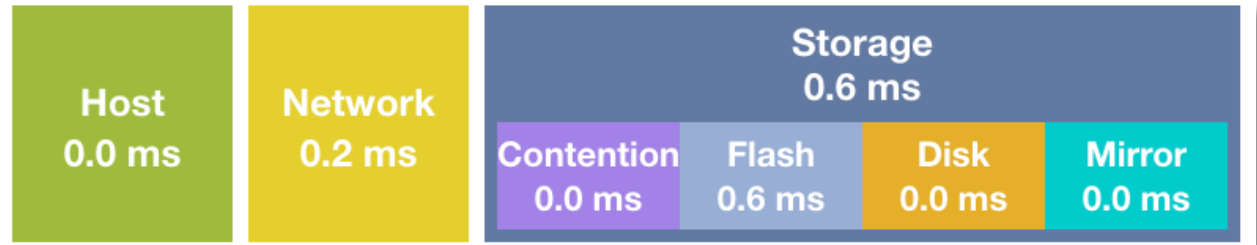# Tintri Customer Review

Tintri

puppet

CUSTOMER ADVISORY BOARD

Brief Introduction

- **Gene Liverman**
  - SRE @ Puppet
  - Formerly SysAdmin @ University of West Georgia
  - Windows, Linux, Mac, & Solaris
  - Storage, Firewalls, Load Balancers, etc.
- **Why Tinri?**
  - The latency box:

Host 0.0 ms	Network 0.2 ms	Storage 0.6 ms			
		Contention 0.0 ms	Flash 0.6 ms	Disk 0.0 ms	Mirror 0.0 ms

Agenda

- **Puppet**
  - ○ Company Summary
  - ○ Current IT Focus & Goals

- **IT Operations**
  - ○ Organization model of IT to support Puppet's business units and "Customer needs"

- **Tintri at Puppet**
  - ○ Current "Private Cloud" Use Cases in use
  - ○ Orchestration MGMT of the Tintri systems
  - ○ Whats next?

- **Conclusion**

Puppet in a nutshell

- **Puppet automates the delivery and operation of the software that powers our world.**

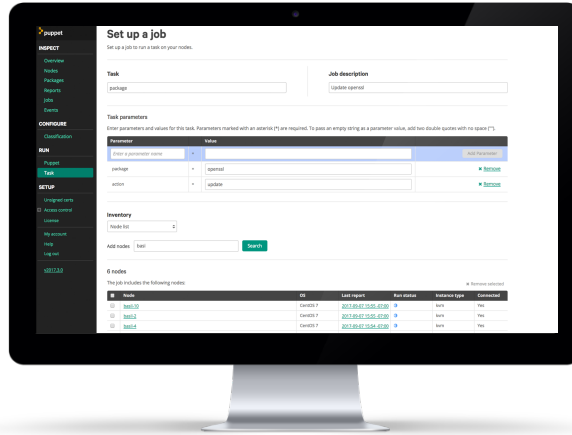- **More than 37,000 companies rely on Puppet to confidently drive software changes.**
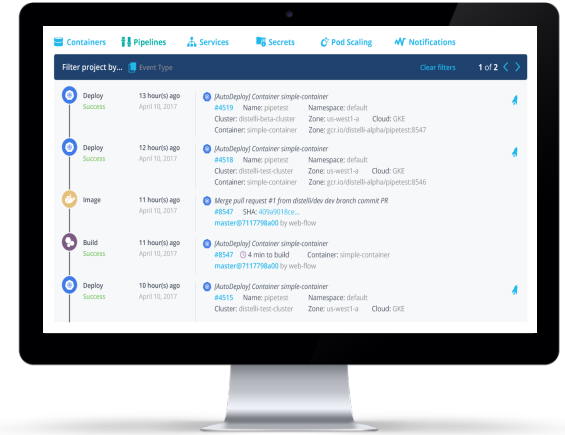
Puppet Product Portfolio

Puppet Discovery
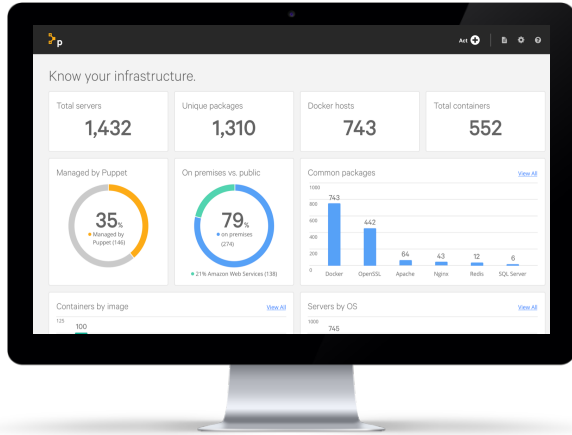
Know what you have.
Know where to start.

Puppet Enterprise

Start simple and scale.
Keep it compliant.

Puppet Pipelines

Bridge dev and ops automation silos.

Puppet's Open Source Products

- **Puppet Bolt**
- **Lumogon**
- **Open source Puppet**
- **Tons of Puppet modules**

Areas of focus

- **OpenStack redo**
  - Managed
  - Centralized storage
- **Re-architecting internal PE environment**
  - more flexible + easier deployment
- **Updating and stabilizing VMware**
  - We beat up API's
- **More consistency, more capacity, more maintainable**

IT at Puppet

SRE

- **InfraCore**
  - Runs most infrastructure
- **Quality Engineering**
  - Builds and operates testing tools
- **Release Engineering**
  - Gets things out the door

BTO

- **Help Desk**
  - Internal end user support
- **IT Ops**
  - Networking
  - DC Ops
  - Auth
- **BizApps**
  - All the apps that help us get stuff done

Tintri at Puppet

- **Replacing home-grown storage**
  - ZFS + x86 Solaris on Super Micro and UCS
- **All-flash unit for CI**
  - Consistent performance is key
- **Hybrid unit for static servers**
  - Cheap and deep + some flash
  - Backing production VMware
  - Backing OpenStack playground

Dashboarding

- **We use Grafana**
- **Tintri provides API access**
- **tintri-stats was born**
  - Pre-built Docker container
  - Supports OpenShift S2I
 - Reads from Tintri
  - Writes to Graphite
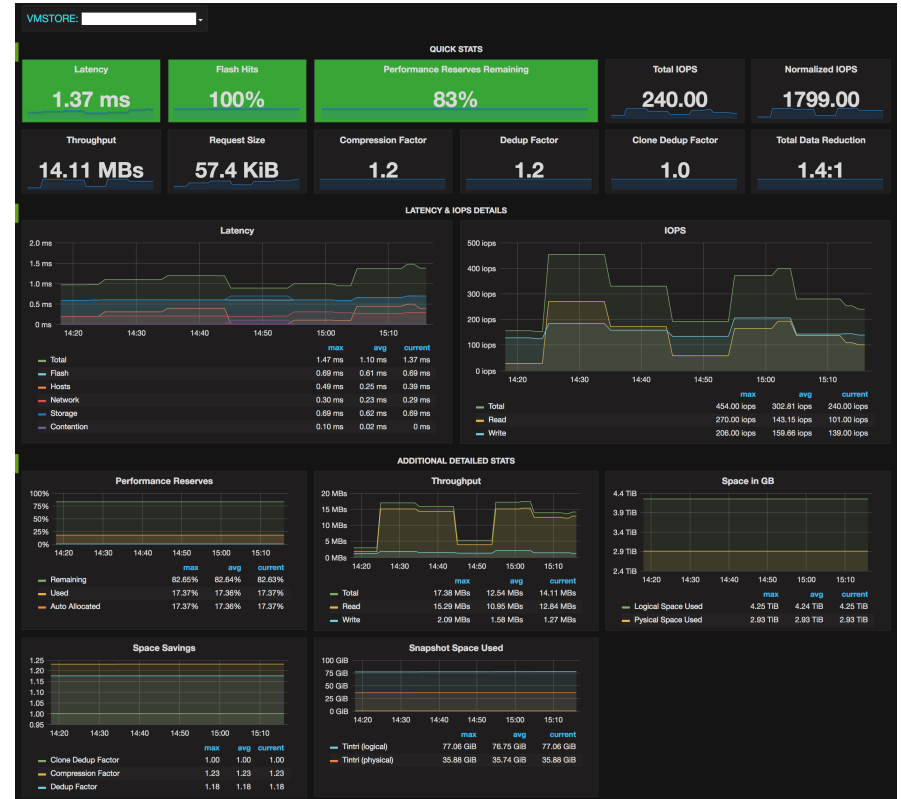
Software Deployment Automation

- **Process:**
  - Shutdown VM
  - Snapshot on Tintri
  - Boot VM back up
- **Goals:**
  - No point and click
  - Written in Python
  - Support multiple VMs

- **tintri-vmware-snapshotting**
  - Calls VMware API to shutdown a VM
  - Calls Tintri API to take a snapshot
  - Calls VMware API to boot a VM
  - Utilizes VMware tools when available

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Tintri APIs

- **Why no swagger?**

- **Publish library to PyPI**
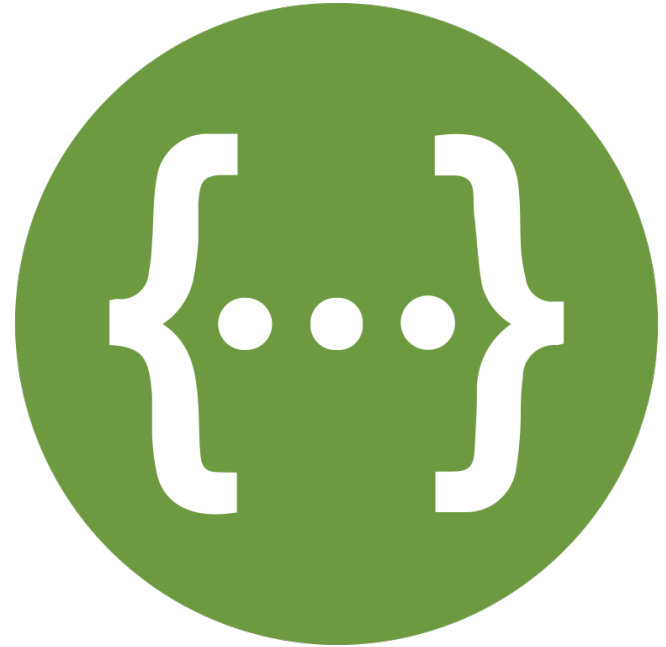
What's next for Tintri at Puppet?

- **Finish migrating static VMware servers onto hybrid array**
  - Install VAAI plugin on all hosts
- **Utilize snapshot offloading for GUI actions**
- **Connect OpenStack environment via Cinder**
- **Investigate integrating Tintri and vmpooler**

  - Snapshots?

  - Cloning?

  - Performance / latency info?

  - https://github.com/puppetlabs/vmpooler

Word of Advice

- **Kubernetes support needed**
  - Talked about in press release on Nov. 1, 2016
  - Talked about again by Dan Florea on March 28, 2017
  - Even Docker, Oracle, and Microsoft support it
- **More hypervisor integrations**
  - Nutanix's Acropolis
  - Pure KVM
- **Offer virtual appliance as DR replication target**
  - ExaGrid does this and backs it with an S3 bucket

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Word of Advice

- **Not everything is a VM or container…**
  - Support basic file shares from a submount
- **Docs need some love**
  - vCenter plugin has nothing for v6.5
  - Basic setup info is missing for both vCenter plugin install and VAAI plugin

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