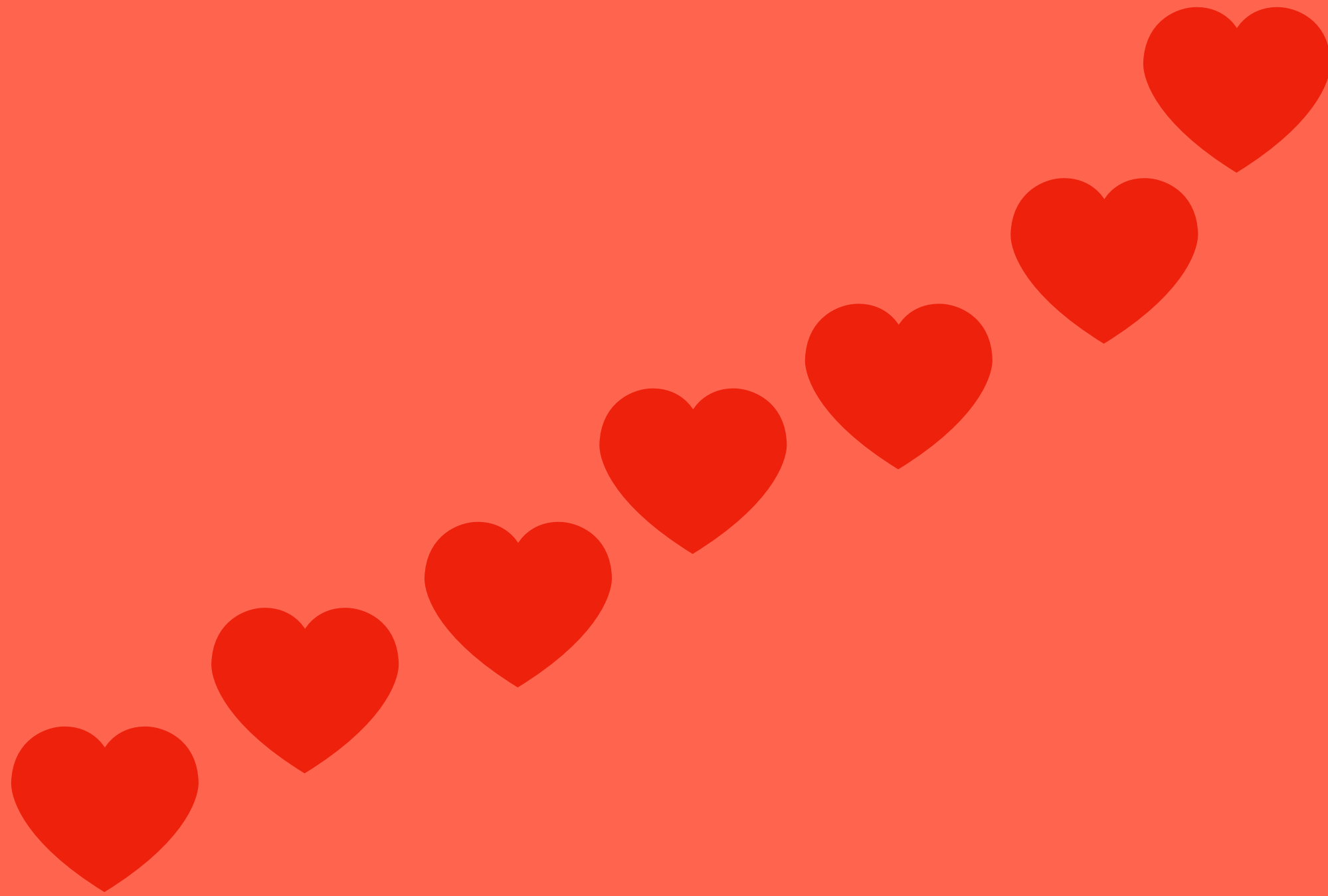


Invite!





Accept!



**INVITE USER**



Generate invite

[+ Generate invitation](#)

Invite code

Description

Expires

34a6f...

31-01-2025 14:23

## Accept invitations

Enter invite token

Select institution of inviter

**Accept invite**



## Invite users

Invitations

 Generate invitation

Enter invite token

34a6fc1b-dbed-407d-b4af-5749d2cfc7de



Select institution of inviter

|

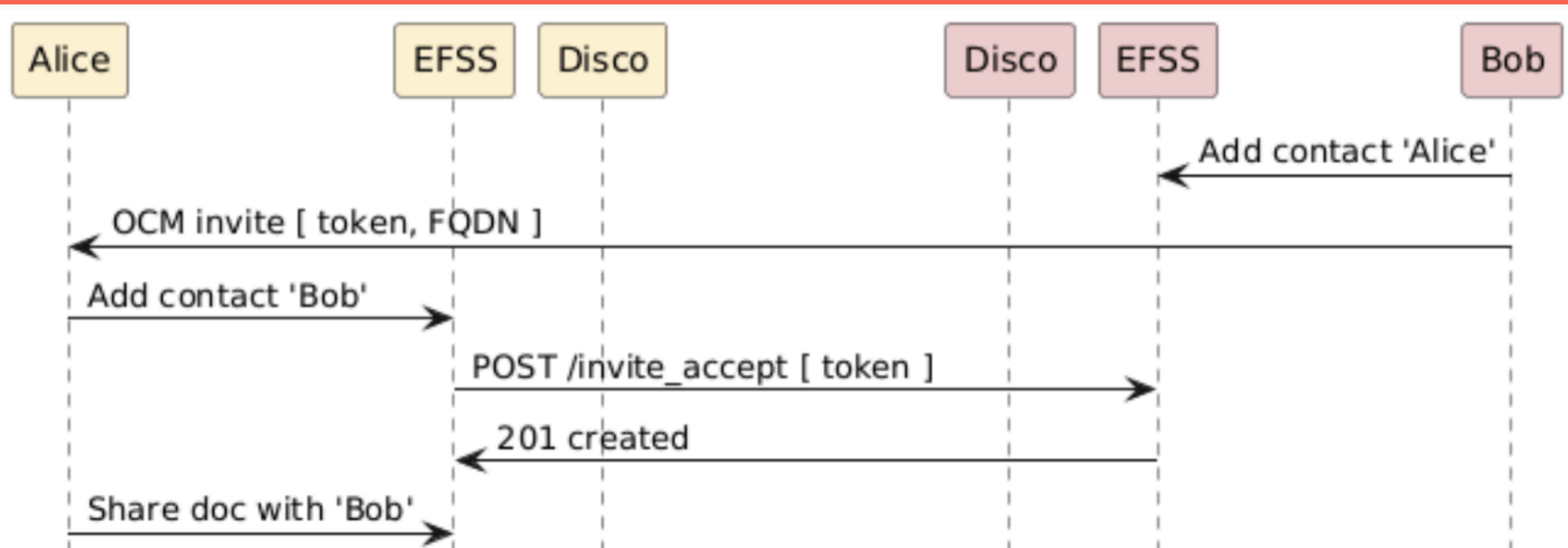


Instance 1 provider

ocis1.docker

 Accept invitation

# Invites help servers trust each other



Invites are  
**IMPORTANT**  
For security

Request

**SIGNATURES**

For security



# Authorization

## CODE

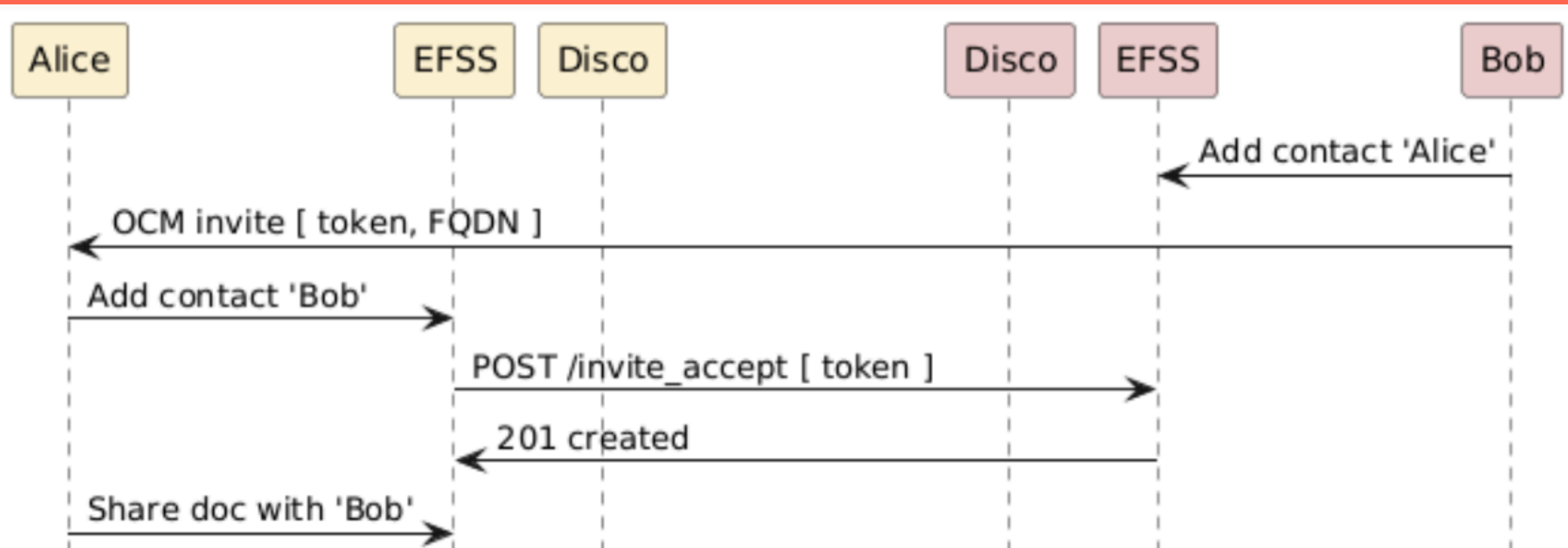
## For security

Short lived

TOKENS

For security

# Invites help servers trust each other



# Caps Disco

Share doc with 'Bob'

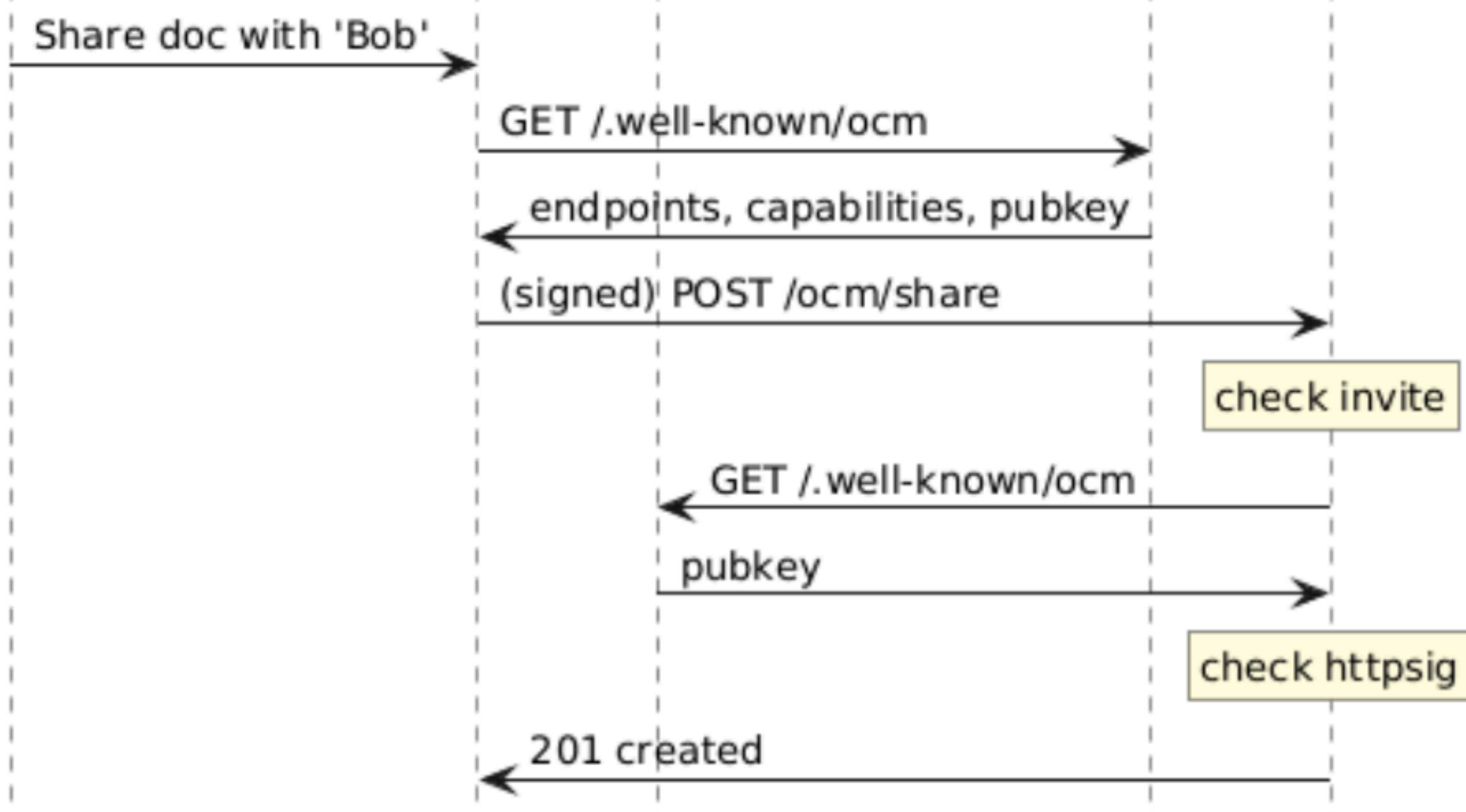


```
sequenceDiagram
    participant A
    participant B
    participant C
    A->>B: Share doc with 'Bob'
    B->>C: GET /.well-known/ocm
    C-->>B: endpoints, capabilities, pubkey
```

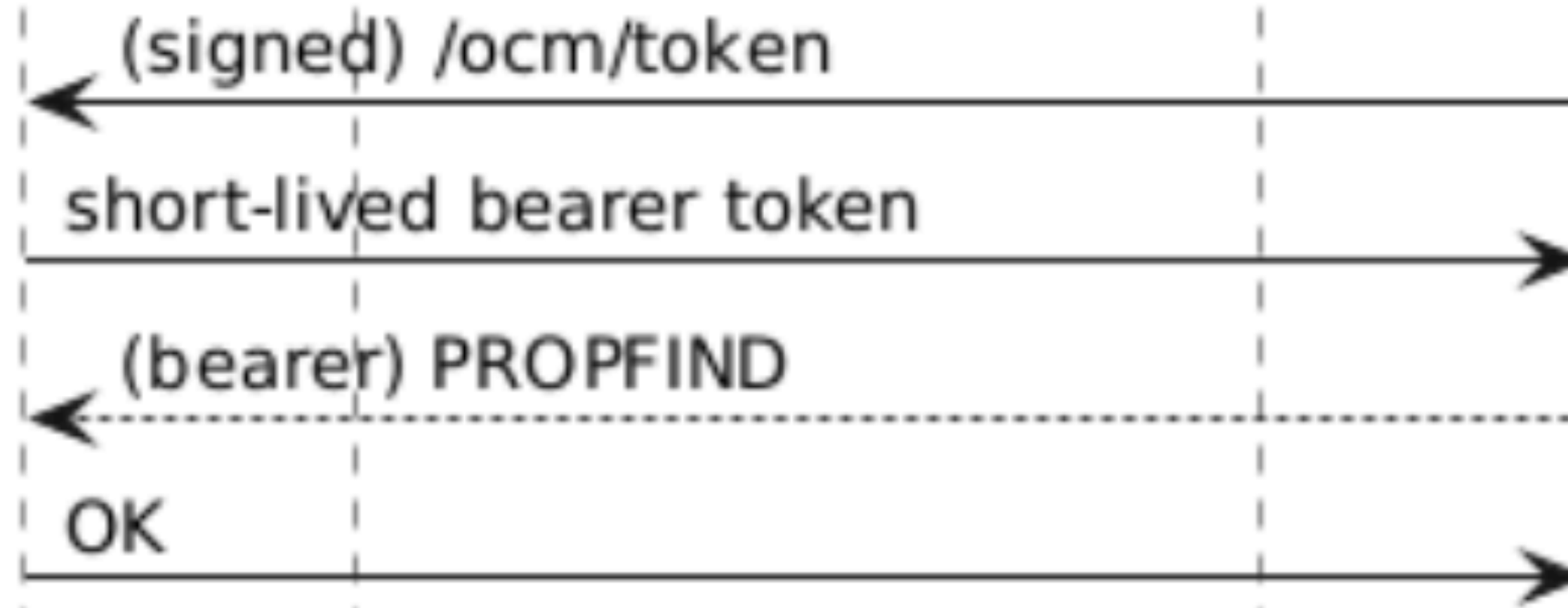
GET /.well-known/ocm

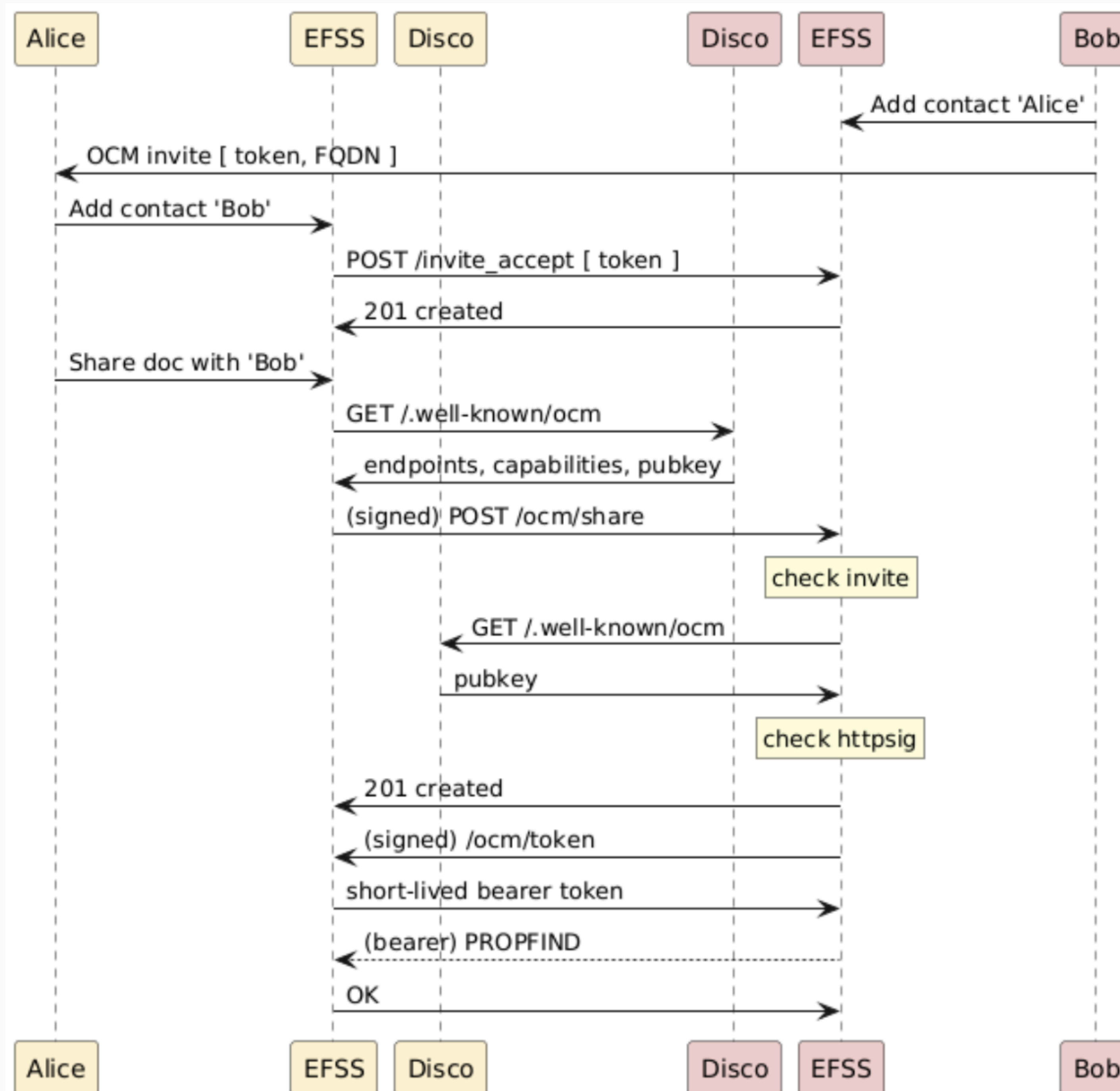
endpoints, capabilities, pubkey

# Share Creation Notification



# Exchange Code for Token







**THANK YOU!**

[https://github.com/  
cs3org/ocm-api](https://github.com/cs3org/ocm-api)