

# A JOURNEY TO DEVOPS IN THE BRITISH ARMY

Lessons Learnt for Successful Automation

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Linux Architect (Contractor)  
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<https://www.flickr.com/photos/uk-brs-as/afghanistan>

## The plan...

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ARMY  
Headquarters

# Information Application Services (IAS)

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Military



Civil Servants

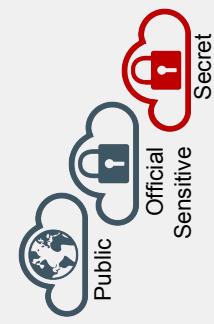
100+ Staff



IT Contractors



200+ Services



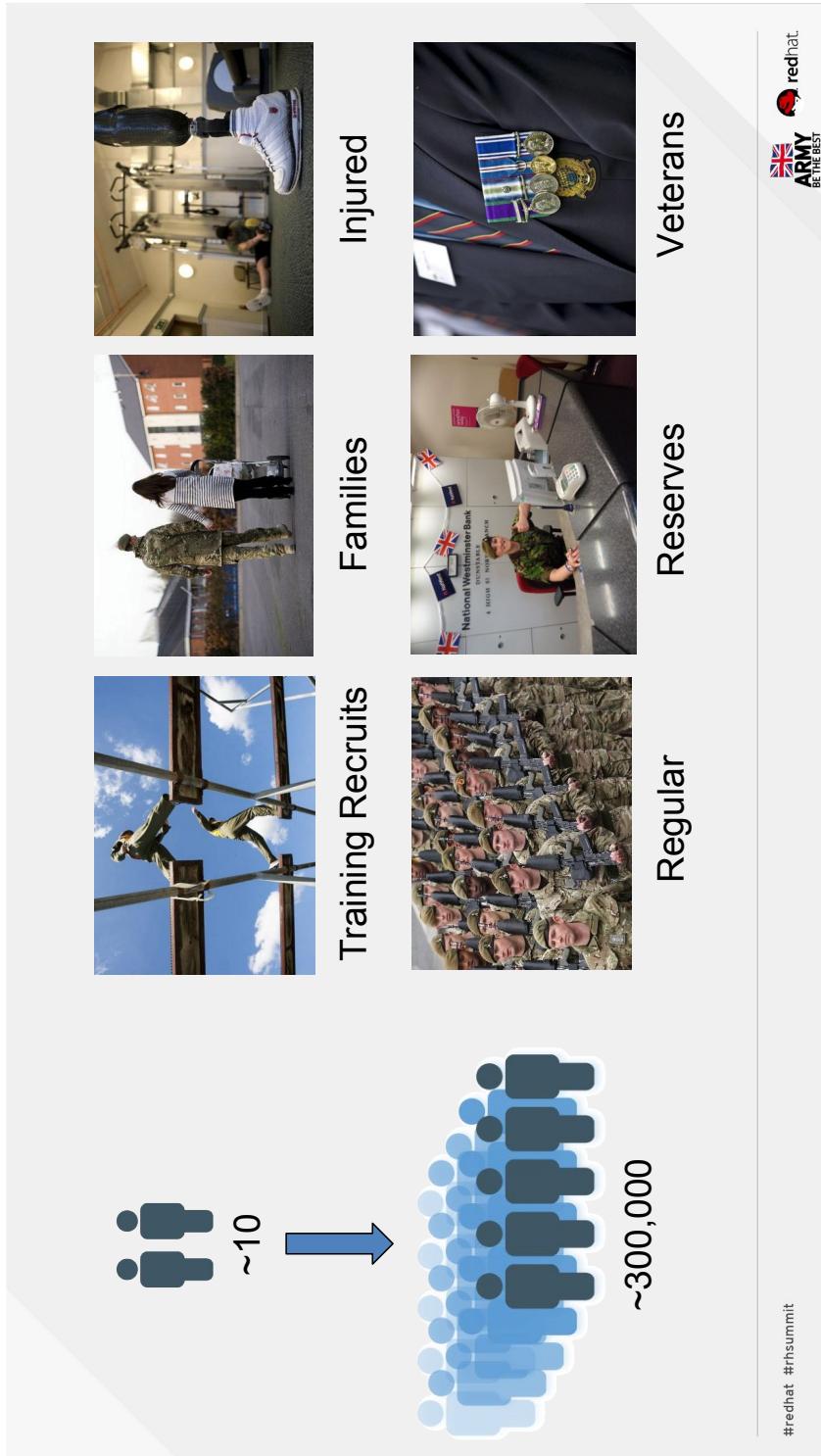
3 Security Domains

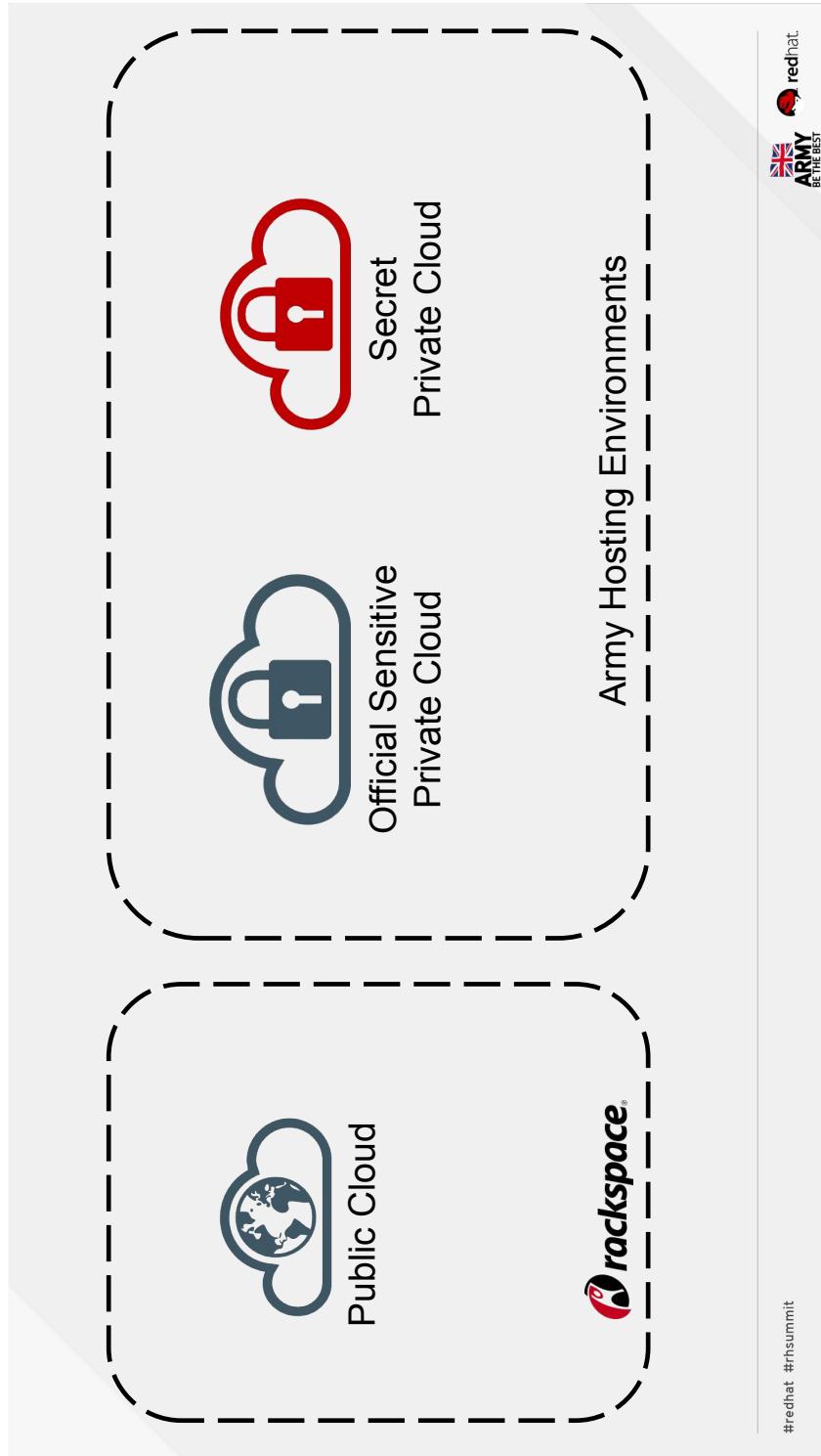


Army, Navy & Air Force

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Virtualization:

**vmware**<sup>®</sup>

Operating Systems:

 **redhat**  
ENTERPRISE  
LINUX<sup>®</sup>



Windows Server

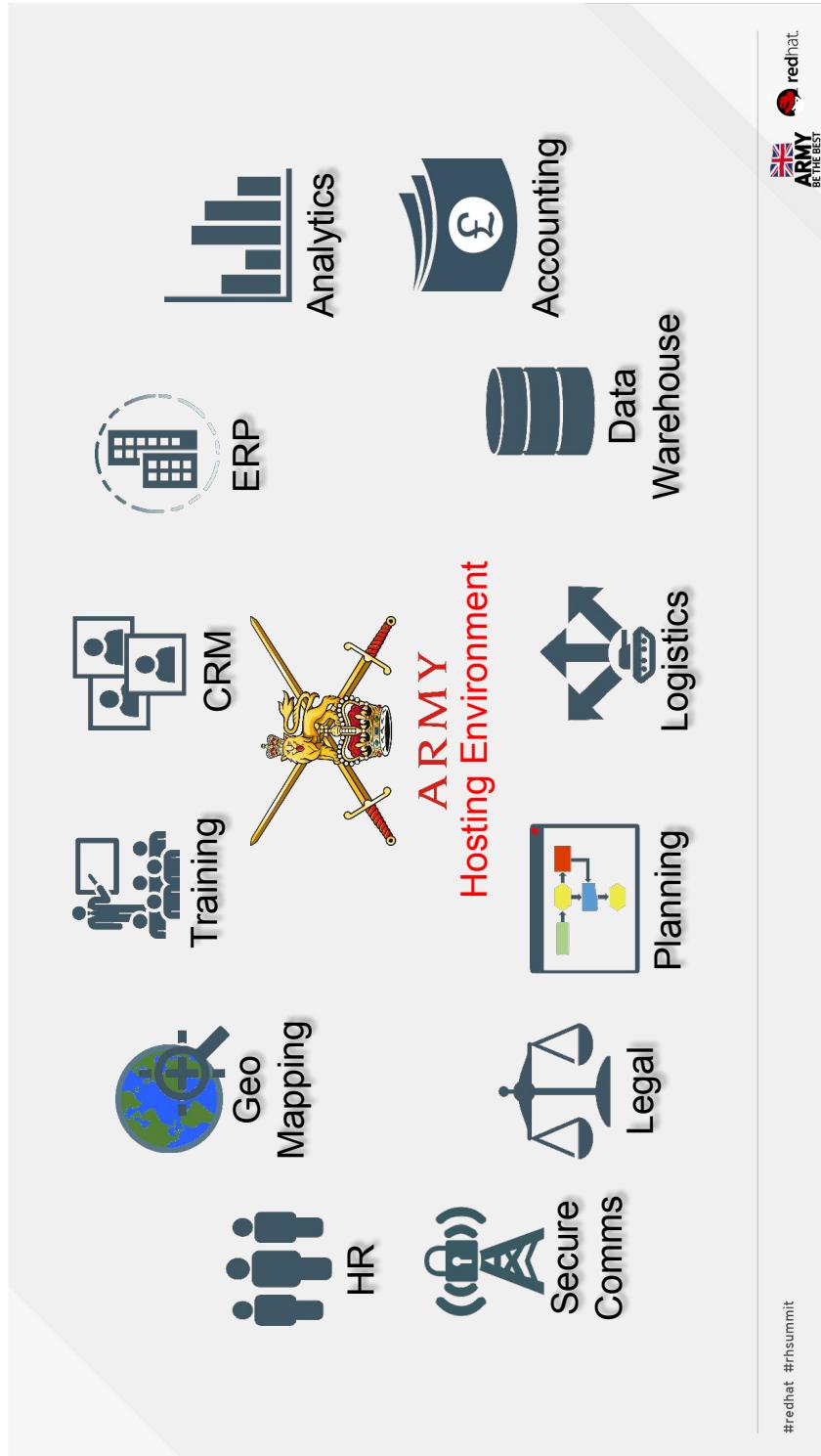
Development:

  
**ORACLE**<sup>®</sup>  
APPLICATION EXPRESS

  
Microsoft<sup>®</sup>  
.NET

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# MY JOURNEY TO “DEVOOPS”

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Year 2000 - “UNICOM” Project

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UNICOM Server



Lovely Screen

All Mod-Cons

Very Beige

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## Typical UNICOM System Administrator

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



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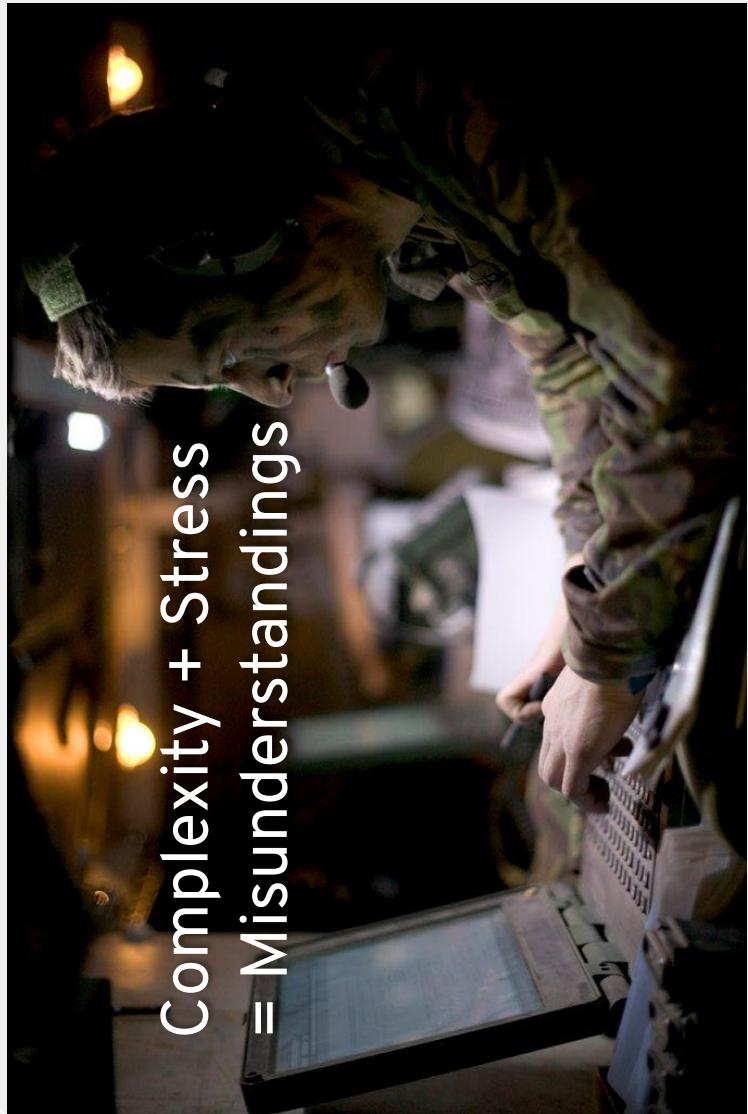
You also  
have to  
deal with  
situations  
with an  
“Army”  
twist to  
them.

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Tip #1:

KEEP IT SIMPLE  
(for the end user)



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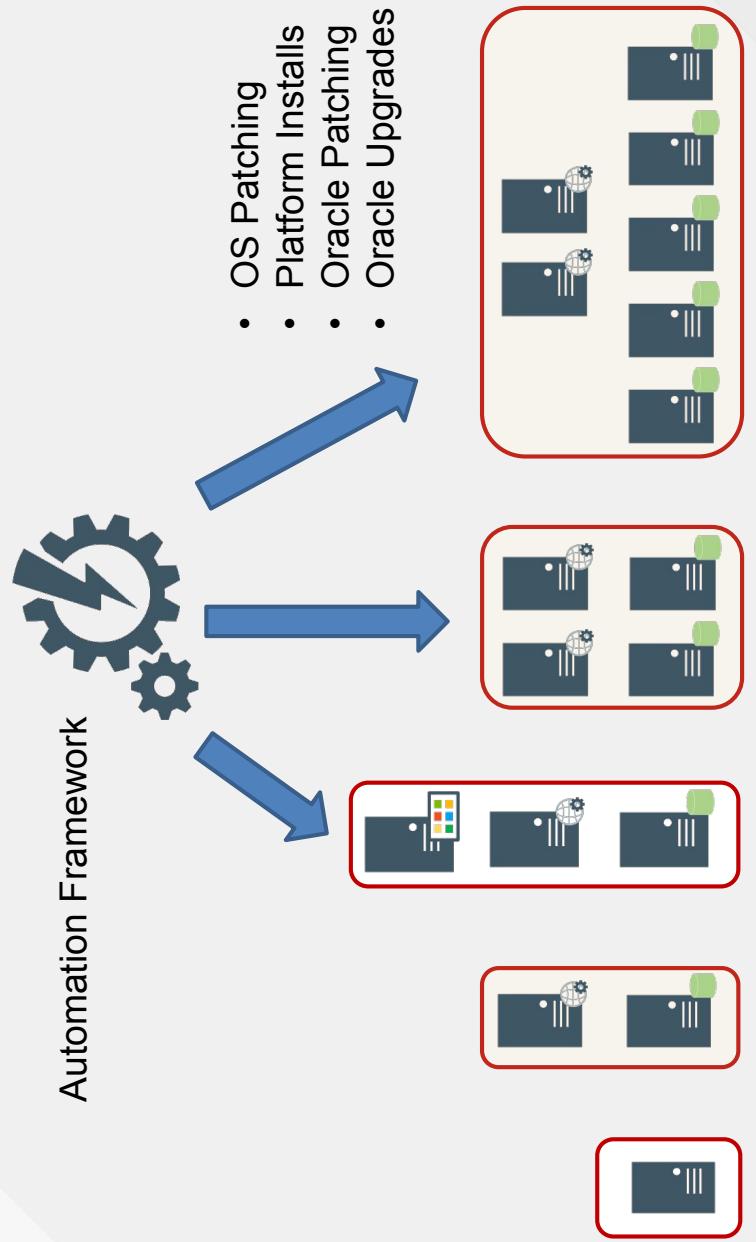


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## IAS ‘DEVOPS’ EXPECTATIONS



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)

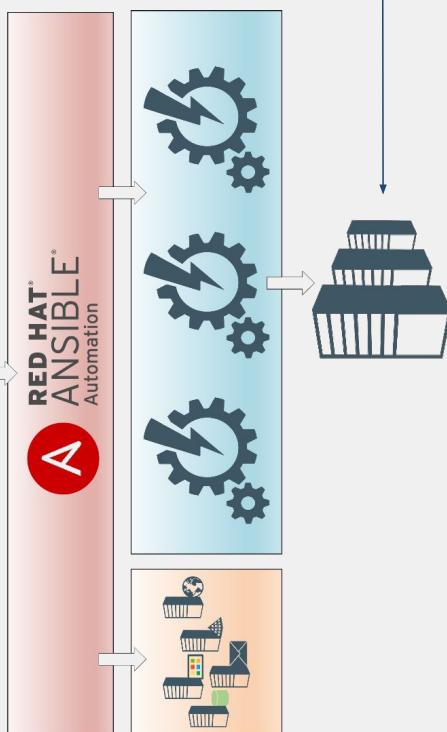
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# TOP SECRET THE DEVOPS PLAN TOP SECRET

Users interact  
with Ansible.

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



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Started with  
"pure" Ansible



**RED HAT<sup>®</sup>**  
**ANSIBLE<sup>®</sup>**  
Automation

Quickly decided we  
needed a GUI



**RED HAT<sup>®</sup>**  
**ANSIBLE<sup>®</sup>**  
Tower

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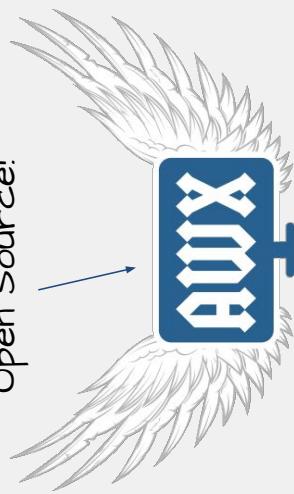
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Tip #3:  
USE ANSIBLE TOWER FROM THE START  
(If you think you'll need a GUI)

Supported by  
Red Hat



Open Source!



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ANSIBLE<sup>®</sup>  
Tower

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

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

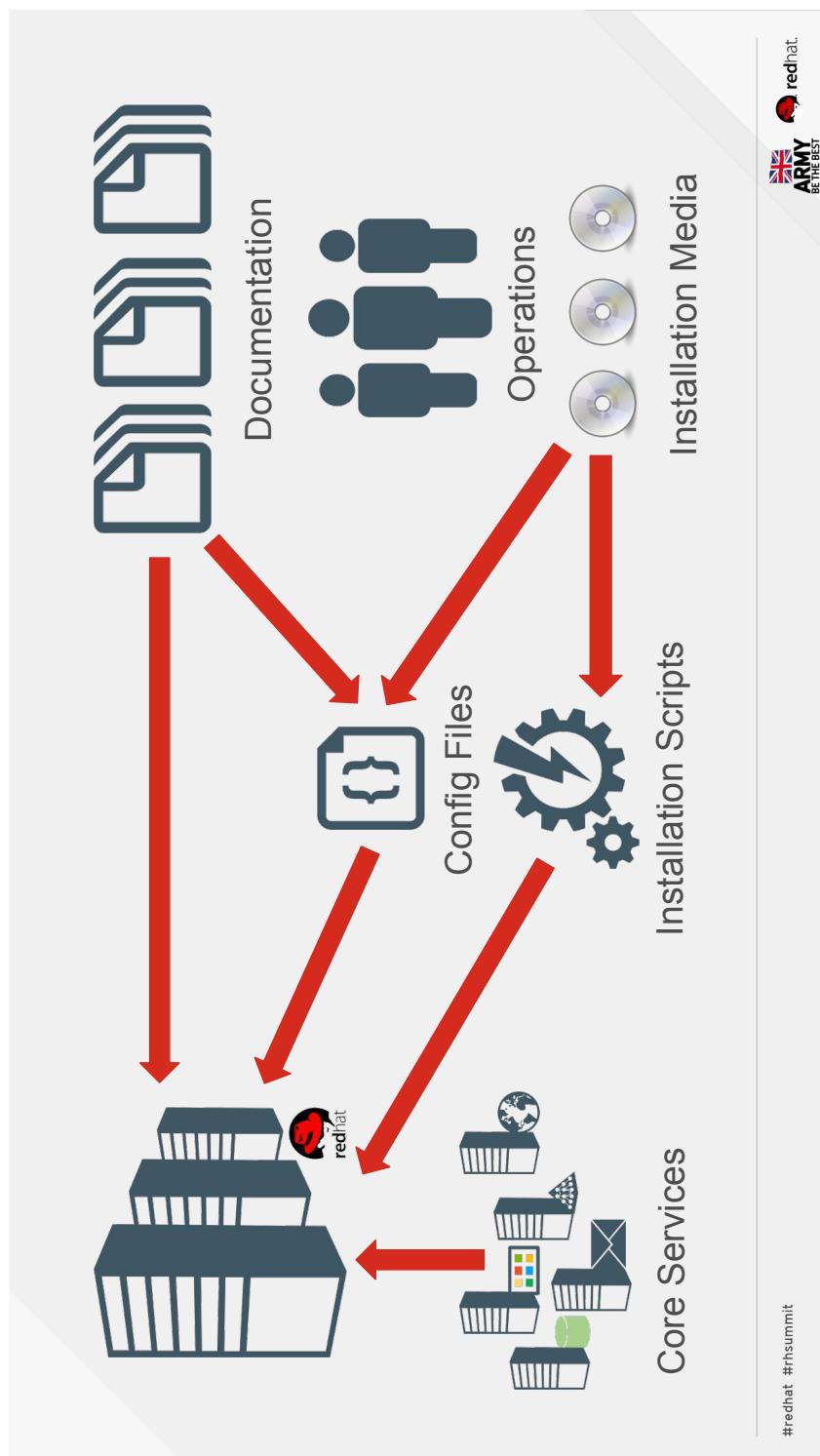
The screenshot shows the Red Hat CloudForms Management Engine dashboard. On the left, there are navigation links for Dashboard, Service Catalog, My Services, Orders, and Service Catalog. The main area displays a service catalog with three items:

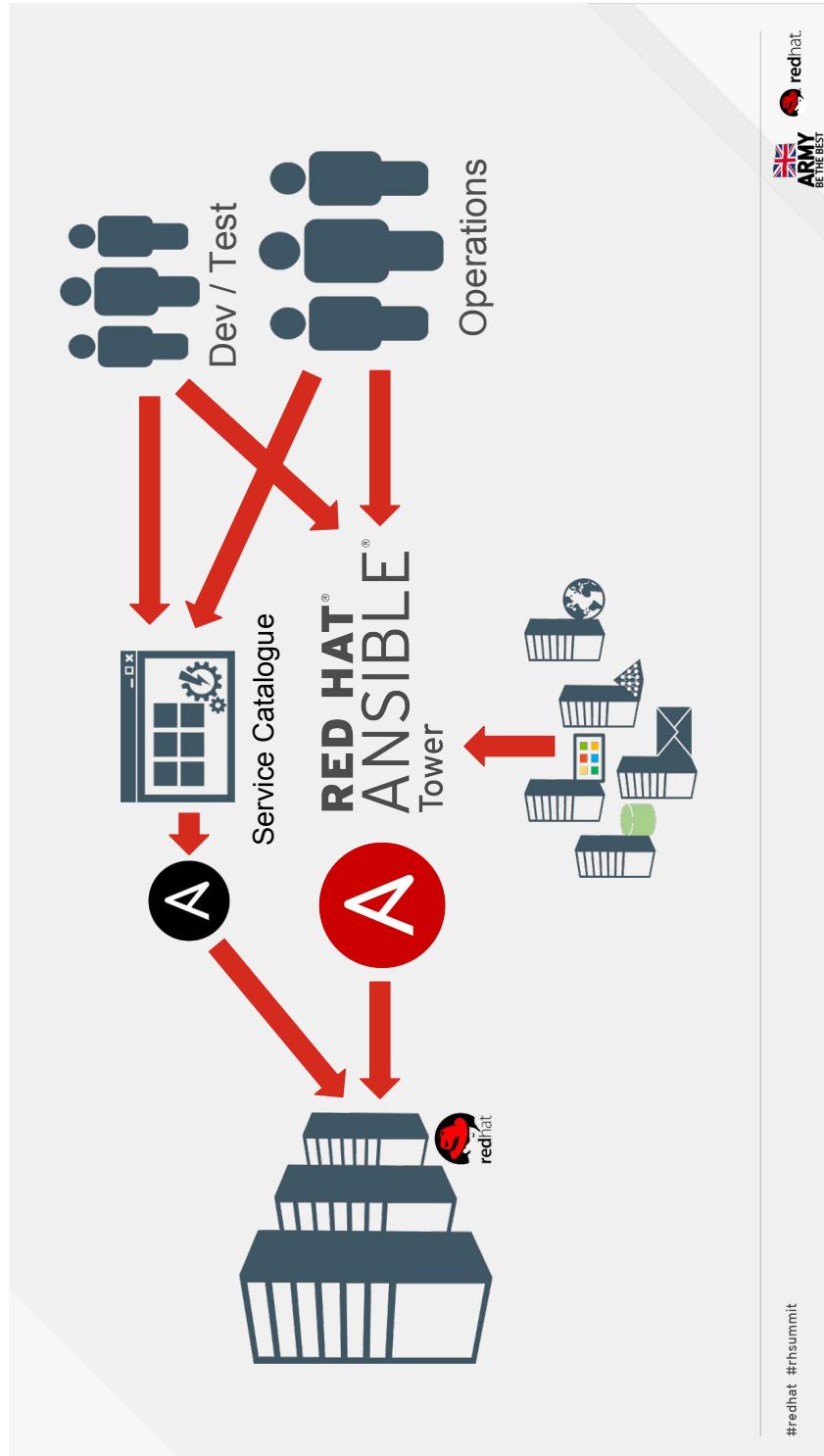
- AHE SU RHEL 6: Description: Red Hat Enterprise Linux 6. Icons include a shield with a red cross and a red dot.
- AHE SU RHEL 7: Description: Red Hat Enterprise Linux 7. Icons include a shield with a red cross and a red dot.
- Charge Platform Power State: Description: Ansible. Icons include a black circle with a white letter 'A' and a red dot.

CloudForms (or "ManagedQ"  
for Open Source version)

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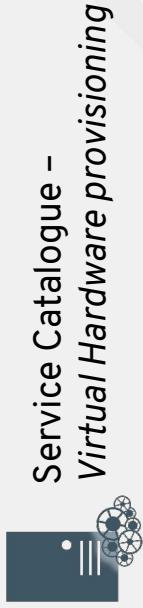
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## KEY COMPONENTS



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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...

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Tip #5:

## TOWER JOB SURVEYS (Keeping It Simple)

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# JOB SURVEYS

The screenshot displays two separate job survey interfaces from the Red Hat Job Survey tool.

**Top Interface:** This interface is titled "LAUNCH JOB | LINUX OCP CPU UPDATES SDLC-DEV". It includes tabs for "INVENTORY" and "SURVEY". Under "SURVEY", there is a required field labeled "CPU Update Level". A dropdown menu is open, showing the following options: Latest, Latest, JAN\_2018, JUL\_2017, and JAN\_2017. The "JUL\_2017" option is highlighted with a blue arrow pointing to it. To the right of the dropdown is a "LAUNCH" button.

**Bottom Interface:** This interface is titled "LAUNCH JOB | LINUX OCP APEX UPGRADE SDLC-DEV". It also has "INVENTORY" and "SURVEY" tabs. In the "SURVEY" section, there is a required field "APEX VERSION" with the value "5.1.4" and a note "The target APEX version". Below this is a "TARGET DATABASES" section with the note "Databases to be upgraded" and a dropdown menu set to "ALL". To the right is a "LAUNCH" button.

**Text Overlay:** Overlaid on the bottom interface is the text: "Drop downs or Pick Lists limit what users can select".

**Logos:** In the top right corner, there is a Red Hat logo with the text "redhat" and a "ARMY" logo with the tagline "BE THE BEST".

**Hashtag:** At the bottom right, the hashtag "#redhat #rhsummit" is displayed.

## AUTOMATIC SURVEY REFRESH



User promotes a release using a Tower job.

Playbook scans the artifact server for changes

Survey is regenerated with new options against all relevant job templates

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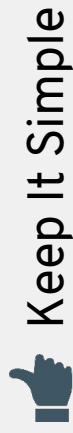


# MISSION DEBRIEF

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## 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

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## 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!

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**“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

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

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VIDEOS / ANSIBLEFEST LONDON 2017

The grid contains five video thumbnails:

- HSBC** | 14:34 | Applying Ansible at HSBC | PRESENTATION DETAILS
- ARMY** | 35:16 | Efficiency and Effectiveness through DevOps | British Army | PRESENTATION DETAILS
- SIEMENS** | 12:41 | Applying Ansible at Siemens | Siemens | PRESENTATION DETAILS
- tictoc** | 46:13 | Lessons Learned from a Year with Ansible | tictoc digital | PRESENTATION DETAILS

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

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# THANK YOU



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- [twitter.com/RedHat](https://twitter.com/RedHat)
- [youtube.com/user/RedHatVideos](https://youtube.com/user/RedHatVideos)