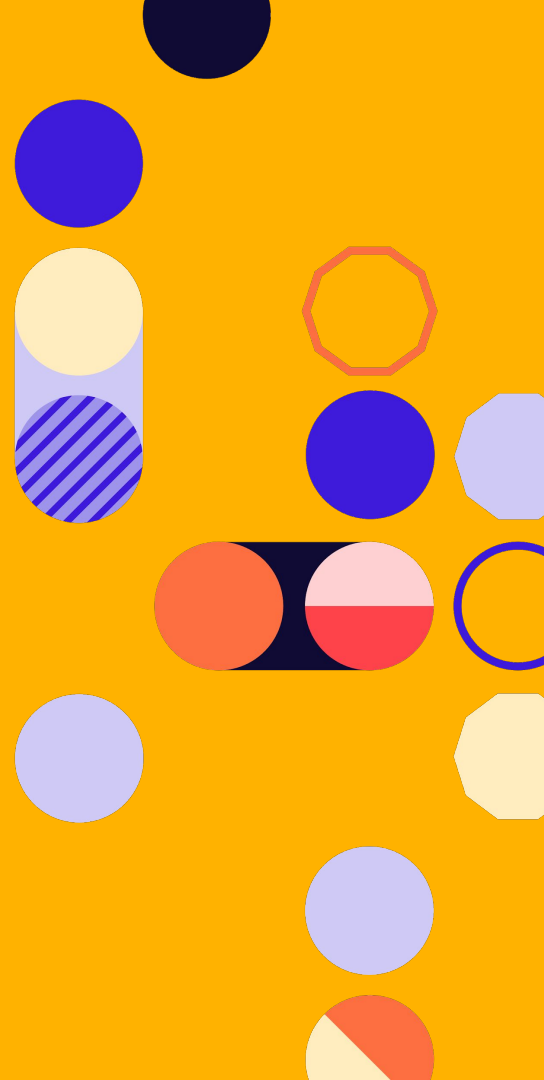
Meridian

SEP-30
and the Importance of Key Management and Recovery

Leigh McCulloch
Principal Software Engineer
Stellar Development Foundation



Stellar

GDBB4A5CNKPXZOHN
DKFH5RLY7MHJMBP7
5FPLR2Y4F63OMDHA
3XBAKUQ3

SDZ3OKG7TOIKKBGN
HJFQB5TLPHBRSB3Z
UROZU3OKAXZB2GG2
A7JIWAKV

Pay to
GSADIG7TOIJRP3IY47MK...

Words
Five

Amount
5.00

Memo 🍕

Sign SDZ3OKG7TOIKKBGNHJF...

Pay to
GSADIG7TOIJRP3IY47MK...

Words
Five

Amount
5.00

Memo 🍕

Sign SCUWSRQ7LCGLYHZ6LOK...
SDZ3OKG7TOIKKBGNHJF...

Pay to
GSADIG7TOIJRP3IY47MK...

Words
Five

Amount
5.00

Memo 🍕

Sign SCUWSRQ7LCGLYHZ6LOK... w: 1
SDZ3OKG7TOIKKBGNHJF... w: 1

threshold: 1

Pay to
GSADIG7TOIJRP3IY47MK...

Words
Five

Amount
5.00

Memo 🍕

Sign SCUWSRQ7LCGLYHZ6LOK... w: 1
SDZ3OKG7TOIKKBGNHJF... w: 1

threshold: 2

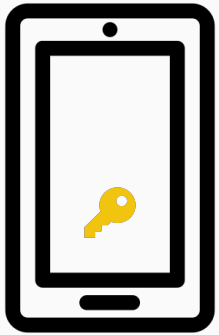
Pay to
GSADIG7TOIJRP3IY47MK...

Words
Five

Amount
5.00

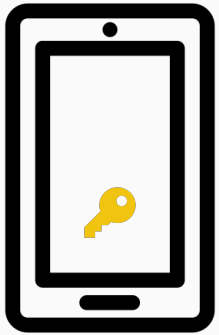
Memo 🍕

SCUWSRQ7LCGLYHZ6LOK...
Sign SDZ3OKG7TOIKKBGNHJF...



Transact

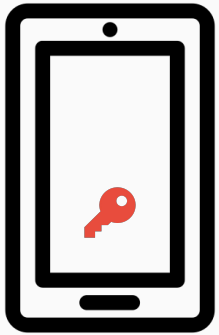
Store



Protect

Prevent Loss

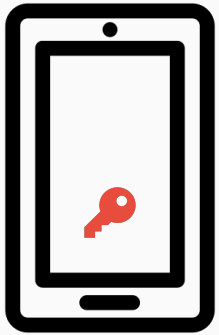
How a wallet implements key management will define the user experience.



Find it

Natural disasters

Store safely



Theft

Write it down

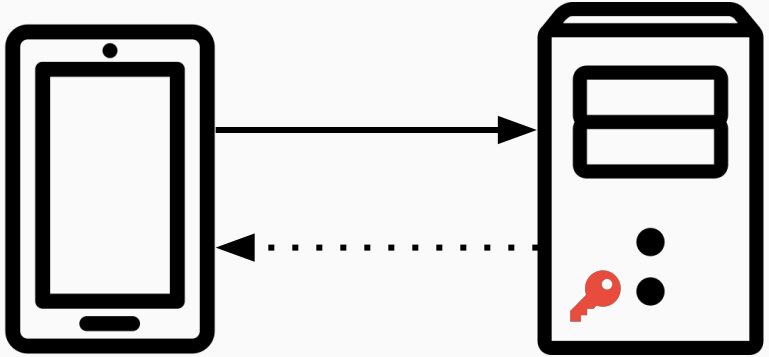
Trust

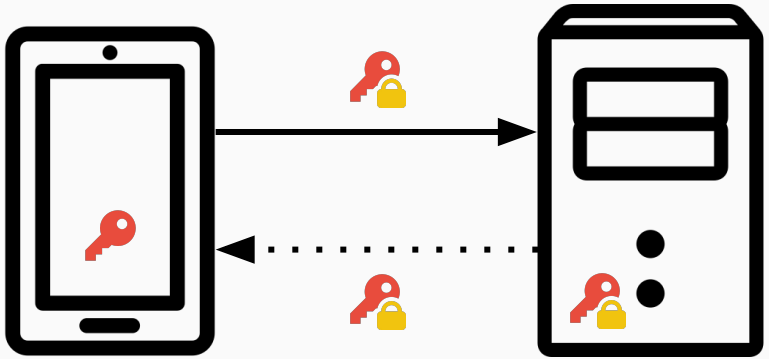
SDZ3OKG7TOIKKBGN
HJFQB5TLPHBRSB3Z
UROZU3OKAXZB2GG2
A7JIWAKV

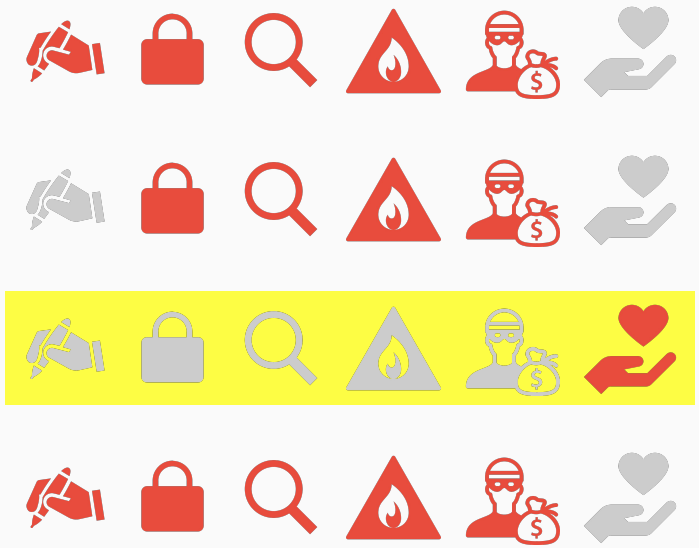
SDZ3OKG7TOIKKBGN
HJFQB5TLPHBRSB3Z
UROZU3OKAXZB2GG2
A7JIWAKV

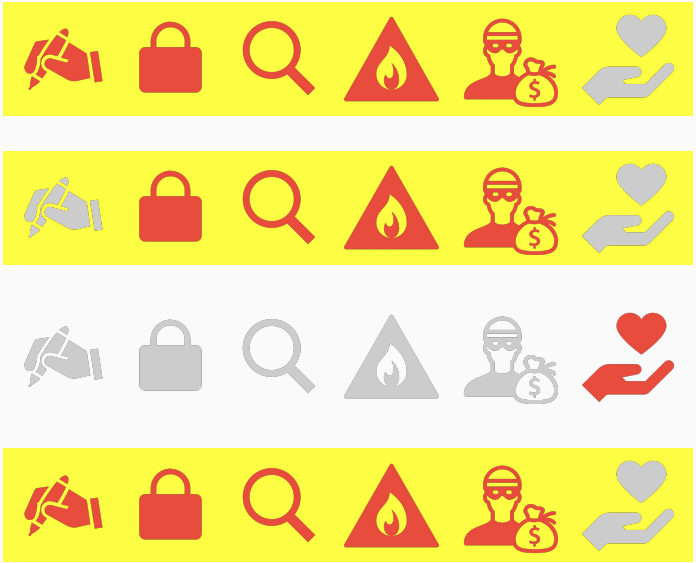
dignity cross apple cat
scout object fence hen
merge march salon lazy
glad canal search crowd
jealous pledge omit design
inject march fuel worry

User experience extends outside of your product.





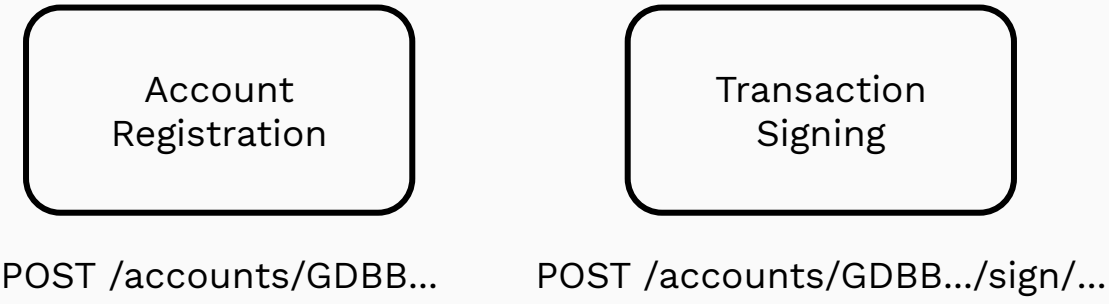


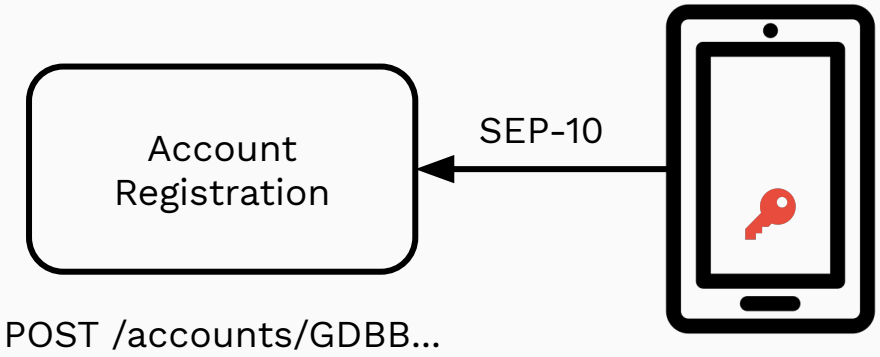


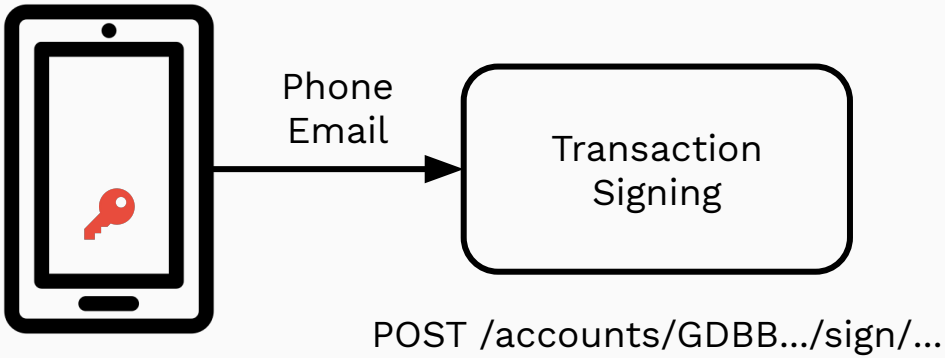
SEP-30 Account Recovery

stellar.org/protocol/sep-30

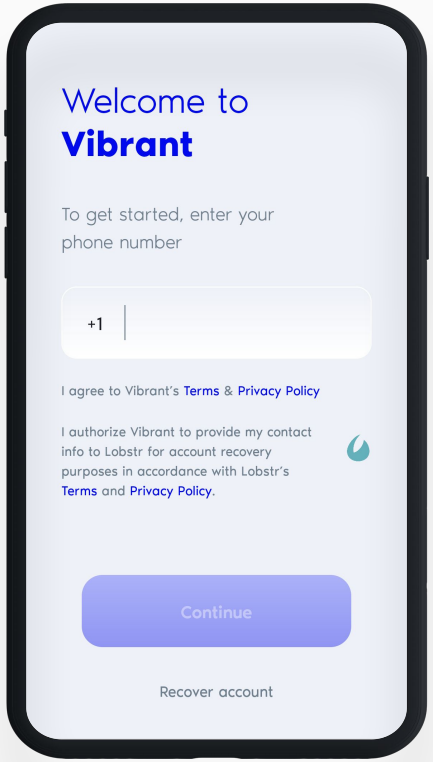
Help the user get a new key.


Account
Registration
Transaction
Signing
POST /accounts/GDBB...
POST /accounts/GDBB.../sign/...


Account
Registration
SEP-10
POST /accounts/GDBB...


Phone
Email
Transaction
Signing
POST /accounts/GDBB.../sign/...

Vibrant


Welcome to
Vibrant
To get started, enter your phone number
+1
I agree to Vibrant's Terms & Privacy Policy
I authorize Vibrant to provide my contact info to Lobstr for account recovery purposes in accordance with Lobstr's Terms and Privacy Policy.
Continue
Recover account

Welcome to
Vibrant

To get started, enter your phone number

+54 | 11 1234-5678

I agree to Vibrant's Terms & Privacy Policy

I authorize Vibrant to provide my contact info to Lobstr for account recovery purposes in accordance with Lobstr's Terms and Privacy Policy.

Continue

Recover account

Back

Enter verification code

Please enter the verification code we sent to your phone number.

1 2 3 -
4 5 6 ␣
7 8 9 ⌫
, 0 . ✓

Great!

What's your email?

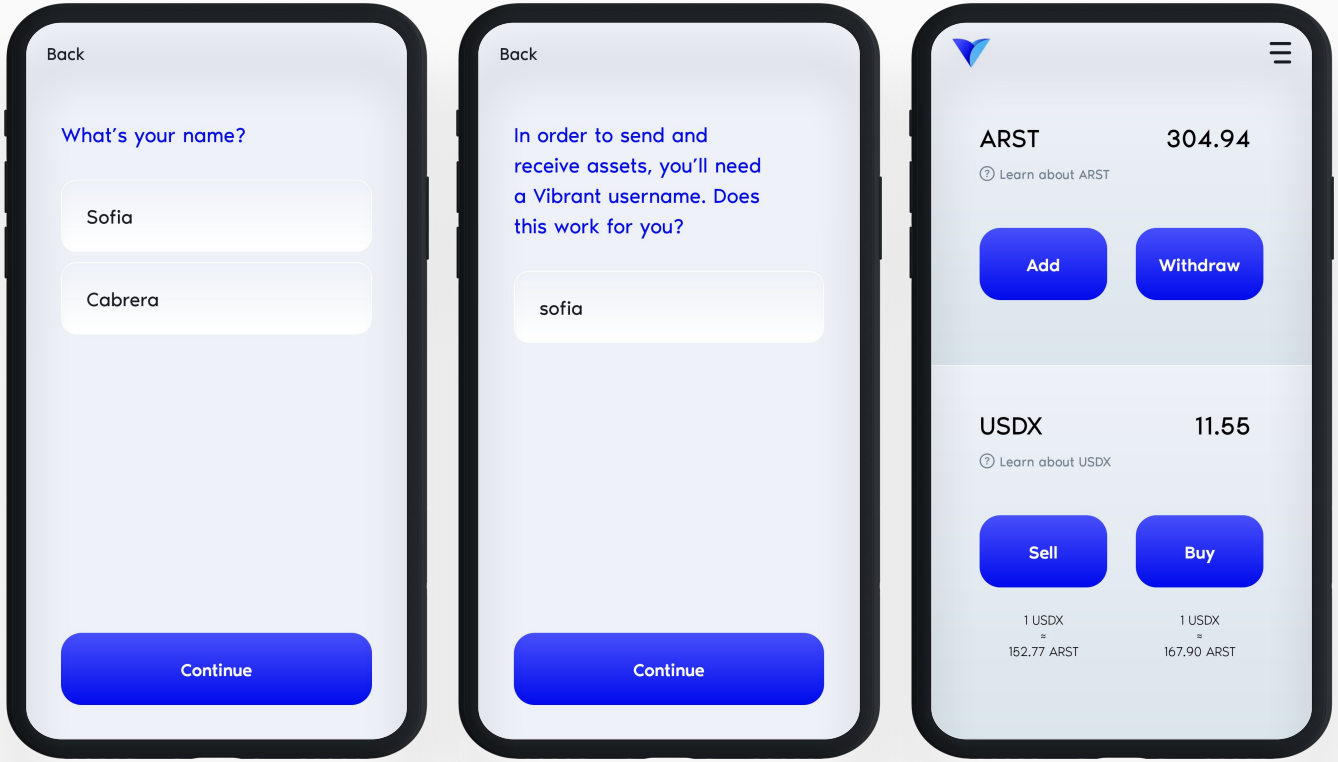
sofia@example.com

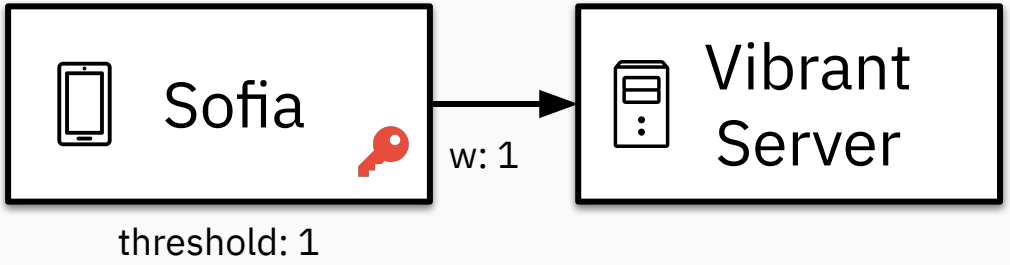
Continue

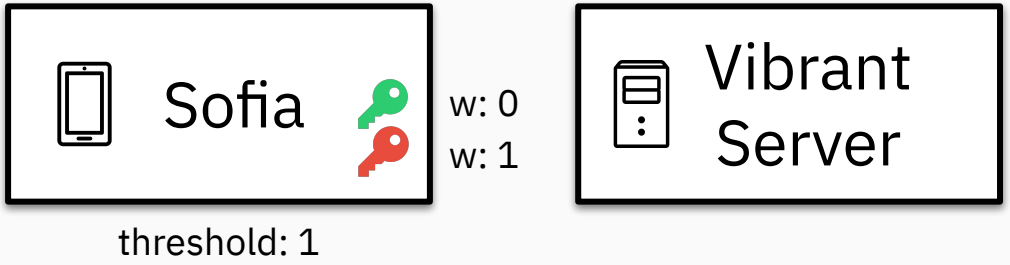
Verify email

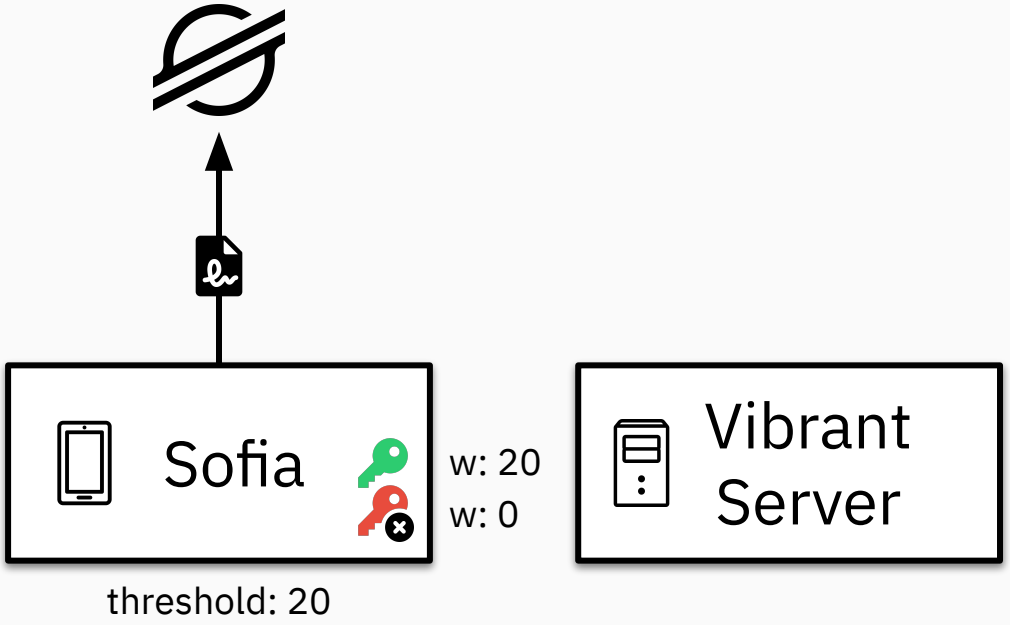
Thank you! Your email has been been verified.

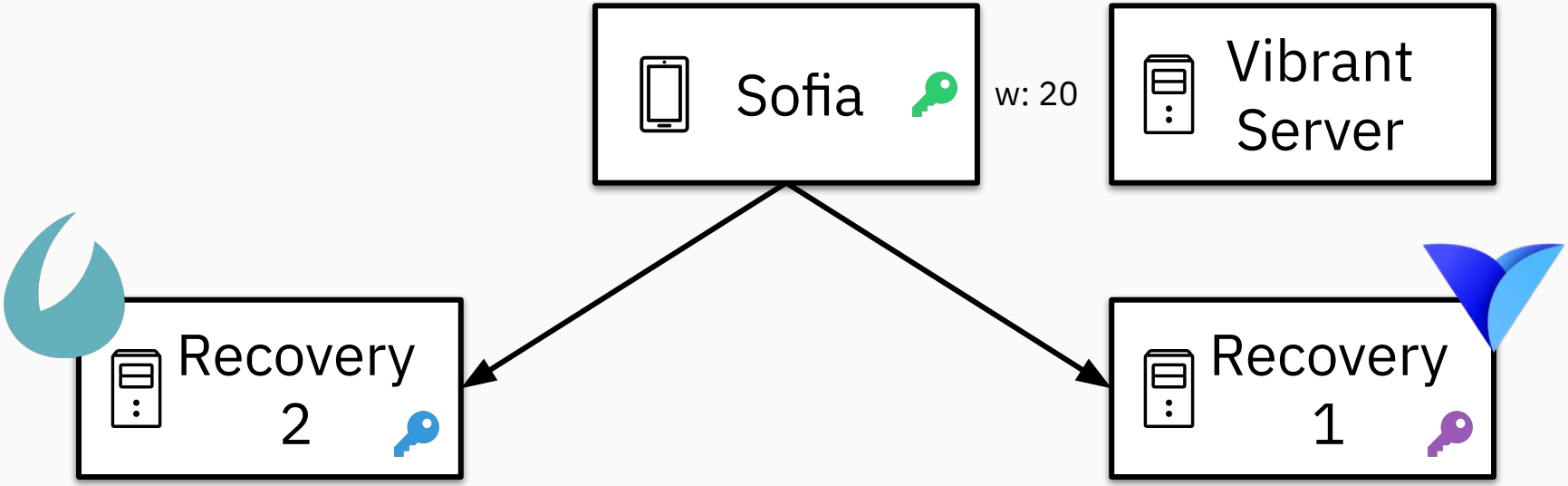
Close

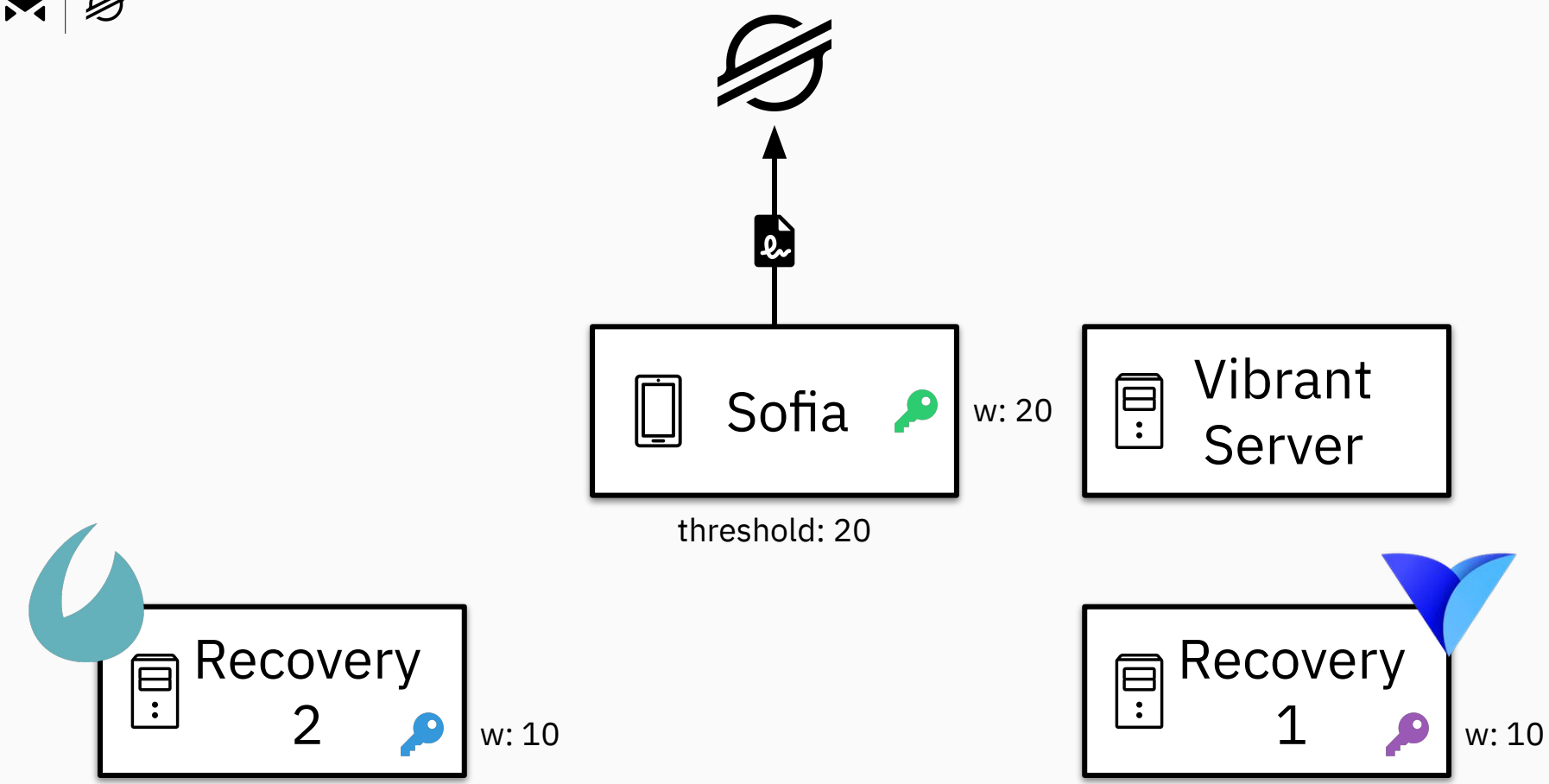

Back
What's your name?
Sofia
Cabrera
Continue
Back
In order to send and receive assets, you'll need a Vibrant username. Does this work for you?
sofia
Continue
ARST
304.94
Learn about ARST
Add
Withdraw
USDX
11.55
Learn about USDX
Sell
Buy
1 USDX ≈ 152.77 ARST
1 USDX ≈ 167.90 ARST

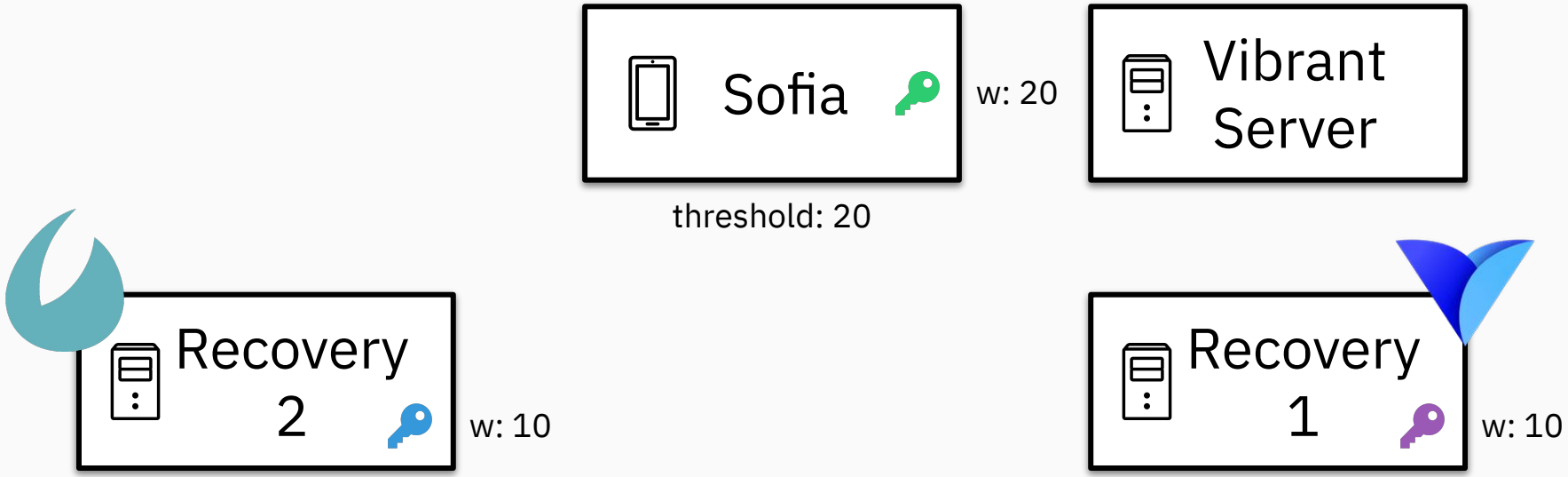

Sofia
w: 1
Vibrant
Server
threshold: 1

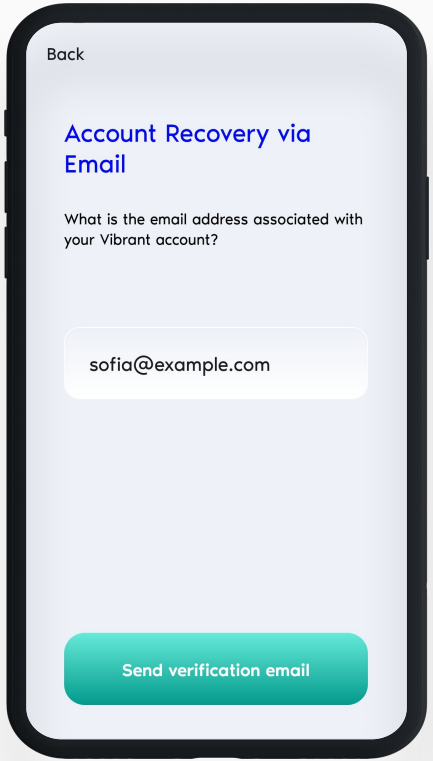

Sofia
w: 0
w: 1
Vibrant Server
threshold: 1

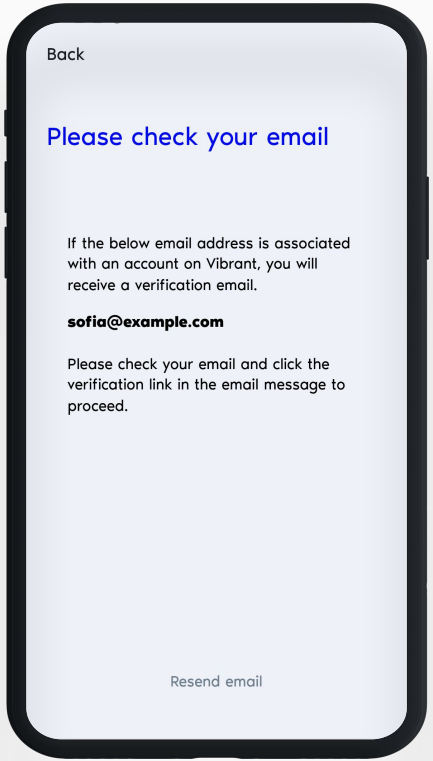

Sofia
w: 20
w: 0
Vibrant
Server
threshold: 20

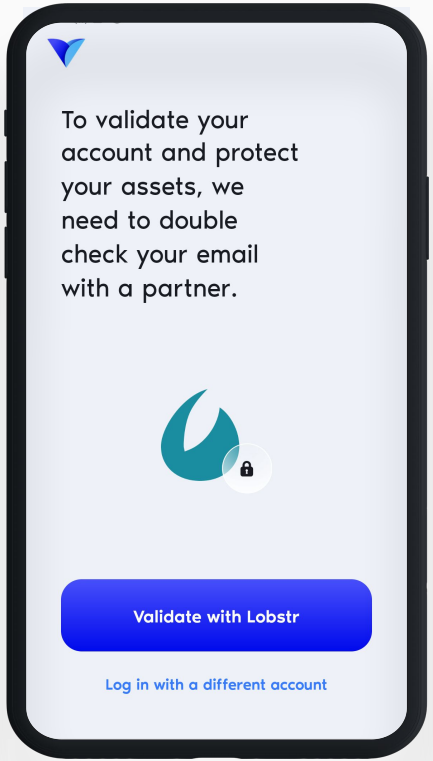

Sofia
w: 20
Vibrant Server
Recovery 2
Recovery 1

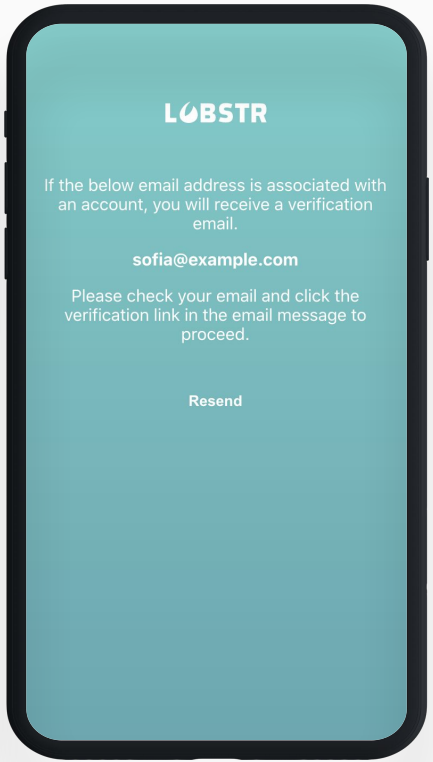

Sofia
w: 20
Vibrant Server
threshold: 20
Recovery 2
w: 10
Recovery 1
w: 10

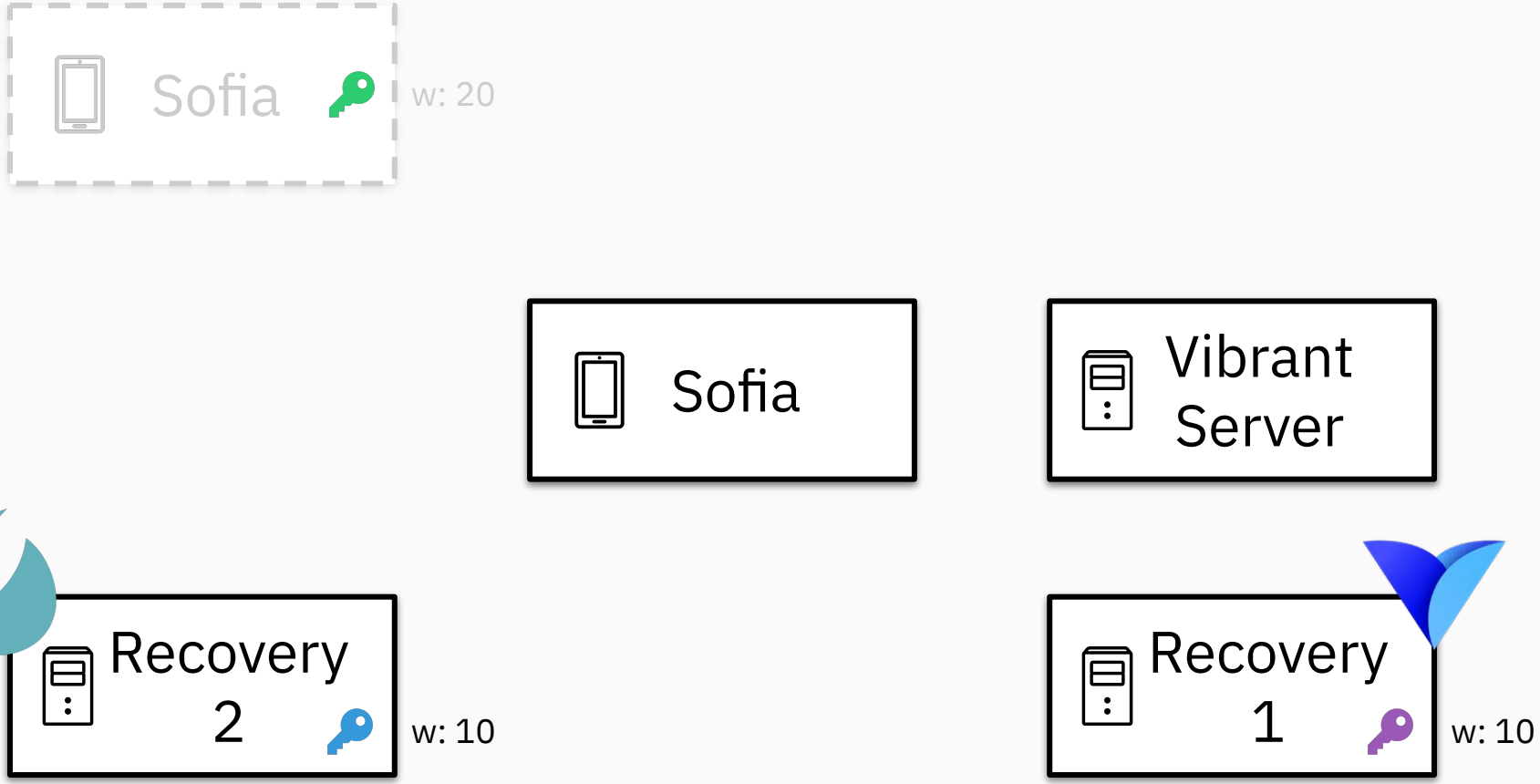

Sofia
w: 20
Vibrant Server
threshold: 20
Recovery 2
w: 10
Recovery 1
w: 10

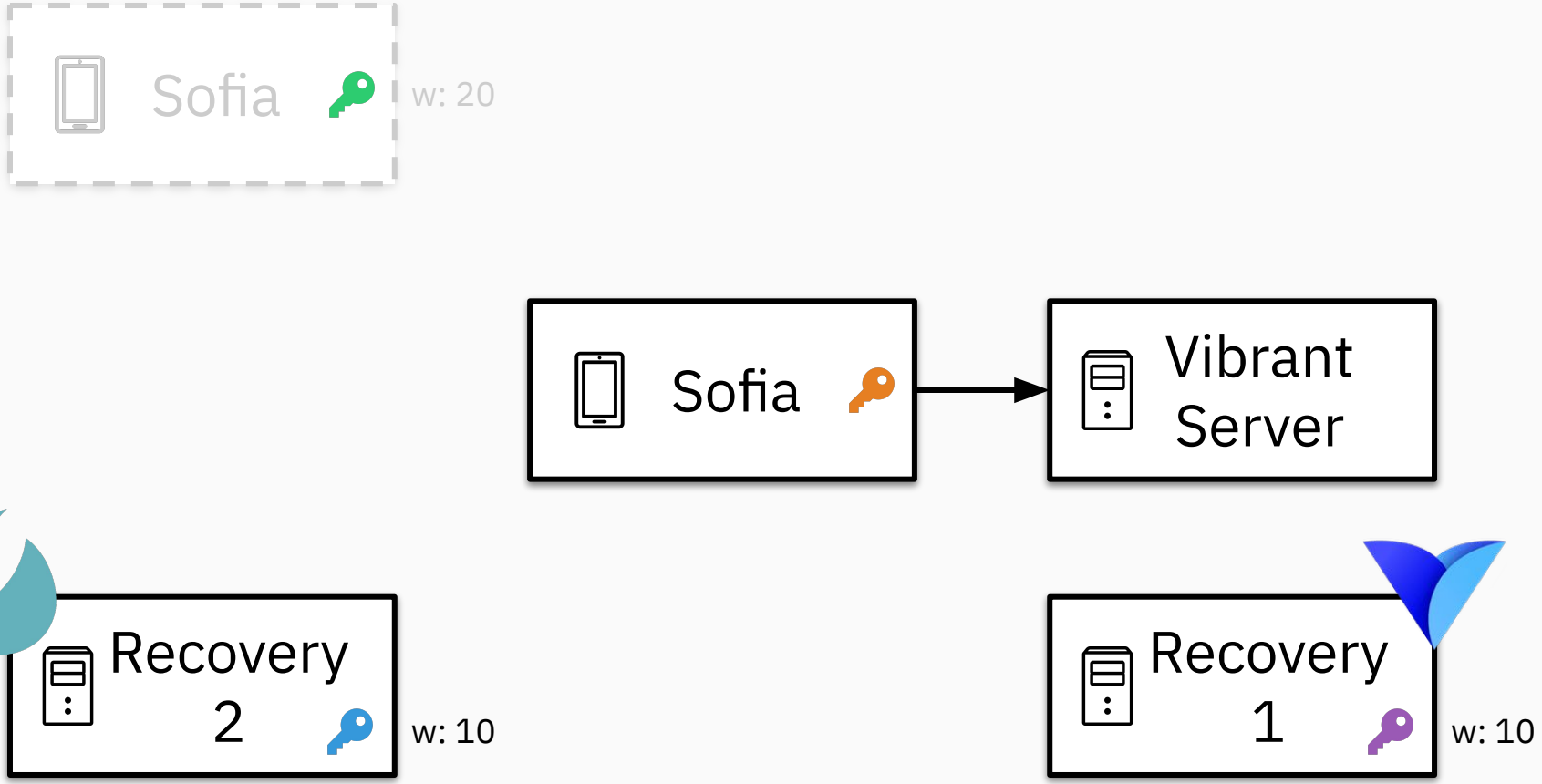

Back
Account Recovery via Email
What is the email address associated with your Vibrant account?
sofia@example.com
Send verification email


Back
Please check your email
If the below email address is associated with an account on Vibrant, you will receive a verification email.
sofia@example.com
Please check your email and click the verification link in the email message to proceed.
Resend email

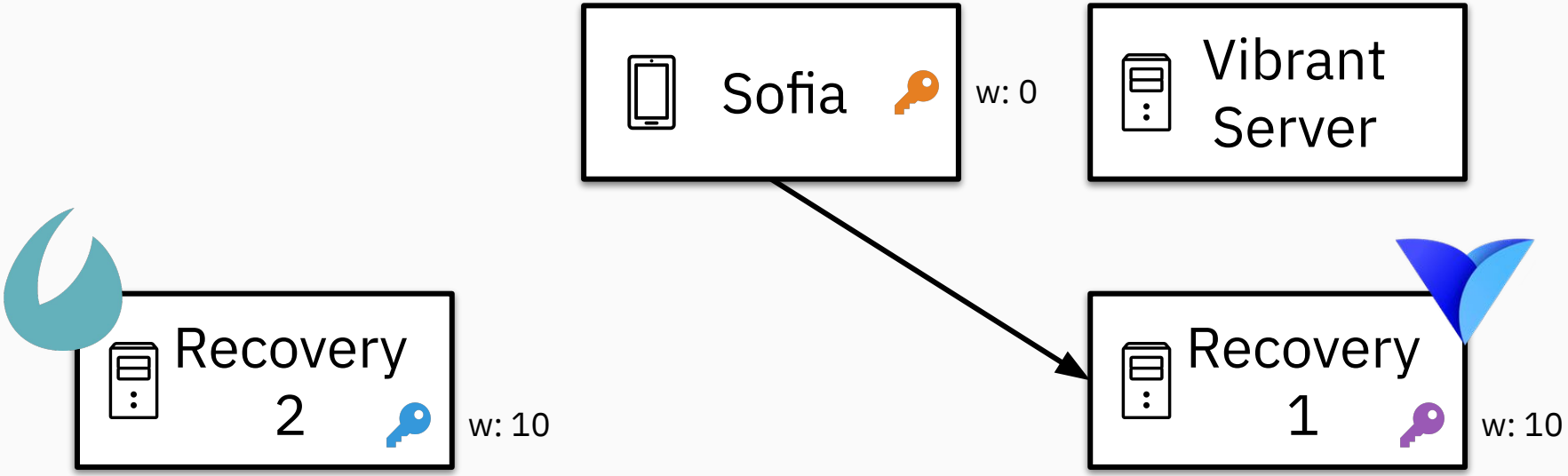

To validate your account and protect your assets, we need to double check your email with a partner.
Validate with Lobstr
Log in with a different account

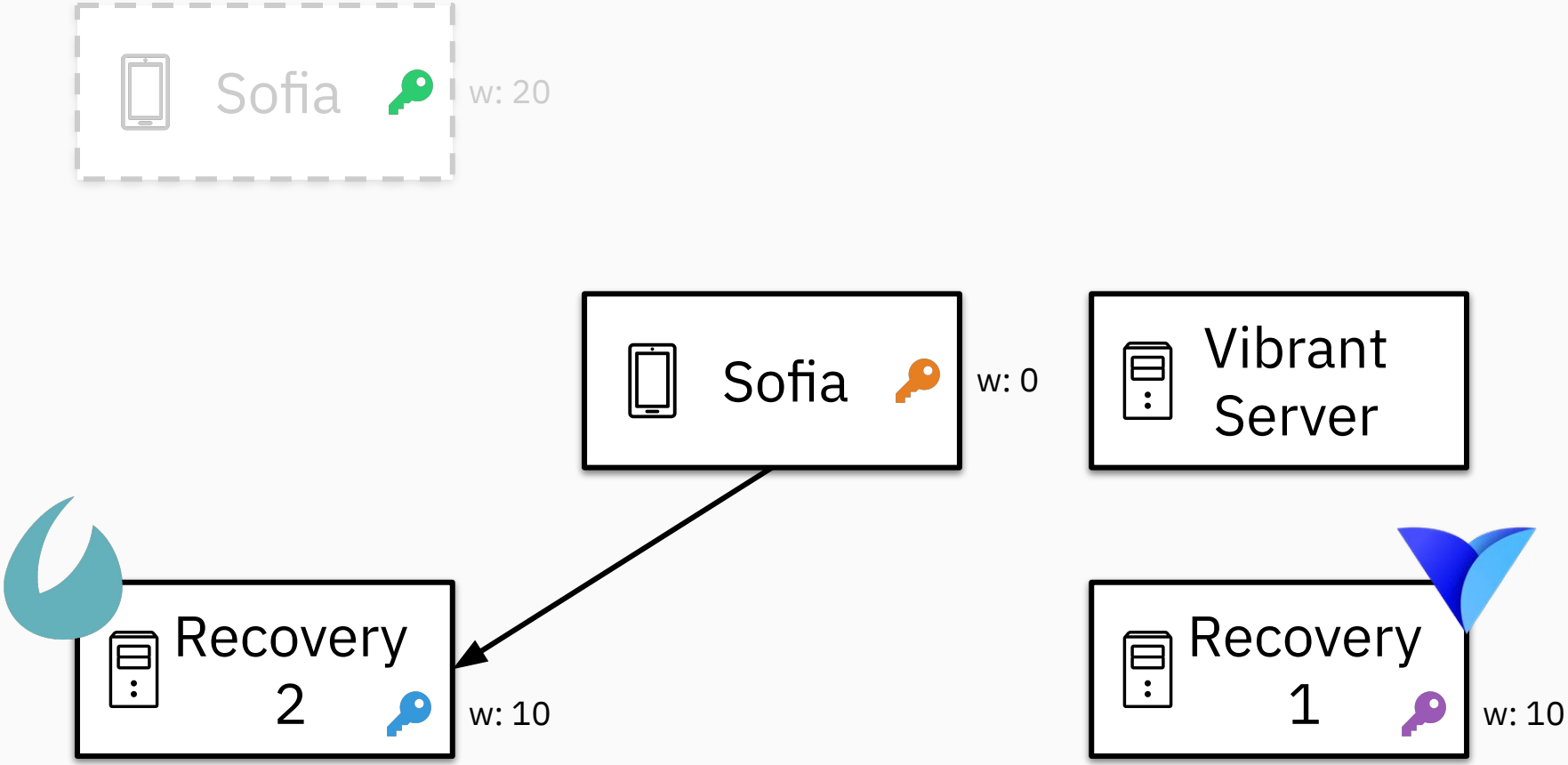

LOBSTR
If the below email address is associated with an account, you will receive a verification email.
sofia@example.com
Please check your email and click the verification link in the email message to proceed.
Resend

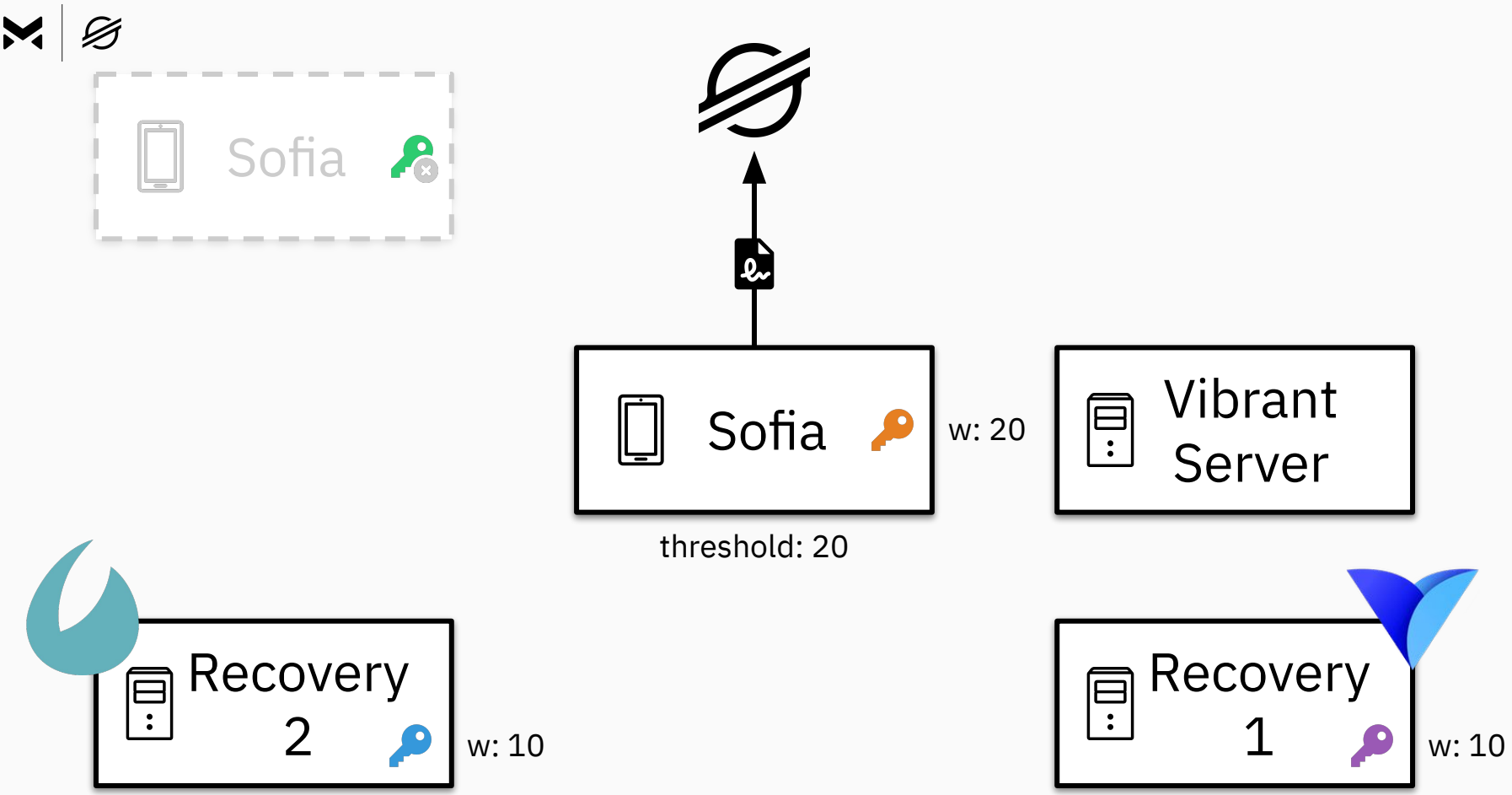

Sofia
w: 20
Sofia
Vibrant Server
Recovery 2
w: 10
Recovery 1
w: 10

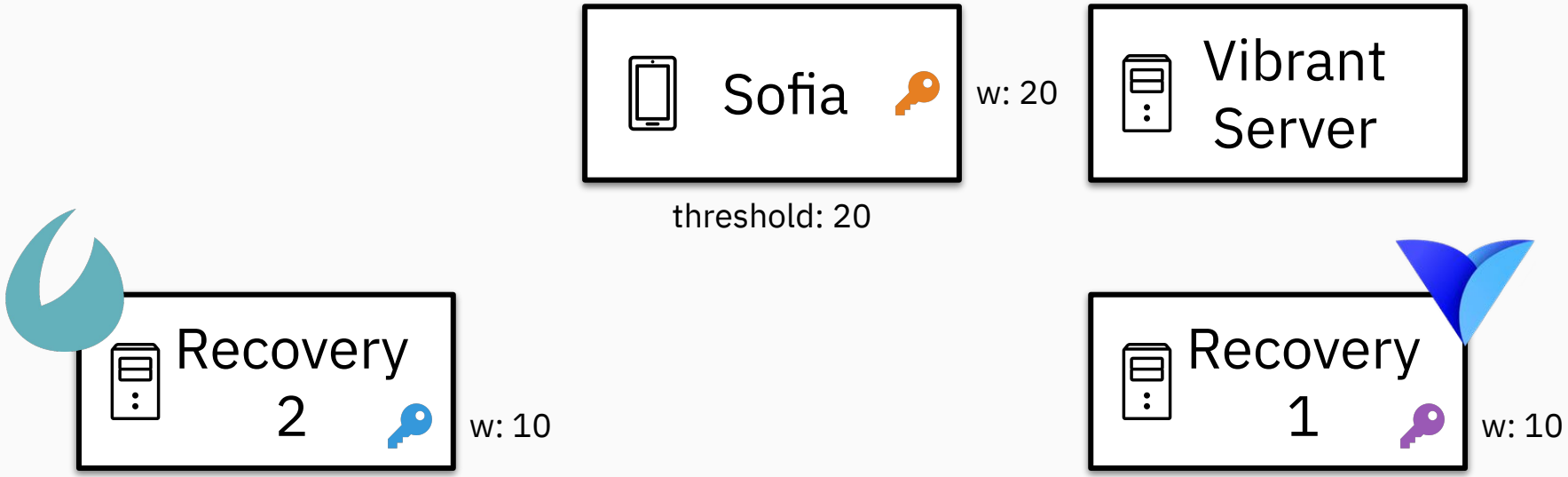

Sofia
w: 20
Sofia
Vibrant Server
Recovery 2
w: 10
Recovery 1
w: 10

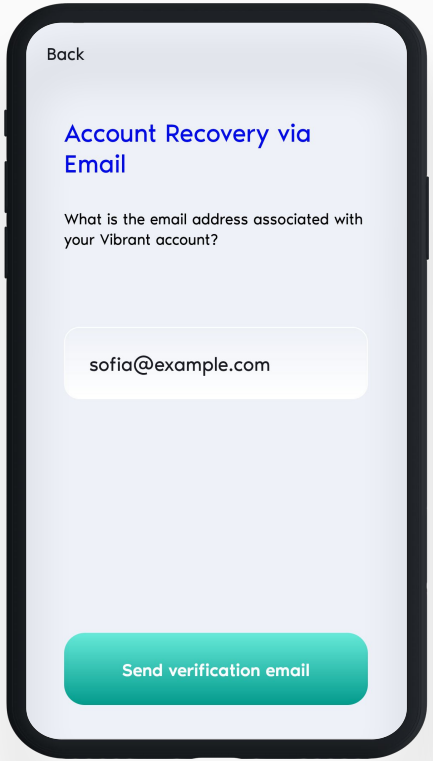
Sofia
w: 20

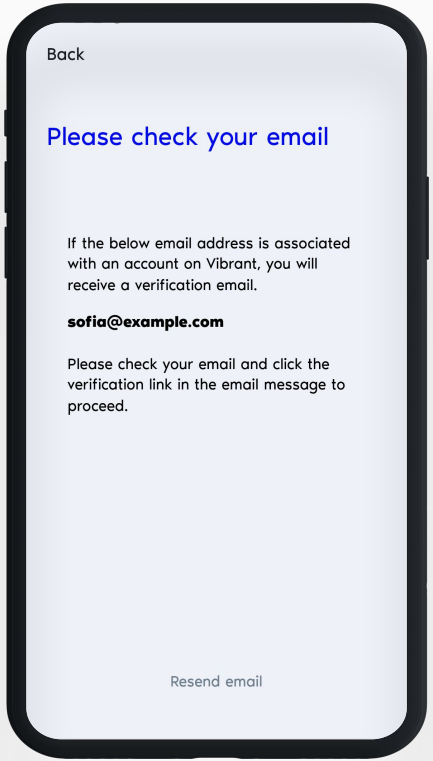

Sofia
w: 0
Vibrant Server
Recovery 2
w: 10
Recovery 1
w: 10

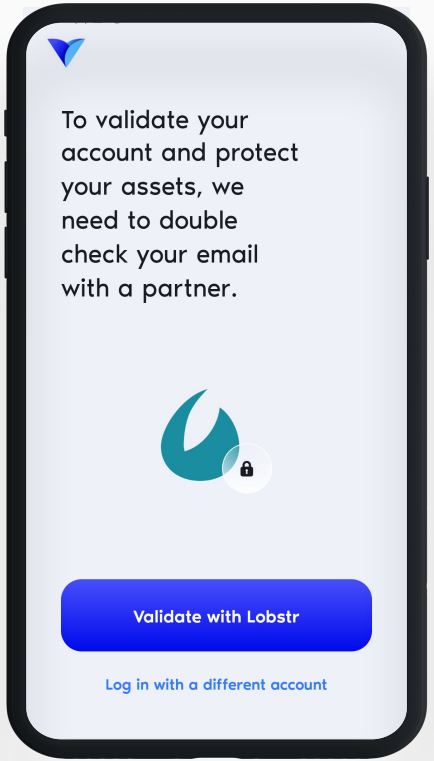

Sofia
w: 20
Sofia
w: 0
Vibrant Server
Recovery 2
w: 10
Recovery 1
w: 10

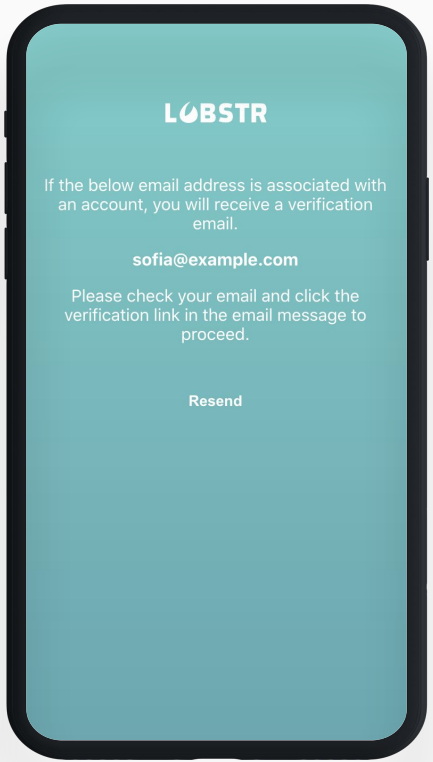

Sofia
Sofia
w: 20
Vibrant Server
threshold: 20
Recovery 2
w: 10
Recovery 1
w: 10

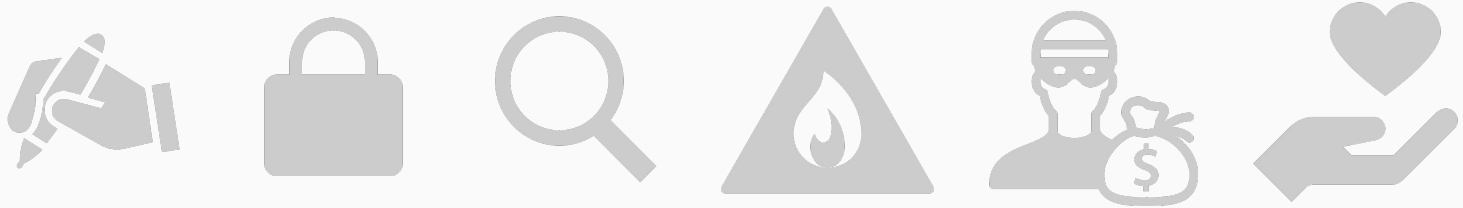

Sofia
w: 20
Vibrant Server
threshold: 20
Recovery 2
w: 10
Recovery 1
w: 10


Back
Account Recovery via Email
What is the email address associated with your Vibrant account?
sofia@example.com
Send verification email


Back
Please check your email
If the below email address is associated with an account on Vibrant, you will receive a verification email.
sofia@example.com
Please check your email and click the verification link in the email message to proceed.
Resend email


To validate your account and protect your assets, we need to double check your email with a partner.
Validate with Lobstr
Log in with a different account


LOBSTR
If the below email address is associated with an account, you will receive a verification email.
sofia@example.com
Please check your email and click the verification link in the email message to proceed.
Resend



Number of servers

Custody

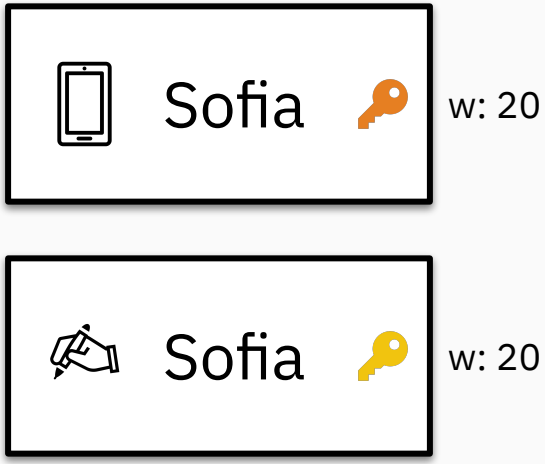
Fast vs Delayed Recovery

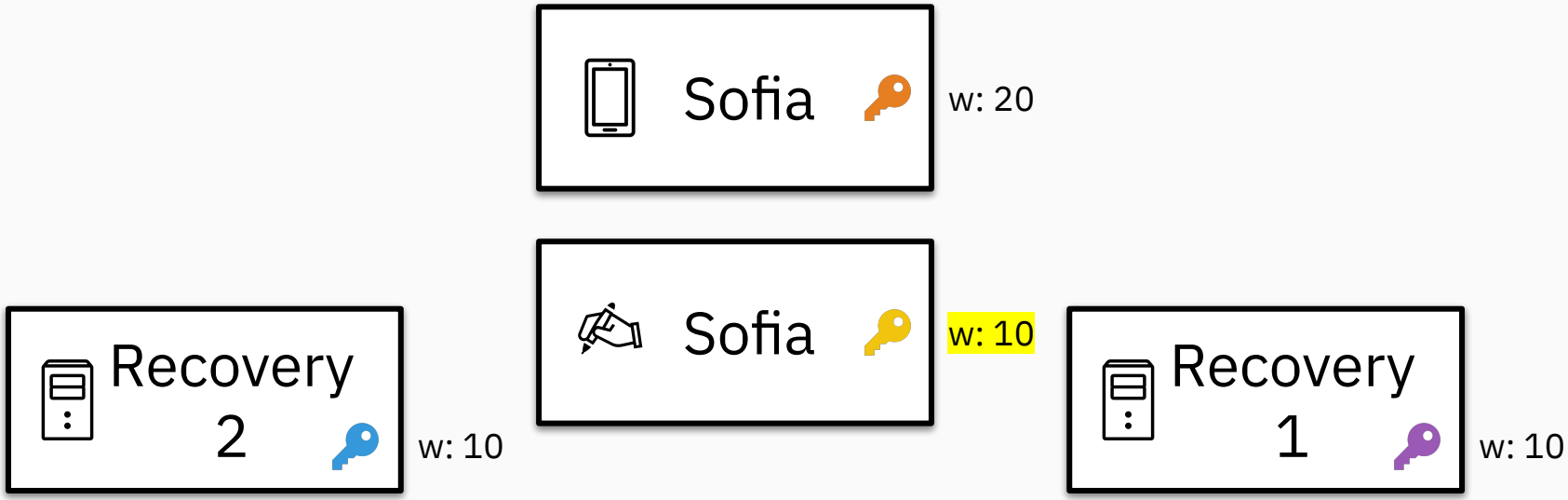
One device or multiple

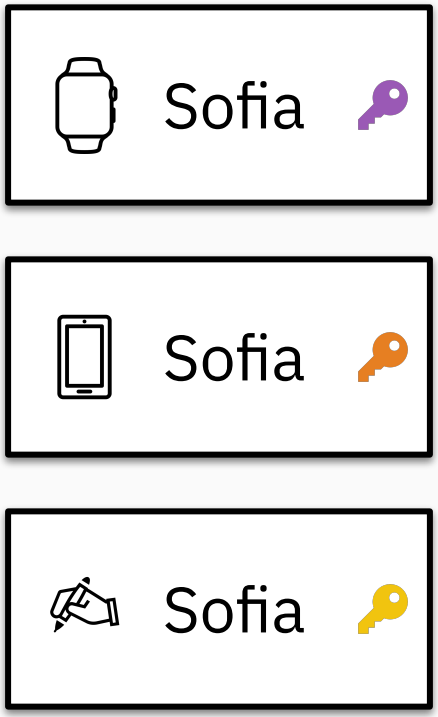
Auth methods

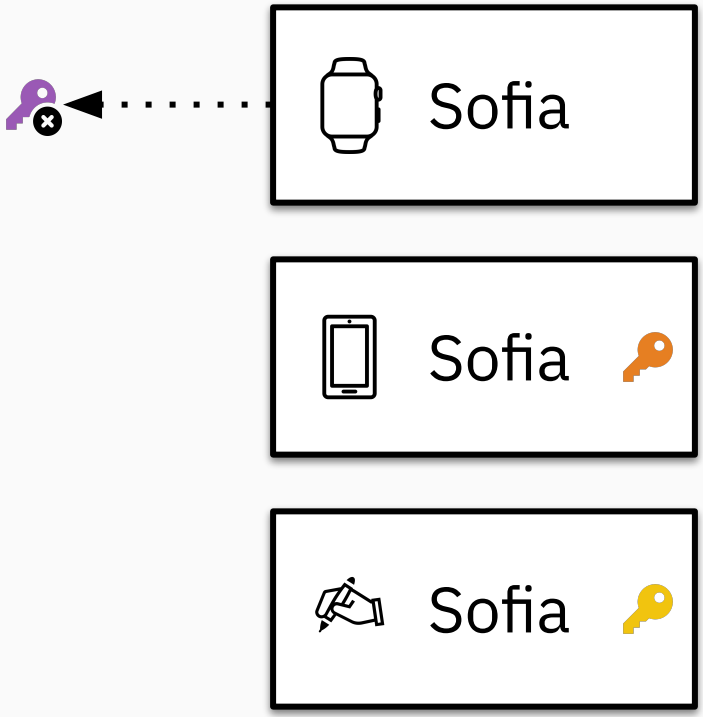
Paper Key

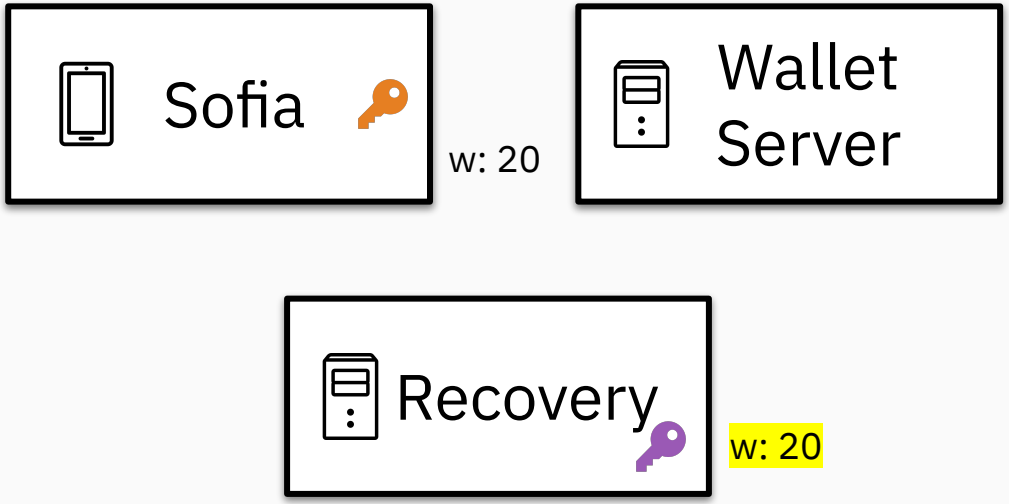
One auth method or multiple

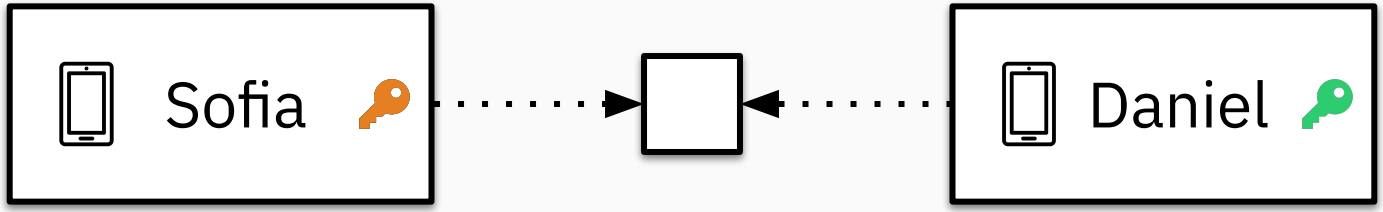

Sofia
w: 20
Sofia
w: 20


Sofia
w: 20
Sofia
w: 10
Recovery 2
w: 10
Recovery 1
w: 10


Sofia
Sofia
Sofia

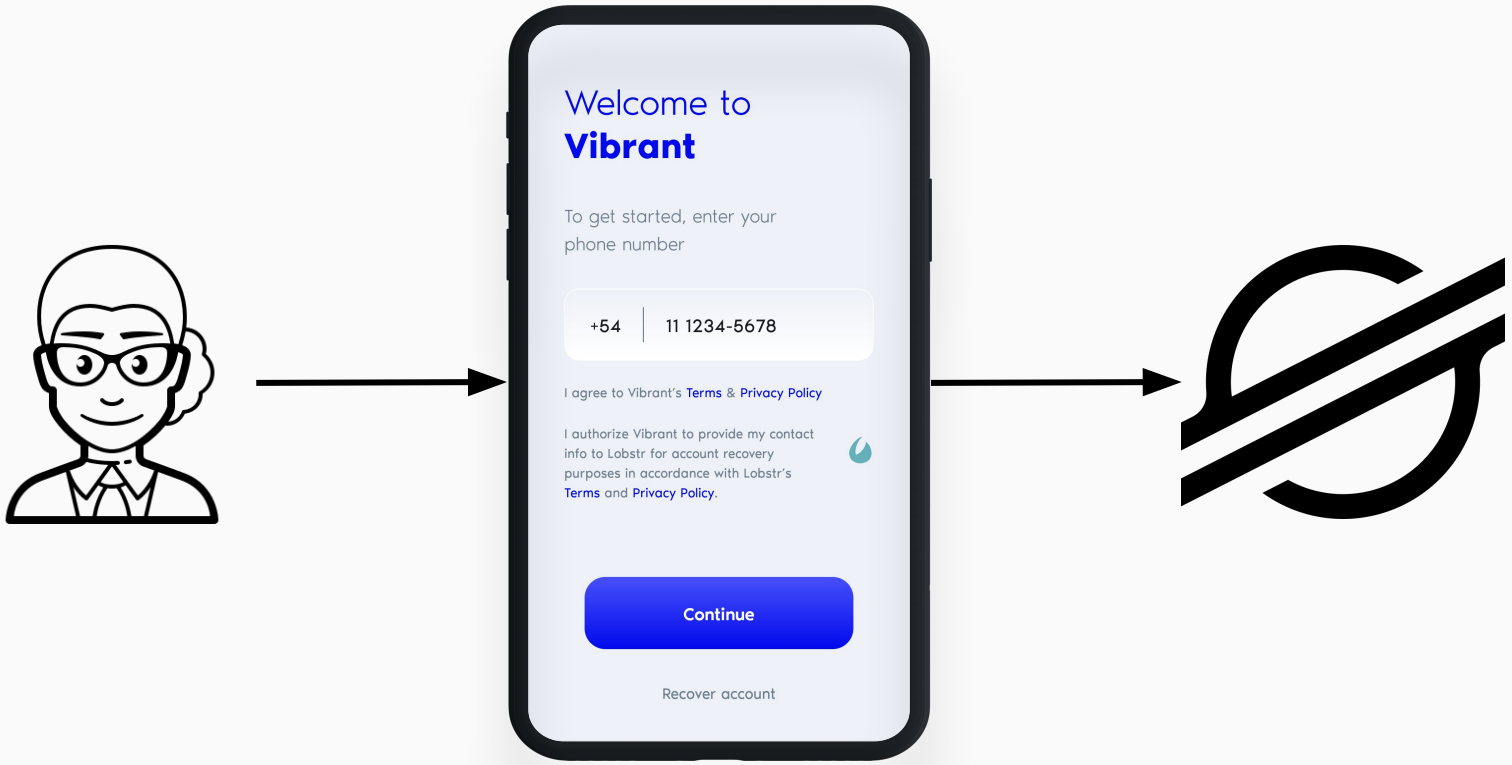

Sofia
Sofia
Sofia


Sofia
w: 20
Wallet
Server
Recovery
w: 20


Sofia
Daniel

SEP-30 Account Recovery

stellar.org/protocol/sep-30


Welcome to
Vibrant
To get started, enter your phone number
+54
11 1234-5678
I agree to Vibrant's Terms & Privacy Policy
I authorize Vibrant to provide my contact info to Lobstr for account recovery purposes in accordance with Lobstr's Terms and Privacy Policy.
Continue
Recover account

Getting Started

- stellar.org/protocol/sep-30
- stellar.org/blog/the-importance-of-key-management-recovery
- stellar.public #key-management on Keybase
- groups.google.com/g/stellar-dev/c/SFr2dHBZlsY