Configuration Management Systems

Automated migration in a large corporate fusion scenario

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LIA Project
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Research Question

How can a node be automatically migrated between two configuration management systems?

A large-scale corporate fusion scenario

No Configuration management system

Configuration management systems

Puppet

- 2005
- PULL
- Puppet DSL
- Random execution

Ansible

- 2012
- PUSH
- YAML
- Sequential execution
- Broad set of devices

MGMT

- 2016
- Distributed
- Experimental DSL
- Parallel execution

Code snippet

```
- hosts: all
  gather_facts: yes
  remote_user: administrator
  sudo: yes
  tasks:
    - name: Update Shellshock (Debian)
      apt: name=bash
           state=latest
           update_cache=yes
      when: ansible_os_family == "Debian"

    - name: Update Shellshock (RedHat)
      yum: name=bash
           state=latest
           update_cache=yes
      when: ansible_os_family == "RedHat"
```

```
class shellshock {
        class shellshock::fix (
        $bash_url =
$shellshock::fix::params::bash_url,
        ) inherits
shellshock::fix::params {
        anchor
{'shellshock::fix::repo':
        }->
        class
{'shellshock::fix::package':
            bash_url => $bash_url,
        }
    }

    class shellshock::fix::params {

        $bash_url = $::architecture ?
{
            'i386'  => 'http://
ftp.linux.it/pub/People/md/bash/
bash_3.2-4.2_i386.deb',
            'amd64' => 'http://
ftp.linux.it/pub/People/md/bash/
bash_3.2-4.2_amd64.deb',
```
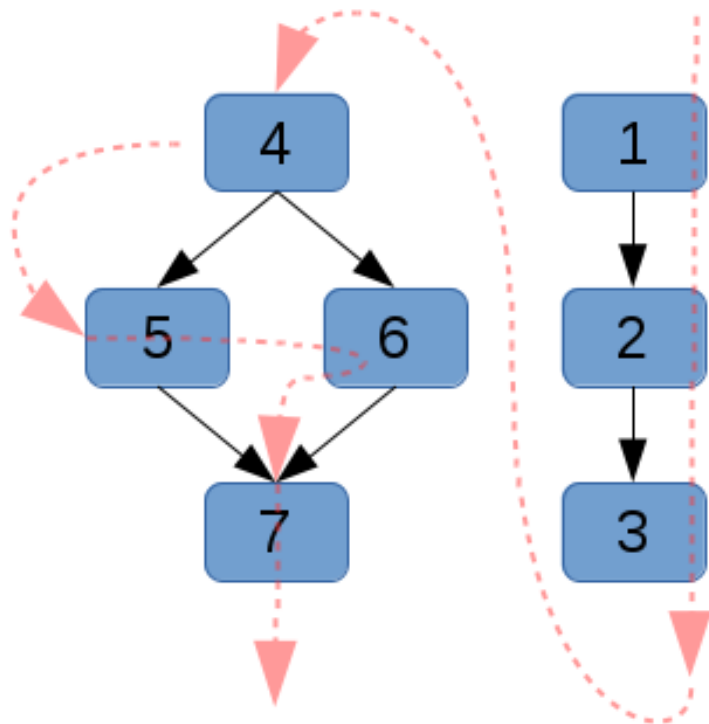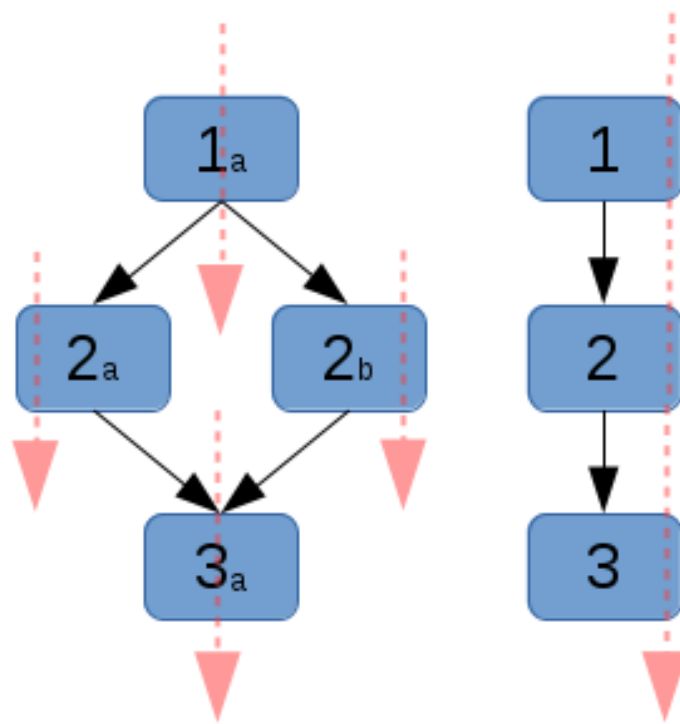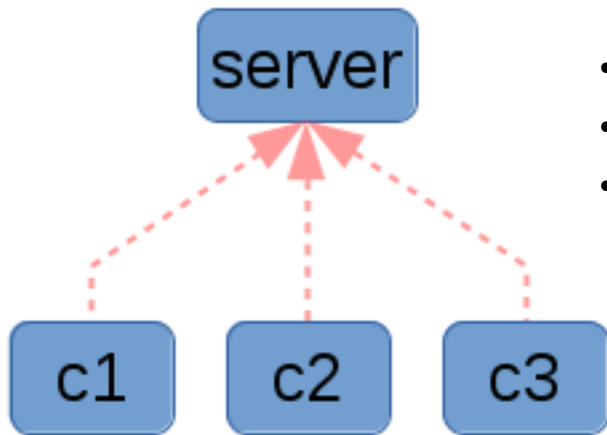
Architecture 1/2

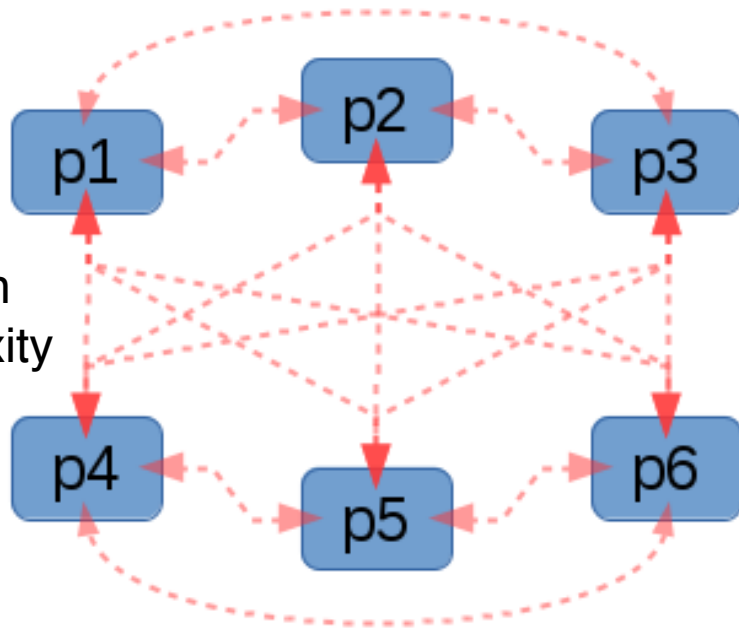Sequential execution

Parallel execution

Architecture 2/2

Client - Server   Distributed

server

c1   c2   c3

- `etcd` data store
- Event driven
- Performance gain
  at cost of complexity
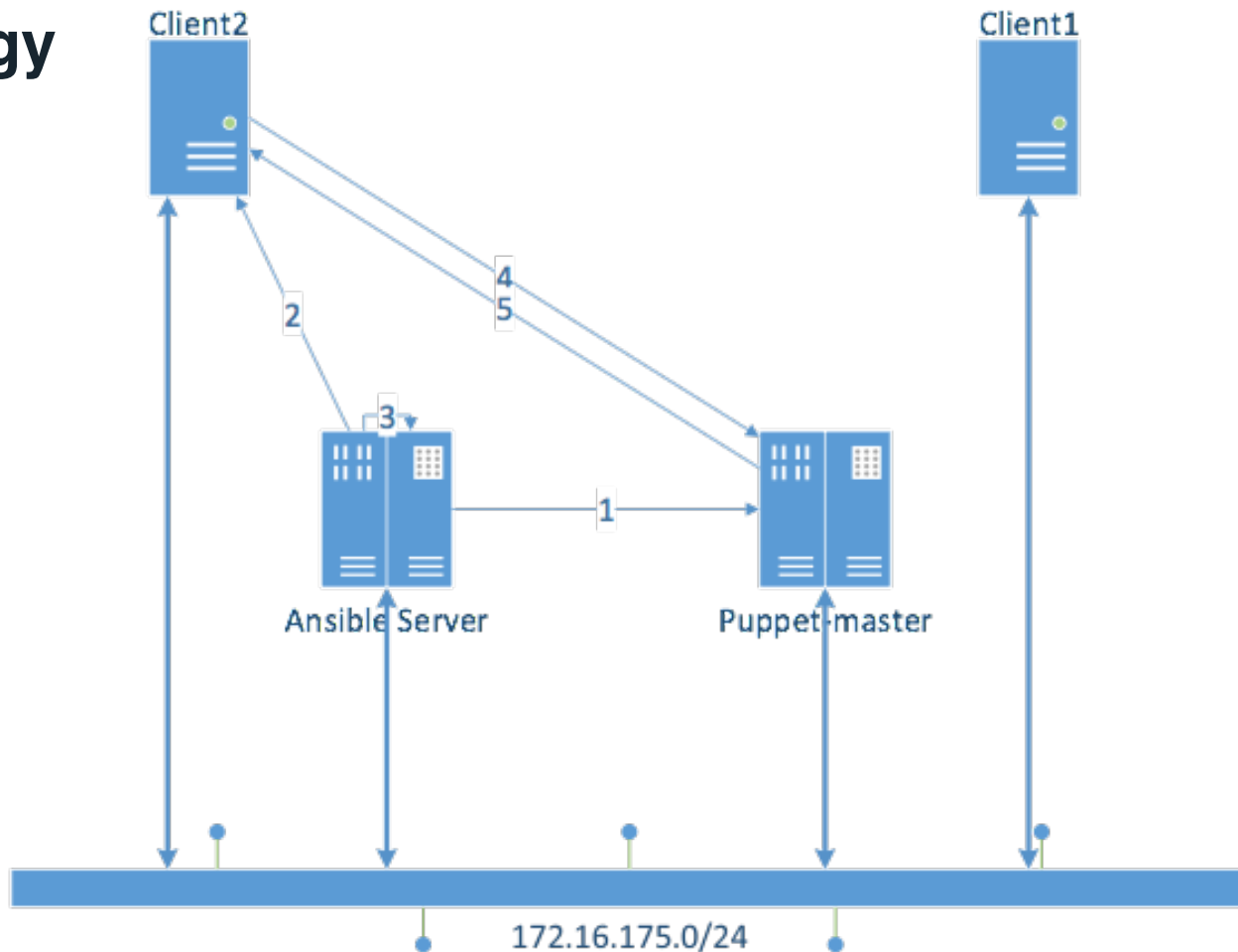
p1 p2 p3

p4 p5 p6

Methodology

Migrating from
Puppet to Ansible
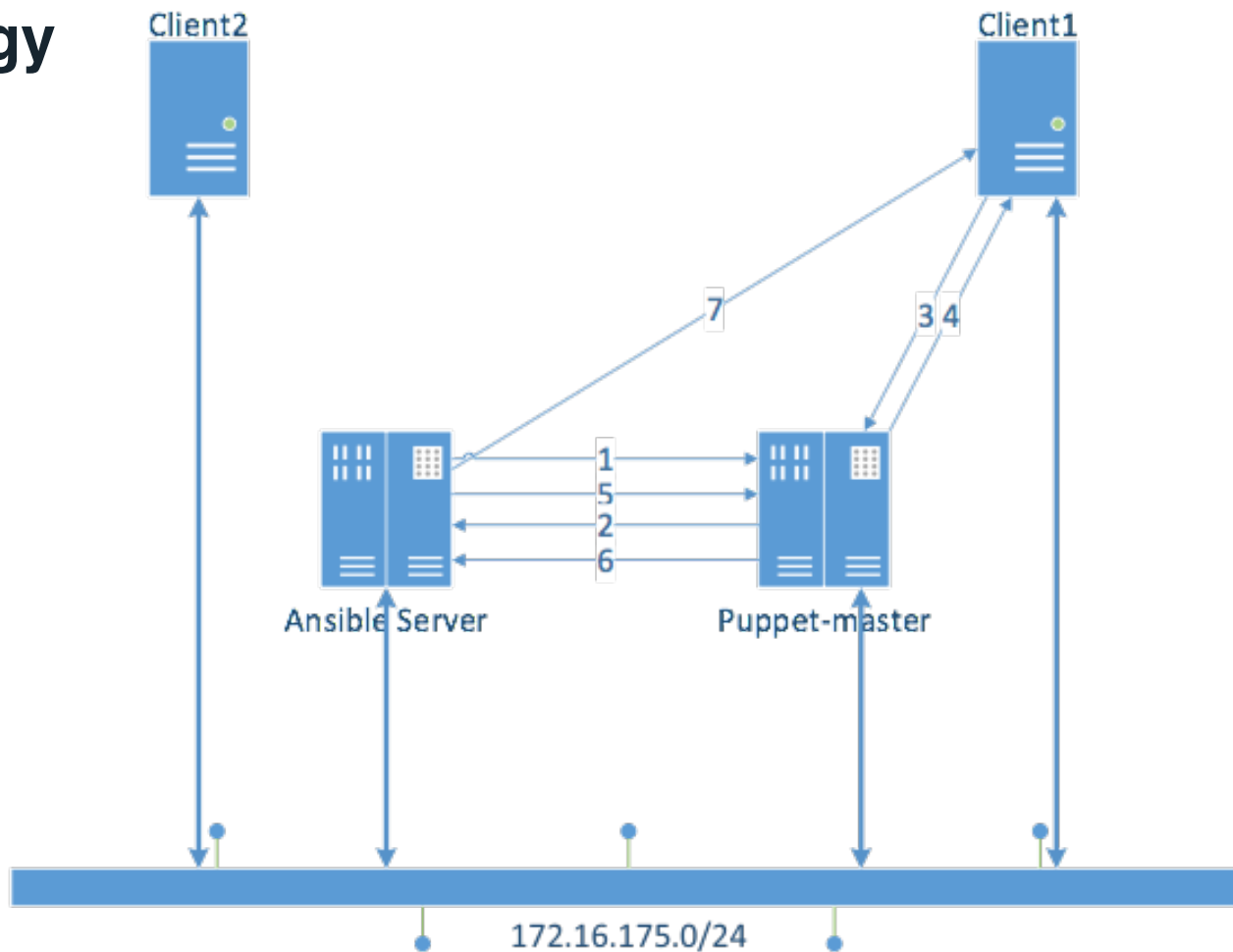
Methodology

Migrating from
Ansible to Puppet

Results / Conclusion

In place migration is feasible in large environments

Not applicable in small organizations using small clusters

Specific research into migrating between Puppet and Ansible

Prerequisites for migrating with this model
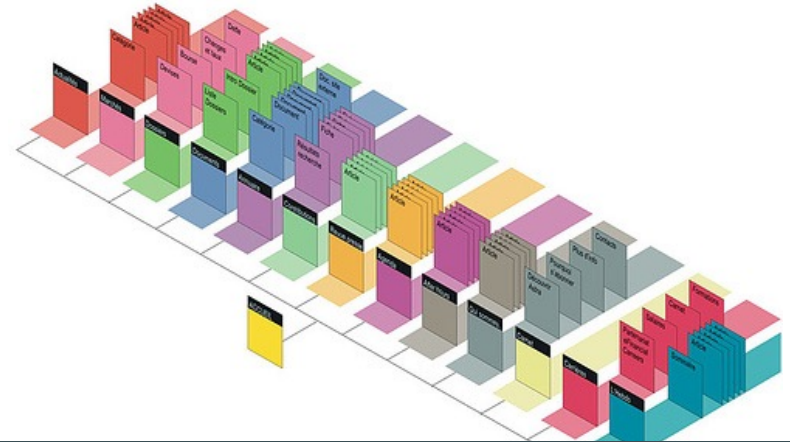
MGMT not ready for production

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Questions

Thank you

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