



# How Containers Drive Application Modernization in the Public Sector

Containers are fueling transformation and ensuring application development agility, scalability and quality in public sector agencies.

The infographic is titled "HOW CONTAINERS DRIVE APPLICATION MODERNIZATION IN THE PUBLIC SECTOR" and features the Red Hat logo at the top. It is divided into three main sections. The first section, "PUBLIC SECTOR IT MODERNIZATION: CURRENT STATE", states that public sector organizations have over \$7B+ in technical debt and are being driven to modernize their IT by three groups: LEGISLATION (represented by a document icon), GOVERNMENT OFFICIALS (represented by a gavel icon), and CITIZENS (represented by a group of people icon). These groups are demanding three things: RESPONSIVENESS (represented by a speech bubble icon), QUALITY OF SERVICES (represented by a ribbon award icon), and TRANSPARENCY (represented by a magnifying glass over a grid icon). The second section, "The public sector uses virtual machines widely, but suffers from:", lists four challenges: wasted spending (represented by a money bag icon), out-of-control development timelines (represented by a shield with a slash icon), costly, inefficient use of IT resources (represented by a calendar icon), and security issues from fragmented systems (represented by a puzzle piece icon).

# HOW CONTAINERS DRIVE APPLICATION MODERNIZATION IN THE PUBLIC SECTOR

## PUBLIC SECTOR IT MODERNIZATION: CURRENT STATE

With over **\$7B+** technical debt, public sector organizations are being driven to modernize their IT by:



**LEGISLATION**



**GOVERNMENT  
OFFICIALS**



**CITIZENS**

who are demanding:



**RESPONSIVENESS**



**QUALITY OF  
SERVICES**



**TRANSPARENCY**

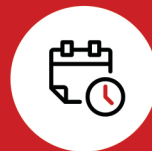
The public sector uses virtual machines widely, but suffers from:



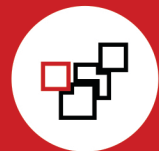
wasted spending



out-of-control  
development  
timelines



costly,  
inefficient use  
of IT resources



security issues  
from fragmented  
systems

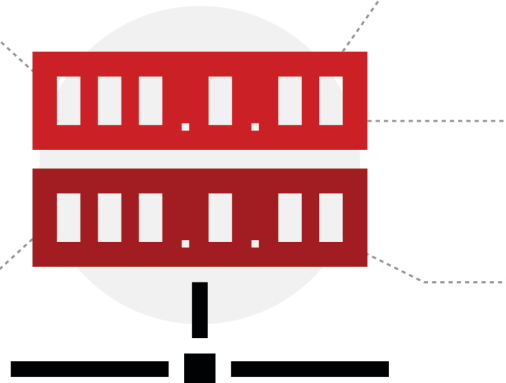
# HOW CONTAINERS HELP

## Container environments offer the public sector:

easy development and movement of applications across environments



right-sized, efficient use of IT resources



the ability to run many applications on the same host at once



ability to move workloads anywhere to suit their needs



built-in security and assurance across the cluster



**CONTAINER ADOPTION RANKED #1 AMONG 44% IT PUBLIC SECTOR LEADERS**  
(16% INCREASE FROM 2017)

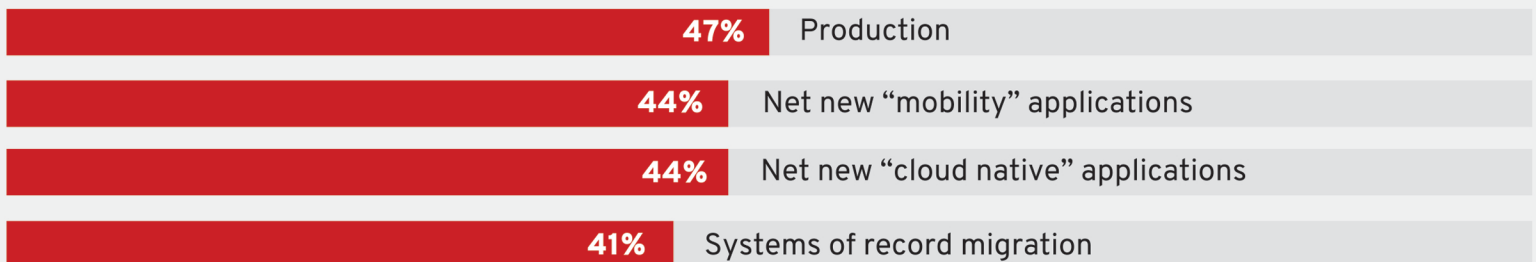


**A SINGLE CONTAINERIZED SERVER CAN HAVE 2X - 3X THE NUMBER OF APPLICATIONS THAN A NORMAL VM**



**SOME U.S. STATES (LIKE NC) HAVE CREATED INNOVATION CENTERS FOCUSED ON ELEVATING PUBLIC IT (LIKE WITH CONTAINER PLATFORMS)**

## For which of the following do IT decision makers use containers today?



Base: 195 US and European manager+ IT decision makers responsible for public/private cloud decisions at enterprises that have adopted containers (percentages reflect only respondents who have deployed each type of application) Source: A commissioned study conducted by Forrester Consulting on behalf of Dell EMC, Intel, and Red Hat, January 2017

# HOW ARE CONTAINERS FUELING TRANSFORMATION IN THE PUBLIC SECTOR?



Legacy environments are **transformed faster**, and **future-proofed**



**Faster innovation and app design**



Organizations are able to be **more responsive**, while **lowering cost**



Agency development and operations teams are **more in sync** and **more productive**

## Containers achieve government application development agility, scalability and quality\*

### 5-YEAR BENEFIT (AVG/ORG)

- |   |   |  |               |
|---|---|--|---------------|
| 1 | Increases IT productivity                 |  | <b>\$3.7M</b> |
| 2 | Increases business productivity           |  | <b>\$1.3M</b> |
| 3 | Decreases IT infrastructure costs         |  | <b>\$0.8M</b> |
| 4 | Decreases risk mitigation (Fewer Outages) |  | <b>\$40K</b>  |

**531%**  
ROI (AVG, 5YR)

**66%**  
FASTER DEVELOPMENT

**\$7.42M**  
HIGHER REVENUE PER ORG

**35%**  
LESS IT STAFF

**38%**  
LOWER IT INFRASTRUCTURE AND PLATFORM COSTS PER APP

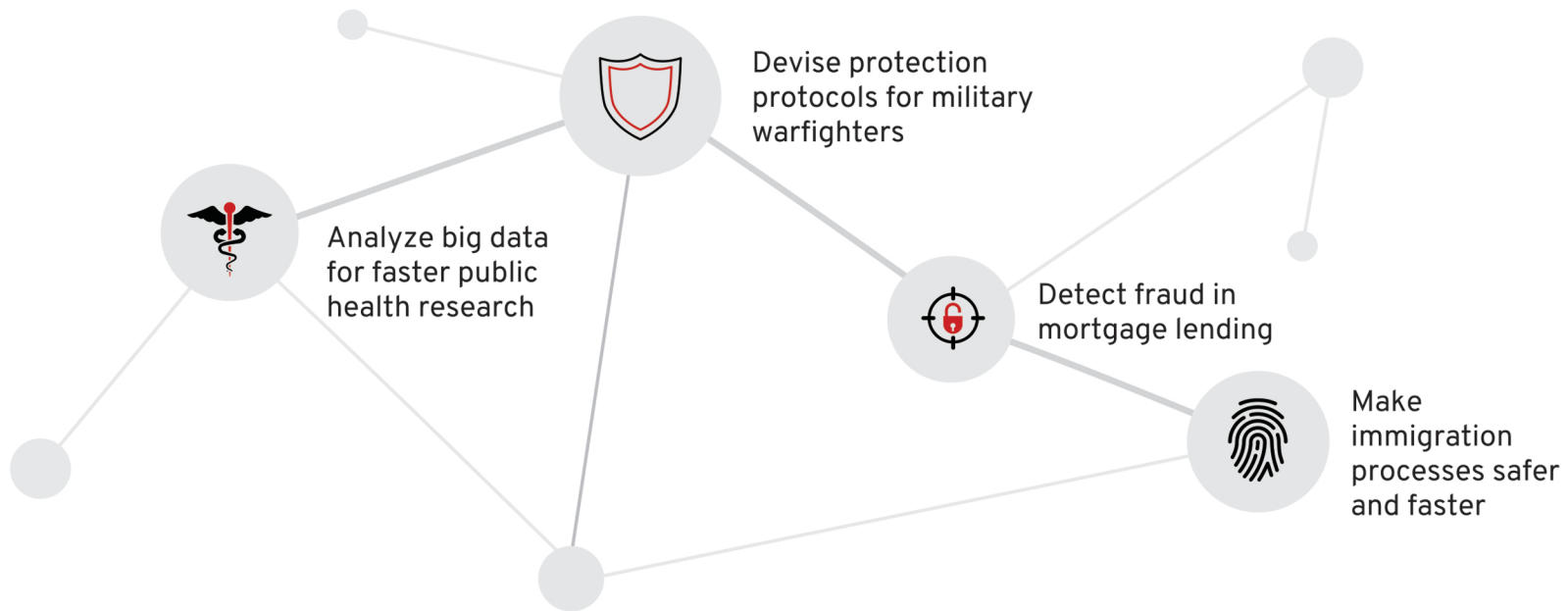


THE GOVERNMENT OF BRITISH COLUMBIA, CANADA, REDUCED SECURE APPLICATION DEPLOYMENT FROM **MONTHS DOWN TO HOURS** USING RED HAT OPENSIFT





# PUBLIC SECTOR USES OF CONTAINER PLATFORMS TODAY



**RAPID FEDERAL AGENCY  
CONTAINER ENVIRONMENT USAGE  
PROMPTED NIST TO CREATE A  
CONTAINER SECURITY GUIDE  
(SPECIAL PUBLICATION 800-190)  
TO ESTABLISH COMMON BEST  
PRACTICES**



**SOME UNIVERSITIES HAVE  
CONSOLIDATED OVER 100 VMS  
DOWN TO AS FEW AS 5 SERVERS,  
SIMPLIFYING AND SHORTENING  
APPLICATION RELEASE CYCLES**

## WHY RED HAT OPENSIFT FOR PUBLIC SECTOR?



Container environments are easier, better supported, and more secure



Supports the widest array of environments and mixed clusters



Second largest contributor to the Docker and Kubernetes codebases



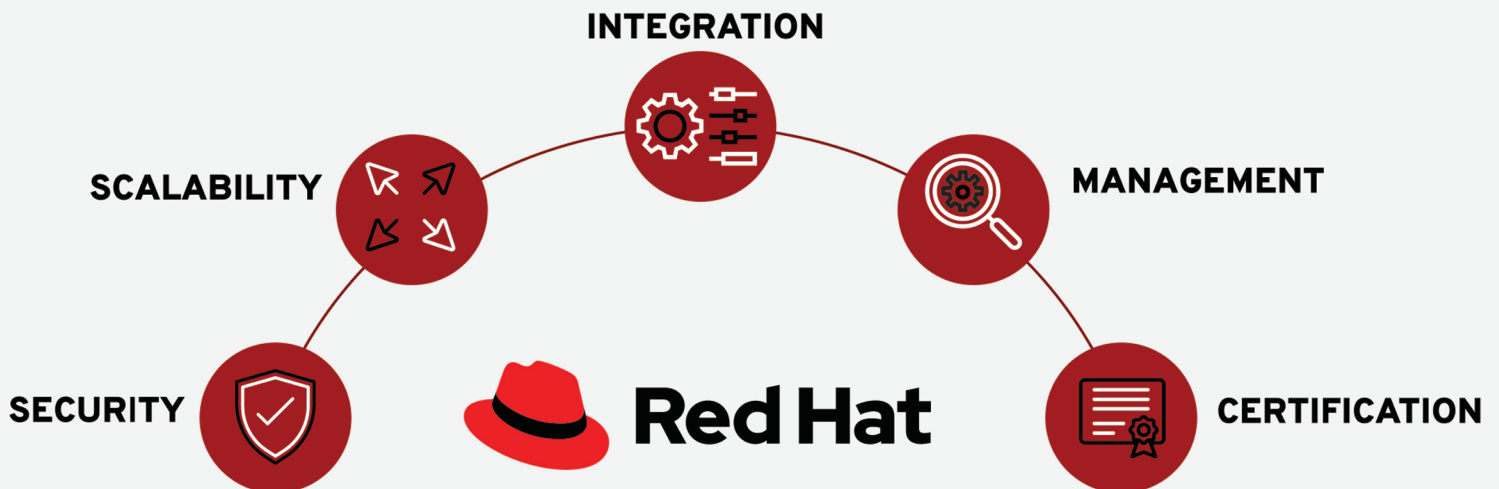
Alignment and partnership with Microsoft solutions and development



Smooths the path to container environment adoption



Defining critical government enterprise use of Kubernetes and Docker



OpenShift-friendly container code frameworks and workload solutions include:

3Scale  
APICast

Java

Jenkins

mongoDB. node

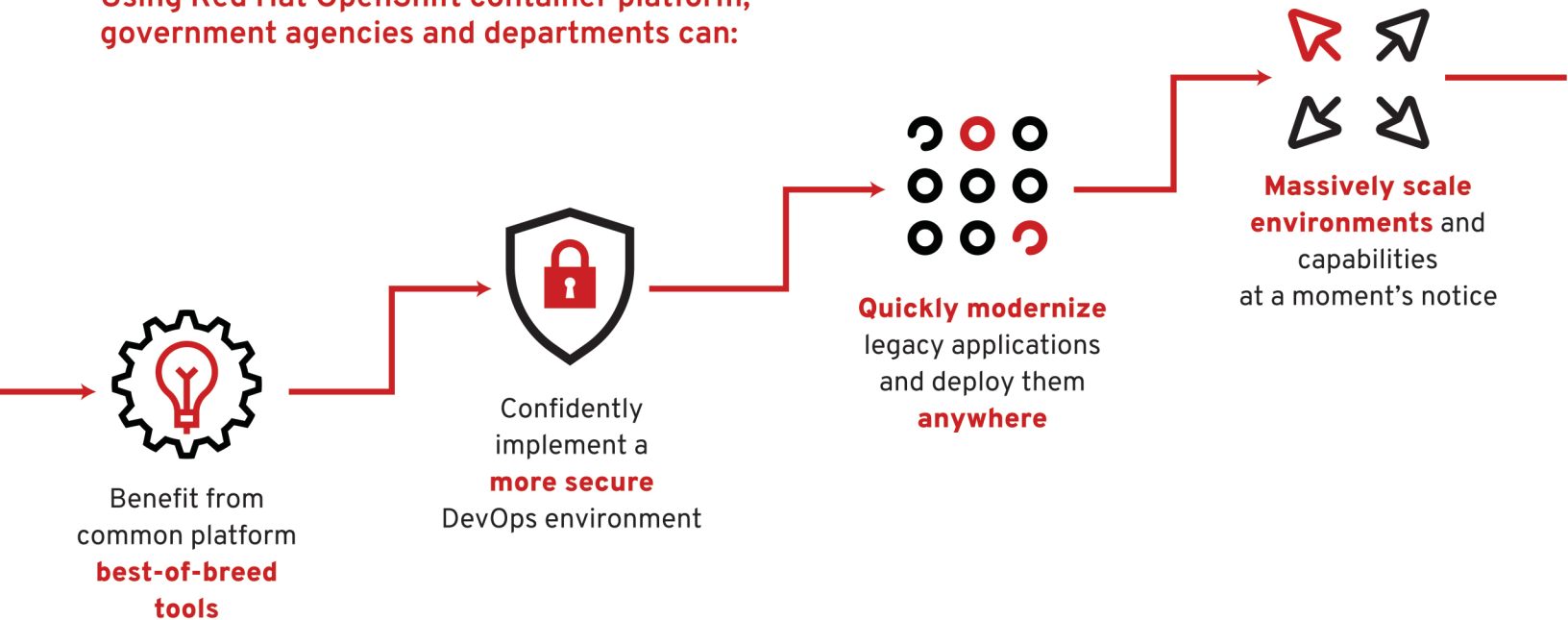
python

Ruby

Red Hat  
JBoss A-MQ

6fusion	AviNetworks	Cisco	Click2Cloud	EnterpriseDB	Confluent
CloudBees	Cloudmunch	CoScale	Fujitsu Limited	MongoDB	Databricks
GitLab	Dynatrace	F5	Juniper Networks	Atlassian	Sysdig
Navops by Univa	Hitachi, Ltd.	Iron.io	Nuage Networks from Nokia	Sonatype	Roambee/T-Systems
Pachyderm	NetApp	NGINX	Tremolo Security, Inc.	Elastic	NVIDIA
Kubernetes			Docker		

Using Red Hat OpenShift container platform, government agencies and departments can:



Red Hat

carahsoft.

Carahsoft.com/redhat  
redhat@carahsoft.com  
877-RHAT-GOV

\*Source: <https://www.redhat.com/en/resources/The-Business-Value-of-Red-Hat-OpenShift>



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