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Open Source Software & Digital Transformation

Canada Open Source Advisory Board

Mark Bohannon, Vice President, Global Public Policy
Red Hat, Inc.
March 20, 2019

THE WORLD'S LEADING PROVIDER OF OPEN SOURCE, ENTERPRISE I.T. SOLUTIONS

MORE THAN
90%
of the
FORTUNE 500
use
RED HAT
PRODUCTS & SOLUTIONS*

~13,000
EMPLOYEES

S&P
500
COMPANY

95
OFFICES

35
COUNTRIES

NYSE
RHT

THE FIRST
$2 BILLION
OPEN SOURCE COMPANY
IN THE WORLD

*Red Hat client data and Fortune 500 list, June 2018

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INNOVATING & LEADING

Forbes

- 2012
- 2014
- 2015
- 2016
- 2017

And 2018 !

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Open Source powers

Digital Transformation

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Focus has been on the digital…

And *not* the transformation

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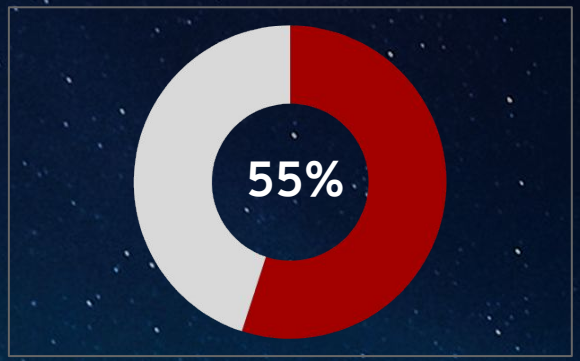
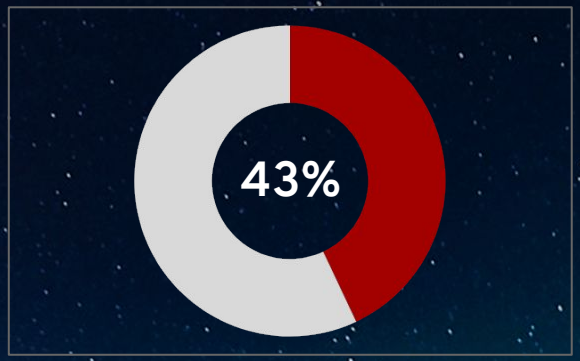
Barriers to Digital Transformation

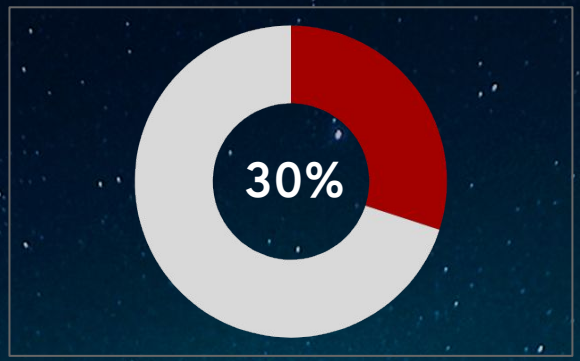
Percentage of respondents saying the following was a significant impediment to their organization's digital transformation efforts:



CULTURE



PROCESS



TECHNOLOGY

Harvard Business Review

(n=734) Harvard Business Review Analytic Survey, Commissioned by Red Hat, July 2018

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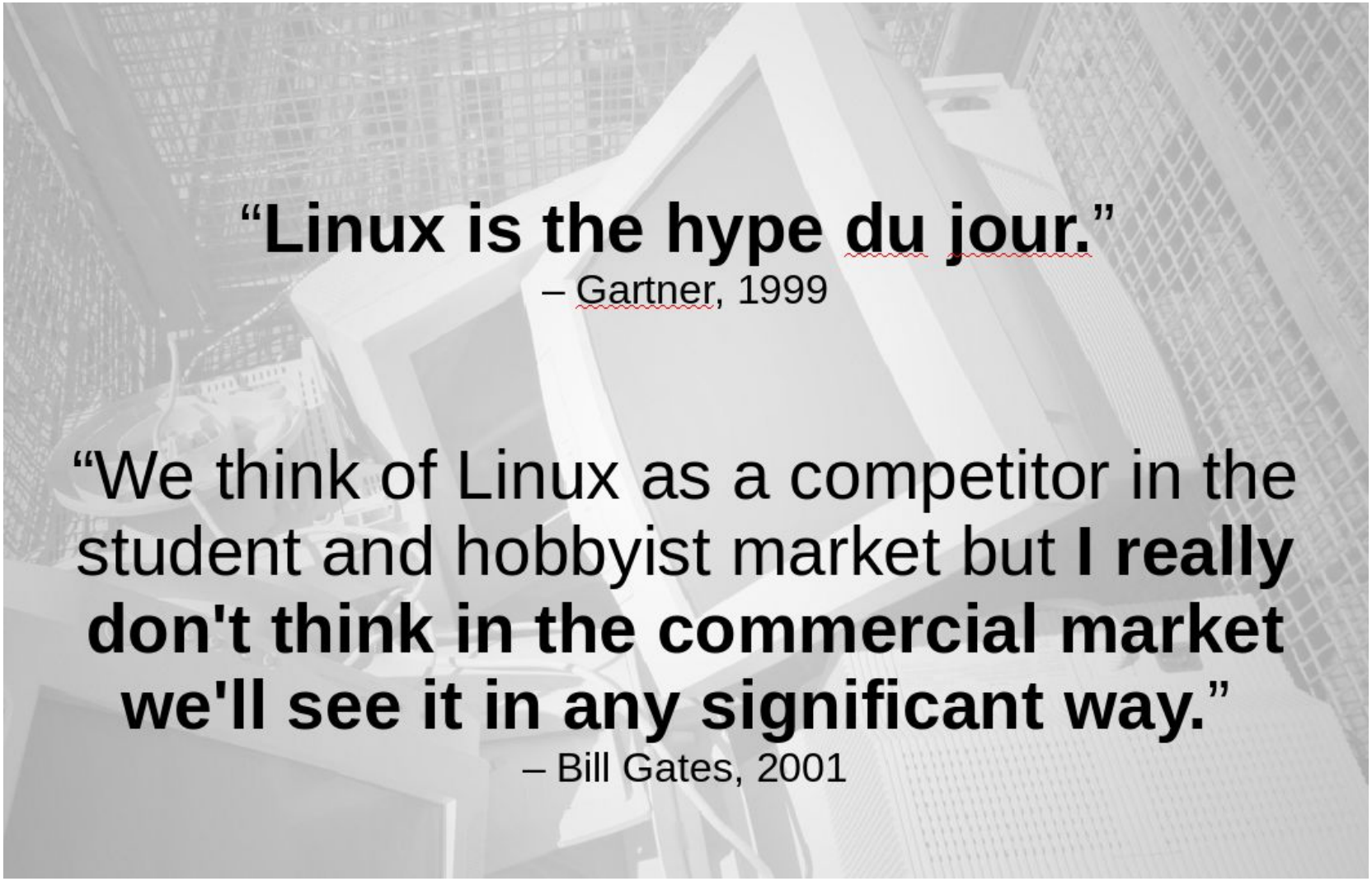
Moving to the ‘how’


“Linux is the hype du jour.”
– Gartner, 1999
“We think of Linux as a competitor in the student and hobbyist market but I really don't think in the commercial market we'll see it in any significant way.”
– Bill Gates, 2001

“When we rolled into Baghdad, we did it using open source.”
– Brigadier General Nickolas G. Justice, U.S. Army

IDC
Analyze the Future

WHITE PAPER

Enterprise-Grade Open Source: An Imperative for Modern IT

"Enterprise-grade open source software has become ubiquitous across enterprise IT architectures ... used by most, if not all, enterprises to support a broad range of mission-critical applications and business services. … [open source] often provide the basis of critical new technologies … open source is more likely to lead the charge toward innovation"

POLICY ENVIRONMENT DRIVING ACCEPTANCE

>40 GOVERNMENTS

Australian Government
Department of Finance and Deregulation

Australian Government Information Management Office (AGIMO) Circular

Subject: Open Source Software Policy

Approved by the Secretaries' ICT Governance Board on 21 December 2010

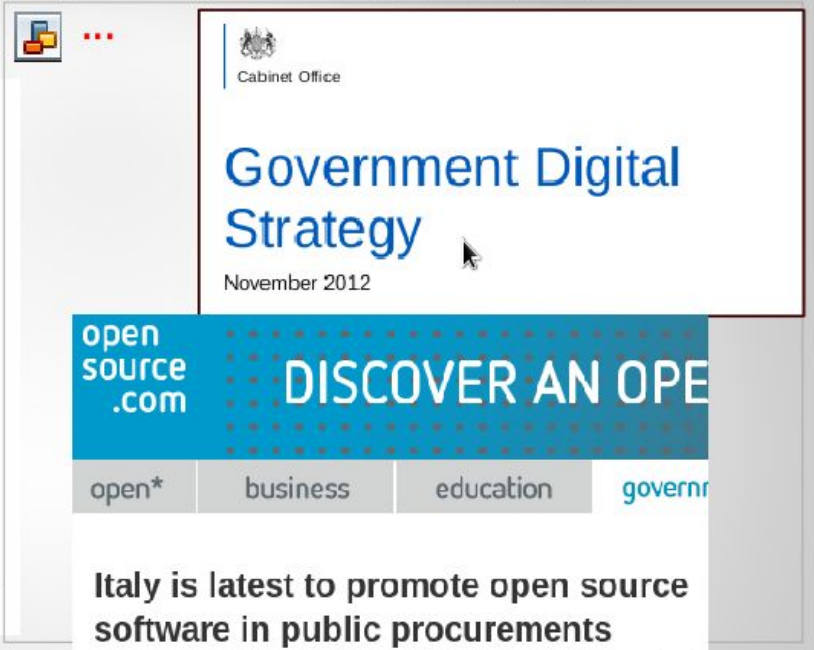
Circular No: 2010/004

To all agencies under the *Financial Management and Accountability Act 1997* (FMA Act)

Should an agency wish to opt-out from a Whole-of-Government arrangement, please follow the advice of the 'Process for administration of opt-outs from Whole-of-Government ICT arrangements' available from http://www.finance.gov.au/e-government/strategy-and-governance/Whole-of-Government-ICT-Policies.html.

Purpose

The purpose of this AGIMO circular is to inform agencies of the requirement to consider open source software in all software procurements. This policy is subject to the opt-out arrangement described in Estimates Memorandum 2010/02 (see above).



Cabinet Office

Government Digital Strategy

November 2012

opensource.com

DISCOVER AN OPE

open* | business | education | governr

Italy is latest to promote open source software in public procurements

Posted 22 Jan 2014 by Paul Brownell (Red Hat) Rating: ★★★

POLICY ON FREE and OPEN SOURCE SOFTWARE USE for SOUTH AFRICAN GOVERNMENT

Department of Public Service & Administration
August 2006

MALAYSIAN PUBLIC SECTOR OPEN SOURCE SOFTWARE PROGRAM

MAMPU

avropa.se

drivs av KAMMARKOLLEGIET

Öppna programvaror 2010

→ Reshape the culture of Gov't IT

https://playbook.cio.gov/

Digital Service Plays

1. Understand what people need
2. Address the whole experience, from start to finish
3. Make it simple and intuitive
4. Build the service using agile and iterative practices
5. Structure budgets and contracts to support delivery
6. Assign one leader and hold that person accountable
7. Bring in experienced teams
8. Choose a modern technology stack
9. Deploy in a flexible hosting environment
10. Automate testing and deployments
11. Manage security and privacy through reusable processes
12. Use data to drive decisions
13. Default to open

US: Emphasis on ‘COTS’

U.S. law governing federal procurement (U.S. Code Title 41, Chapter 7)) defines:

- "Commercial item" as including "Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes (i.e., it has some non-government use), and (i) Has been sold, leased, or **licensed** to the general public; or (ii) Has been offered for sale, lease, or license to the general public ...". Thus, as long as the software has at least one non-governmental use, software released (or offered for release) to the public is a commercial item for procurement purposes. (Section 403)

- "Commercially available off-the-shelf (COTS) item"; software is COTS if it is (a) a "commercial item", (b) sold in substantial quantities in the commercial marketplace, and (c) is offered to the Government, without modification, in the same form in which it is sold in the commercial marketplace. (Section 431)

Lead by example

“To effectively achieve its missions, the Department of Defense must develop and update its software-based capabilities faster than ever, to anticipate new threats and respond to continuously changing requirements. The use of Open Source Software (OSS) can provide advantages in this regard.” (DOD Memo, 'Clarifying Guidance Regarding Open Source Software', 2009)

Default to open

- It’s about the transformation ….

Focus on performance and value

"[US Government] policies are built around the use of merit-based requirements development and evaluation processes that promote procurement choices based on performance and value, and *free of preconceived preferences based on how the technology is developed, licensed or distributed*.

"In the context of developing requirements and planning acquisitions for software, ... agencies should analyze alternatives that include proprietary, open source, and mixed source technologies. This allows the Government to pursue the best strategy to meet its particular needs.

"This means selecting suitable IT on a case-by-case basis to meet the particular operational needs of the agency by considering factors such as *performance, cost, security interoperability, ability to share or re-use, and availability of quality support*."

OMB Memo, 'Technology Neutrality' 2011

Release of Gov’t Developed Software

- **Not a new concept**
    - Nebula, SELinux
- **Success depends on building a community**
    - Use existing, recognized OSS licenses
- **Avoid potential ‘GOTS’**

> "... a project fork is typically far more expensive for the government to maintain in the long term because the government must pay for every change (instead of sharing sustainment costs with others), and the fork is also cut off from the future innovations in the main open source project." (US DHS, *Open Source Software in Government: Challenges and Opportunities*, August 2013)

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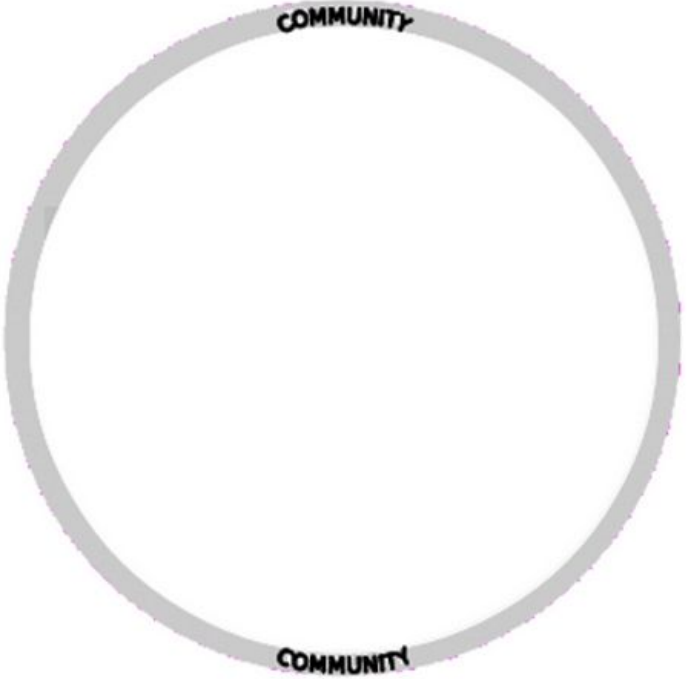
Open Source:

Not ‘if’ but *how*

First, a ‘Community’

- Potentially 10’s of 1,000s of developers in “upstream communities”
- Collaboration with open source community; individuals, technology leaders, business partners, customers
- Focused on solving a problem, not selling a product



Internal only -- Not for Further Distribution

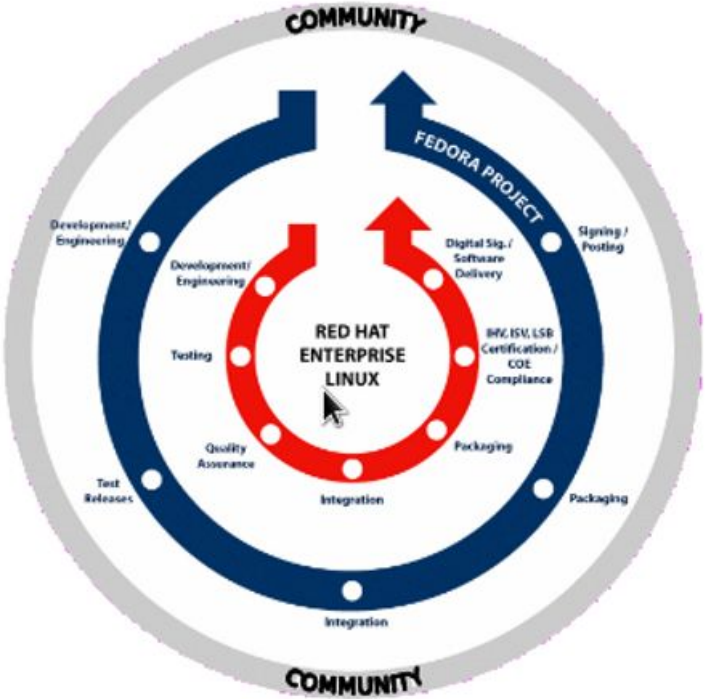
Then, Projects emerge

Fedora, e.g.

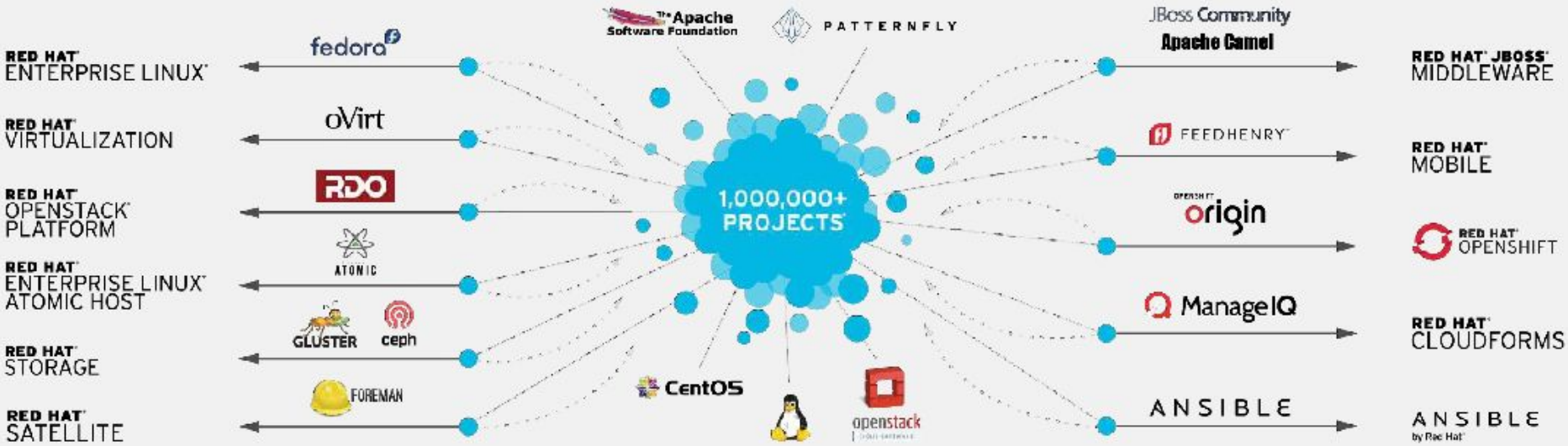
- Incubator
- Community supported
- Released ~6 month cycles
- No certifications

Finally, Products on the Market

- **Red Hat Enterprise Linux, e.g.**
  - Stable, mature
  - Quality & Assurance, testing
  - HW & Software Certifications
  - Maintenance support
  - Major releases 2 – 3 year cycle
  - Eg Fedora 10,11,12 => RHEL 6



FROM COMMUNITIES TO ENTERPRISE



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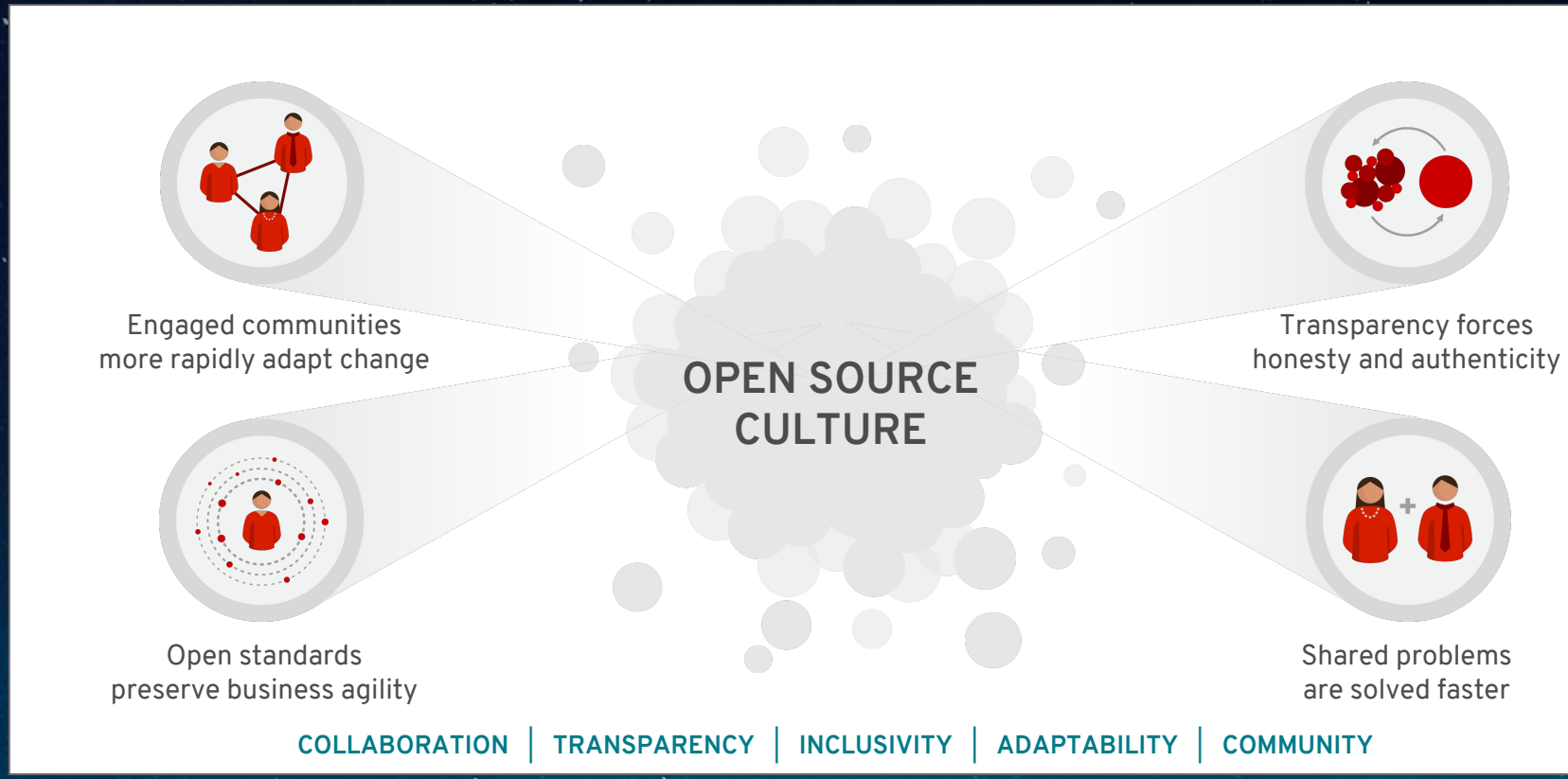
Focus on cross-model issues: e.g., what's your support plan?

"The use of *any software* without appropriate maintenance and support presents an information assurance risk. Before approving the use of software (including OSS), system/program managers, and ultimately Designated Approving Authorities (DAAs), must ensure that the *plan for software support* (e.g., commercial or Government program office support) *is adequate for mission need*." (DOD 2009 Memo; emphasis added)

OPEN SOURCE IS MORE THAN CODE. IT'S CULTURE.



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youtube.com/user/RedHatVideos