Python & DevOps

Welcome

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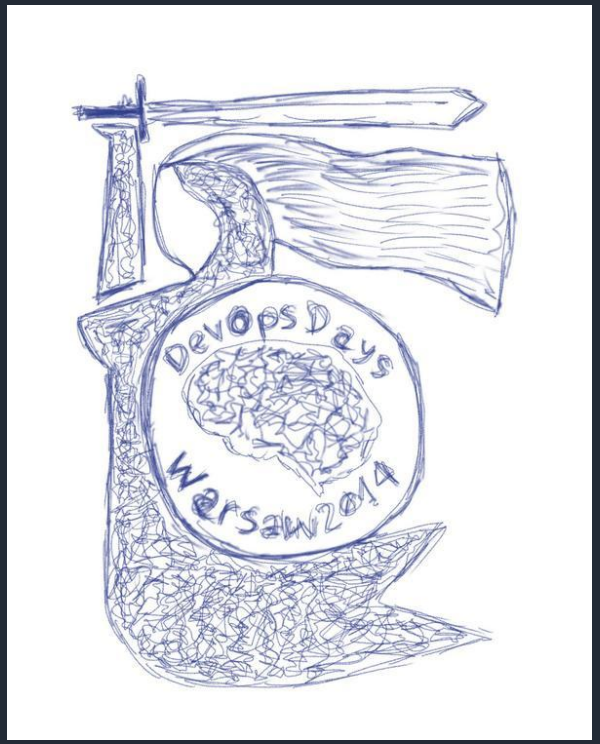
Who am I?

- Software Configuration Manager
- DevOps Practitioner
- Python Programmer

orange
Nokia Siemens Networks
O2
PHILIPS
PZU
citibank
intel
Groupama
SIEMENS
Gigaset
HAYS
it KONTRAKT

DevOps Days Warsaw

25-26th September 2014



Common problems:

- fear of change
- risky deployments
- it works on my machine!
- siloization
- inability to switch to the previous state of the system

What is DevOps?

“a software development method that stresses communication, collaboration, and integration between software developers and Information Technology (IT) professionals.”

DevOps is a culture.

Tools do not form culture!

The beginning...

Bash Scripting

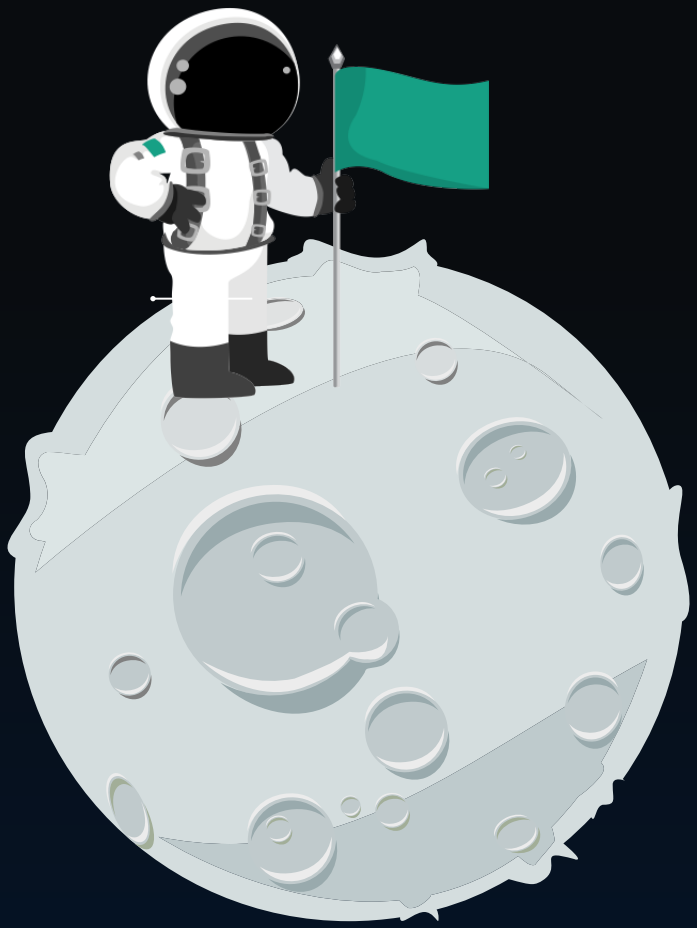
Perl

CFEngine

1993

Are we doing it right?

Am I alone?



Capistrano — 2006

2008 — Fabric

Rex — 2010

Puppet

2005

2008 Chef

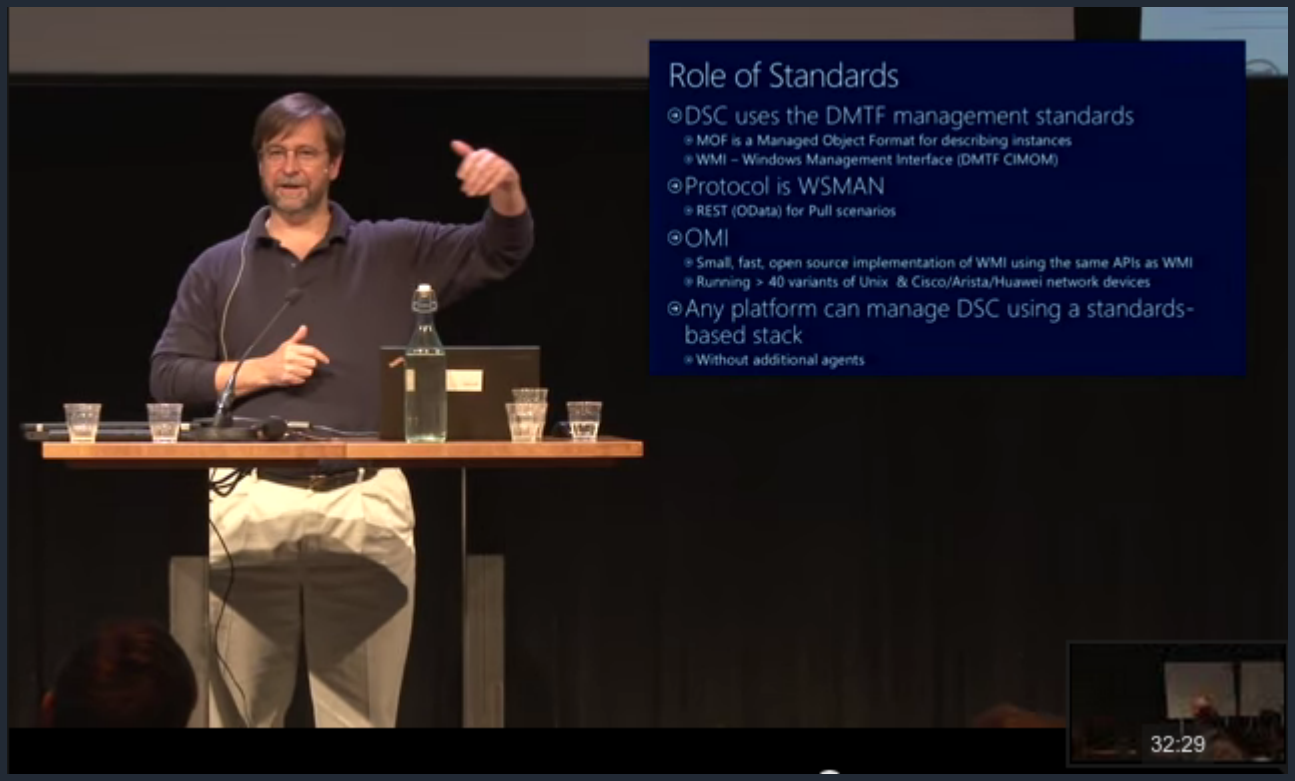
SaltStack

2011

2012 Ansible

End?

Devopsdays Amsterdam 2014 - Jeffrey Snover, Desired State Configuration And Microsoft Windows



Desired State Configuration

Microsoft

- Enabling or disabling server roles and features
- Managing registry settings
- Managing files and directories
- Starting, stopping, and managing processes and services

- Managing groups and user accounts
- Deploying new software
- Managing environment variables
- Running Windows PowerShell scripts

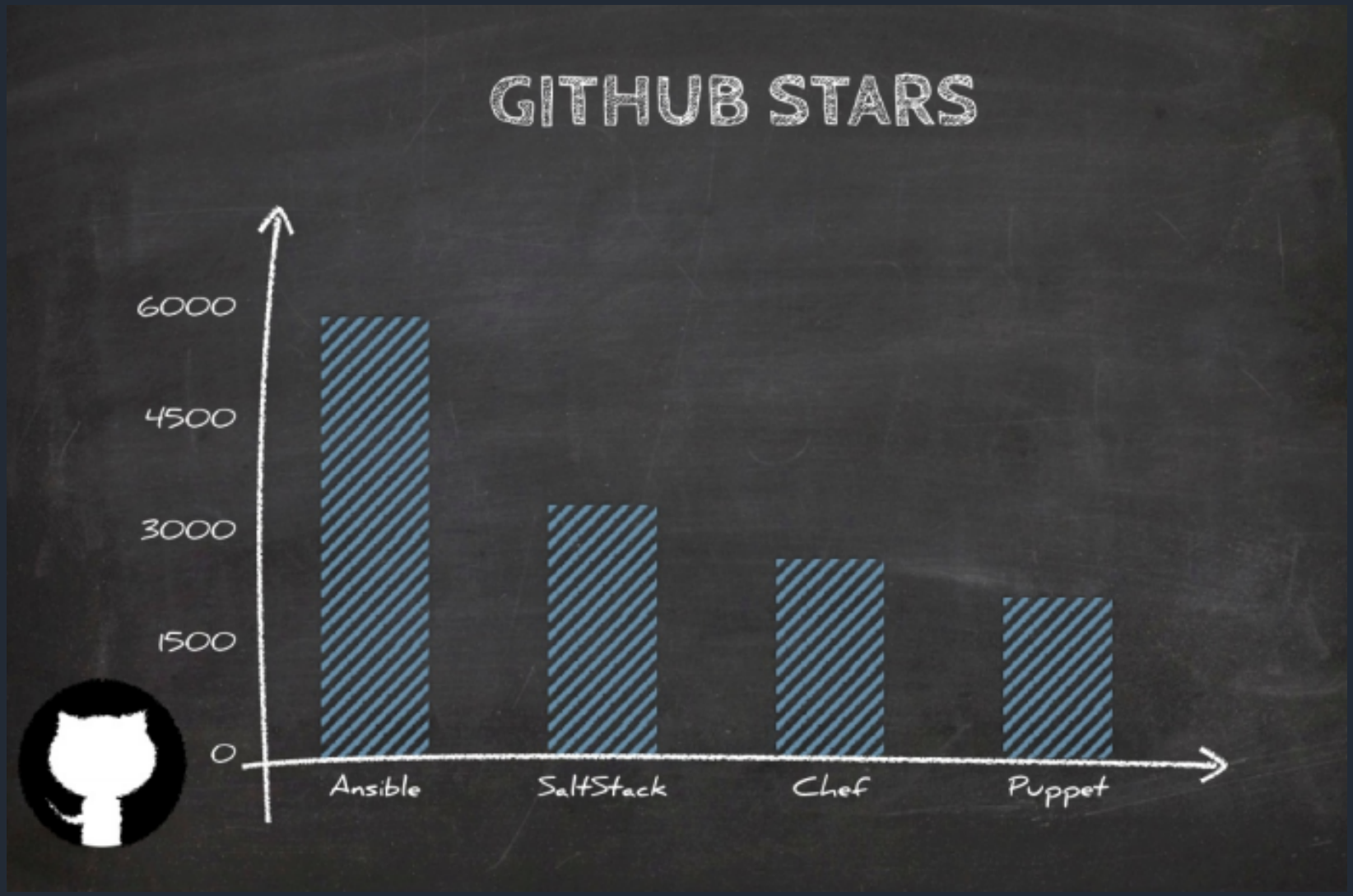
Whatever approach you choose, always remember:

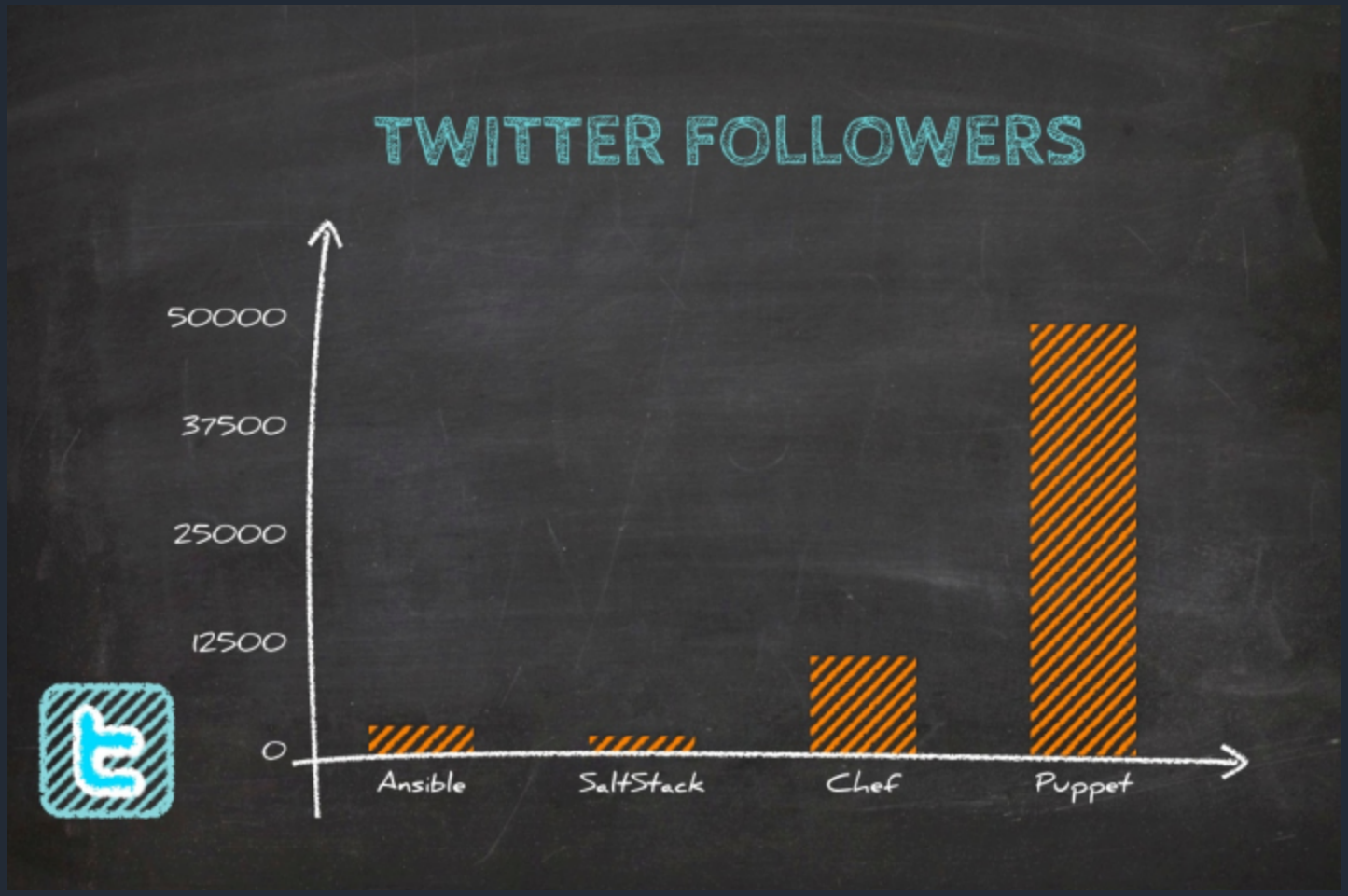
Python ? Ruby? Perl?

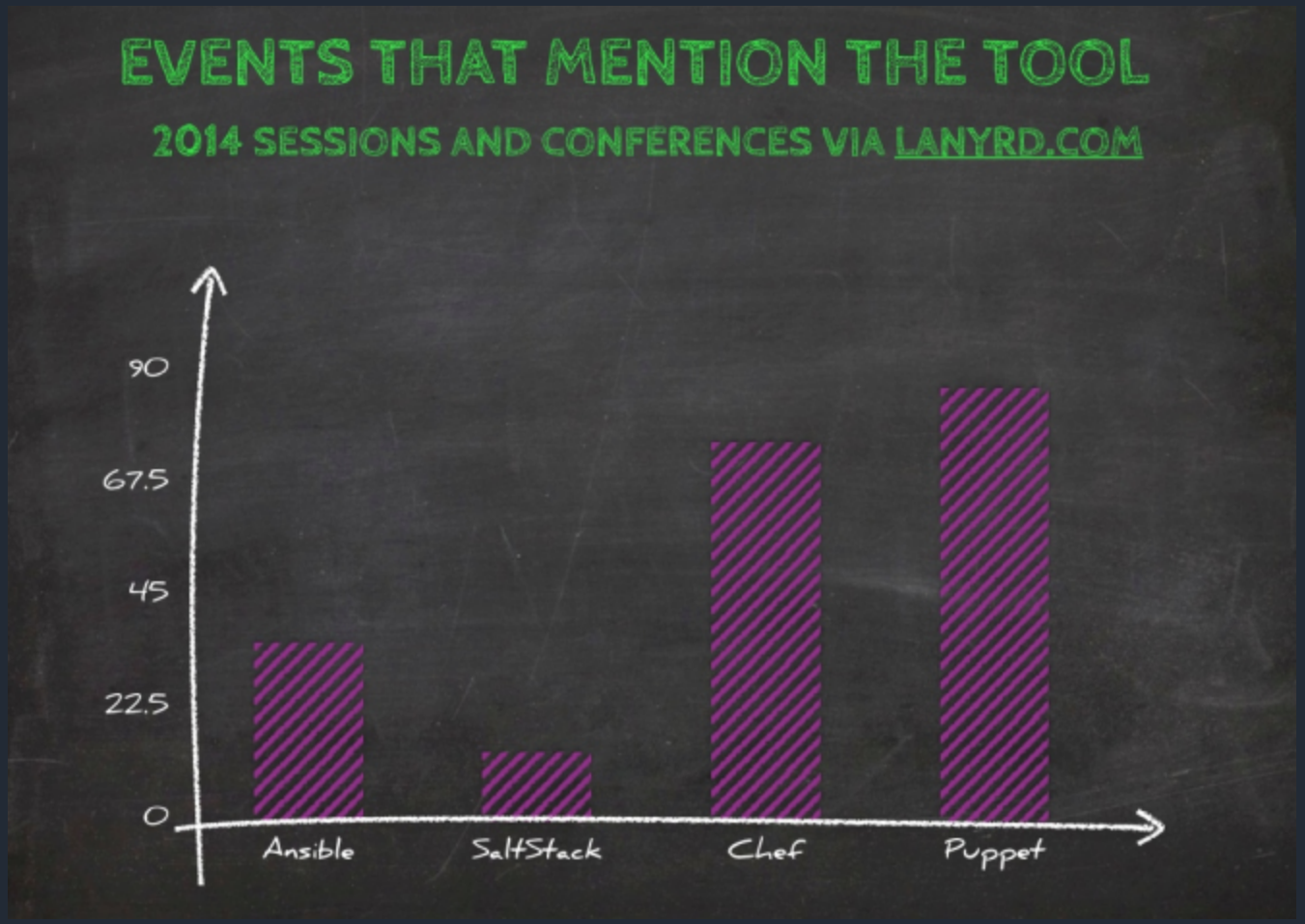
Component			
Version Control System	✓	✗	✗
Documentation Management Engine	✓	✓	✓
Configuration Management System	✓	✓	✗
Web Framework	✓	✓	✗
Readability for non developers	✓	✓	✗

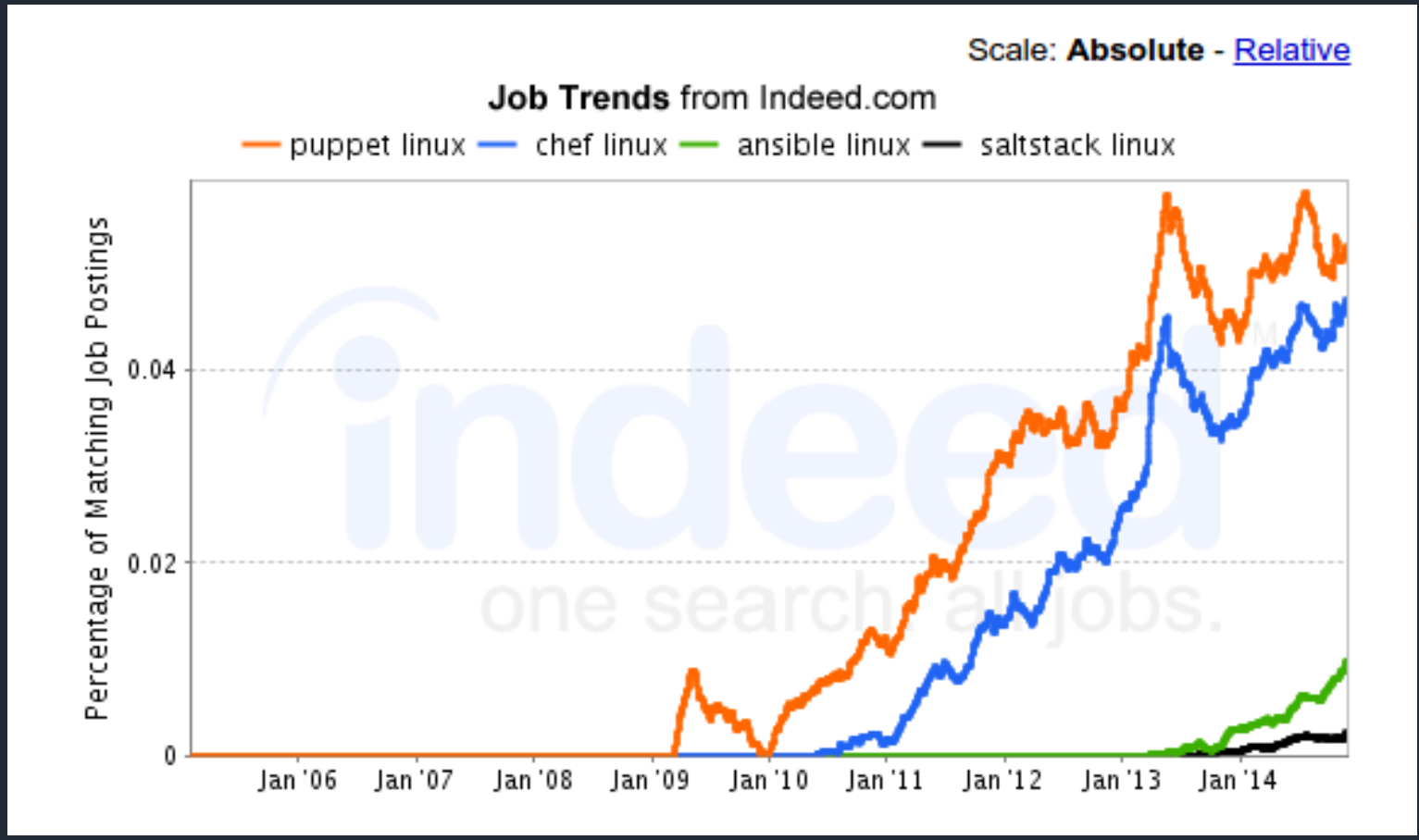
QUICK LOOK

	Ansible	SaltStack	Chef	Puppet
Terminology	Directive: Task Script: Playbook Master: Control Machine Children: Hosts	Directive: State Script: SLS Formula (SLS = SaLt State) Master: Master Children: Minions	Directive: Resource Script: Recipe (cookbook plural) Master: Server Children: Clients	Directive: Resource Script: Manifest Master: Master Children: Agents
Execution Order	Sequential	Sequential (since 0.17)	Sequential	Random, requires explicit ordering
Directive Language	YAML with Jinja2 templating	YAML with Jinja2 templating	Ruby DSL	Custom
Bootstrap Child Nodes	Not needed	Required (unless using salt-ssh)	Required	Required
Remote Execution	Built-in, easy	Built-in, easy	knife, challenging	mcollective, challenging

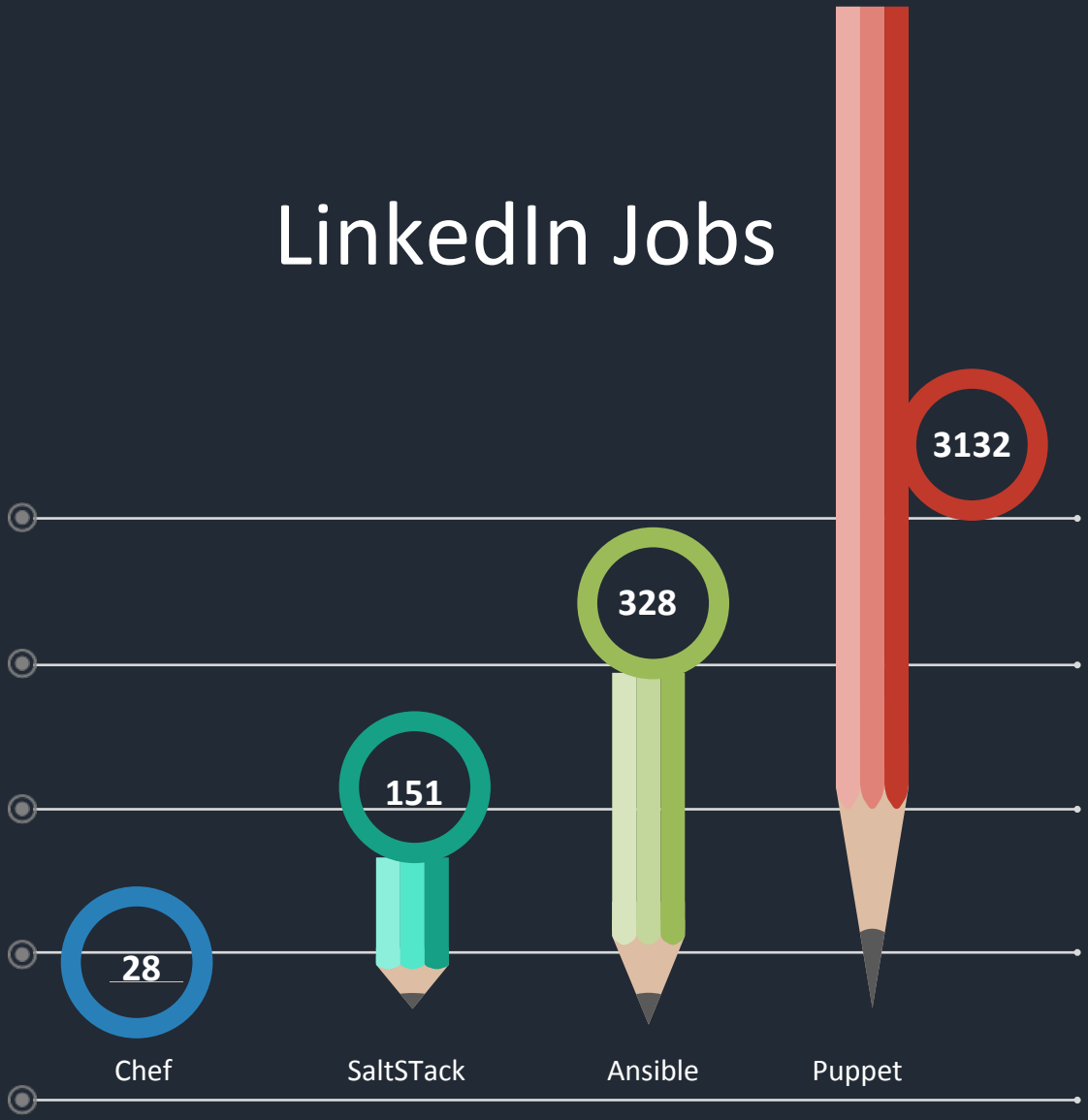

GITHUB STARS
6000
4500
3000
1500
0
Ansible
SaltStack
Chef
Puppet


TWITTER FOLLOWERS
50000
37500
25000
12500
0
Ansible
SaltStack
Chef
Puppet

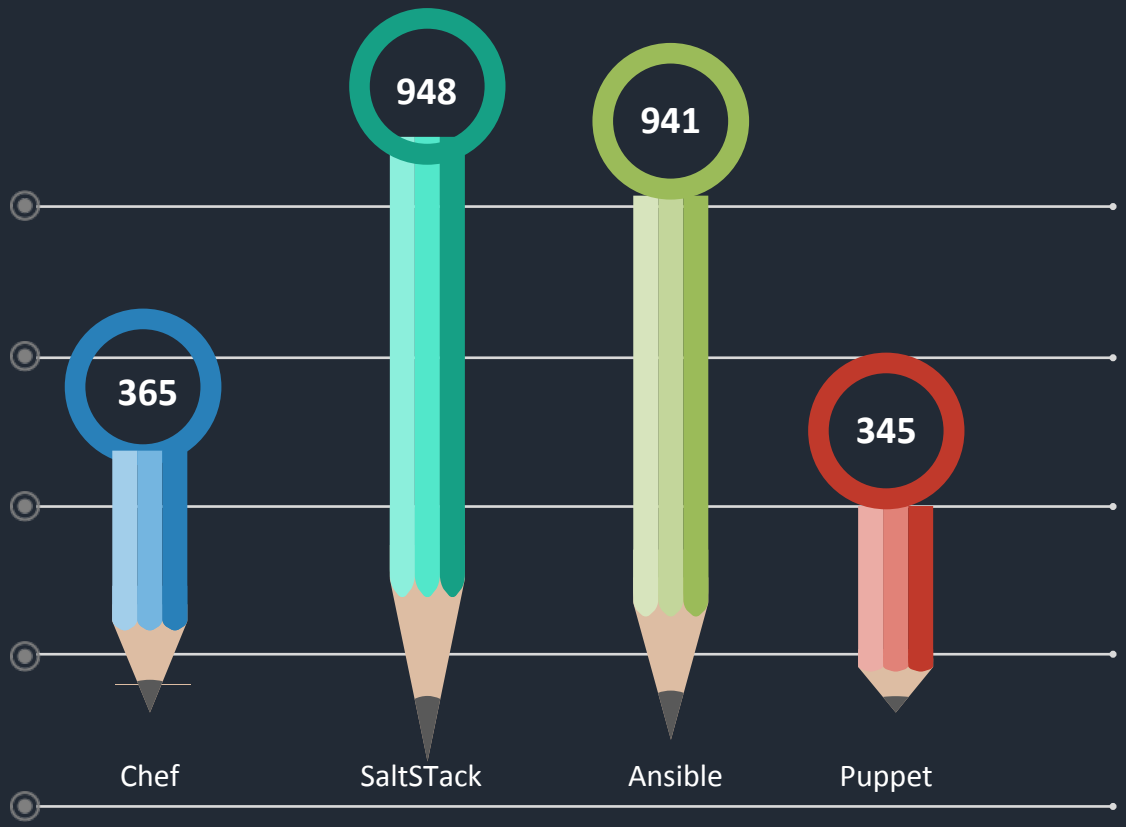

EVENTS THAT MENTION THE TOOL
2014 SESSIONS AND CONFERENCES VIA LANYRD.COM
90
67.5
45
22.5
0
Ansible
SaltStack
Chef
Puppet


Scale: Absolute - Relative
Job Trends from Indeed.com
puppet linux
chef linux
ansible linux
saltstack linux
Percentage of Matching Job Postings
0.04
0.02
0
Jan '06
Jan '07
Jan '08
Jan '09
Jan '10
Jan '11
Jan '12
Jan '13
Jan '14

LinkedIn Jobs



GitHub Contributors



Salt VS Ansible

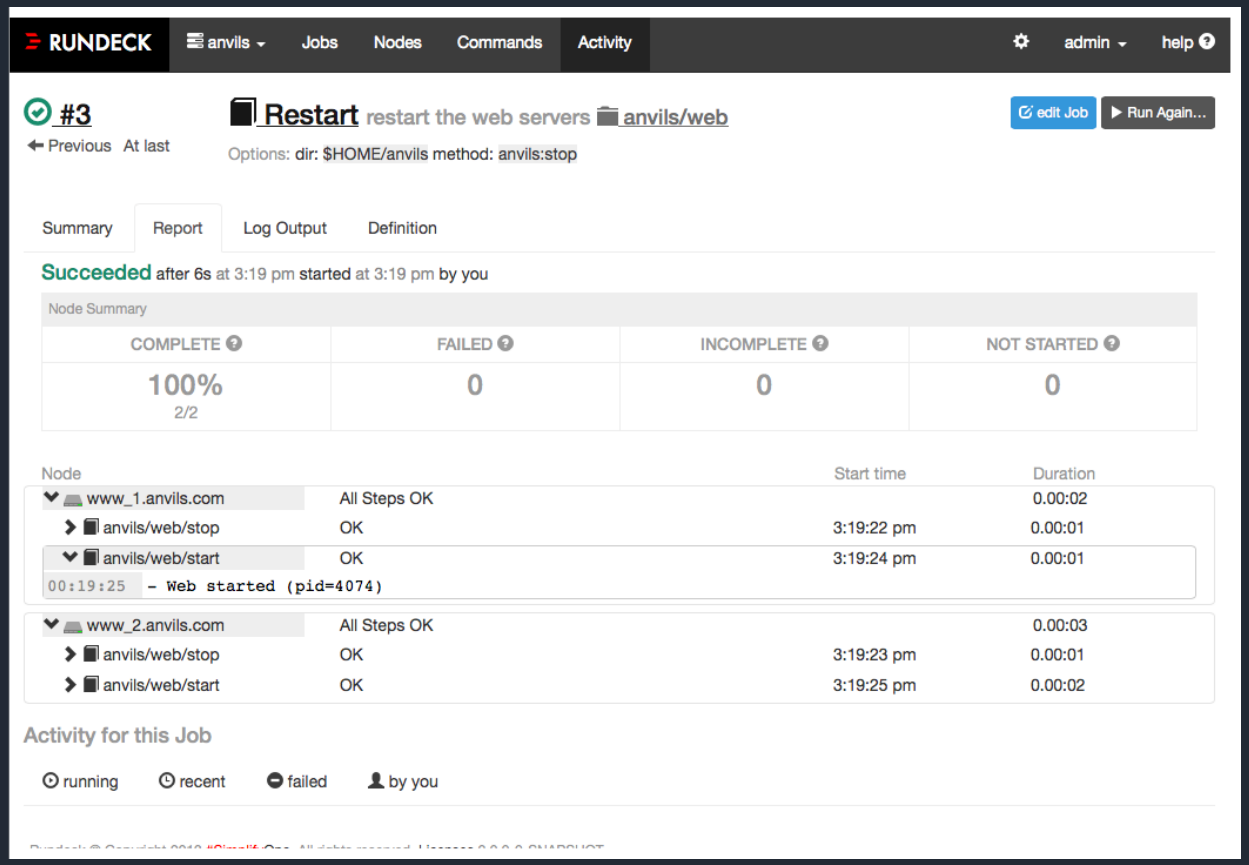
Component	SALTSTACK	
Learning Curve + Simplicity	✗	✓
Modularity	✓	✗
Speed	✓	✗
Scalability	✓	✗
Agents	✓	✗
Community	✓	✗
GUI	✗	✗

Agent vs No Agent

Component	SALTSTACK	
Time to initialize connection	✓	✗
Multicast	✓	✗
Error notifications	✓	✗
Intelligent Infrastructure	✓	✗
High Availability	✓	✗

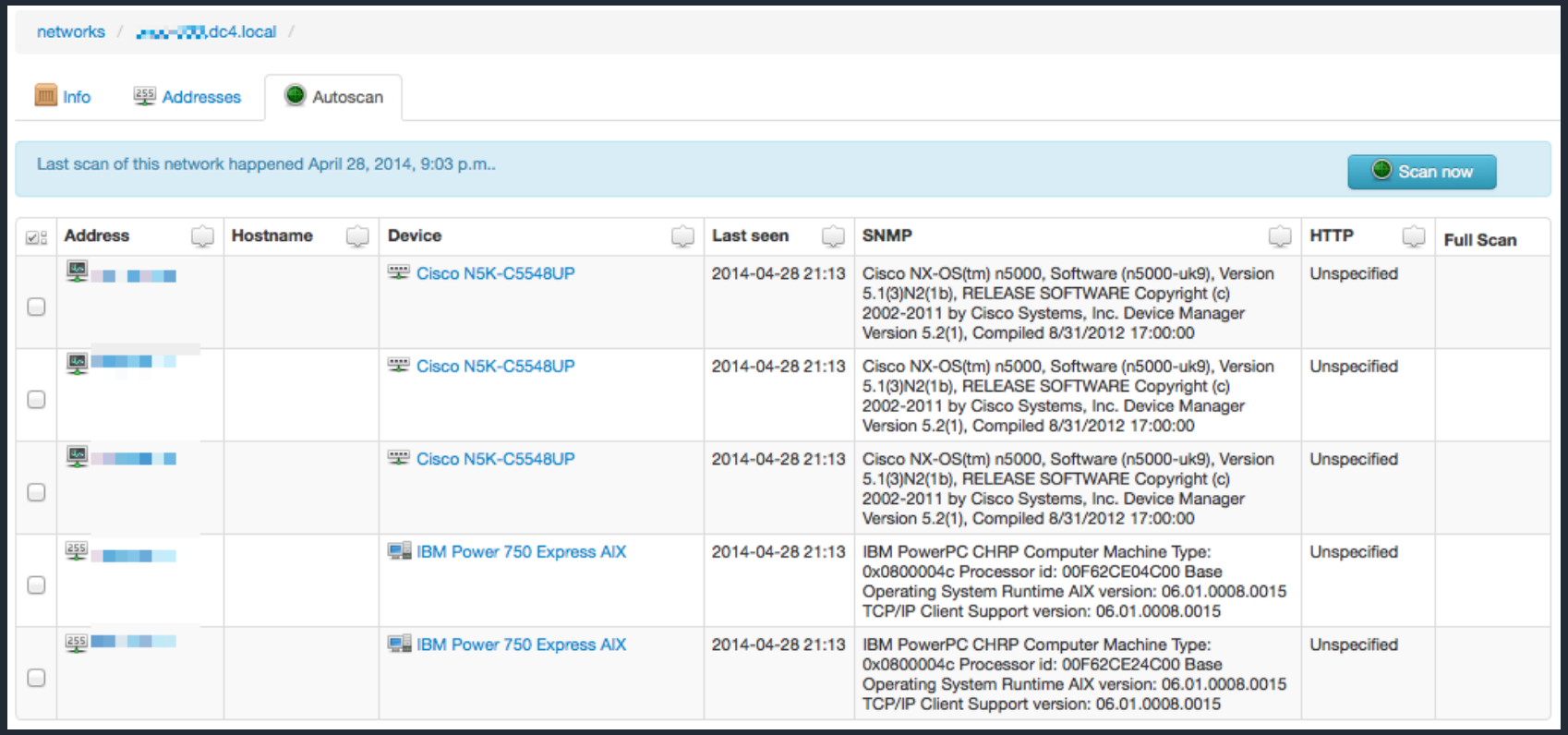
RUN DECK

Do not use Jenkins as deployment WUI !



Ralph

CMDB
Auto Discovery
WUI



Address	Hostname	Device	Last seen	SNMP	HTTP	Full Scan
[redacted]		Cisco N5K-C5548UP	2014-04-28 21:13	Cisco NX-OS(tm) n5000, Software (n5000-uk9), Version 5.1(3)N2(1b), RELEASE SOFTWARE Copyright (c) 2002-2011 by Cisco Systems, Inc. Device Manager Version 5.2(1), Compiled 8/31/2012 17:00:00	Unspecified	
[redacted]		Cisco N5K-C5548UP	2014-04-28 21:13	Cisco NX-OS(tm) n5000, Software (n5000-uk9), Version 5.1(3)N2(1b), RELEASE SOFTWARE Copyright (c) 2002-2011 by Cisco Systems, Inc. Device Manager Version 5.2(1), Compiled 8/31/2012 17:00:00	Unspecified	
[redacted]		Cisco N5K-C5548UP	2014-04-28 21:13	Cisco NX-OS(tm) n5000, Software (n5000-uk9), Version 5.1(3)N2(1b), RELEASE SOFTWARE Copyright (c) 2002-2011 by Cisco Systems, Inc. Device Manager Version 5.2(1), Compiled 8/31/2012 17:00:00	Unspecified	
[redacted]		IBM Power 750 Express AIX	2014-04-28 21:13	IBM PowerPC CHRP Computer Machine Type: 0x0800004c Processor id: 00F62CE04C00 Base Operating System Runtime AIX version: 06.01.0008.0015 TCP/IP Client Support version: 06.01.0008.0015	Unspecified	
[redacted]		IBM Power 750 Express AIX	2014-04-28 21:13	IBM PowerPC CHRP Computer Machine Type: 0x0800004c Processor id: 00F62CE24C00 Base Operating System Runtime AIX version: 06.01.0008.0015 TCP/IP Client Support version: 06.01.0008.0015	Unspecified	

What Next?

GUI?
P2P Extensions?
Networking?
Mobile Clients?

Few graphics were borrowed from:

Any Questions ???

THANKS FOR WATCH
!!!