HMS Research Computing Research Data Visualization Platform Service (Pilot)

OVERVIEW

Information Technology Research Computing
Harvard Medical School
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Information Technology 1

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What is RDVP

- The Research Data Visualization Platform (RDVP) service enables HMS researchers to easily share and display their research data via an interactive application environment allowing a graphical display developed using R and Python technologies.

- Currently, this service is a pilot.

- The platform can host Shiny Applications, R and Python code based on RStudio Connect technology, enabling HMS researchers to bring their data sets and custom-designed Shiny and Python applications to an easy-to-access environment.

RDVP Service Highlights

- Research Computing starting providing this pilot service in 2021.

- The platform is hosted on Amazon Web Services (AWS) and utilizes containers.

- Support for hosting and publishing Shiny developed applications, like the shinyapps.io service.

- Support for custom content URL per app so researchers can easily brand their work.

- Highly available cloud infrastructure designed to ensure your application is up and running.

- Ability to publish apps that are available to the public or can be secured requiring users to use their Harvard Key to view the data.

- [Use the RStudio Desktop IDE application to create, upload, and publish your Shiny apps.](#)

- User authentication uses Harvard Key accounts

- Available to all HMS Quad-based Staff/Faculty/PostDocs.

RDVP AWS Infrastructure Design
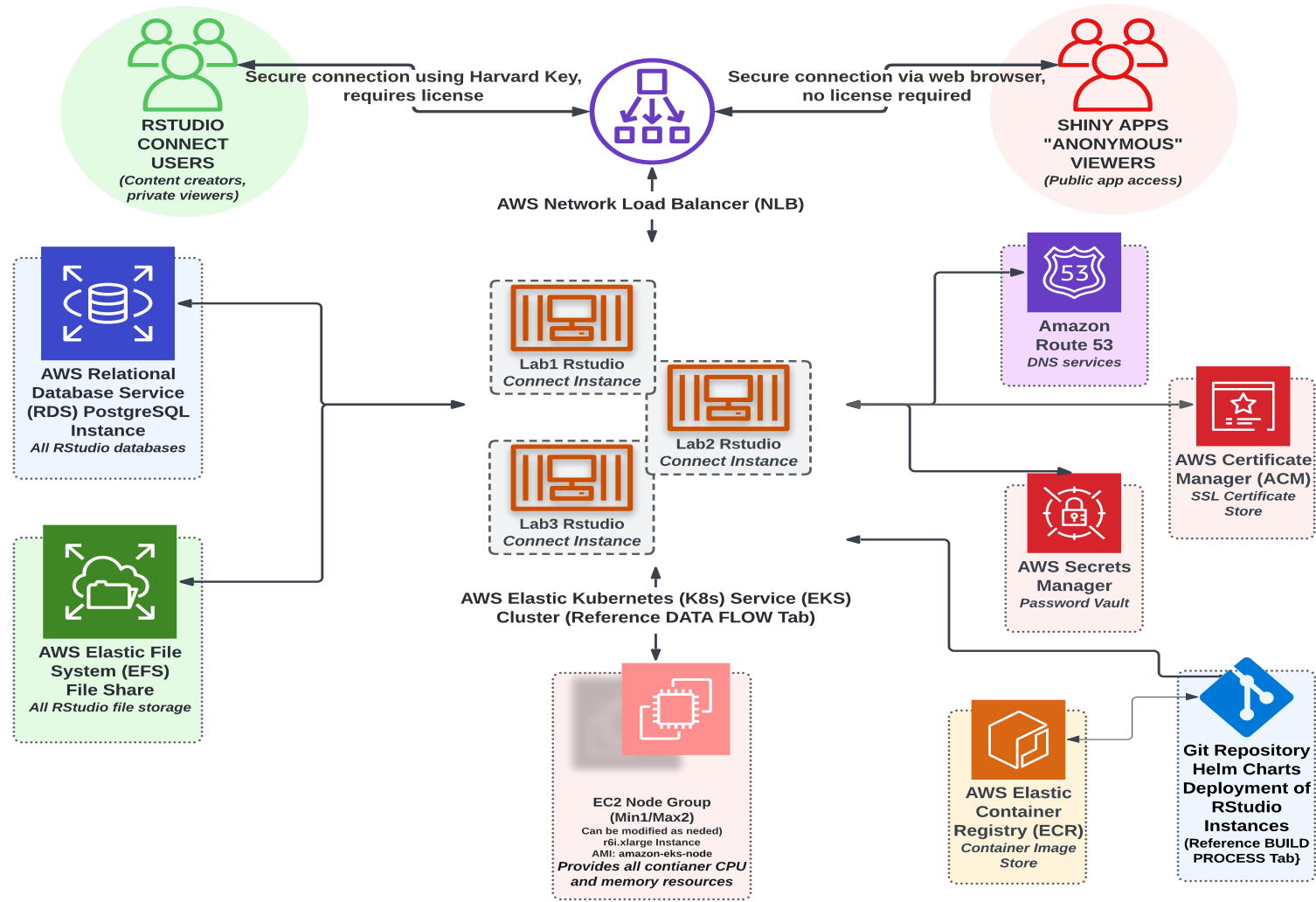
RDVP Project Status

- **Phase I**: Develop and implement RStudio Connect System for Center for Computational Biomedicine (CCB)

- **Phase II**: Proof of Concept and Pilot Service
  - Implement proof of concept in AWS and roll out a pilot service to enable HMS researchers to publish Shiny apps to internal and external collaborators

- **Phase III**: HMS Wide Service
  - We are currently in Phase III

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One Platform to Host Different Apps

Publishing platform for the authenticated sharing of data products in one convenient place. Easy way to share apps like:

- Shiny applications

- Jupyter Notebooks

- Quarto

- Markdown reports

- Plumber

- Flask APIs

- Dash

- Bokeh

- Streamlit applications

- Quarto projects

RDVP Service Limitations

- Applicants must have a faculty member or research staff member as a sponsor. (Faculty and research staff may sponsor themselves.)

- Shiny Application limit: 100 MB per app.

- Data size limit: 5 GB per application.

- Maximum number of authenticated users per lab: 10

- Access to HMS RStudio Connect is restricted to faculty, staff, and students who are on-quad at HMS.

- This system is approved for use with Harvard Data Security Level 3 data if Harvard Accounts are used for authentication.

- This system is NOT a HIPAA-compliant service.

- RDVP service is provided for the distribution of lightweight apps.

- Currently, there is no integration with the HMS O2 Cluster.

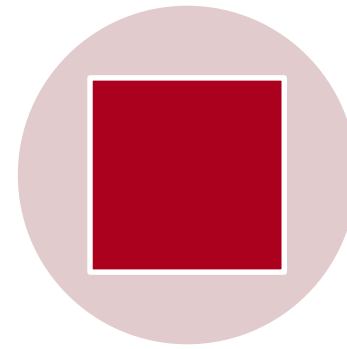- Shiny app performance can be impacted by code design.

RDVP Usage

INSTANCES: 13   ACTIVE USERS: 25+   HOSTED APPS: 50+

Who is using RDVP

- HMS Center for Computational Biomedicine (CCB)
  - CCB provides app code development assistance
  - https://computationalbiomed.hms.harvard.edu/
- 12 other labs at HMS

Who Supports it

Research Computing Operations team supports the platform ensuring the system up and running.

We provide provisioning of RDVP Instances and basic support on Rshiny application questions.

How to request RDVP Instance?

- Visit our website for more and to sign up: https://it.hms.harvard.edu/rc

- Under Services -> Research Applications & Software.

- Look for RDVP, click on "How to request the service" and complete the request from

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Thank you

Questions?

Email us at:
rchelp@hms.harvard.edu