

SaltStack and SUSE®

Systems and Configuration Management
that Scales and is Easy to Extend

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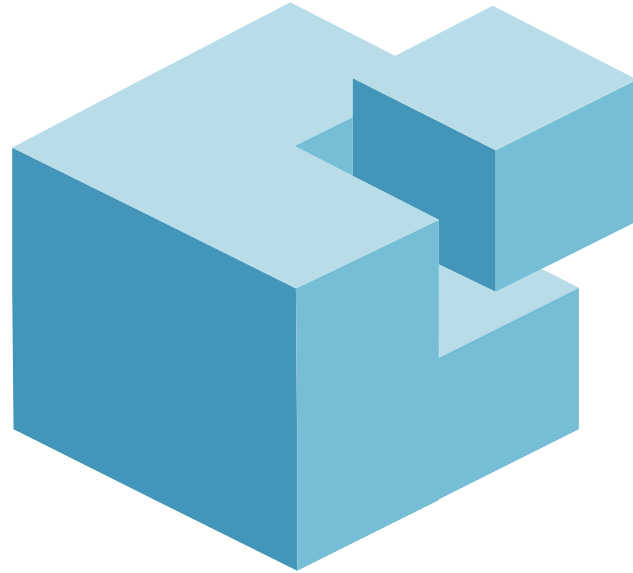
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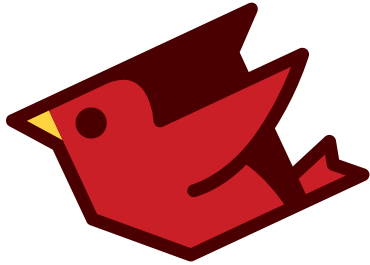


Puppet & CFengine



SaltStack

	Puppet	CFEngine	SaltStack
No Agent 	✗	✗	✓
Real Time 	✗	✗	✓
	✗	✗	✓



Java

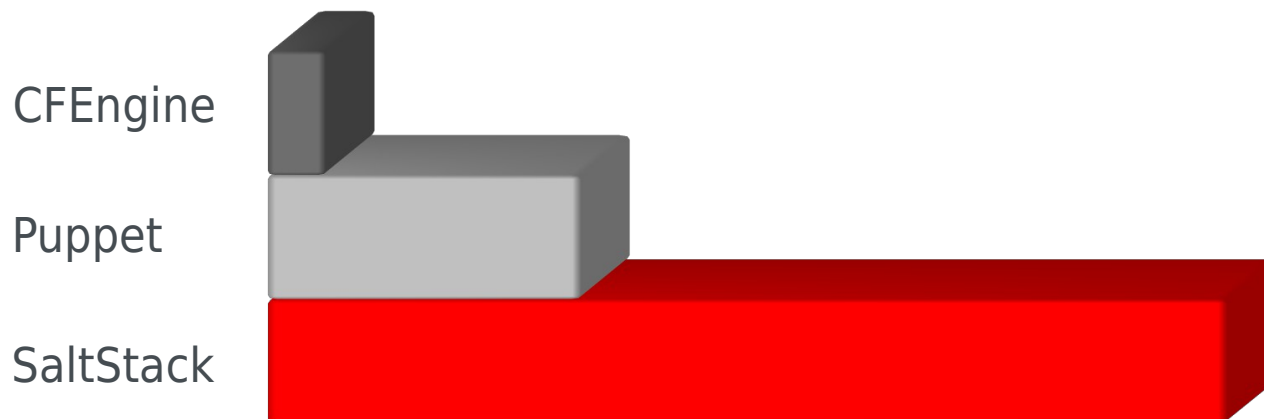


Puppet



SaltStack

Almost **70%** bigger



*“We had 10,000 lines of Puppet code
and reduced that to roughly 1,000 in Salt”*

— Ryan Lane, Lyft

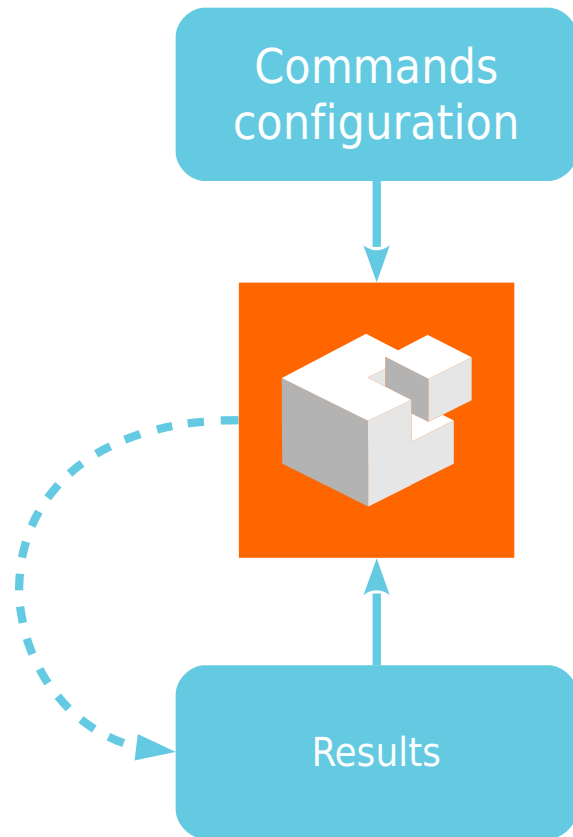
*“We are running around 70,000 minions.
When you keep doubling boxes like this,
one does not simply scale”*

— Thomas Jackson, LinkedIn

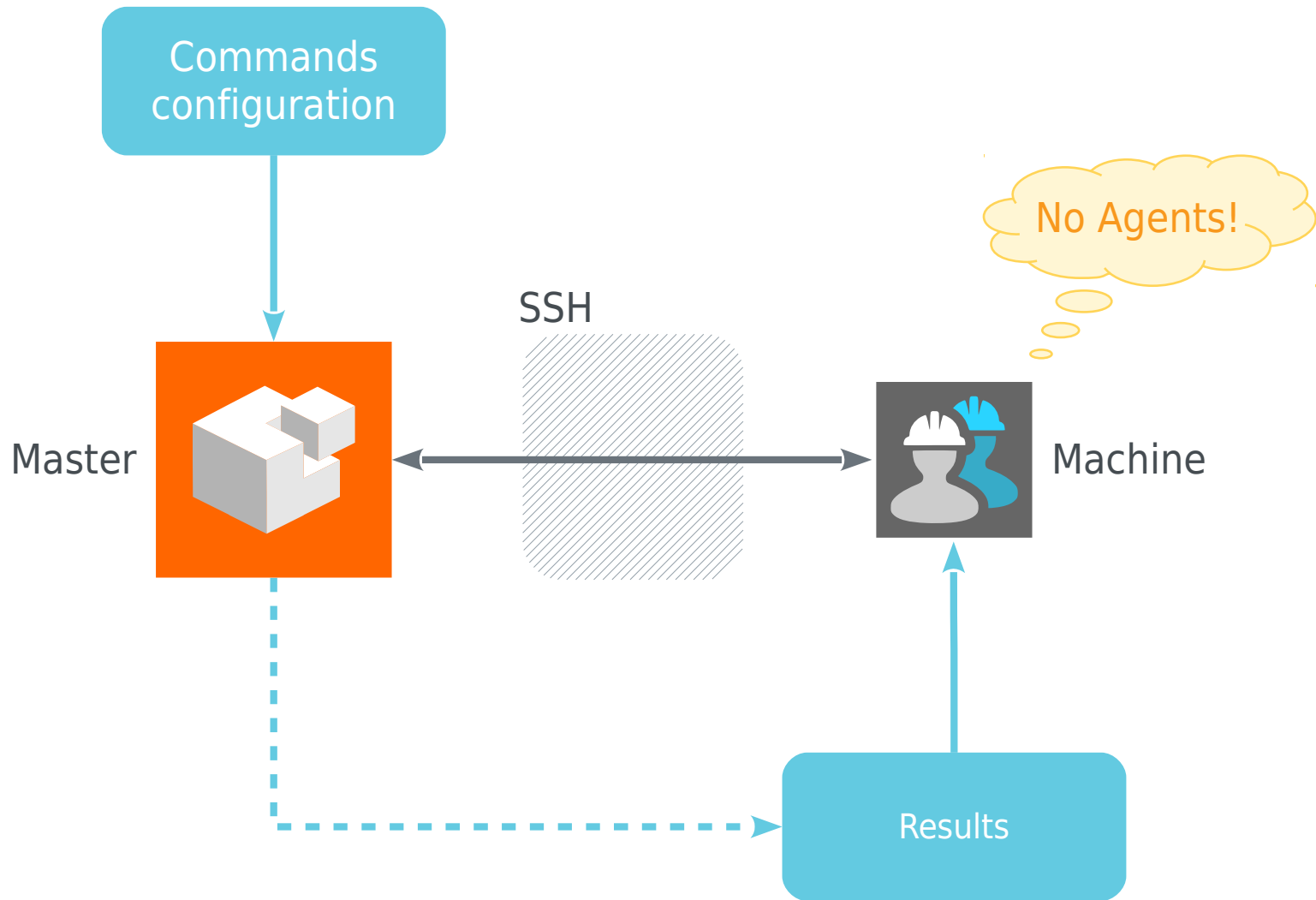
“It is not about configuring Linux or Windows machine or configuring an operations or deployment. It is about development, testing, production and heterogeneity across all that.”

— Ross Gardler, Microsoft Azure

No Agent



Just SSH



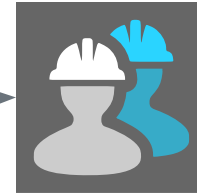
Your Data Center

Ports:
4505-4506

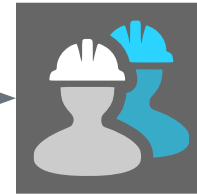
Master



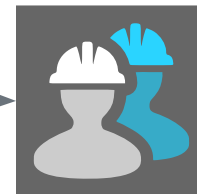
ØMQ



Minion

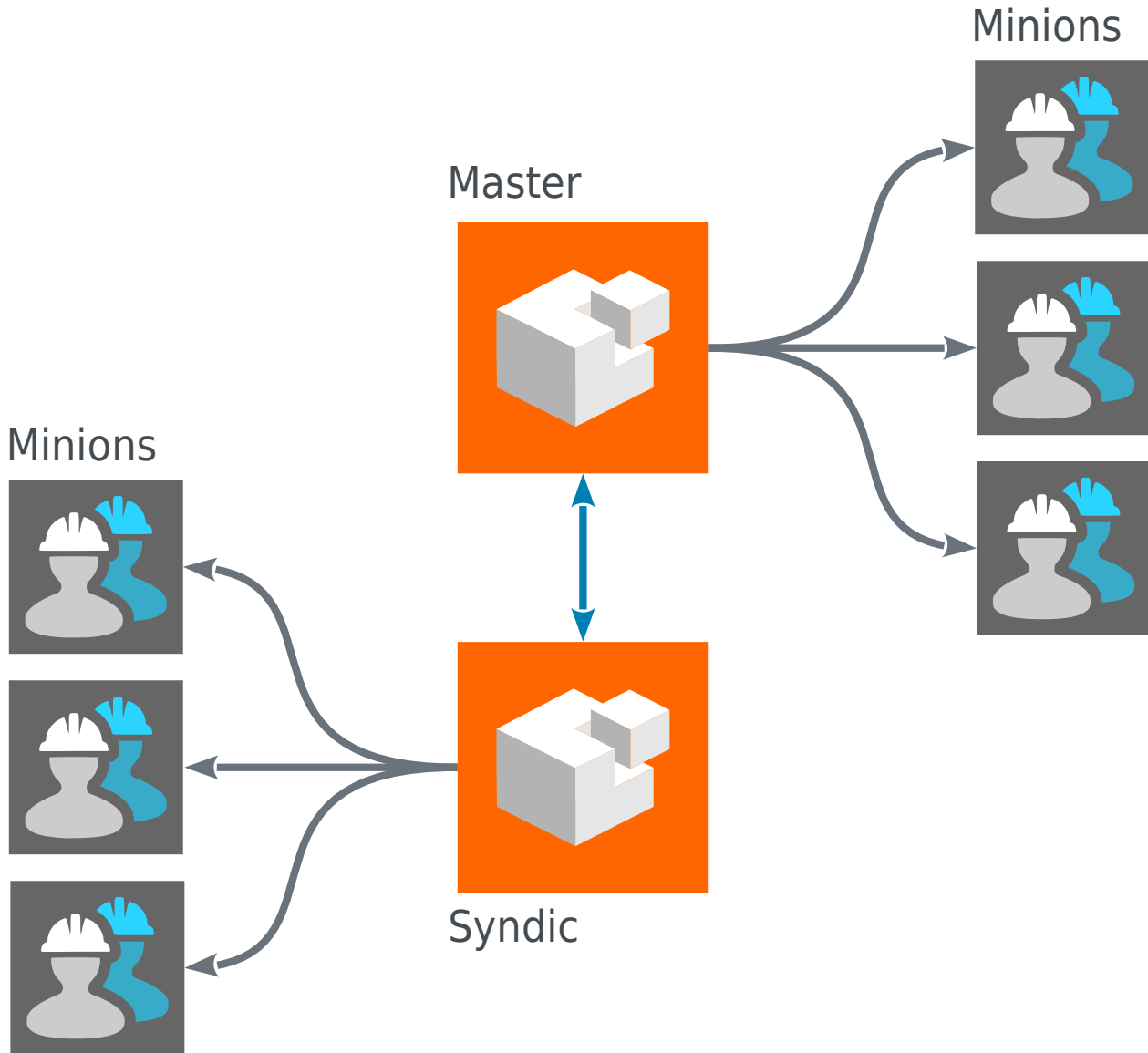


Minion



Minion

When it is
THAT large



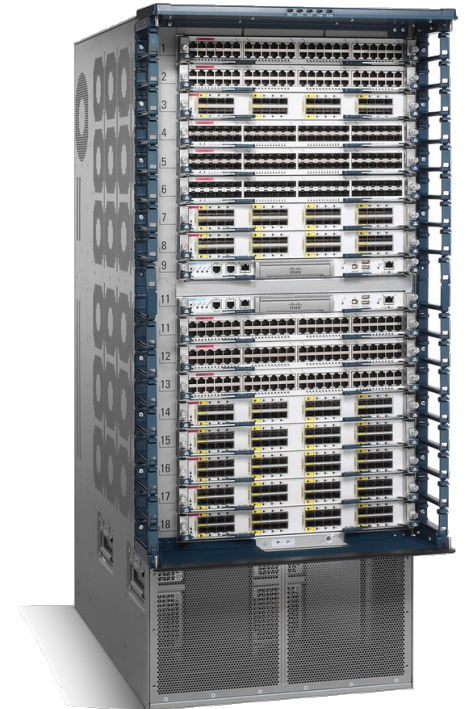
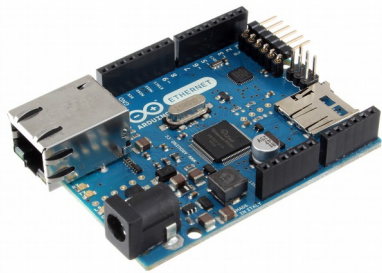
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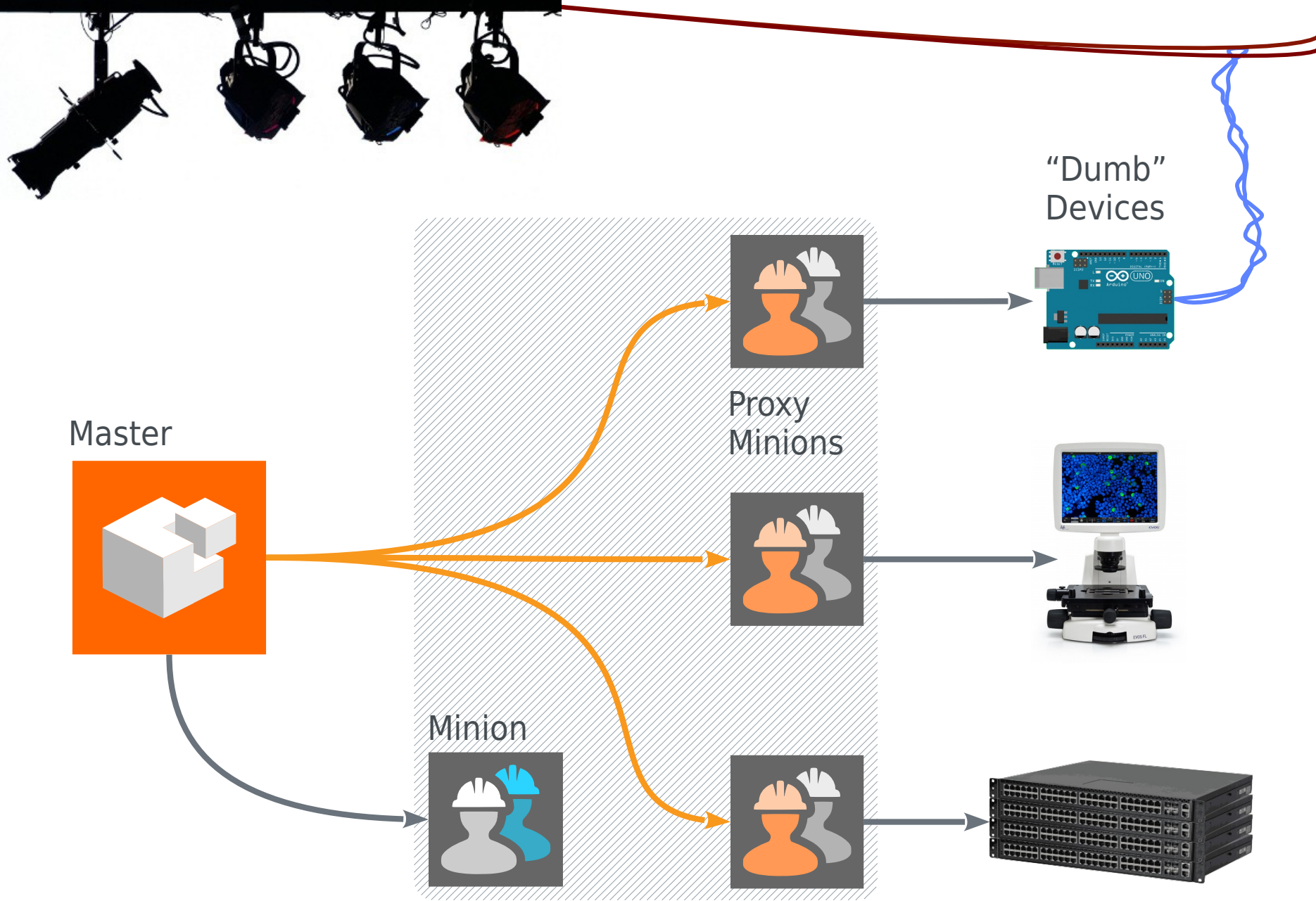




There is more...

expansion everywhere





EMERGENCY

```
salt -G \
  'kernelrelease:3.12.46*' \
  cmd.run 'zypper up kernel-default'
```

```
salt-cp '*.suse.de' \
  -G 'apacheversion:2.14*' \
  /etc/apache2/conf.d/php.conf* \
  /etc/apache2/conf.d
```

Real time. Convenient.

Environment `/etc/salt/master`

Target

```
file_roots:  
  base:  
    - /srv/salt
```

State files

```
/etc/salt/master
```

```
file_roots:  
  develop:  
    - /srv/salt/dev  
  testing:  
    - /srv/salt/qa  
  production:  
    - /srv/salt/prod
```

```
/srv/salt/top.sls
```

```
base:  
  'web*':  
    - apache
```

```
/srv/salt/apache.sls
```

```
apache:  
  pkg:  
    - installed  
    - name: httpd
```

/srv/pillar/my.sls

```
my:
  auth:
    - uid: johnsmith
    - pwd: f-u-cn-rd-ths-u-cn-uz-unx
    - host: data.suse.com
```

/srv/salt/my/user.sls

```
testdb_user:
  mysql_user.present:
    - name: {{ salt['pillar.get']('my:auth:uid') }}
    - password: {{ salt['pillar.get']('my:auth:pwd') }}
    - host: {{ salt['pillar.get']('my:auth:host') }}
```

/srv/salt/apache.sls

```
#!pydsl
```

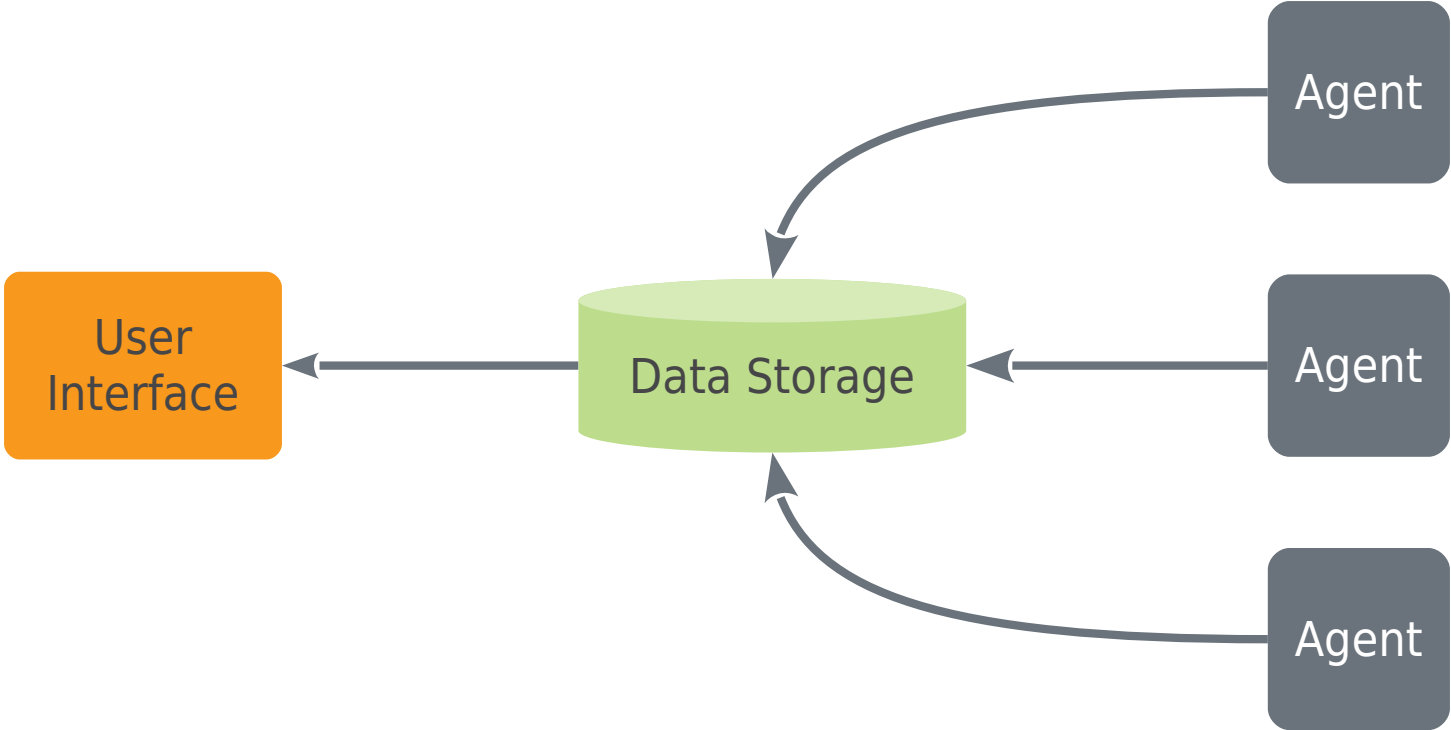
```
apache = state('apache')
apache.pkg.installed()
apache.service.running()
state('/var/www/index.html') \
    .file('managed',
          source='salt://webserver/index.html') \
    .require(pkg='apache')
```

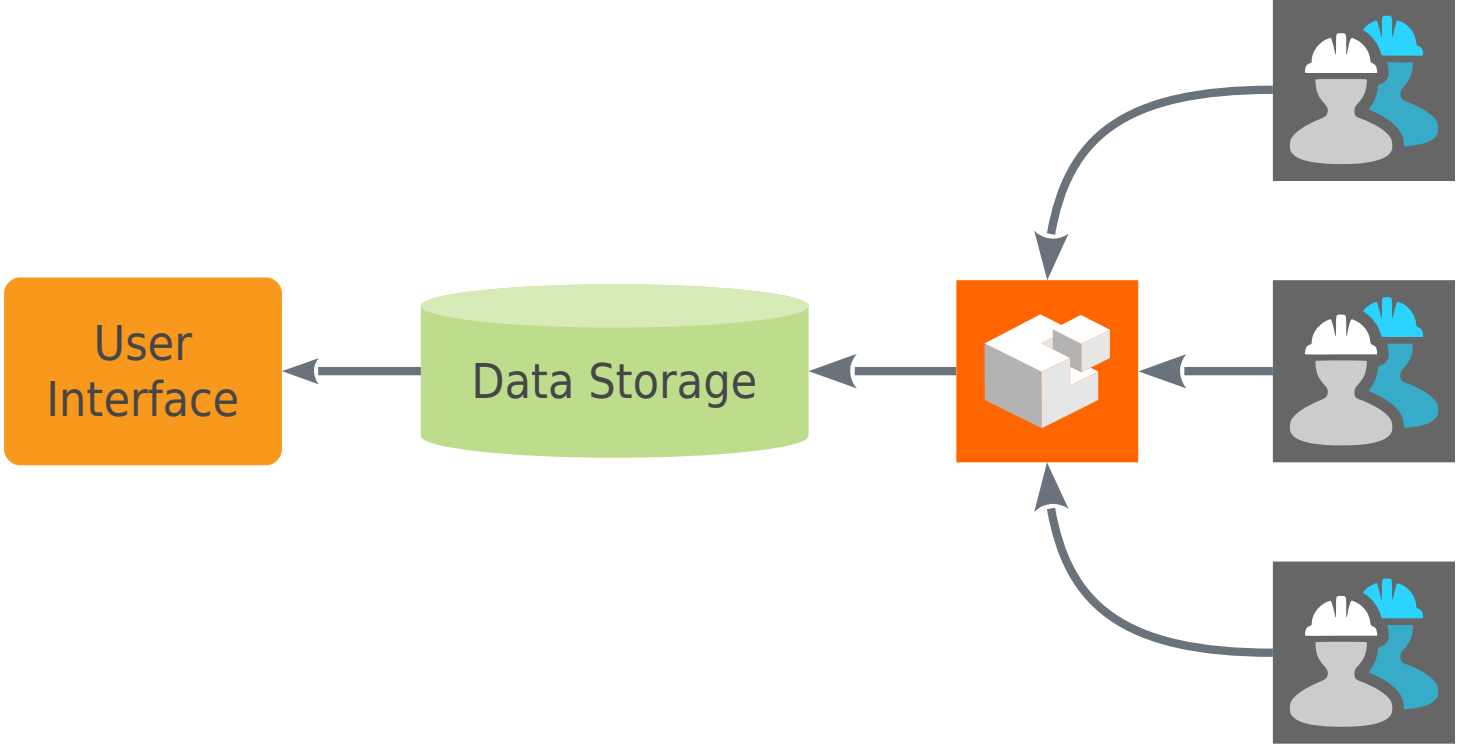
Monitoring

Slow

Difficult

Hard to
scale





Monitoring

Hard to scale	Scalable
Difficult	Consistent
Slow	Fast

Your custom Grain

```
import os

def zypper():
    """
    Return 'zypper' location if present.
    """

    path = os.popen("which zypper 2>/dev/null").read().strip()
    out = {'zypper' : {'available': path != ''}}
    if path:
        out['zypper']['path'] = path

    return out
```

Your custom Grain

1. Save as `/srv/salt/_grains/hello.py`

2. Deploy:

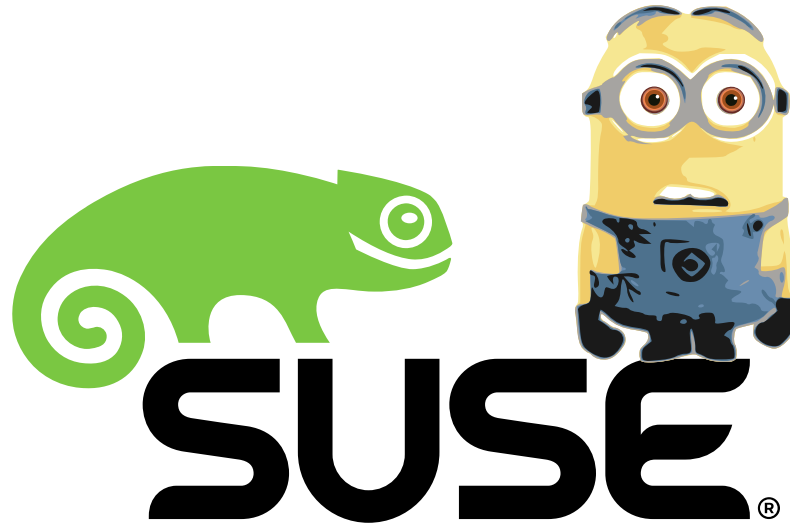
```
salt '*' saltutils.sync_all
```

3. Enjoy:

```
salt '*' grains.item zypper
```

demo!

Simple. Powerful. Fast.



We adapt. You succeed.



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