DevOps: Getting Started with Puppet On Windows

Rob Reynolds
Software Engineer | Puppet Labs
rob@puppetlabs.com
@ferventcoder

Who am I?

- Developer at Puppet Labs / started July 1
- Author of Chocolatey
- DevOps interest for 2+ yrs or 7+ yrs
- Long time .NET Dev
- Learning Ruby
- Also still learning Puppet

DevOps?

- "Applying development practices to operations"
  - source control
  - scripts
  - testability
- "Everything from source to production"
  - CI
  - Automated Deployment Scripts

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Why?

You ever hear this during deployments?

- “I sort of followed your instructions, but I’ve done that one a few times so I knew where I could skip”
- “I didn’t realize you had changed that file so I didn’t push it”
- “I must have missed that step”
- “I didn’t realize we were deploying that”

Or this?

- “You need how many servers by when? I’m not sure we can do that”
- “I’m setting up my new machine. Be back in a couple of days”
- “Something changed on this server.”

You ever hear any of that from a machine?

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Machines are much more reliable at scriptable tasks

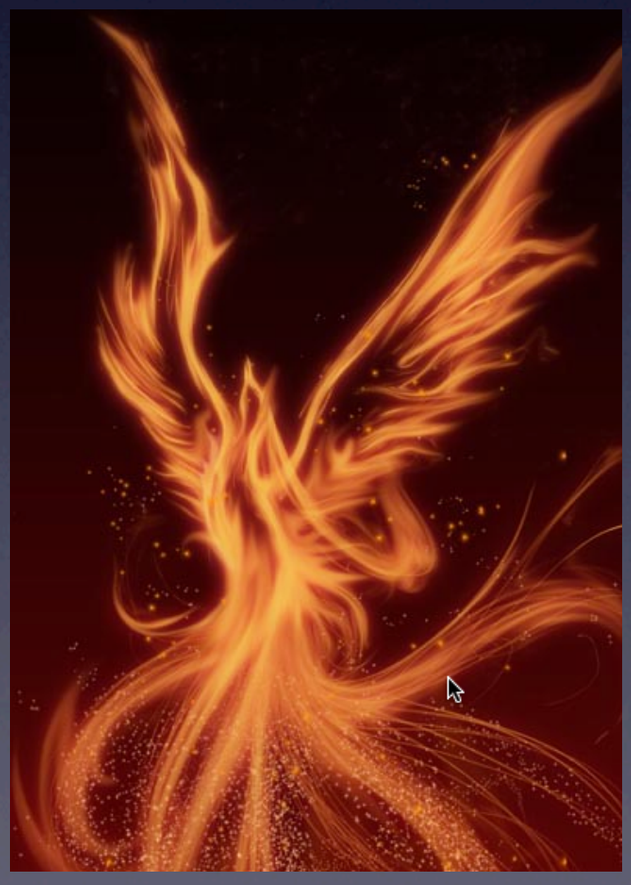
Types of Servers

Snow Flake Servers

- The guy who set that up is not here anymore
- We are scared to touch that server, it might break something

Immutable / Phoenix Servers

- We stand a server up when we need one
- We tear it down when we are done



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Puppet

What is Puppet?

- “Puppet is IT automation software that helps system administrators manage infrastructure throughout its lifecycle, from provisioning and configuration to orchestration and reporting. Using Puppet, you can easily automate repetitive tasks, quickly deploy critical applications, and proactively manage change, scaling from 10s of servers to 1000s, on-premise or in the cloud.”

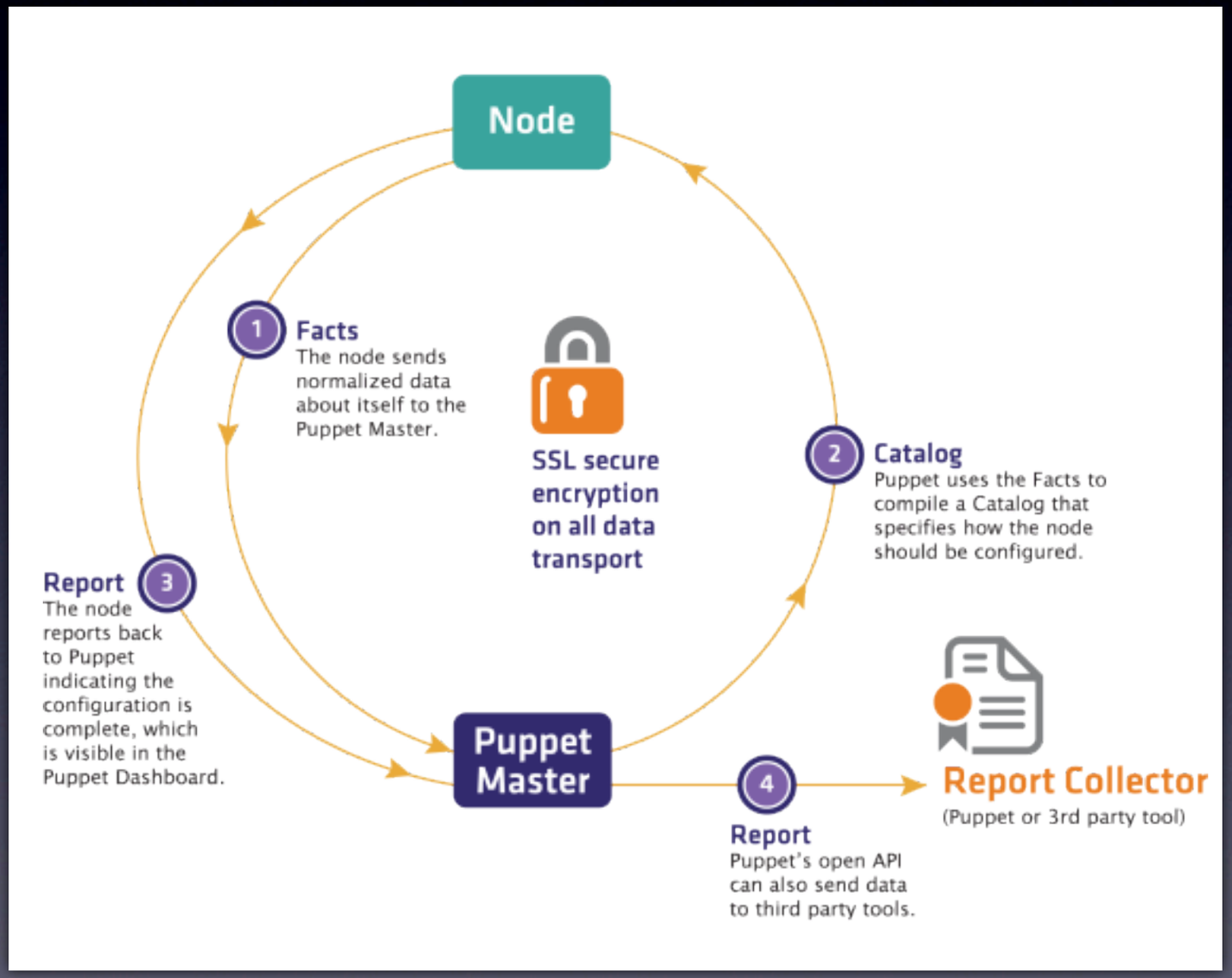
TL;DR - Puppet?

- Provisioner
- Server Automation / Assurance
- Reduce Configuration Drift
- The original Desired State Configuration (DSC)
- Automate repetitive tasks
- Reports

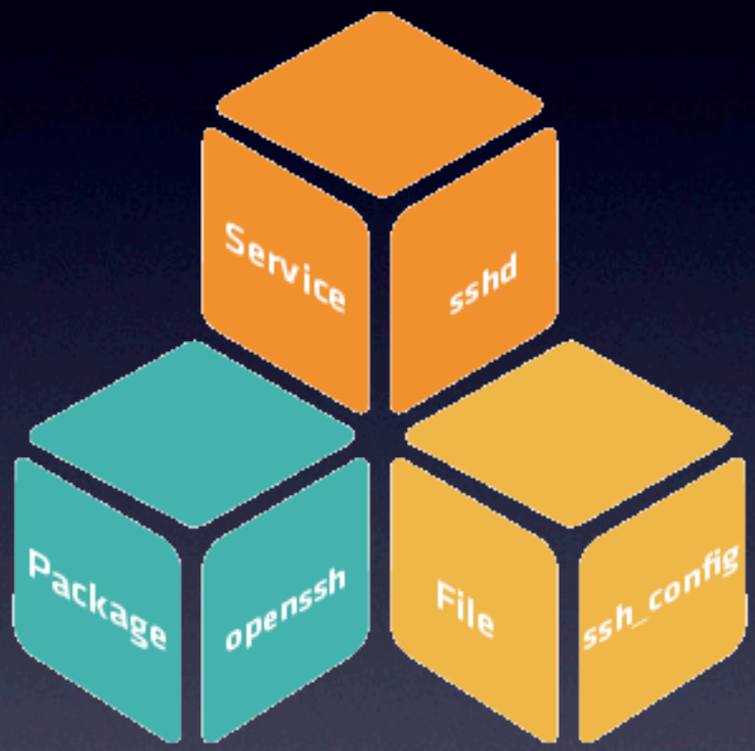
Who is using Puppet?

ADP
Aon
ARM
Atlassian
Bank of America
Barnes & Noble
BT
cedexis
Cisco
Cisco webex
Citrix
Clickability
Concur
Condé Nast
Constant Contact
Costco Wholesale
EMC²
FT.com
General Mills
Genworth
gettyimages
HBO
Hershey's
Hotwire.com
ICANN
intel
Intuit
ISE
John Deere
kpn
Lockheed Martin
London Stock Exchange
Los Alamos National Laboratory
Macquarie Bank
McAfee
McGraw-Hill
MORPH
Motorola
NASA
National Institutes of Health
Nestlé
NetApp
NHS
NICS
Nike
NYSE
OfficeMax
PayPal
rackspace hosting
Raytheon
REI
salesforce
Seagate
Secure 24
Server Density
shopzilla
smarsh
Sony
SpiceWorks
Square
Starbucks
Sun Oracle
Symantec
Thomson Reuters
Time Warner Cable
TransUnion
U.S. Department of Energy
verizon
zynga

Puppet Run

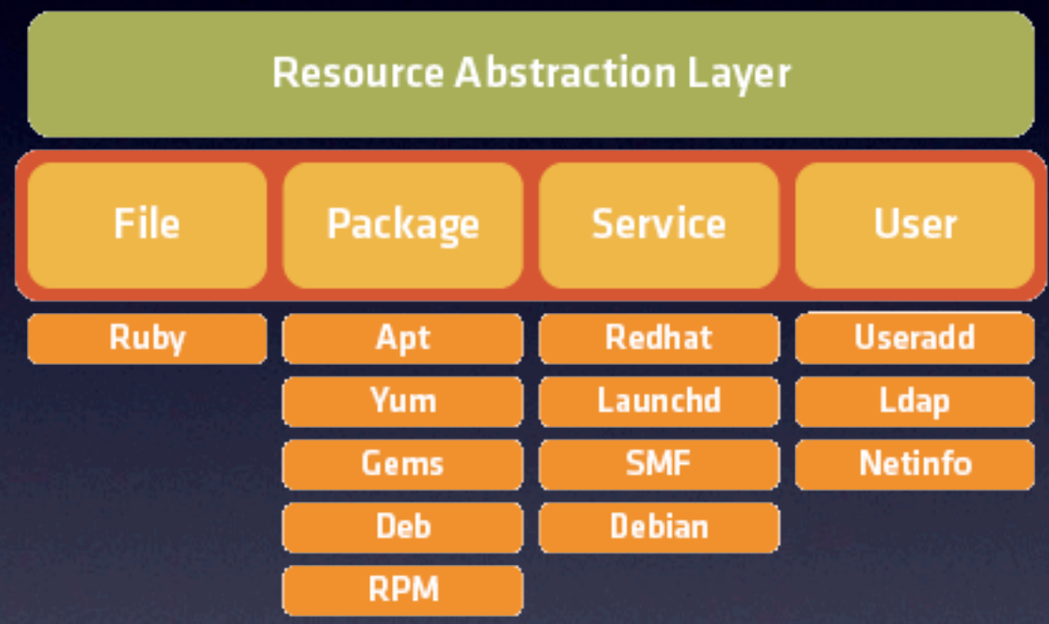

Node
1
Facts
The node sends normalized data about itself to the Puppet Master.
SSL secure encryption on all data transport
2
Catalog
Puppet uses the Facts to compile a Catalog that specifies how the node should be configured.
3
Report
The node reports back to Puppet indicating the configuration is complete, which is visible in the Puppet Dashboard.
Puppet Master
4
Report
Puppet's open API can also send data to third party tools.
Report Collector
(Puppet or 3rd party tool)

Resources - Puppet's Fundamental Building Blocks



Resource Abstraction

Resource Types



Providers


Resource Abstraction Layer
File
Package
Service
User
Ruby
Apt
Yum
Gems
Deb
RPM
Redhat
Launchd
SMF
Debian
Useradd
Ldap
Netinfo

But Windows?!

That's sounds awesome, but...

Puppet on Windows

- *nix vs Windows
- Resources
- Agent Only

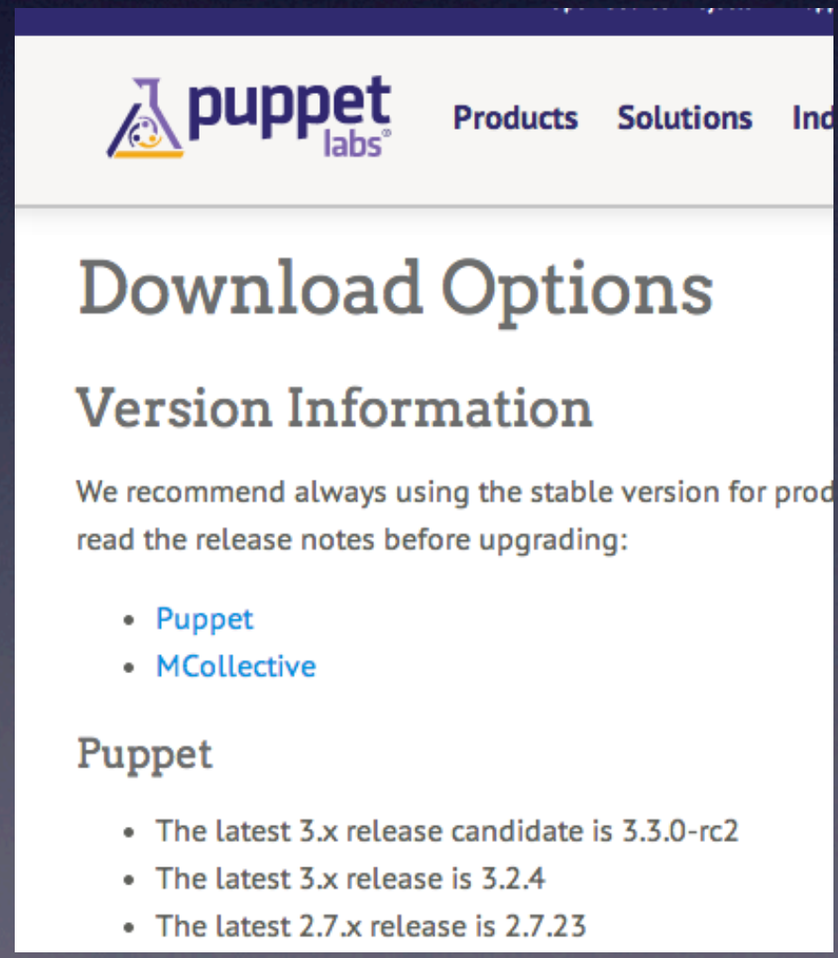
Supported Platforms

- Servers: Windows Server 2003 +
- Desktops: Windows Vista +

Installation

- Manually - http://info.puppetlabs.com/download-puppet-open-source.html

- Chocolatey - puppet



Resources

- file
- user
- group
- scheduled_task instead of cron
- package
- service
- exec
- host

Manifests

- Manifests are *.pp files (puppet files) - use the Puppet Language (also call Puppet DSL)
- Can include / require other *.pp files to break things down

Manifests

```
file { 'c:/temp/testfile.txt':
  ensure => 'file',
  content => 'Test file',
}

package {'roundhouse':
  ensure => latest,
  provider => chocolatey,
  source => 'c:\vagrant\resource
  #install_options => '-pre'
}

service {'BITS':
  ensure => 'stopped',
  enable => 'manual',
}
```

File Paths

- ‘C:\Windows\system32’
- ‘C:/Windows/system32’
- “C:\\Windows\\system32”

- Always use forward slashes except when path is being given to a windows program for evaluation

Modules

- Modules are collections of manifests, classes, types, and providers
- Best way to extend core Puppet
- The Forge (http://forge.puppetlabs.com)
  - 40+ Windows modules available
- More on GitHub
- puppet module search *keyword*
- puppet module install *author-module*

DEMO

Questions?

rob@puppetlabs.com
@ferventcoder

http://docs.puppetlabs.com/windows/