



A JOURNEY TO DEVOPS IN THE BRITISH ARMY

Lessons Learnt for Successful Automation

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Linux Architect (Contractor)

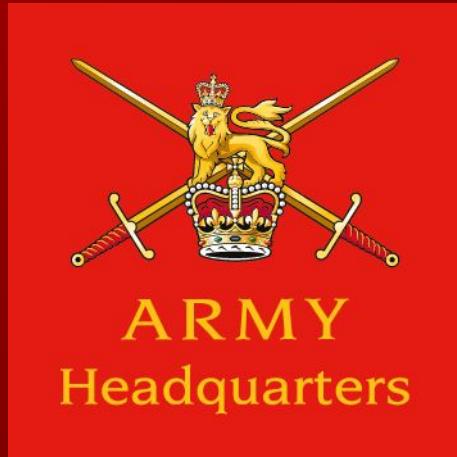
May 2018





<https://www.flickr.com/photos/uk-forces-afghanistan>

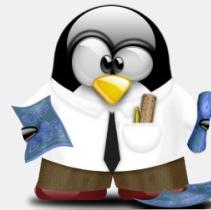
The plan...



Information Application Services (IAS)



Military



Civil Servants



IT Contractors

100+ Staff



200+ Services



3 Security
Domains



Army, Navy
& Air Force



~10



~300,000



Training Recruits



Families



Injured



Regular



Reserves



Veterans



Public Cloud



Official Sensitive
Private Cloud



Secret
Private Cloud



Army Hosting Environments

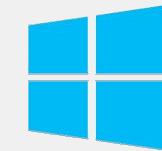
Virtualization:



Operating Systems:



redhat.
ENTERPRISE
LINUX®



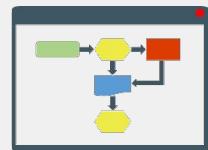
Windows Server

Development:

ORACLE®

APPLICATION EXPRESS

Microsoft®
.NET



Planning



Hosting Environment



MY JOURNEY TO “DEVOPS”



Year 2000 – “UNICOM” Project

UNICOM Server



All Mod-Cons

Lovely Screen

Very Beige

Typical UNICOM System Administrator

- Soldier in the Army
- Not necessarily technical
- Part time Sys-Admin



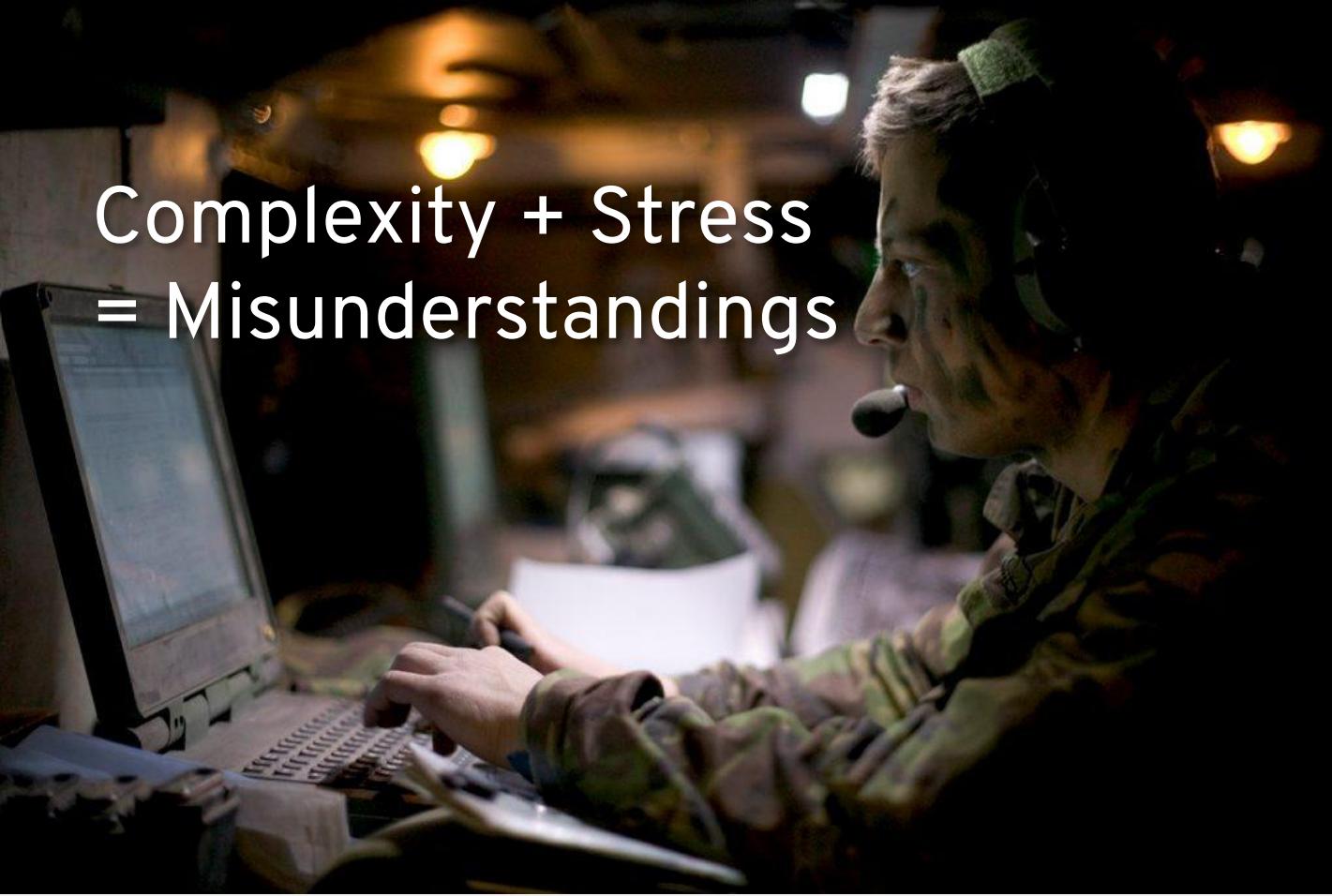
"Heather"

You also have to deal with situations with an “Army” twist to them.



Tip #1:

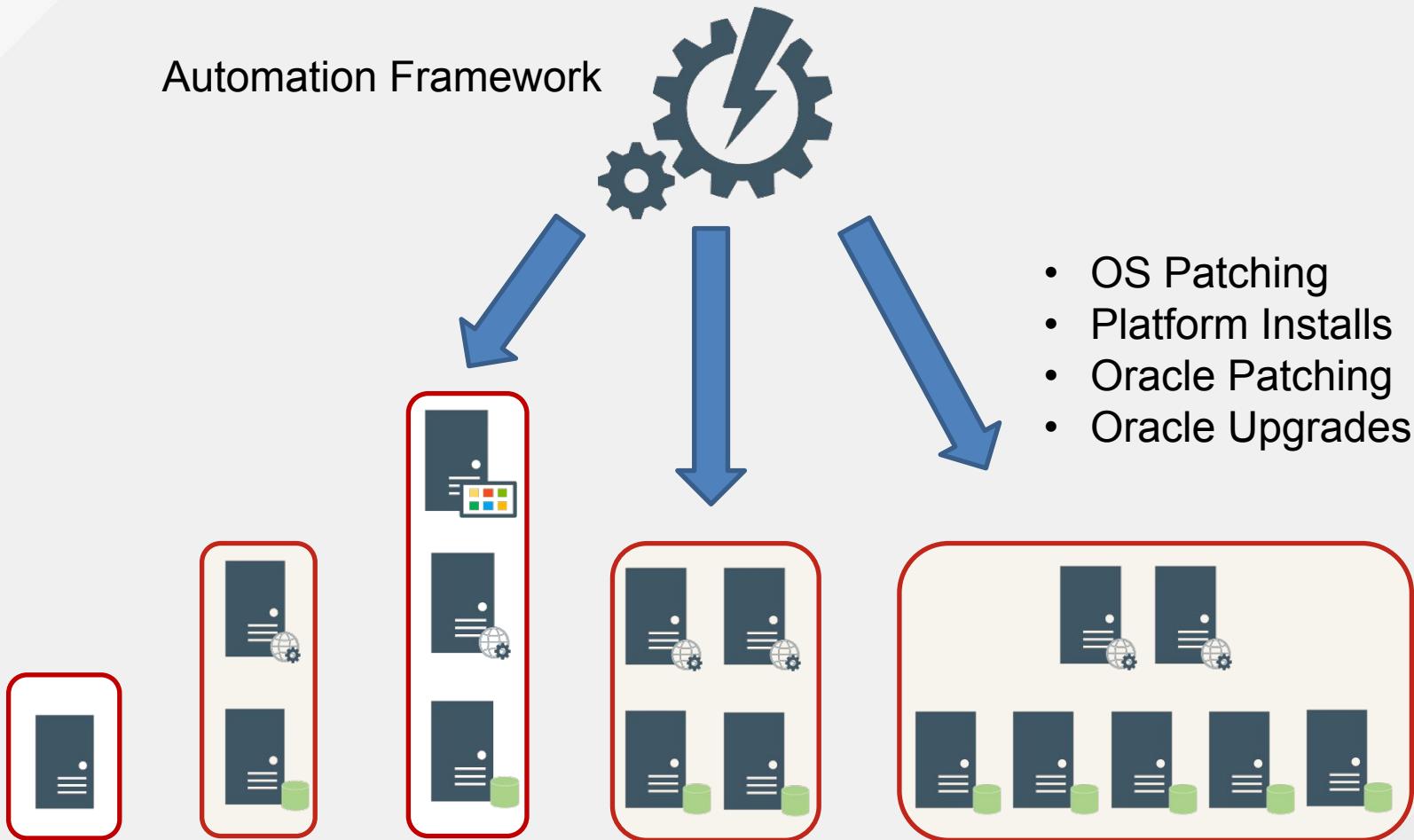
KEEP IT SIMPLE
(for the end user)



Complexity + Stress
= Misunderstandings



Automation Framework



IAS 'DEVOPS' EXPECTATIONS



Empowering users (developers and operations)



Reducing the lead time to get platforms up and running



Removing the dependency on lots of different people to build a platform



Enabling consistency across domains



Reducing system downtime



Simplifying processes and, therefore, documentation

Tip #2:

LEGACY CAN BE “DEVOPS’d”
(Don’t throw away existing code or platforms)

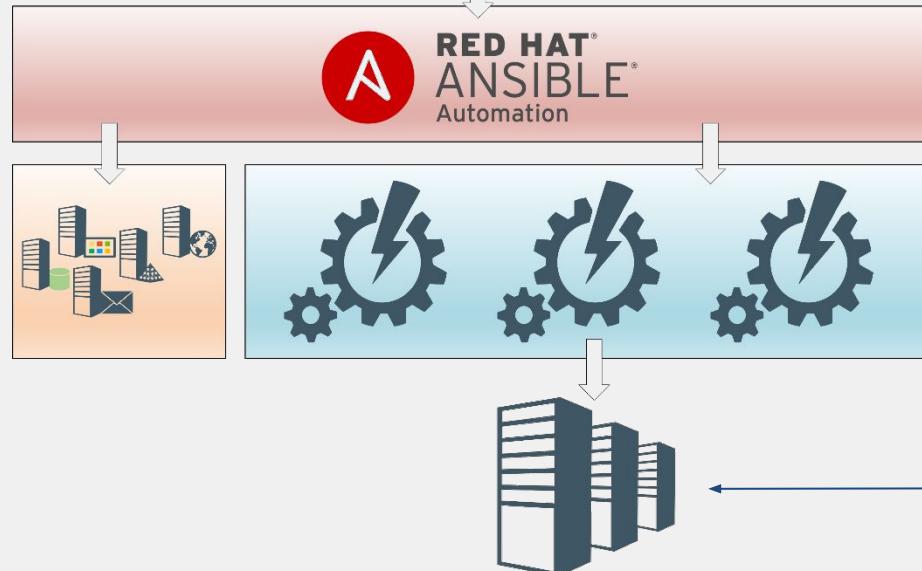
TOP SECRET

THE DEVOPS PLAN

Users interact
with Ansible.



Ansible layer
interacts with
existing scripts
and extended to
fully automate
jobs.



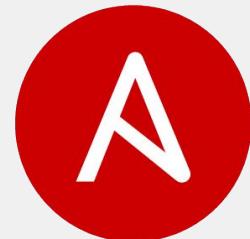
DevOps Utopia!

Started with
"pure" Ansible



RED HAT®
ANSIBLE®
Automation

Quickly decided we
needed a GUI



RED HAT®
ANSIBLE®
Tower

Tip #3:

USE ANSIBLE TOWER FROM THE START
(If you think you'll need a GUI)

Supported by
Red Hat



RED HAT®
ANSIBLE®
Tower

Open Source!

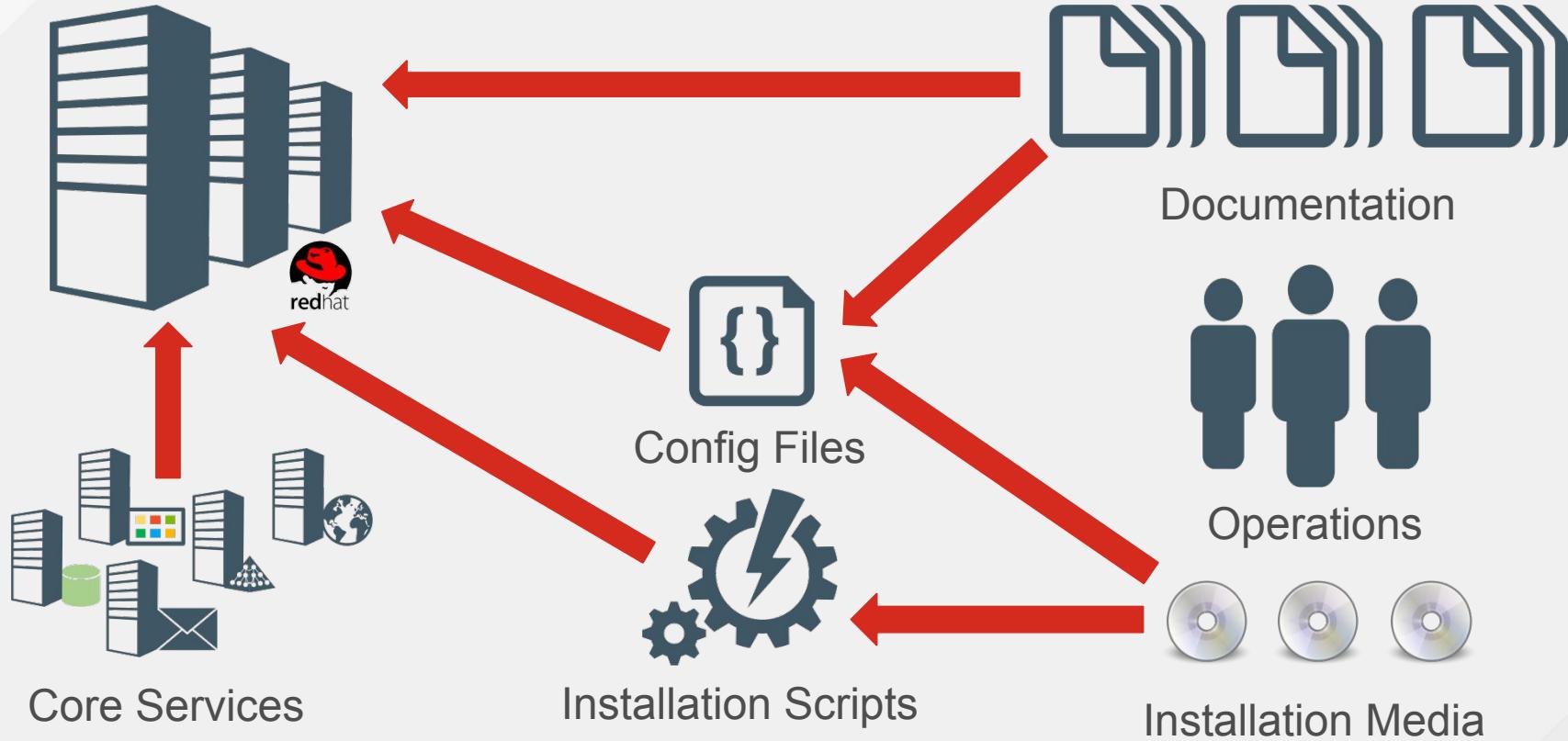


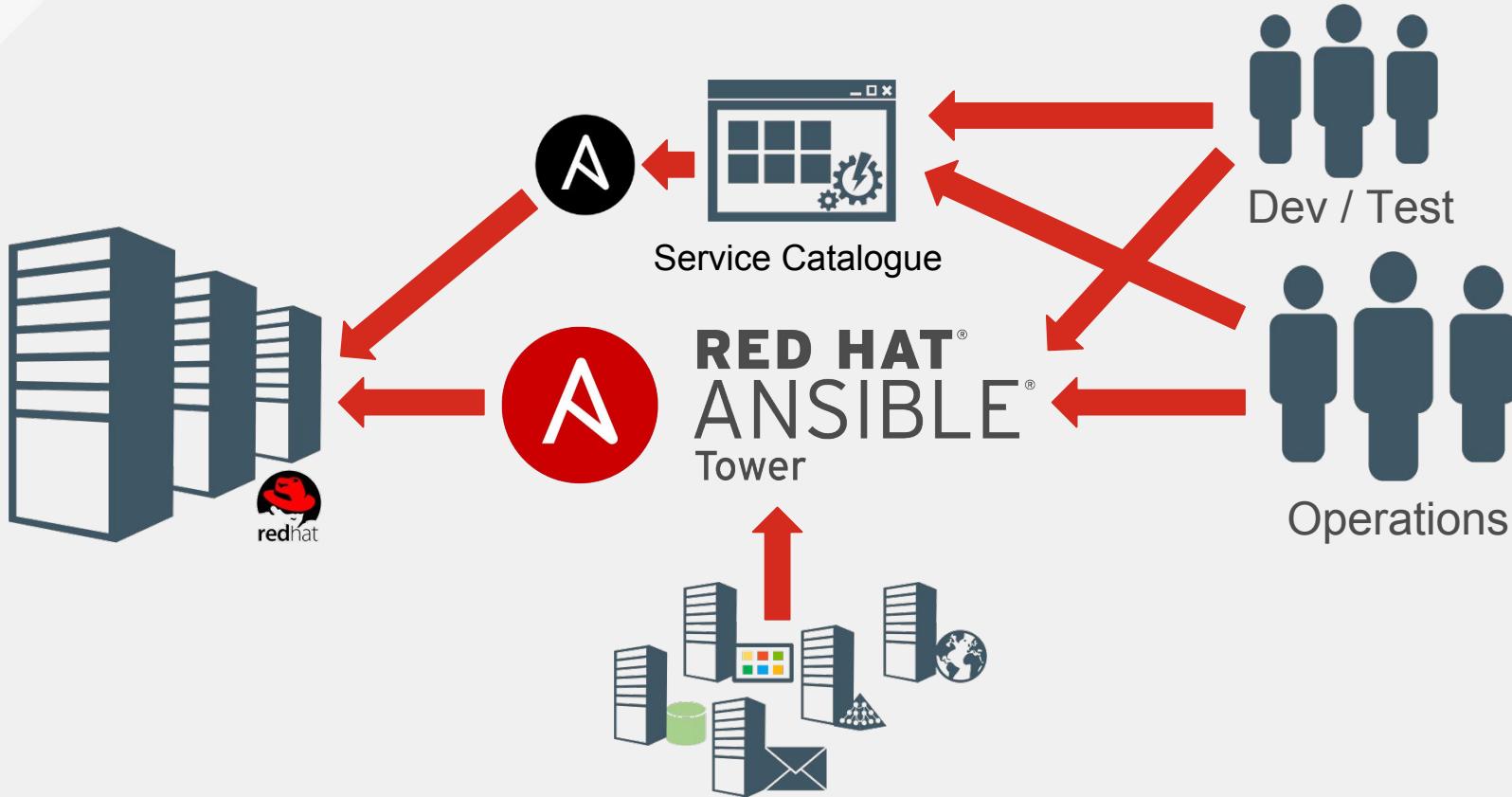
<https://www.ansible.com/products/tower>

<https://github.com/ansible/awx>

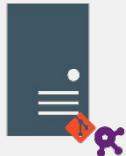
The screenshot shows the Red Hat CloudForms Management Engine interface. The left sidebar includes 'Dashboard', 'My Services' (17), 'Orders' (5), and 'Service Catalog' (6). The main area is the 'Service Catalog' with a search bar. It displays four service cards: 'AHE SL RHEL 6' (ARMY redhat. logo), 'AHE SL RHEL 7' (ARMY redhat. logo), 'Change Platform Power State' (Ansible logo), and 'Linux Patching SDLC' (Ansible logo). Each card has a 'Description' link below it.

CloudForms (or "ManageIQ" for Open Source version)





KEY COMPONENTS



SCM - *Playbook Code*



Password Management



Hypervisor - *VM Control*



MatterMost - *Job Status Info*



Artefact Server - *Software ISOs*



Service Catalogue -
Virtual Hardware provisioning

Tip #4:

ANSIBLE TOWERCLI
(Because we love the command line)

Our Ansible Tower installation and configuration is

100%

Software Defined

...Software Installation, Projects, Inventories,
Job Templates, Access Controls, Surveys, Credentials...

Tip #5:

TOWER JOB SURVEYS (Keeping It Simple)

JOB SURVEYS

LAUNCH JOB | LINUX OCP APEX UPGRADE SDLC-DEV

INVENTORY SURVEY

* APEX VERSION
The target APEX version
5.1.4

* TARGET DATABASES
Databases to be upgraded
ALL

INVENTORY CREDENTIAL
SDLC-DEV TDO_OCP4_NODES SDLC-DEV

CANCEL LAUNCH

LAUNCH JOB | LINUX OCP CPU UPDATES SDLC-DEV

INVENTORY SURVEY

* CPU LEVEL
CPU Update Level

Latest
Latest
JAN_2018
JUL_2017
JAN_2017

INVENTORY CREDENTIAL
SDLC-DEV TDO_OCP4_NODES SDLC-DEV

CANCEL LAUNCH

Drop downs or Pick
Lists limit what
users can select

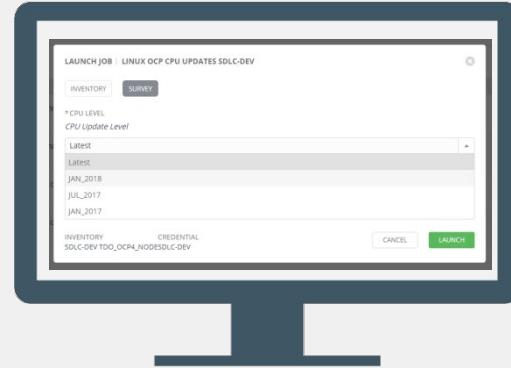
AUTOMATIC SURVEY REFRESH



User promotes a release using a Tower job.



Playbook scans the artefact server for changes



Survey is regenerated with new options against all relevant job templates

MISSION DEBRIEF

KEY TAKE-AWAYS

-  Keep It Simple
-  Recycle existing automation code
-  Decide early on if you need a GUI
-  Automate GUI configuration
-  Give users the power, but retain control

ACHIEVEMENTS



All major new Linux based software deployed using Tower



Zero patch related downtime during working hours



Development, Test, Pre-Production and Production all aligned



Documentation complexity reduced



Happy Users!

“I’m seriously impressed at how quickly and smoothly you guys are able to get the Oracle CPUs rolled out across all the environments”

IAS Lead DBA

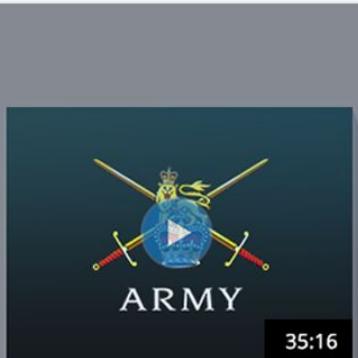
“‘Legacy’ no longer refers to the platform itself, but the way you deliver and maintain the platform”

VIDEOS / ANSIBLEFEST LONDON 2017



Applying Ansible at HSBC
HSBC

PRESENTATION DETAILS



Efficiency and Effectiveness
through DevOps
British Army

PRESENTATION DETAILS



Applying Ansible at Siemens
Siemens

PRESENTATION DETAILS



Lessons Learned from a Year
with Ansible
tictoc digital

PRESENTATION DETAILS

<https://www.ansible.com/videos-ansiblefest-london-2017>

#redhat #rhsummit



THANK YOU



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