Passwordless authentication in the GUI

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Who am I?

- Software Engineer at Red Hat
- Focus on Identity Management
  - SSSD
  - shadow
  - Linux-PAM
- Past: Software Engineer in the automotive and 3D printing industries
Passwordless authentication
What is passwordless?

- A way to authenticate a user without using a password
- Usually involves MFA and SSO
- It strengthens security and improves user experience
Passwordless mechanisms

Available mechanisms for remotely managed users in FreeIPA and SSSD

- Passkey
- Smartcard
- External Identity Provider
Passkey
Current state
Zamfira Honcescu

Insert security key

Zamfira Honcescu

PIN

Insert security key
Smartcard
Current state
Current state II
EIdP
Current state

ipedrosa@ipa:~$ su - eidp
Authenticate with PIN 8576-05CO at https://github.com/login/device and press ENTER.

ipedrosa@ipa:~$ su - eidp
Authenticate with PIN 8576-05CO at https://github.com/login/device and press ENTER.
Last login: Wed Jan  3 15:24:18 CET 2024 on pts/3
su: warning: cannot change directory to /home/eidp: No such file or directory
eidp@ipa:~/home/ipedrosa$
Authentication mechanism selection
Current

- No way to change!!!
Conclusion
Software design

- PAM conversation
- JSON formatted message
- Conversion to binary provided by GDM macros
- More details at https://github.com/SSSD/sssdi.o/pull/79
Wrap-up

- The user is able to select the authentication mechanism
- The user is able to authenticate with the previously mentioned mechanisms
- The authentication mechanism of previous attempts is remembered
- The user interface should be fast and simple
Reference links

- Design mockups
- SSSD-GDM interface design
- COPR repository
Thank you!