



# Simplifying Database Cloud Service Access with RHODA\*

\*Red Hat OpenShift Database Access

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VP & GM Cloud Data Services Business Unit

OpenShift Commons, February 23, 2022



**OpenShift  
Commons**

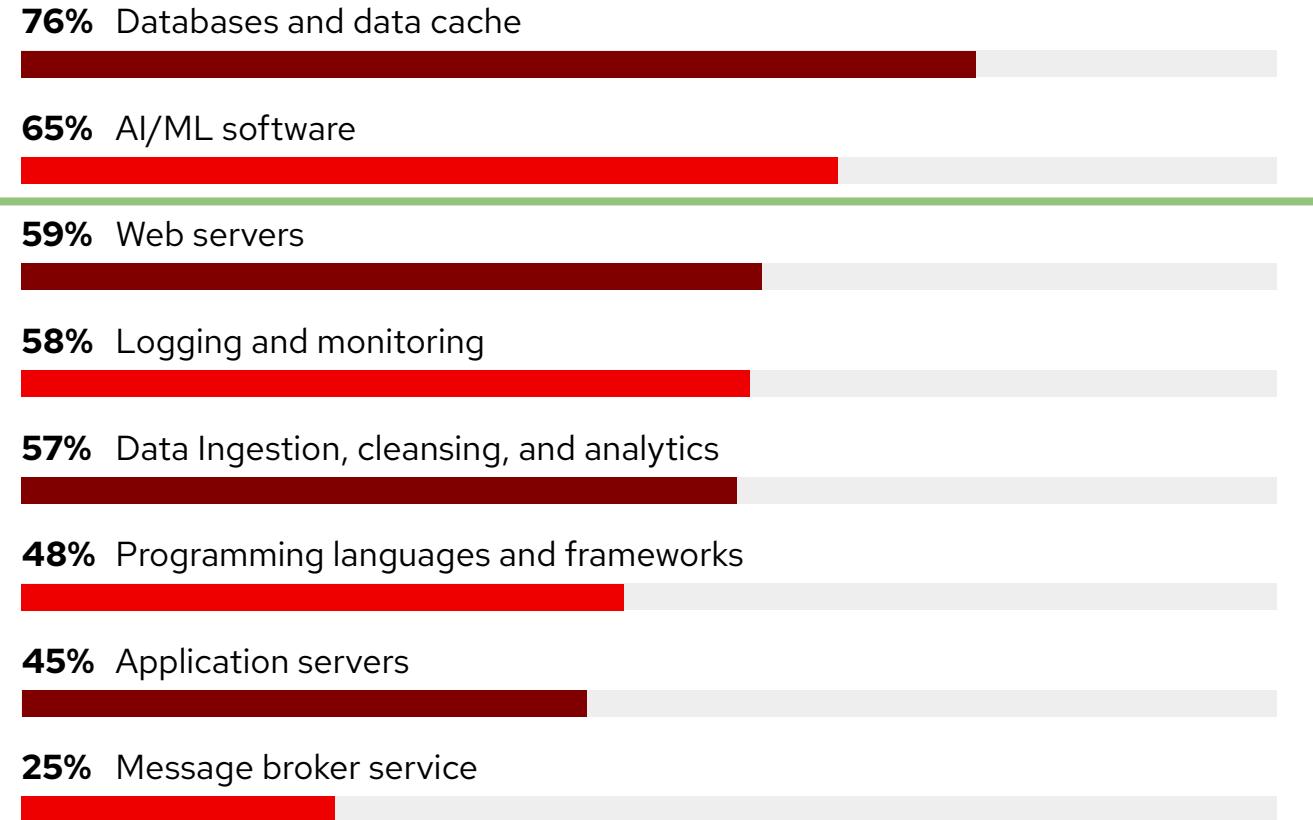


Connecting should be easy.

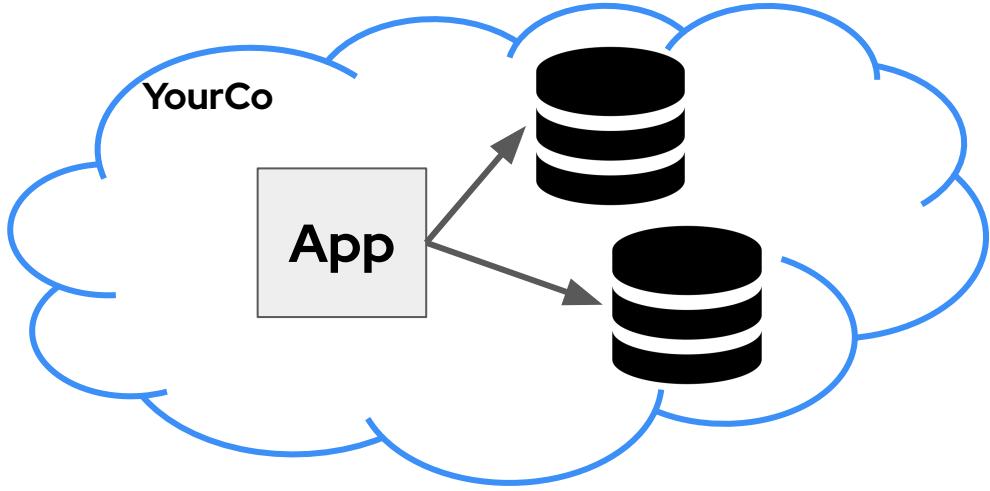


"IDC survey data shows that roughly 90% of enterprises are either actively moving production data to the cloud and adopting cloud databases for new workloads or have plans to do so within the next three years," said Carl Olofson, research vice president for Data Management Systems software research at IDC. "Data volumes are rising at an exponential rate, driven by streaming, mainly IoT data, log data, and so forth. This will drive the use of both high-speed data collection and processing technologies, including in-memory shared data managers and large volume analytic data platforms or data lakes."

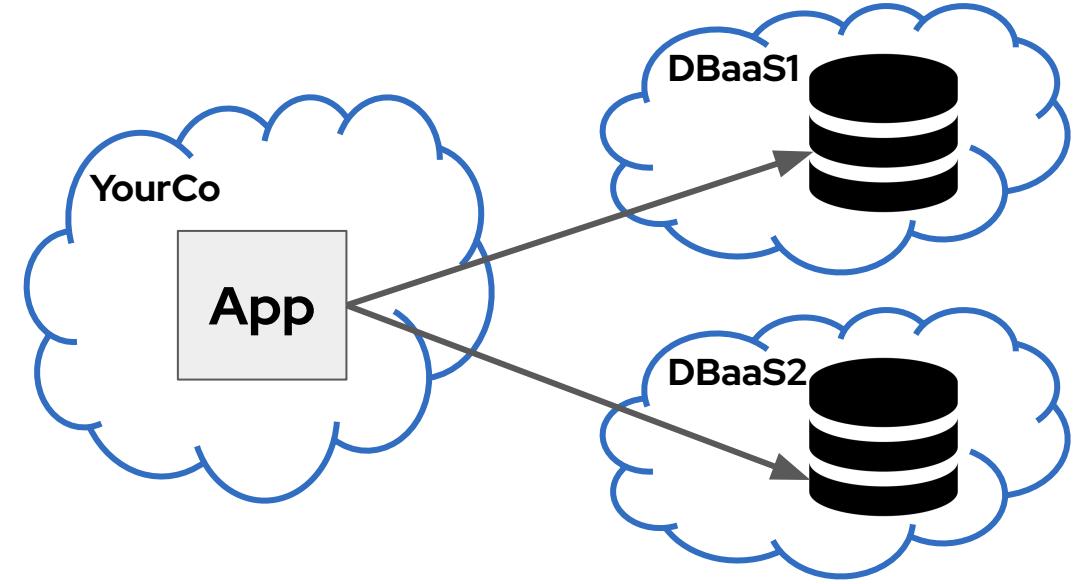
# Databases and AI/ML are the top workloads deployed in containers and Kubernetes environments<sup>1</sup>



# Self-Managed vs. DBaaS

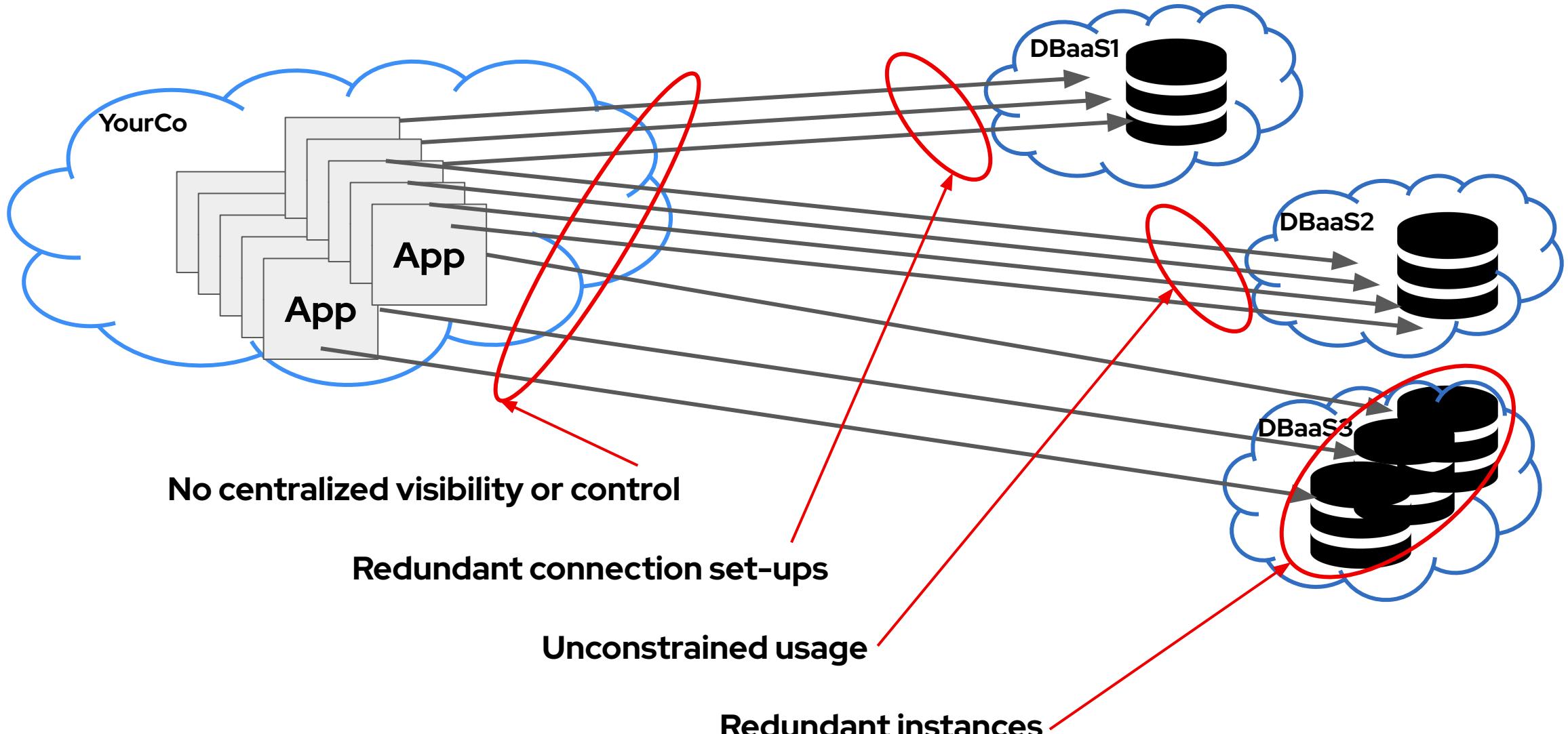


- Self-installed
- Self-managed
- Self-scaled
- High flexibility
- High complexity
- Local bandwidth

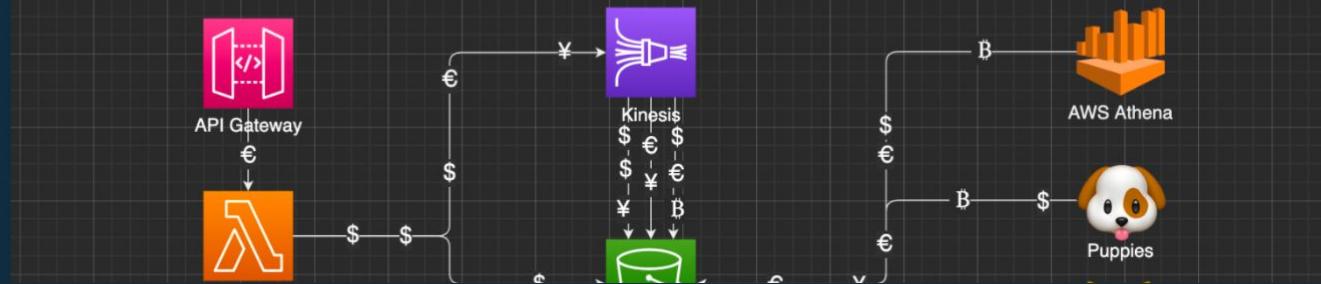


- Easy sign up
- Managed for you
- Easy/auto scaling
- Lower flexibility
- Lower complexity
- Network bandwidth

# Challenges of ad hoc DBaaS in the Enterprise



## MODERN CLOUD ARCHITECTURE



The NDJSON is flowing, data scientists are on-boarded and life is really great for a while, until one day; at one of the many many status meetings the leadership points out that your group has **burned through the cloud budget for the year, and it is only May.** In cost explorer, the trickle from multiple firehoses has accumulated into an S3 storage bill of almost \$100k/month.

## AWS S3: Why sometimes you should press the \$100k button

By: Mike Korostelev

Posted: February 16, 2022

# Setting up a DBaaS

11

The screenshot shows the MongoDB Cloud interface with the 'Security Quickstart' section highlighted. It includes fields for 'Username and Password' and a note about creating a database user. A progress bar indicates '60%' completion of the checklist.

**10**

**11**

**12**

1

The screenshot shows the MongoDB Atlas dashboard with a cluster named 'MIKE'S ORG - 2022-02-17 > PROJECT 0'. It displays monitoring metrics like 'Connections' (0), 'In 0.0 B/s', and 'Out 0.0 B/s'. The cluster tier is 'Standard (us-west-2)', type 'M0 Sandbox (General)', and has 'Replica Set - 3 nodes' with 'BACKUPS Inactive'.

3

A screenshot of an email from 'MongoDB Cloud <mongodb-account@mongodb.com>' to 'mplech@gmail.com'. The subject is 'Verify Your MongoDB Email Address'. It contains instructions to check the inbox and a verification link.

4

A screenshot of an email from 'MongoDB' confirming the email address 'mplech@gmail.com' has been successfully verified.

5



9

The screenshot shows the 'Create a Shared Cluster' wizard. It offers three deployment options: 'Serverless', 'Dedicated', and 'FREE Shared'. The 'Shared' option is selected. It includes a note about basic configuration controls and a section for choosing a 'Cloud Provider & Region' (AWS, Google Cloud, Azure) with 'AWS, N. Virginia (us-east-1)' selected. A note at the bottom states 'FREE forever'.

8

A comparison of 'Dedicated' and 'Shared' cluster options. Both are 'FREE'. The 'Dedicated' option is for production workloads with advanced configuration controls. The 'Shared' option is for learning and exploring with basic configuration options. Both require no credit card and offer on-demand performance advice, multi-region and multi-cloud options, and the ability to upgrade to dedicated clusters.

7

The screenshot shows the 'Welcome to Atlas!' survey. It asks 'What is your goal today?' with options: 'Explore what I can build' (radio button checked), 'Build a new application', 'Migrate an existing application', and 'Learn MongoDB'. It also asks 'What type of application are you building?' with a dropdown menu showing 'ML / AI'.

2

The screenshot shows the MongoDB Cloud sign-up page. It features a 'Get started free' button and a note 'No credit card required'. It includes fields for 'Your Company (optional)', 'Your Work Email' (mplech@gmail.com), and 'First Name' (Mike). A timestamp '6:54 PM (3 minutes ago)' is shown at the bottom right.

4

A screenshot of an email from 'MongoDB' confirming the email address 'mplech@gmail.com' has been successfully verified.

5

Welcome!

Your account to deploy a cloud database  
MongoDB Atlas and contact Support.

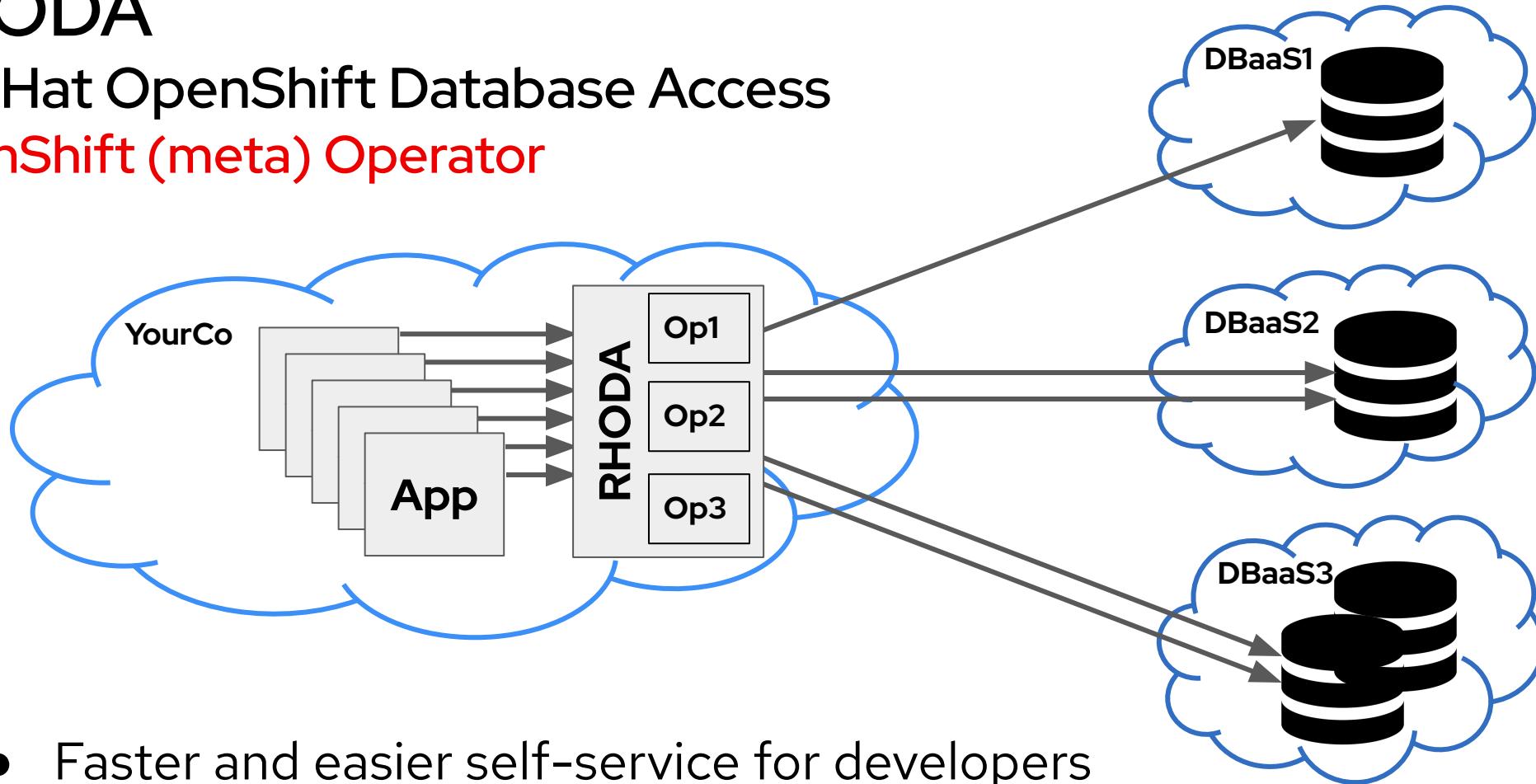
OpenShift  
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# RHODA

Red Hat OpenShift Database Access

OpenShift (meta) Operator



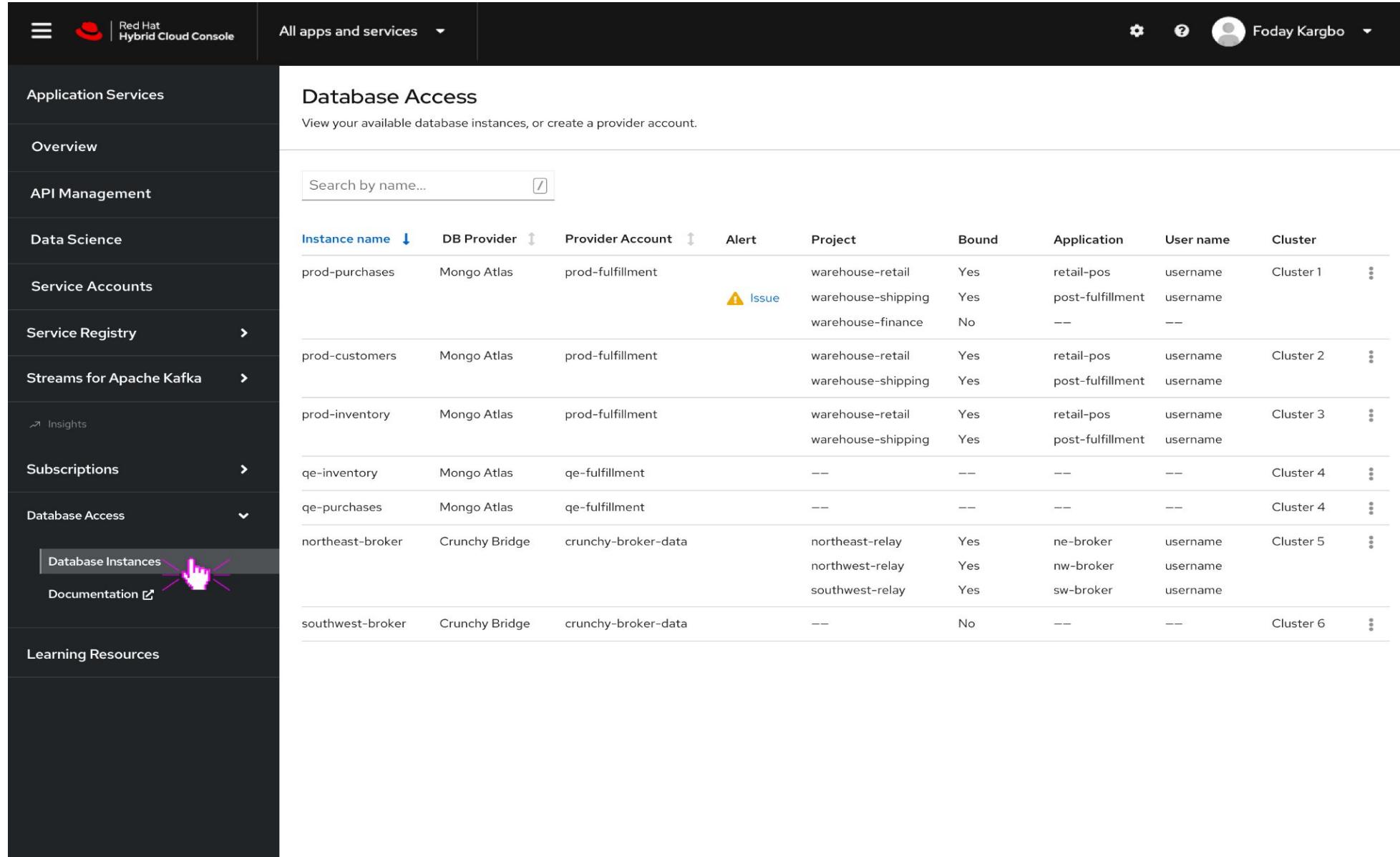
- Faster and easier self-service for developers
- More efficient connection, DB utilization
- Centralized monitoring, consistent control plane for admins

# RHODA for Developers

The image consists of six numbered screenshots (1 through 6) illustrating the process of connecting MongoDB Atlas to Red Hat OpenShift using RHODA (Red Hat OpenShift Dedicated). A large red arrow points from screenshot 5 to screenshot 6, indicating the flow of the steps.

- Screenshot 1:** Shows the Red Hat OpenShift Dedicated interface with the 'Topology' section selected. A red circle highlights the '+Add' button in the top left corner.
- Screenshot 2:** Shows the 'Developer Catalog' page. A red circle highlights the 'Connected Database' section.
- Screenshot 3:** Shows a list of connected databases. A red circle highlights the 'MongoDB Atlas Cloud Database Service' entry.
- Screenshot 4:** Shows the 'MongoDB Atlas Cloud Database Service' details page. A red circle highlights the 'Connect' button.
- Screenshot 5:** Shows the 'Connect MongoDB Atlas' configuration page. A red circle highlights the 'Cluster0' database instance.
- Screenshot 6:** Shows the topology graph with the 'Cluster0' database instance connected to a 'pytest' application pod. A red arrow points from screenshot 5 to this screen.

# RHODA for Administrators



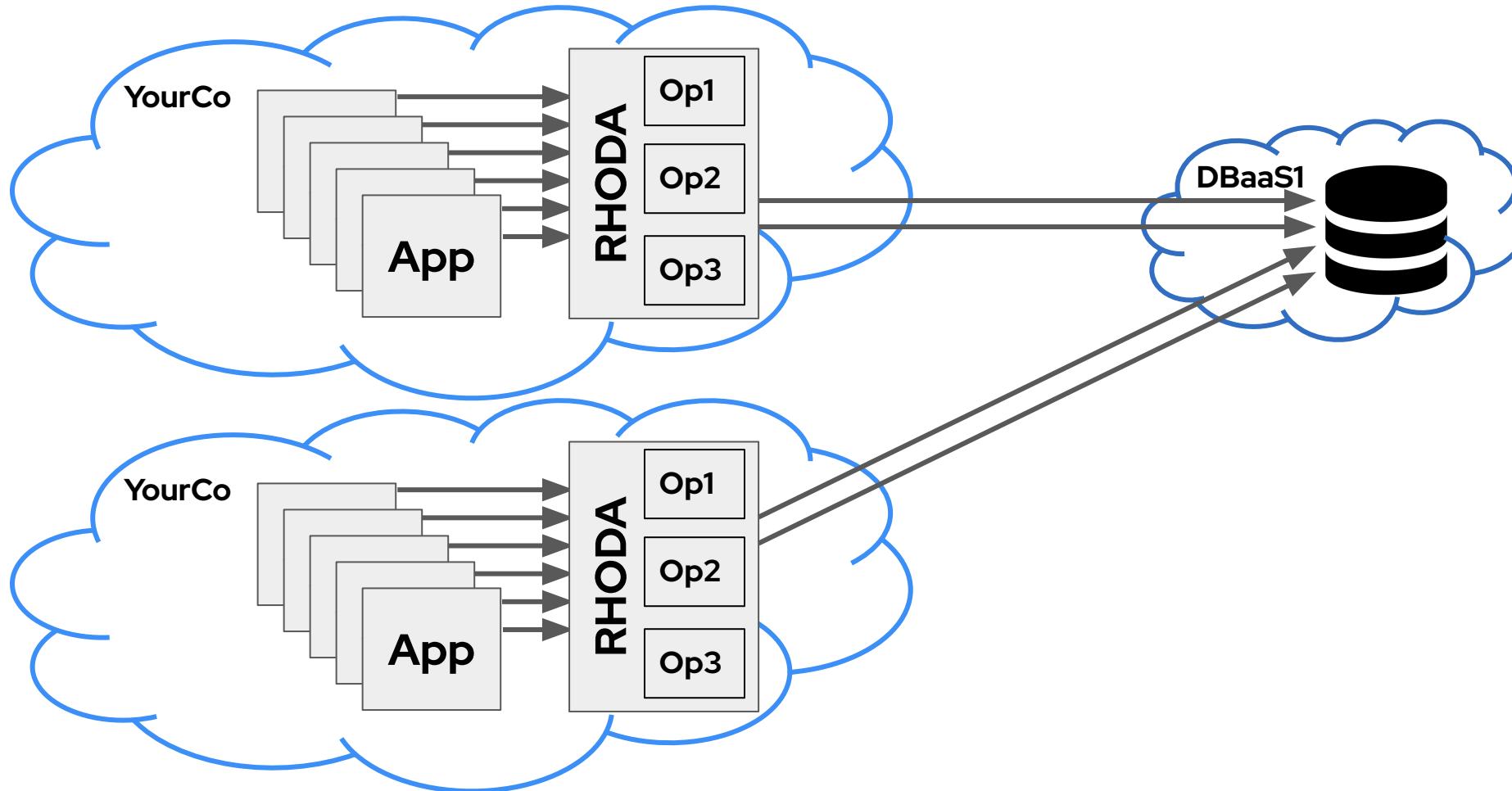
The screenshot shows the Red Hat Hybrid Cloud Console interface. The left sidebar has a dark theme with white text and icons. It includes links for Application Services, Overview, API Management, Data Science, Service Accounts, Service Registry, Streams for Apache Kafka, Insights, Subscriptions, Database Access (selected), Database Instances (highlighted with a hand cursor icon), Documentation, and Learning Resources.

The main content area is titled "Database Access" and displays a table of database instances. The table has the following columns: Instance name, DB Provider, Provider Account, Alert, Project, Bound, Application, User name, and Cluster. The data in the table is as follows:

Instance name	DB Provider	Provider Account	Alert	Project	Bound	Application	User name	Cluster
prod-purchases	Mongo Atlas	prod-fulfillment	<span>⚠ Issue</span>	warehouse-retail warehouse-shipping warehouse-finance	Yes Yes No	retail-pos post-fulfillment	username username	Cluster 1 Cluster 2
prod-customers	Mongo Atlas	prod-fulfillment		warehouse-retail warehouse-shipping	Yes Yes	retail-pos post-fulfillment	username username	Cluster 2
prod-inventory	Mongo Atlas	prod-fulfillment		warehouse-retail warehouse-shipping	Yes Yes	retail-pos post-fulfillment	username username	Cluster 3
qe-inventory	Mongo Atlas	qe-fulfillment			--	--	--	Cluster 4
qe-purchases	Mongo Atlas	qe-fulfillment			--	--	--	Cluster 4
northeast-broker	Crunchy Bridge	crunchy-broker-data		northeast-relay northwest-relay southwest-relay	Yes Yes Yes	ne-broker nw-broker sw-broker	username username username	Cluster 5
southwest-broker	Crunchy Bridge	crunchy-broker-data		--	No	--	--	Cluster 6

# Example Use Case

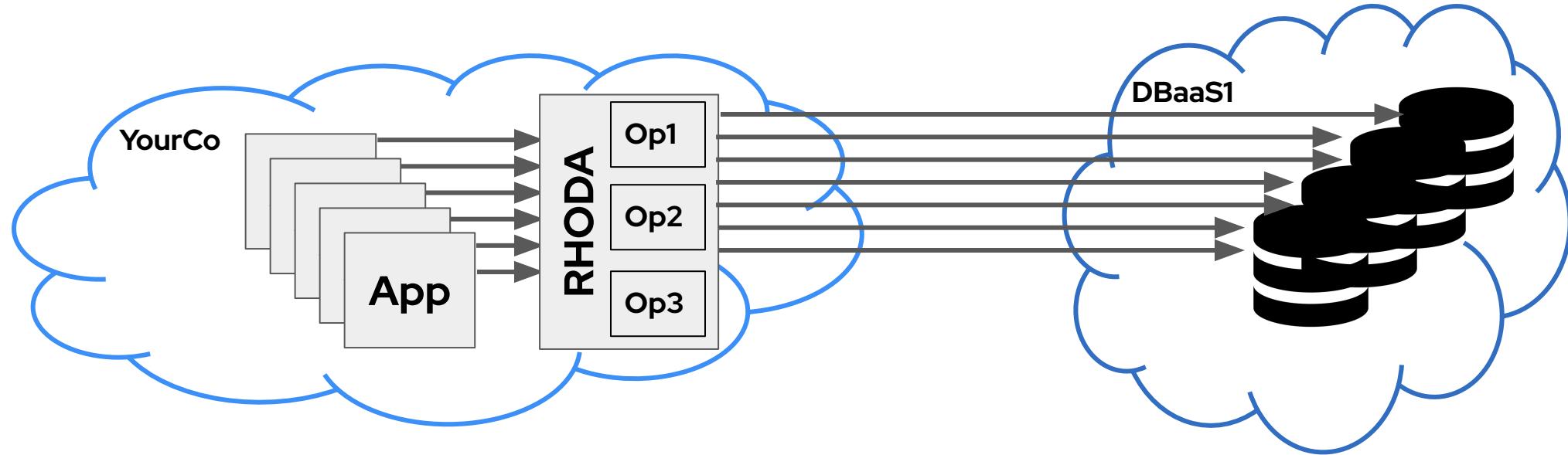
Many clusters needing easy shared access



- Simplified central management
- Easy addition of sites, users to access

# Example Use Case

Lots of transient setup/teardown for experimentation, model training



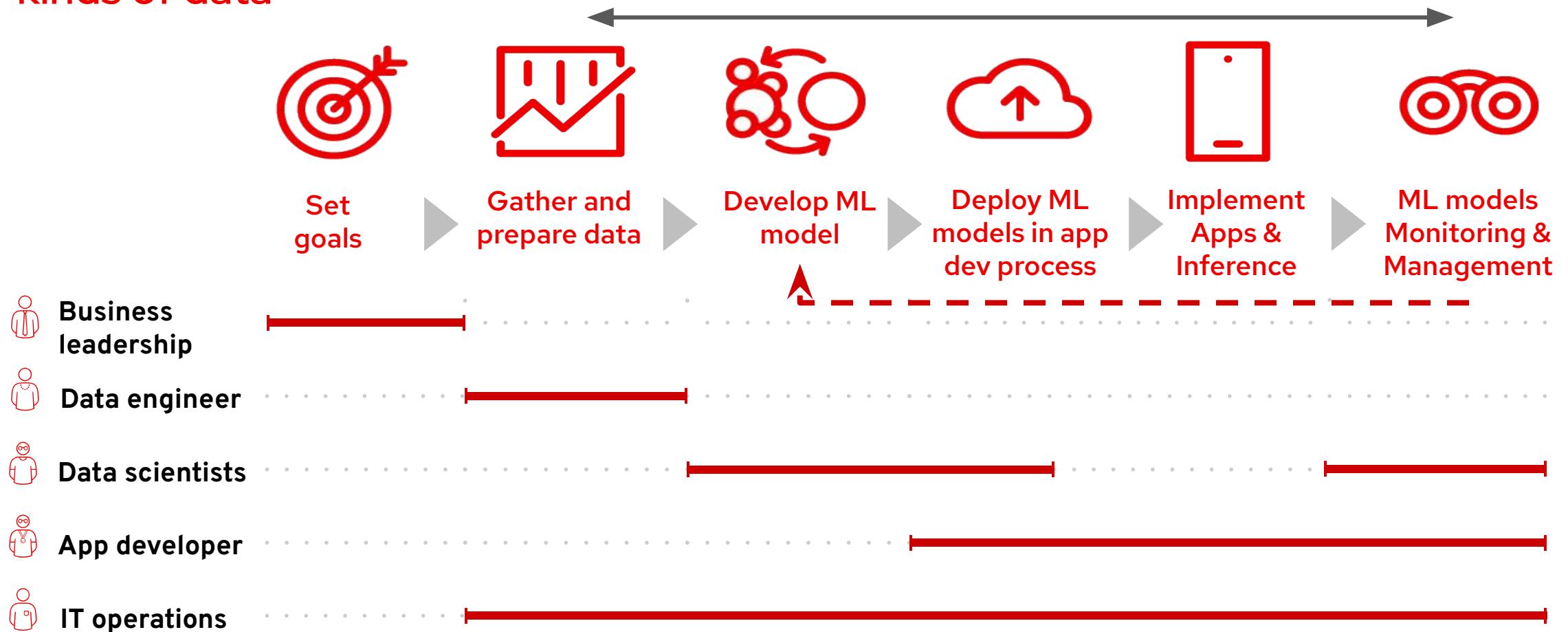
- Need super fast, easy, inhibited self-service for experimenting
- Need sharing of input data, tagged data, models, etc.
- Need some monitoring and constraint with minimal burden

# RHODA and AI/ML

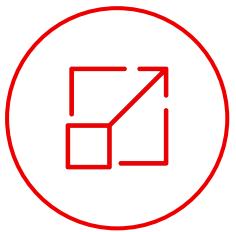
Multiple stages, personas,  
kinds of data

RHODS

(Red Hat OpenShift Data Science)

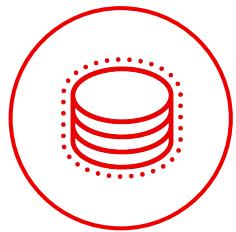


# The Red Hat Difference



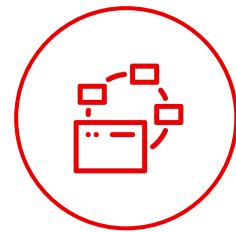
## Hybrid cloud

Run as add-on to OSD,  
ROSA, ARO; connect to  
growing list of DBaaS  
providers



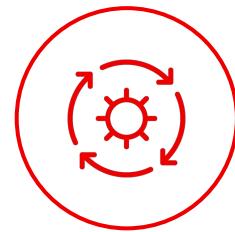
## Fully managed cloud service

Management of entire  
Kubernetes stack,  
application services, and  
data services



## Open source innovation

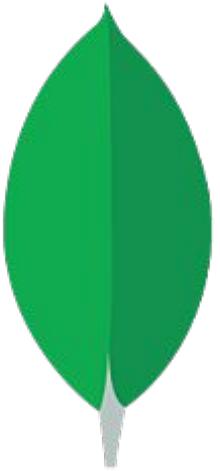
Track changes and fixes to  
core open source tooling  
and get access to  
upstream innovation



## Partner ecosystem

Choice of growing list of  
DBaaS technology  
partners

# Partners



**MongoDB Atlas**

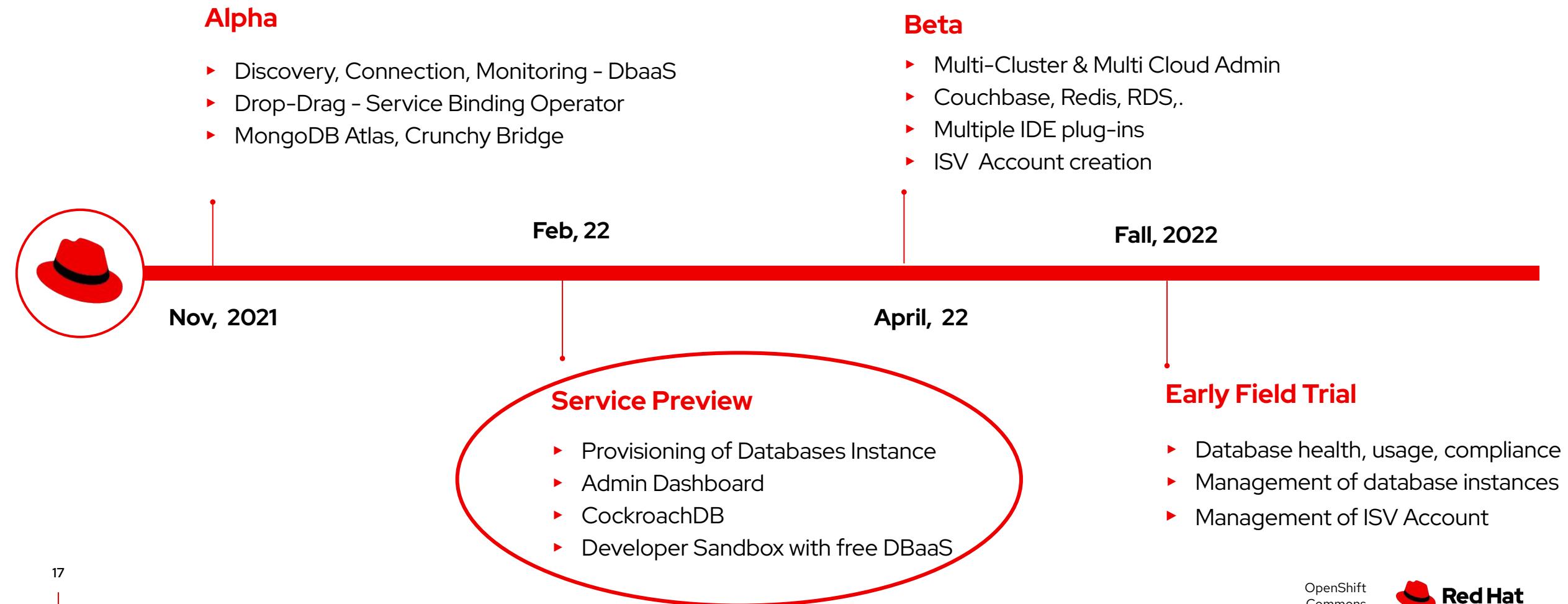


**Crunchy Bridge**



**CockroachDB**

# Timeline



# Service Preview release objectives

60-day engagement with small group of select customers



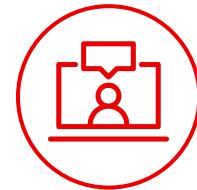
## Initial feedback

Gather input on the existing service capabilities, onboarding experience, and requests for capabilities



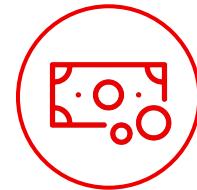
## Customer success

Close partnership leading to happy customers that can provide a reference on the value of Red Hat OpenShift Database Access



## Advocacy

Visibility, early access, extensive support, and influence over the Red Hat OpenShift Database Access roadmap



## Business Value

Create meaningful value for your business through the use of Red Hat OpenShift Database Access

# Getting Started

## Free availability with free database instances

ISV Prerequisite	Trial environments	Support/Questions?
<ul style="list-style-type: none"><li>▶ MongoDB Atlas, Crunchy Bridge and CockroachDB</li><li>▶ Admin API account with ISV</li></ul>	<ul style="list-style-type: none"><li>▶ OpenShift Dedicated</li><li>▶ Red Hat OpenShift on AWS (ROSA)</li><li>▶ Free 60 day OSD trial</li><li>▶ Free Database instances from ISV</li></ul>	<ul style="list-style-type: none"><li>▶ dbaas-alpha-support@redhat.com</li></ul>

**red.ht/dbaccess**

# Thank you

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