Configuration management benefits for everyone

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Speakers

Nicolas Charles

Scala developer

Works at Normation

- Rudder developer

CFEngine expert

- *CFEngine Community Champion*

Jonathan Clarke

Sysadmin

Works at Normation

- Rudder developer

CFEngine expert

Service management

Make sure the service does it's job

Install & Update
Configure
Run

Security

User accounts
Password policy
Backups
Log everything
Security patches

Availability

Limit the impact of a failure
Scale out
Plan for disaster recovery

Knowledge

Document configuration
Formalize procedures
Log changes

Configuration management benefits

Automate

First install + reinstalls
Update
Configure

Collaboration

More knowledge:
- Centralize information
- Full change log

Less documentation:
- Less written procedures
- More automation

Regular checks

Install OK?
Configuration OK?
Integrity?

Industrialization

Re-use (configs, policies...)
Reporting on config status
Dashboards

In some situations, configuration management may be too much overhead...

For the all the rest, advantages are undeniable!

But does everyone really benefit?

Managers?

Junior sysadmins?

Non specialists?

Rudder
Drift assessment

Goals

Lower the learning curve to use CM

This may mean losing some flexibility but mustn't mean losing efficiency

Share CM benefits with a wider population

Different information and capabilities for different people

Rudder
Drift assessment

Fundamentals

Build on reliable tools

CFEngine®

Based on CFEngine
Lightweight and powerful

FUSION INVENTORY

Automatic inventory

Share

open source™

OS-specific packages

Library of infrastructure configurations included

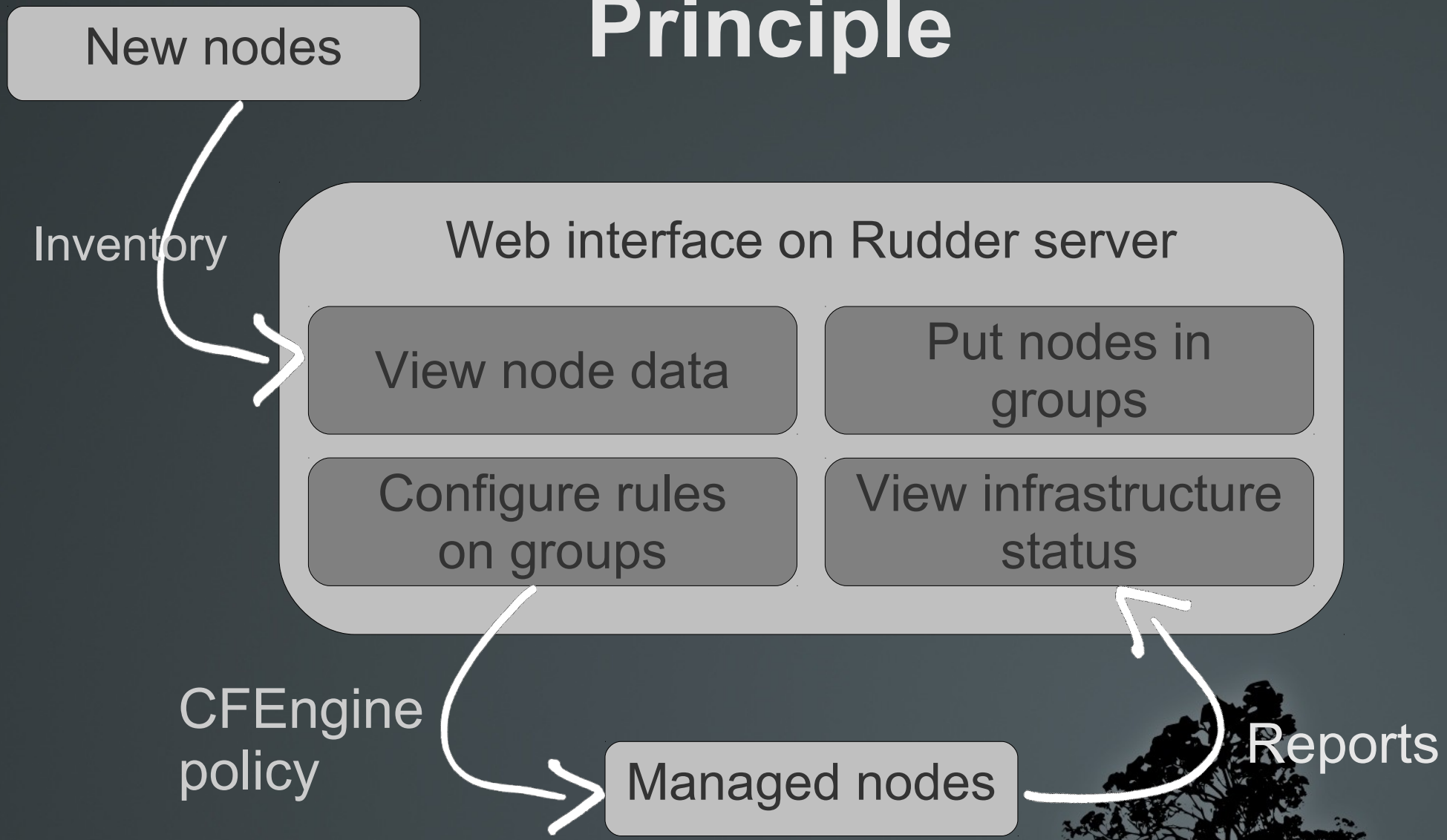
Improve

Web interface

Reporting graphique

Rudder
Drift assessment

Principle



Rudder
Drift assessment

Configuration Rules

Predefined templates to manage systems

- Install packages, distribute files
- Manage users, distribute SSH keys
- Configure DNS, NTP, package managers
- Schedule backups
...

Parametrization in the Web Interface

- Forms to change defaults

Conversion into CFEngine Policies

- Applied by CFEngine agents

Rudder
Drift assessment

Current status

Version 2.3 released in october 2011

Web interface to manage nodes and configuration rules

Real time reports on infrastructure status

Policy Templates (currently 33)

All changes logged

Packaged for main Linux distributions

Demonstration

Install

Installing a Rudder server

```
# echo 'deb http://www.rudder-project.org/apt-2.3/ squeeze main' >> /etc/apt/sources.list
# aptitude update
# aptitude install rudder-server-root
# /opt/rudder/bin/rudder-init.sh
```

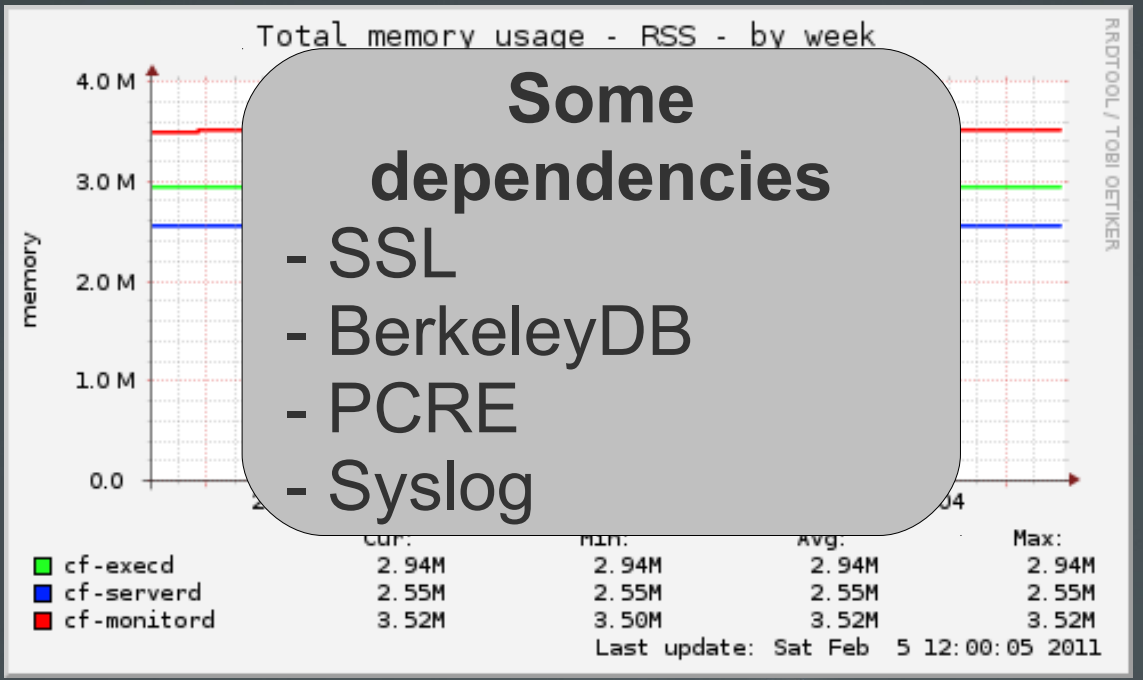
Installing Rudder on a node to manage

```
# echo 'deb http://www.rudder-project.org/apt-2.3/ squeeze main' >> /etc/apt/sources.list
# aptitude update
# aptitude install rudder-agent
# echo "server address" > /var/rudder/cfengine-community/policy_server.dat
```

Rudder
Drift assessment

Requirements (node)

Small amount of free RAM
(10-20 MB)

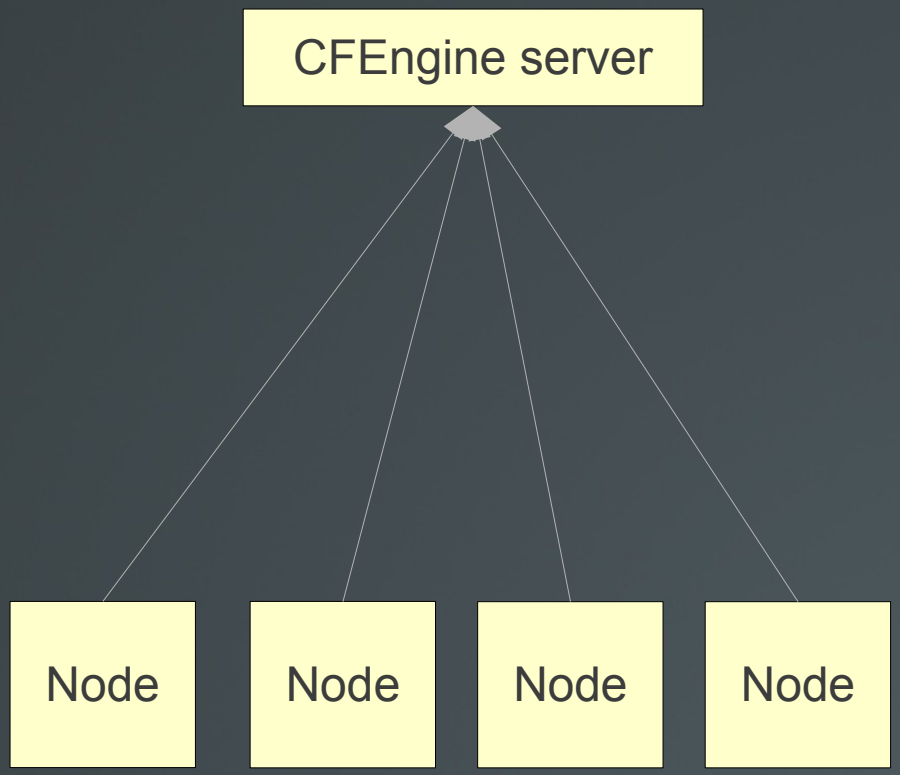


Some dependencies
- SSL
- BerkeleyDB
- PCRE
- Syslog

Memory occupation of CFEngine deamons

Rudder architecture

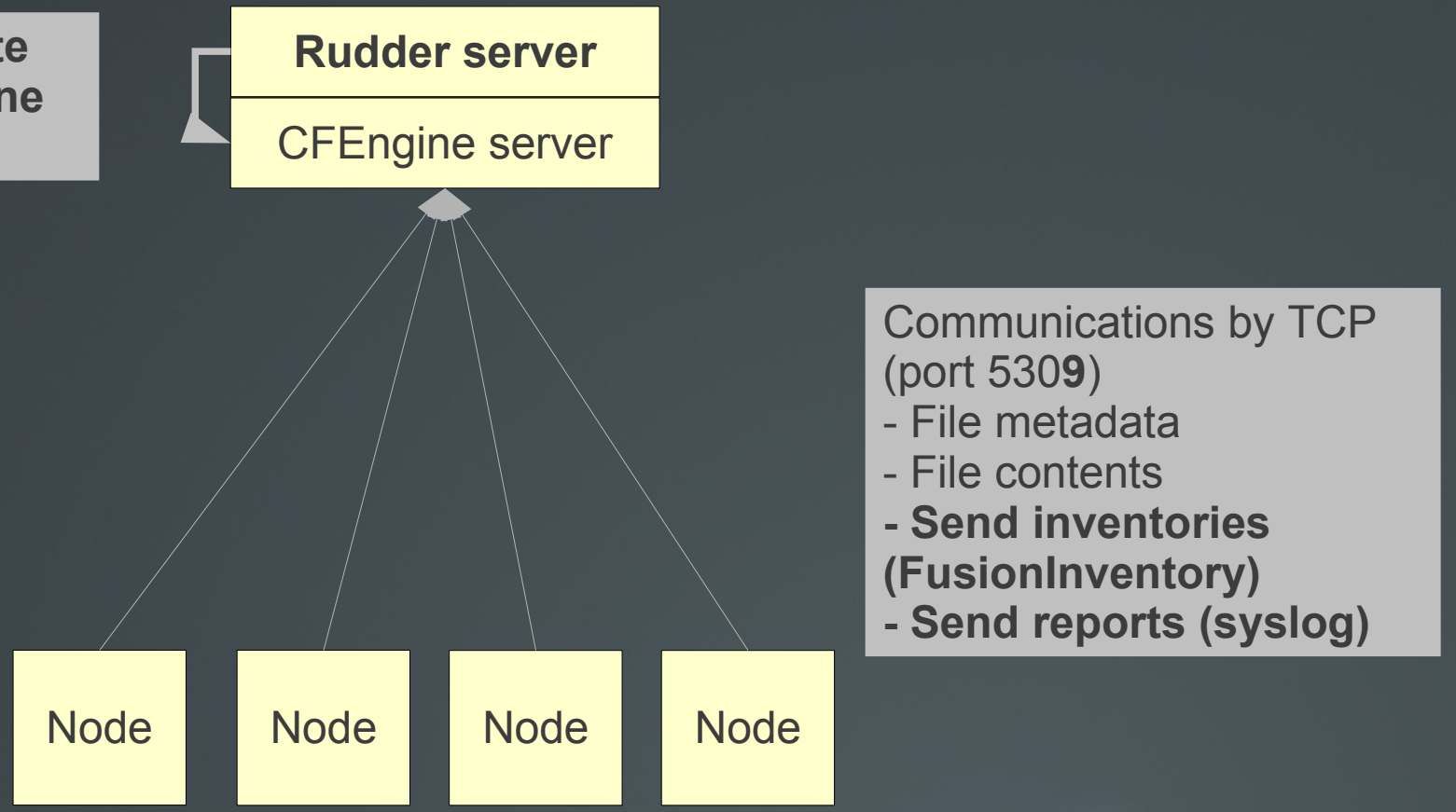
- Based on typical CFEngine architecture



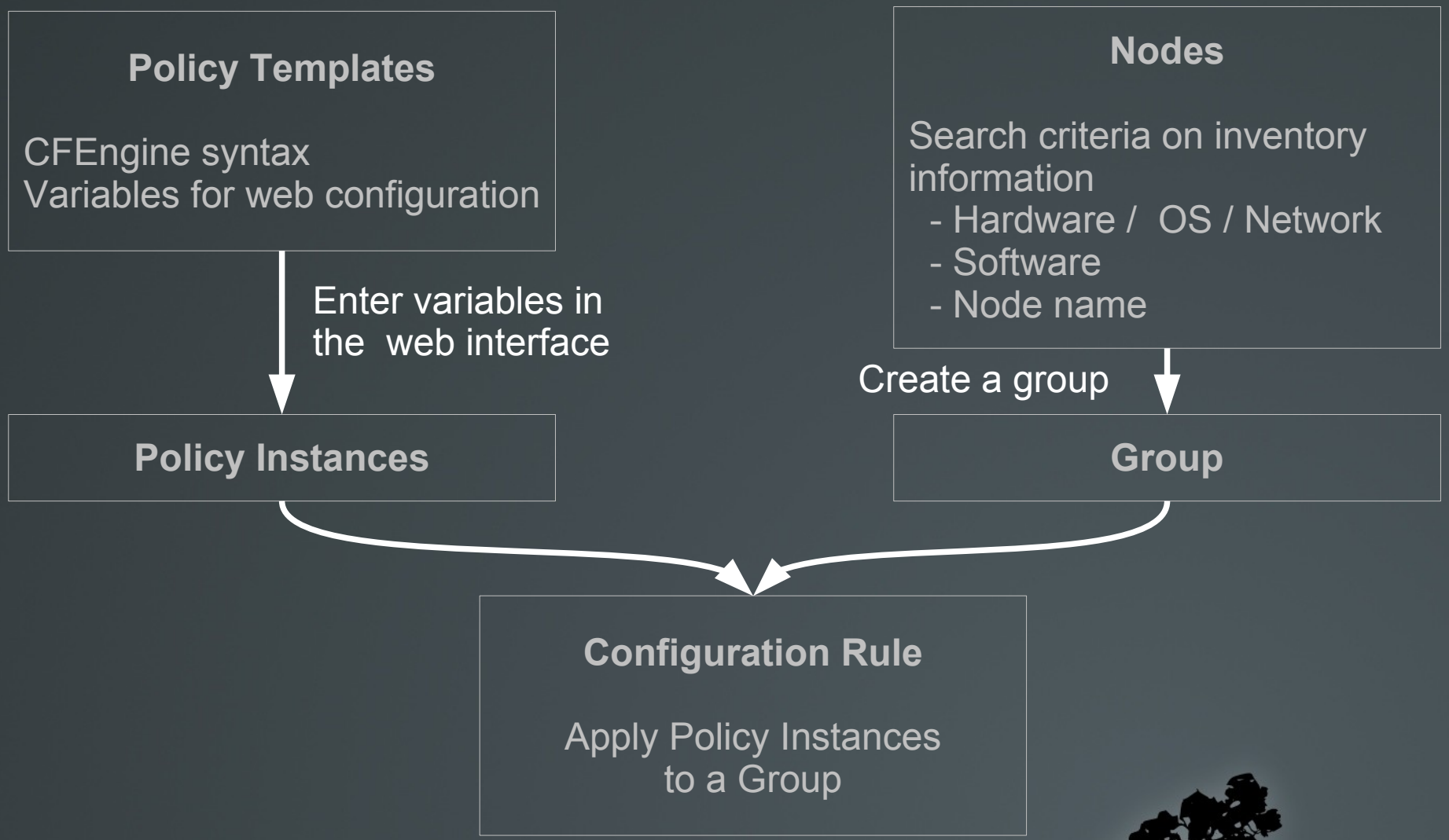
Communications by TCP (port 5308)
- File metadata
- File content

Rudder architecture

- Extra components on the server only



Rudder workflow



Extend

Write new Policy Templates

- Based on CFEngine 3
- An XML descriptor to set up the web forms
- Configure anything!

Write plugins for the webapp

- Plugins are automatically discovered at startup
- Implementation example:
https://github.com/Normation/rudder-plugin-helloworld

Roadmap

- 2.4: February 2012
  - Import/Export configurations across Rudder servers
  - Approval process for changes before deploying them
  - More and better Policy Templates
  - Deleting nodes
  - Simple REST API
- 2.5: Mid 2012
  - Better Policy Configuration display
  - More detailed reporting
  - Authorizations

Community

- Source code on GitHub
- Documentation wiki
  - http://rudder-project.org
- Small open source community
  - Mailing lists
    - rudder-users@lists.rudder-project.org
    - rudder-dev@lists.rudder-project.org
  - IRC : #rudder on FreeNode
  - Twitter: @RudderProject

Questions?

Stay in touch...

Normation

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