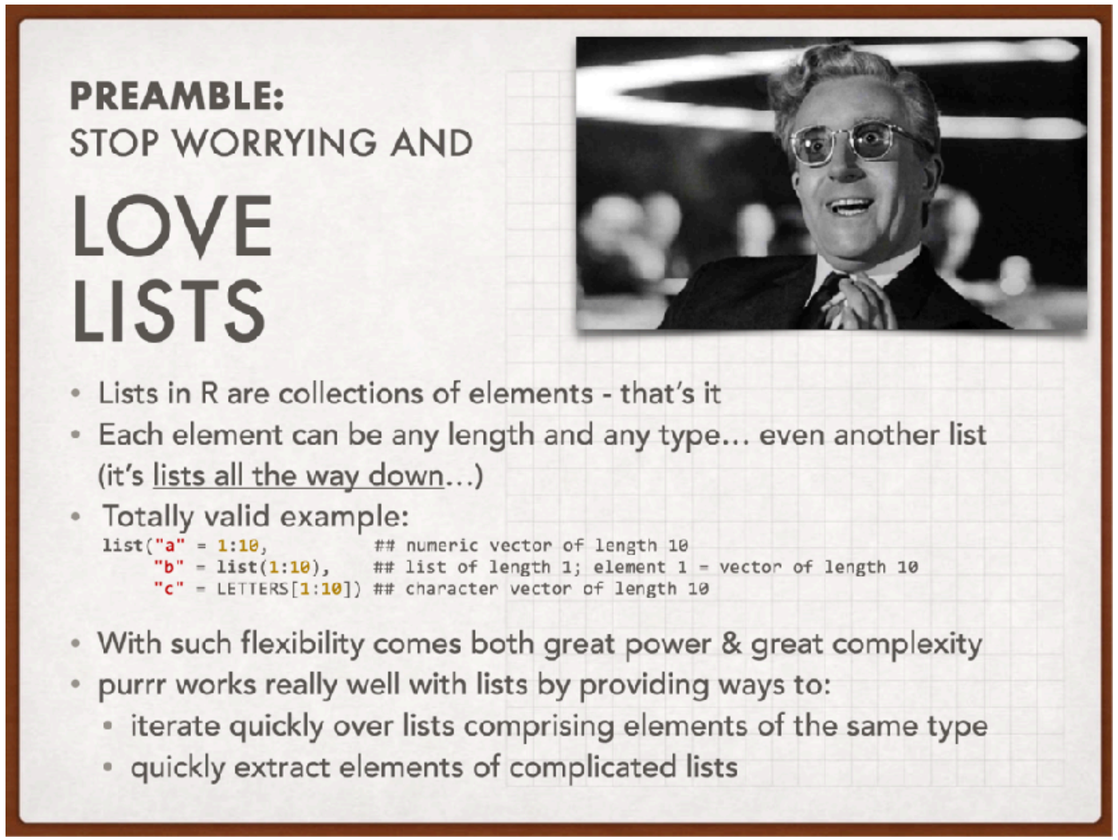
How I Learned to Stop Worrying and Love the Firewall

Ian Lyttle, Schneider Electric
@ijlyttle

Other works in this series

Jennifer Thompson
RLadies Introduction to Purrr

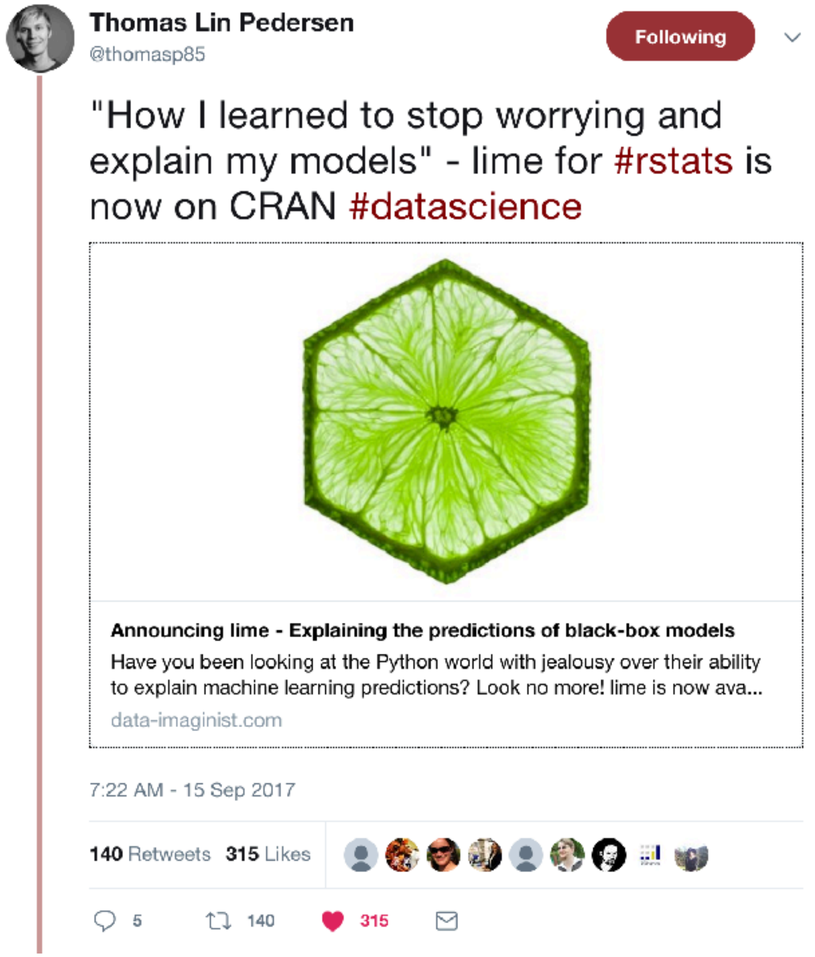


https://github.com/jenniferthompson/RLadiesIntroToPurrr

Other works in this series

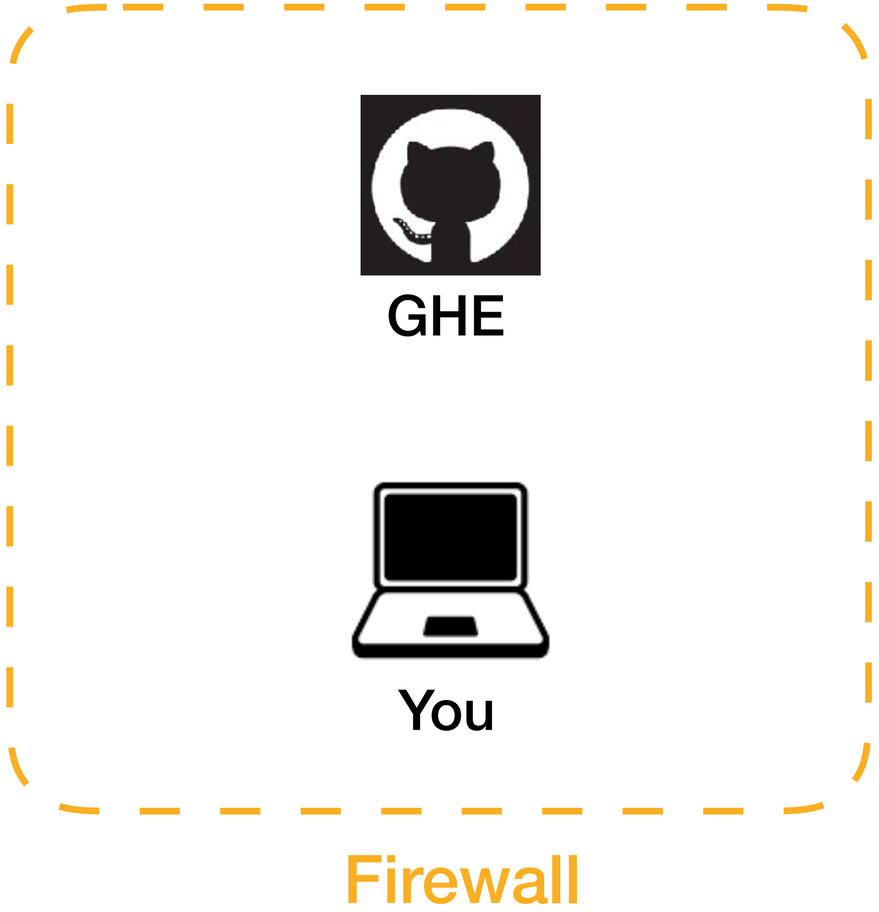
Thomas Lin Pedersen
Lime

https://github.com/thomasp85/lime



Who are you?

- You work at an institution where you need to keep some work private.
- You would like to share within your institution, by creating an internal version of the open R ecosystem.
- You have an instance of GitHub Enterprise.
- For the purposes of this talk, you work at Acme Corporation.



Prelim

- You almost certainly know this already; included here for completeness
- To use a proxy, set environment variables in `.Renviron`

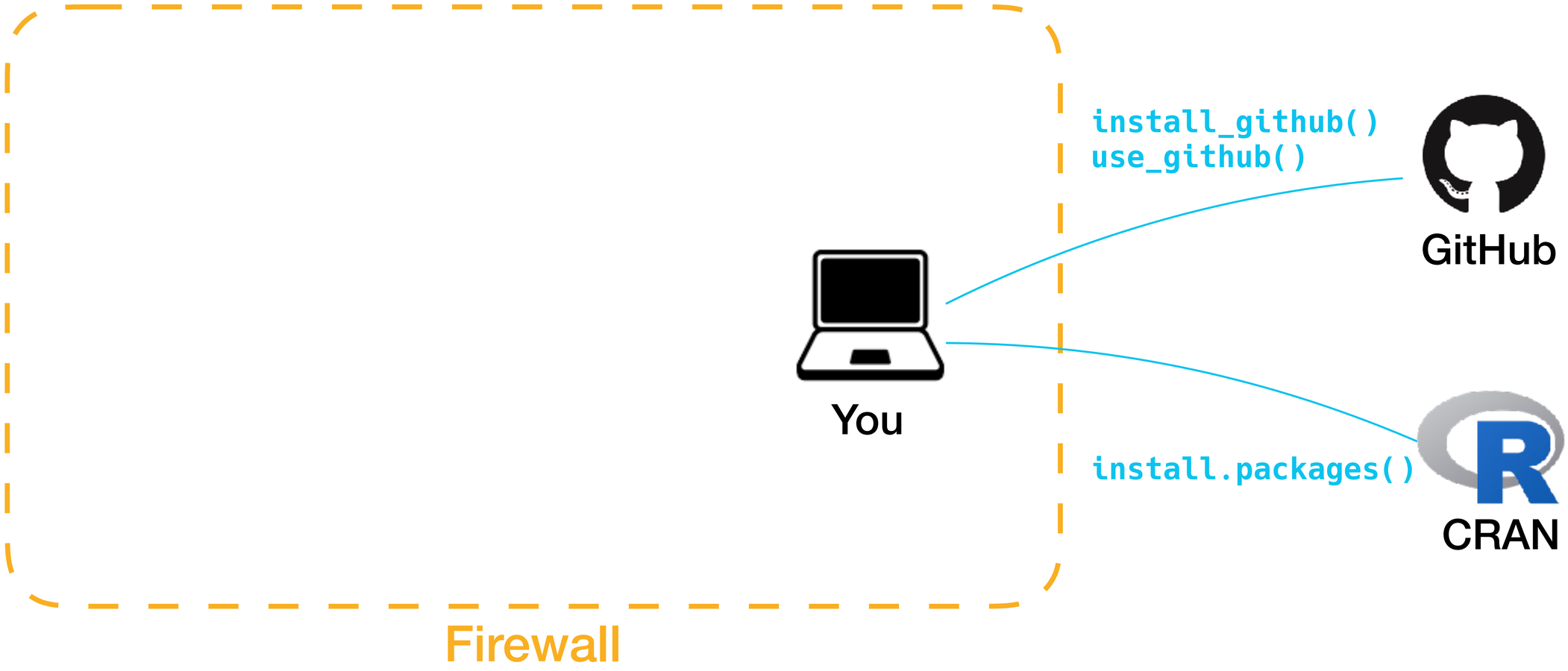
`.Renviron`

```
no_proxy="localhost,127.0.0.1,github.acme.com,rstudio-connect.acme.com"

https_proxy="http://xxx.xxx.xxx.xxx:yyyyy" # you have to find this
http_proxy="http://xxx.xxx.xxx.xxx:yyyyy"

HTTPS_PROXY="${https_proxy}"
HTTP_PROXY="${http_proxy}"
```

How does this all fit together?



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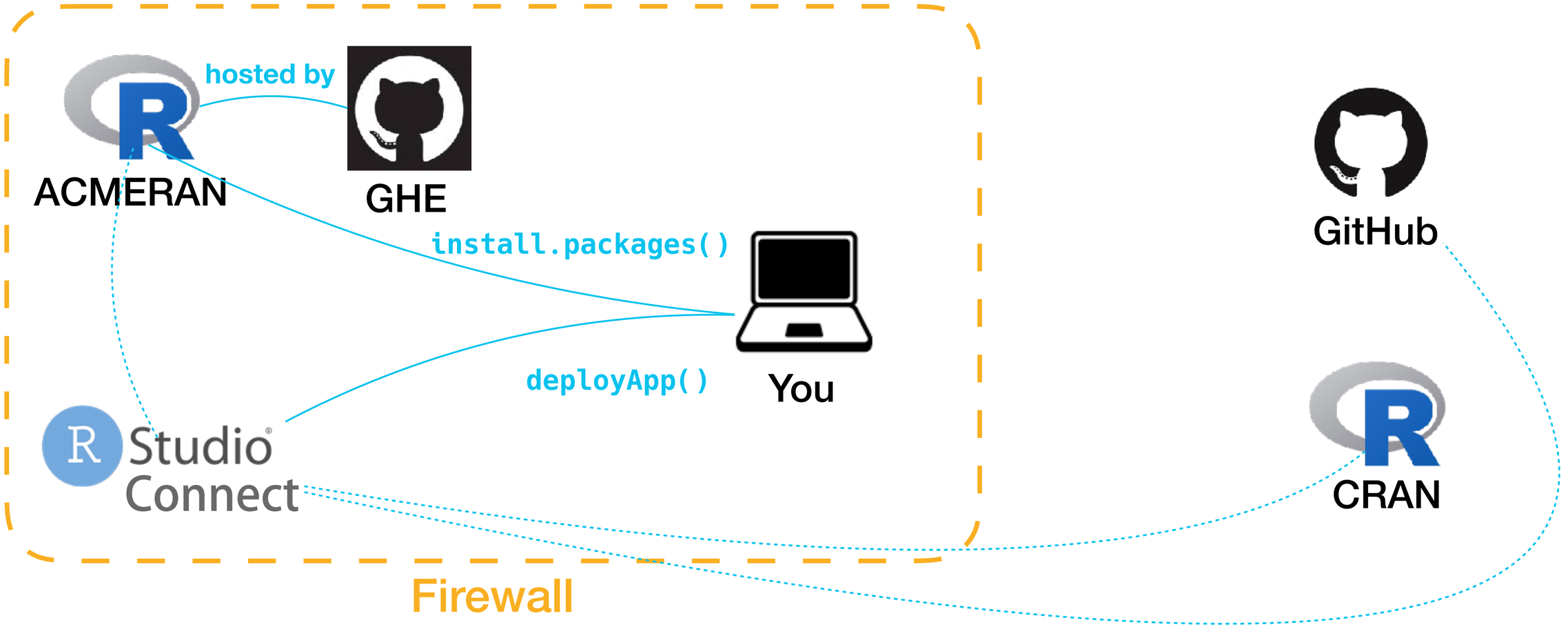

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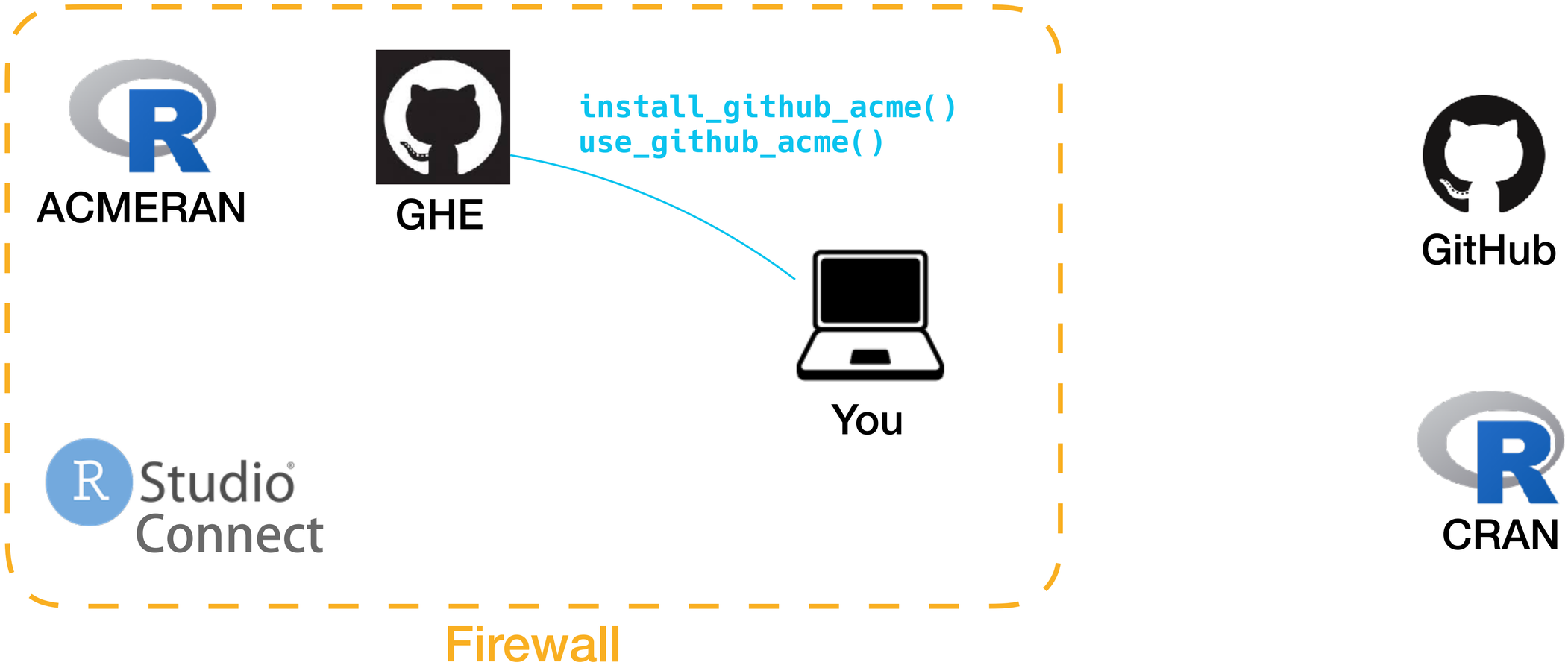


Using your GitHub Enterprise

- We already functions to establish repositories and install from GitHub.
- They have a **`host`** argument, so you can use them with GHE:

```
devtools::install_github("user/repo", host = "github.acme.com/api/v3")

usethis::use_github(host = "https://github.acme.com/api/v3", auth_token = Sys.getenv(…))
```

- It’s a hassle to type all these arguments.
- It would be nice to wrap these up in functions in your **acmetools** package.

Enter ghentr

- **ghentr**, package to help you work with your GitHub Enterprise
- templating provided by **usethis** (Hadley Wickham and Jenny Bryan)

```
devtools::install_github("user/repo", host = "github.acme.com/api/v3")

usethis::use_github(host = "https://github.acme.com/api/v3", auth_token = Sys.getenv(…))
```

```
acmetools::install_github_acme("user/repo")

acmetools::use_github_acme()
```

Using ghentr

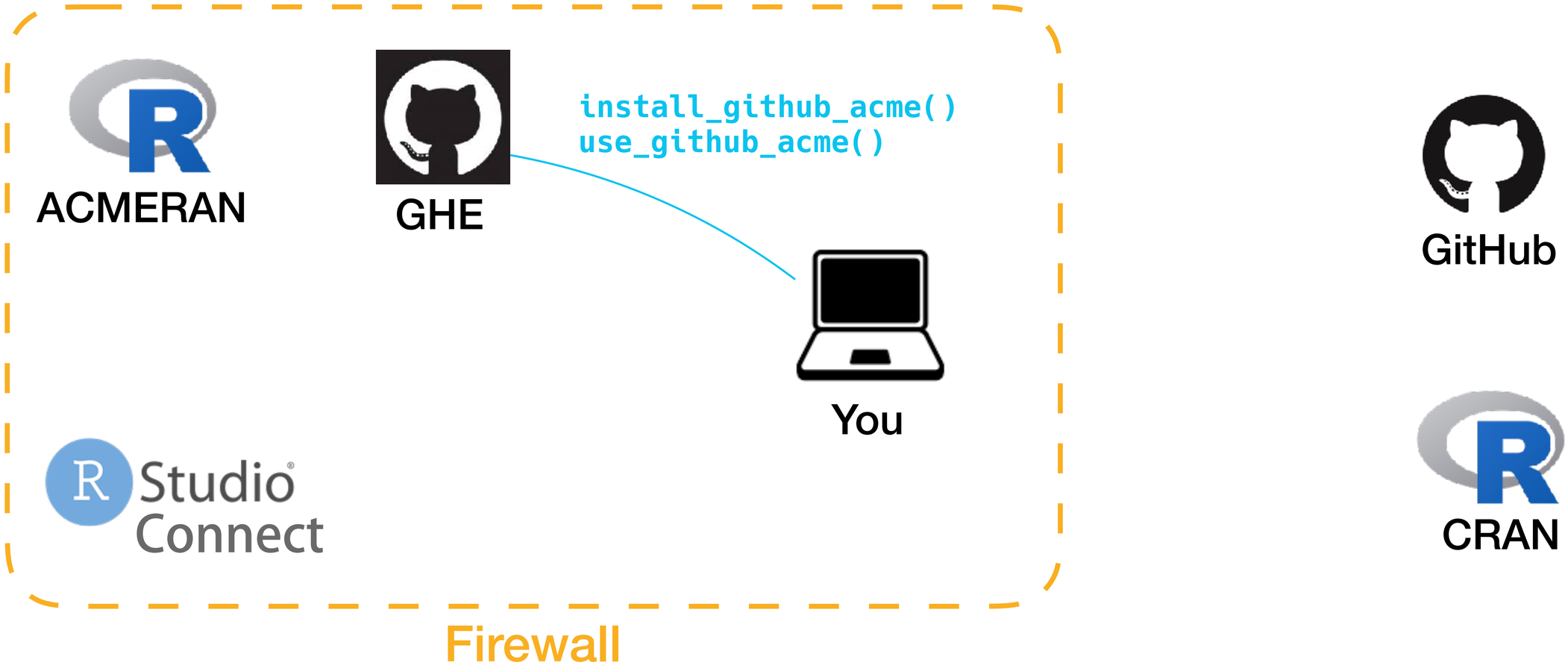
- One person at Acme (maybe you) creates a package, **acmetools**, then:

```
ghentr::use_github_enterprise(
  host = "github.acme.com/api/v3",
  suffix = "acme",
  name = "Acme Corporation"
)
```

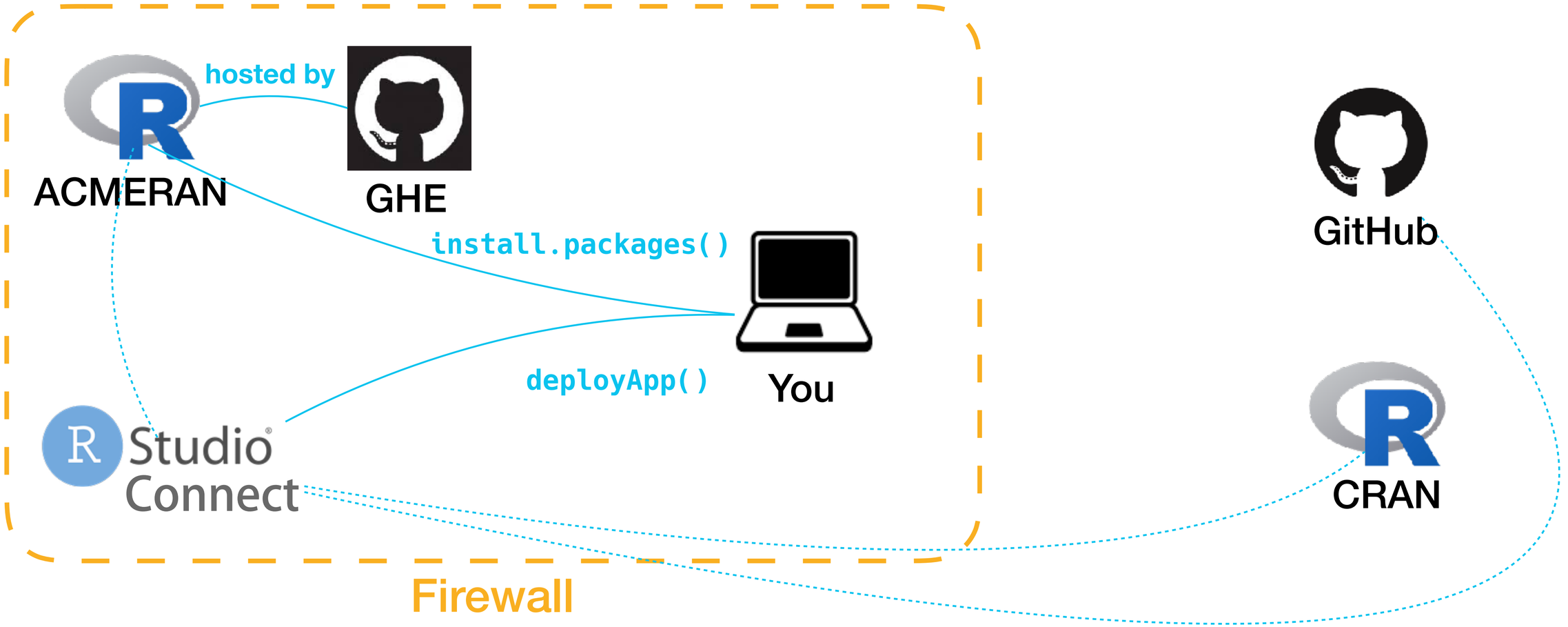
- **ghentr** writes documented function-files to R directory of **acmetools** project:

```
use_github_acme <- function(organisation = NULL,
                            private = FALSE,
                            protocol = c("ssh", "https"),
                            credentials = NULL,
                            auth_token = github_acme_pat(),
                            host = "https://github.acme.com/api/v3") {
  usethis::use_github(…)
}
```

How does this all fit together?



How does this all fit together?



Using a repository

- Native way for R to install packages
- Lets you deploy work to RStudioConnect or use the **packrat** package
- As a user, all you have to do is add a single line to `.Rprofile`

`.Rprofile`

```
options(
  repos = c(
    CRAN = "https://cran.rstudio.com/",
    ACMERAN = "https://pages.github.acme.com/ACME-R/ACMERAN/"
  ),
  …
)
```

Care and feeding of a repository

- Dirk Eddelbuettel and colleagues created **drat**: Drat R Archive Template
- A CRAN-like repository is simply a filesystem made available using a URL.
- The **drat** package helps you to build this filesystem.
- You can use GitHub Enterprise to host this filesystem,
  make it available using GitHub pages.
- RStudio are developing a product to manage packages and repositories.

Initializing repository

- Create new project in RStudio: **acmeran**

Empty project will do

- Create the filesystem

```
ghentr::init_drat_repo()
ghentr::make_drat_bin_placeholders()
```

Creates directory for source packages
Creates placeholders for binary packages

- Edit your `.Rprofile`

```
options(dratRepo = "path/to/acmeran")
```

Used by **drat** to determine path when inserting a package into repository

- Create git repository, establish GHE repository

```
usethis::use_git()
acmetools::use_github_acme()
```

Creates remote at your GHE and pushes

- At GHE, activate pages on master branch

Suggest to use master branch so that filesystem **will not** be shared by default

- Publicize URL for repository

Adding a package

On same computer as **acmeran**, open package-project:

- Add "Repository" field to DESCRIPTION
  `ghentr::use_drat_repository()`

- Prepare and build source package for release
  `devtools::check()`
  `devtools::build()`

- Insert package into **acmeran**
  `drat::insertPackage("path/to/pkg.tar.gz")`

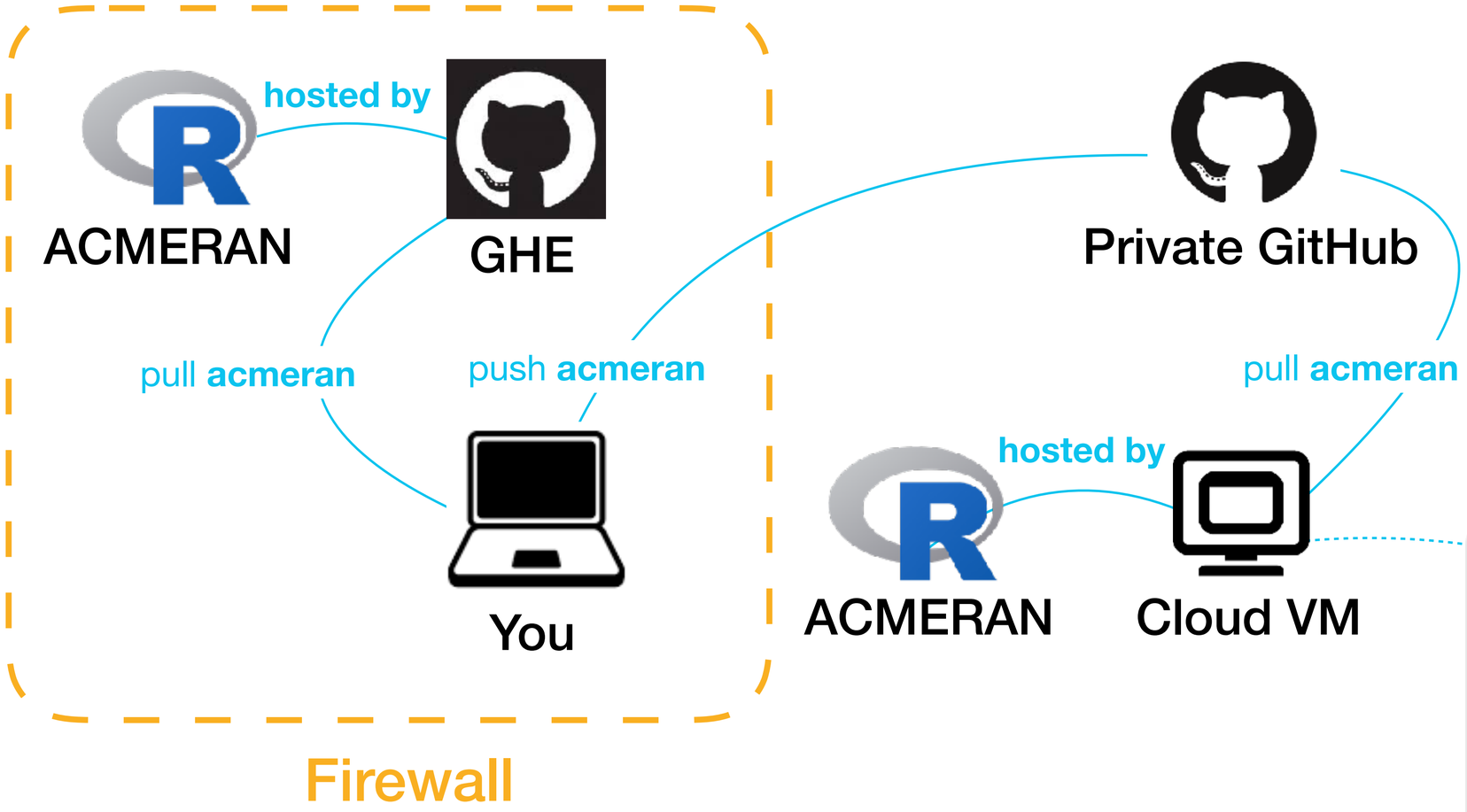
- Commit and push **acmeran**

Lets **packrat** and RStudioConnect figure out how to recreate your packages

`build()` returns string describing the path to the pakage tar.gz file

`insertPackage()` uses that string

One more scenario



.Rprofile

```
options(
  repos = c(
    CRAN = …,
    ACMERAN = "file://…"
  ),
  …
)
```

Acknowledgements

usethis authors:

- Hadley Wickham
- Jenny Bryan

drat authors:

- Dirk Eddelbuettel et al.

ghentr tester:

- Emily Bosak

Acme’s #1 Customer

Thank you

ghentr package

- helps you use *your* instance of GitHub Enterprise
- lets you build functions:
  `use_github_acme()`
  `install_github_acme()`
- helps you build an internal CRAN-like repository using **drat**
- not yet on CRAN:
  `install_github("ijlyttle/ghentr")`

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https://ijlyttle.github.io/ghentr