

linphone

OAuth AUTHENTICATION AND IDENTITY VALIDATION IN SIP SYSTEMS

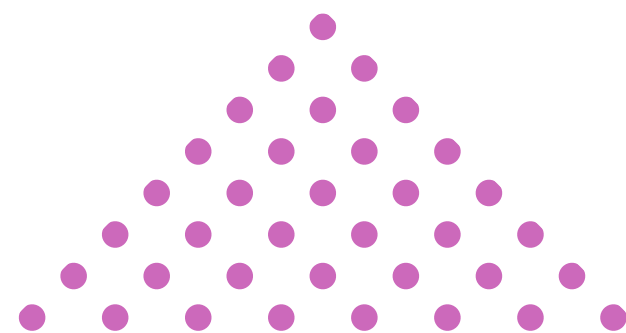
February 1st, 2025

SPEAKERS AT **FOSDEM**

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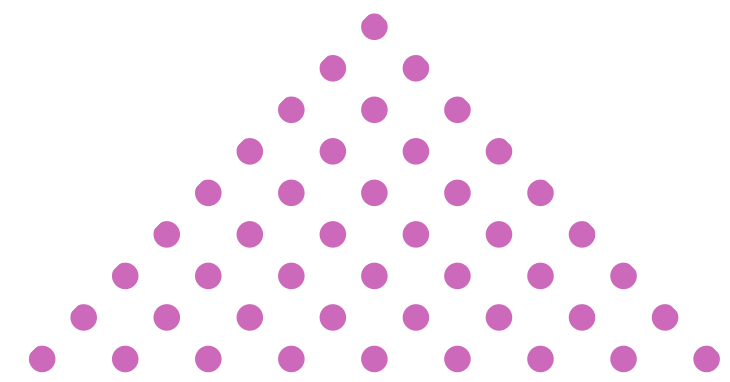


JEHAN MONNIER
Linphone team

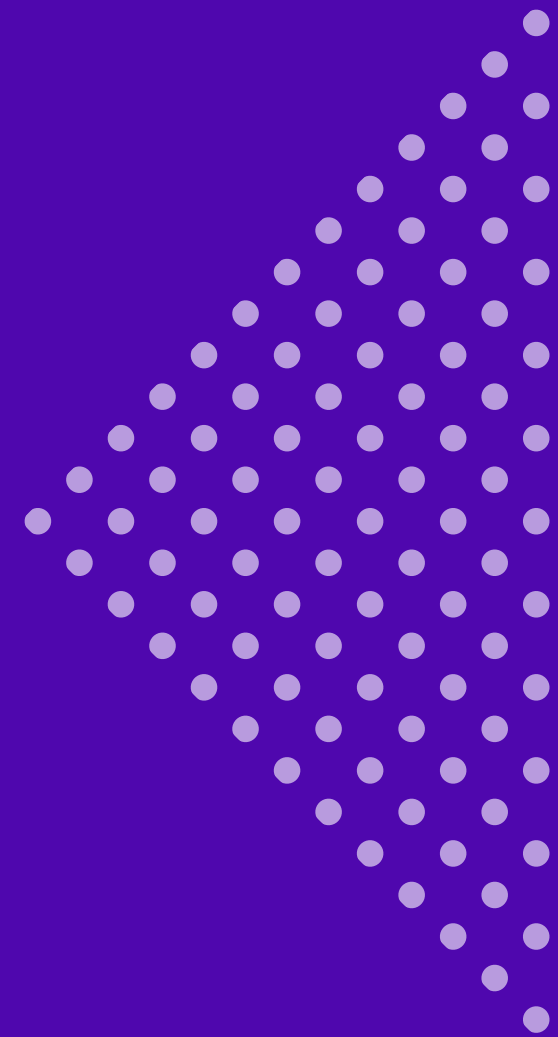


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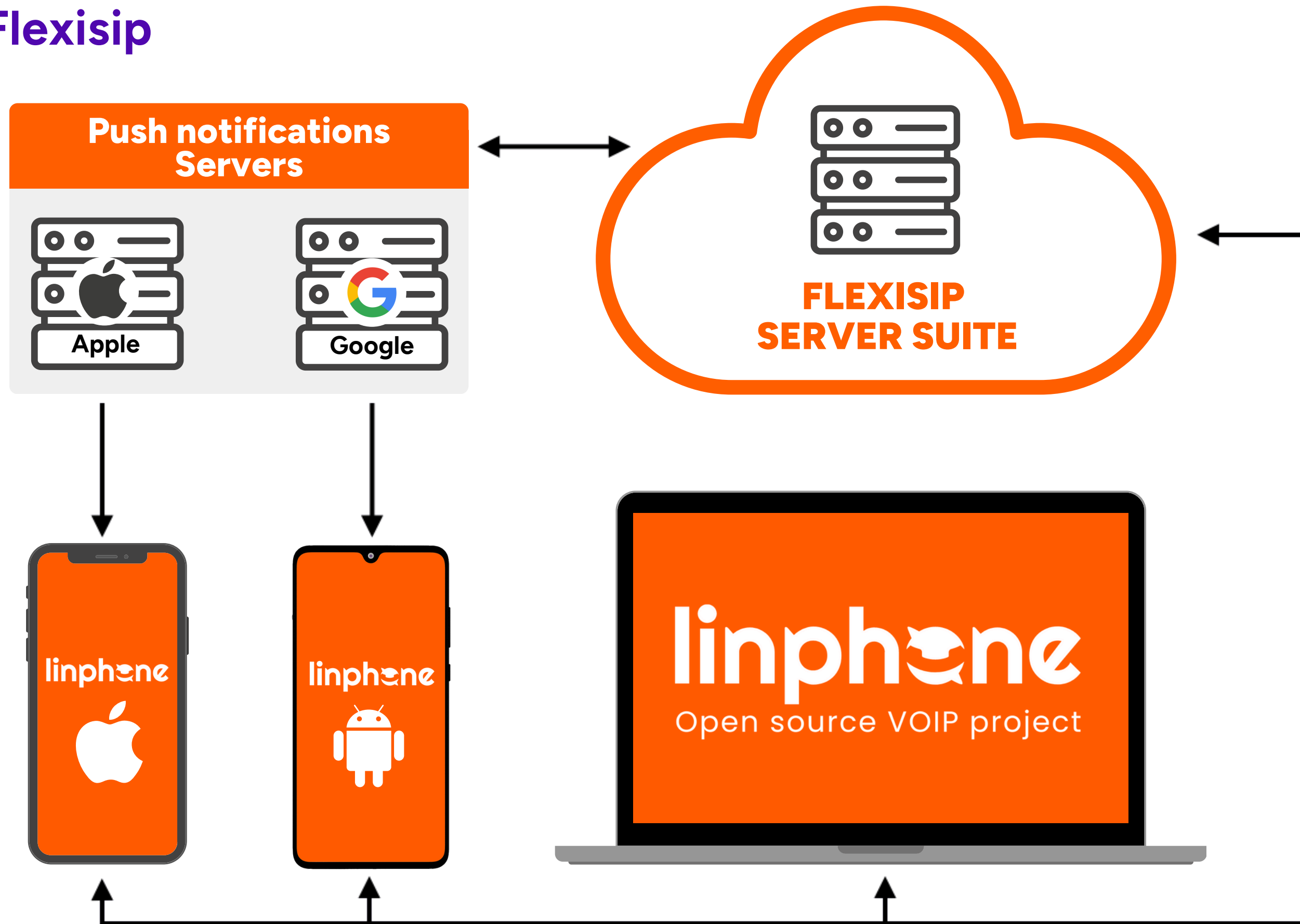
- 1** **Introduction:** What is authentication, and why is it important?
- 2** **History** and **evolution** of authentication solutions
- 3** **Specific case:** OAuth and JWT for VoIP
- 4** **Case studies:** Integration and practical demonstration
- 5** **Conclusion** and **questions**



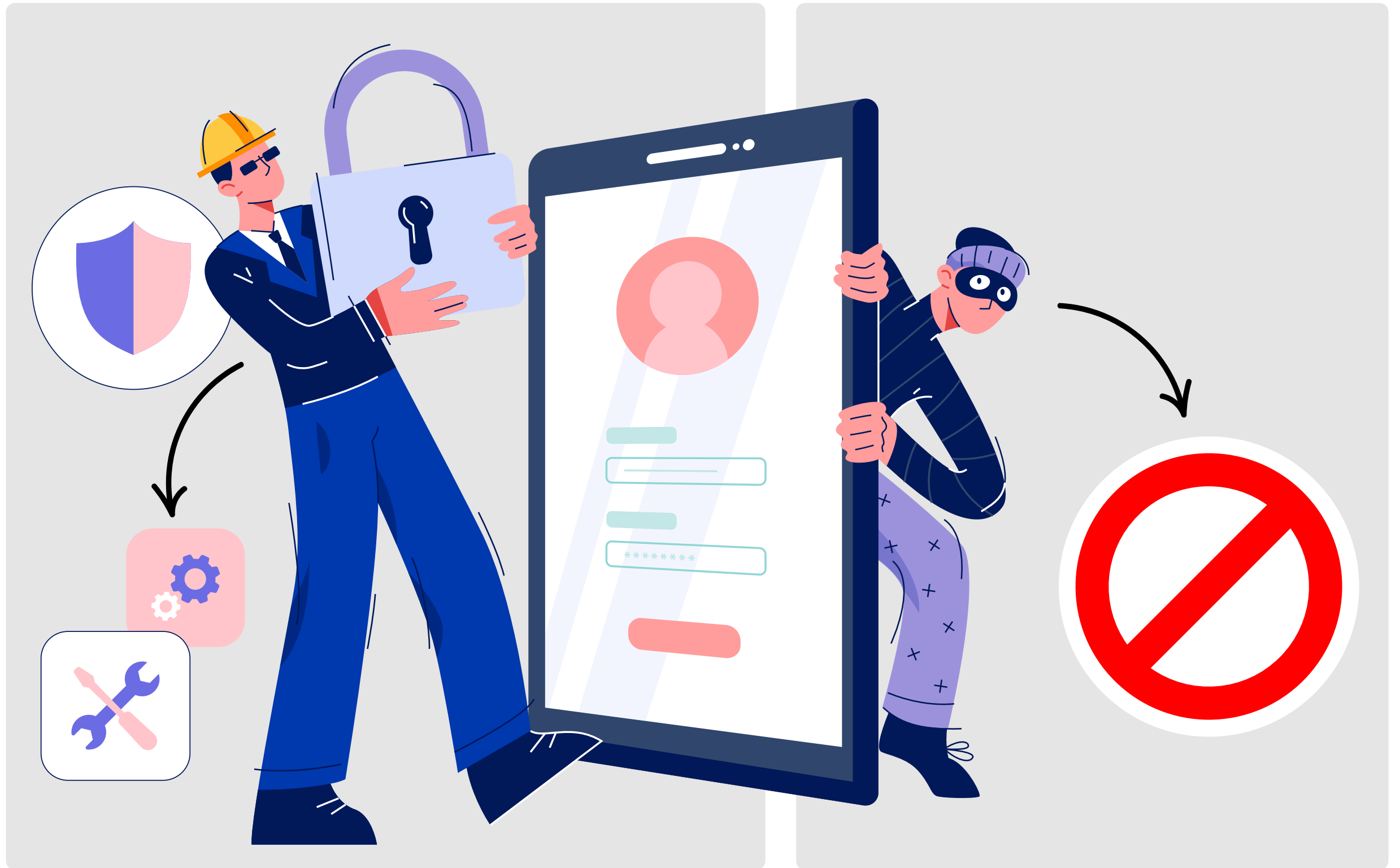
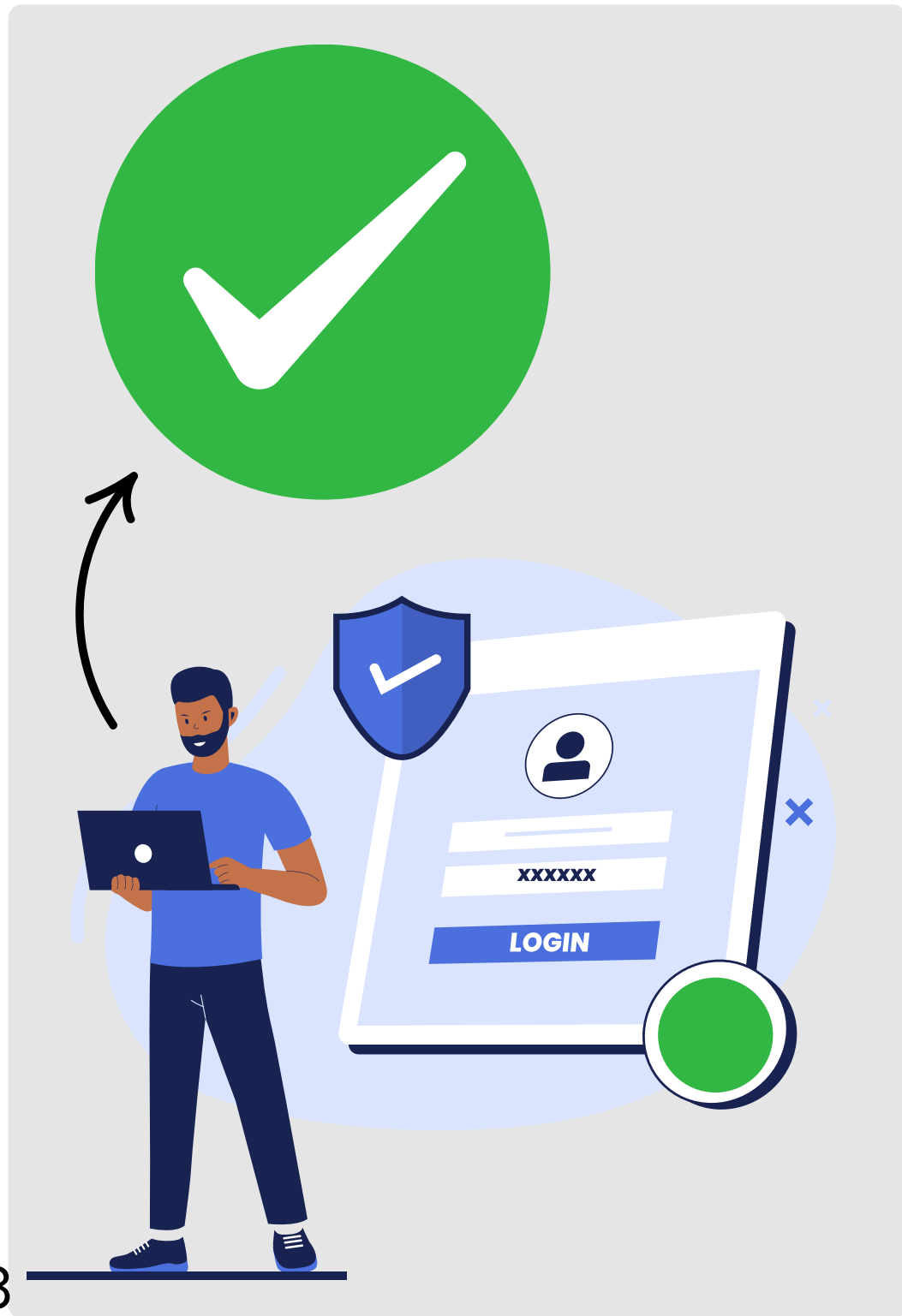
DISCOVER LINPHONE



Zoom on Flexisip

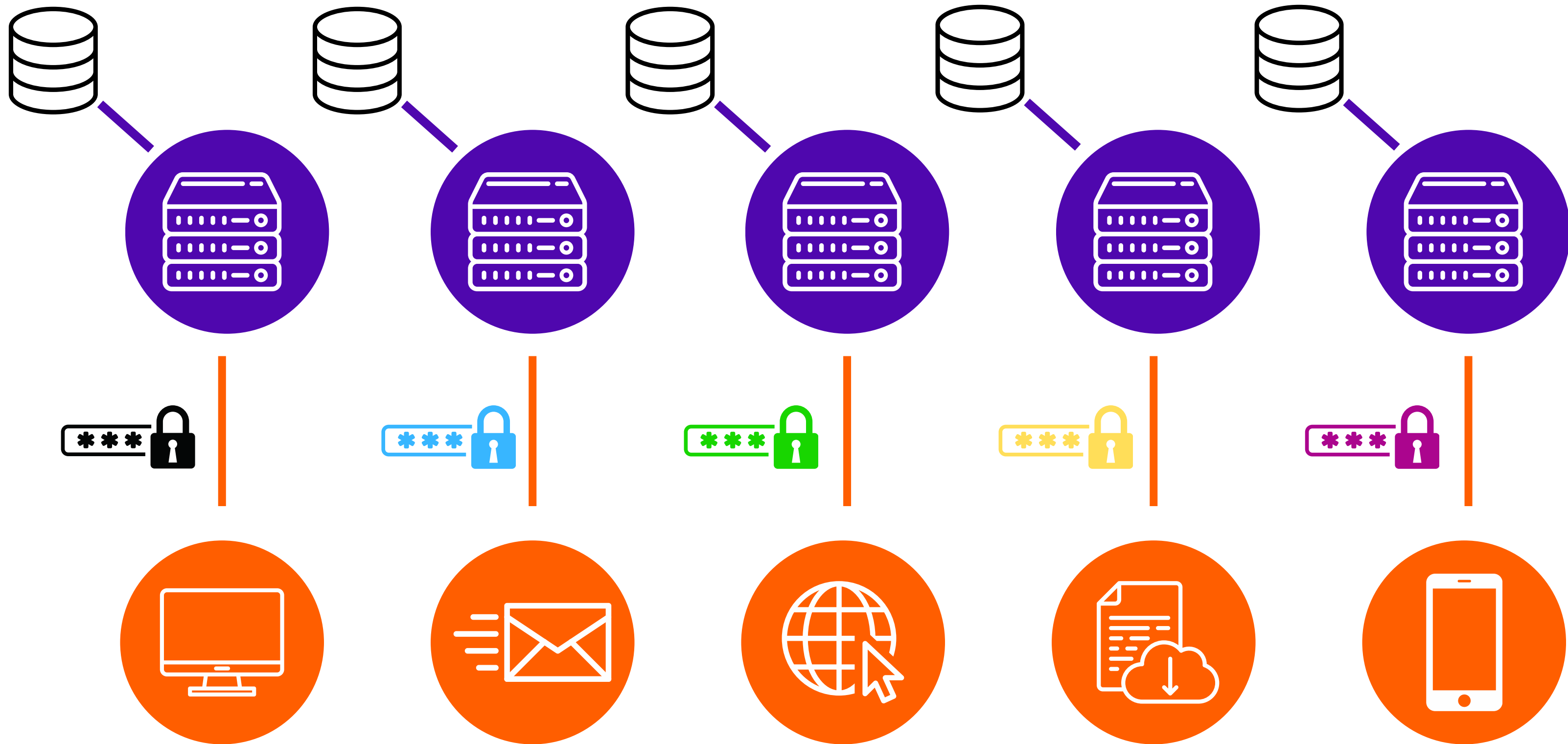


What is authentication?

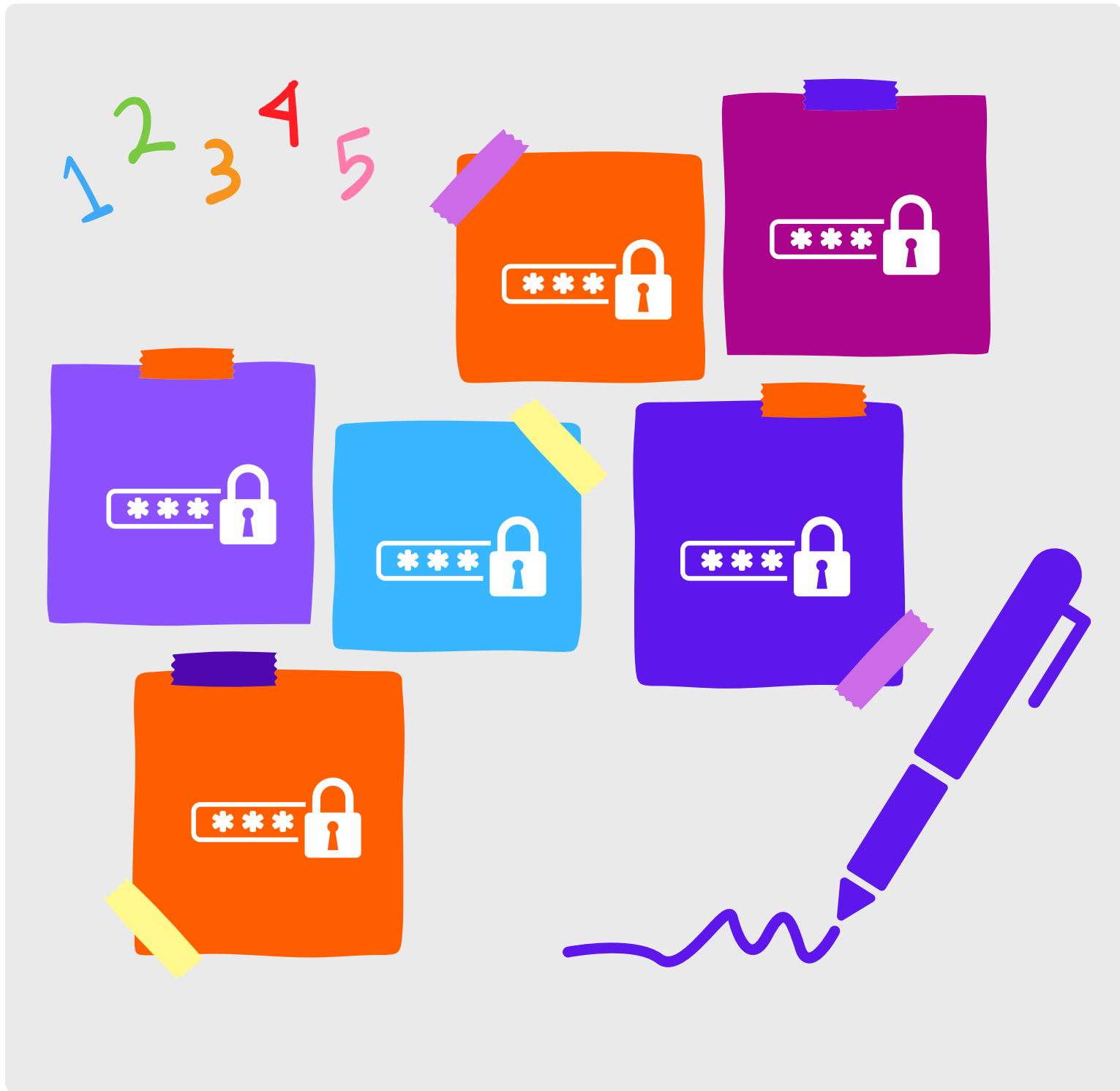


Authentication challenges

Diagram of the Compartmentalized Model



Why single sign on ?

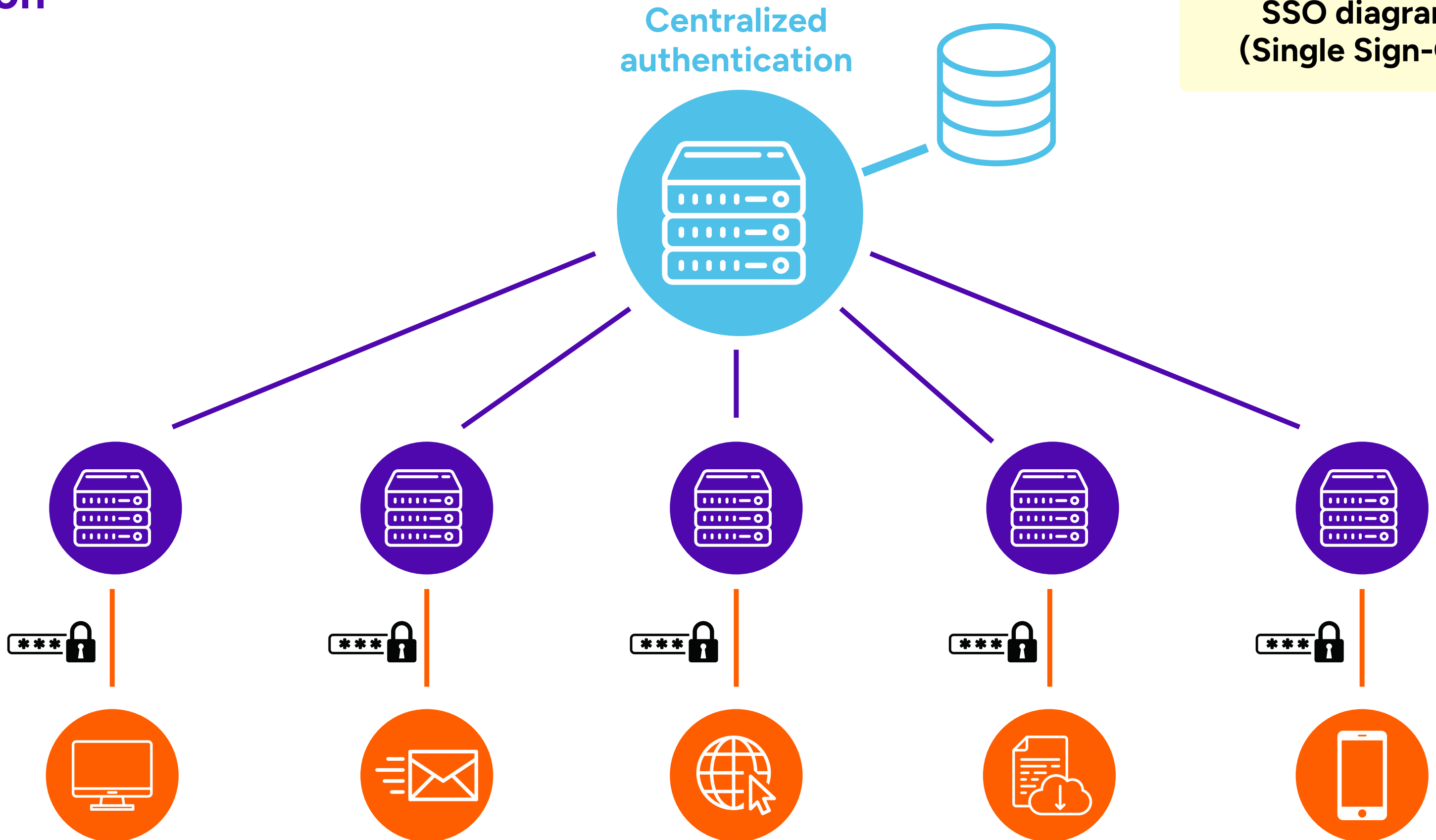


>>>
CENTRALIZED SOLUTION



Single sign on

SSO diagram (Single Sign-On)



Single sign-on to a page with one password to access all your applications



OAuth basics?

RFC 6749

<https://datatracker.ietf.org/doc/html/rfc6749>

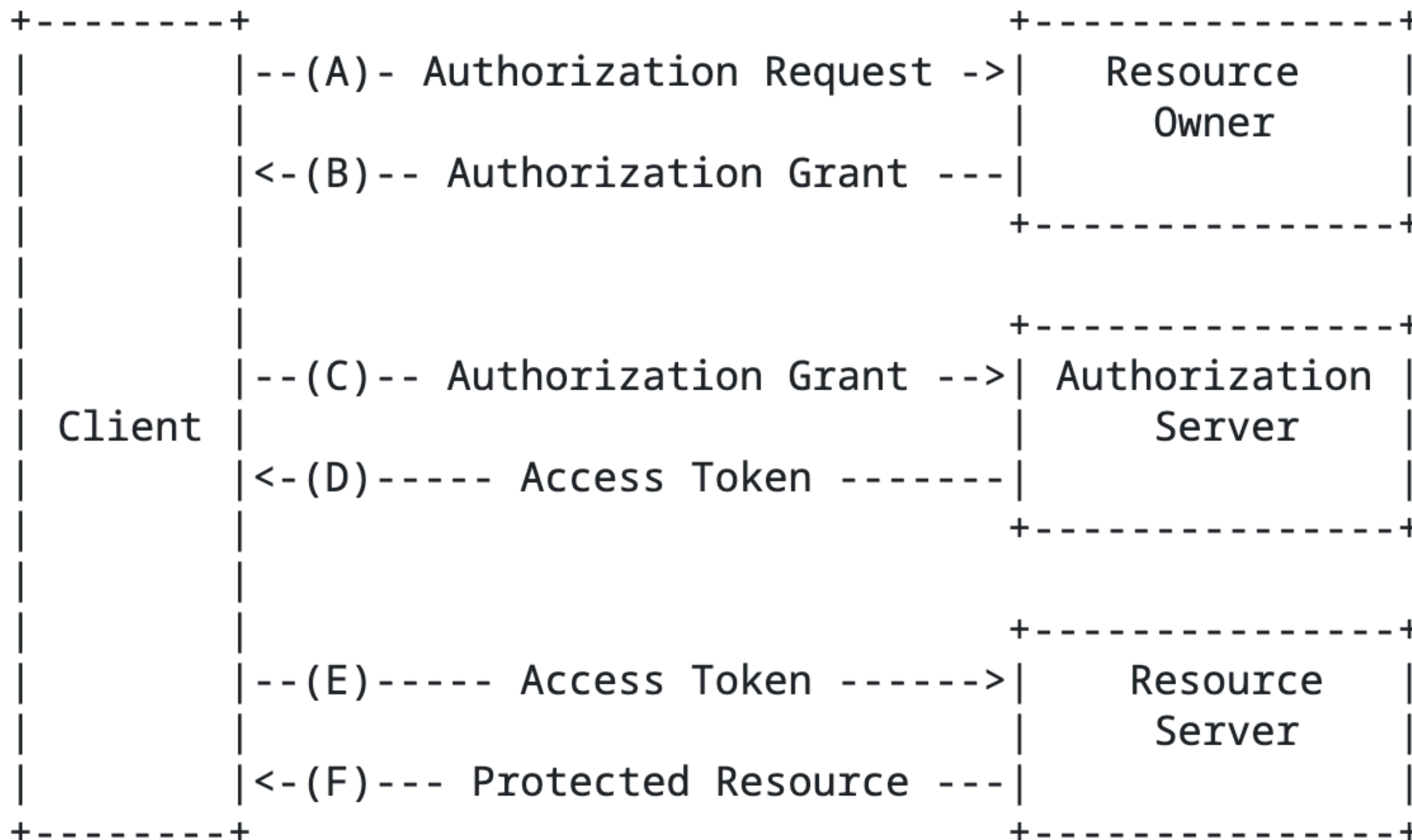
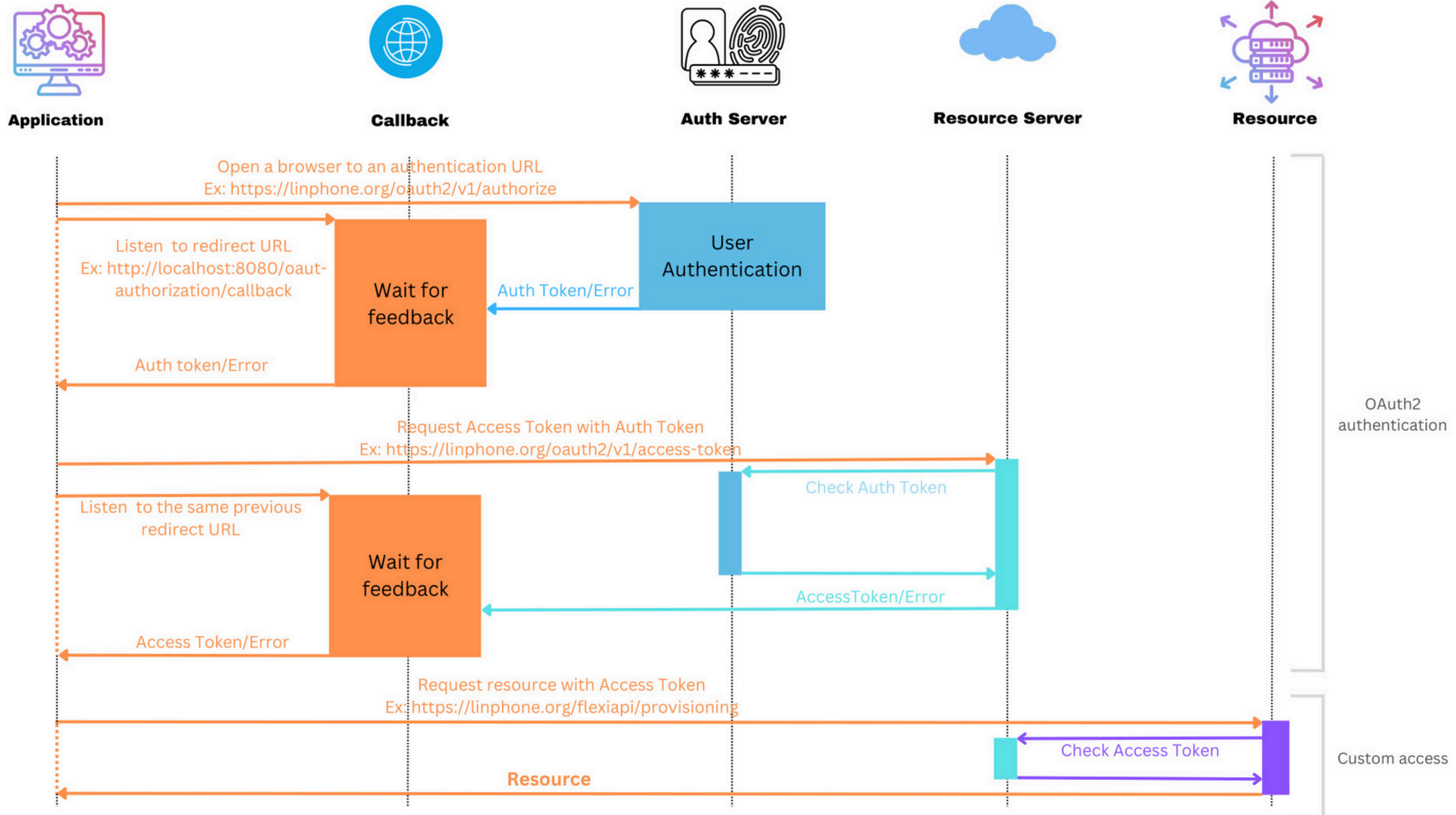


Figure 1: Abstract Protocol Flow

OAuth: http case



Example with Linphone

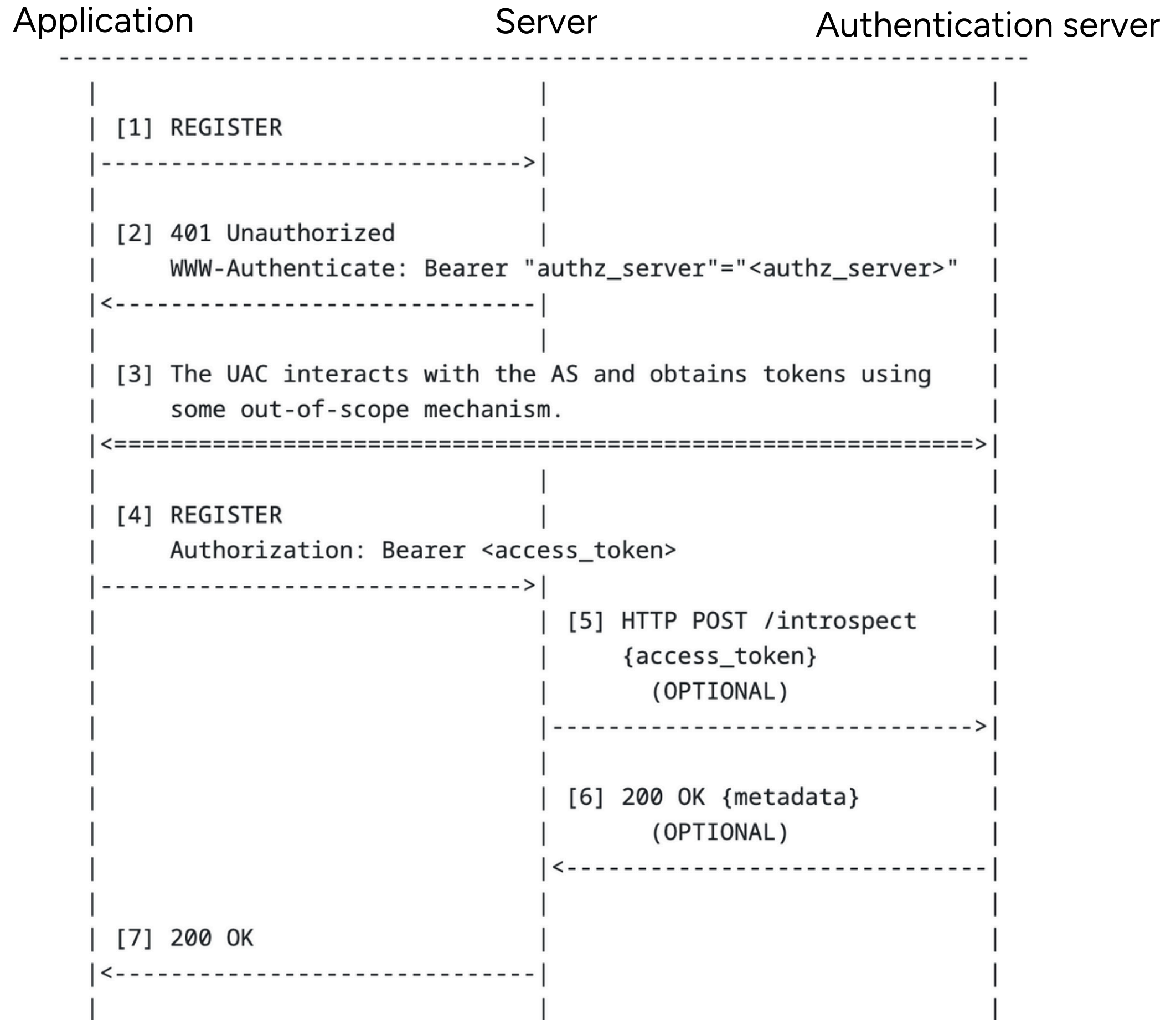
RFC 6749

How OAuth works?

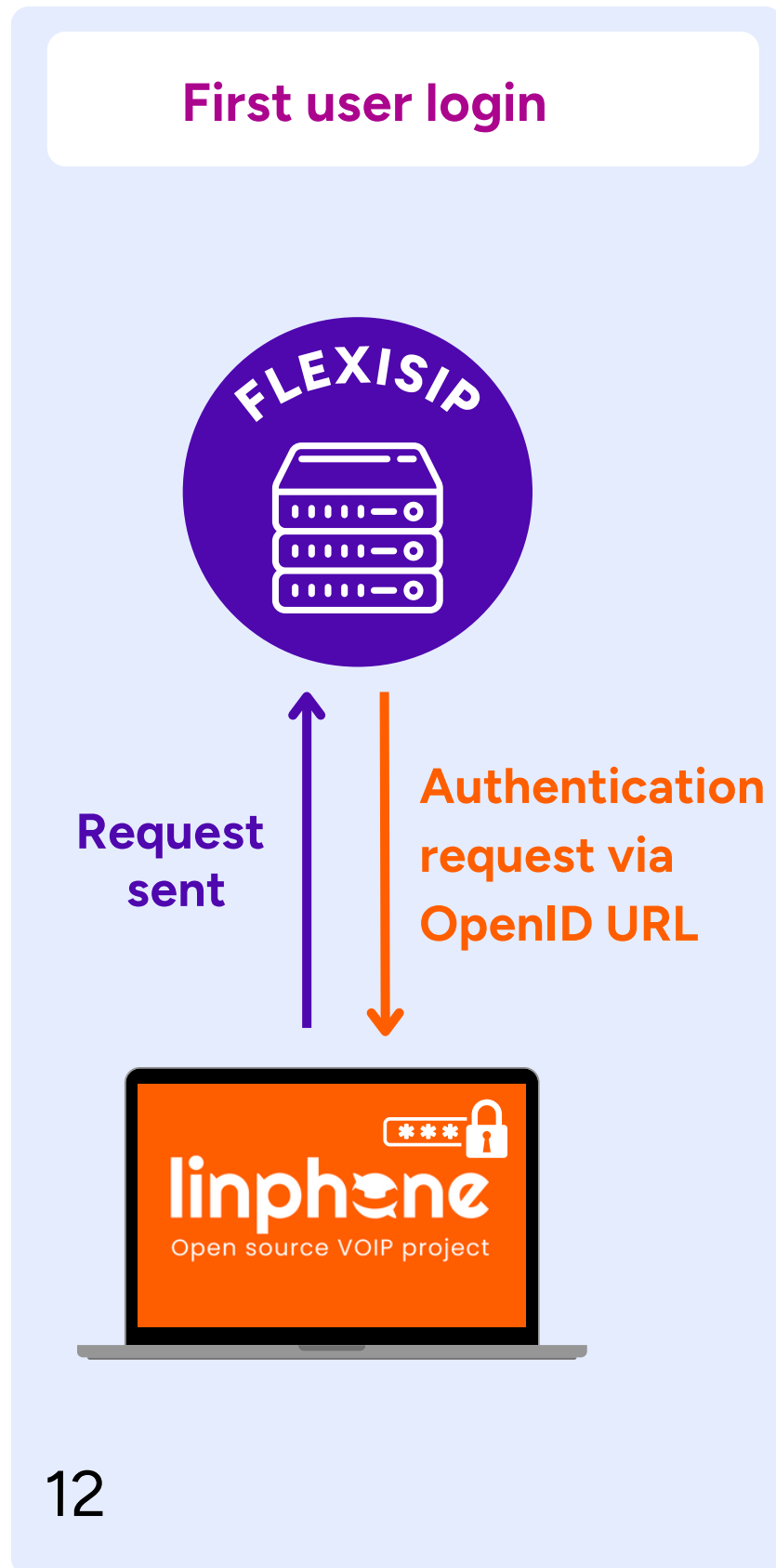
Adaptation to VoIP

RFC 8898

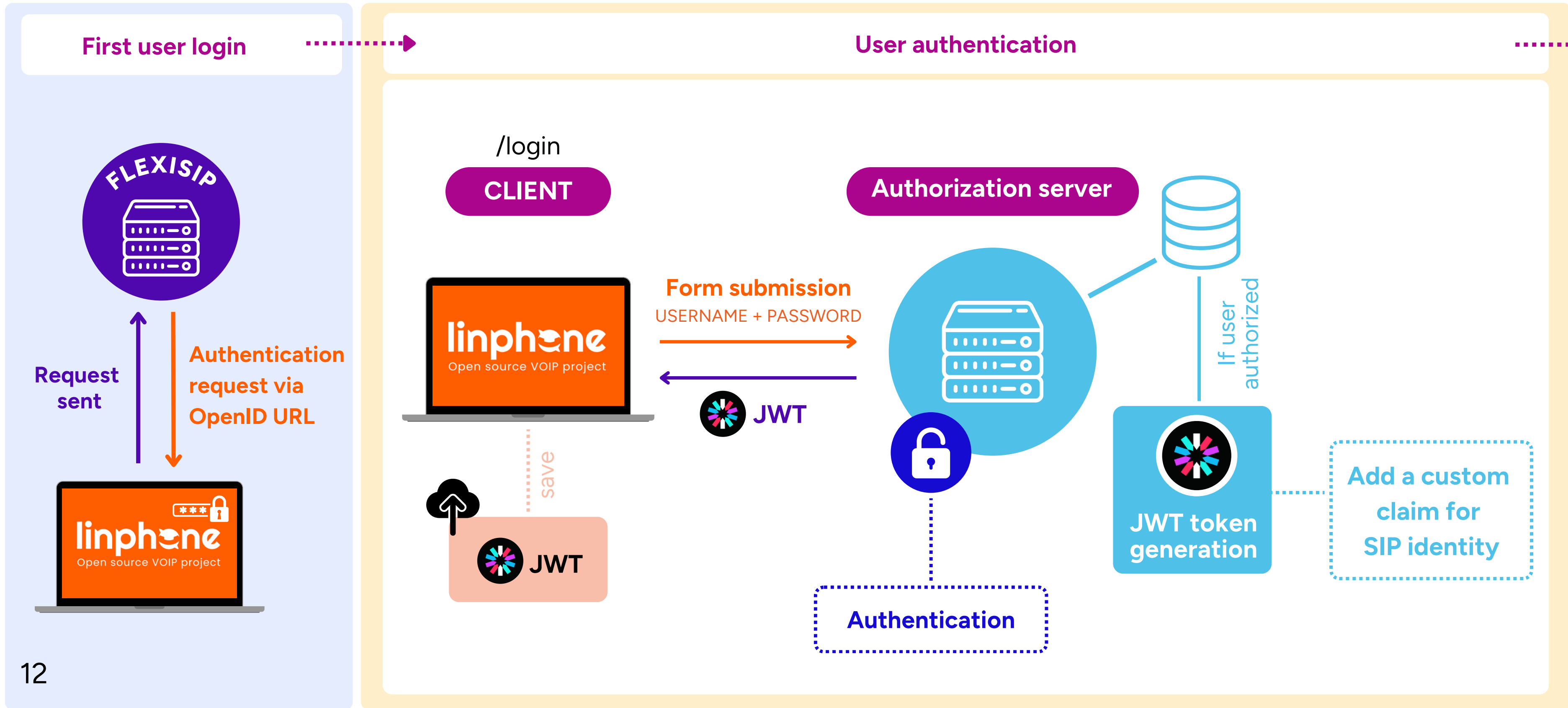
<https://datatracker.ietf.org/doc/rfc8898/>



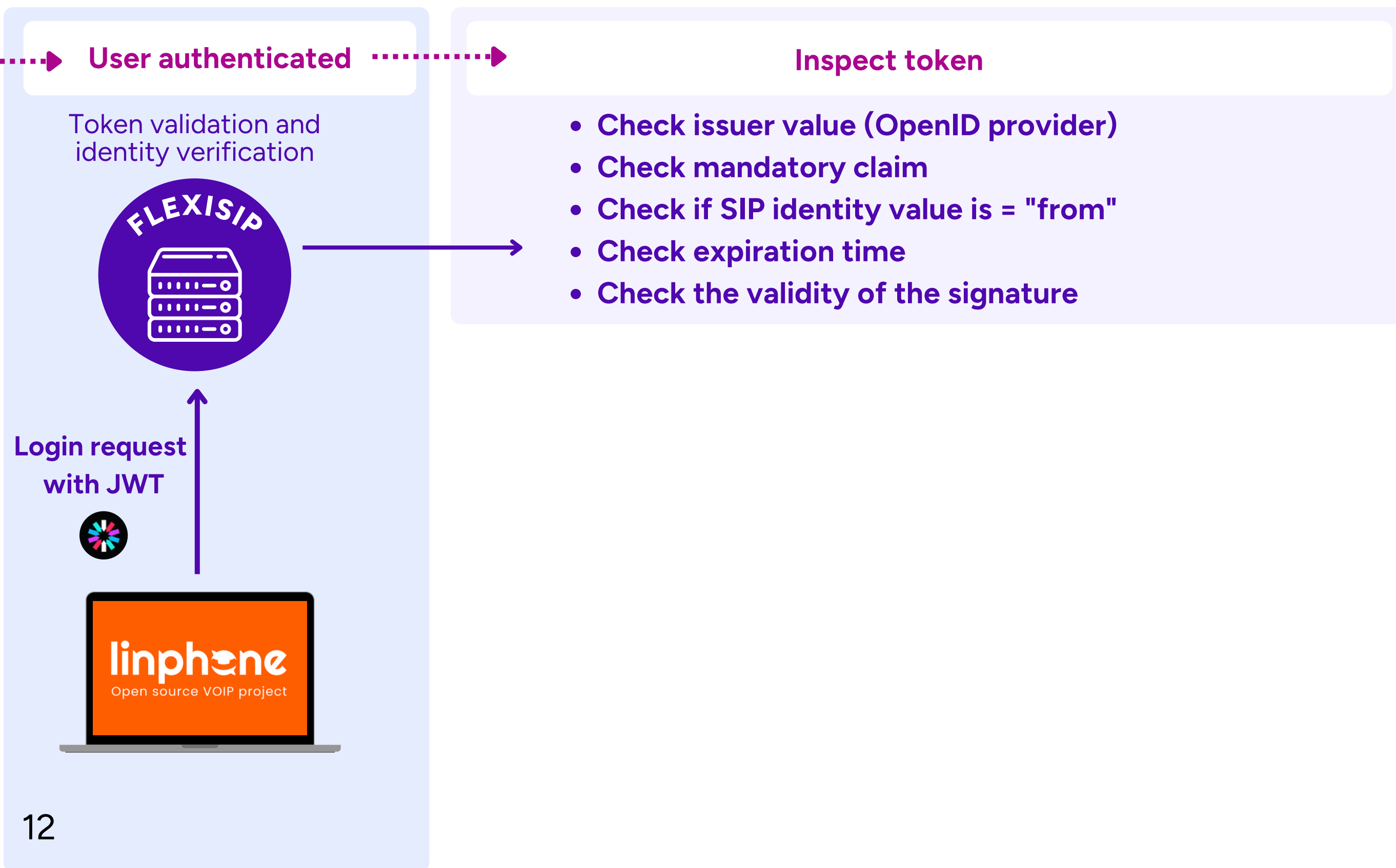
How does it work with Linphone?



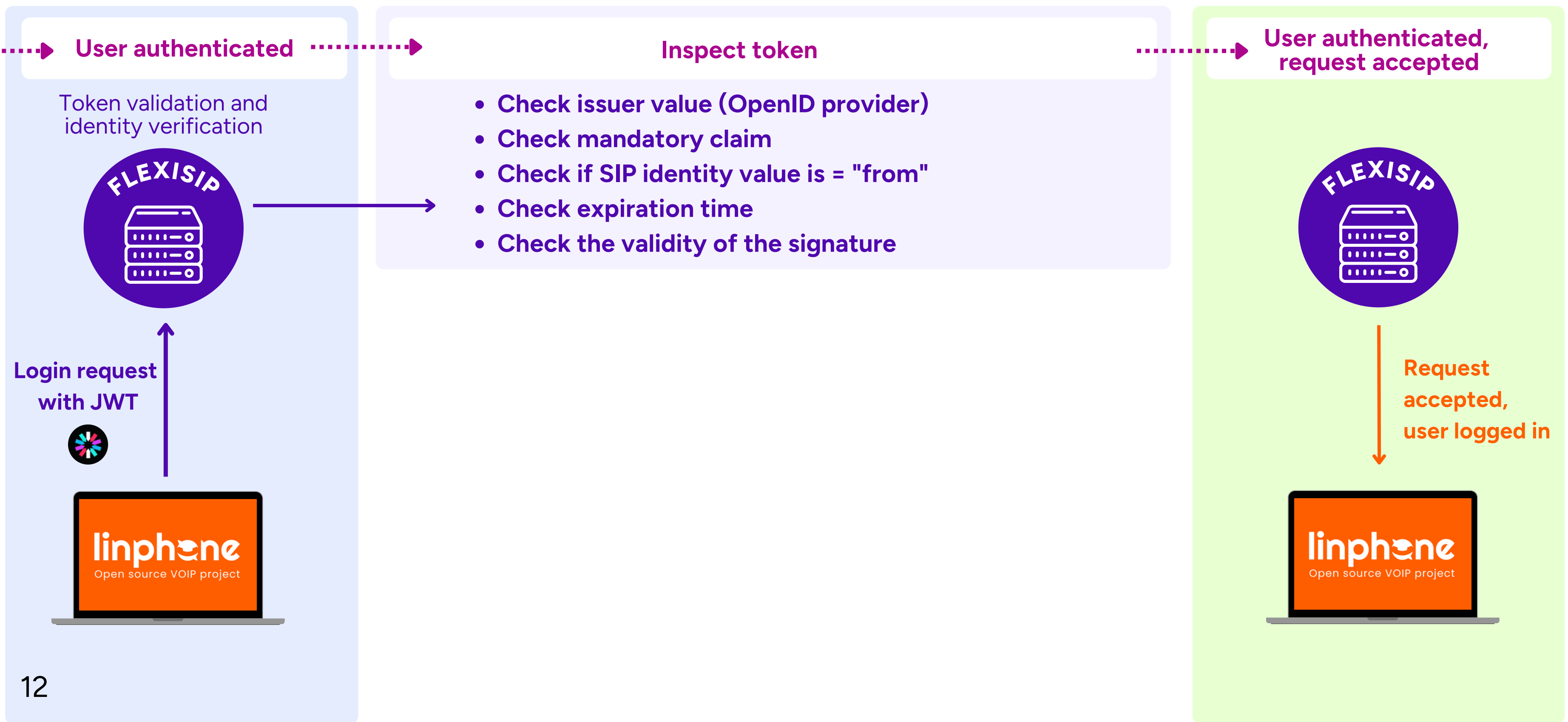
How does it work with Linphone?



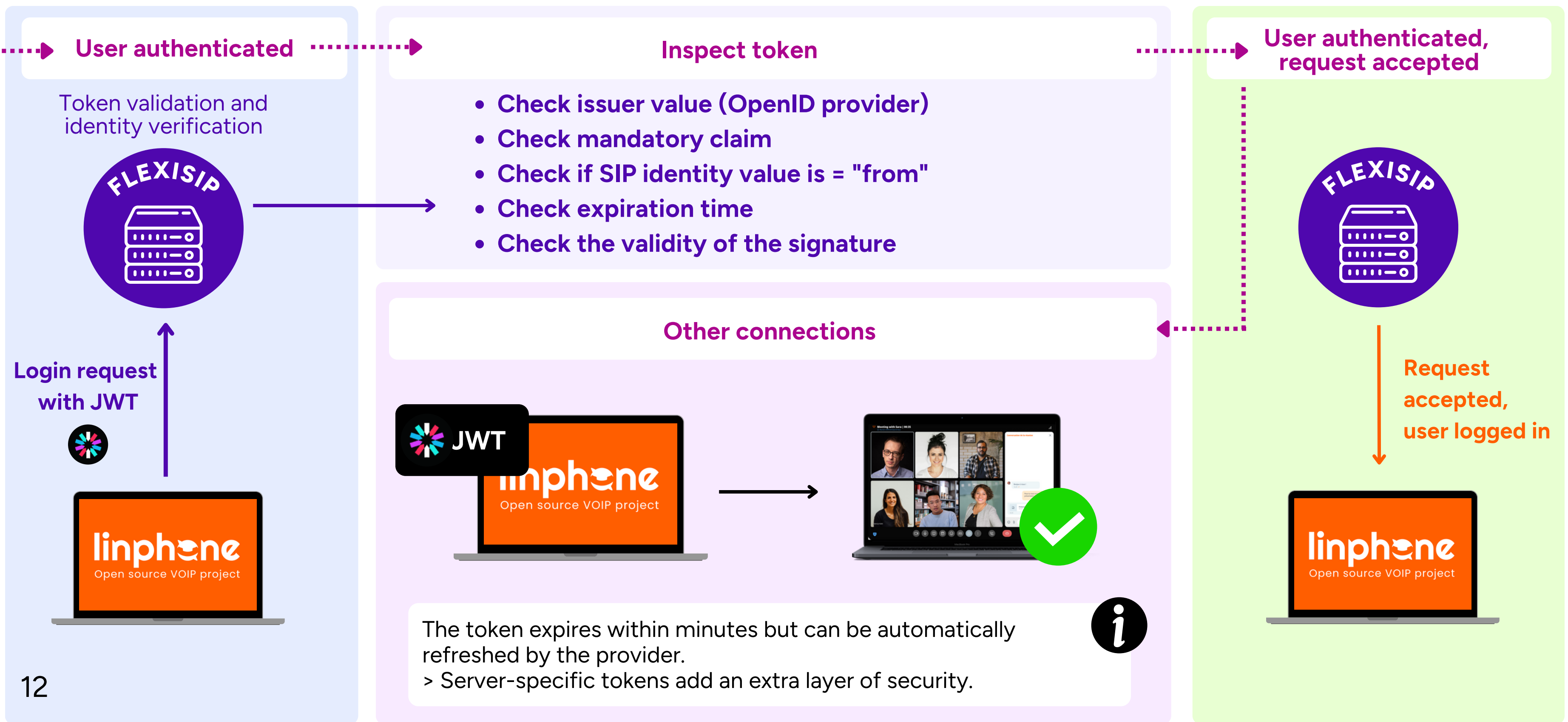
How does it work at Linphone?



How does it work at Linphone?

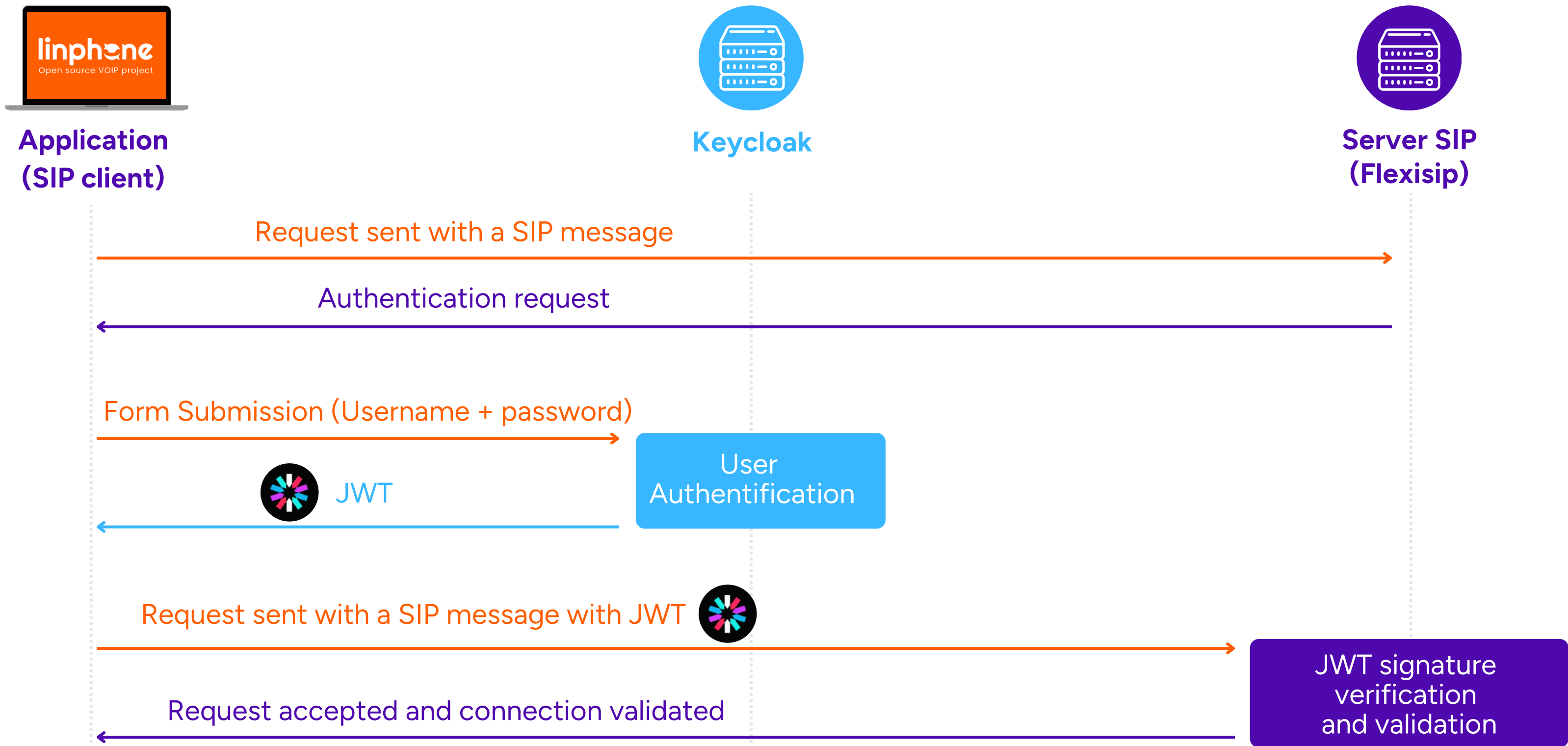


How does it work at Linphone?



Integrating Keycloak with Flexisip? It's possible!

Authentication using JWT & sip account



How do you configure this in Flexisip?

Configuration example, available starting from Flexisip 2.4

[More information here](#)

```
[module::AuthOpenIDConnect]
```

```
enabled=true
```

```
# The HTTPS URL of the OpenID Provider.
```

```
# This parameter MUST be set.
```

```
# Default:
```

```
authorization-server=https://example.org/realms/EXAMPLE
```

```
# The realm to use for the OpenID Connect authentication.
```

```
# This parameter MUST be set.
```

```
# Default:
```

```
realm=EXAMPLE
```

```
# The name of the service to expect in the audience claim.
```

```
# This parameter MUST be set.
```

```
# Default:
```

```
audience=linphone
```

```
# The name of the claim to inspect in the token to extract the user's
```

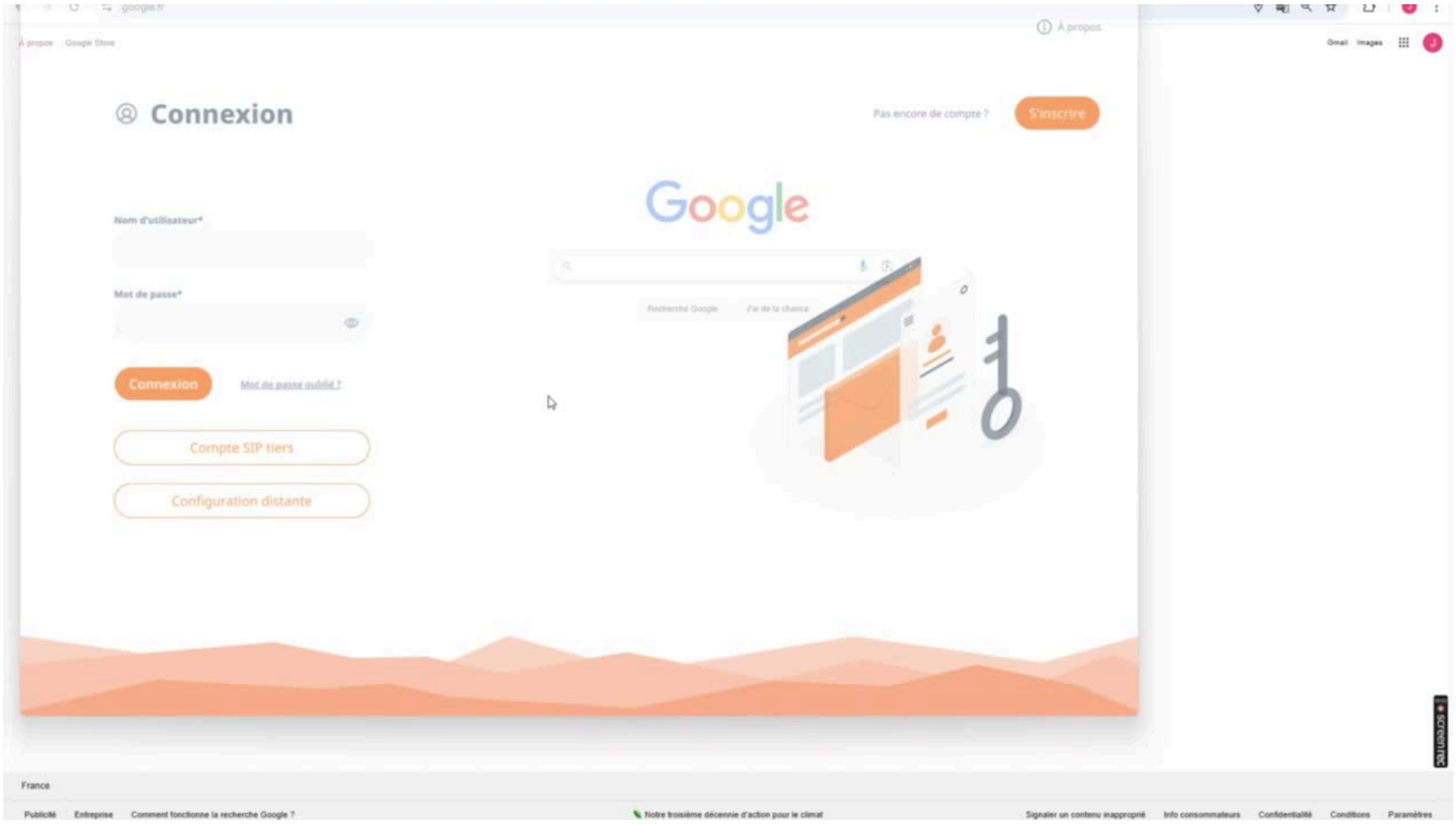
```
# SIP identity.
```

```
# This parameter MUST be set.
```

```
# Default:
```

```
sip-id-claim=sip_identity
```

DEMONSTRATION



CONCLUSION

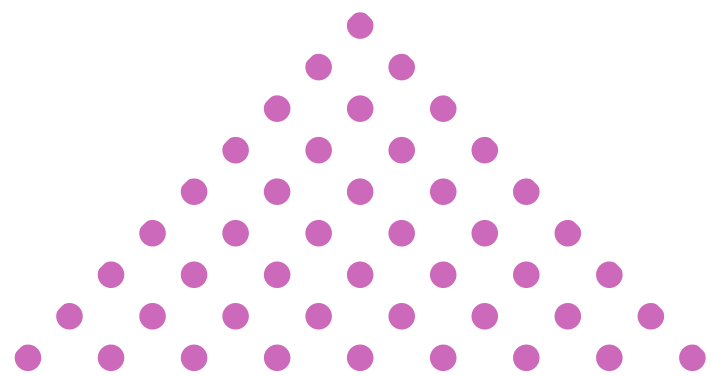
SECURITY

SIMPLICITY

**Single Sign-On is the solution
to authentication challenges**

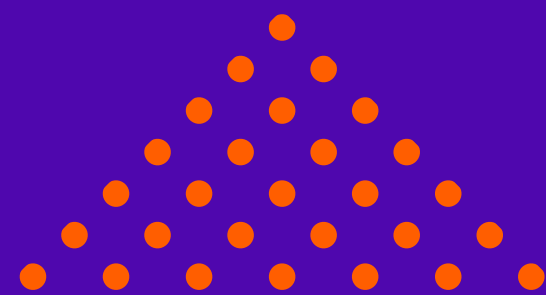
INTEROPERABILITY

SCALABILITY





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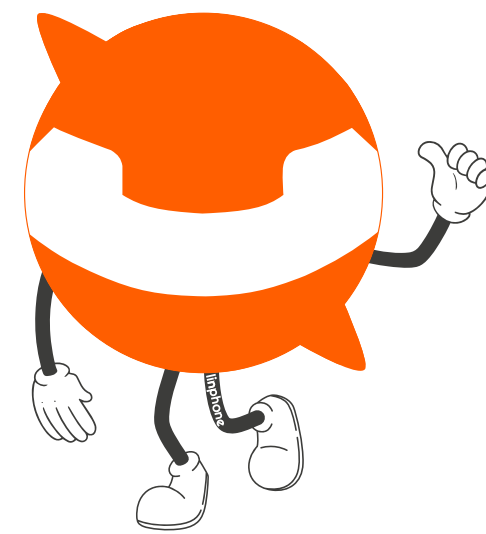


**DO YOU HAVE ANY
QUESTIONS ?**



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THANK YOU !



FOR MORE INFORMATION



<https://www.linphone.org>



<https://gitlab.linphone.org/BC/public/flexisip>



<https://datatracker.ietf.org/doc/rfc8898/>