

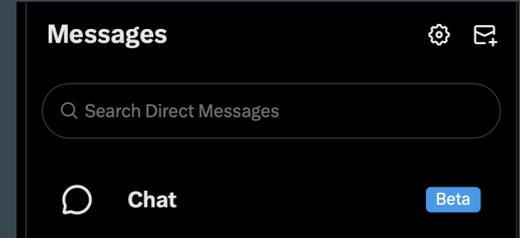
E2EE Direct Messaging in Bluesky with Matrix



Motivation and Demo

Background

- Lot of interest in the ATPROTO/Bluesky ecosystem in E2EE Direct messaging for Bluesky
- Twitter/X claims to have encrypted DMs (still BETA)
 - This was a paid feature introduced in 2023
 - In Sept 2025 this feature is available to all
 - Even owner says this is not secure and can be compromised
- Some efforts underway to build encryption from scratch for Bluesky



Benefits of using Matrix for Bluesky E2EE

- Tried and tested open source encryption stack
- Matrix has E2EE group messaging in federated setup
 - Will take a long time to recreate and test adequately
- Attempts to build Bluesky E2EE from scratch are not attempting federated setup
 - These are falling back to centralized single operator
 - Federation will allow users BYOMA (Bring Your Own Matrix Account) feature

Insecure DMs in bsea.social

Chats + New chat

Secure **Insecure**

Chat requests →

Ranga Krishnan · 26d
@rangakrishnan1.bsky.social
You: Please install bsea.social to secure our chat.

Start a new chat ✕

Search

- natk-4.bsea.social**
@natk-4.bsea.social Secure
- Ranga Krishnan**
@rangakrishnan1.bsky.social Insecure
- knowtheory.bsea.social**
@knowtheory.bsea.social Secure
- arathorn.bsea.social**
@arathorn.bsea.social Secure
- natk-6.bsea.social**
@natk-6.bsea.social Secure
- Bluesky** ✓
@bsky.app can't be messaged

Ranga Krishnan
@rangakrishnan1.bsky.social Insecure

Fri, September 19 at 2:34 PM

Initiated by [bsky_app](#) user.

Response

Please install [bsea.social](#) to secure our chat.

2:35 PM

Secure DMs in bsea.social

The screenshot shows a secure direct message (DM) conversation in the Bluesky app. The contact is identified as 'arathorn.bsea.social' with a profile picture of a person with glasses. The chat interface includes a 'Secure' indicator in the top right corner. The messages are as follows:

- System Message (Blue bubble):** Hi ! Welcome to E2EE DM in Bluesky powered by Matrix ! (1:59 PM)
- System Message (Blue bubble):** We can continue the matrix chat here -- this is also a matrix chat ! (2:10 PM)
- User Message (Grey bubble):** hi! :D (2:12 PM)
- User Message (Grey bubble):** this is awesome :D (2:12 PM)
- User Message (Blue bubble):** Hi ! (2:12 PM)
- User Message (Blue bubble):** I will follow you from my bsky app account. (2:12 PM)
- User Message (Blue bubble):** You will see the difference with the chat there. (2:13 PM)
- User Message (Image):** A rocket emoji 🚀 (2:13 PM)
- Date Separator:** Sun, September 21 at 6:36 AM
- User Message (Grey bubble):** tests from Element (6:36 AM)
- Date Separator:** Mon, September 22 at 2:36 AM
- User Message (Grey bubble):** hello world (2:36 AM)
- Date Separator:** Tue, September 23 at 9:33 PM
- User Message (Blue bubble):** Yes you can use the matrix account from other clients -- you just login to this synapse instance using the PDS as ISP, from other clients. (9:33 PM)

DEMO



Request invite code to play with E2EE @ bsea.social



I can see **securely** now ...

It's gonna be a bright, bright
Sun-shiny day

Look all around, there's nothin' but blue skies

Look straight ahead, nothin' but blue skies