



Red Hat  
**Summit**



# Red Hat for Government

The path to digital leadership with open source in .gov

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> whoami

Jason Dudash



@dudashtweets

> date

Thu Oct 28 09:00:00 EST 2021



# The World's Leading Provider of Open Source Enterprise IT Solutions

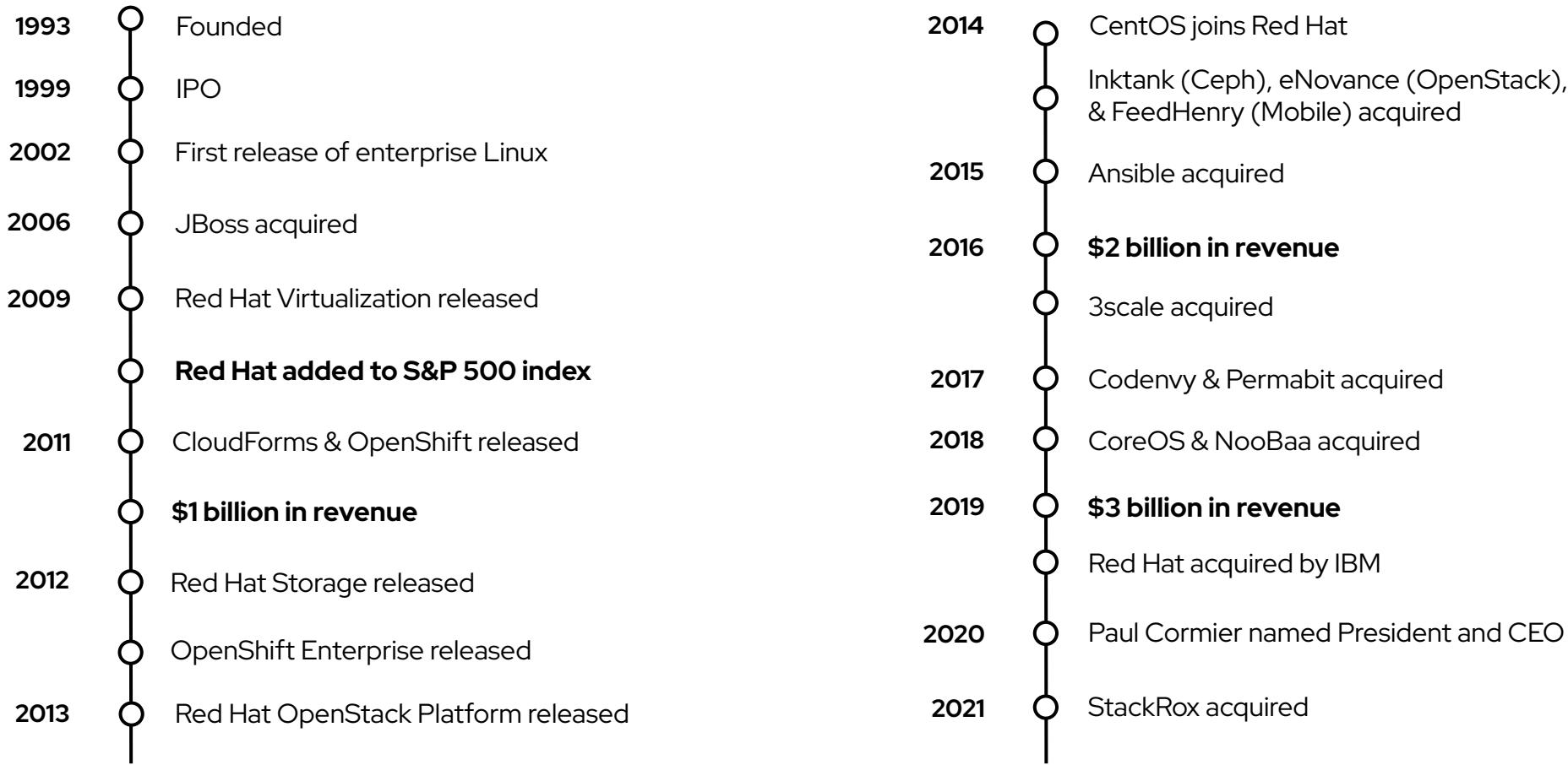
More than  
**90%**  
of the  
Fortune  
**500**  
use  
**Red Hat**  
products and  
solutions<sup>1</sup>

~16,000  
employees

105+ offices    40+ countries

The first  
**\$3**  
billion  
open  
source  
company  
in the world<sup>2</sup>

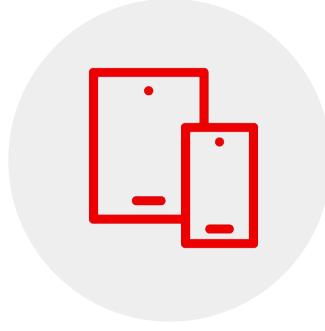
# How We Got Here





**100%**

of U.S. airlines in the  
Fortune 500  
rely on Red Hat<sup>1</sup>



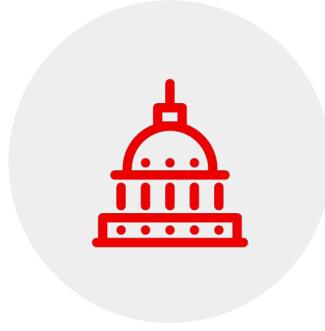
**100%**

of U.S.  
telecommunication  
companies in the  
Fortune 500  
rely on Red Hat<sup>1</sup>



**100%**

of U.S. commercial  
banks in the Fortune  
500 rely on Red Hat<sup>1</sup>



**100%**

of executive  
departments in the  
Fortune 500 rely on  
Red Hat<sup>2</sup>



**100%**

of U.S. healthcare  
companies rely on  
Red Hat

## Strategic Alliance Partners



# Strategic Independent Software Vendors (ISVs)

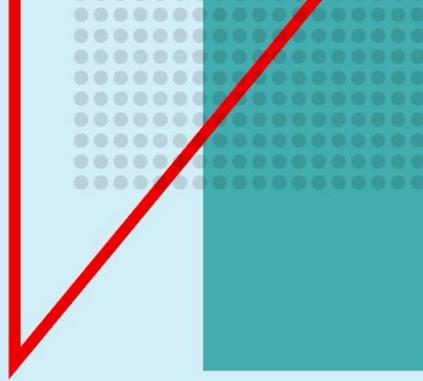


CLOUDERA



SYNOPSYS®

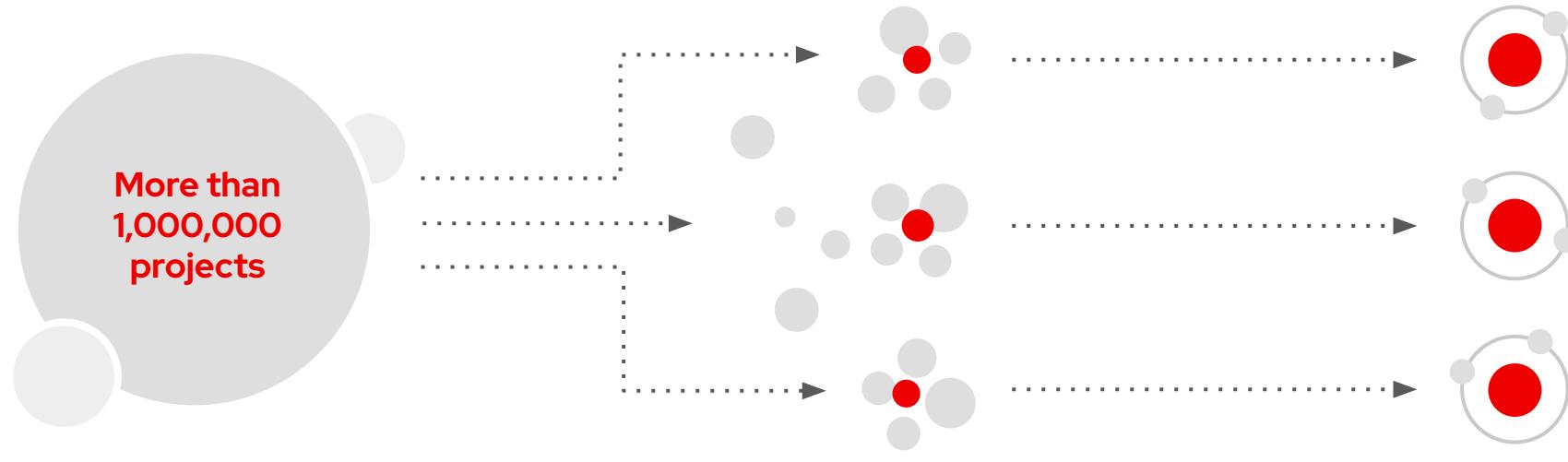




**"ANY APPLICATION  
ANYWHERE, ANY TIME"**

-- PAUL CORMIER, RED HAT CEO, JUNE 2007

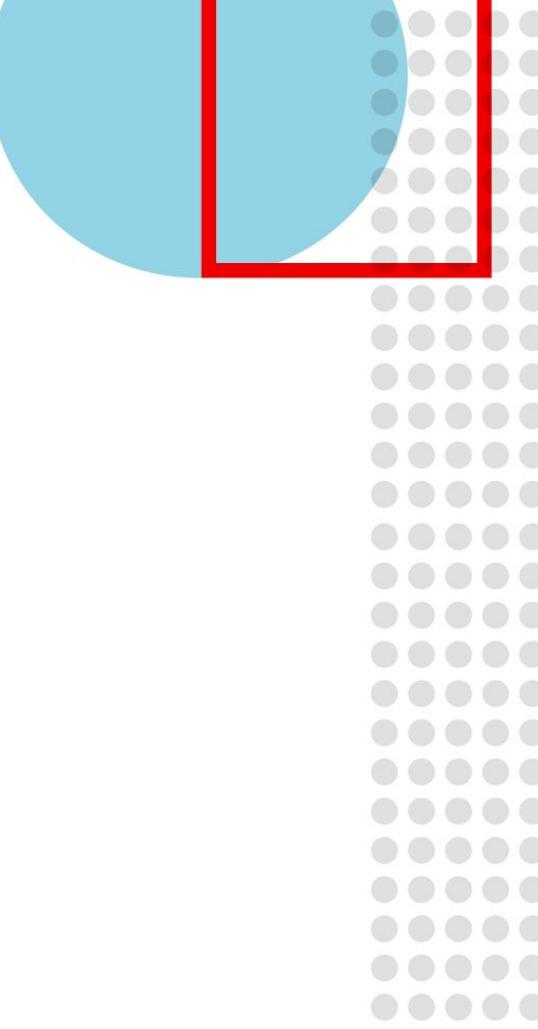
# Product Development Model



We participate in and create community-powered upstream projects.

We integrate upstream projects, fostering open community platforms.

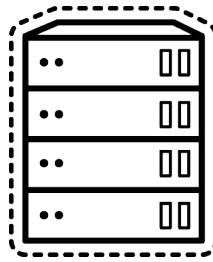
We commercialize these platforms together with a rich ecosystem of services and certifications.



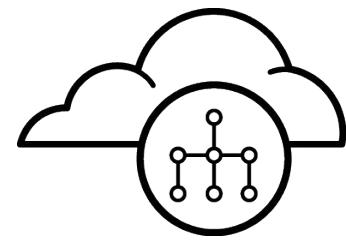
**OPEN SOURCE COMMUNITIES**  
ARE THE DRIVING FORCE BEHIND  
TECHNOLOGY INNOVATION TODAY

# Balancing Innovation And Optimization

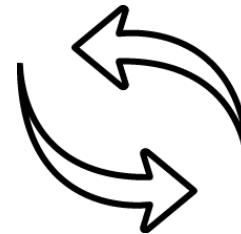
How do you modernize existing IT while shifting investment to innovation?



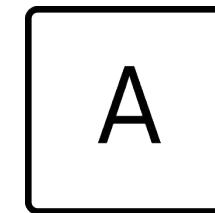
Optimize the IT you have



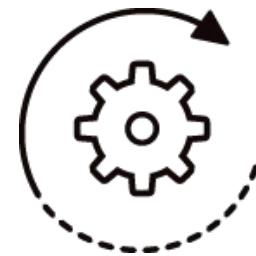
Add and manage cloud infrastructure



Integrate apps, data, & processes

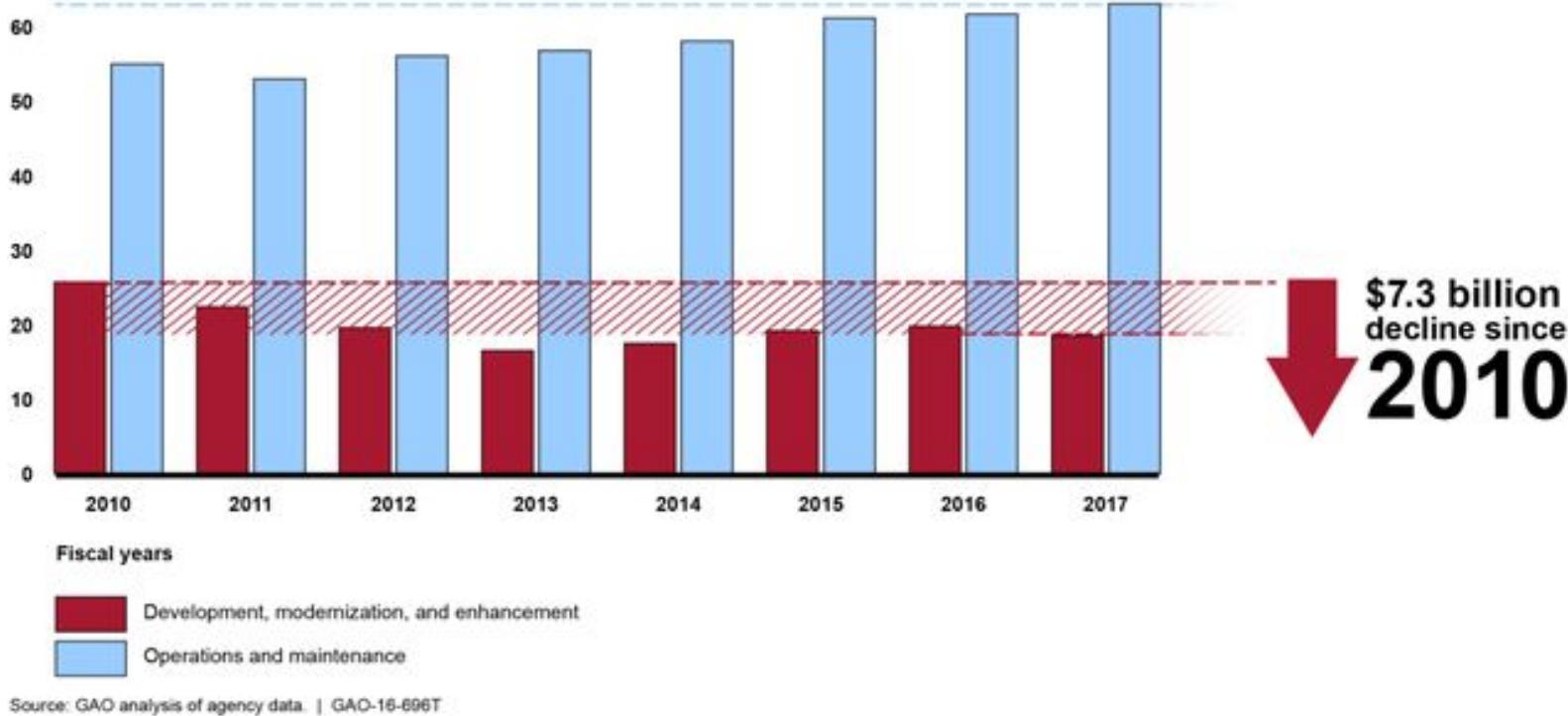


Build more modern applications



Automate & Manage IT

# Greater Than 75% Of IT Budget Is Spent On Operations

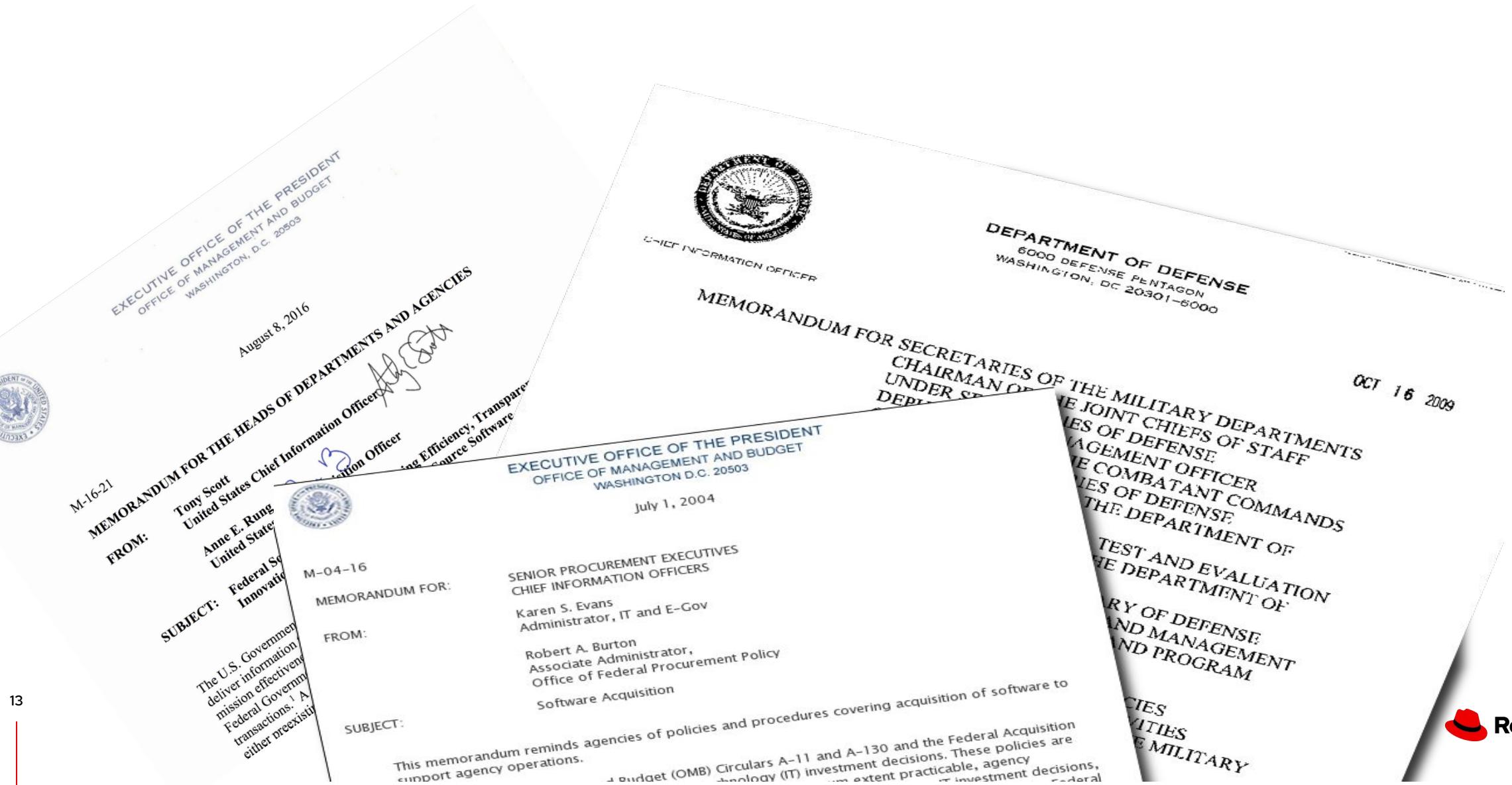


“ ”

Specifically, 5,233 of the government's approximately 7,000 IT investments are spending all of their funds on O&M activities.”

GAO-16-696T

# Policy Environment Driving Acceptance



# Consider Open Source

Innovate faster and break out of the proprietary loop

“ ”

An organization that does not fully consider open source options alongside the proprietary offerings they have traditionally procured is missing out on sound technologies, access to vibrant communities, and the opportunity to tap innovative new ways of working.

FORRESTER®



**Paul Miller**

Principal Analyst



**Lauren Nelson**

VP, Research Director

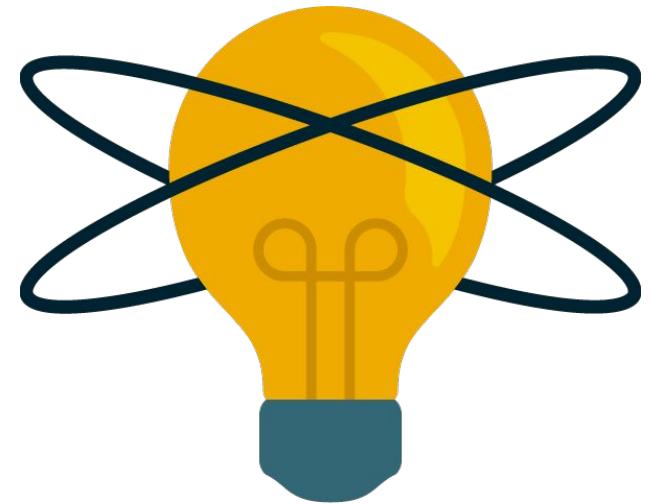
Today, **failure to fully consider open source options is unwise**. Within a few short years, it will be unforgivably negligent.

---

Forrester  
April 2016

## Red Hat Contributions At A Glance

- **LINUX KERNEL**: #2 CONTRIBUTOR
- **LINUX KERNEL**: #1 APPROVER OF CHANGES
- **KUBERNETES** : #2 CONTRIBUTOR
- **CRI-O** : #1 CONTRIBUTOR  
(THE OFFICIAL CONTAINER OF KUBERNETES)
- **OPENSTACK** : TOP 3 CONTRIBUTOR

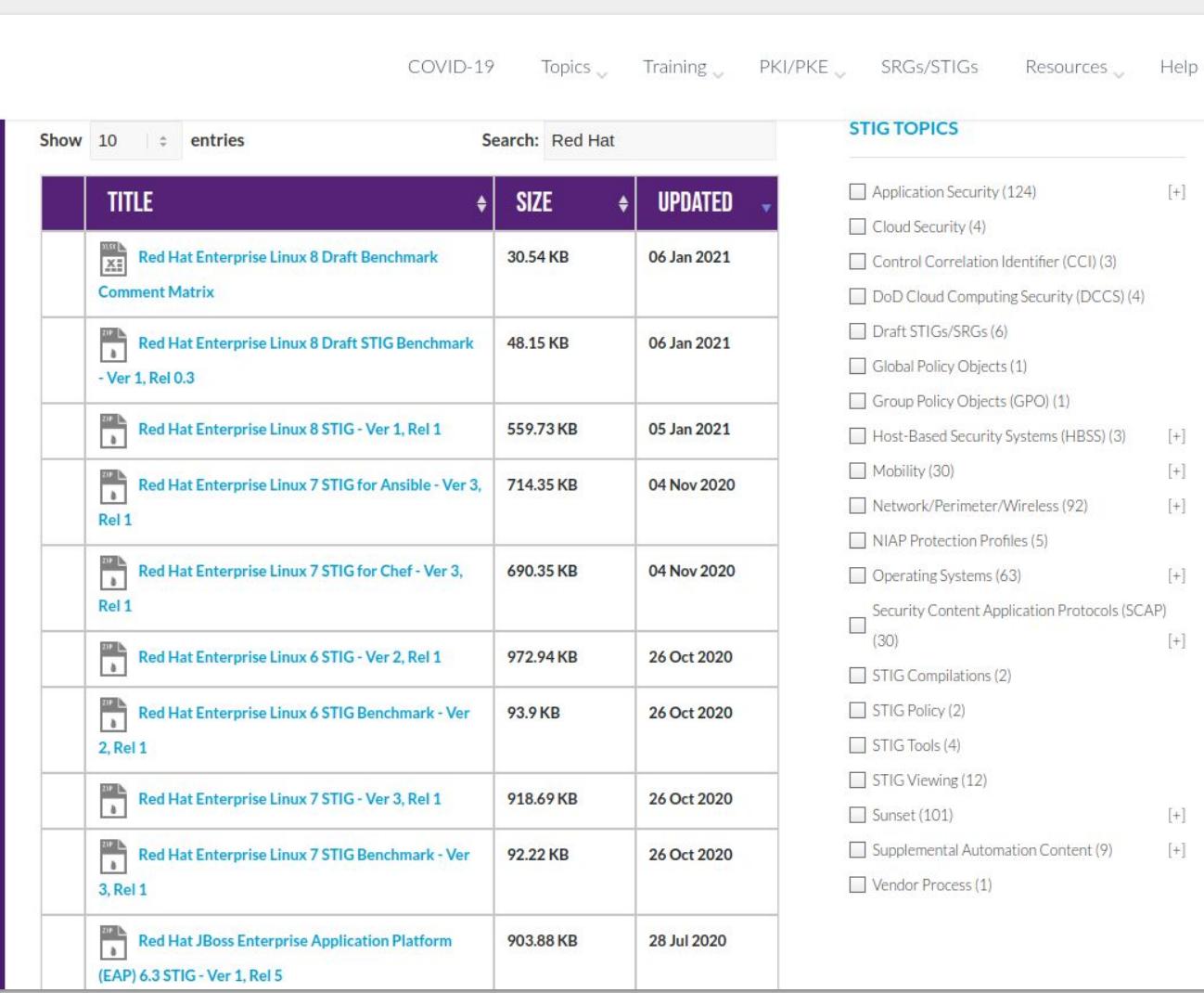


# Red Hat Commitment To Security

- COMMON CRITERIA (ISO/IEC 15408) EAL 4+
- DoD STIG AND OPEN SCAP AUTOMATION
- FEDERAL INFORMATION PROCESSING STANDARD 140-2/3
- USGV6 / DOD IPV6 TESTED PRODUCTS LIST
- SECTION 508 COMPLIANCE
- U.S. GOVERNMENT CONFIGURATION BASELINE



# DoD Security Technical Implementation Guide (STIG)



The screenshot shows a web interface for managing security technical implementation guides (STIGs). On the left is a sidebar with various links such as SRG/STIGs Home, Automation, Control Correlation Identifier (CCI), Document Library, DoD Annex for NIAP Protection Profiles, DoD Cloud Computing Security, Frequently Asked Questions - FAQs, Group Policy Objects, Quarterly Release Schedule and Summary, SRG / STIG Library Compilations, SRG / STIG Mailing List, SRG/STIG Tools and Viewing Guidance, Sunset Products, Vendor STIG Development Process, and Help. The main area has a header with COVID-19, Topics, Training, PKI/PKE, SRGs/STIGs, Resources, and Help. Below the header is a search bar with 'Search: Red Hat'. A table lists ten Red Hat STIGs, each with a file icon, title, size, and update date. The columns are titled 'TITLE', 'SIZE', and 'UPDATED'. To the right of the table is a sidebar titled 'STIG TOPICS' containing a list of categories with their counts and expandable '+' signs.

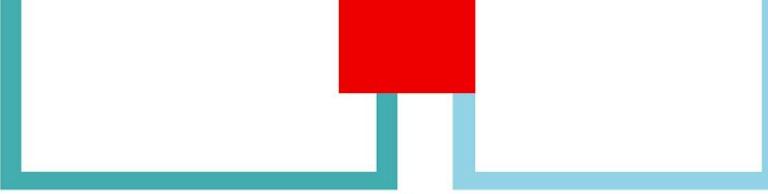
TITLE	SIZE	UPDATED
Red Hat Enterprise Linux 8 Draft Benchmark Comment Matrix	30.54 KB	06 Jan 2021
Red Hat Enterprise Linux 8 Draft STIG Benchmark - Ver 1, Rel 0.3	48.15 KB	06 Jan 2021
Red Hat Enterprise Linux 8 STIG - Ver 1, Rel 1	559.73 KB	05 Jan 2021
Red Hat Enterprise Linux 7 STIG for Ansible - Ver 3, Rel 1	714.35 KB	04 Nov 2020
Red Hat Enterprise Linux 7 STIG for Chef - Ver 3, Rel 1	690.35 KB	04 Nov 2020
Red Hat Enterprise Linux 6 STIG - Ver 2, Rel 1	972.94 KB	26 Oct 2020
Red Hat Enterprise Linux 6 STIG Benchmark - Ver 2, Rel 1	93.9 KB	26 Oct 2020
Red Hat Enterprise Linux 7 STIG - Ver 3, Rel 1	918.69 KB	26 Oct 2020
Red Hat Enterprise Linux 7 STIG Benchmark - Ver 3, Rel 1	92.22 KB	26 Oct 2020
Red Hat JBoss Enterprise Application Platform (EAP) 6.3 STIG - Ver 1, Rel 5	903.88 KB	28 Jul 2020

**STIG TOPICS**

- Application Security (124) [+]
- Cloud Security (4)
- Control Correlation Identifier (CCI) (3)
- DoD Cloud Computing Security (DCCS) (4)
- Draft STIGs/SGRs (6)
- Global Policy Objects (1)
- Group Policy Objects (GPO) (1)
- Host-Based Security Systems (HBSS) (3) [+]
- Mobility (30) [+]
- Network/Perimeter/Wireless (92) [+]
- NIAP Protection Profiles (5)
- Operating Systems (63) [+]
- Security Content Application Protocols (SCAP) (30) [+]
- STIG Compilations (2)
- STIG Policy (2)
- STIG Tools (4)
- STIG Viewing (12)
- Sunset (101) [+]
- Supplemental Automation Content (9)
- Vendor Process (1)

DoD STIG is the MANDATED security baseline for the Department of Defense, and is widely used by civilian and commercial agencies

Red Hat ships fully automated tooling to implement the DoD STIG within the Red Hat Enterprise Linux installer



## CERTIFICATIONS AND ACCREDITATIONS

ARE DERIVED FROM THE OPERATING SYSTEM  
– OR *THE BASE IMAGE OF THE CONTAINER* –

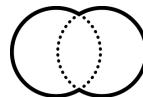
AND ARE JUST AS IMPORTANT IN A **CONTAINERIZED** WORLD  
AS THEY ARE IN LEGACY INFRASTRUCTURE

# The Agile Principles

What we believe, what we live by, and what we want for you



Early delivery of software



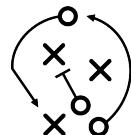
Business and developer sides always working together



Working software, not SLOC, is success



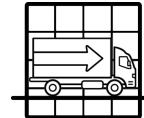
KISS



Expect change



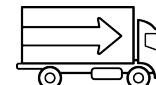
Team up motivated people and trust them



A constant pace forever



Self organizing teams



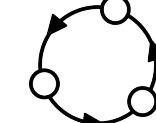
Always be shipping



Face to face communication above all others



Quality by default, always



Constant reflection and action

# DevOps



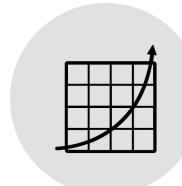
Continuous improvement to deliver high quality software



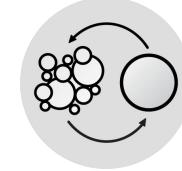
Involvement of all employees in the development process



Efficient, face-to-face communication



Iterative, incremental & evolutionary



Short feedback loop & adaptation cycle

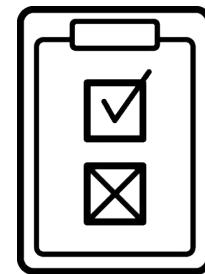


Quality focus

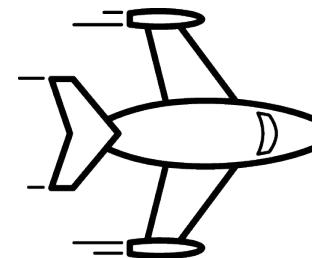
# The Goal

Deliver apps that are 4R compliant

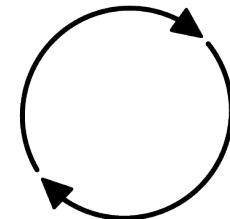
RELIABLY



RAPIDLY



REPEATEDLY

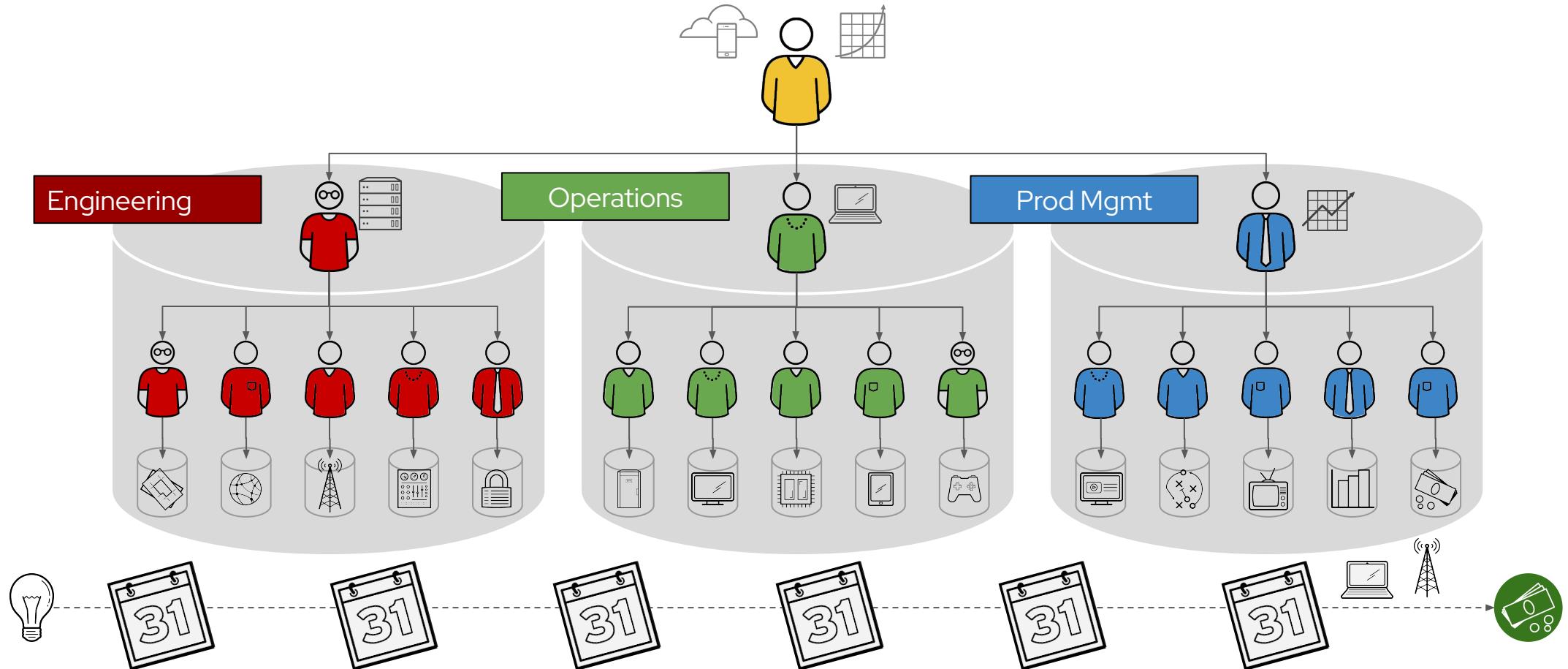


ROI

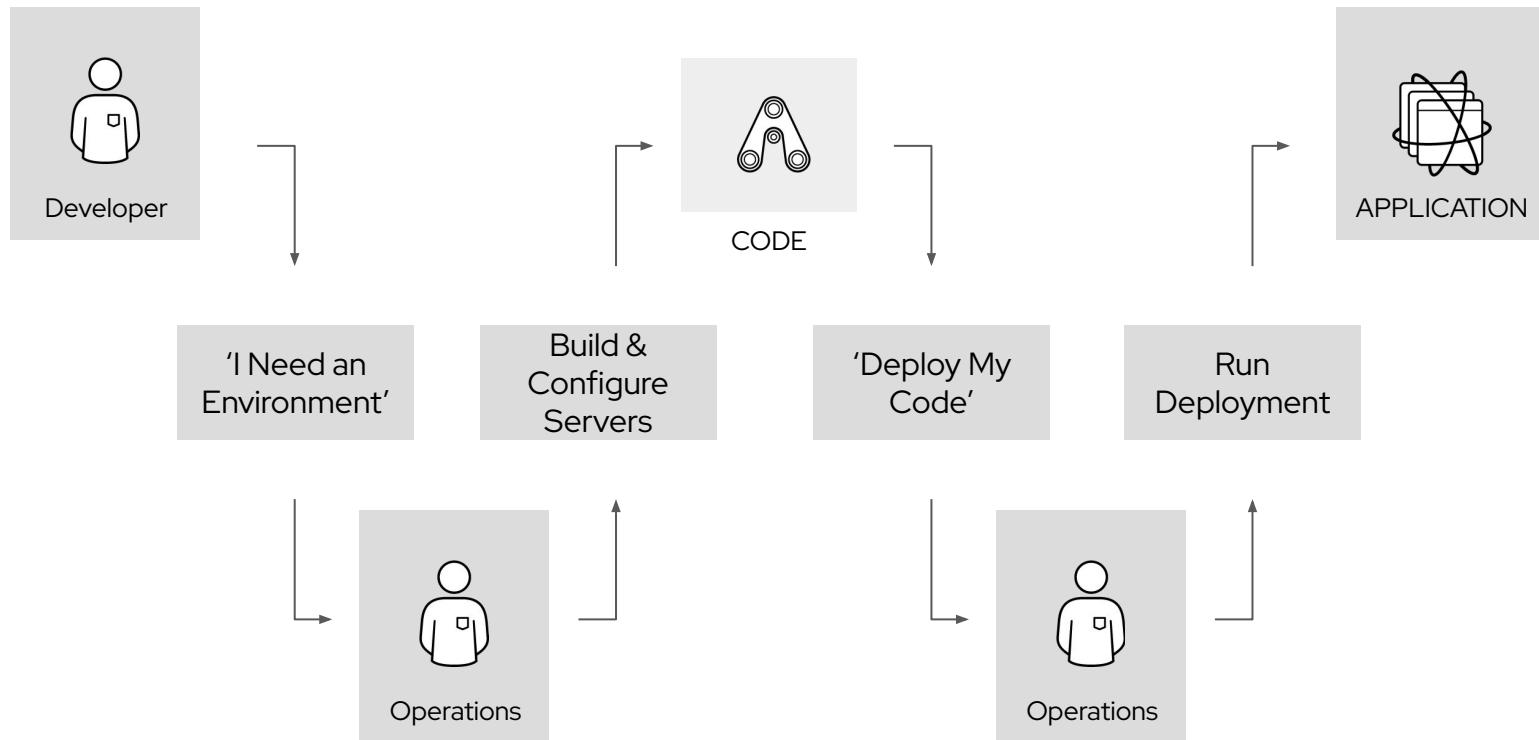


# Traditional Organization

Top-down, siloed, late integration, waterfall

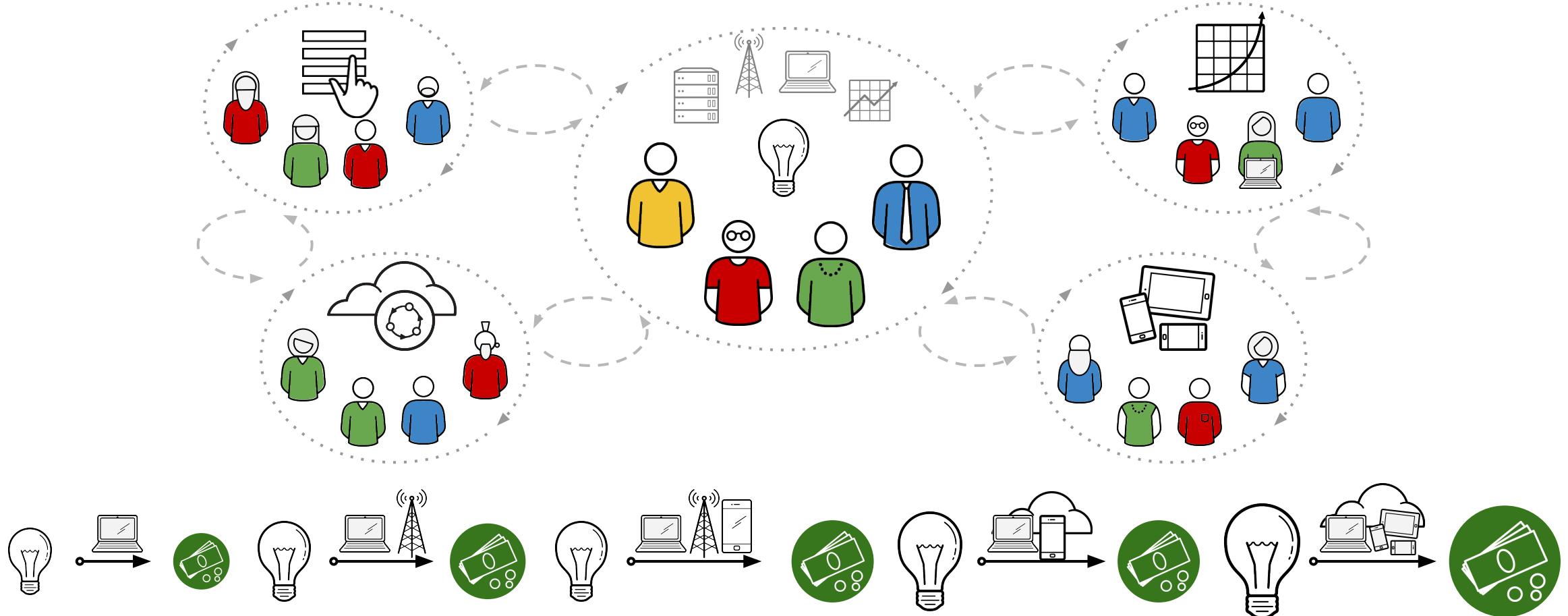


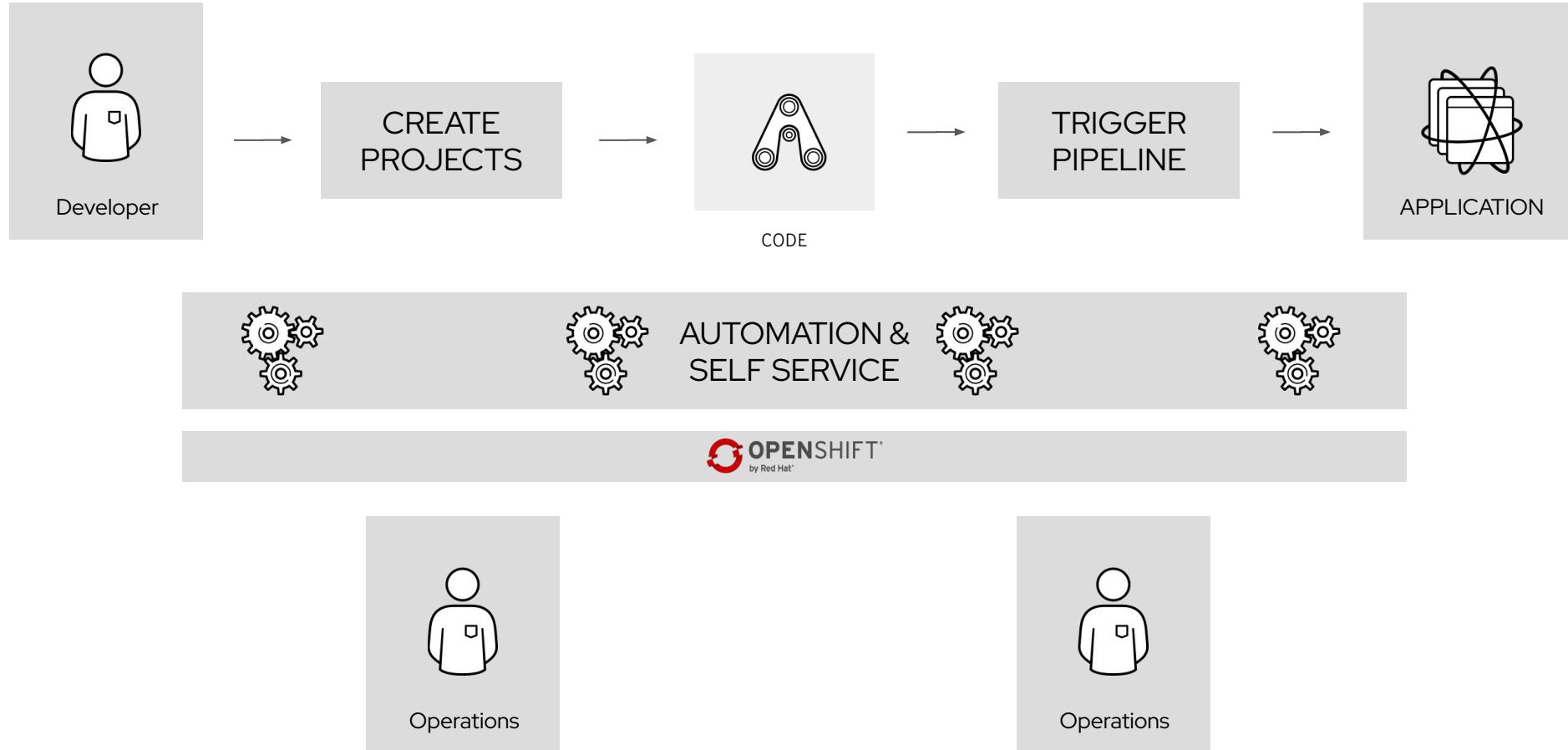
# Traditional Application Development



# Open Culture

Bottom-up, collaborative, continuous innovation, agile

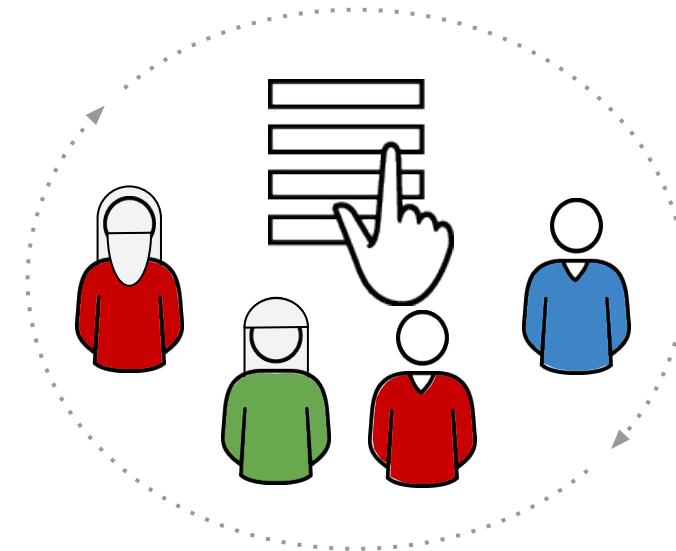




# Modern Applications

Development practices for success

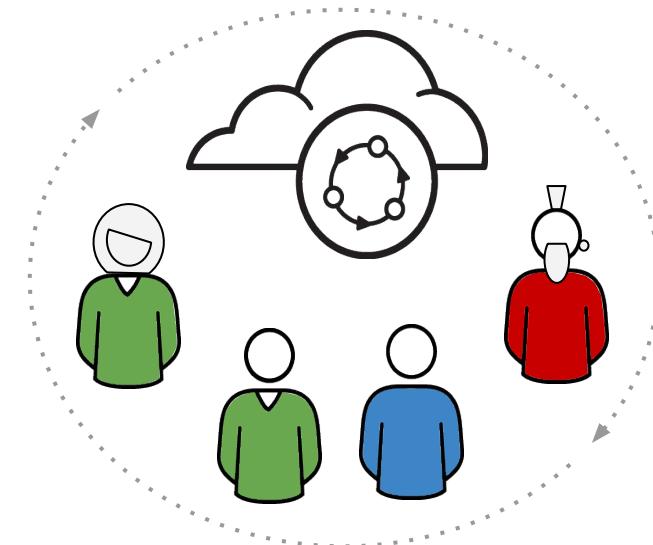
- Domain Driven Design
- Test driven development
- Static code analysis
- Strict pipeline enforcement
- Trusted design patterns and architectures
- Modern development languages and frameworks



# Modern Applications

Operational practices for success

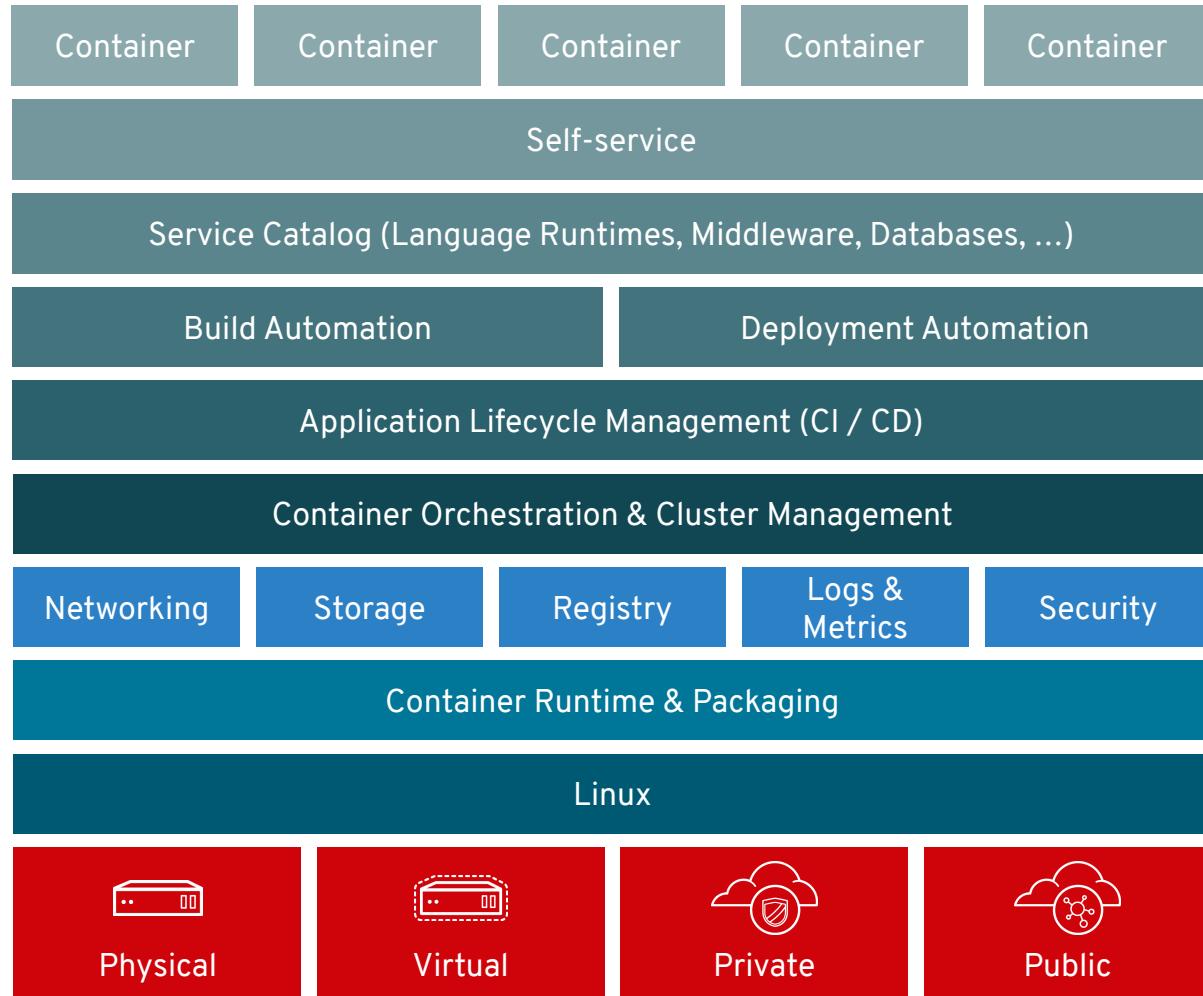
- Runtime analysis
- Automated provenance
- Containerized packaging
- Centralized configuration management
- Automated and self-healing operations
- Modern deployment strategy enforcement



# DIY Container Stack Challenges

Bring your own middleware, data & other services. Build out a service catalog / interface to enable self-service deployment.

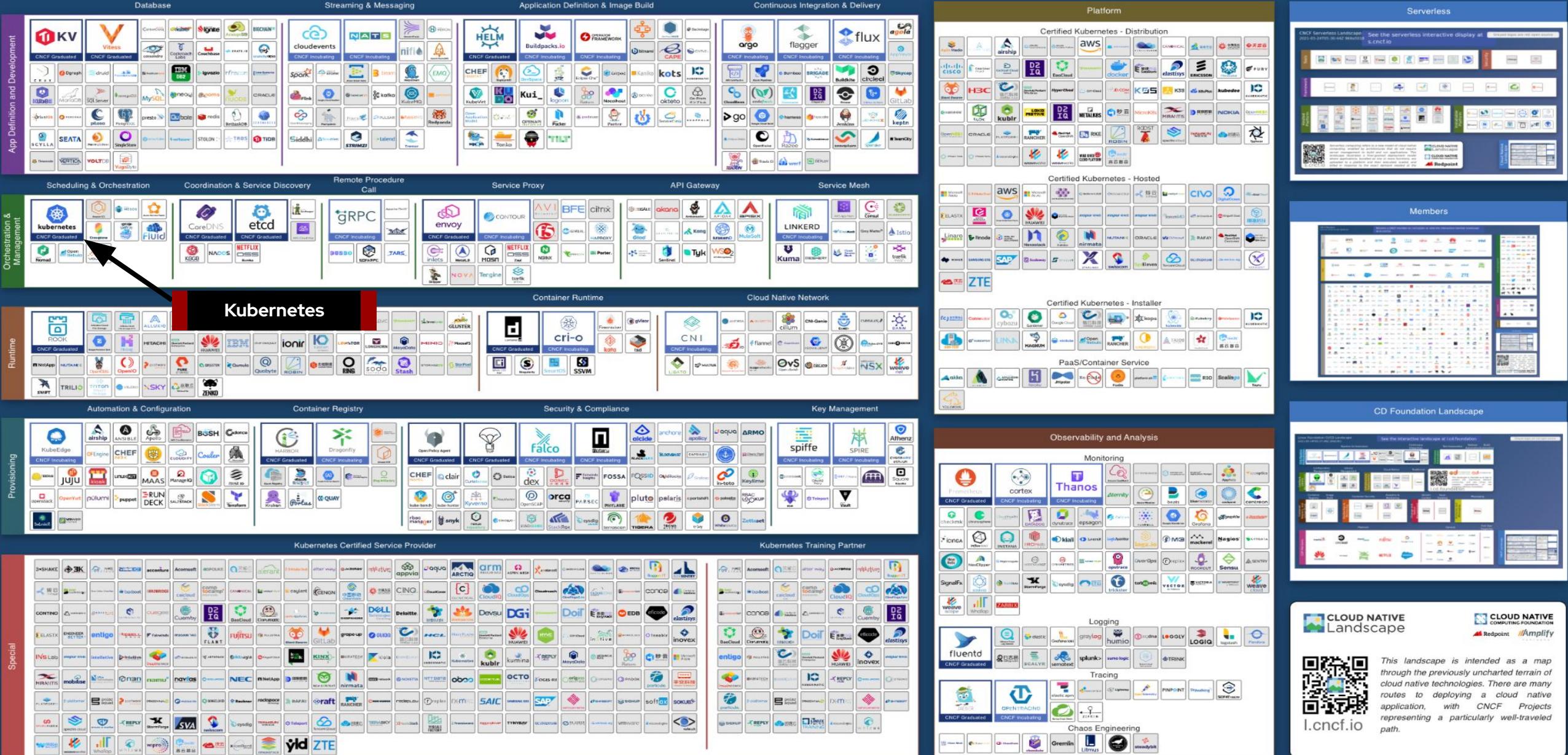
Pull Kubernetes or other orchestration (Mesos, Swarm) from rapidly moving upstream & support / maintain yourself. Do all the work required to integrate it into your enterprise IT environment (networking, storage, registry, security, logging, metrics, etc.)



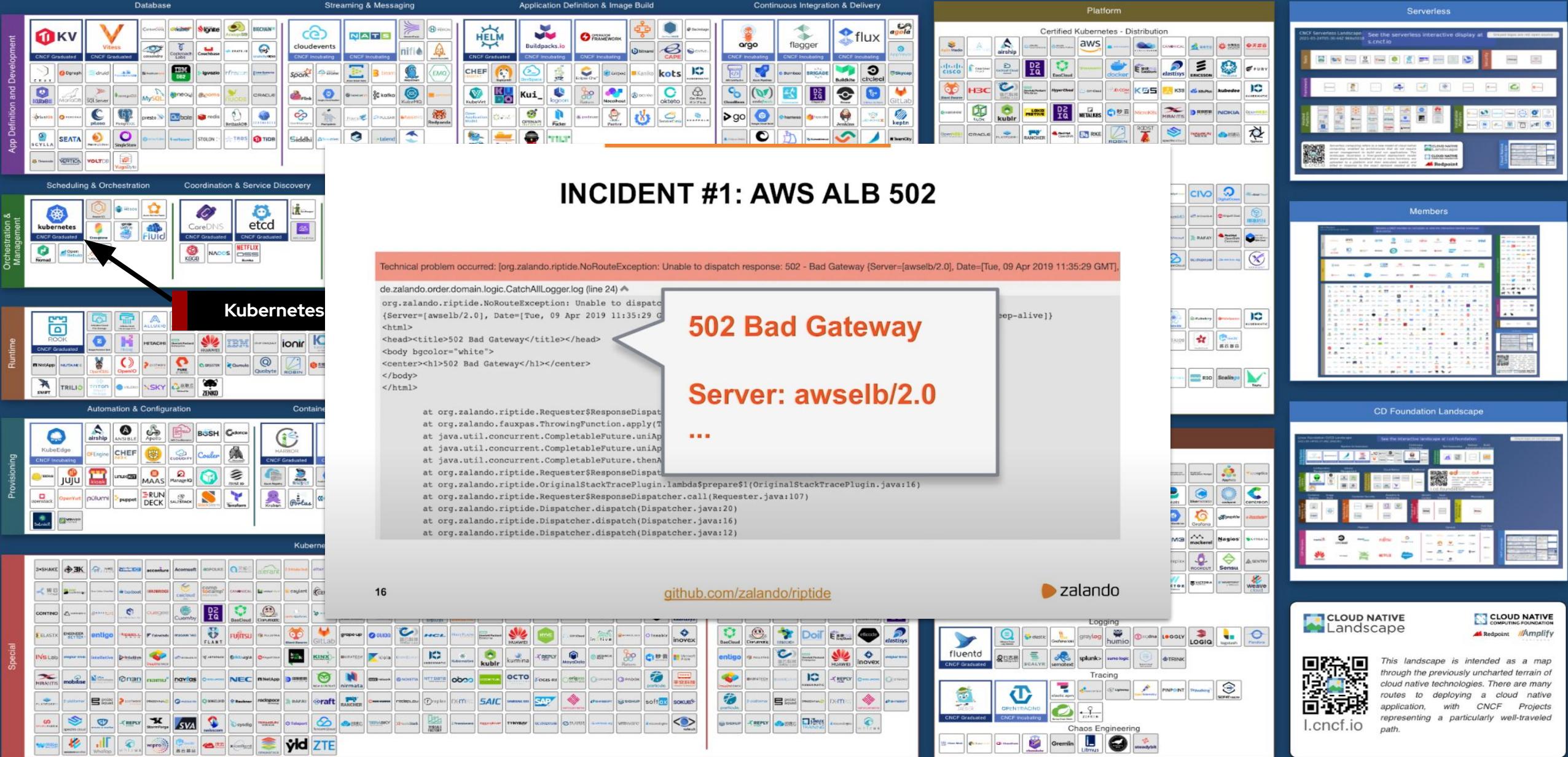
Take existing application build/CI & deployment tools and evolve to add container image build & mgt., continuous deployment, etc.

Pull Docker container runtime from rapidly moving upstream and support, secure and maintain it yourself.

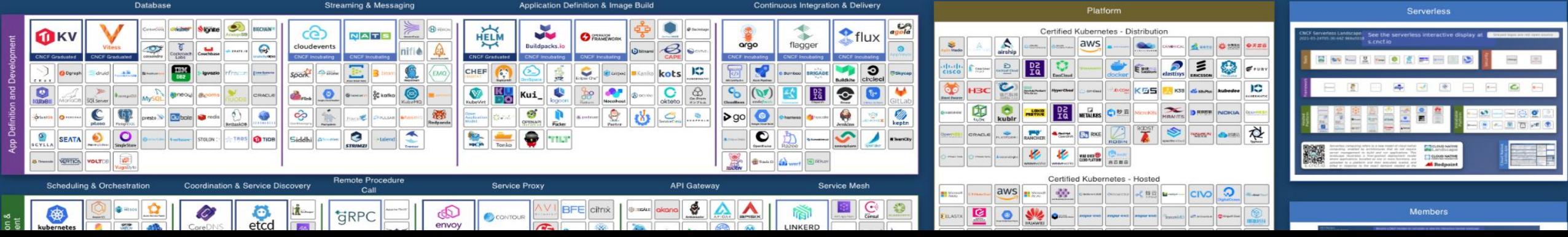
Support and manage your own Linux community distro or build on existing RHEL or 3rd party commercial Linux offerings.



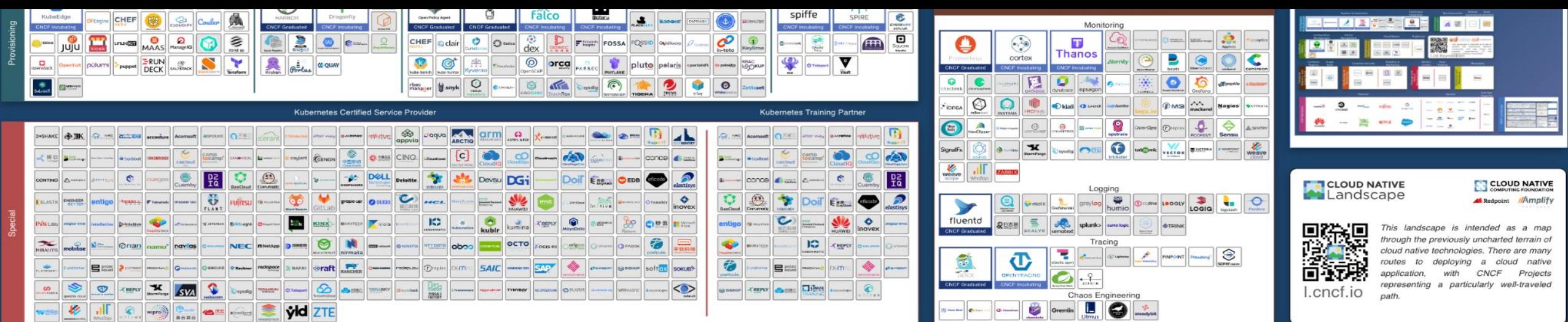
landscape is intended as a map through the previously uncharted terrain of native technologies. There are many steps to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled







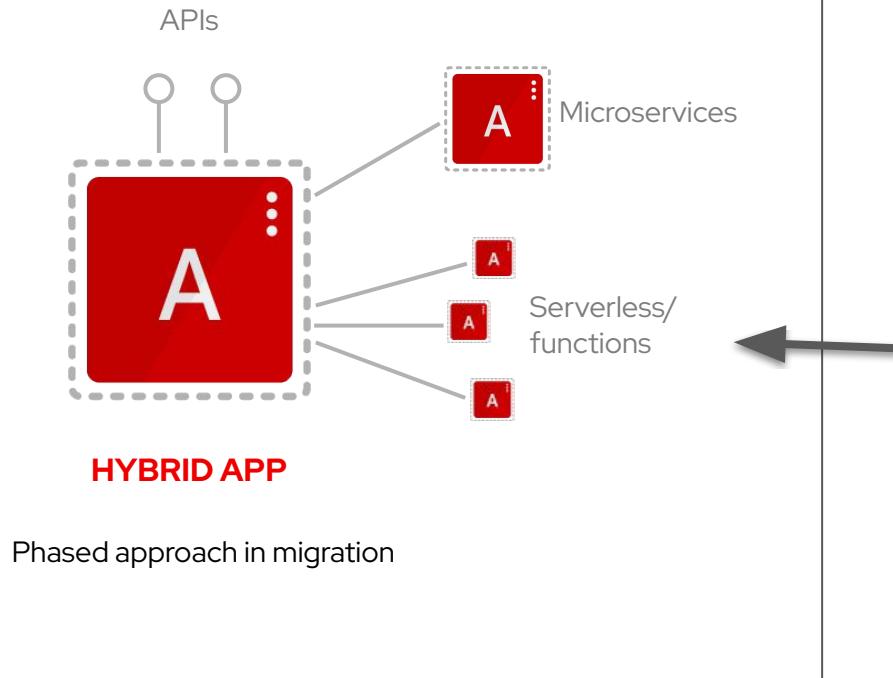
# THE CLOUD-NATIVE APP DEV CHALLENGE



# GETTING THERE FROM HERE

# Digital Modernization

3 common patterns



## Lift and Shift

Leave the architecture alone but modernize the deployment platform. Can be used for performance increases by allowing for deploying to better hardware. Can be used to accelerate deployments and improve processes by leveraging platform automation. **Fast Monoliths**.

## Refactor and Augment/Extend

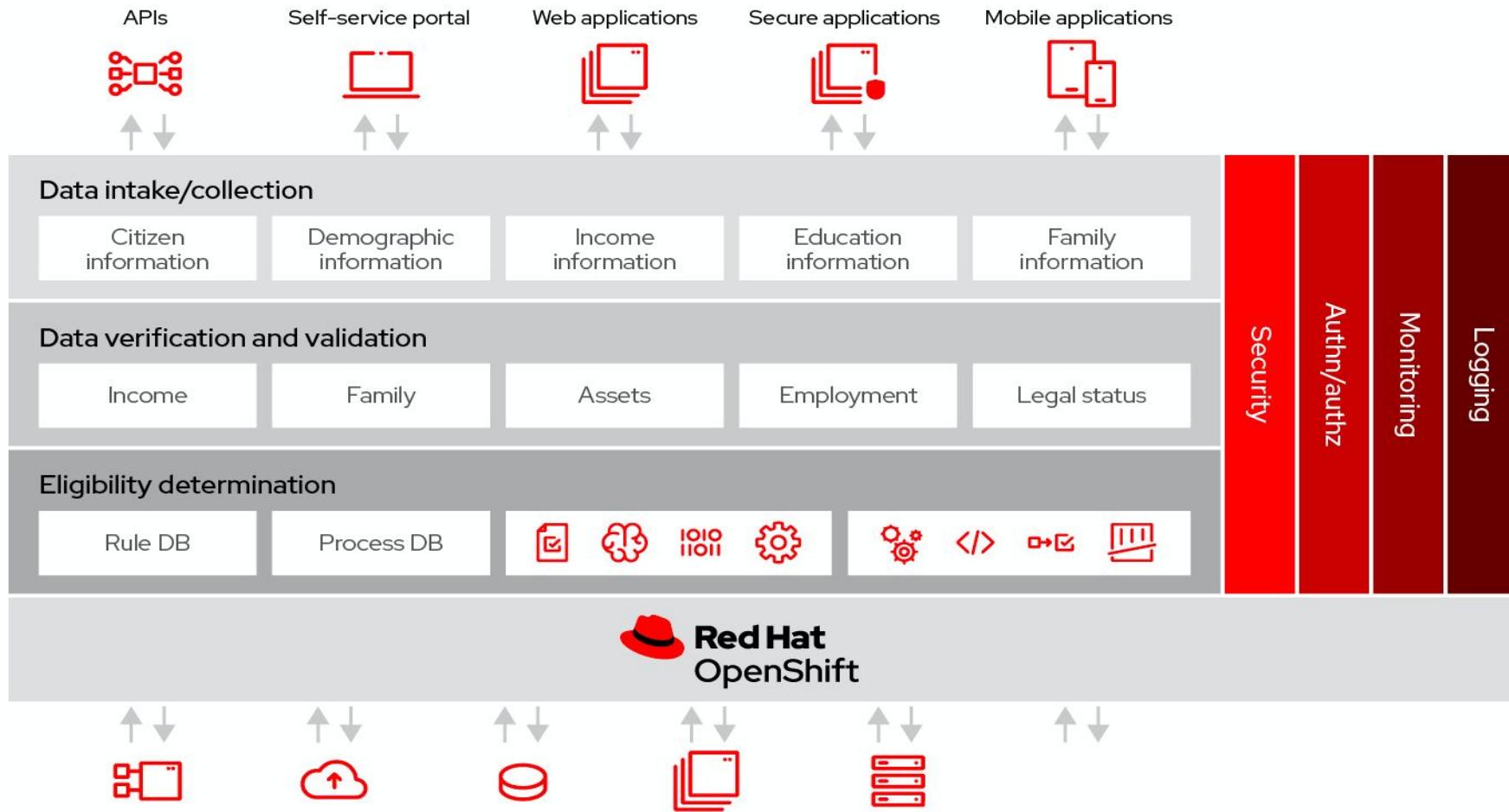
Find parts of the architecture that are sources of pain - refactor. Build **new capability in microservices** with well-defined APIs. Wrap legacy software too brittle to change with **adapter layers**.

## Rewrite/Replace

Create new functionality to **replace existing functionality**. Likely expensive and time-consuming. Typically only recommended when legacy vendors go away or a major skills gap forces it.

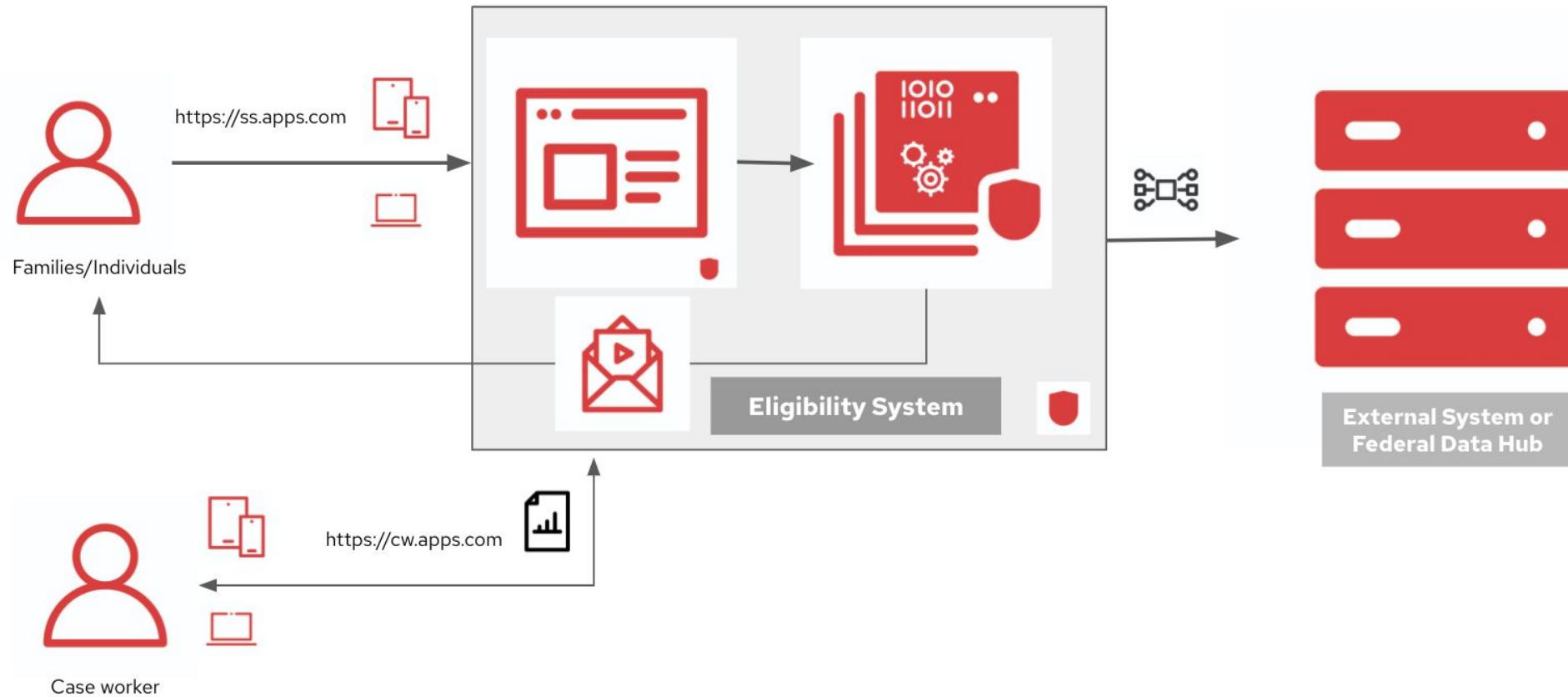
# Eligibility Determination

A cornerstone of citizen services



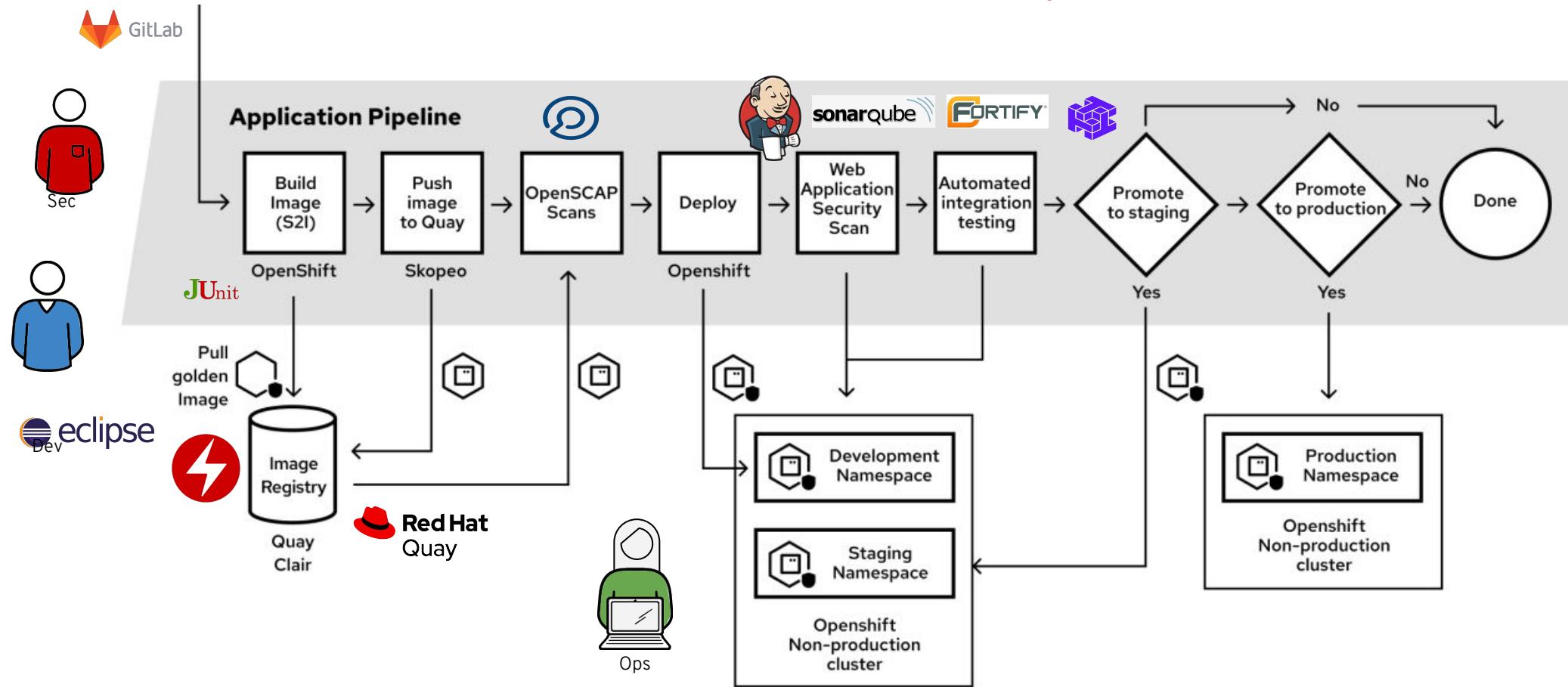
# Eligibility Determination

A cornerstone of citizen services



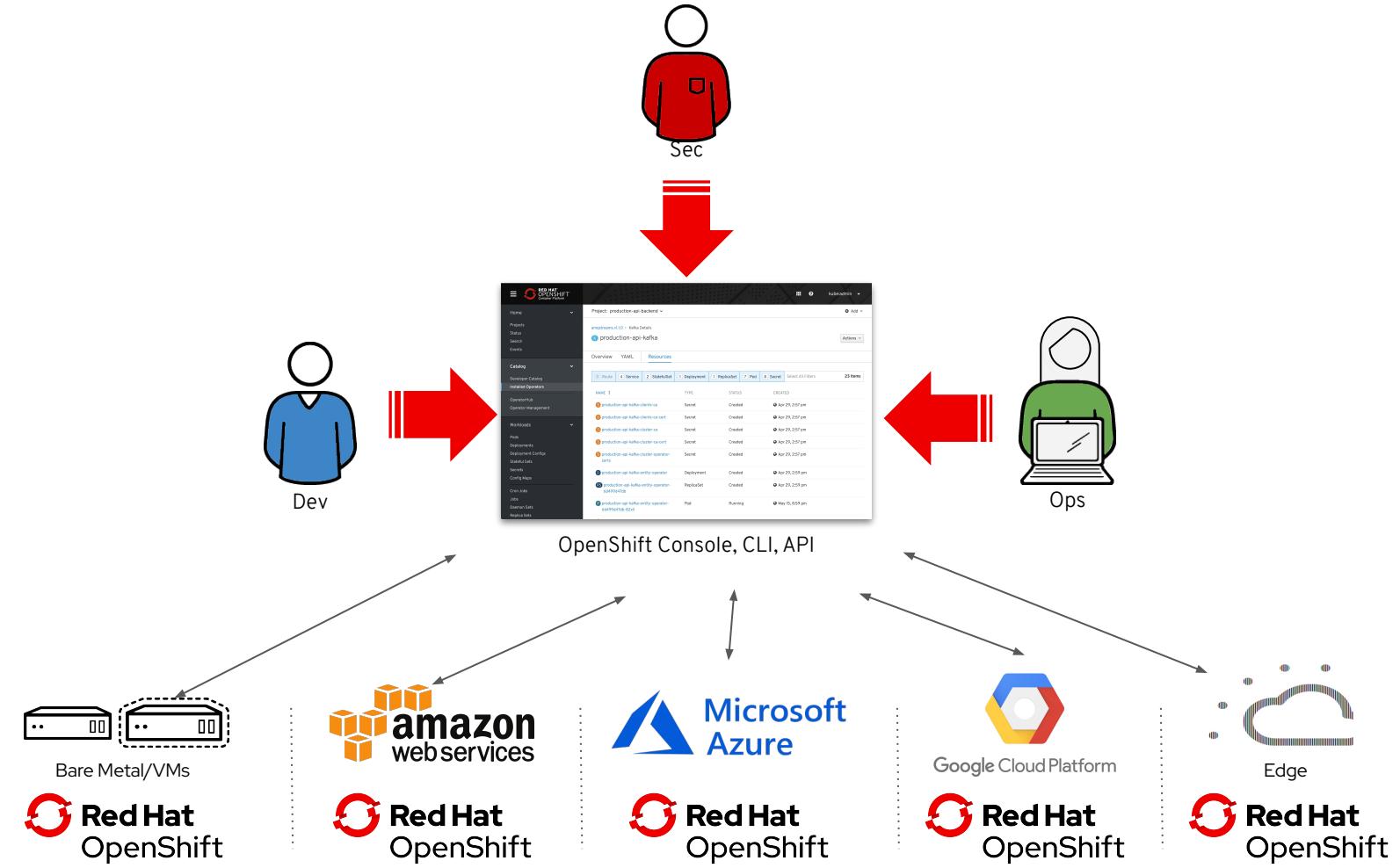
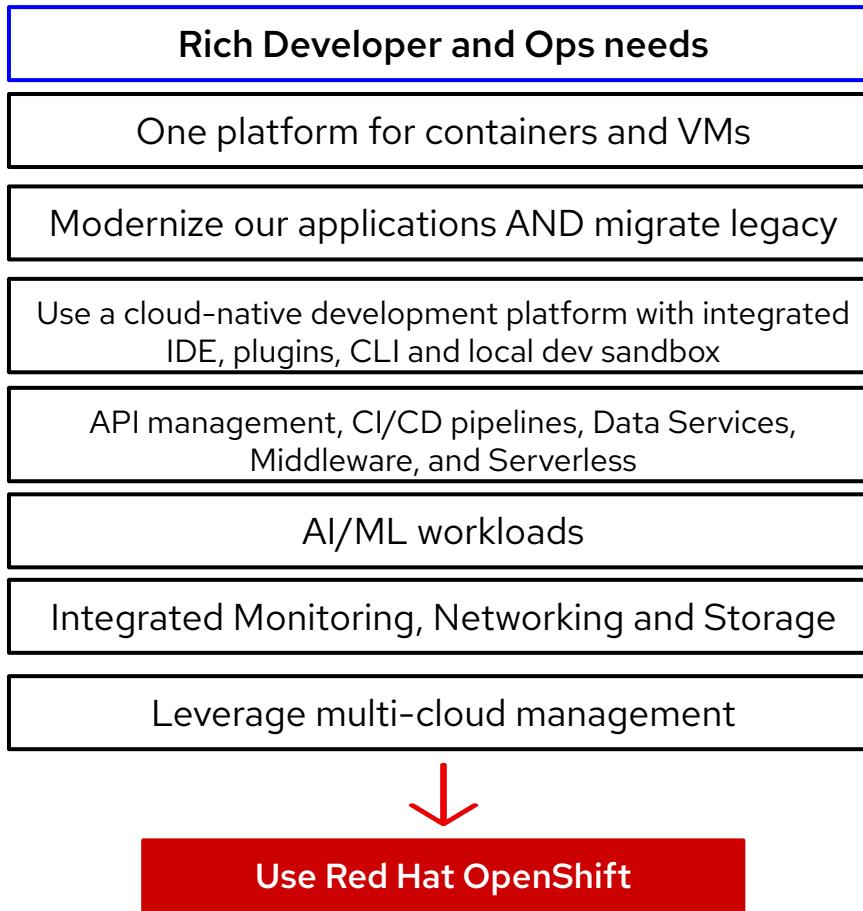
# DevSecOps

Rapid, secure software delivery

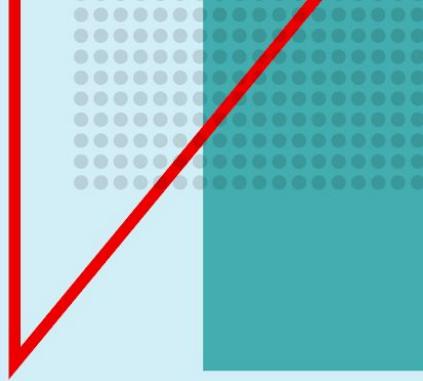


 **Red Hat**  
OpenShift

# Any app, anywhere, anytime... with agility & consistency



**300+ NAPS, 3000+ customers**



**"NOW, EVERY CIO  
IS A CLOUD  
OPERATOR"**

-- PAUL CORMIER, RED HAT CEO, APRIL 2021



# The age of open data

Register now

Government  
Symposium  
**November 16, 2021**  
11:00AM-2:30PM ET



Red Hat  
**Summit**



# Thank you



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