PULLING THE GALAXY’S STRINGS

JEFFREY MILLER
SENIOR SYSTEMS ADMINISTRATOR

BRENNNA MILLER
SENIOR SYSTEMS ADMINISTRATOR

THE UNIVERSITY OF IOWA – ITS RESEARCH SERVICES
THE PROJECT: USING PUPPET TO DEPLOY GALAXY

HTTPS://GITHUB.COM/MILLERJL1701/PUPPET-GALAXY

JEFF-L-MILLER@UIOWA.EDU
PLEASE SEND ME YOUR STORIES, GOOD AND BAD!
THE SCIENTIFIC COMMITTEE ASKED:

WE WOULD LIKE TO HEAR THE AUTHORS' PERSPECTIVE ON THE STRENGTHS AND WEAKNESSES OF PUPPET COMPARED TO ANSIBLE FOR GALAXY ORCHESTRATION.
A VS. P: COMMENTS FROM PUPPET ADMINS

- crayfishx: "If automation is the (only) goal, then Ansible probably has a lesser learning curve, if true configuration management is the goal, then that's better suited to Puppet. (IMO)"

- rnelson0: "Puppet can run on nodes and enforce CM state on a regular basis. Ansible runs *against* things, which has some negatives but *it can run on things where there's no Puppet binary*. "
A VS. P: COMMENTS FROM ANSIBLE ADMINS

- Edgan: “I call (OP) configuration drift. It isn’t guaranteed, but the [Ansible] style encourages it. Open source Ansible isn’t designed to scale. It tries with Tower, but the speed of SSH holds it back.”

- Tilraunaalit: “Ansible however excels in its agility: playbooks seem to run an order of magnitude faster than their Puppet equivalents, and writing roles and playbooks is easier too simply because playbooks are not expected to be so thorough. Writing a puppet module is a greater undertaking. Ansible is great for quick-and-dirty configuration management; but for projects that require more quality control I’d favour the competition.”

- AbsoluteJam: “I find Ansible is best looked at as an execution engine that has CM, orchestration, etc. features. I love Ansible but I know that if I was building an infrastructure that was designed to auto-remediate drift (which is what a lot of people think of when CM gets mentioned), I’d look elsewhere.”
HOW ANSIBLE AND PUPPET APPEAR TO BE SIMILAR

- **Infrastructure as Code: Cows vs Pets**
- **Test Driven Development**
- **Ideally you only login to a system when things go sideways**
- **All changes occur through a versioned controlled repository**
- **Concept of facts that can be used in developing configurations**
- **Can be run agentless with cron jobs running the binaries locally**
- **Community of admins creating and sharing modules (Puppet Forge, Ansible Galaxy) with fixed standard layouts**
- **Working hard and succeeding at cm on Docker and other container technologies**
STRENGTHS OF

PUPPET

- Cross-platform support (Linux, Windows, *IX, Docker, Kubernetes, Mesos)
- Puppet can easily revert changes it made
- Data and Code Separation with Hiera
- Hierarchies can be driven by facts
- Types and Providers

ANSIBLE

- Ordered execution of commands
- Execute commands over SSH to target systems allows easy device management (IoT, Network switches/Routers, etc.)
- Vault integration
- Ansible includes a standard lib out of the box
STRENGTHS OF

PUPPET

• Manifests in Puppet DSL; Hiera Data in YAML
• Capabilities to scale number of agents configure with Puppet infrastructure
• Reporting and Compliance
• Resource Duplicate Declarations
• Puppet Community

ANSIBLE

• Playbooks in YAML
• Inventory file driven
• ???
• PROFIT!
WEAKNESSES OF
PUPPET  ANSIBLE

• Puppet DSL Learning curve
• Server infrastructure management for puppet components
• Lack of orchestration of puppet runs
• Application of configuration items is not ordered

• Playbooks in YAML makes difficult changes more difficult
• Inventory file driven doesn’t allow for dynamic environments easily
• Resource flipping
• Ansible doesn’t cleanup well
HOW TO WORK AROUND SOME OF THE WEAKNESSES?

Purchase Puppet Enterprise
(free for up to 10 nodes)

Purchase Ansible Tower
(free for up to 10 nodes)
HOW ABOUT FOR GALAXY CONFIGURATION MANAGEMENT AND ORCHESTRATION?

I’d put them on equal footing. But, right now infrastructures that rely on puppet as their CM platform don’t have an option for the management of Galaxy.

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JEFF-L-MILLER@UIOWA.EDU
Please send me your stories, good and bad!
REFERENCES AND RESOURCES

- HTTPS://GALAXYPROJECT.GITHUB.IO/DAGOBAH-TRAINING/2017-MONTPELLIER/14-ANSIBLE/ANSIBLE-INTRODUCTION.HTML
- HTTPS://SLACK.PUPPET.COM/
- HTTPS://DOCS.PUPPET.COM/
- HTTPS://WWW.ANSIBLE.COM/ANSIBLE-BEST-PRACTICES
- HTTPS://WWW.ANSIBLE.COM/BLOG/ANSIBLE-BEST-PRACTICES-ESSENTIALS
- HTTPS://WWW.REDDIT.COM/R/PUPPET/COMMENTS/6IbVXJ/PUPPET_FOR_DISSIMILAR_SERVERS/
- HTTPS://WWW.REDDIT.COM/R/ANSIBLE/COMMENTS/68x4WN/TO_ME_ANSIBLE_IS_NOT_A_CONFIGURATION_MANAGEMENT/
THANK YOU!

- GCC 2017 Organizing Committee for organizing this most excellent conference
- GCC 2017 Scientific Committee for the opportunity to speak
- Galaxy Community Especially: natefoo, jmchilton erasche
- Dr. Richard Smith, Director, Iowa Institute of Human Genetics, and IIHG Team.
- Ben Rogers, Senior IT Director, ITS Research Services and the ITS RS Team.