



FOREMAN

Configuration Management at its peak with Foreman

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Conf 18



FOREMAN

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Agenda

1. Configuration Management
 - a. What is the need?
 - b. Forms of configuration management.
 - c. Puppet.
2. Foreman
 - a. What is Foreman?
 - b. How does it add up to the picture?
 - c. Key features and architecture of foreman.

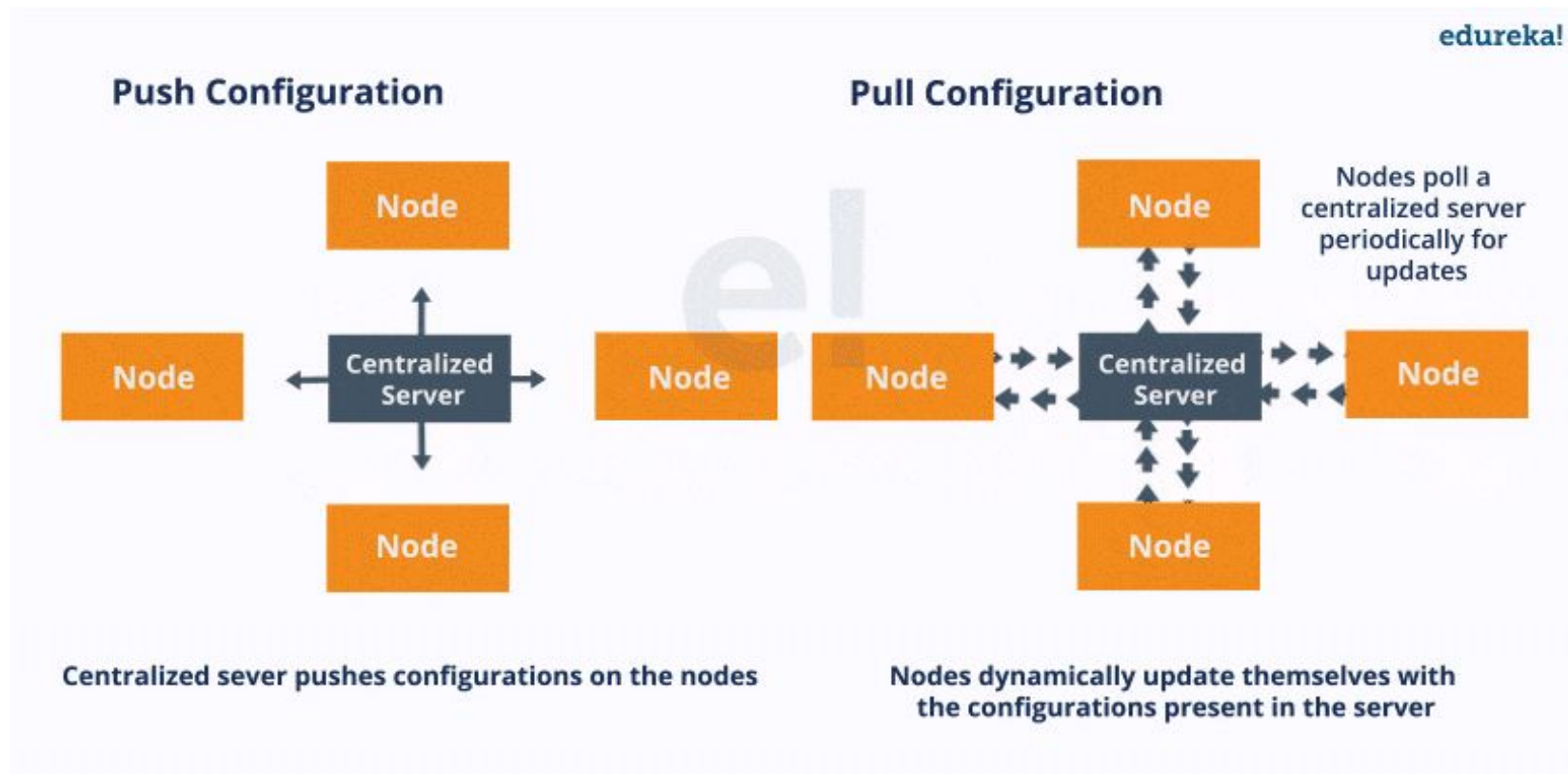


Configuration Management

- Configuring large infrastructure.
- Updates and Roll-backs.
- Applications working in development environment but not in production.



Configuration Management



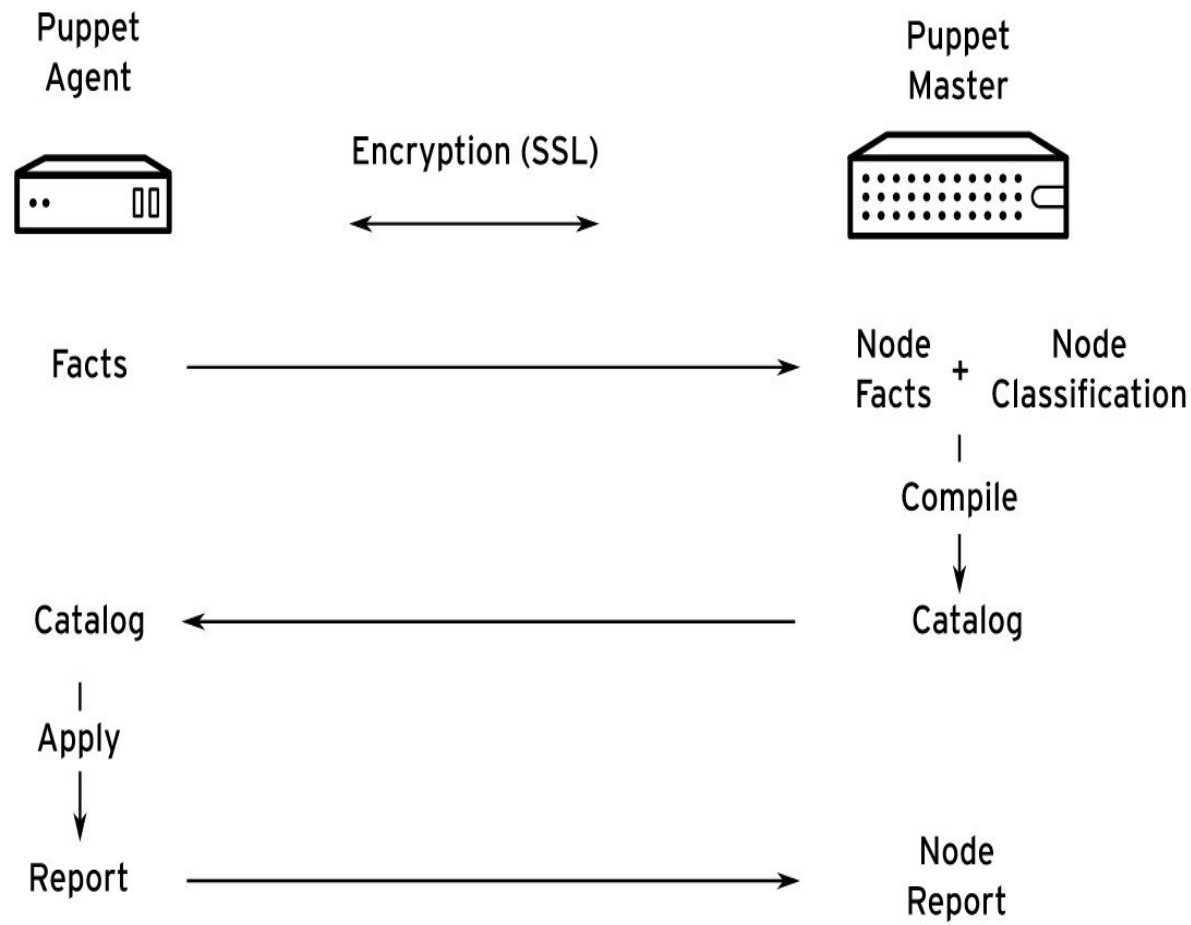
Configuration Management with Puppet.

Puppet in theory is two things:

1. A Language
2. An Engine



Configuration Management with Puppet



Let us see the larger picture in your infrastructure!



Installation



Initial
configuration



Updates and drift
management



Foreman

Managing the Lifecycle of your Systems



Provisioning



Configuration



Monitoring





Provisioning

- Bare-metal
- Virtualization
- Cloud
- Containers





Provisioning

- Provisioning types:
 - PXE: via PXELinux and kickstart, preseed, etc
 - Image-based: cloning, configured over SSH, etc
- For virtualization provider, we create the VM
- For everything we orchestrate related services through Smart Proxies
 - DNS
 - DHCP / TFTP
 - FreeIPA Realm
 - Configuration Management





Configuration

- Puppet
- Via plugins:
 - Chef
 - Salt
 - Ansible
- Automatic registration & setup of clients, including autosigning certs/keys
- Defining:
 - Classes / states
 - Parameters / pillars
- Inventory data:
 - Facts / Grains
 - results of configuration runs



Monitoring

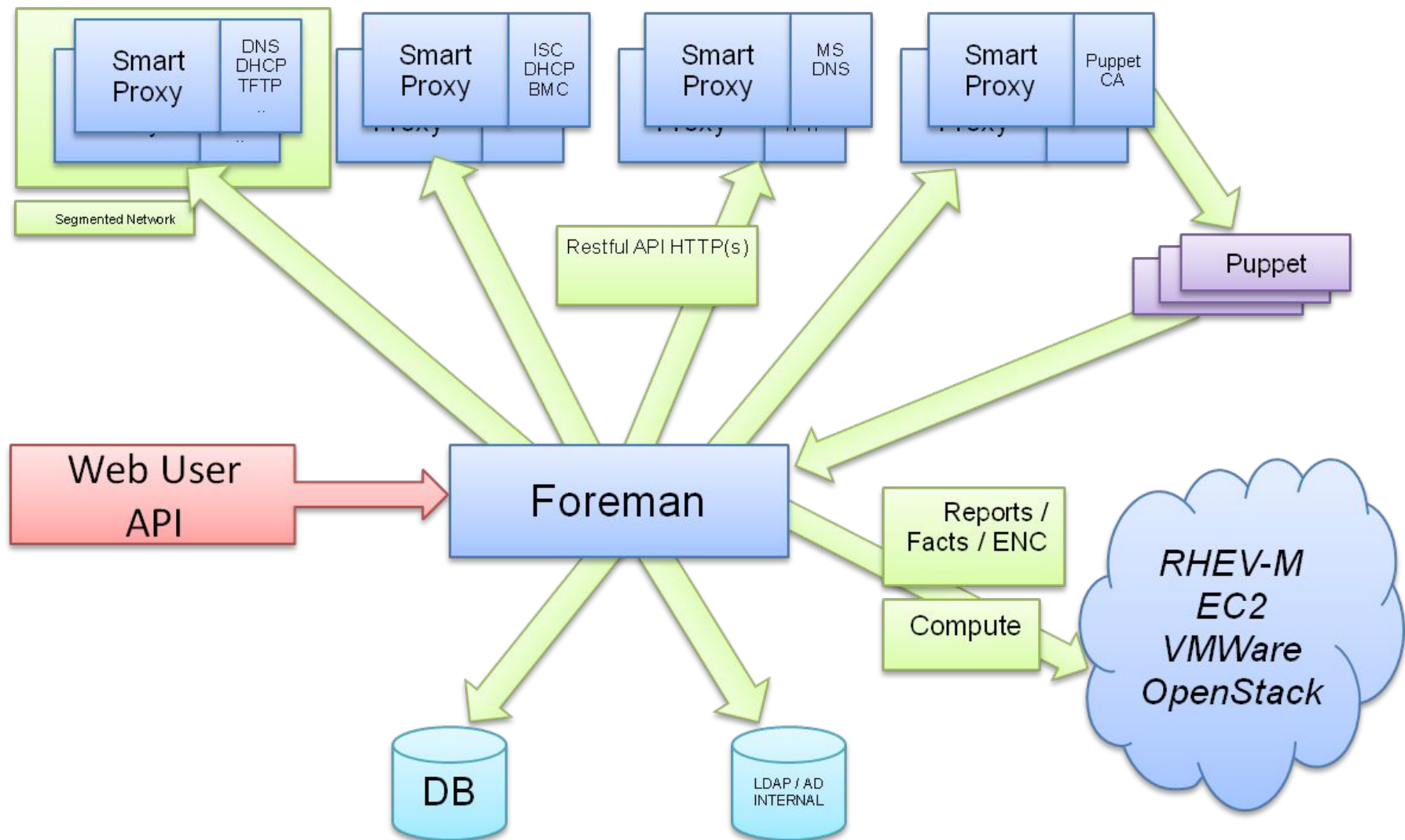
- Generic **Report API** with graphs/trends:
 - System Inventories
 - Reports from runs
 - Generic reports: ABRT, OpenSCAP
- Context sensitive search:
 - Not full-text (SQL level)
 - Keyword completion
 - Works across whole application



Distributed Architecture

- **Smart Proxies** located locally on Foreman itself or independent – (orchestration)
- Large organizations and/or multi-tenancy:
 - Organizations (Divisions)
 - Locations
- Strong **RBAC** model
 - Users / Groups
 - Permissions / **Filters**
- **LDAP** / MS-AD integration





Customization



Customization

- Multiple provisioning workflows
- Enable or disable authorization and authentication
- Global configuration options
- Smart proxy configuration values (features)
- Automation with API + CLI
- Foreman Plugins
- Smart Proxy Plugins
- Foreman Hooks Plugin



API & CLI

- Full UI coverage
- All of our API is documented
- Docs DSL w/ dynamic Ruby bindings
- Full RESTful API
 - Docs at /apidoc on your Foreman server
 - Also available at
<http://www.theforeman.org/api/1.9/index.html>
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What Next?

- Visit us <http://theforeman.org/>
- If you do something cool with Foreman, let us know!
- Find us:
 - IRC: irc.freenode.net
 - #theforeman
 - #theforeman-dev
 - Reach out to us at
 - <https://community.theforeman.org/>





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THANK YOU!

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