#ANSIBLEAUTOMATES

WHAT IS THE FUTURE OF AUTOMATION?

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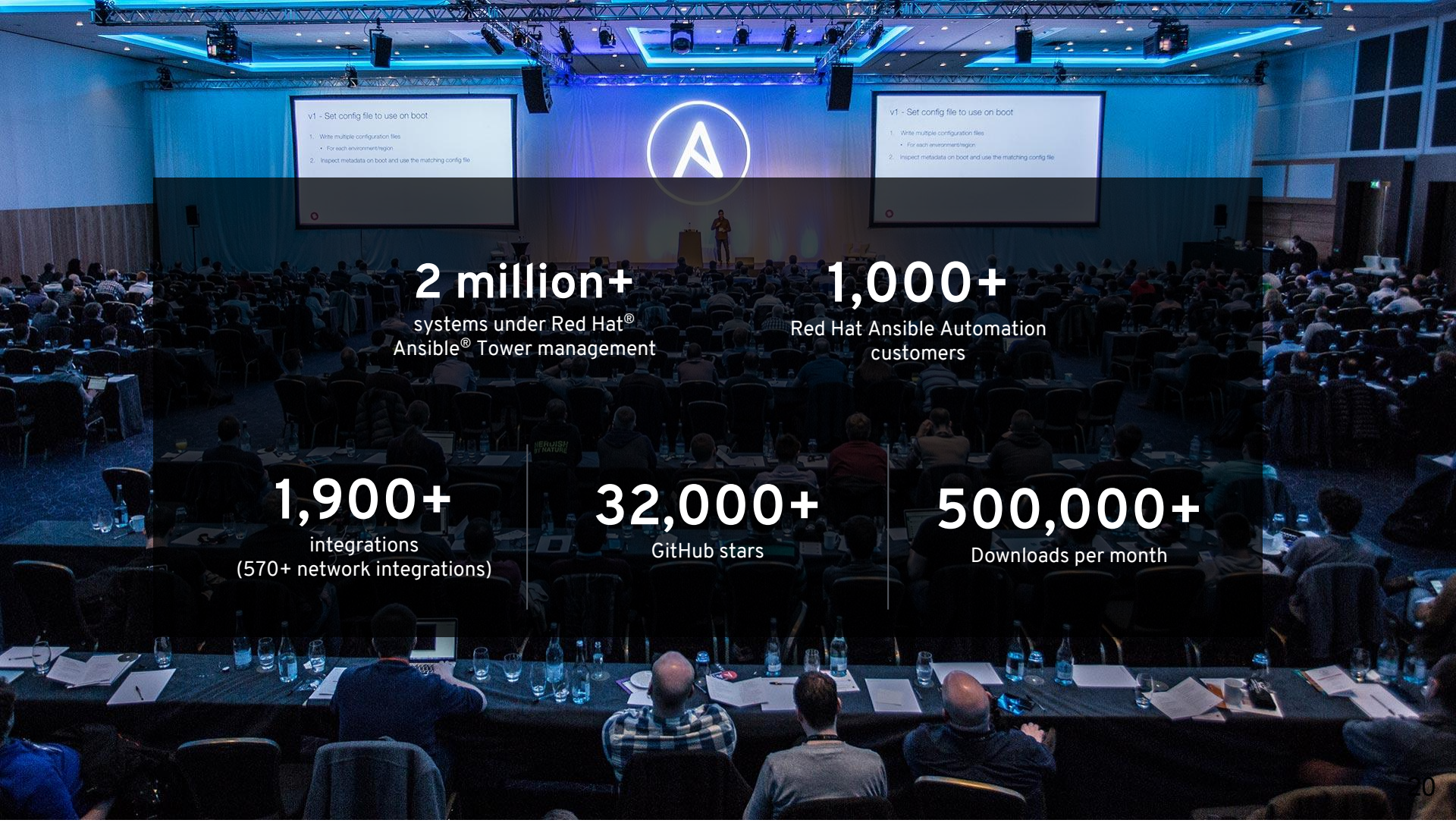
ANSIBLE


2018 was a banner
year for Ansible
ANSIBLE
NO SLEEP


v1 - Set config file to use on boot
1. Write multiple configuration files
• For each environment/region
2. Inspect metadata on boot and use the matching config file
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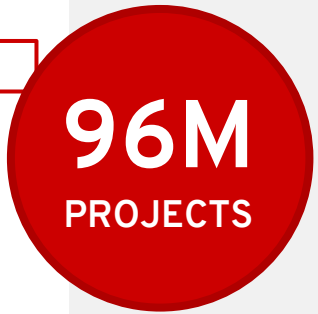
2 million+
systems under Red Hat®
Ansible® Tower management
1,000+
Red Hat Ansible Automation
customers
1,900+
integrations
(570+ network integrations)
32,000+
GitHub stars
500,000+
Downloads per month

Top open source projects

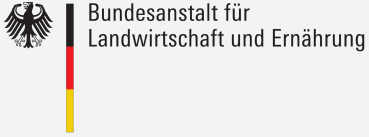
VS Code, React, and Tensorflow once again top our list of open source projects by contributor count. New to the list are projects that manage containerized applications, share Azure documentation, and consolidate TypeScript type definitions: Kubernetes, Azure Docs, and DefinitelyTyped.

		Contributors
1	Microsoft/vscode	19K
2	facebook/react-native	10K
3	tensorflow/tensorflow	9.3K
4	angular/angular-cli	8.8K
5	MicrosoftDocs/azure-docs	7.8K
6	angular/angular	7.6K
7	ansible/ansible	7.5K
8	kubernetes/kubernetes	6.5K
9	npm/npm	6.1K
10	DefinitelyTyped/DefinitelyTyped	6.0K



Source: Octoverse 2018 - GitHub

OUR CUSTOMERS ARE CRAZY ABOUT IT




ARMY
BE THE BEST
Cut change
delivery time by
75%
with:
RED HAT
ENTERPRISE LINUX
RED HAT
ANSIBLE
Automation


swisscom
Cut service
deployment time by
70%
with:
RED HAT
ANSIBLE
Tower


NXP established an agile, scalable IT environment to provide thousands of engineering design applications
with:
RED HAT® SATELLITE
RED HAT® ENTERPRISE LINUX®
RED HAT® ANSIBLE® Automation

Wait.

What about the fear of losing jobs to automation?

The reality is that automation
is indispensable to humans.

SCALE

(OF CLOUD INFRASTRUCTURES)

Photo via Amazon

redhat

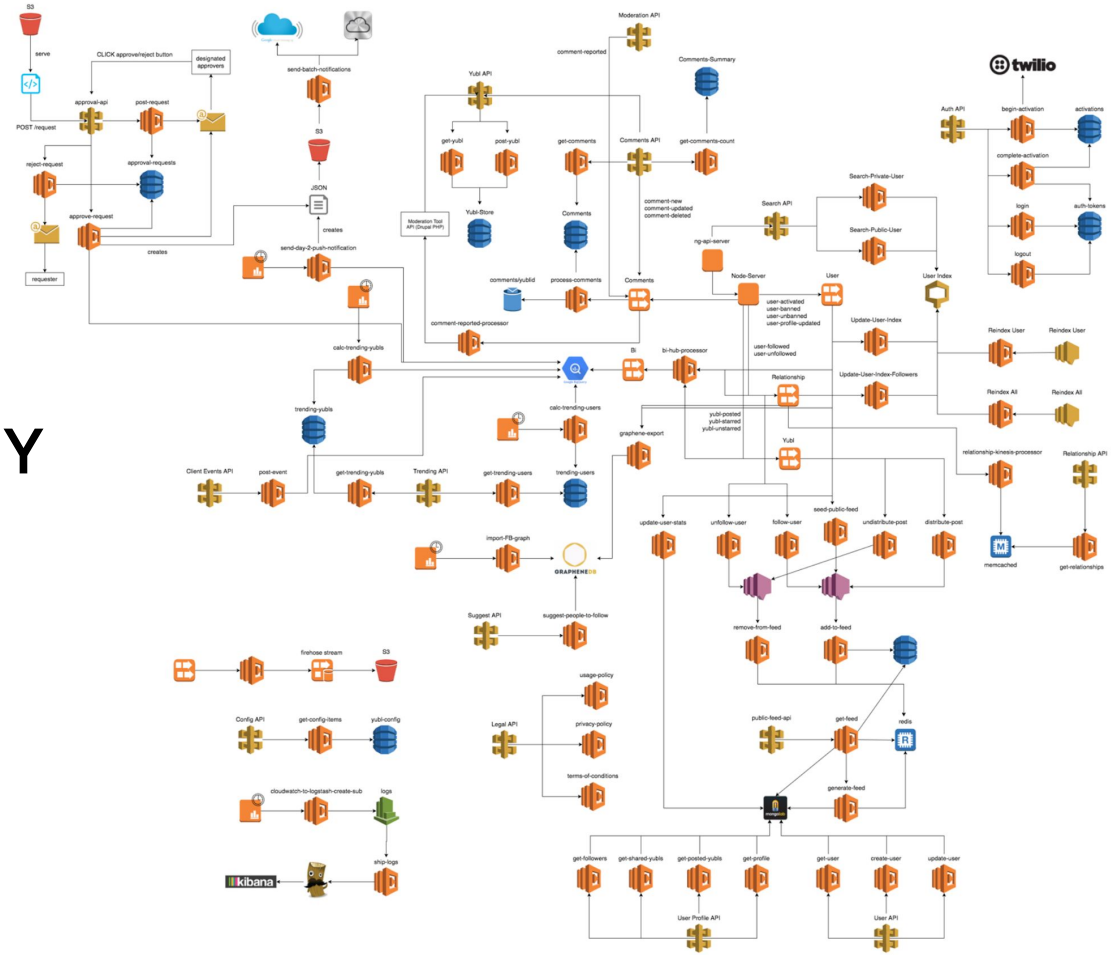
COMPLEXITY

(OF APPLICATION ARCHITECTURES)

Photo via pxhere

redhat

AN APP POWERED BY A SERVERLESS ARCHITECTURE



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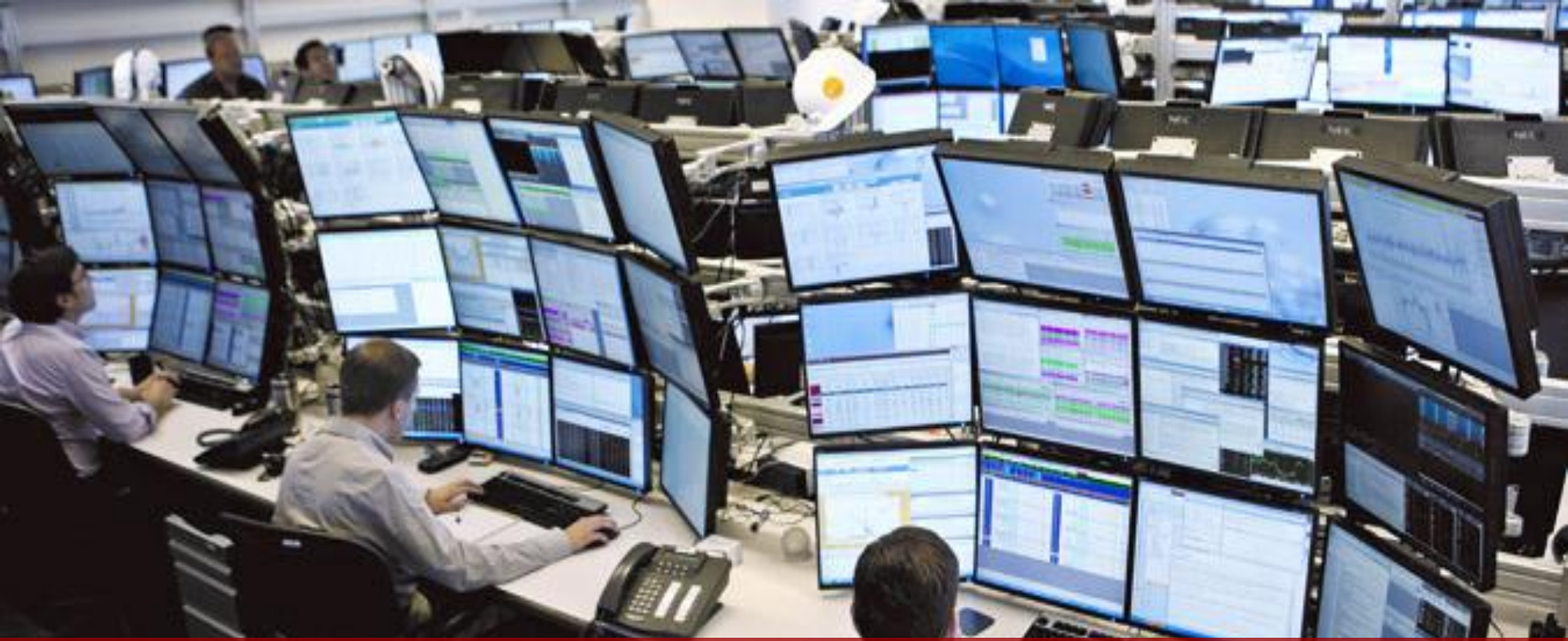


SPEED

(OF ARTIFICIAL INTELLIGENCE)

Photo via wikimedia

redhat

The Automation Architect: How to Become, and Succeed as, This Emerging IT Specialist

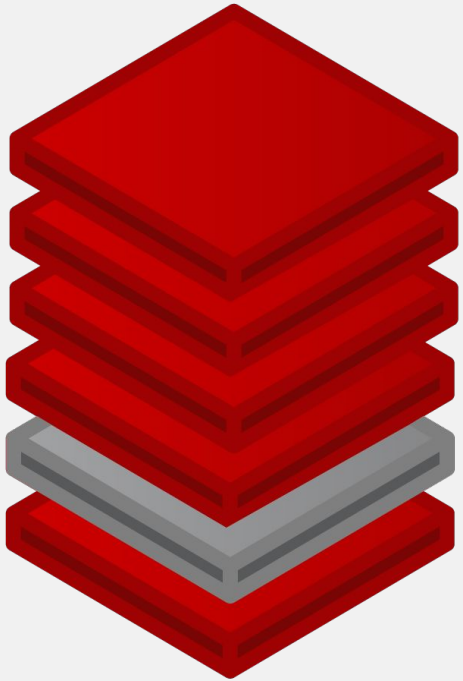
Paul Delory
Sr Director Analyst

Published 18 August 2017 - ID G00326356 - 32 min read

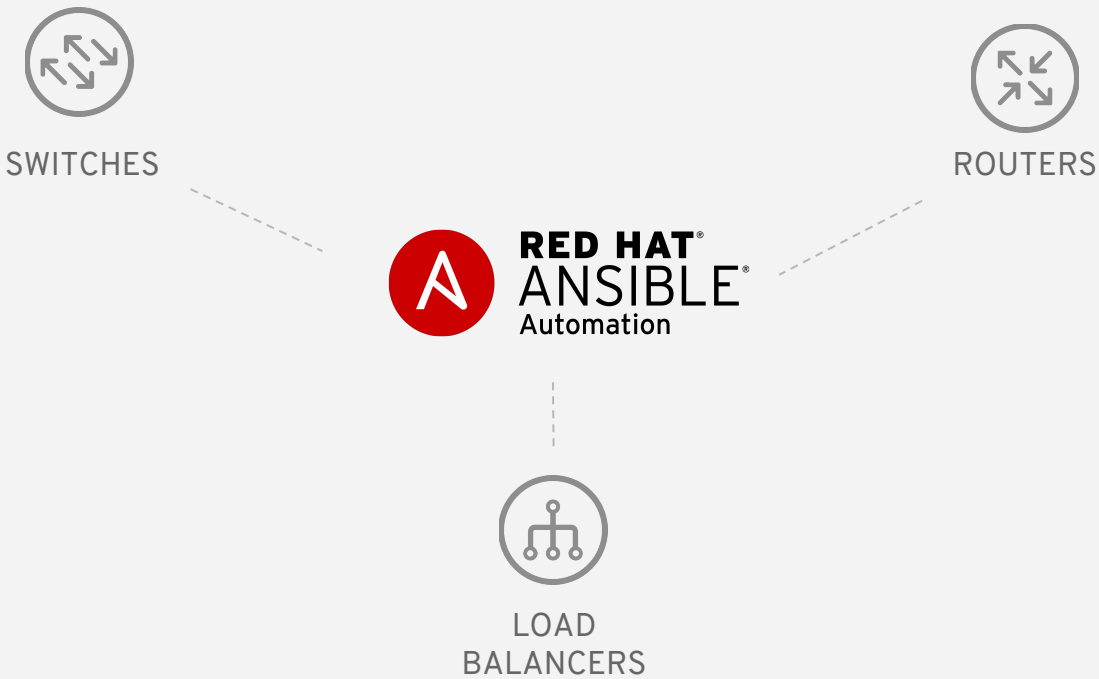
Supporting Key Initiative is Accelerating Infrastructure Innovation and Agility

Automation brings agility and many other benefits, but success requires an architect who can overcome key obstacles. This research informs technical professionals about what an automation architect is and how to find one, then suggests projects that will demonstrate immediate, quantifiable value.

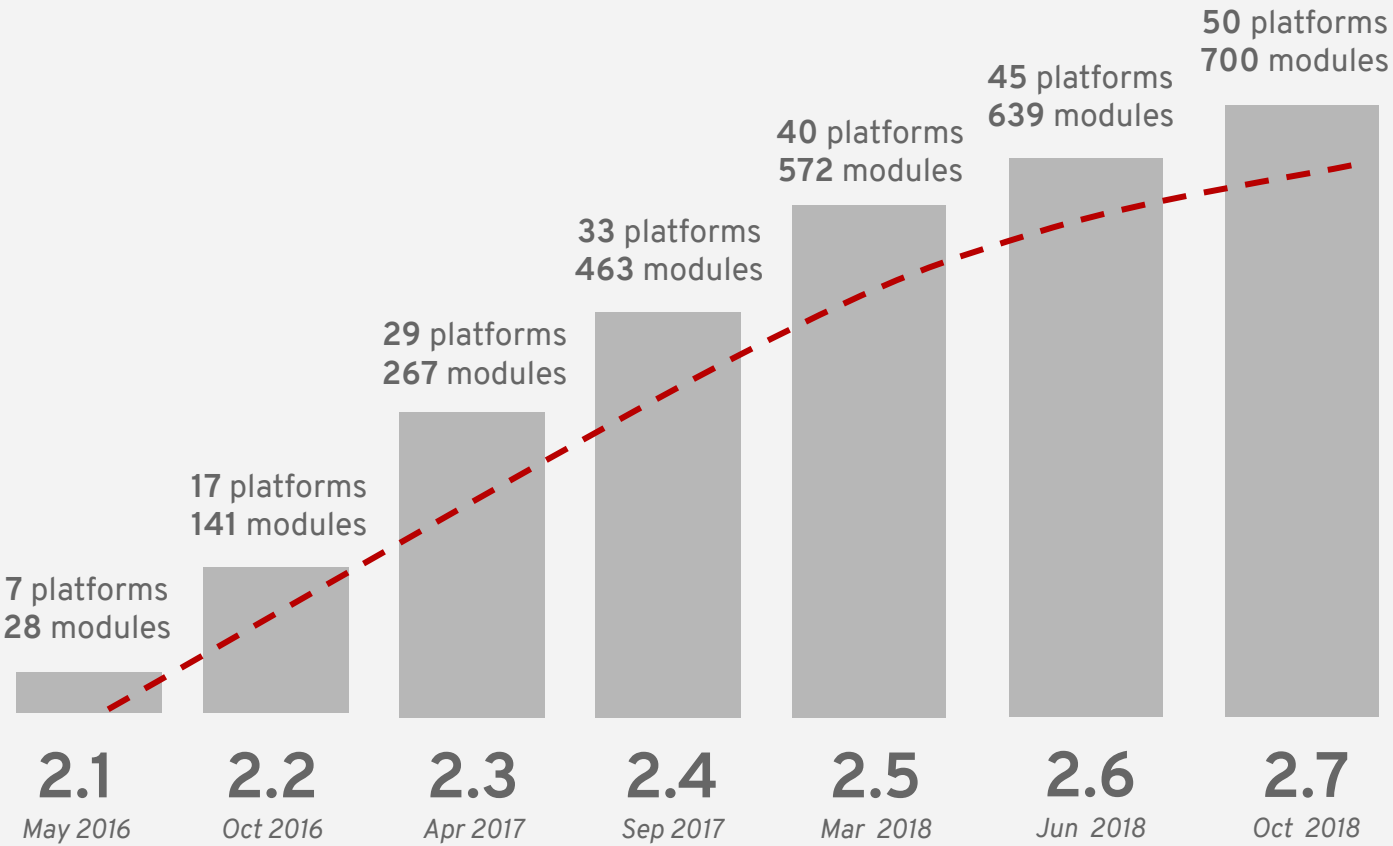
Ansible automation
now powers nearly all layers
of the computing stack



ANSIBLE FOR NETWORK AUTOMATION



AUTOMATING THE NETWORKING INDUSTRY



AUTOMATING THE NETWORKING INDUSTRY

A10

Apstra AOS

Arista EOS, CVP

Aruba Networks

AVI Networks

Big Switch Networks

Brocade Ironware

Cisco ACI, AireOS, ASA, Firepower, IOS, IOS-XR, Meraki, NSO, NX-OS

Citrix Netscaler

Cumulus Linux

Dell OS6, OS9, OS10

Exoscale

Extreme EX-OS, NOS, SLX-OS, VOSS

F5 BIG-IP, BIG-IQ

Fortinet FortIOS, FMGR

Huawei CloudEngine

Illumos

Infoblox NIOS

Juniper JunOS

Lenovo CNOS, ENOS

Mellanox ONYX

MikroTik RouterOS

Openswitch (OPX)

Ordnance

NETCONF

Netvisor

OpenSwitch

Open vSwitch (OVS)

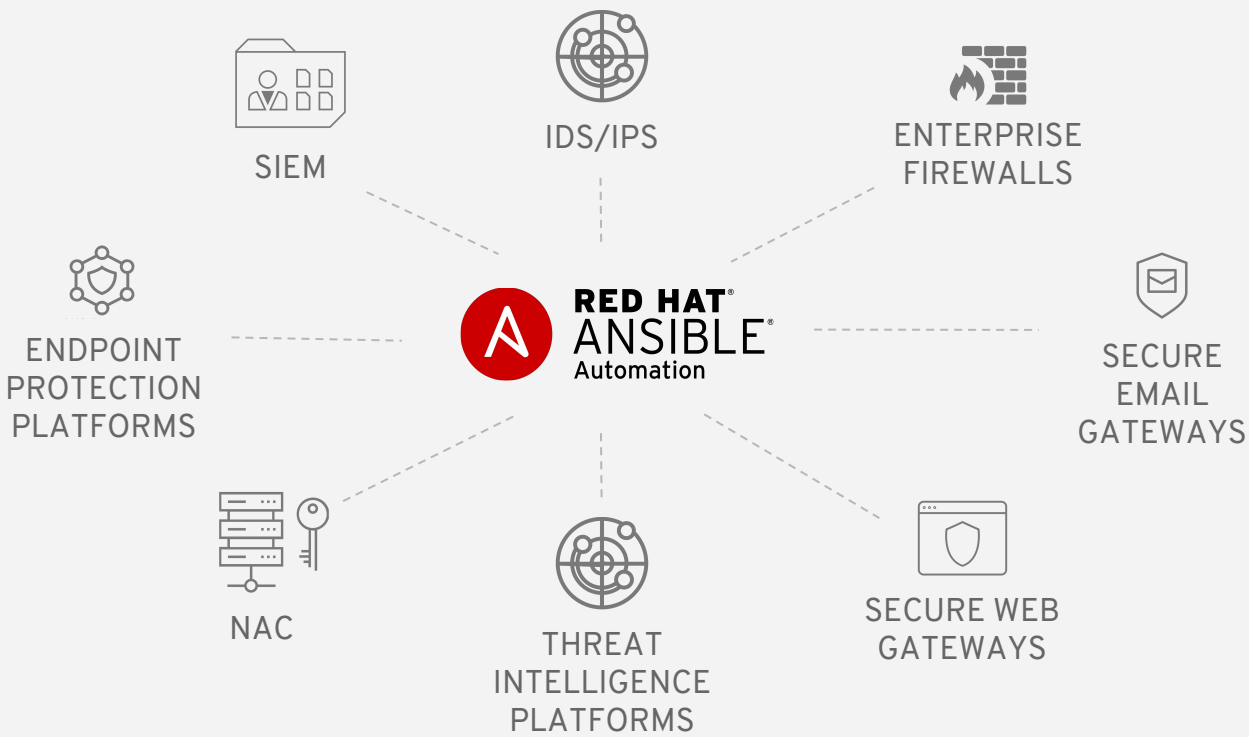
Palo Alto PAN-OS

Nokia NetAct, SR OS

Ubiquiti EdgeOS

VyOS

ANSIBLE FOR SECURITY AUTOMATION



WHICH MEANS SUPPORTING A GROWING NUMBER OF USE CASES

COMPUTE INFRASTRUCTURE

Provisioning, configuration, and life-cycle management of Linux, Unix, and Windows servers running on bare metal or virtual, cloud, or container-based instances

APPLICATIONS

Provisioning, configuration, and life-cycle management of full-stack applications across hybrid and multicloud environments

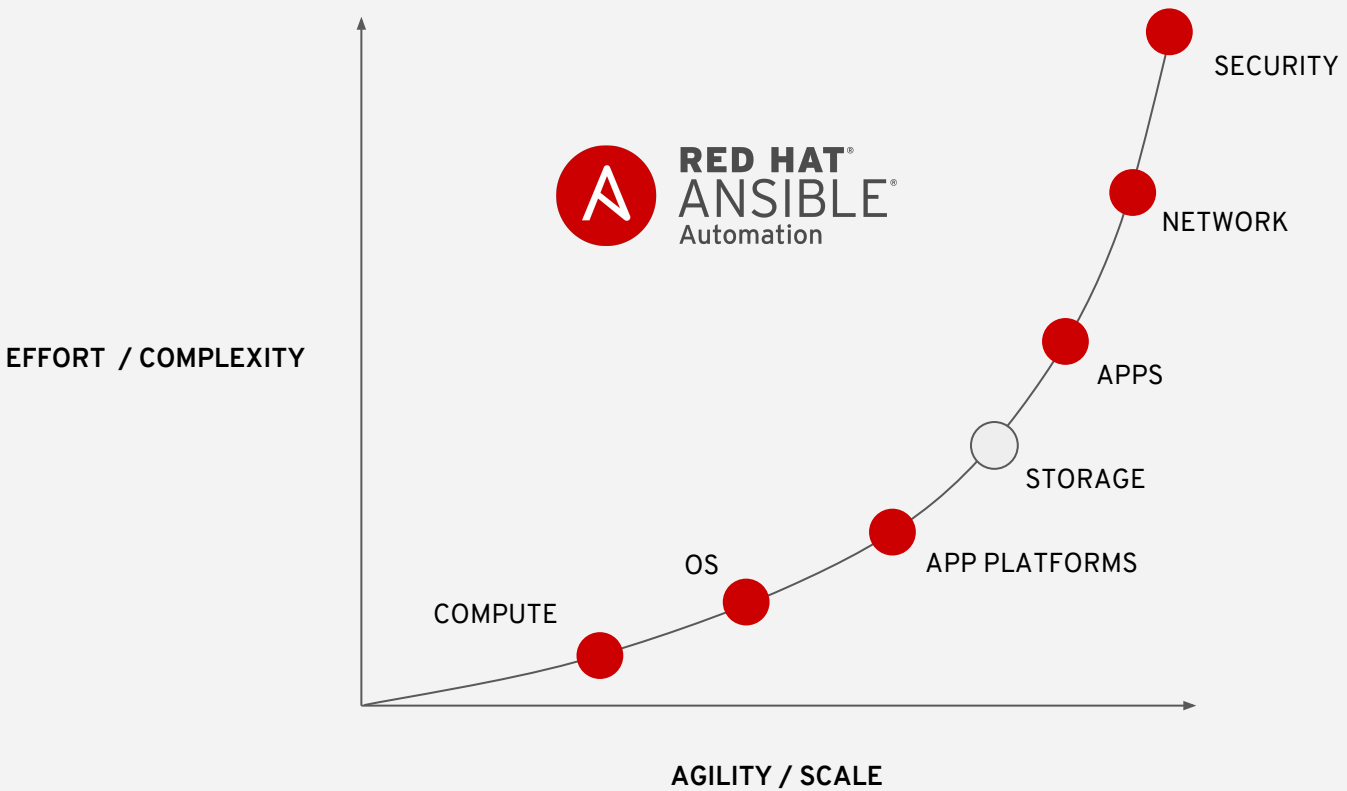
NETWORK

Provisioning, configuration, and life-cycle maintenance of physical, virtual, and software-defined switches, routers, and load balancers, including overlays

SECURITY

Risk assessment, threat hunting, automated remediation

WHAT'S MISSING?



But, then, what's next for automation?

AUTOMATION PAIN POINTS

EASE OF USE
How can I make automation even easier to read, debug and test, or maintain?

EFFICIENCY
How can I perform the same task faster, using less resources?

ANALYTICS
How good are my playbooks vs. others to perform task X?

COST JUSTIFICATION
How much money did I save with automation? Is it worth it?

INTEGRATION
Reach all infrastructure and application layers

UBIQUITY
Are there other processes I could automate?

1. ANSIBLE IS ABOUT SIMPLICITY.

2. AUTOMATION IS ABOUT REPETITION.

1. ANSIBLE IS ABOUT SIMPLICITY.

ANSIBLE IS ABOUT SIMPLICITY.

HOW CAN WE MAKE AUTOMATION WORKFLOWS EVEN SIMPLER?

ANSIBLE IS ABOUT SIMPLICITY.

HOW CAN WE MAKE AUTOMATION WORKFLOWS EVEN SIMPLER?

WE DON'T WRITE WORKFLOWS AT ALL.

so...

WHAT HAPPENS IF WE ELIMINATE CODING FROM AUTOMATION?

2. AUTOMATION IS ABOUT REPETITION.

ANSIBLE IS ABOUT REPETITION.

HOW DO HUMANS LEARN HOW TO REPEAT A PROCESS?

ANSIBLE IS ABOUT REPETITION.

HOW DO HUMANS LEARN HOW TO REPEAT A PROCESS?

WE LEARN BY WATCHING THE STEPS

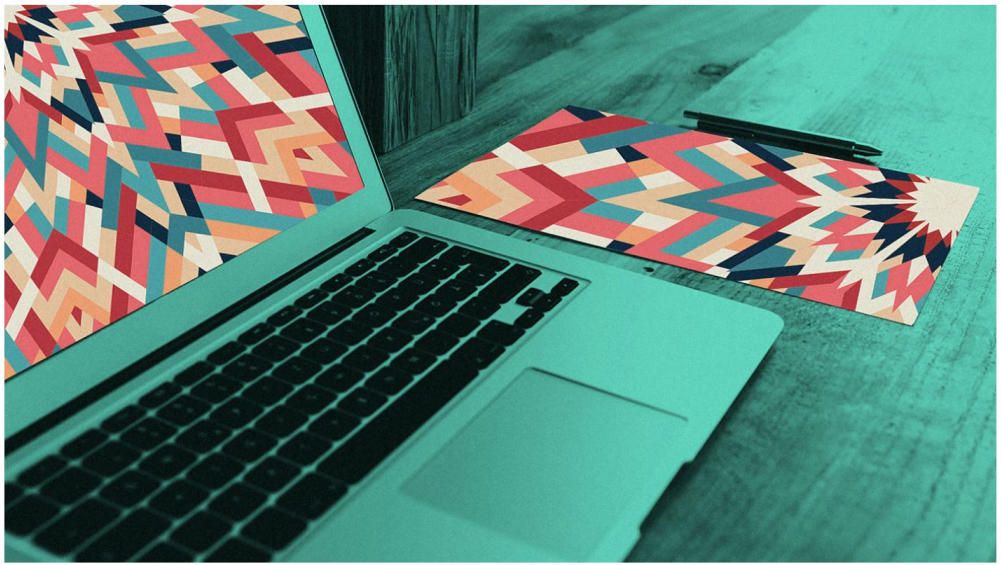
so...

WHAT HAPPENS IF WE APPLY COMPUTER VISION TO UIs?

06.02.17

This Startup Uses Machine Learning To Turn UI Designs Into Raw Code

Developers often have the task of translating web design mock-ups into lines of code. What if a machine could do it for them?



pix2code: Generating Code from a Graphical User Interface Screenshot

Tony Beltramelli
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Copenhagen, Denmark
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Abstract

Transforming a graphical user interface screenshot created by a designer into computer code is a typical task conducted by a developer in order to build customized software, websites, and mobile applications. In this paper, we show that deep learning methods can be leveraged to train a model end-to-end to automatically generate code from a single input image with over 77% of accuracy for three different platforms (i.e. iOS, Android and web-based technologies).

1 Introduction

The process of implementing client-side software based on a *Graphical User Interface (GUI)* mockup created by a designer is the responsibility of developers. Implementing GUI code is, however, time-consuming and prevent developers from dedicating the majority of their time implementing the actual functionality and logic of the software they are building. Moreover, the computer languages used to implement such GUIs are specific to each target runtime system; thus resulting in tedious and repetitive work when the software being built is expected to run on multiple platforms using native technologies. In this paper, we describe a model trained end-to-end with stochastic gradient descent to simultaneously learns to model sequences and spatio-temporal visual features to generate variable-length strings of tokens from a single GUI image as input.

Our first contribution is *pix2code*, a novel approach based on Convolutional and Recurrent Neural Networks allowing the generation of computer tokens from a single GUI screenshot as input. That is, no engineered feature extraction pipeline nor expert heuristics was designed to process the input data; our model learns from the pixel values of the input image alone. Our experiments demonstrate the effectiveness of our method for generating computer code for various platforms (i.e. iOS and Android native mobile interfaces, and multi-platform web-based HTML/CSS interfaces) without the need for any change or specific tuning to the model. In fact, *pix2code* can be used as such to support different target languages simply by being trained on a different dataset. A video demonstrating our system is available online[1].

Our second contribution is the release of our synthesized datasets consisting of both GUI screenshots and associated source code for three different platforms. Our datasets and our *pix2code* implemention are publicly available[2] to foster future research.

AUTOMATION EVERYWHERE

ANSIBLE