

OIDC support for Windows using PuTTY

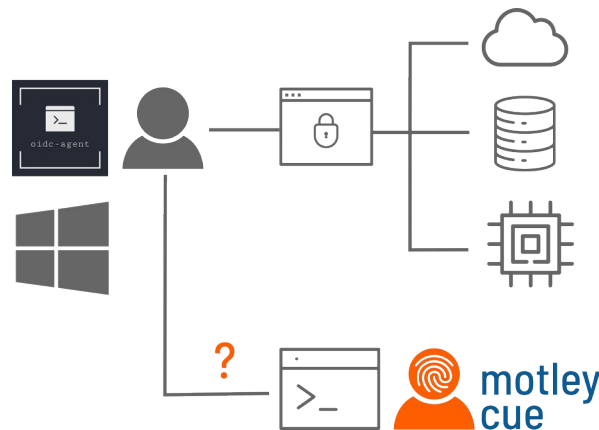
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Motivation

- Federated access to services via OpenID Connect
- Shell-based services
 - `oidc-agent`
 - SSH → `motley-cue`¹
- Windows support for SSH OIDC missing
 - PuTTY



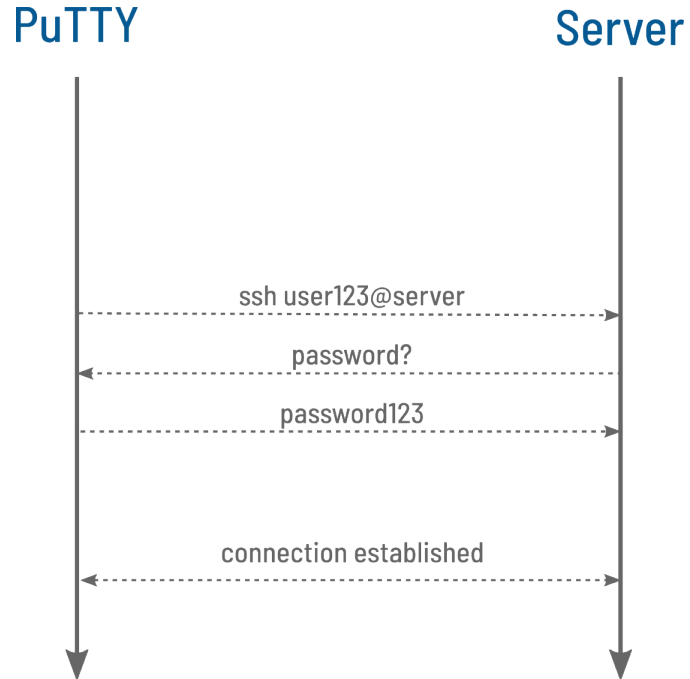
¹See my talk tomorrow @11:30!



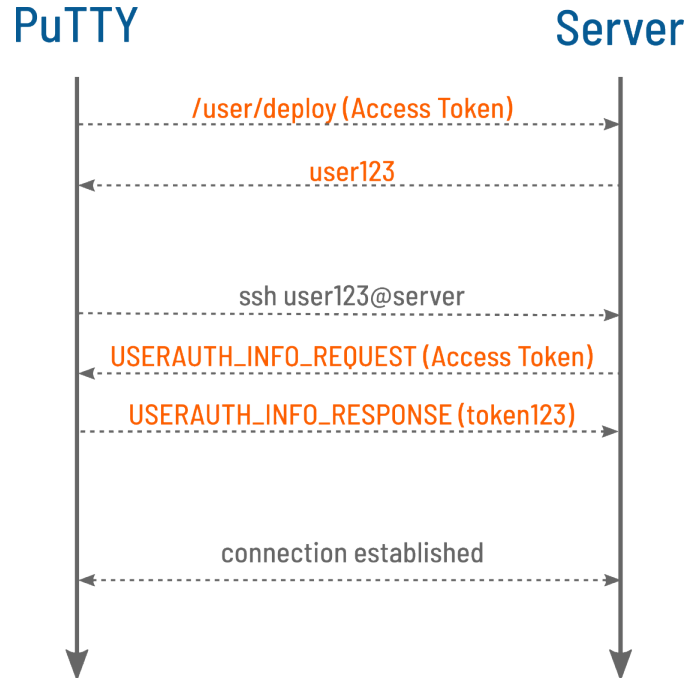
Approach

- Porting oidc-agent to Windows
- **Adding support for oidc-agent in PuTTY**

SSH Auth Flow



SSH OIDC Auth Flow





Architecture

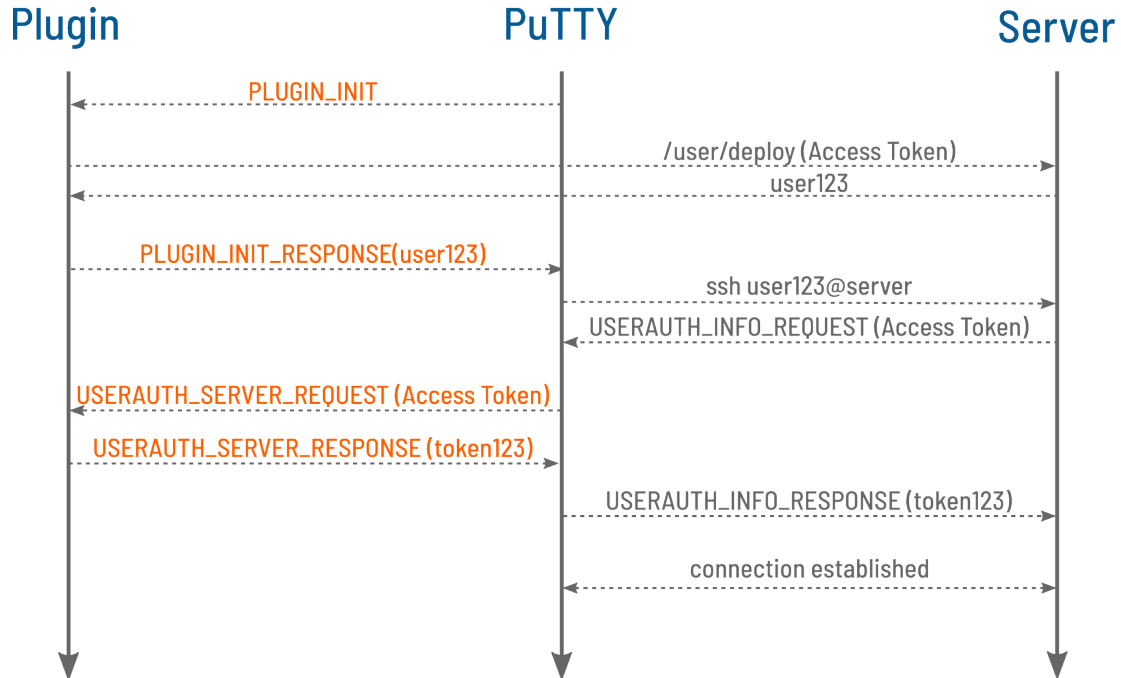
- **Plugin** system
 - Reusability → other use cases already known
 - No external dependencies in PuTTY core



Architecture

- **Plugin** system
 - Reusability → other use cases already known
 - No external dependencies in PuTTY core
- Protocol for communication
 - **Co-designed** with PuTTY main developer
 - Follows SSH auth flow → **keyboard-interactive**
 - PuTTY sends auth requests to plugin
 - Plugin handles auth specific code

SSH OIDC Auth Flow with Plugin





Technical details

- PuTTY extension and plugin programmed in C
 - Other programming languages are possible
- Communication between PuTTY and plugin using anonymous pipes
- Builds natively on Windows
- Caching



Usability

- Supported from next PuTTY release
- oidc-agent installer → also ships:
 - oidc-plugin
 - Necessary libraries (DLLs)



Demo



<https://youtu.be/OUaEcm1nbNw>

```
Index of /windows/oidc-agent/ x Success x +
Add EGI Account
Enter short name for the account to configure: egi
Generating account configuration ...
accepted
To continue and approve the registered client visit the following URL in a Browser of your choice:
https://aal-egi.eu/auth/realms/egi/protocol/openid-connect/auth?response_type=code&client_id=oidc-agent&redirect_uri=htt
oidc-gp://localhost:8080&scope=openid%20profile%20email%20offline_access%20eduperson_entitlement%20eduperson_scoped_affiliatio
Please c
n%20eduperson_unique_id&prompt=consent&state=0:02xErABGFHDJUL35SweL5Qyp:57:QzovVXNlcmMvVXNlcl9BcHBEYXRhL0xvV2F5Z2VudC4x&
b2lkYi0HT2Vksvb2lkYy1hZ2VudC4x&access_type=offline&code_challenge_method=S256&code_challenge=FVYBAYt0GgVocAvuiesYob1FE
logk89psu_0a3amsJQ
oidc-gp
Polling oidc-agent to get the generated account configuration .....success
The generated account config was successfully added to oidc-agent. You don't have to run oidc-add.
Enter encryption password for account configuration 'egi': Confirm encryption Password: -
```

More information

- Download oidc-agent for Windows & PuTTY



<https://repo.data.kit.edu/windows/oidc-agent>

- Demo instance



<https://ssh-oidc-demo.data.kit.edu/>

- Contact



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