

Commercialising Matrix

Runi Hammer, Arnas Pečelis, Johannes Coetsee



NICE TO MEEDIO

hello

Nice to Meedio

Why Meedio? Why Matrix?

USP

Matrix-based
Open source
E2EE
Hosted in EU
Hosted On-prem

SAFETY

Independent
compliance audit
reports by
Grant-Thornton in
accordance with
ISAE-3000 and
ISAE-3402

MONITORING

Certified for
medical use
by TÜVIT
annual
external pentests

FEATURES

Break-out rooms
White-labeling
Organization
management
Scheduling
...and many more

GOING OPEN SOURCE



Going open source

Choosing the right business model

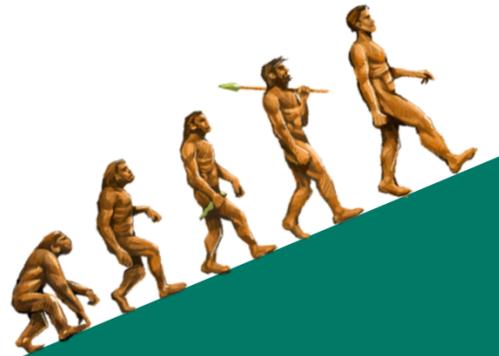
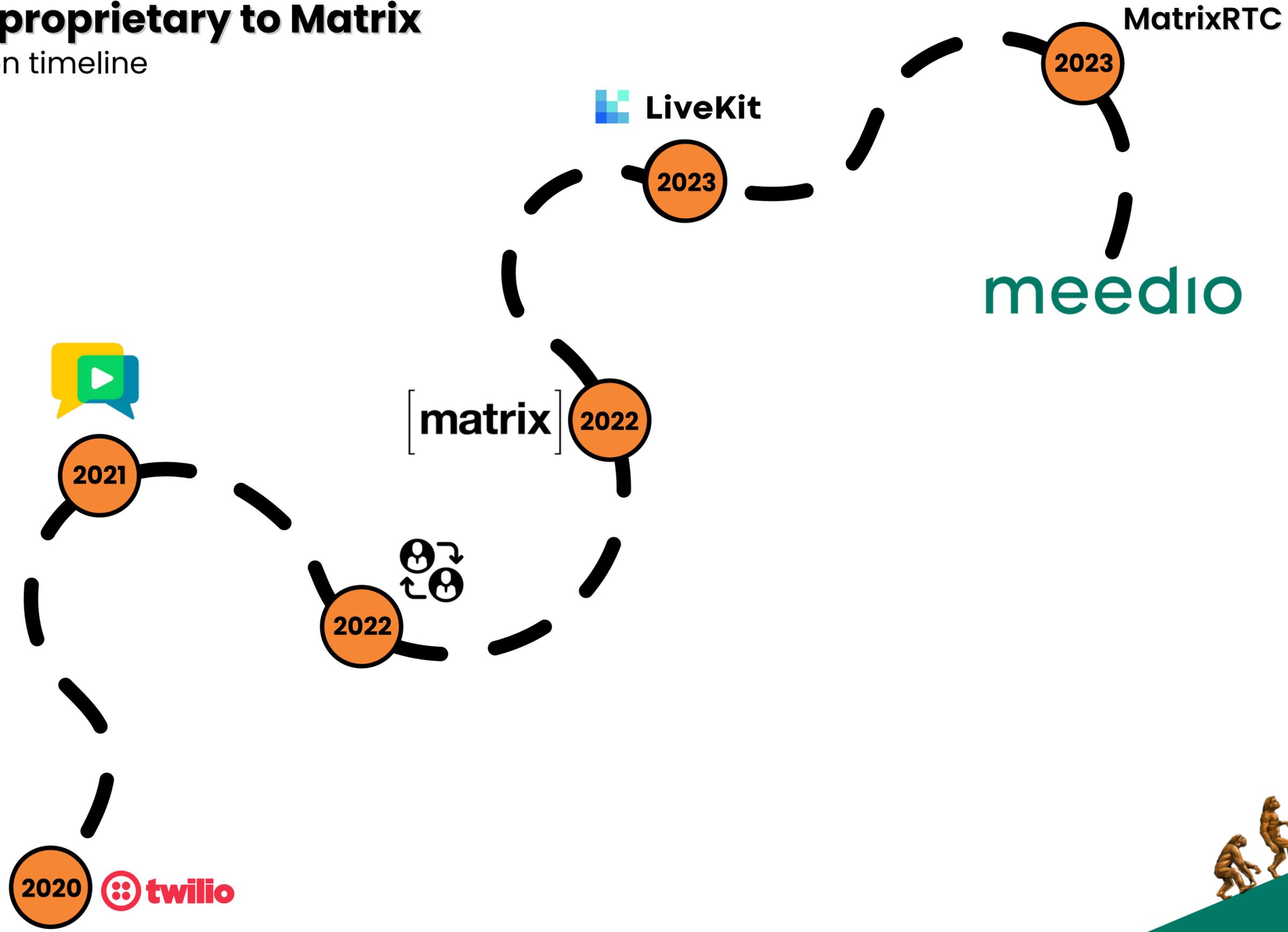


FROM PROPRIETARY TO MATRIX



From proprietary to Matrix

Evolution timeline

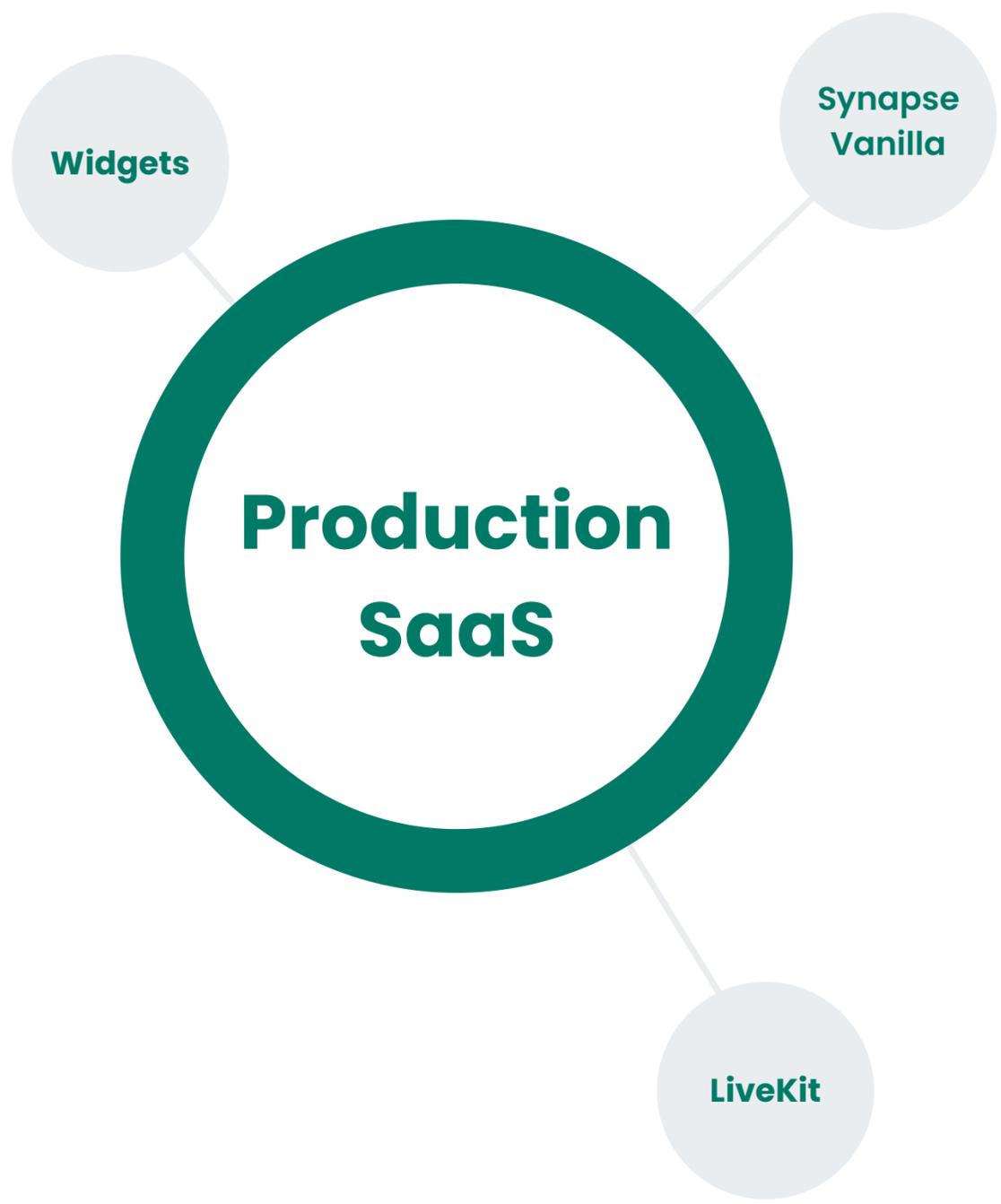


TECHNICAL INTEGRATION JOURNEY



Architecture overview

Meedio solutions

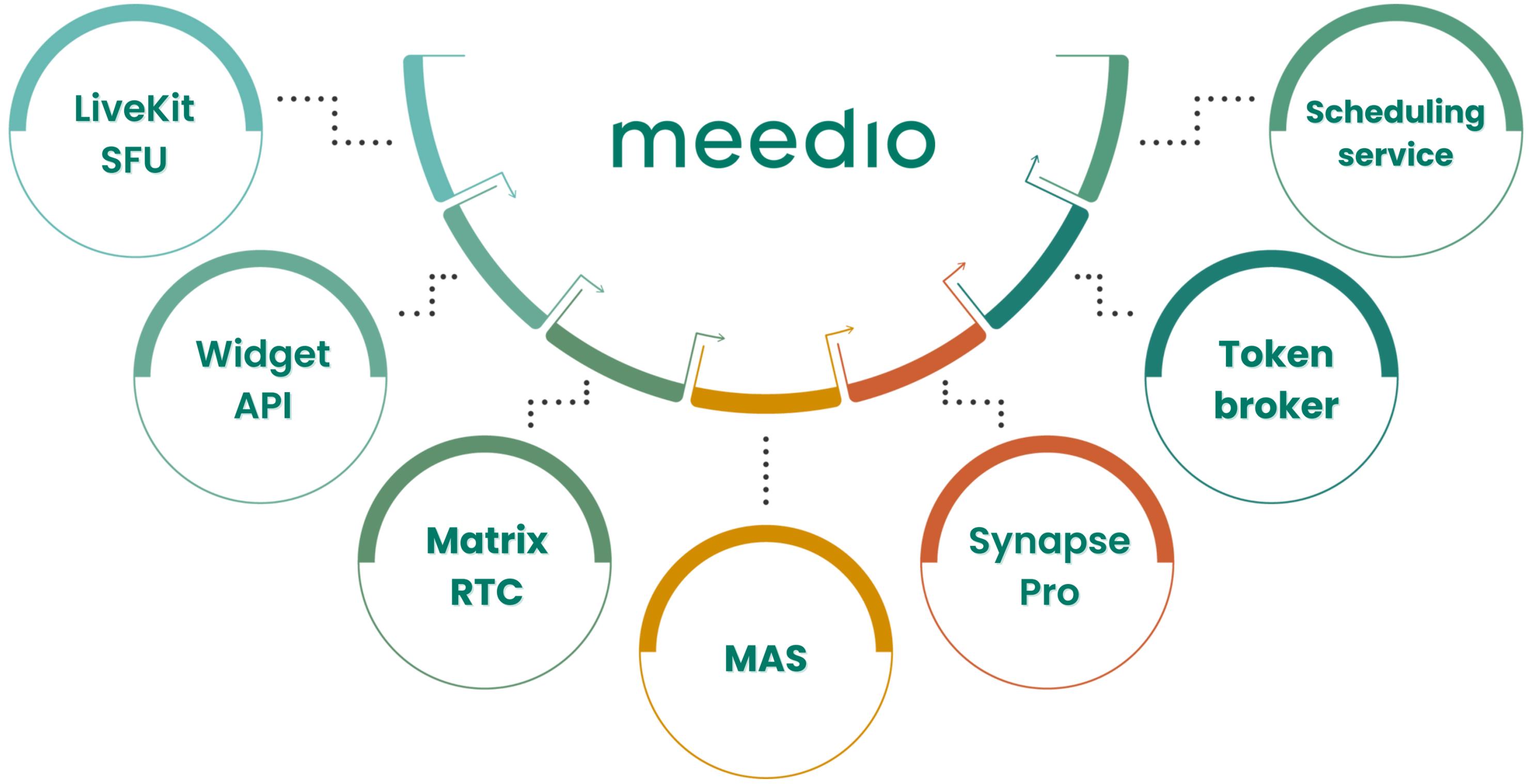


VS



Architecture overview

Meedio components infrastructure



MSC's used

Big features are based on MCS's

MSC2762



Widget capabilities

Matrix Widget API to allow other Matrix clients to integrate with Meedio

MSC1772



Matrix spaces

Breakout rooms, workspaces, chats, rooms management

MSC2403



Knock

Waiting and scheduled rooms

MSC1960



OpenID connect

Widget communication, JWT token broker,

MSC4143
MSC4195



MatrixRTC

Real-time signalling for voice and video inside Matrix rooms

MSC4246



To-device messages

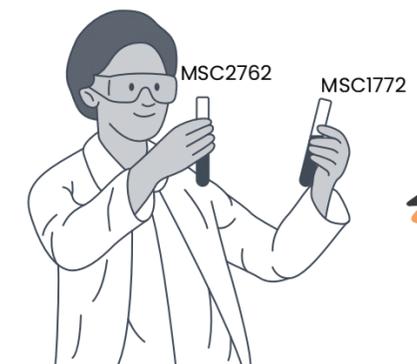
Encryption key exchange, private (direct) messages

MSC4140



Delayed events

Breakout rooms, to handle rooms assignments



**MEEDIO, WHEN USING EXPERIMENTAL
MSC'S AND THERE ARE BUGS**



KBV-Certified Consultations



KBV-Certified consultations

When Signal is not enough

2021



SIGNAL
For custom P2P solution,
used AES-CBC

2025



CUSTOM
Custom AES-256-GCM
encryption layer

2026

[matrix]

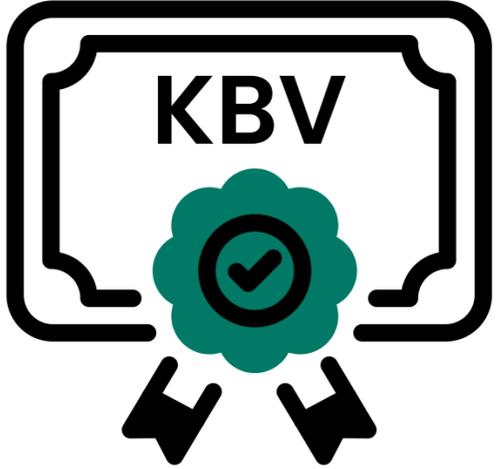
MATRIX
Matrix megolm & olm
for consultations



Real compliance is about documentation + reproducibility,
not extra encryption layers.

KBV-Certified consultations

When Signal is not enough



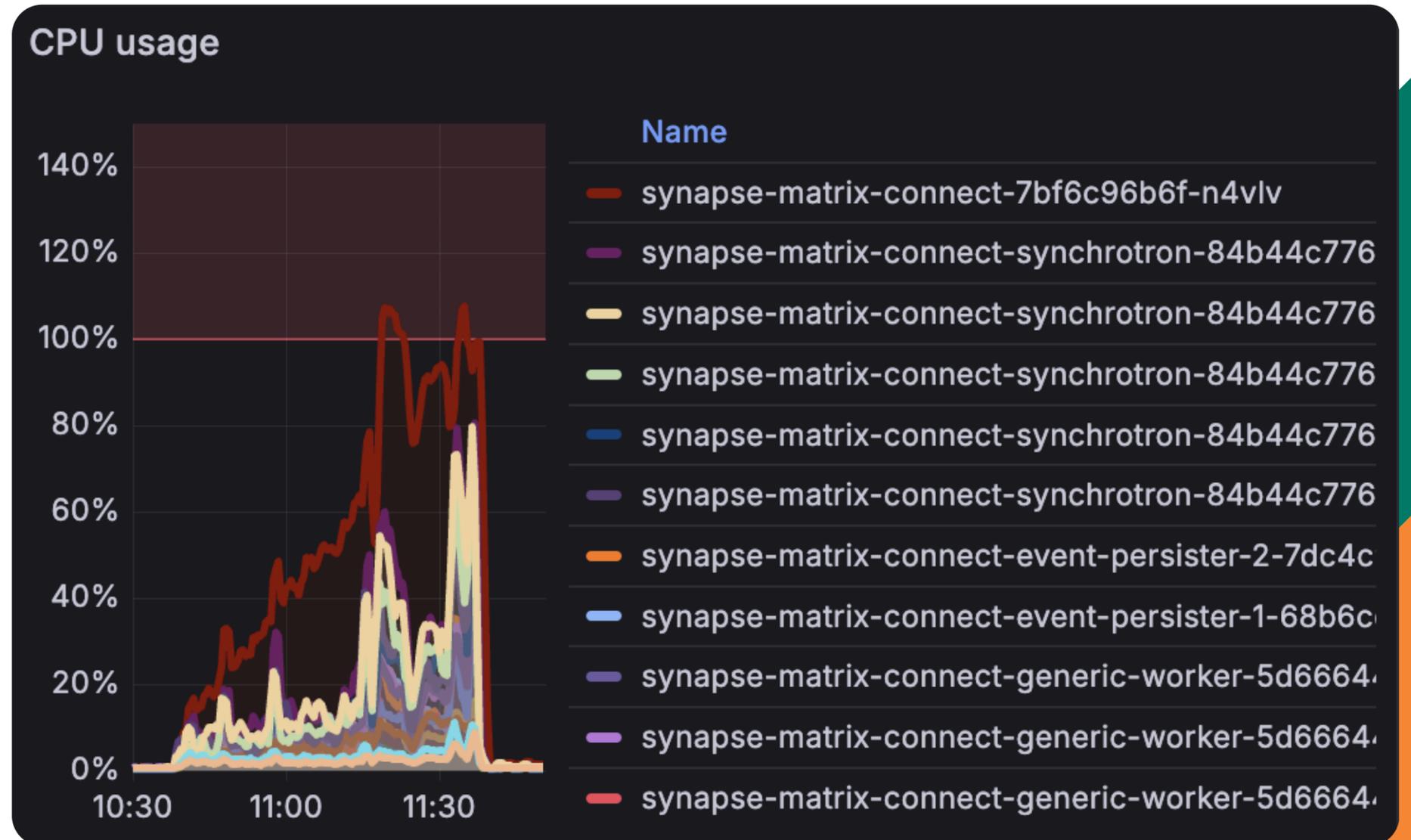
Scaling federation and predictability



Scaling federation and predictability

Vanilla Synapse

Assumptions	Value
Users per meeting	6
Percent sending audio	60%
Percent sending video	100%
Message actions (per user/min)	15min
Authenticated user share	60%
Guest user share	40%
Meeting length +/-5mins	45 minutes
Raise hand	30%



Scaling federation and predictability

Desperation phase

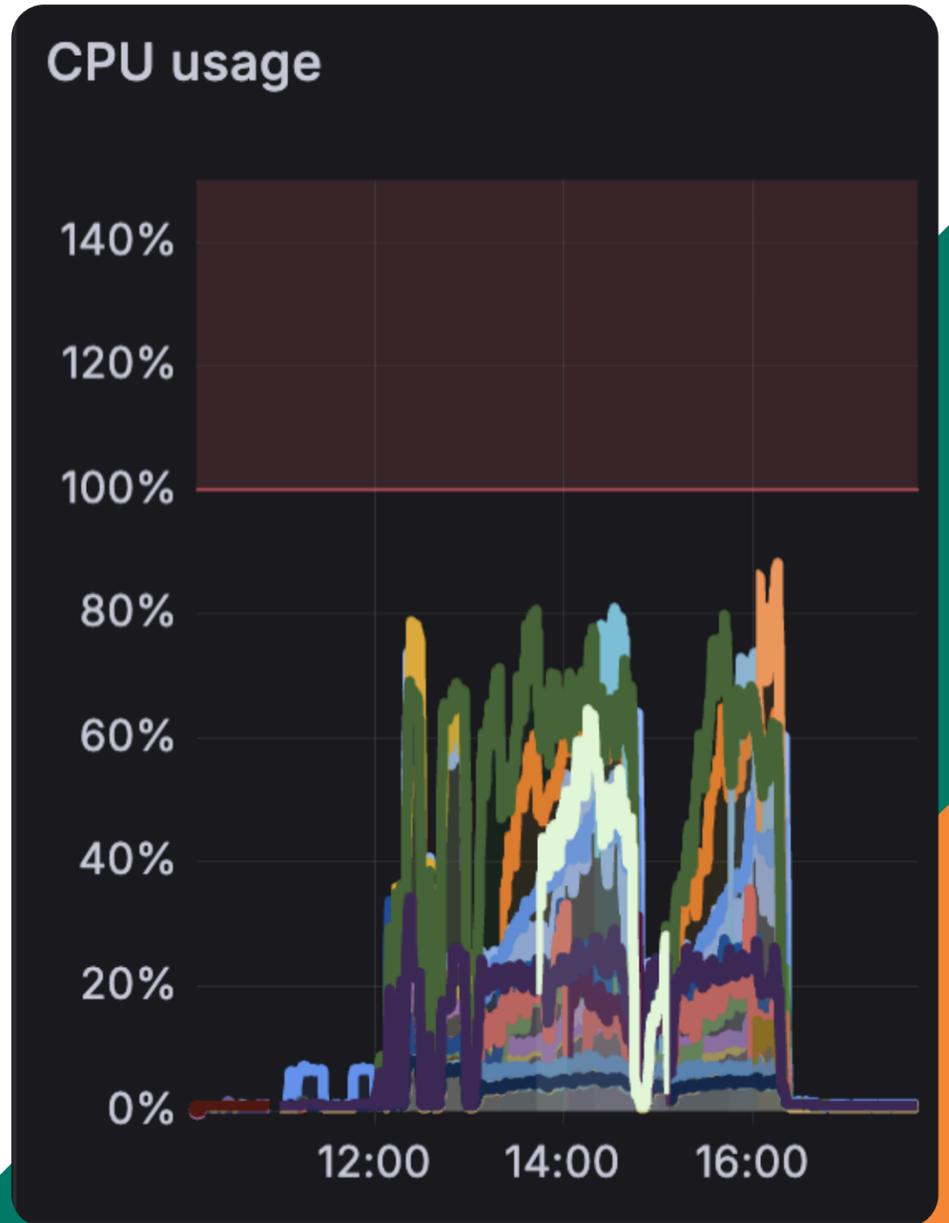
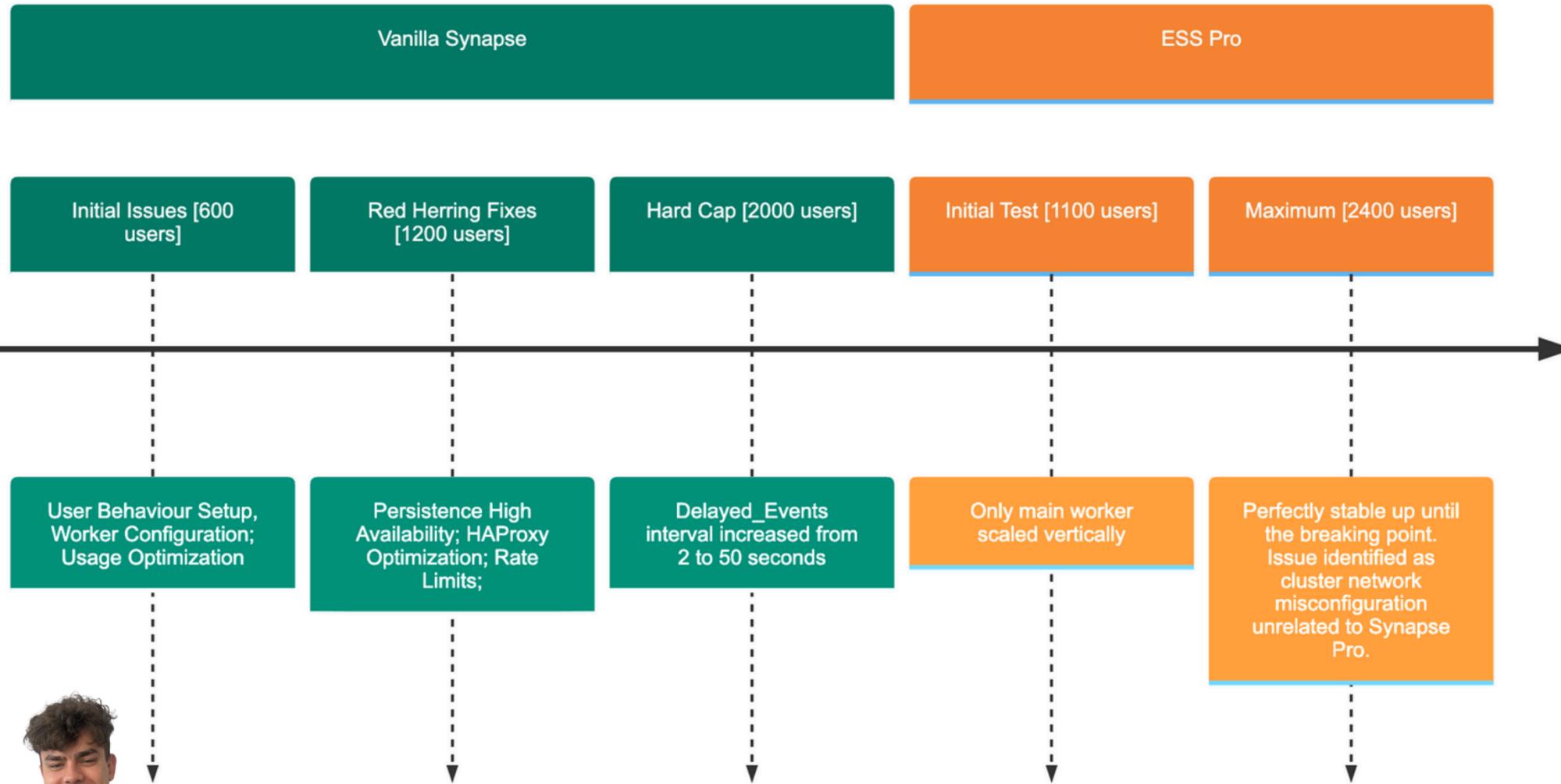


Server	Maturity	Feature Parity	Community Support
Dendrite	Beta	High (100% S2S; ~93% C2S)	Large & active
Conduit	Beta	Medium (most endpoints; some C2S gaps)	Modest
Continuuity	Beta	Medium (inherits Conduit + new features)	Growing
Construct	Beta	Medium (core spec; optional modules maturing)	Moderate
Telodendria	Alpha	Low (basic Matrix spec support only)	Small & early

Scaling federation and predictability

Vanilla Synapse to ESS Pro

Timeline of Synapse Load Tests



Scaling federation and predictability

Synapse Pro (ESS Pro)

Aspect	Vanilla Synapse	ESS Pro
Deployability	Manual Configuration; Not Adaptive to worker replicas; No Live Updates	Automatic HAProxy and service configuration; Live Updates
Scalability	No vertical scaling beyond 1.1 vCPU per worker; Main worker bottleneck; Scaling needs redeployment;	Both vertical scaling and horizontal scaling; Main worker vertically scalable; Automatic worker scaling based on load;
Efficiency	Single Threaded Python Application. ~ 1200 Hz events at 2000 users	Multi-threaded rust based. ~ 300 Hz events at 2000 users
Performance	Event Response ~ 500ms at low load and creeps to 1-3 s under high load	Event Response Time ~ 350 ms until breaking point

MEEDIO.EU

DEMO





Let's imagine a Europe that runs on Matrix.
A Europe where interoperability builds alliances, not competition.
Where governments and companies alike take responsibility for our digital sovereignty.
Where buyers and builders stand together to create a strong, independent software industry.
The future for a sovereign Europe is Matrix.

Commercialising Matrix

meedio.eu, meedio.me, pro.meedio.eu

