

MATS GoTo Session #6



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EPEX SPOT Webinar
29 April 2025



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Agenda

- 01** Welcome & Introduction
- 02** MATS Authentication (1FA & 2FA)
- 03** Changes with Keycloak
- 04** Documentation Overview
- 05** API Conformance Testing
- 06** Push cosmetic changes & enhancements
- 07** Q&A Session

Your panelists



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API CS Specialist

Also,
Luisa NEUBERT, Senior Sales & Customer Event Coordinator
Elena BOSISIO, Sales & Customer Event Coordinator

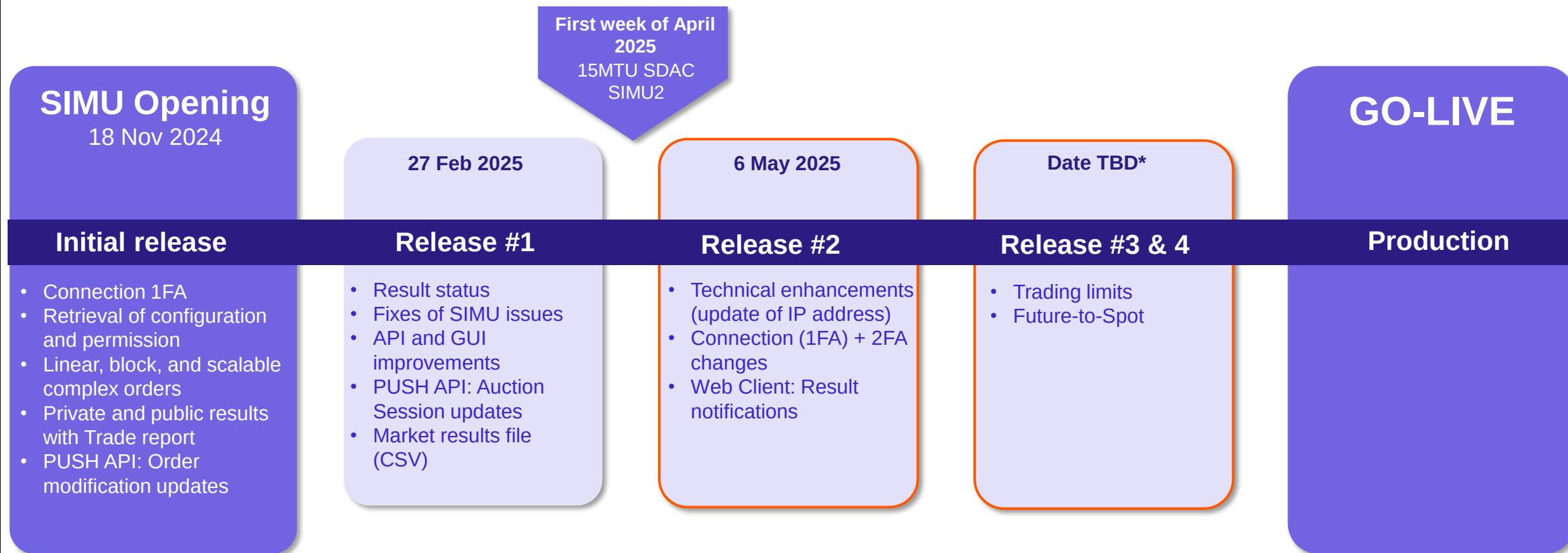
Welcome & Introduction

01



MATS Roadmap

The road towards delivery of MATS Go-live (subject to successful testing)



 Future releases

MATS Authentication (1FA & 2FA)

02



2FA – Two-Factor Authentication - Client certificates principles

Mandatory need to use a “Client Certificate” as a second authentication factor



- 1st Factor = user / password
- 2nd Factor = certificate / certif pwd

Mandatory for both API and Non-API User (web client users) accounts



- You can re-use your existing valid ETS API Certificate,
- Disclaimer: We are still currently finalizing some security/regulation aspects to provide a definitive guidance on this aspect for SVPX exchanges
- Or ask for a new MATS certificate
- Note: If your ETS API certificate is about to expire; Market Ops will contact you (SIMU, then PROD)

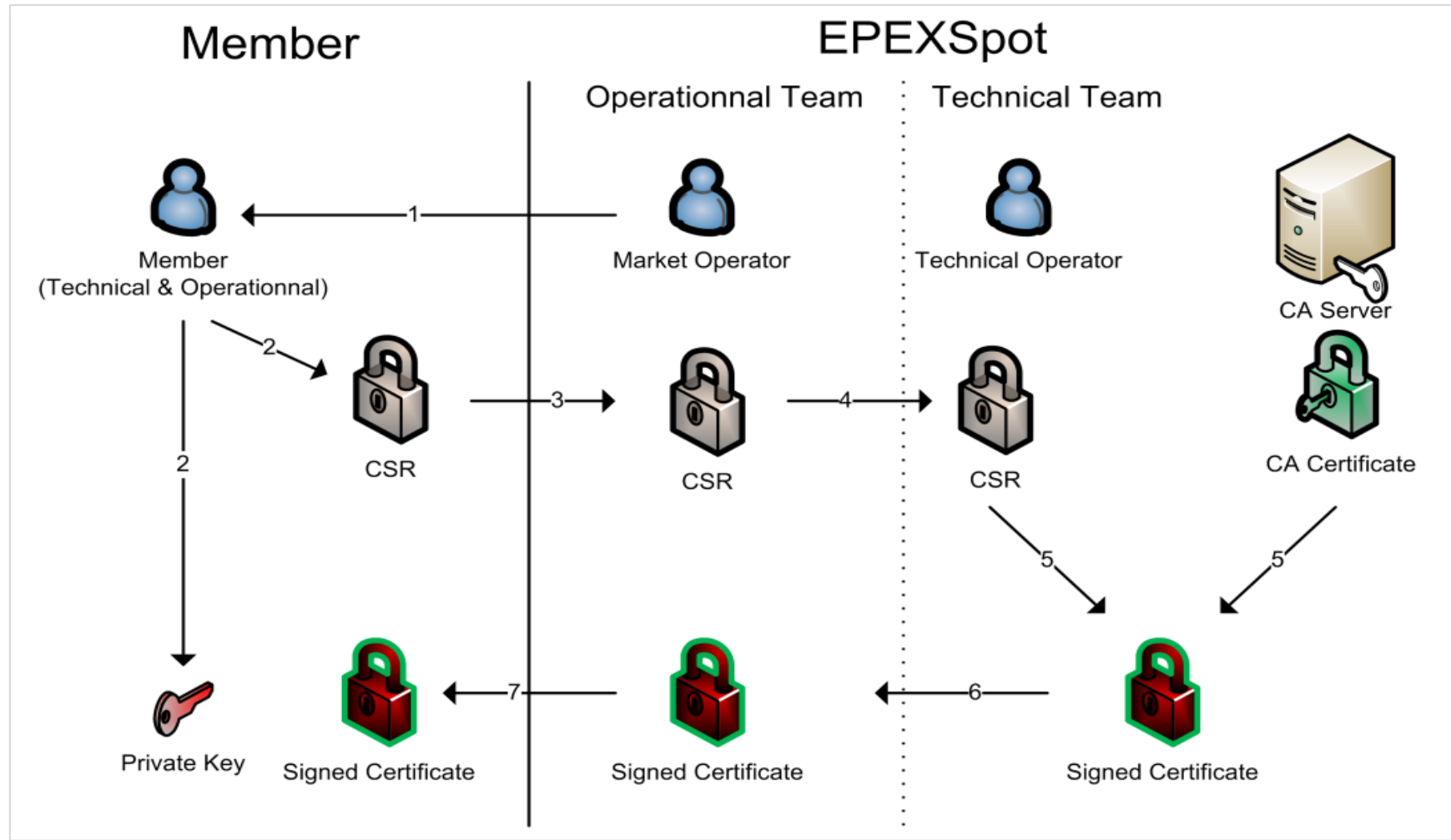
Client certificate issued per Client (per Company)
(1 certificate for all users & apps belonging to the same company)

Not mandatory to separate Client certificate per API app

Certificate validity: 2 years

MATS Client certificate request process (same as with ETS API)

Applicable for all customers who need a new certificate for MATS

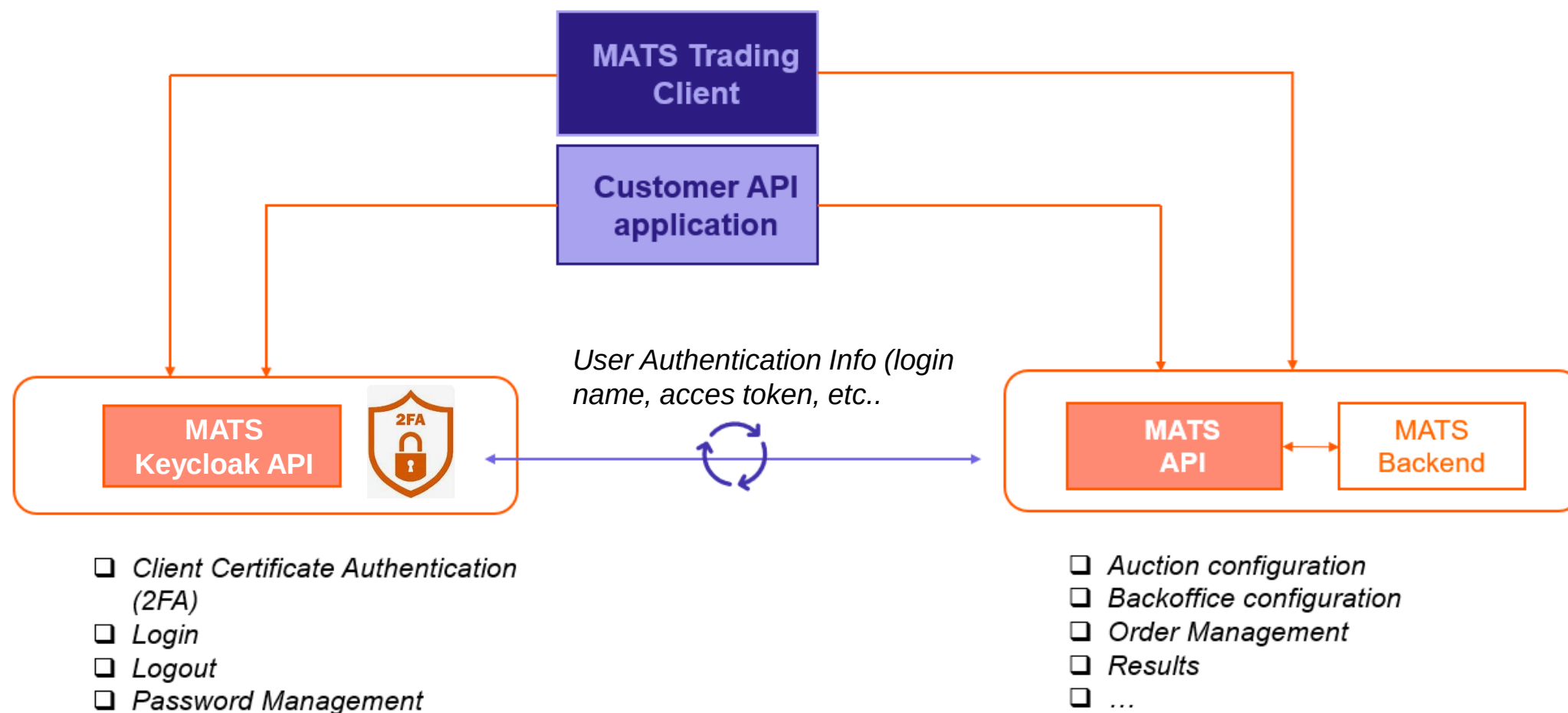


Changes with Keycloak

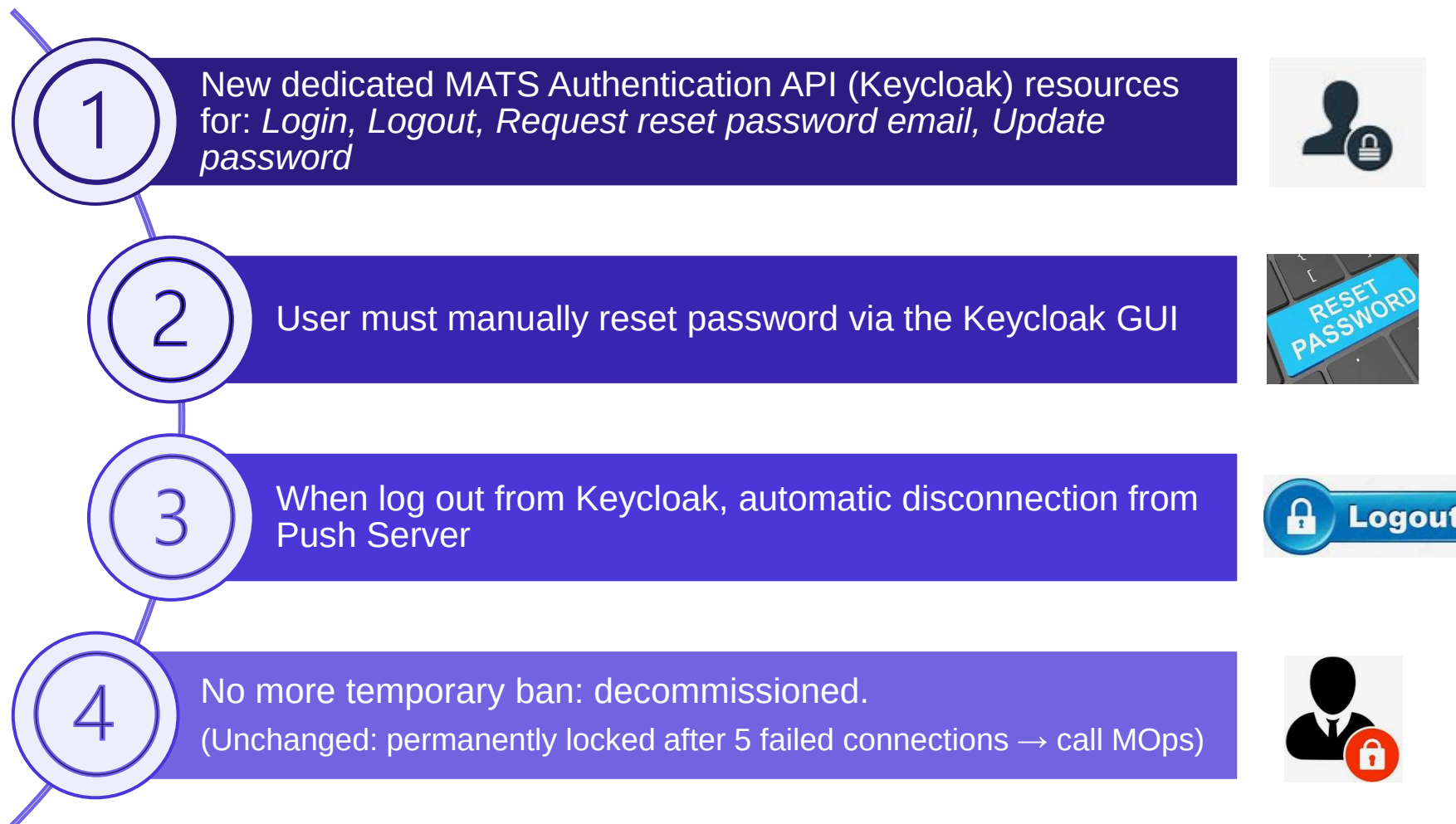
03



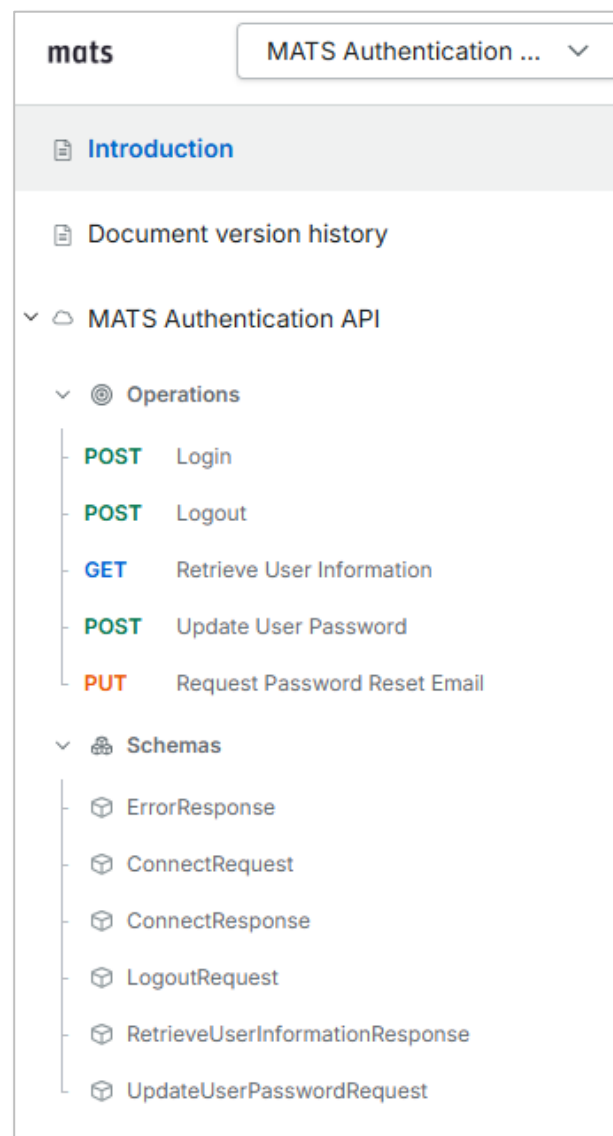
MATS Architecture



Changes Overview: with Keycloak introduction



MATS Authentication API Portal Demo (Swagger)



Introduction

Welcome to the MATS Authentication API documentation!

MATS (Multiple Auction Trading System) offers user authentication and password management via one of the known **Identity Access Manager Solution: Keycloak**.

The MATS Authentication API based on **RESTful API** allows customers to perform user authentication activities such as login, password management and logout.

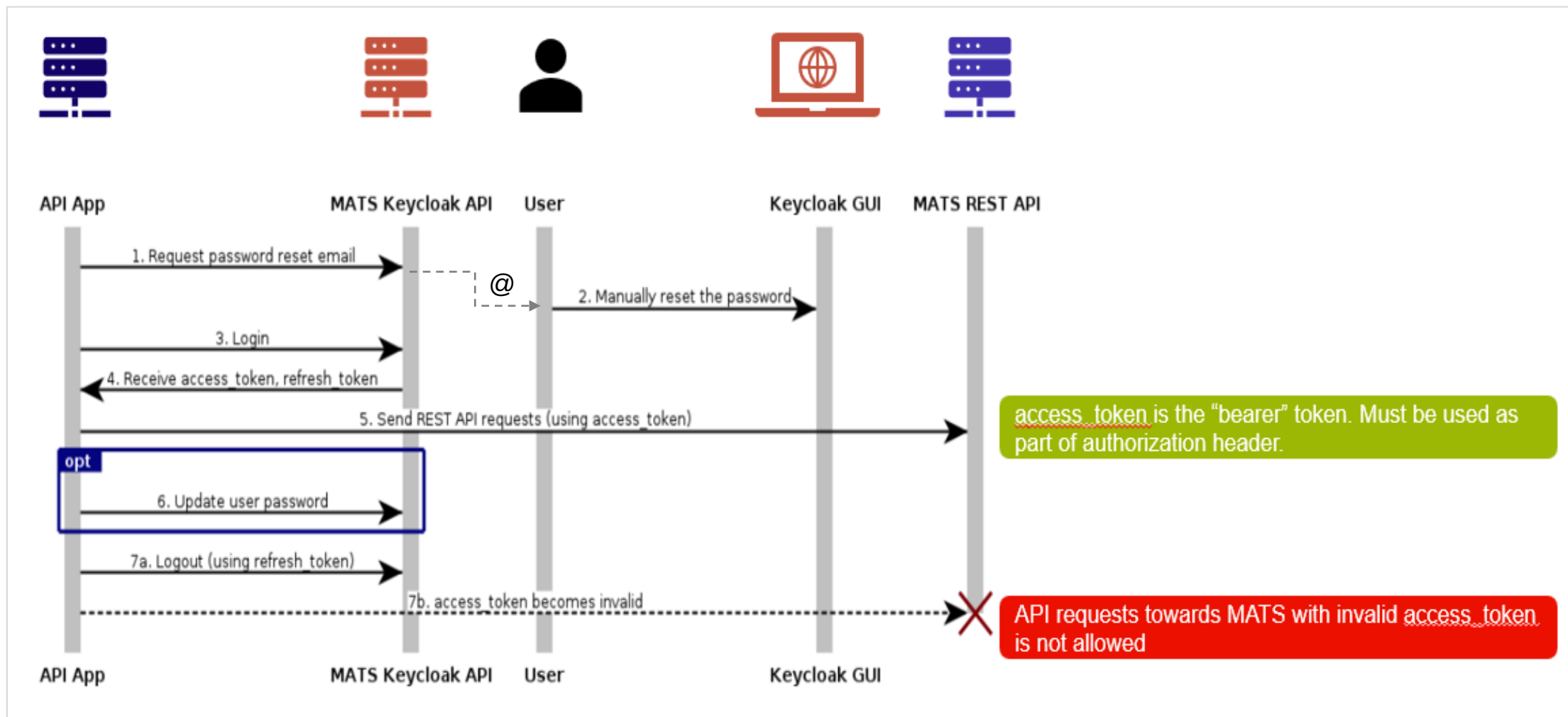
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MATS sequence of actions



Customers using Push:

- 7a. Logout (using refresh_token) will automatically disconnect the user session from Push server as well.

Attention point for the next deployment

New password reset phase (with Keycloak)

New password reset phase

- › As “Keycloak” is a new system and independent from MATS, current user’s password will not be automatically migrated.
- › On the day of Simulation deployment (with Keycloak changes), your current user password will no longer be active.
 - You will receive a new Password Reset Email for your already existing MATS user account(s)
- › This is applicable only for SIMU 1
- › SIMU 2 will remain unchanged



How will I know when to reset my password?

- › You will receive an email named:
 - “[MATS] - EPEX - Password Reset Request”
 - “[MATS] - HUPX - Password Reset Request”
 - etc.
- › And ...you just have to follow instructions!



Documentation Overview

04



Documentation & Supporting Material Overview

Support Material	MATS API Package v1.5 (29 April)	MATS API Package v1.6 (certificates)
MATS Portal (Swagger)	• MATS Authentication API • including dedicated YAML file	-
REST API Apps Design Guide	• MATS Auth API: 1FA and 2FA sections	• Certificates part • List of errors
Push Apps Design Guide	• Cosmetic changes • Enhancements	-
API Terms of Reference & Conformance Test Guide	New Guide (extension of the ToR section previously in REST API guide): • Requests policies (intervals)	• Link to the API app Information Form • Link to the API app Conf test registration Form
Certificates Guide	-	• Non-API and API users certificates guide
Sample Code (new Keycloak API)	-	Sample apps + code in: • Java • Python <i>Scope: reset pwd, 2FA log in, log out.</i>

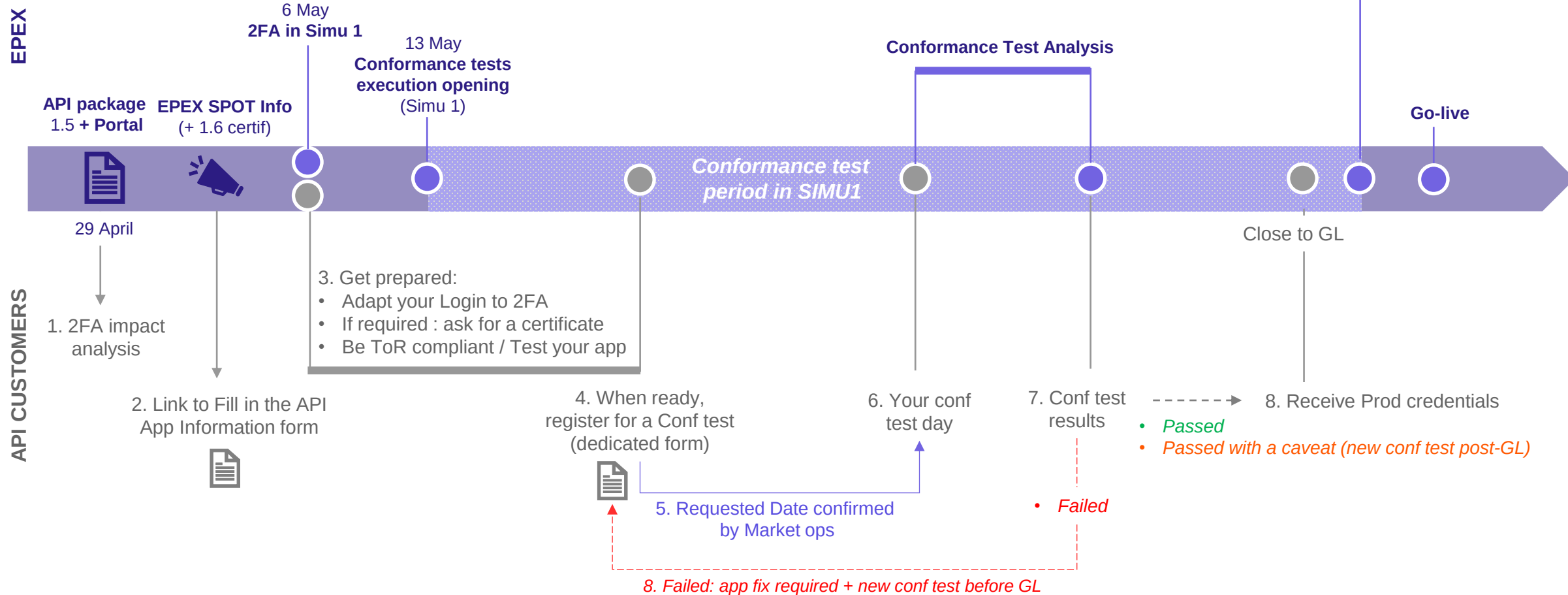
MATS API apps Conformance Test

05

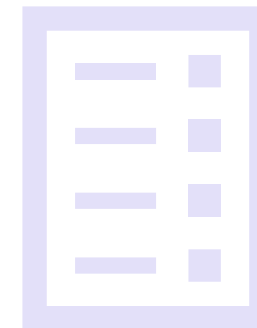


API apps Conformance Test: accompany you best towards Production

Since Mid-April: Simu Apps behavior monitoring, proactively contacting customers



API apps Conformance Test: accompany you best towards Production



When can I go through a conformance test?

- › Once I have fully tested my API app (ToR compliant),
- › You must be able to connect/log in with 2FA (Keycloak)
- › If you use an ISV: conf test only done by the ISV
 - If you have 1 ISV and 1 own app: conf test only for your own app

Protocol: what are the operational steps ?

- › Steps:
 - Log in with 2FA (when your target auction order book is open)
 - App starts: loops and sends requests according to ToR defined intervals
 - Place orders with your app or via another client
 - Get results once published
 - Log out / close: behave like in production
- › Only steps corresponding to your app scope are mandatory
 - E.g. if your app does not retrieve market results or does not enable to place any order : skip that part
- › Please consult our Terms of Reference for more details

Do I need to go through one conf test per exchange?

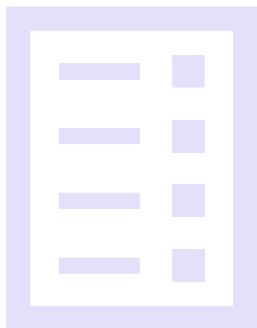
- › No, only for 1 exchange
 - If Epex + another exchange → Epex conf test

On which environment will conf tests take place?

- › SIMU1 (2FA login/connect with certificate required)

API app Information Form

To be filled in once per application



MATS API - Request for API application & Client Information Details (per app)

As of May 2025

Dear API Members and Market Data API Clients,
We kindly request you to fill in the form to help us know the API app and client details required to support you during your implementation and testing phases.
Thank you!

API Client Information

1. Select the exchange in which your company has membership
*If there are more than one exchanges, then please submit registration per exchange. **

- ☐ EPEX
- ☐ SEMOPX
- ☐ HUPX
- ☐ SEEPEX
- ☐ BSP

4. Do you use MATS API as: *

- ☐ Trading Member
- ☐ Data Vendor/Non Market Participant
- ☐ ISV (Independent Software Provider)

10. Is the API App READ Only or READ/WRITE? *

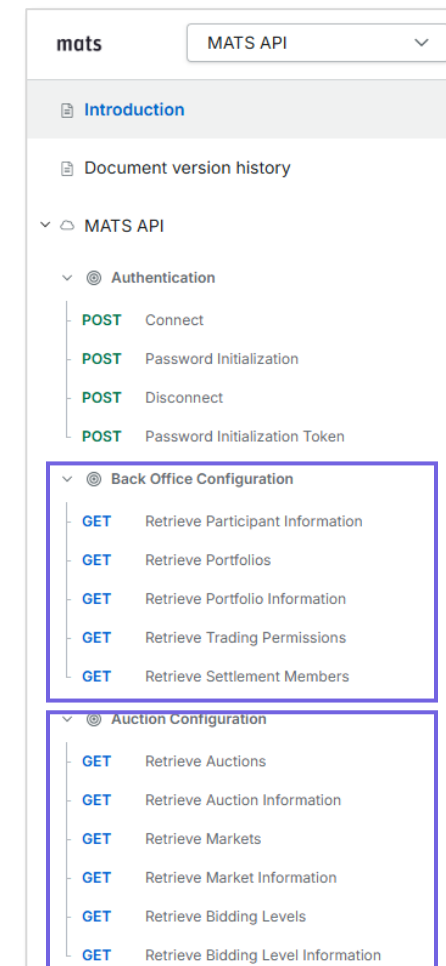
- ☐ READ only API app
- ☐ READ/WRITE API app

Minimum Interval between 2 identical periodic automated requests

Request Types	GET Request category (*)	Minimum interval to respect between 2 auto/periodic requests
GET	Back Office Configuration	60 seconds
	Auction Configuration	
	FX Rates	
	Auction session	30 seconds (Auction session & orders: use the push to get real time info)
	Orders	
	Logs	
	Public Market Results Private Results Reports	• No periodic loops on results requests. • The loop must be done at auction sessions level, and results requests sent only when detecting a <i>result status</i> change for a specific Auction Session. (e.g. <i>UNAVAILABLE</i> → <i>PRELIMINARY</i>)
POST	Authentication: Connect, Disconnect	N/A (see login/logout policy)
	Authentication: Password management	N/A
POST / DELETE	Orders	N/A

- Ad hoc/on demand requests are always allowed (e.g. GUI triggered)
- In case an app must restart (e.g. due to a disconnection or any recovery reason), it may happen that the intervals mentioned above are not respected. This will NOT be considered a ToR breach, as it occurs occasionally and is not regarded as a repetitive pattern.

(*) Swagger: requests categories

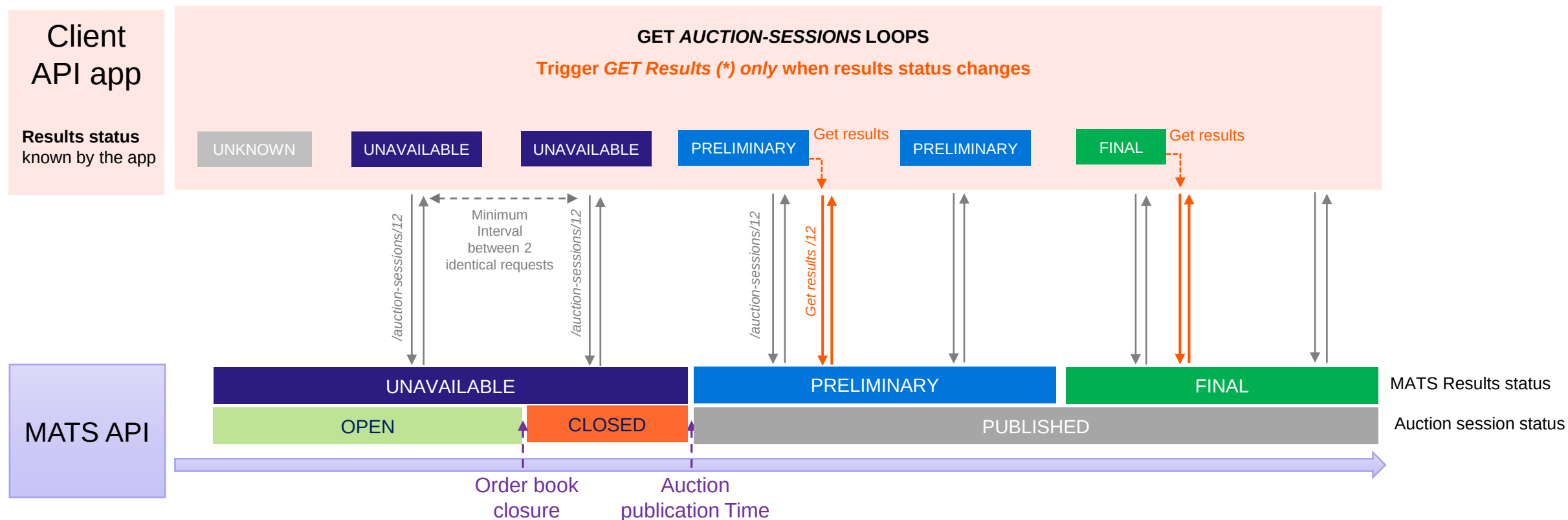


GET Auction session loops: link with results/reports requests

Only retrieve results when it makes sense

(*) Get Results examples: (auction session id = 12)

- /auction-sessions/12/market-results
- /auction-sessions/12/linear-order-results
- /auction-sessions/12/trade-results



Push cosmetic
changes &
enhancements

06



Push Cosmetic Changes & Enhancement

Event Category	Event Name (Old)	Event Name (New)	Push client	
			Emit	Listen
Subscribe	subscribe Orders	subscribe_ orders	Yes	-
Listening	orders	orders	-	Yes
Unsubscribe	unsubscribe Orders	unsubscribe_ orders	Yes	-
Subscribe	subscribe AuctionSession	subscribe_ auction_sessions	Yes	-
Listening	auction Session	auction_ sessions	-	Yes
Unsubscribe	unsubscribe AuctionSession	unsubscribe_ auction_sessions	Yes	-
Listening	-	disconnect_messages (new)	-	Yes

Push Enhancement : new notification + automatic push connection closure

- With 2FA introduction, Push *socket.io* connections are automatically closed when a user logs out or gets logged out from MATS.
- In order to share the disconnection reason, we introduce a new event name: **disconnect_messages**
- Push clients should listen to this to receive notifications when:

✓ *Token has expired*



```
{  
  "notificationId": null,  
  "notificationDateTime": "2025-04-25T08:37:01Z",  
  "disconnectionDateTime": "2025-04-25T08:37:16Z",  
  "disconnectReason": "EXPIRED_TOKEN"  
}
```

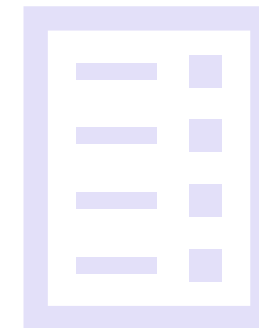
✓ *User is kicked out from the MATS trading system*
✓ *User logged out (disconnected) himself from MATS trading system*



```
{  
  "notificationId": 52,  
  "notificationDateTime": "2025-04-25T08:37:01Z",  
  "disconnectionDateTime": "2025-04-25T08:37:16Z",  
  "disconnectReason": "LOG_OUT_FROM_TRADING_SYSTEM"  
}
```

Your material

MATS Overview and updates



MATS Toolkit



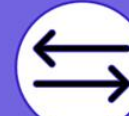
Get Started Checklist

Explanation of the package with useful links



MATS Fundamentals

MATS functional specification and sample files



MATS & ETS – Changes overview

Notable changes between MATS and ETS



MATS FAQ

Frequently asked questions from MATS community



MATS API package

Specifications and sample codes



MATS Portal



Web client Userguide

Comprehensive userguide of MATS web client



API Swagger

Comprehensive description of the structure of the API



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Q&A

07





part of eex group

» **epexspot**

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- mats-support-svpx@epexspot.com