



Red Hat

Balancing Speed & Stability

The Path to Digital Leadership with Open Source

Chris Sexsmith
Transformation SSP
US Public Sector



**“CLOUD HAS THE POTENTIAL TO BE
THE MOTHER OF ALL LOCK-INS”**

JIM WHITEHURST, RED HAT CEO, JUNE 2010

MISSION NEEDS ARE CHANGING GOV. IT NEEDS TO CHANGE WITH IT



CIO / UPPER MANAGEMENT

Repurpose & Lower Cost of Existing Infrastructure to Shift more OCIO IT budget towards innovation, transforming OCIO IT from a cost center to a strategic differentiator.



DEVELOPERS

With access to internal compute power and a wide variety of languages and frameworks, can innovate faster while remaining compliant with internal compliance and operational requirements.

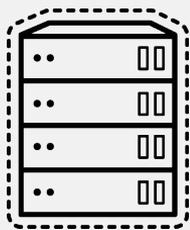


IT OPERATIONS

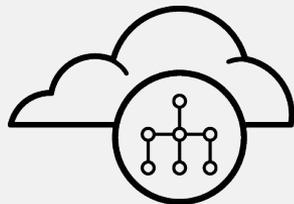
IT Operations, armed with continuous monitoring of capacity on premise as well as costs associated with public cloud, can proactively partner with development teams and quickly provision them with the compute power and development frameworks necessary for success, in the most cost efficient manner.

BALANCING INNOVATION AND OPTIMIZATION

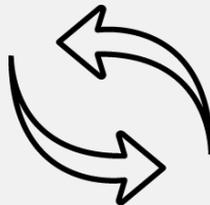
HOW DO YOU MODERNIZE EXISTING I.T. WHILE SHIFTING INVESTMENT TO INNOVATION?



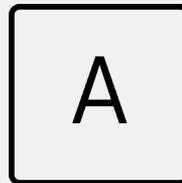
Optimize the IT
you have



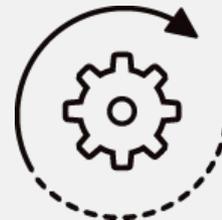
Add and manage cloud
infrastructure



Integrate apps, data,
& processes



Build more modern
applications



Automate &
Manage IT

WHAT HAPPENS IF WE DO NOTHING?

LEADS TO MORE LOSS OF CONTROL

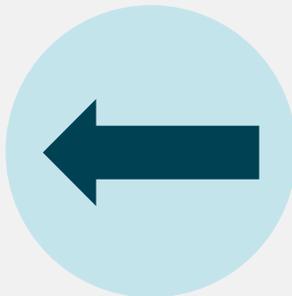


OUTSIDE resources:
shadow IT creating
more problems

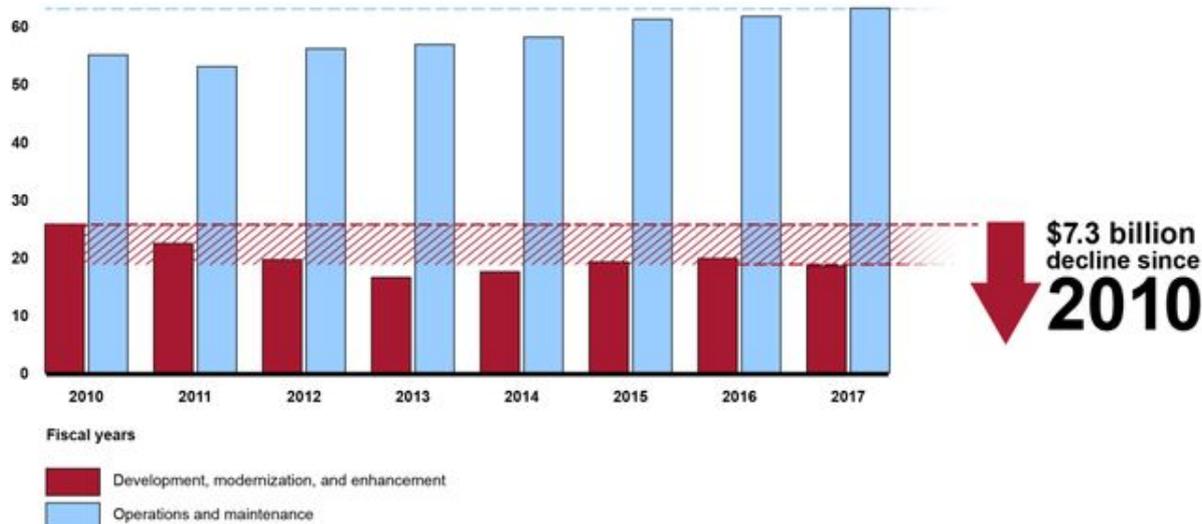
Just **SURVIVING**:
patching and solving
problems



Can't **INNOVATE**: not
reacting to **business**
needs.



GREATER THAN 75% OF I.T BUDGET IS SPENT ON OPERATIONS



Source: GAO analysis of agency data. | GAO-16-696T

\$7.3 billion
decline since
2010

“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



OPEN SOURCE COMMUNITIES

ARE THE DRIVING FORCE BEHIND TECHNOLOGY INNOVATION TODAY



POLICY ENVIRONMENT DRIVING ACCEPTANCE



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

August 8, 2016

M-16-21
MEMORANDUM FOR THE HEADS OF DEPARTMENTS AND AGENCIES
Chief Information Officer

FROM: Tony Scott
United States Chief Information Officer
Anne E. Rung
United States Chief Information Officer
SUBJECT: Federal Software Acquisition

The U.S. Government deliver information mission effectively Federal Government transactions. A either mechanism



M-04-16

MEMORANDUM FOR:

FROM:

SUBJECT:

This memorandum reminds agencies of policies and procedures covering acquisition of software to support agency operations.



CHIEF INFORMATION OFFICER

DEPARTMENT OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, DC 20301-6000

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARY OF DEFENSE
DEPARTMENT OF DEFENSE

OCT 16 2009

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON D.C. 20503

July 1, 2004

SENIOR PROCUREMENT EXECUTIVES
CHIEF INFORMATION OFFICERS

FROM: Karen S. Evans
Administrator, IT and E-Gov
Robert A. Burton
Associate Administrator,
Office of Federal Procurement Policy
Software Acquisition

THE DEPARTMENT OF
TEST AND EVALUATION
THE DEPARTMENT OF
RY OF DEFENSE
AND MANAGEMENT
ND PROGRAM
CIES
ITIES
E MILITARY

Budget (OMB) Circulars A-11 and A-130 and the Federal Acquisition Technology (IT) investment decisions. These policies are extent practicable, agency investment decisions, Federal

CONSIDER OPEN SOURCE

INNOVATE FASTER AND BREAK OUT OF THE PROPRIETARY LOOP

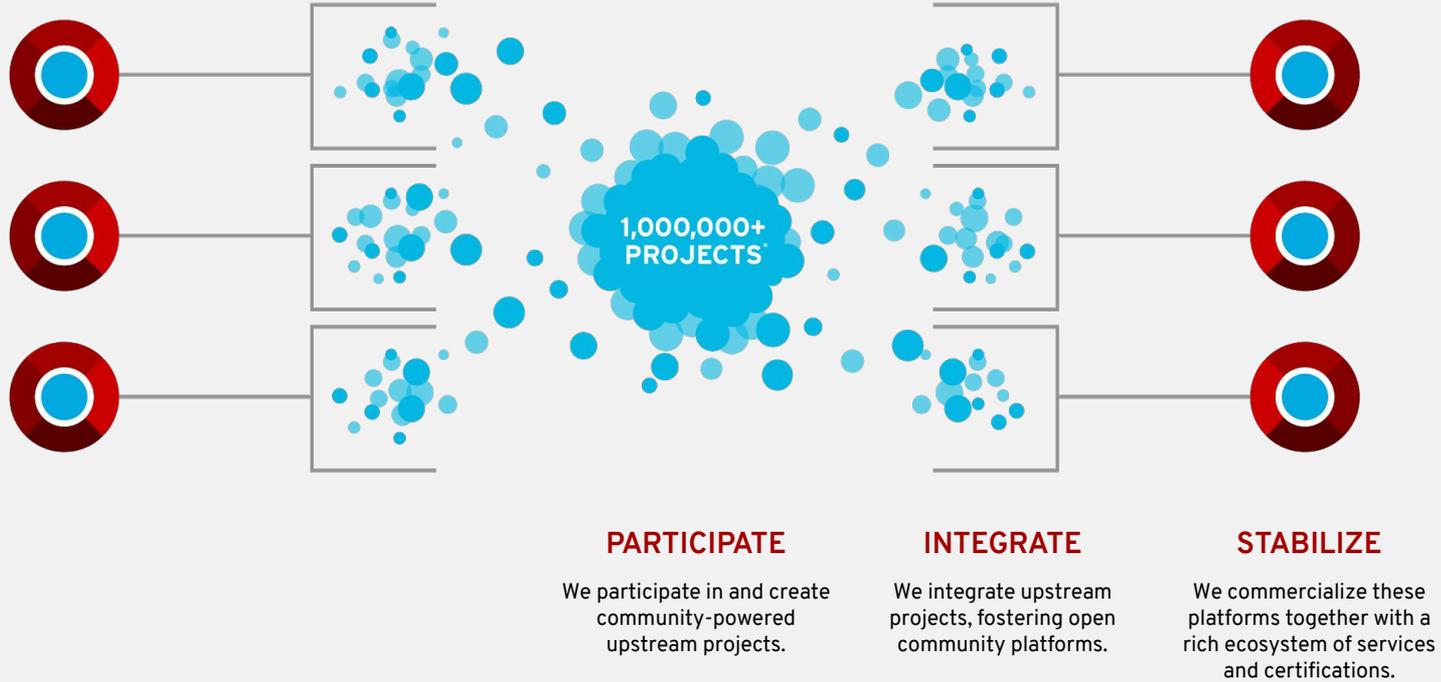
"An organization that does not fully consider open source options alongside the proprietary offerings they have traditionally procured is missing out on sound technologies, access to vibrant communities, and the opportunity to tap innovative new ways of working.

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

FORRESTER

Apr 2016

PRODUCT DEVELOPMENT MODEL



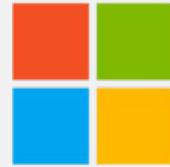
*Black Duck and North Bridge, 2015 Future of Open Source survey

Who operates this way?

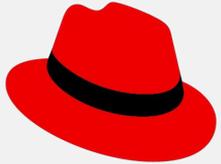


Kubernetes & Golang

VSCoDe / WSL2 / MSSQL



Microsoft



Red Hat

Every. Single. Line. Of. Code.

Security and Compliance aren't negotiable

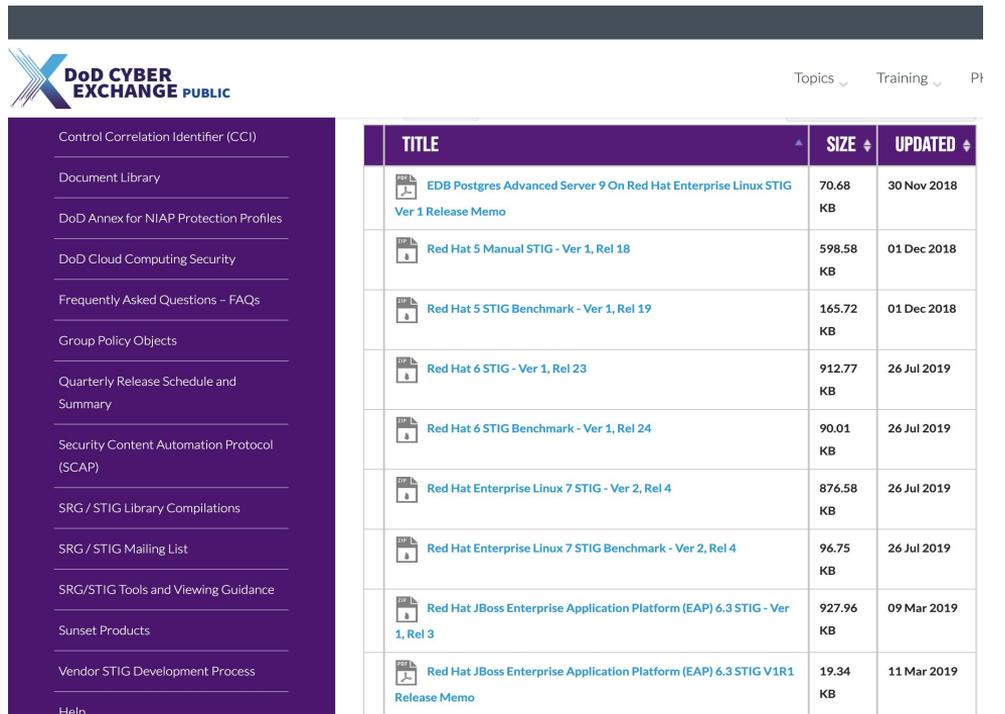
- ★ COMMON CRITERIA (ISO/IEC 15408) EAL 4+
- ★ DoD STIG AND (OPENSCAP AUTOMATION)
- ★ FEDERAL INFORMATION PROCESSING
STANDARD 140-2
- ★ USGV6 / DOD IPV6 TESTED PRODUCTS LIST
- ★ SECTION 508 COMPLIANCE
- ★ U.S. GOVERNMENT CONFIGURATION BASELINE



DoD Security Technical Implementation Guide (STIG)

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

The RHEL 7 and beyond STIG profiles are written using Ansible automation.



The screenshot shows the DoD Cyber Exchange Public website. The navigation menu on the left includes: 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, Security Content Automation Protocol (SCAP), SRG / STIG Library Compilations, SRG / STIG Mailing List, SRG/STIG Tools and Viewing Guidance, Sunset Products, Vendor STIG Development Process, and Help.

The main content area displays a table of STIG documents with the following columns: TITLE, SIZE, and UPDATED.

TITLE	SIZE	UPDATED
 EDB Postgres Advanced Server 9 On Red Hat Enterprise Linux STIG Ver 1 Release Memo	70.68 KB	30 Nov 2018
 Red Hat 5 Manual STIG - Ver 1, Rel 18	598.58 KB	01 Dec 2018
 Red Hat 5 STIG Benchmark - Ver 1, Rel 19	165.72 KB	01 Dec 2018
 Red Hat 6 STIG - Ver 1, Rel 23	912.77 KB	26 Jul 2019
 Red Hat 6 STIG Benchmark - Ver 1, Rel 24	90.01 KB	26 Jul 2019
 Red Hat Enterprise Linux 7 STIG - Ver 2, Rel 4	876.58 KB	26 Jul 2019
 Red Hat Enterprise Linux 7 STIG Benchmark - Ver 2, Rel 4	96.75 KB	26 Jul 2019
 Red Hat JBoss Enterprise Application Platform (EAP) 6.3 STIG - Ver 1, Rel 3	927.96 KB	09 Mar 2019
 Red Hat JBoss Enterprise Application Platform (EAP) 6.3 STIG V1R1 Release Memo	19.34 KB	11 Mar 2019

COMMON CRITERIA (ISO/IEC 15408) EAL 4+

“Common criteria certification is a standard that came into effect on July 1, 2002 with the passing of the NSTISSP #11. It **mandated** that departments and agencies within the Executive Branch, for use on **National Security Systems**, only acquire IA and IA-enabled information technology products that are **certified as meeting common criteria security standards.** “



<http://www.disa.mil/Network-Services/UCCO/FAQs#commoncriteria>



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.

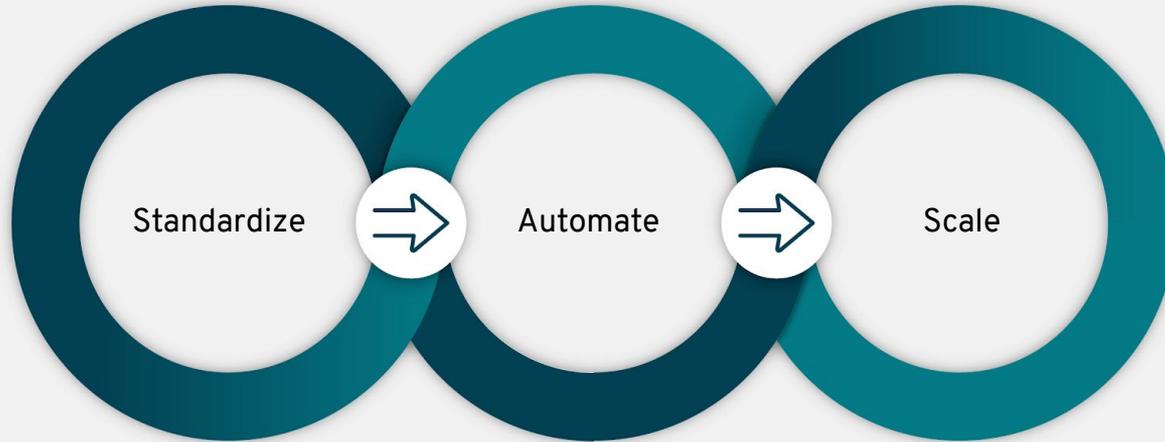


**WHAT APPROACHES
CAN YOU TAKE?**

TAKE AN INCREMENTAL APPROACH

COMMON AUTOMATION & MANAGEMENT STRATEGY FOR TRADITIONAL I.T., CLOUD, & CONTAINERS

Traditional
physical &
virtualized
datacenters



Hybrid cloud
portability with
containers and
continuous
integration &
delivery (CI/CD)

AGILE I.T. OPERATIONS

TRANSFORMING PEOPLE & PROCESSES



- **Target pain points** to automate processes for existing IT
- **Take risks** to grow your change capacity
- **Collaborate** across IT ops & developer roles
- **Position IT as a business partner** to lead the way strategically
- **Increase developer power** to automate access to on-prem & cloud services
- **Create an open organization** based on transparency & meritocracy

AGILE I.T. OPERATIONS

TRAINING & AUTOMATION BEST PRACTICES



- **Reduce friction** with automation
- **Invest smart** to optimize existing IT & move toward cloud
- **Existing staff** can take on new projects that add value, as automation streamlines manual ops activities
- **Be an IT hero** by showing ops staff a clear path to success
- **Bring in innovation** by working on new projects & roles, including DevOps

AGILE I.T. OPERATIONS

ELEMENTS OF EFFECTIVE I.T. AUTOMATION TECHNOLOGY



- **Standardized** infrastructure, cloud, and application configurations
- **Automated**, codified provisioning, configuration, & remediation processes
- **Unified** automation language & platform to support network, storage, compute, cloud, & containers
- **Open**, community-powered innovation

BRING AGILE PROCESSES & AUTOMATION TO EXISTING I.T. OPERATIONS



Conclusions

Cloud technology can be transformative. It can also lock you into fresh technical debt if you don't have a plan going in.

Success isn't easily found in mad dashes into a new technology or platform just to say you've done it. Balancing stability and innovation is how to find long term success

The vast majority of your work hours spent to keep the legacy lights on. You have to drive those hours down so you can dedicate hours to solving new challenges.

This innovation is happening in Open Source Software. DevSecOps (or your favorite shorthand) is designed to accelerate these Open Source technologies.

THANK YOU

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facebook.com/redhatinc

linkedin.com/company/red-hat

twitter.com/RedHatNews

youtube.com/user/RedHatVideos