CLOUD FOUNDRY
SUMMIT

RUNNING AT SCALE

APRIL 18-20, 2018 | BOSTON

Fire Exit Announcement

- Please note the locations of the surrounding emergency exits & located the nearest lit EXIT sign to you
- In the event of a fire alarm or other emergency, please calmly exit to the public concourse area
- Emergency exit stairwells leading to the outside of this facility are located along the public concourse
- For your safety in an emergency, please follow the directions of the Public Safety Staff

THE VAULT OF SECRETS

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Stark & Wayne

secrets are
everywhere.

ssh keys

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ssh keys

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api keys

passwords

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rsa keys

api keys

passwords

ssh keys

secrets are everywhere.

rsa keys

api keys

client secrets

auth tokens

passwords

ssh keys

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rsa keys

api keys

client secrets

auth tokens

passwords

ssh keys

secrets are everywhere.

rsa keys

api keys

signing keys

client secrets

auth tokens

passwords

ssh keys

secrets are everywhere.

x.509

rsa keys

api keys

signing keys

client secrets

where do we store them?

we could...
hard-code them

```
import (
   "db"
)

const secret = "foo"

func main() {
   db.Connect("app", secret)
   // ... etc ...
}
```

we could...
put them in env vars

```
$ cf env my-app
...

User-Provided:
SECRET: oops
```

we could...
put them in the database

```
name         | secret
-------------+-----------------------
database     | d4t4BASE!
web          | sekrit
admin        | welcome1
(3 rows)
```

we could...
encrypt them in the database

```
name     | secret
---------+-----------------------
database | U2FsdGVkX18uN/SjleX1
web      | U2FsdGVkX19miyEam2rj
admin    | U2FsdGVkX1+oT5SP3/Ir
(3 rows)
```

so now we have an encryption key

where do we store it?

we could...
hard-code it

we could...
put it in an env var

we could...
put it in the database

we could...

encrypt it in the database

we have a dilemma

secrets are tough.

HashiCorp

Vault

vaultproject.io

what about cf?

there's a broker for that

https://github.com/cloudfoundry-community/vault-broker

(demo)

we also have a ui

https://github.com/jhunt/cf-vault-ui

(other demo)

an example app

https://github.com/jhunt/cf-apigen

(other other demo)

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