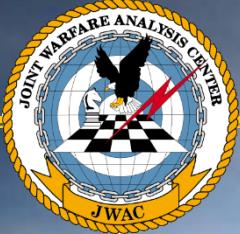


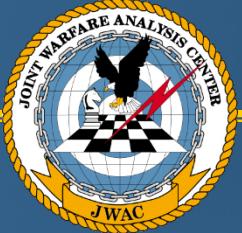
# Turning the Battleship





# JOINT WARFARE ANALYSIS CENTER

Dahlgren, Virginia



# Who are we?

We provide combatant commands, Joint Staff, and other customers with precise technical solutions in order to carry out the national security and military strategies of the United States.



# Drivers

SHHHHHH !



**REDUCTION IN FORCE**



Old methods for separation won't scale

# But HOW?

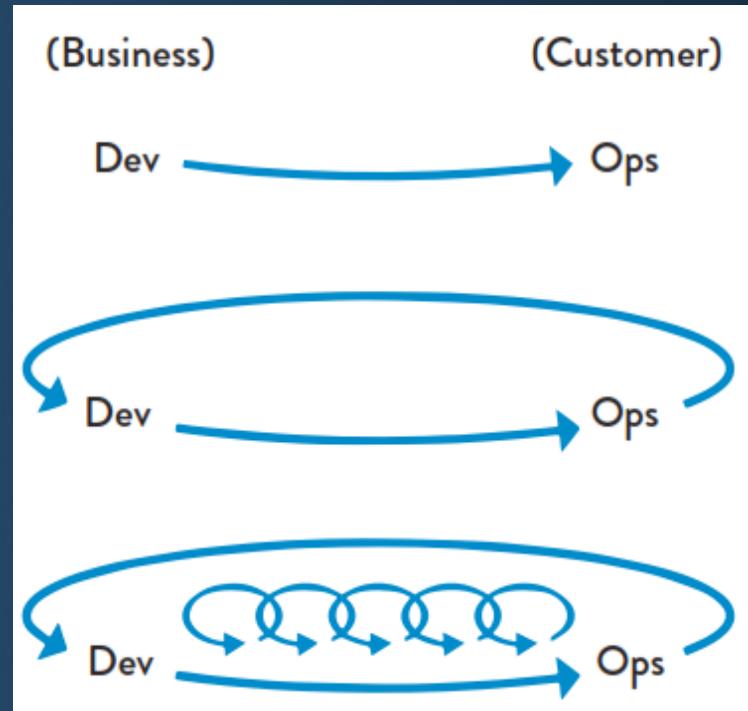
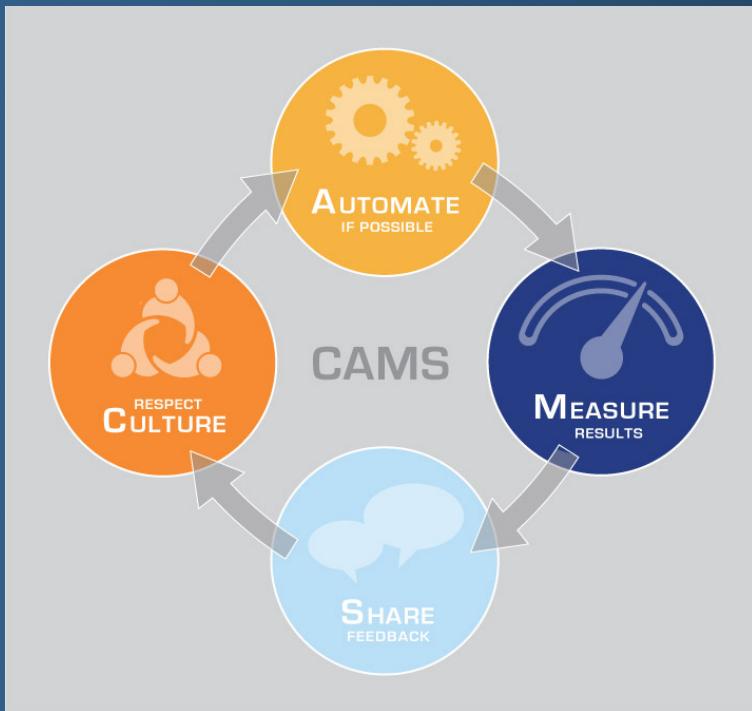


Warren F. @psCookieMonster · 3h

#ClickNextAdmin: "I don't have time to learn scripting, I have hundreds of changes to make!" #PowerShell



# Gotta DevOps



- Focus on consistency of underlying services,
- Reduced need for IT system hand holding, and
- Ability to rapidly stand up a self-service analytic environment

# The Principles

**Self-Service Provisioning**

**Consistent Operations**

**Proactive Management**

**System and Service Delivery**

# The Principles

**Self-Service Provisioning**

**Consistent Operations**

**Proactive Management**

**System and Service Delivery**

## **System and Service Delivery**

- System build from configuration managed templates using repeatable workflows
- Embedded automation of services to add consistency and reduce personnel overhead
- Tenant administration from configuration managed templates and resource pools using repeatable workflows

# The Principles

**Self-Service  
Provisioning**

**Consistent  
Operations**

**Proactive  
Management**

**System and  
Service  
Delivery**

## **Proactive Management**

- Deliberate scheduled refresh for system consistency & security
- Service and System monitoring enables embedded automation for health, performance, & security

# The Principles

**Self-Service  
Provisioning**

**Consistent  
Operations**

**Proactive  
Management**

**System and  
Service  
Delivery**

## **Consistent Operations**

- System architecture designed for reconstitution vs. manual repair
- All changes developed and tested in DEV env, then cookie cutter created in PROD

# The Principles

**Self-Service  
Provisioning**

**Consistent  
Operations**

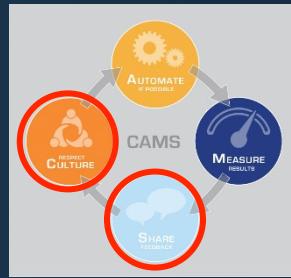
**Proactive  
Management**

**System and  
Service  
Delivery**

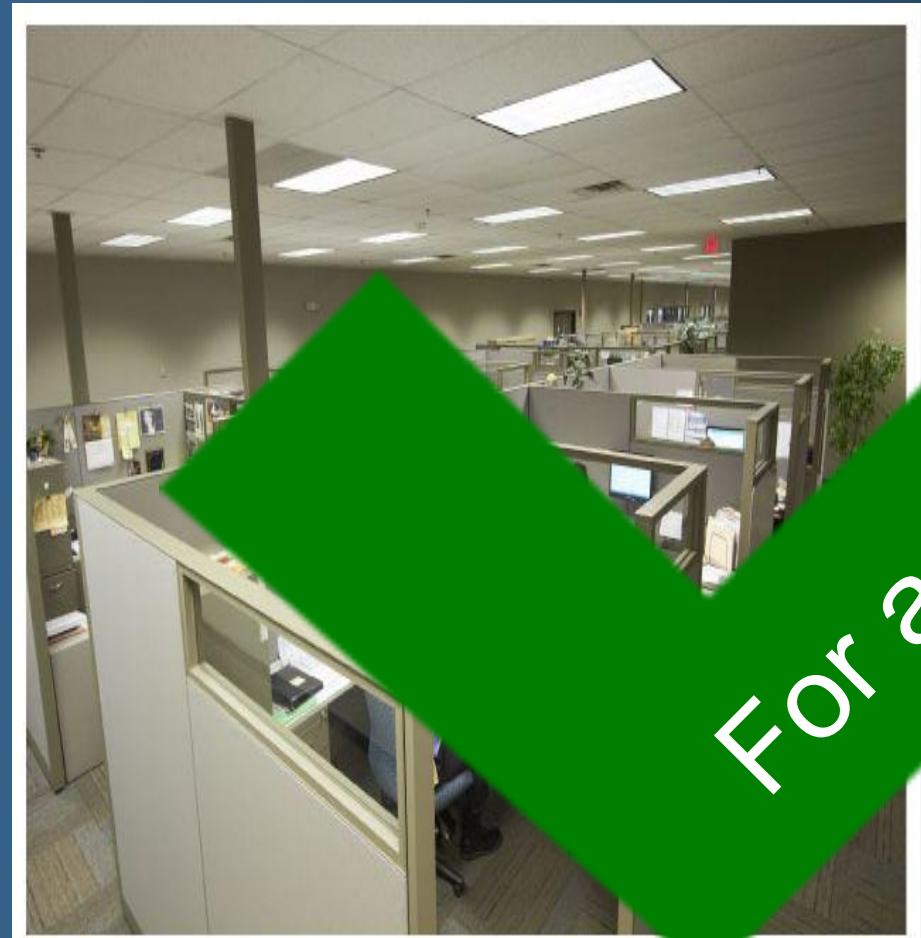
## **Self-Service Provisioning**

- Self Service, virtual delivery of hardware, applications, and services to ALL users

# Tech is “easy”, people are hard!



## Tear down this wall!



For a while, anyway

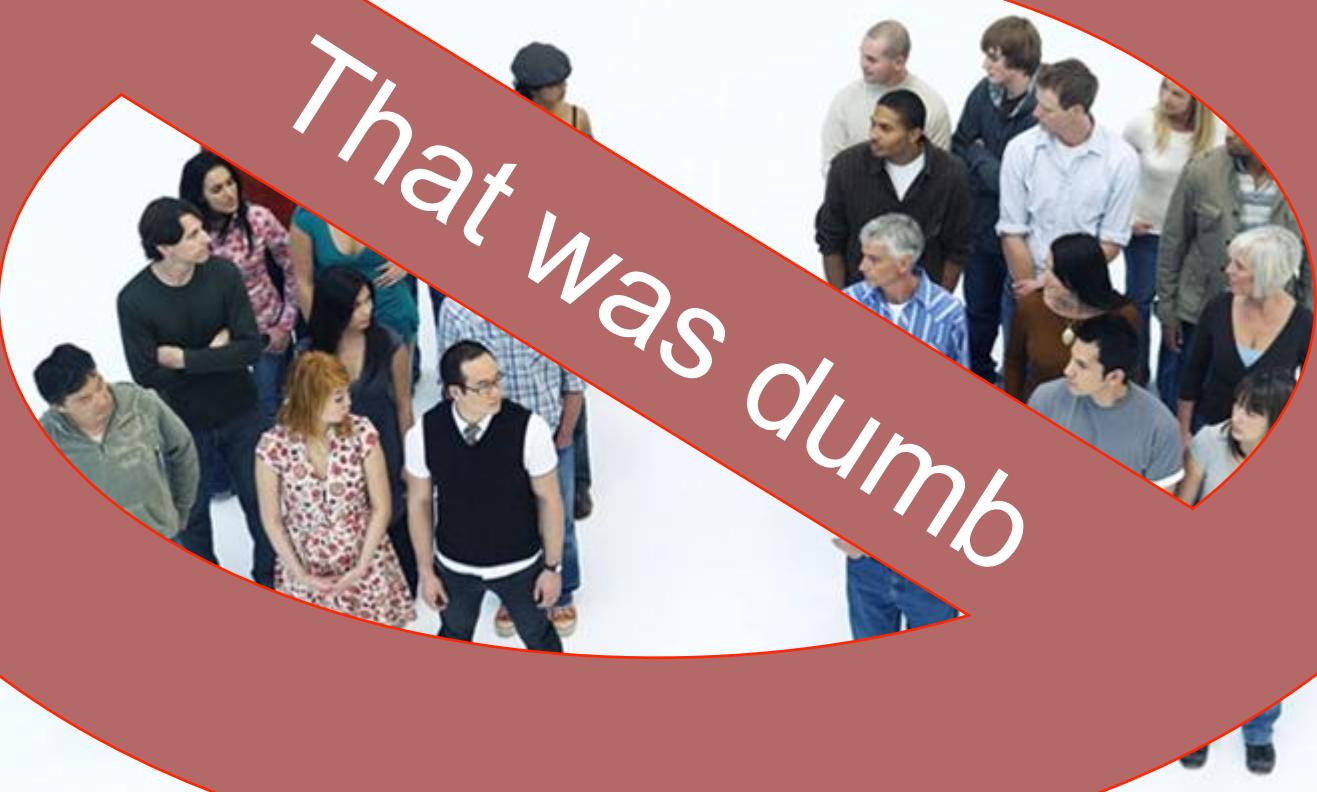


# Tech is “easy”, people are hard!

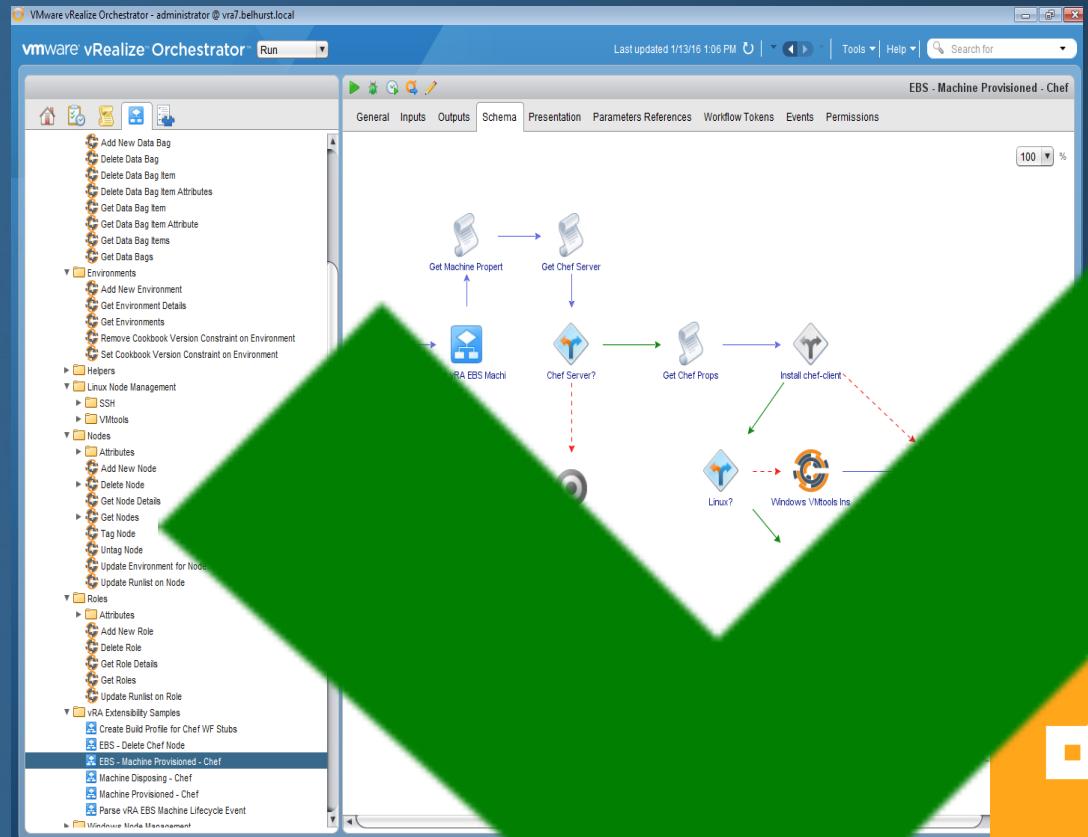


## DEV team vs. Legacy team

*That was dumb*



# Tech is “easy”, people are hard!



puppet

# Tech is “easy”, people are hard!



Monitoring Dashboard ▾ Refresh every 5m ⚙️

Hostnames All WindersHosts All webfsDomain urwwwebfs07.resource.jwac.mil AuditBox urxaudit.resource.jwac.mil Applocker: Show Events Only

Current Users of Monitoring Services UNDER TEST 0

Historical Use of Monitoring Services - UNDER TEST

Number of Users

Uptime Legend

- < 1 Day
- 1 to 27 Days
- 28 to 30+ weeks

Sensu Proxy 6.91 days

Server 2

Sensu Server 3 3.844 weeks

Redis 3.830 weeks

xInframmon 3.830 weeks

wInframmon 6.93 days

Grafana 3.417 weeks

Consul Agent

- urxsensu01.resource.jwac.mil
- urxsensu02.resource.jwac.mil
- urxsensu03.resource.jwac.mil

Consul Agent on Redis

urxredis01.resource.jwac.mil

Consul Agent on Influxdb

- urxinfluxdb01.resource.jwac.mil

DiskSpace Status

- urxgrafana01.resource.jwac.mil
- urxinfluxdb01.resource.jwac.mil
- urxinframmon01.resource.jwac.mil
- urxmsgbus01.resource.jwac.mil
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U Status

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- urxsensuproxy01.resource.jwac.mil

CPU IO Wait Status

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15



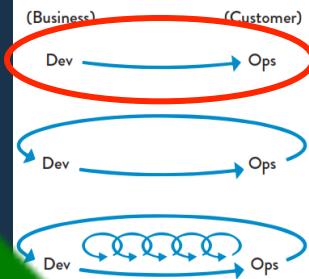
# Tech is “easy”, people are hard!

## Enforcing the Principles

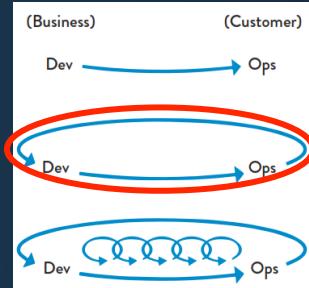


# Tech is “easy”, people are hard!

Dev -> Ops



# Tech is “easy”, people are hard!



## Labels

*That was bad messaging*

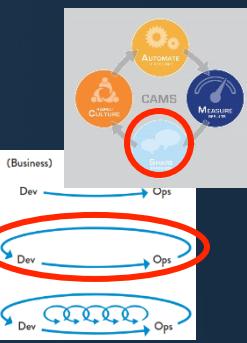
- Engineers and Operators
- Engineers build
- Operators monitor and

LABELS  
ARE FOR  
MARS

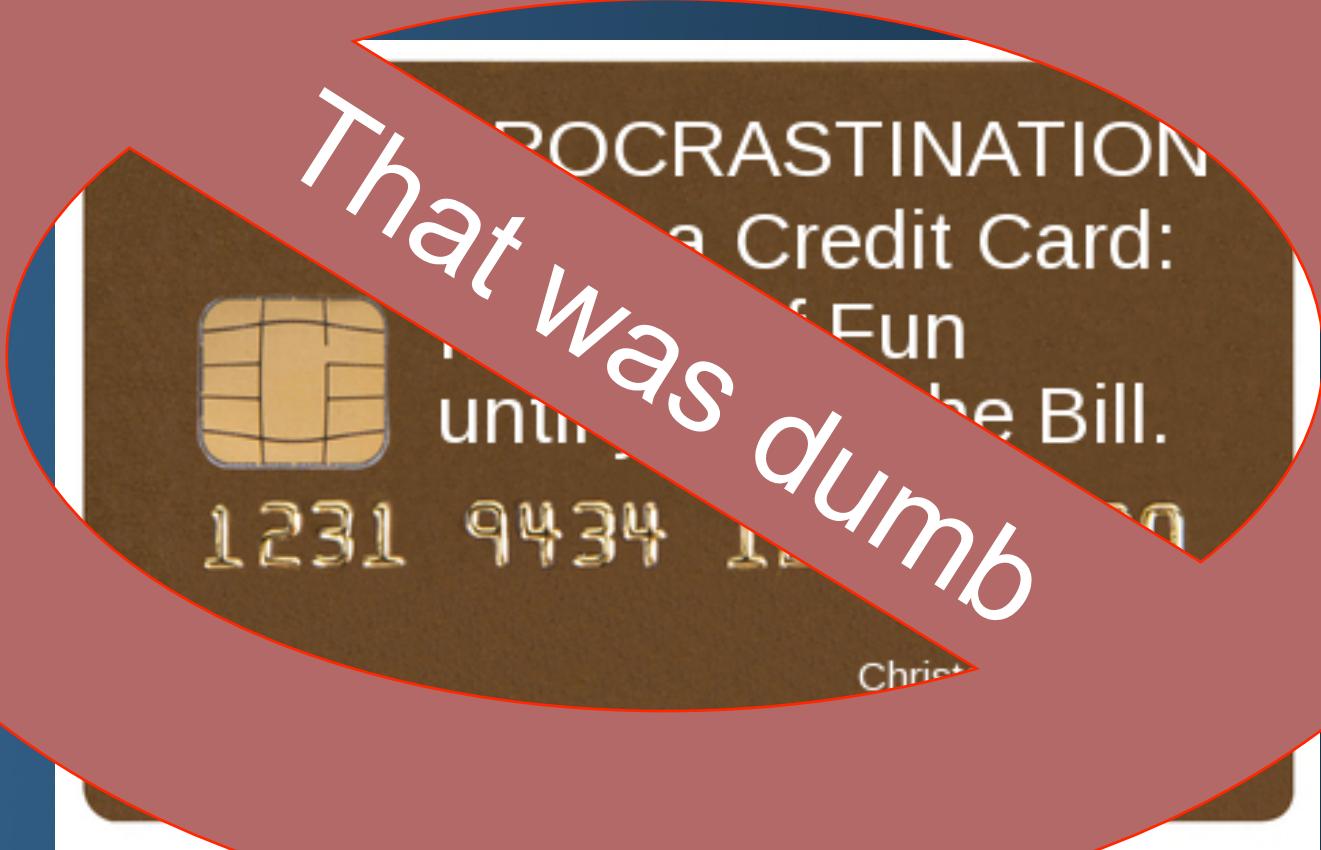
NOT PEOPLE



# Tech is “easy”, people are hard!



## Late training / integration of Operators



# SUCCESS



LOADING...

- Hosting several analytic experiments that were unsupportable before, and they are pre-integrated
- Have not had a breaking change in production
- Can build out new environment in ~1 week
- Automation greatly reduces need for administrative privileges
- SME knowledge “documented” in code, all can execute complex tasks
- Accreditation (think PCI Audit) process
- No Self-Service... yet
- Re-learning, re-implementing basic processes
- Engineer / Operator integration slow

# Can you help?

- Hardened Deliveries
  - <https://iase.disa.mil/Pages/index.aspx>
    - STIGs
    - SHB
- Silent Installs for Windows applications
- Clunky to elevate to Priv User in Windows applications
- Working in an air gapped environment – no CD
- Identity Management
  - Working across forests / DMZs / Linux and Windows
- Dealing with secured credentials in automated remediations
- Better orchestration tooling that supports CAC / PIV / Smart Card and self-service



We're Hiring!

# Contact info

A close-up photograph of a person's hand holding a white business card. The hand is visible from the thumb on the right side, wearing a dark-colored sleeve. The business card has a light blue horizontal striped pattern. At the top, the text "JOINT WARFARE ANALYSIS CENTER" is printed in blue, all-caps, sans-serif font, with a thin black horizontal line underneath. Below this, the name "Kurt Hockaday" is printed in a large, bold, black sans-serif font. Underneath the name, two email addresses are listed: "Kurt.L.Hockaday.civ@mail.mil" and "@bigdawgfootball".

JOINT WARFARE ANALYSIS CENTER

Kurt Hockaday

Kurt.L.Hockaday.civ@mail.mil  
@bigdawgfootball