



The Tao of RStudio



Three key concepts

- The way of RStudio
- What can adopting R in production look like
- How does RStudio sustain itself

1439



rstudio::conf
AUSTIN

Mass communication

“the arrival of mechanical movable type printing **introduced the era of mass communication**, which **permanently altered the structure of society**. The relatively unrestricted circulation of information and (revolutionary) ideas transcended borders, captured the masses in the Reformation and threatened the power of political and religious authorities. The sharp increase in literacy broke the monopoly of the literate elite on education and learning and bolstered the emerging middle class.”

From Wikipedia (https://en.wikipedia.org/wiki/Printing_press)

500 years later

Science, business, and many other areas of society continually rely on understanding data, and that understanding frequently involves large and complicated data processes.

Those who receive the results of modern data analysis have limited opportunity to verify the results by direct observation. Users of the analysis have no option but to trust the analysis, and by extension the software that produced it.

This places an obligation on all creators of software to program in such a way that the computations can be understood and trusted. This obligation I label the *Prime Directive*.

[John Chambers, Software for Data Analysis: Programming with R](#)



- Repeatable

- Inspectable

- Reusable

- Diffable

CODE

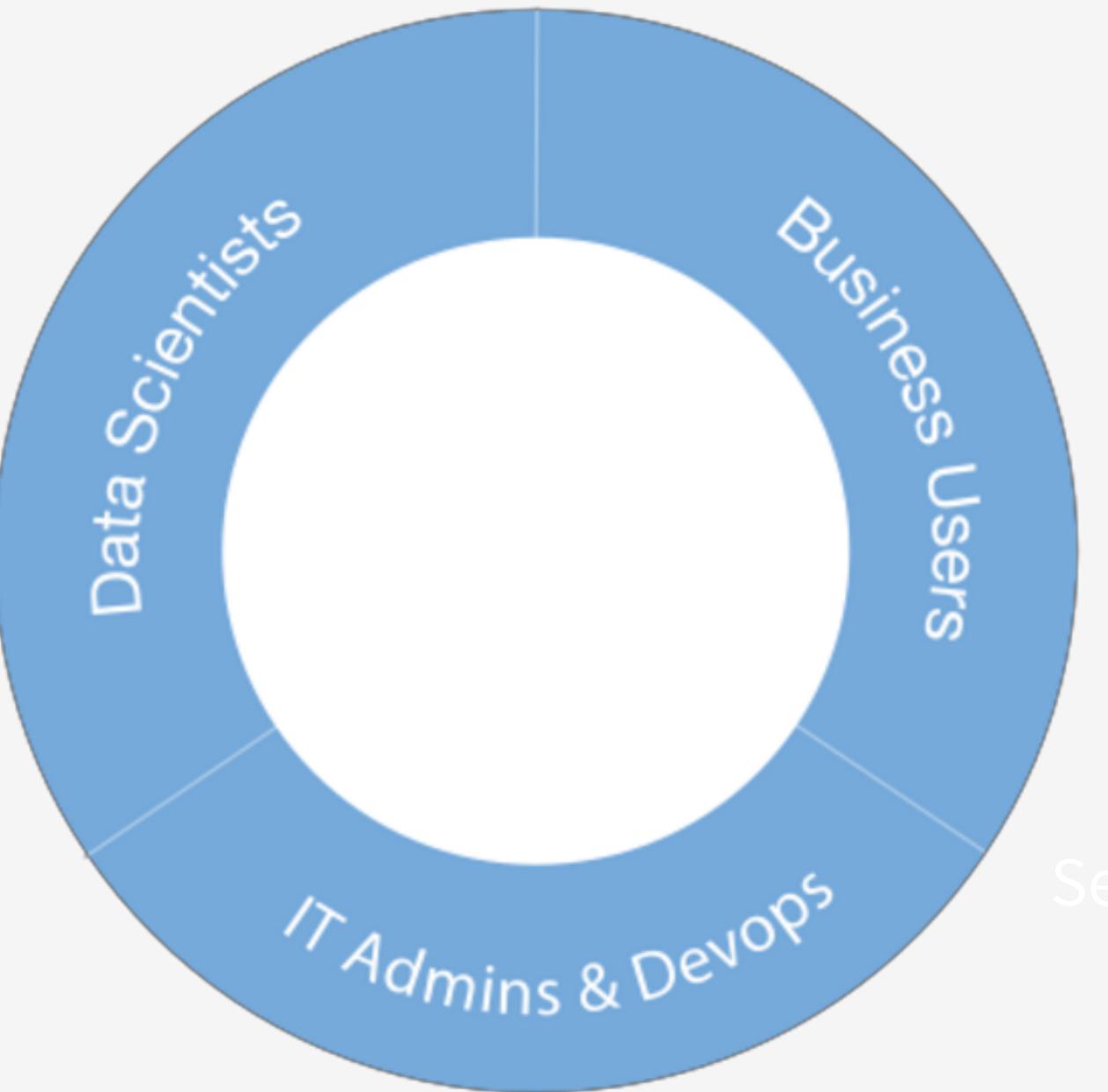
Code

- Complex problems will require code
- Code is communication, and communication is critical
- With code you can inspect how a problem is solved and either adopt it, or figure out how to improve it yourself
- With code, the answer is always **YES!!**



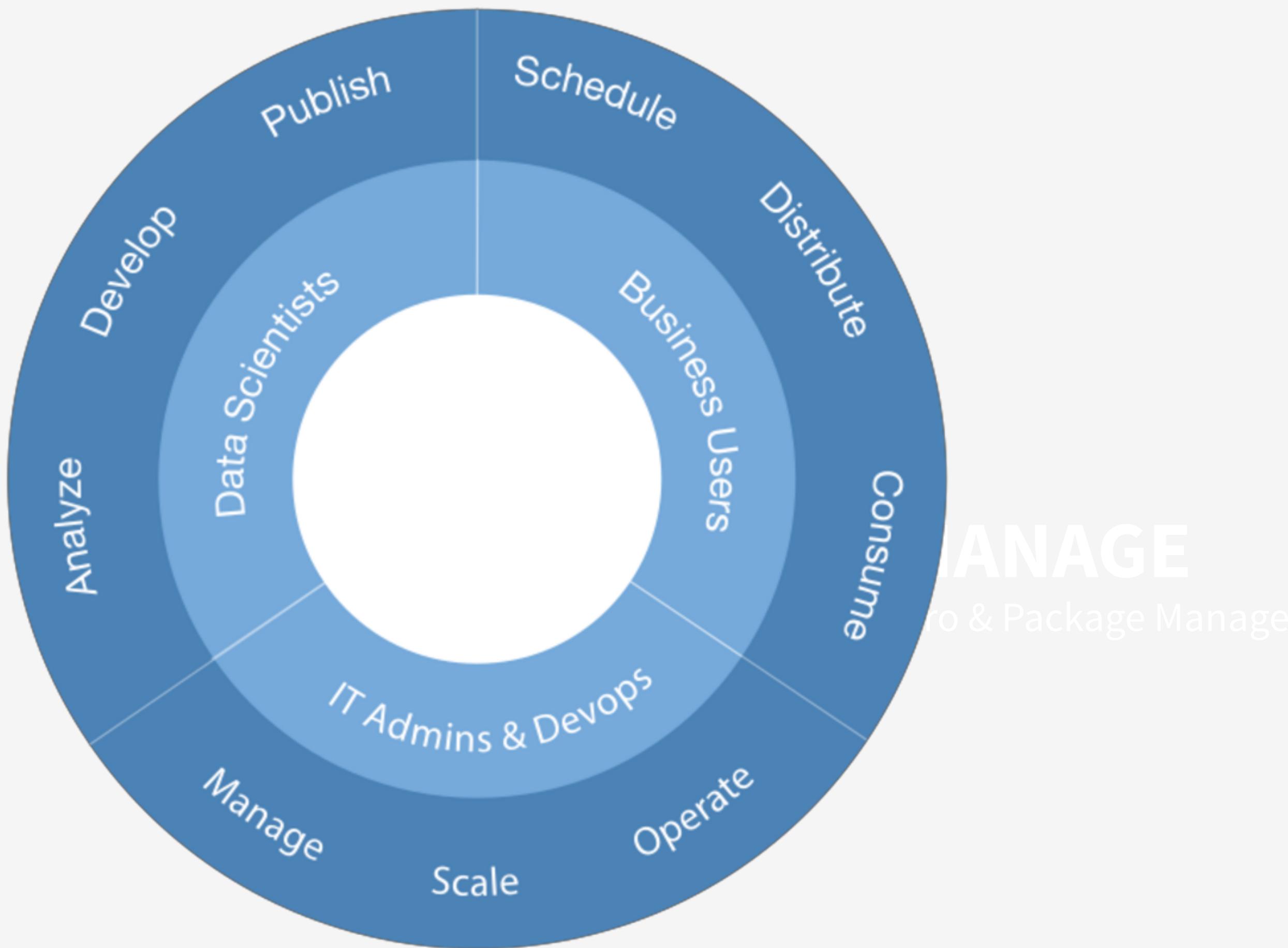
- ➊ 174 packages maintained
- ➋ More than 50% of engineering works on free and open source software
- ➌ More than 50% of the organization is in engineering
- ➍ Numbers don't include education, and solutions engineering

Multiple Constituencies



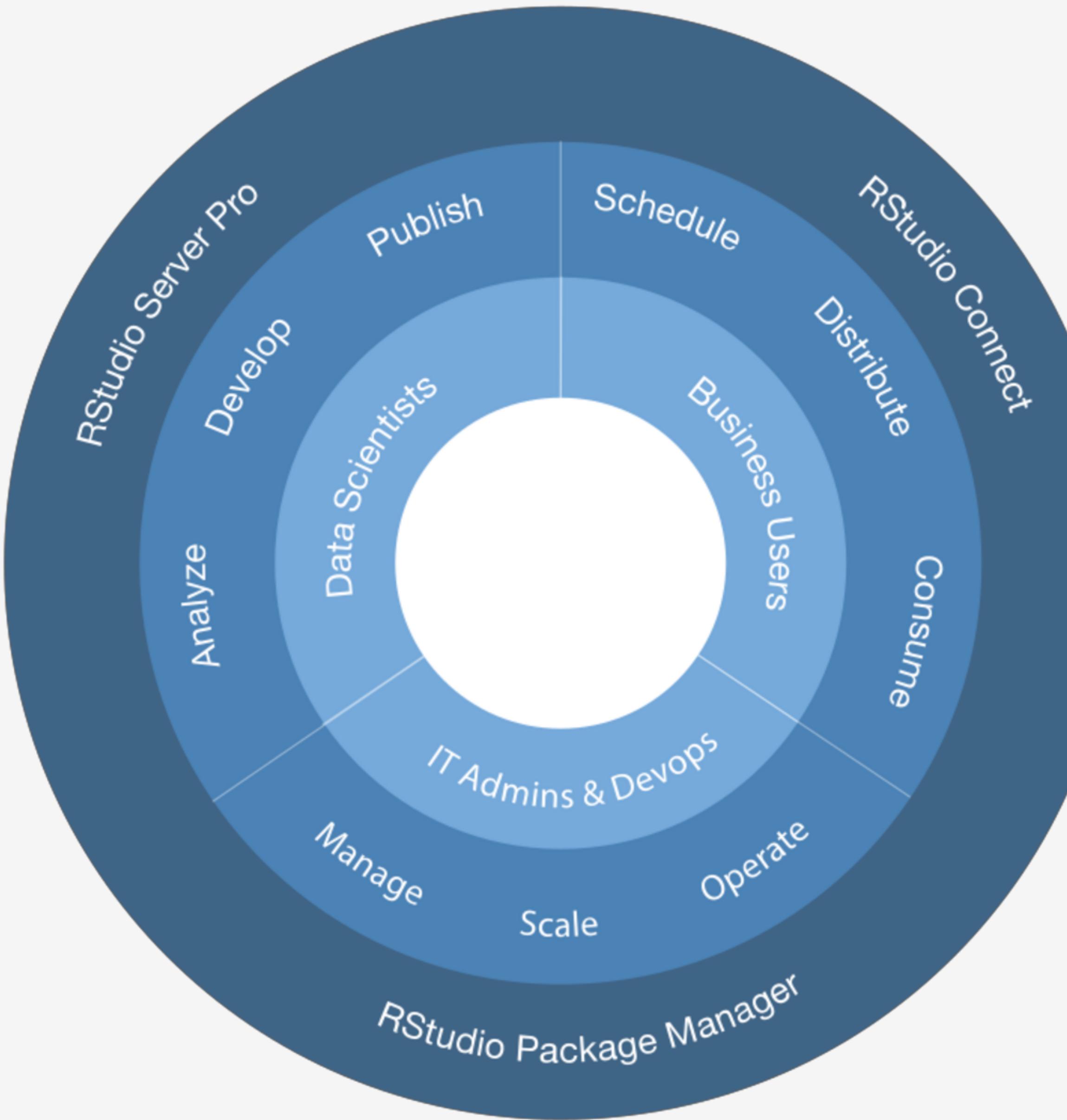
MANAGE
Server Pro & Package Manager

Different Activities & Concerns



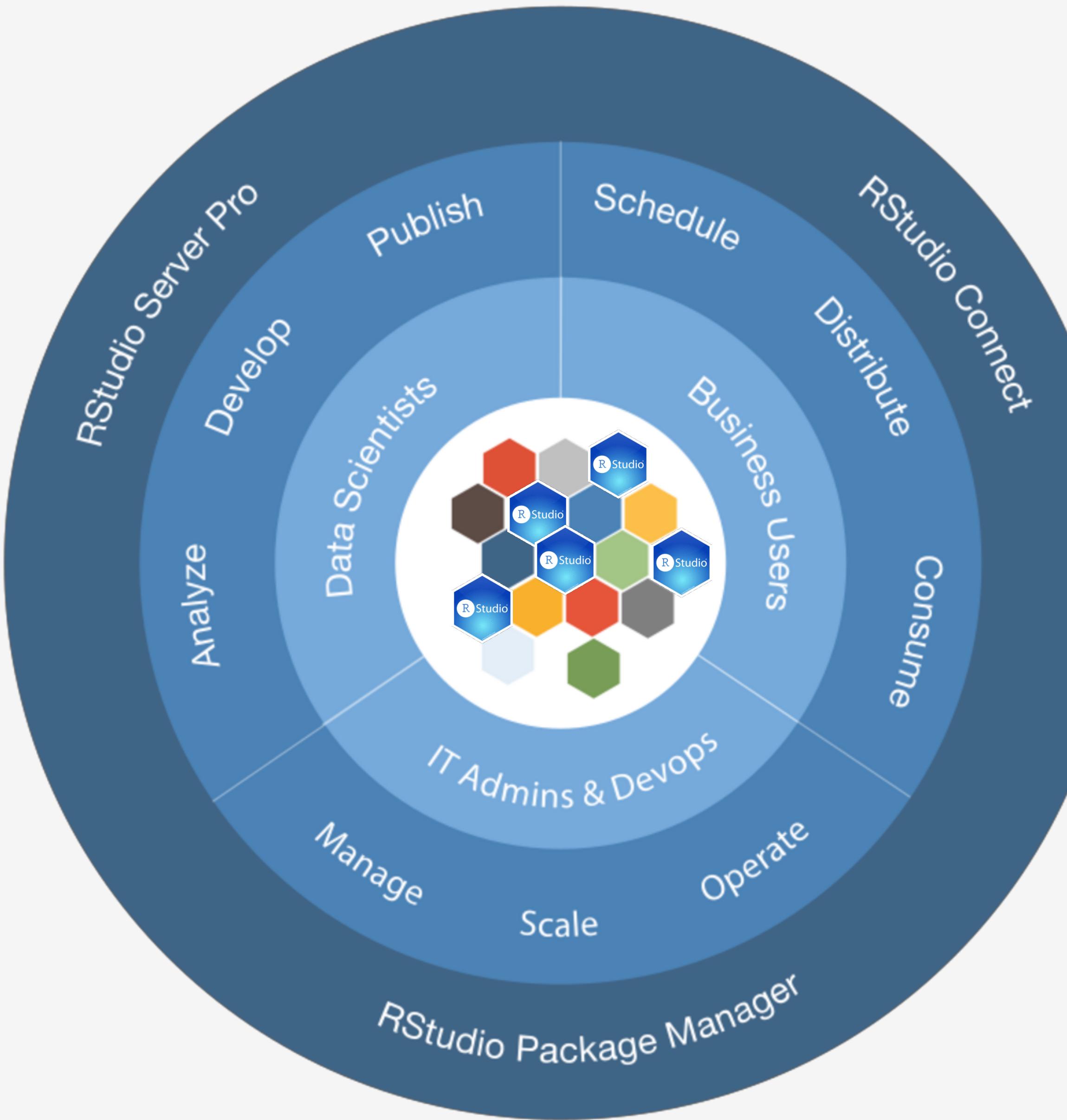
- Security
- Reproducibility
- Scaling
- Elastic workloads
- Monitoring
- High Availability
- Permissions for different roles
- Auditability
- Multiple languages
- Interoperability with multiple systems
- Someone to call for help

RStudio Products



- ✓ Security
- ✓ Reproducibility
- ✓ Scaling
- ✓ Elastic workloads
- ✓ Monitoring
- ✓ High Availability
- ✓ Permissions for different roles
- ✓ Auditability
- ✓ Multiple languages
- ✓ Interoperability with multiple systems
- ✓ Someone to call for help

R Packages at the Heart



- ✓ Security
- ✓ Reproducibility
- ✓ Scaling
- ✓ Elastic workloads
- ✓ Monitoring
- ✓ High Availability
- ✓ Permissions for different roles
- ✓ Auditability
- ✓ Multiple languages
- ✓ Interoperability with multiple systems
- ✓ Someone to call for help



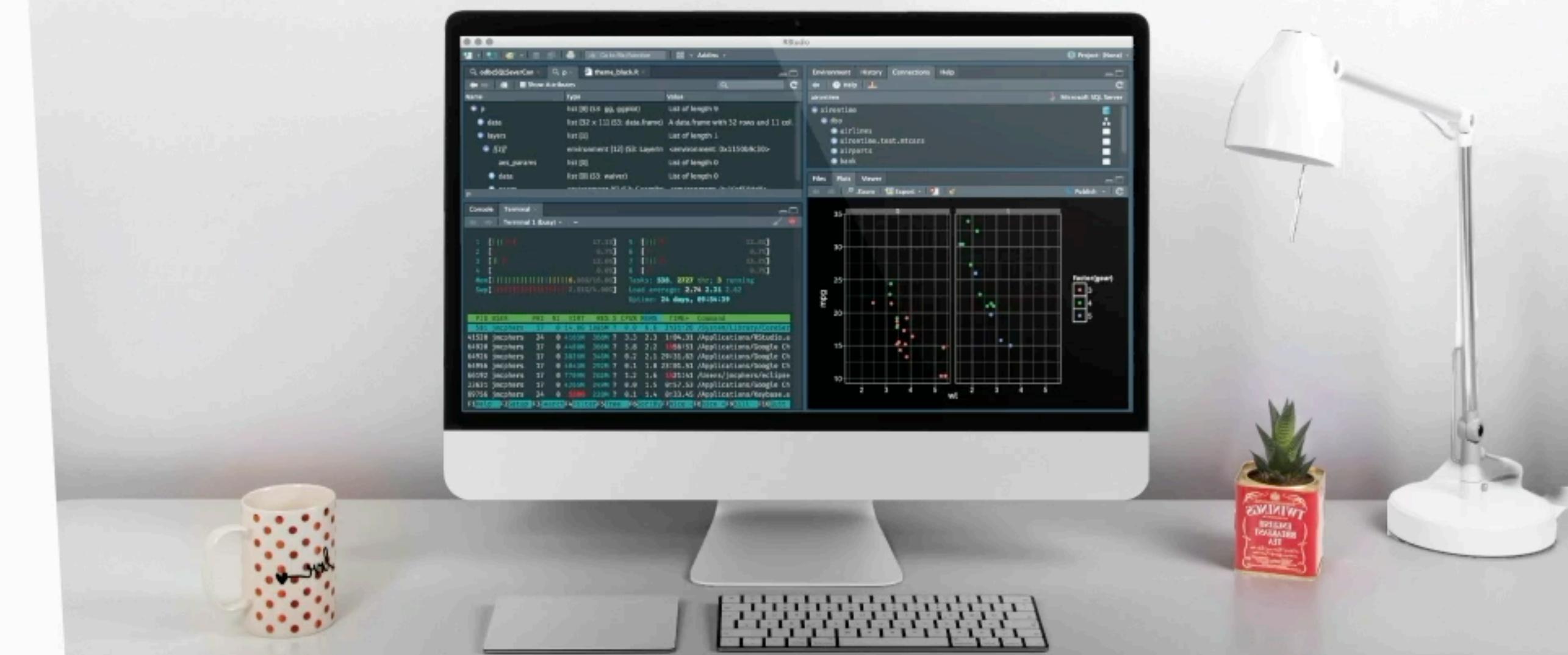






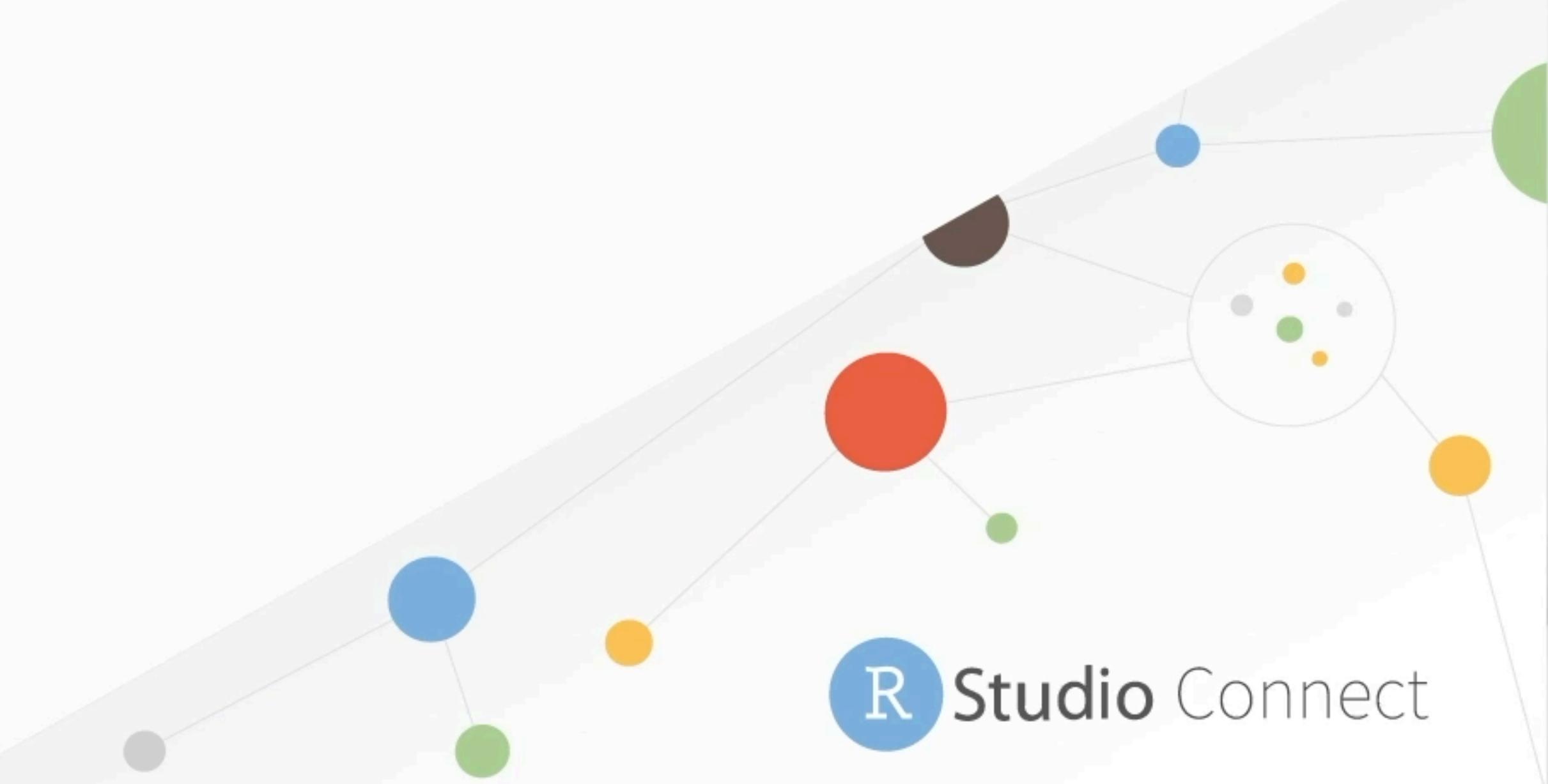
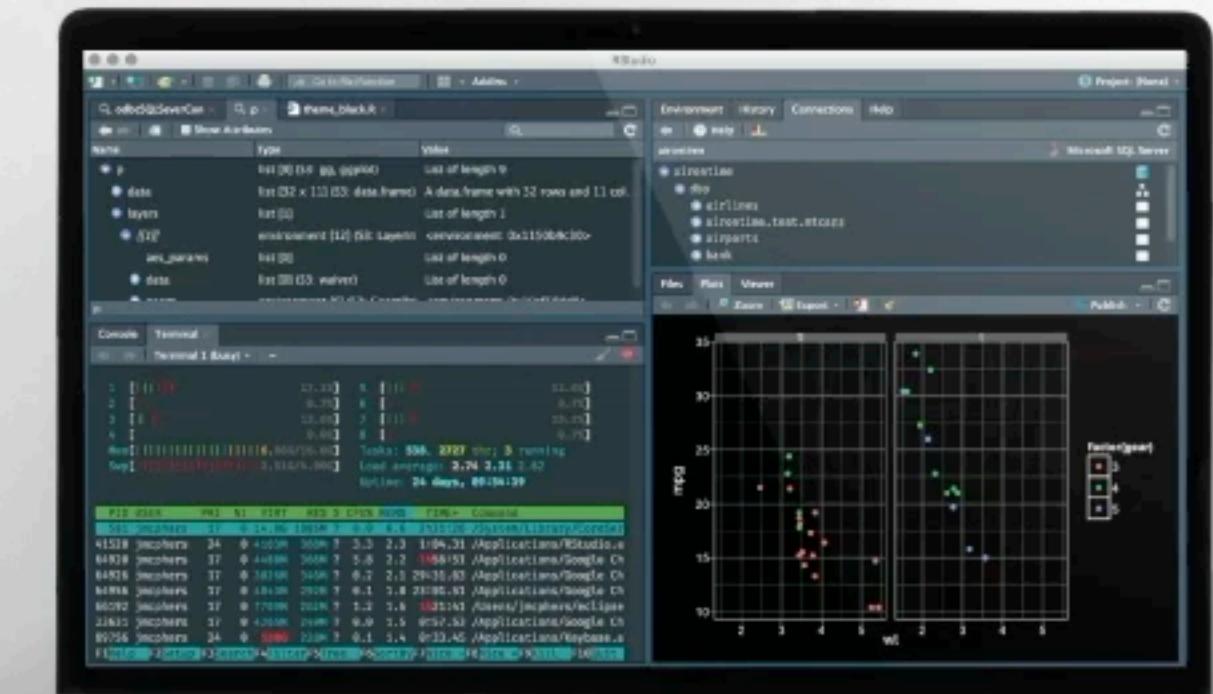


R Studio Server Pro





R Studio Server Pro

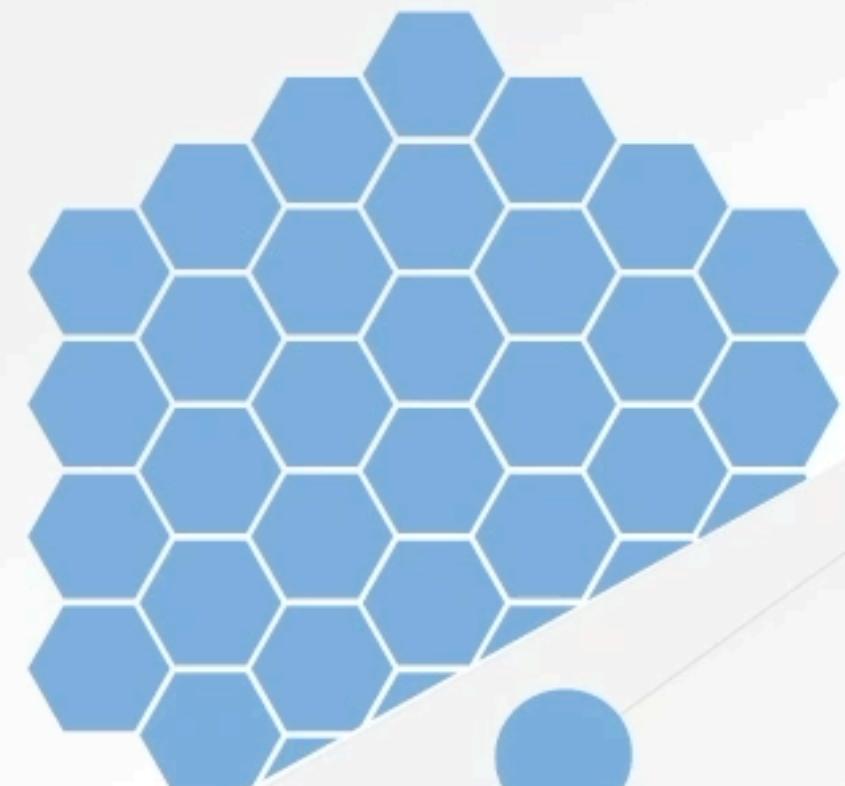


R Studio Connect

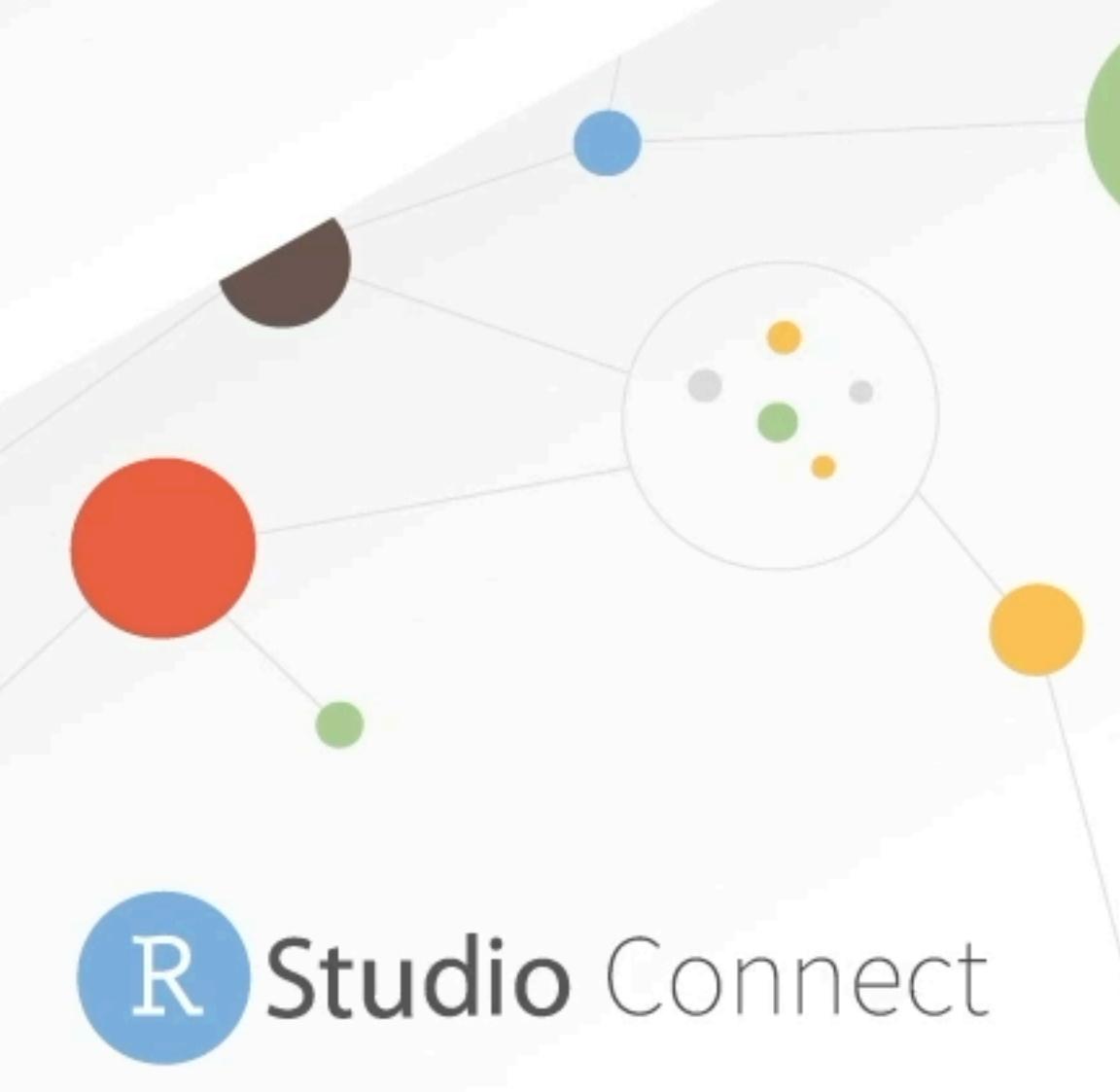




R Studio Package Manager



R Studio Connect



R Studio Server Pro

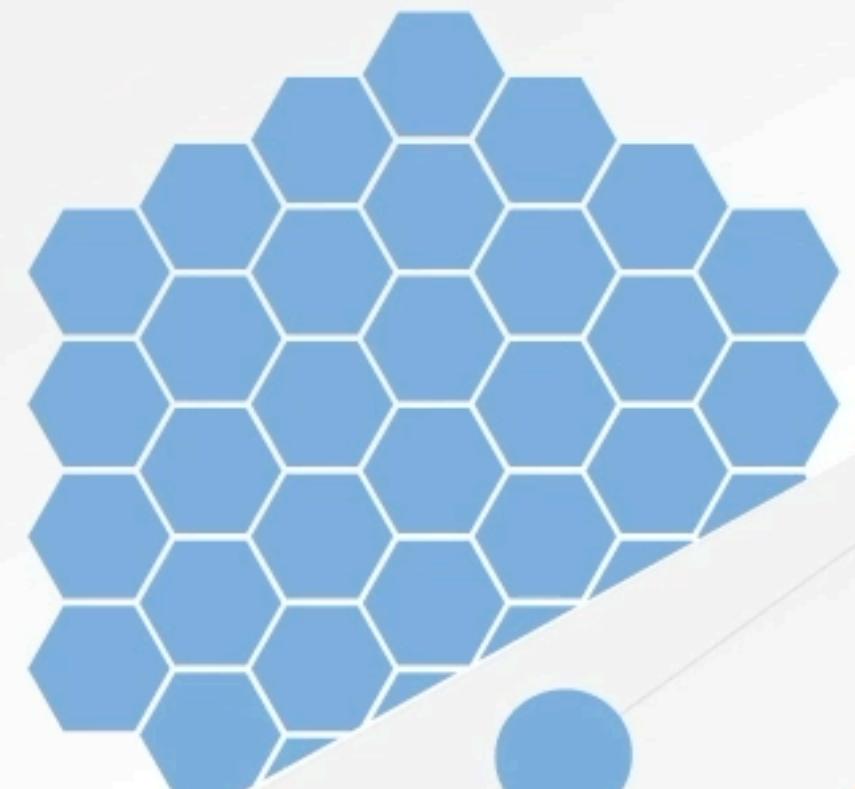


OPEN SOURCE TOOLS

Accessible to everyone

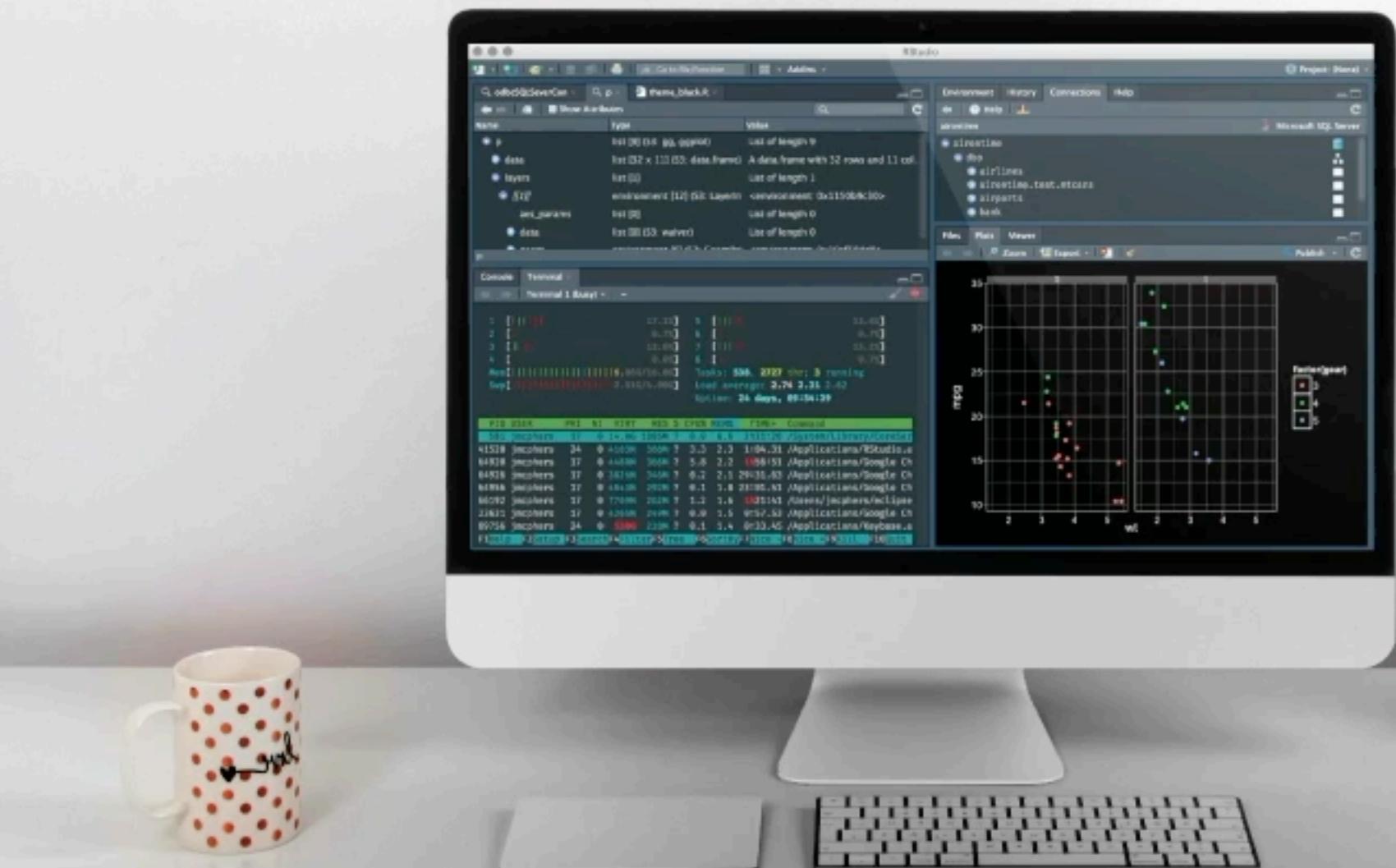


R Studio Package Manager



R Studio Connect

R Studio Server Pro



Learn more

RStudio Professionals Lounge (Days 1 & 2)

Try the products, watch a demo, ask questions

Day 1

11:00am - A guide to modern reproducible data science with R (tidyverse-ext - Session 1) Karthik Ram

11:48am - RStudio Connect: Past Present Future (Professional - Session 1) Jeff Allen

12:08pm - RStudio Package Manager (Professional - Session 1) Sean Lopp

02:00pm - RStudio Job Launcher; Changing where we run R stuff (Distributed - Session 2) Jonathan McPherson and Darby Hadley

02:24pm - Scaling R with Spark (Distributed - Session 2) Javier Luraschi

Day 2

10:30am - R Markdown: The Bigger Picture (Publication - Session 4) Garrett Grolemund

10:53am - The Resilient R Champion (Org-thinking - Session 4)

11: 39am - Data Science as a Team Sport (Org-thinking - Session 4)

- Democratizing R with Plumber APIs (Distributed - Session 2 - 3:08pm) James Blai