

Challenges of Matrix within Europe's most sovereign, most secure and largest IT Infrastructure

The Matrix Conference 2026

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TI-Messenger at a Glance



TI-M ePA

Insured persons

TI-M ePA client

BACKEND

Fachdienst

TI-M service

Matrix homeserver

messaging & federation

TI-M PRO

Health insurers

TI-M Pro client

BACKEND

Fachdienst

TI-M service

Matrix homeserver

messaging & federation

Doctors & practices

TI-M Pro client

BACKEND

Fachdienst

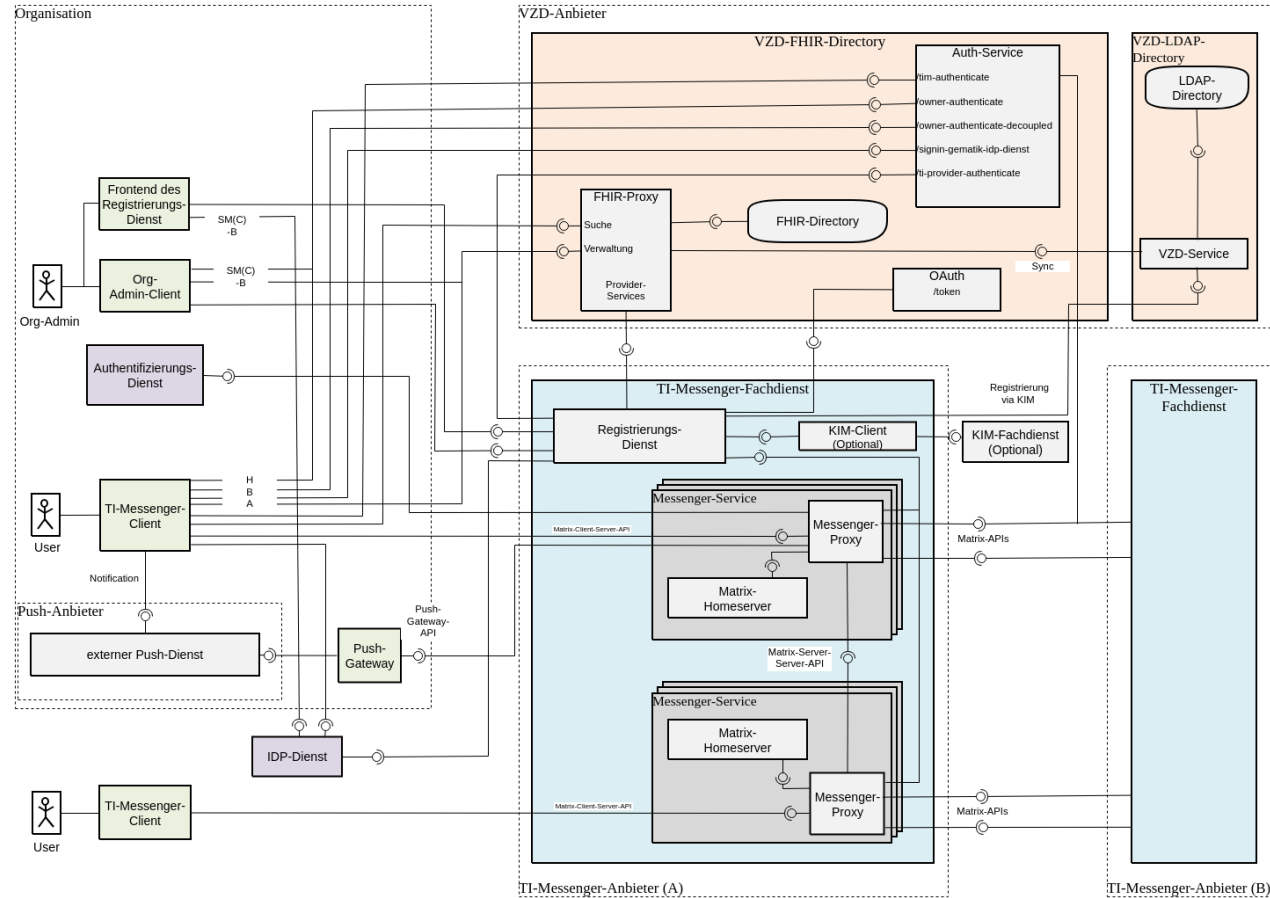
TI-M service

Matrix homeserver

messaging & federation

Matrix federation within the Telematics Infrastructure (TI)

Official Specification



Matrix was built for user-controlled communication.
Institutions bring requirements beyond that.

This talk is about where the two meet.

Archiving | eDiscovery | Compliance | Case handling | Key recovery

A Story...

Antigone



Kreon decrees: the traitor Polyneices stays unburied (for the good of the state).

Antigone, his sister, buries him anyway because divine law demands it.

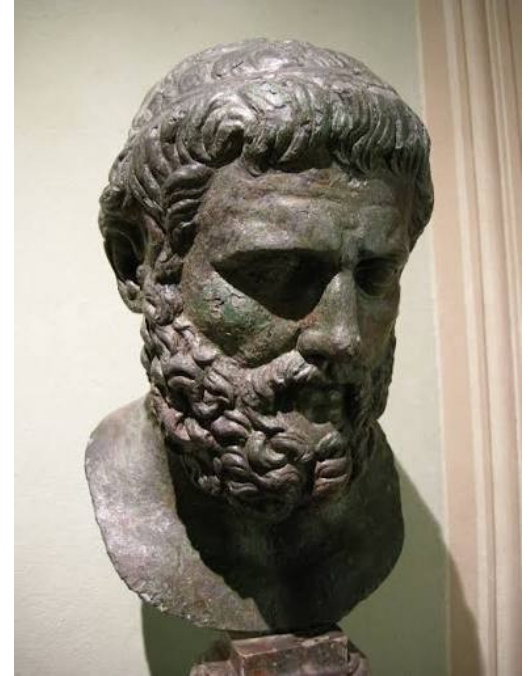
Neither yields, Antigone dies. Kreon survives and loses his son and his wife.

Kreon, King of Thebes



Characteristics of a Tragedy

- 01** No good vs. evil — only **right vs. right**
- 02** Everyone acts sensibly and in good faith
- 03** The conflict comes from **opposing principles**
- 04** **Neither side can yield without giving itself up**



Sophocles (497–406 BC)

2,500 YEARS LATER

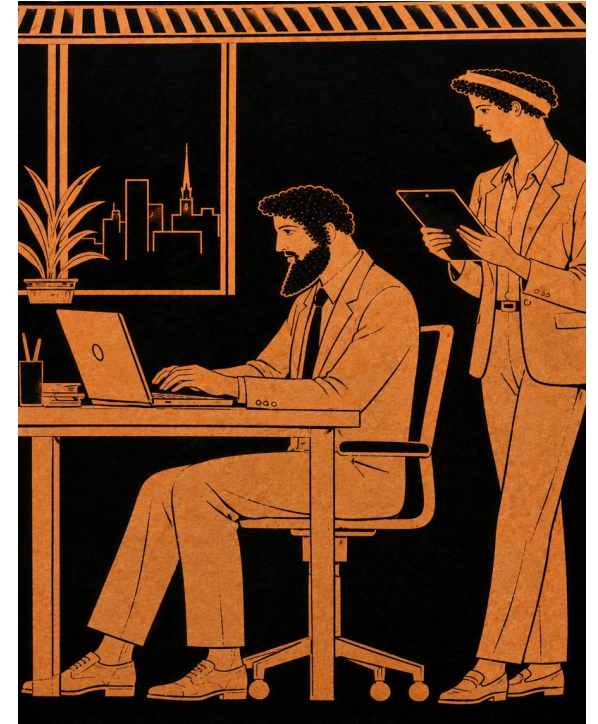
... more recent

Antigone, a TI-M ePA User

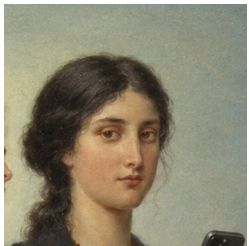


Same conflict.
New messenger.

Kreon, a TI-M Pro User



Privacy vs. Documentation



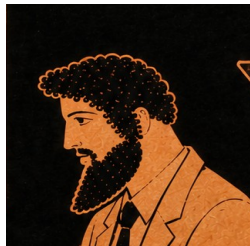
Antigone

TI-M ePA User

... wants her messages to be E2E
encrypted

... expects nobody else to read them

... because health data is as private as it gets.



Kreon

TI-M Pro User

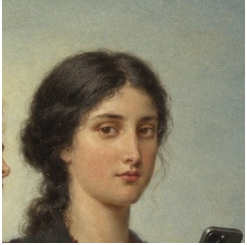
... is legally bound to archive every
conversation

... must produce them on request

*... because decisions about a case must stay
traceable.*

vs.

Encryption vs. Inspection



Antigone

TI-M ePA User

... wants nobody in between
... but expects fast, automated answers

... because that's what modern service feels like.



Kreon

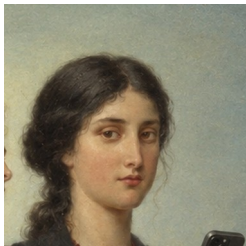
TI-M Pro User

... has to scan for malware and compliance
... needs bots to triage and route requests

... because at a large scale, workflows require automation.

vs.

Person vs. Organization



Antigone

TI-M ePA User

... writes to her insurer, not to a person
... expects an answer, even when her
case worker is on holiday

*... because her case belongs to the
institution.*



Kreon

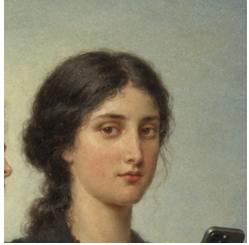
TI-M Pro User

... acts through roles, deputies and
changing staff
... but Matrix keys belong to individual
devices

*... because in E2EE, a new colleague can't
read yesterday's messages.*

vs.

Usability vs. Security



Antigone

TI-M ePA User

... expects ease of use
... might switch to another
phone sooner or later

*... because every extra step
loses users.*



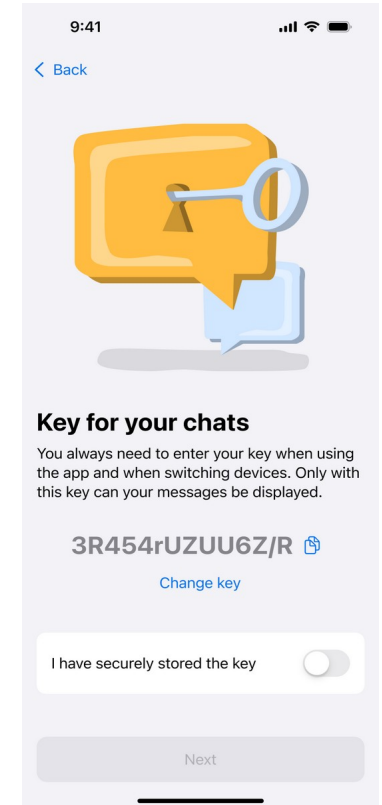
Kreon

TI-M Pro User

vs.

... has to adhere to
encryption requirements
... including key backup and
recovery

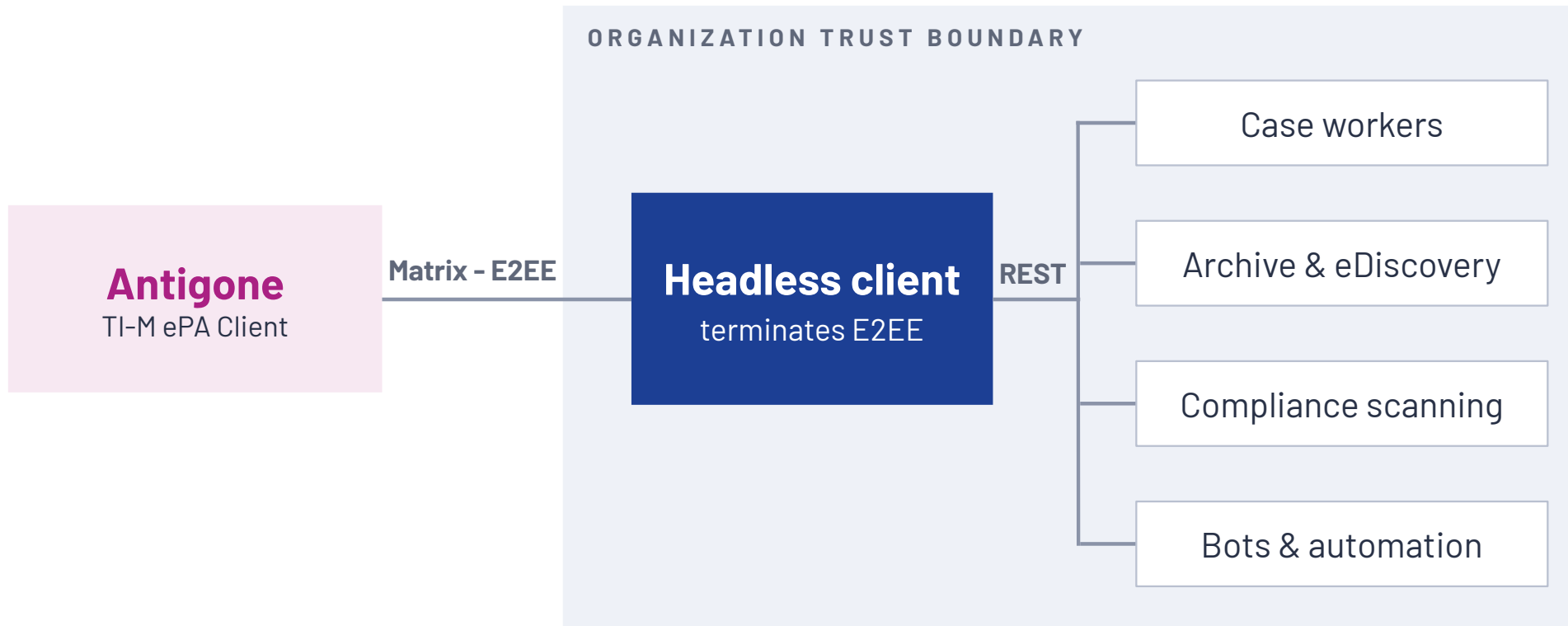
*... because without the key, her
history is gone by design.*



Mandatory key backup

CAN WE REWRITE THE ENDING?

Deus ex Machina?



End-to-end becomes end-to-organization.

The Price of the Machine

What Antigone gives up

- Her messages are readable inside the organization
- Trust moves from her devices to the institution
- Headless client becomes single point of failure

What Kreon gains

- + Archiving and eDiscovery at a single point
- + Compliance scanning and bots via REST
- + Case handling by role, not by device
- + Device loss and staff turnover != data loss

RIPPLE EFFECTS ON MATRIX

Client architecture

Many organizational users represented by a single Matrix account

Key management

Keys live in the organization, recovery becomes an ops process

Federation

To everyone else, the headless client is an ordinary participant

Catharsis

Nobody was wrong. The contradiction was part of the requirements.

01 Check the consequences, not just the features

Before a technology is set in stone, look at what its core principles mean for everyone involved, not only for the use case it was built for.

02 Adapt the principle, keep the purpose

E2EE protects the conversation. E2OE keeps that protection and moves its boundary to where the institution's responsibility begins.

03 Decide early, while there's still room to move

The earlier conflicts surface, the more ways there are to resolve them without a tragedy.

Tragedy averted – TI-M is live and it works!

Thank You!

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