

```

      dF      @88>      x+=:z      S
      '88bu.  %8P      z` ^%      :8
      '*88888bu  ^"88888N  +@88u  +@8Ned8"  ;888000
      udR88N      ^"88888N  +@88u  +@^%8888"  -*8888888
<888'888k  beWE "888L  '888€` x88: `)8b.  8888
9888 'Y"  888€ 888€ 888€ 8888N=*8888 8888
9888      888€ 888€ 888€ %8" R88 8888
9888      888€ 888F 888€ @8Wou 9% ;8888Lu=
?8888u+./ +888N+888 888& +888888P` ^%888*
"8888P'  `""888*""  R888" ` ^"F 'Y"
  "p'      ""      ""      `

```

cdi.st

configuration as a service

Who's that guy?



Nico Schottelius - UCMS14 - 20140619

Topics

- Configurations → Configuration Management
- Configuration as a Service (CaaS)
- cdist: configuration management

History

- Manual Configurations (~1960)
- Configuration Management (~1993)
- Configuration as a Service (CaaS) (2014)

Configuration

A configuration is set of parameters with values that describes a target state.

Configuration Examples

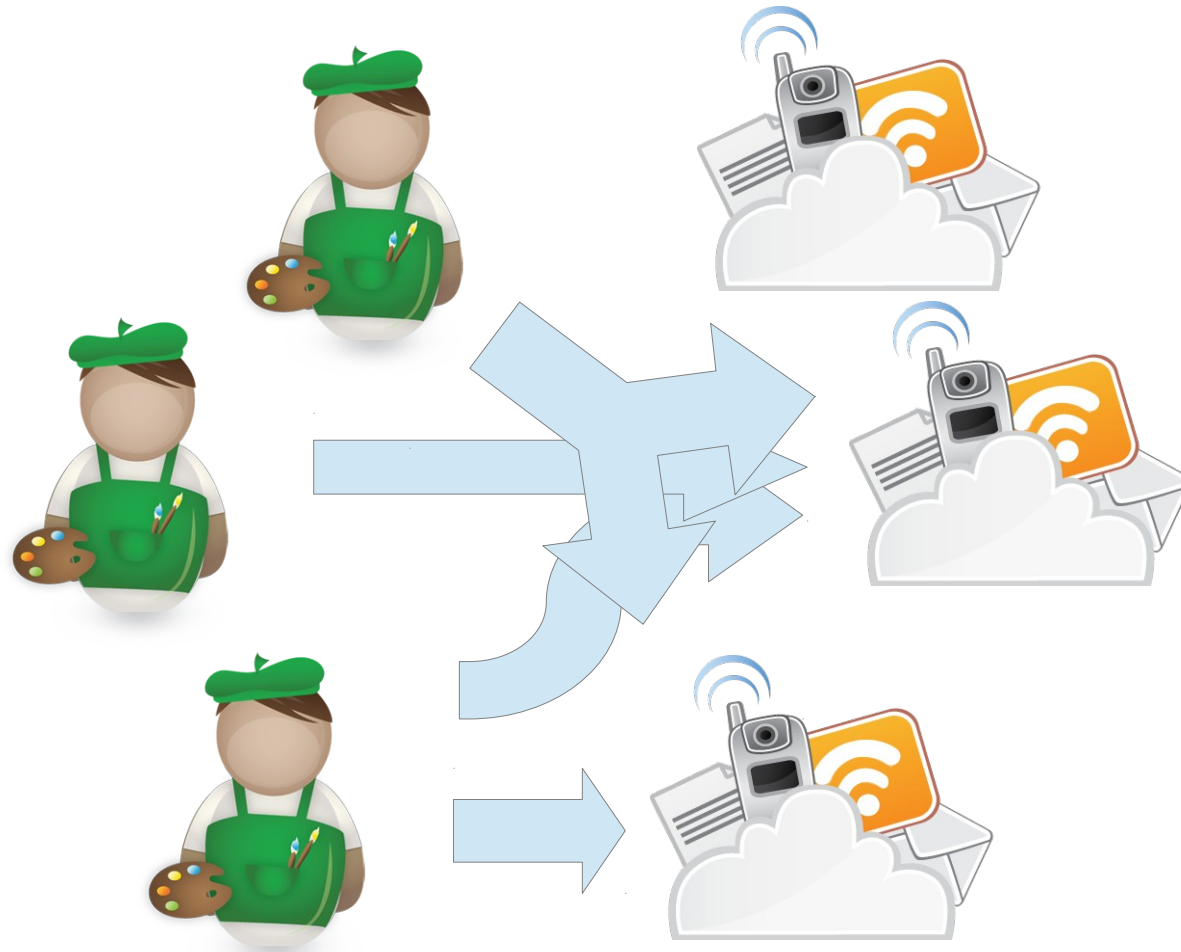
- **Virtual machine** web01 runs on host42
- **Backup** for web01 contains /home
- **User** “app” exists on web01
- **Application Server** Ruby on Rails is installed on web01
- **Load Balancing is configured** for web01 .. web20 Servers

Applying Configurations



Configuration Management

Why Configuration Management?

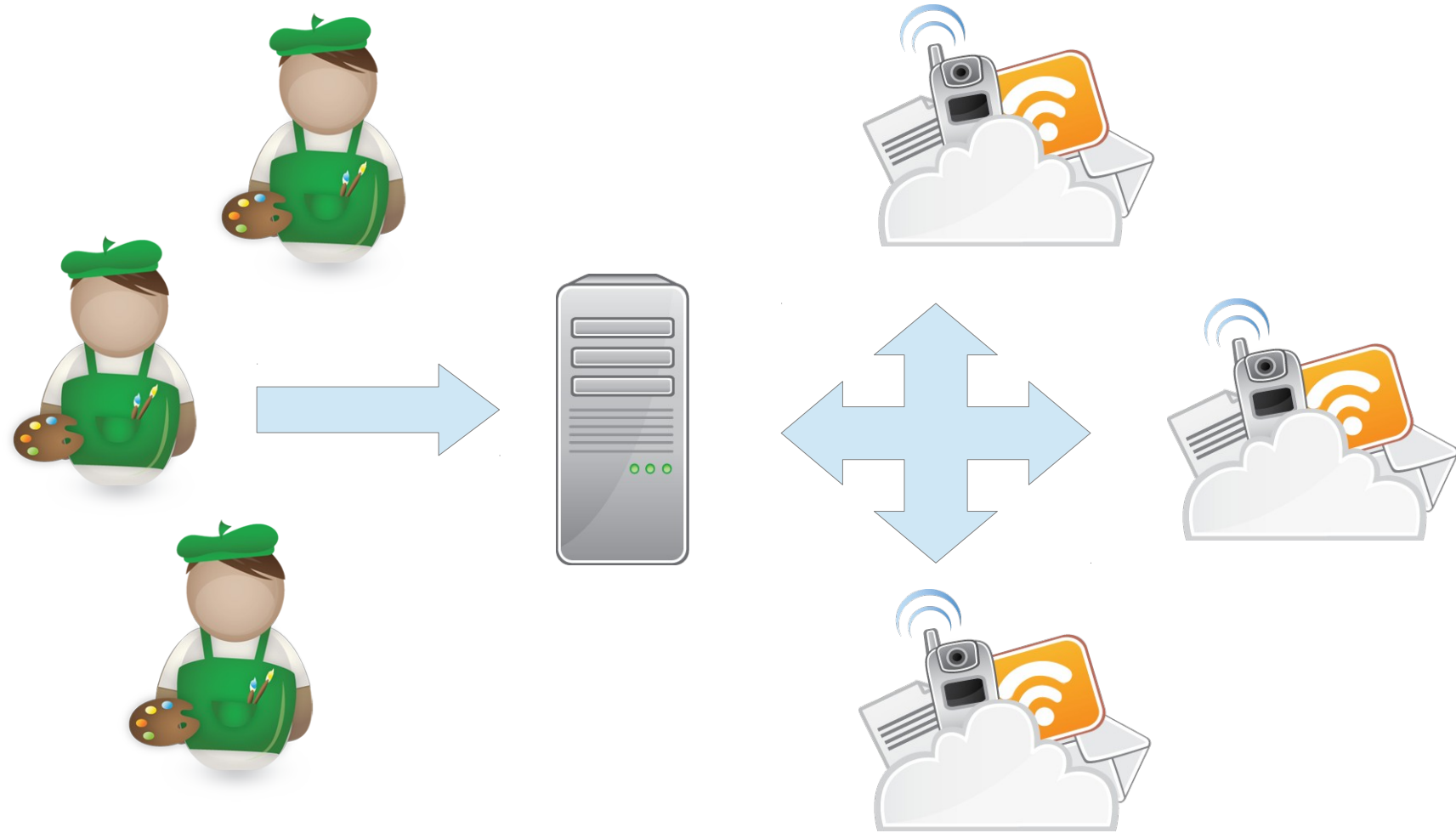


Configuration Management

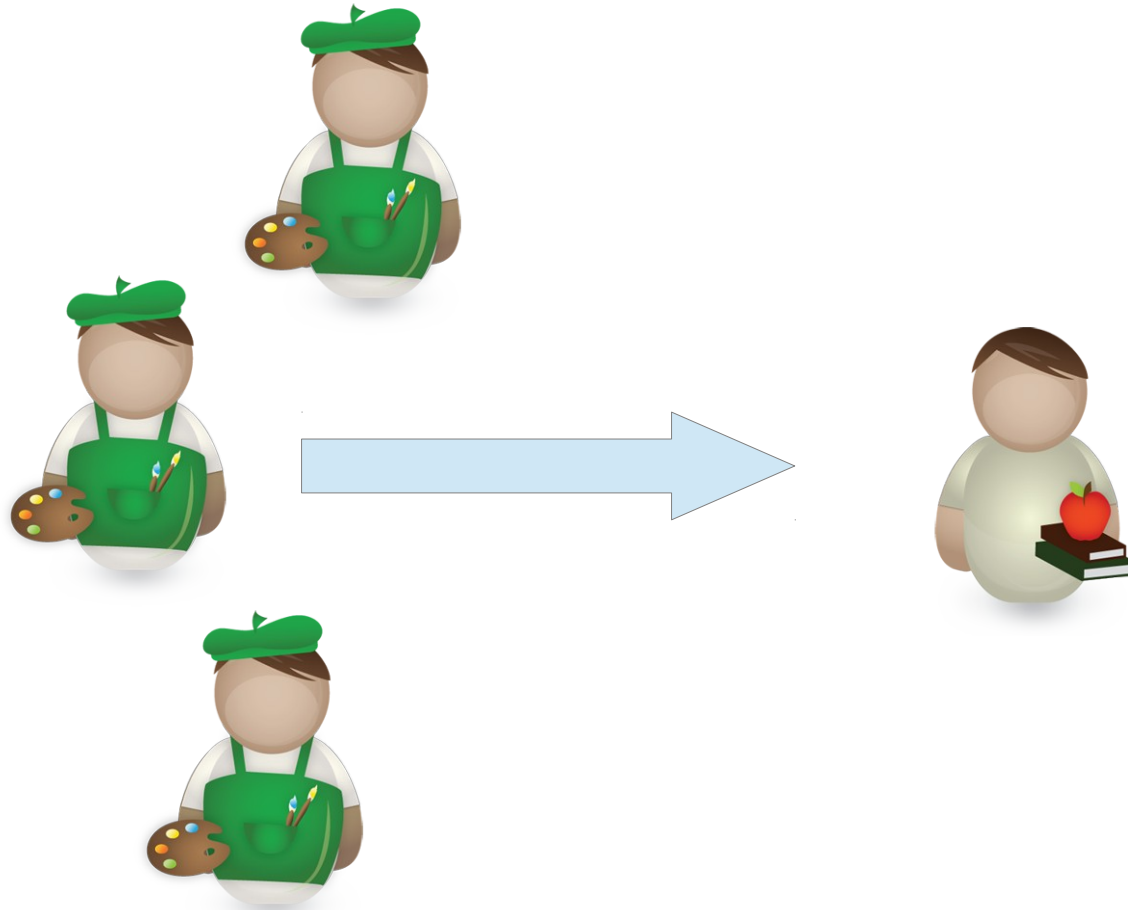
Manage configurations in a well defined way.

- Reproducible
- Documentation
- Idempotent
- Scaling out

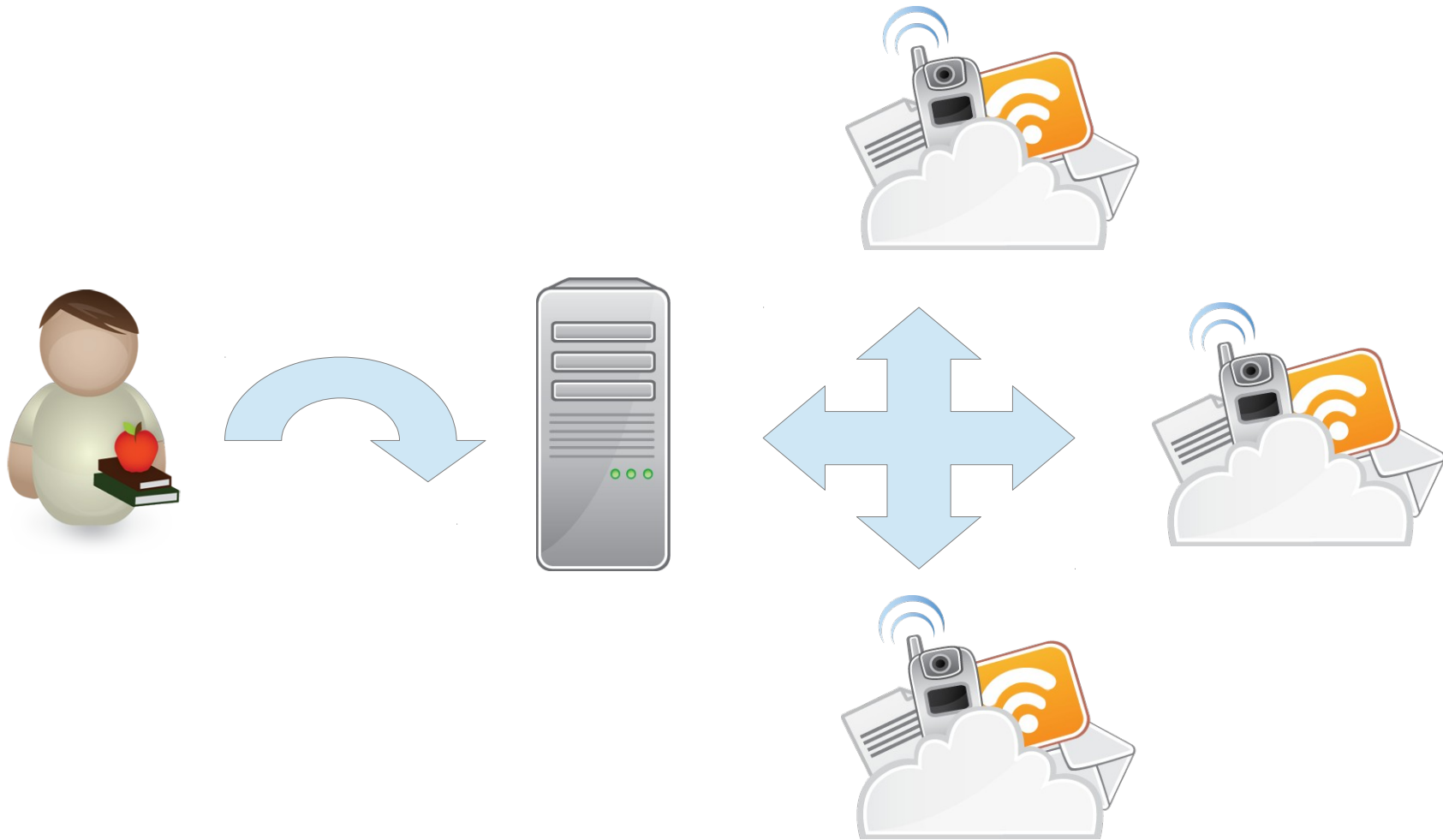
Using Configuration Management



Developer – no Sysadmins



Developer does not know CM

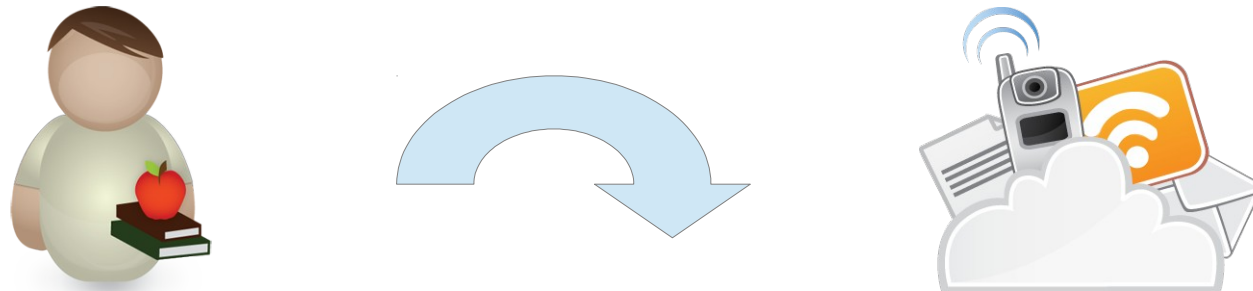


No Configuration Management

Because...

- Developer does not know
 - How to configure
 - How to use Configuration Management
- Developers **should not** know

Developers cannot configure



```

      ++      +      +x+=:z      s
      dF      @88>      z` ^%      :8
      '88bu.  %8P      <k      .88
      '*88888bu  +      +@8Ned8"  ;888000
      ^"*8888N  +@88u  +@^%8888" -*8888888
      udR88N  <888'888k  b2WE "888L  '888€` x88: `)8b. 8888
      9888 'Y" 888€ 888€ 888€ 8888N=*8888 8888
      9888 888€ 888€ 888€ %8" R88 8888
      9888 888€ 888F 888€ @8Wou 9% .8888Lu=
      ?8888u+./ +888N+.888 888& +888888P` ^%888*
      "8888P' `""888*"" R888" ` ^"F 'Y"
      "p' "" "" ""

```

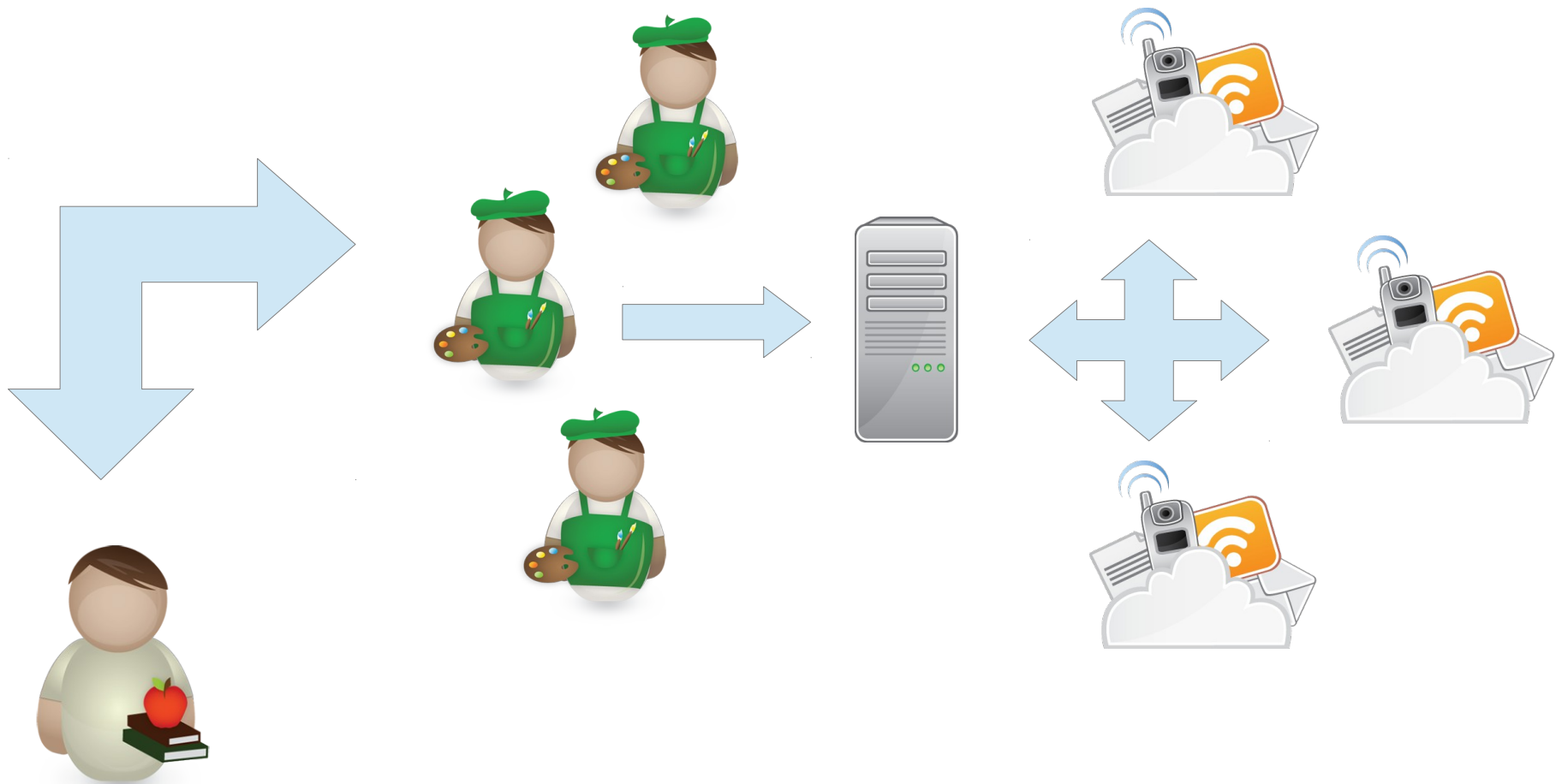
cdi.st configuration as a service

CaaS: Definition (2014)

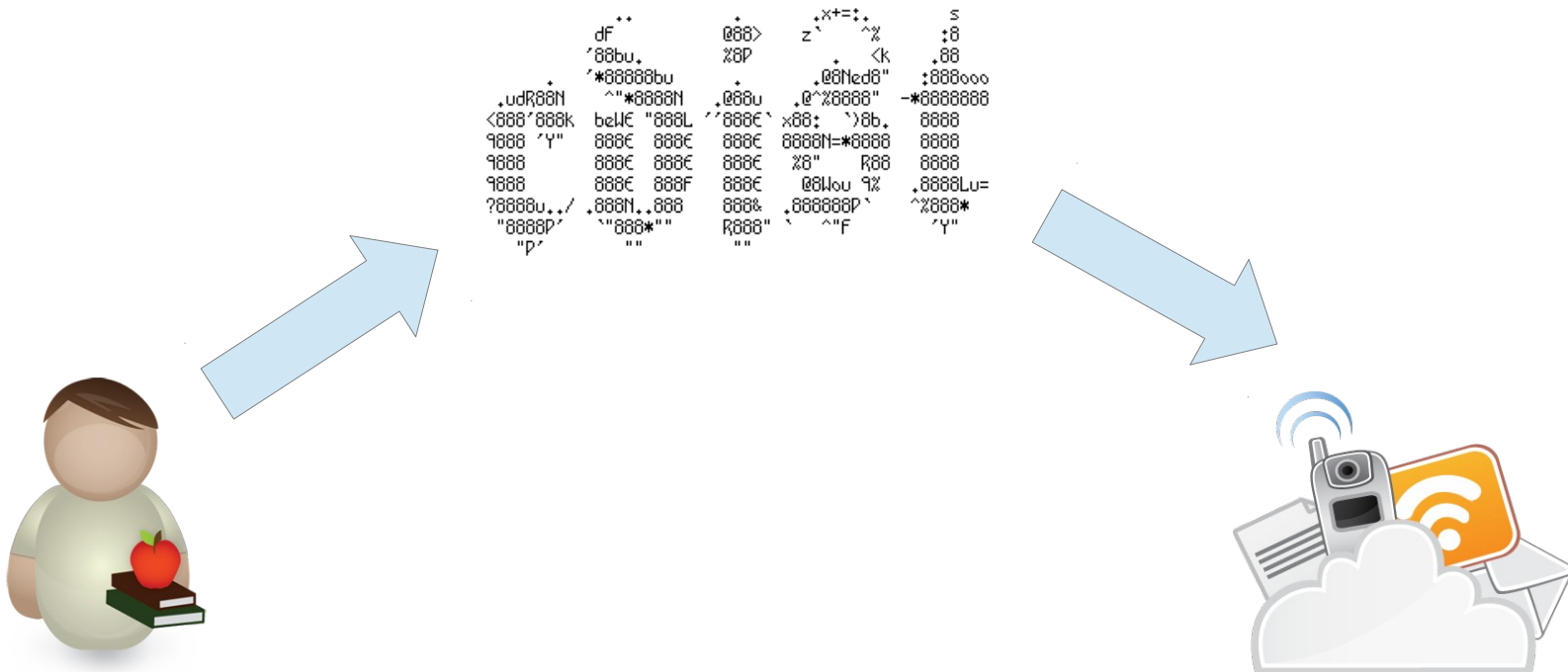
Configuration as a Service, CaaS:

Apply **configurations** to **your** systems with **minimum** knowledge required for the configuration or the configuration management system.

Avoid Complexity



Configuration as a Service



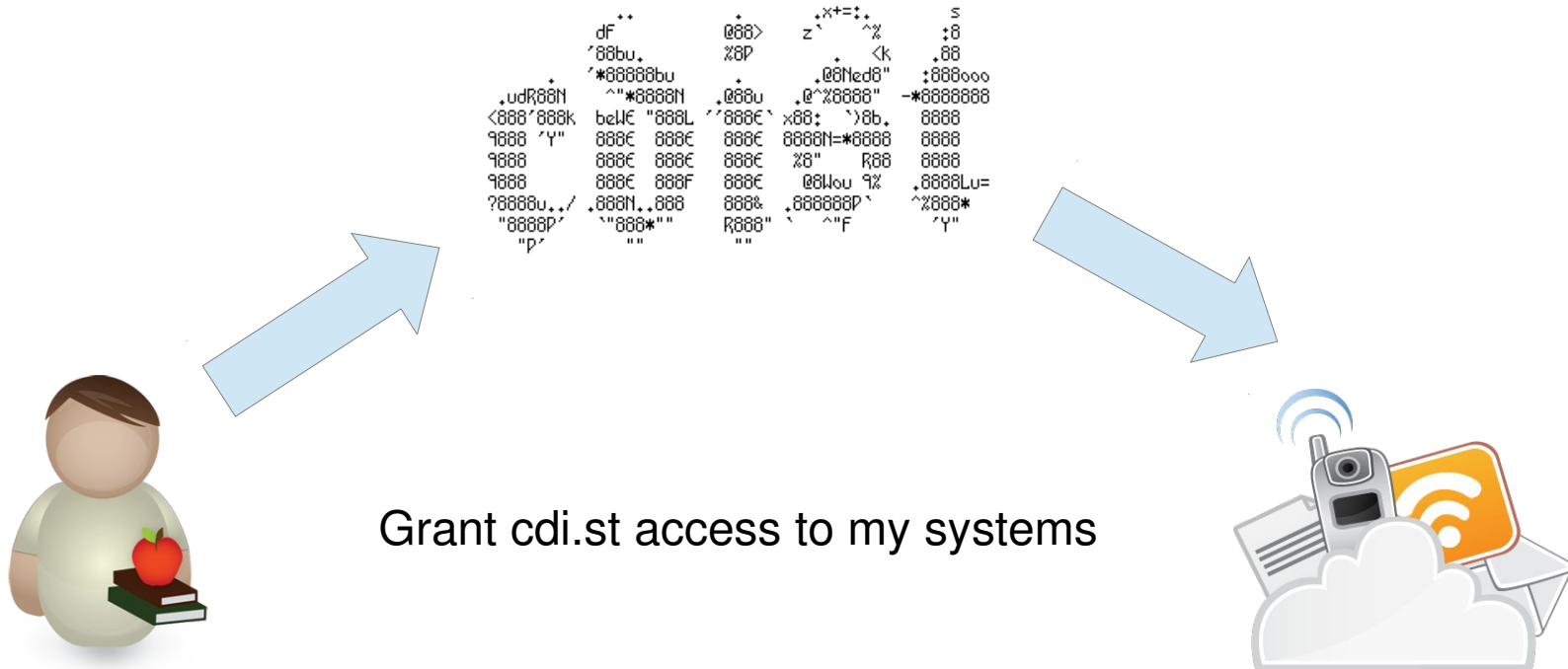
XaaS

X as a Service:

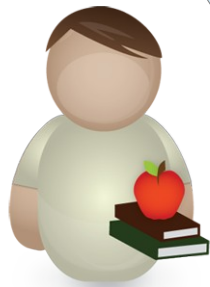
Have somebody else do it automatically for you.

Self Service.

How it works



Select Configurations



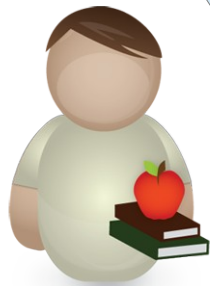
```
..          .          .x+=:~.          s
dF          @88>      z\` ^%          :8
'88bu,     %8P      .          <k          :88
.*88888bu  .          .88Ned8"   :888888
.udR8881  ^"*88881  .888u  .0"x8888"  -*888888
<888'888k  b8J8E "888L "888C \x88: `>)8b. 8888
9888 `y"   888E 888E 888E 8888N=*8888 8888
9888      888E 888F 888E 888" 888 8888
9888      888E 888F 888E @88uou 9%  .8888Lu=
?8888u..// .888N..888 888E .888888P` ^x888*
"8888P'    `888*"    R888"  \ ^"F    `y"
```

Welcome to cdi.st cloud configuration.

cdi.st will totally change your experience of configuring your UNIX/Linux servers. No more hassle with configuration files, we configure your systems.

You can try out cdi.st with 2 configuration runs and once you want more, you can buy as many runs as you want.

Configure Selected Hosts



Host successfully updated

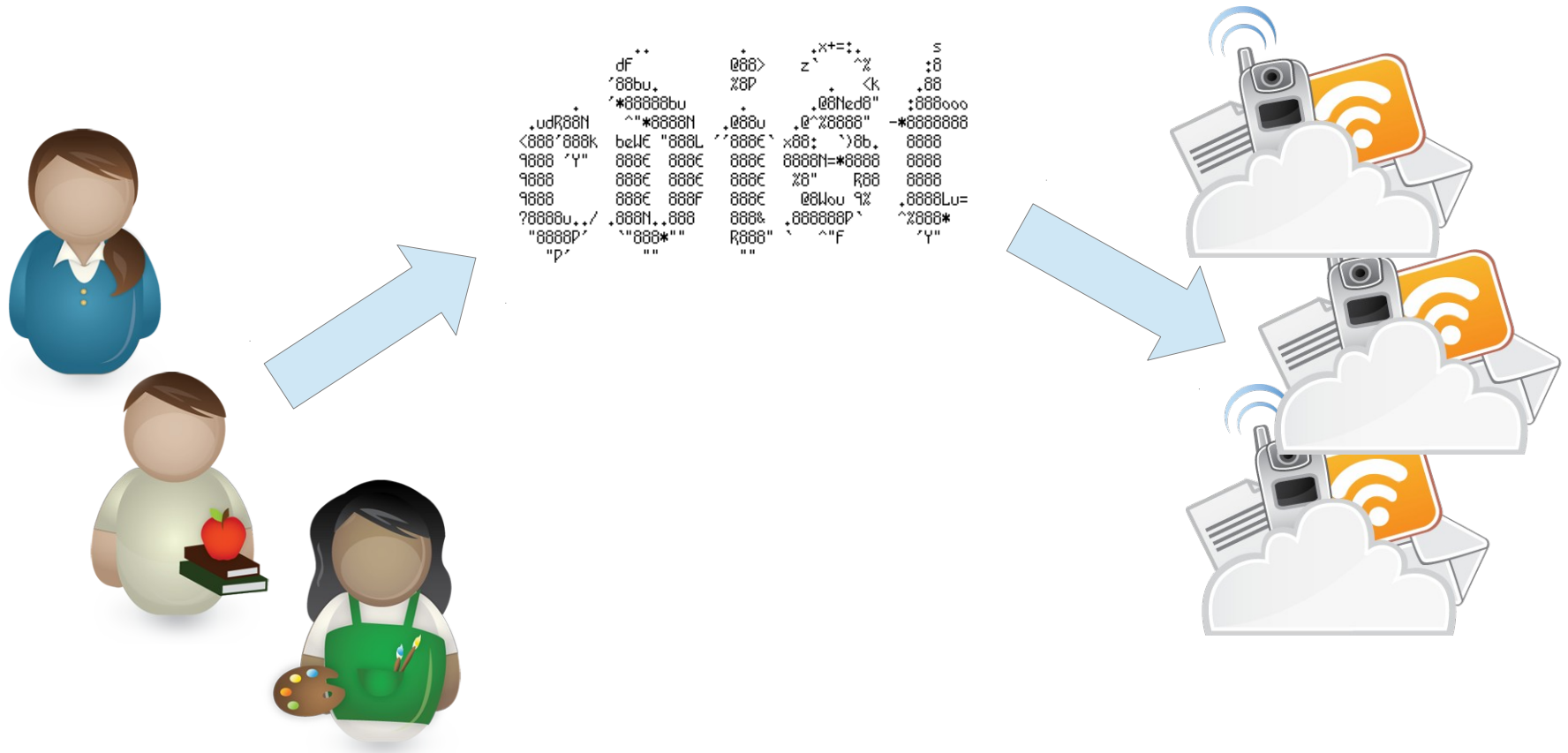
Host List

Configure	Host	Configuration
<input checked="" type="checkbox"/>	Test Computer	Edite Delete

[Edit Checked](#)

1 configuration run needed

Have Services Running




```

      dF      @88>      x+=:z      S
      '88bu.  %8P      z` ^%      :8
      '*88888bu  ^"88888N  +@8Ned8"  .88
      +udR88N      ^"88888N  +@88u  +@^%8888"  -*88888888
      <888'888k  beWE "888L  '888€` x88: `)\8b.  8888
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      9888      888€ 888€ 888€ %8" R88 8888
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      ?8888u+./ +888N+.888 888& +888888P` ^%888*
      "8888P'  `""888*""  R888" ` ^"F 'Y"
      "p'      ""      ""      `

```

cdi.st

background information

cdi.st

- Website based on Ruby on Rails
- Backend based on cdist

```
      .x+=:~.
      S
dF      000>  z`^%  :8
'00bu_  %0P  . <k  .00
'*00000bu  .00Ncd0" :000000
.udR00N  ^"*000N  .00u  .0^%000" -*000000
<000'000k  b0l0C "000L  /'000C \>00:  \)0b.  0000
'000  'Y"  000C  000C  000C  0000N=*0000  0000
'000  000C  000C  000C  %0"  R00  0000
'000  000C  000F  000C  000u  0%  ^,000Lu=
?0000u..//  ,000N.,000  000k  ,000000P\  ^%000*
"0000P'  ``000*"  R000"  \  ^"F  'Y"
"P'      ""      ""
```

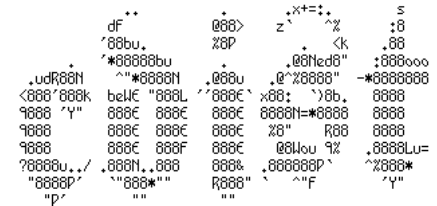
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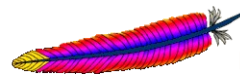
You can try out cdi.st with 2 configuration runs and once you want more, you can buy as many runs as you want.

Configurations

- Huge existing set of configurations
- Ruby on Rails Hosting
- cdist configuration management
- Web Servers
- Database Server
- ...



NGINX™



Apache

```

      ++      +      +x+=:z      S
      dF      @88>      z` ^%      :8
      '88bu.  %8P      <k      .88
      '*88888bu  +@8Ned8"  ;888000
      ^"*8888N  +@88u  +@^%8888"  -*8888888
      <888'888k  beWE "888L  '888E` x88: `)\8b.  8888
      9888 'Y"  888E 888E 888E 8888N=*8888 8888
      9888      888E 888E 888E %8" R88 8888
      9888      888E 888F 888E @8Wou 9% .8888Lu=
      ?8888u+./ +888N+.888 888& +888888P` ^%888*
      "8888P'  `""888*""  R888" ` ^"F 'Y"
      "p'      ""      ""      ""

```

cdist

next generation configuration management

What is cdist?

- Next Generation Configuration Management
- Less Bugs
- Learned from mistakes others made
- More
 - flexible
 - efficient
 - fun

Next generation configuration management?

Huh?

Configuration Management - NG

Lessons learned from the mistakes others made

- Easy to use – no facepalm effect
- Simple design – no grey hair effect
- Push Support – for coordinated changes
- DRY – Reuse existing technologies
- FOSS – GPL, not half commercial
- Installation support – in 4.0pre branches
- Not affiliated with \$distro \$vendor \$evil_vendor_lockin

Why cdist?

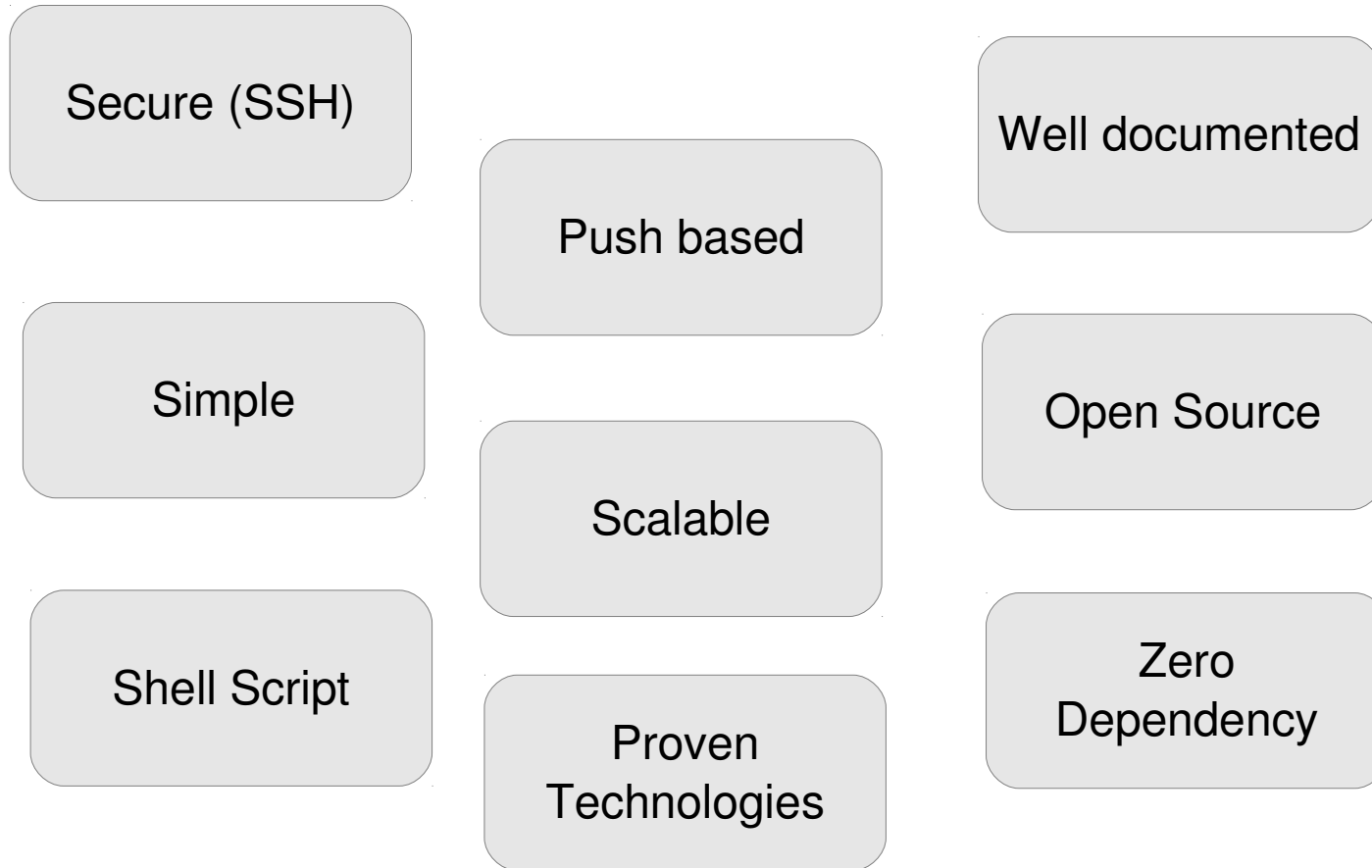
- Requires only ssh on the target host
- Core functionality supports different OS
- Development started at ETH Zurich
- Made in Switzerland
- Scalable Design



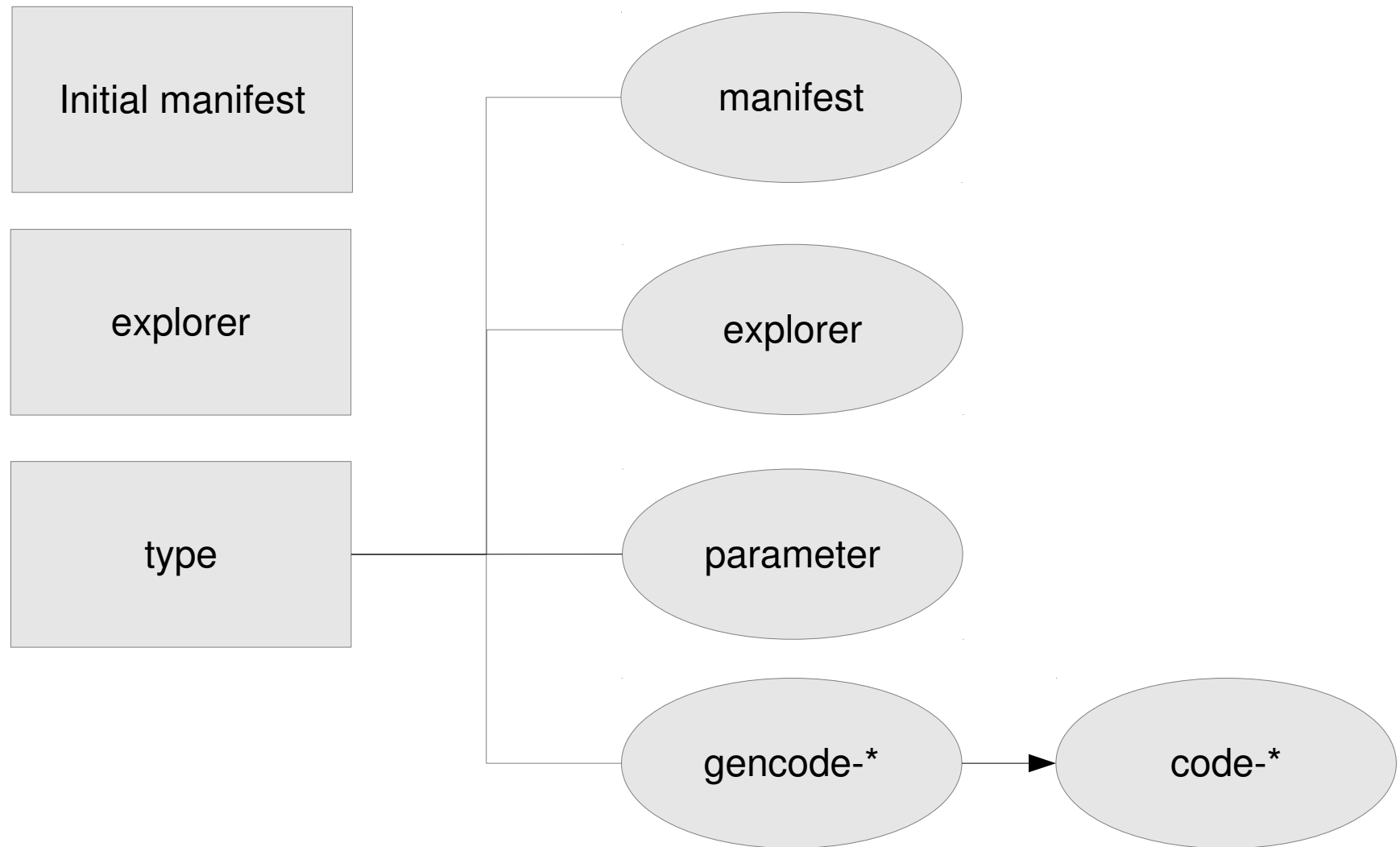
cdist history

- 2010-11-10: LISA'10 BoFs
- 2011-03-07: First public release of cdist
- 2011-09-16: Rewrite cdist core in python
- 2013-01-01: Founded ungleich GmbH
- ...: Many releases, growing community
- 2014-05-05: Released cdist 3.1.5

cdist Features



The big picture



```

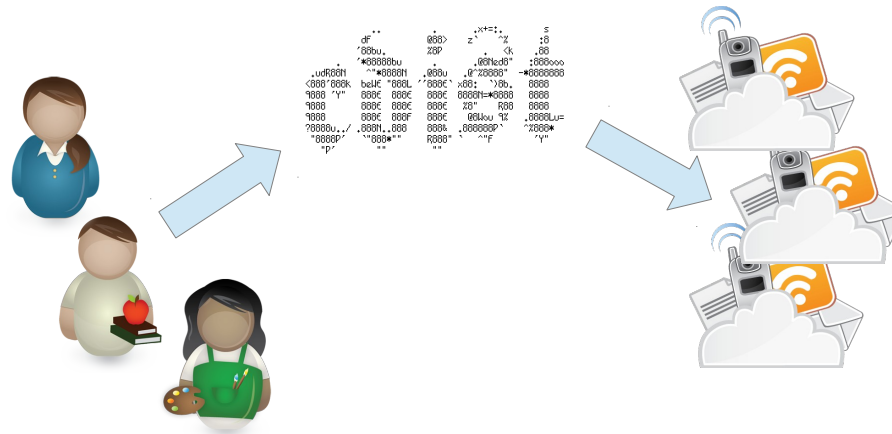
      dF      @88>      x+=:z      S
      '88bu.  %8P      z` ^%      :8
      '*88888bu  ^"88888N  +@88u  +@8Ned8"  ;888000
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<888'888k  beWE "888L  '888E` x88: `)8b.  8888
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9888      888E 888F 888E @8Wou 9% ;888Lu=
?8888u+./ +888N+888 888& +888888P` ^%888*
"8888P'  `888*"  R888" ` ^"F 'Y"
  "p'      ""      ""

```

cdi.st

configuration as a service: summary

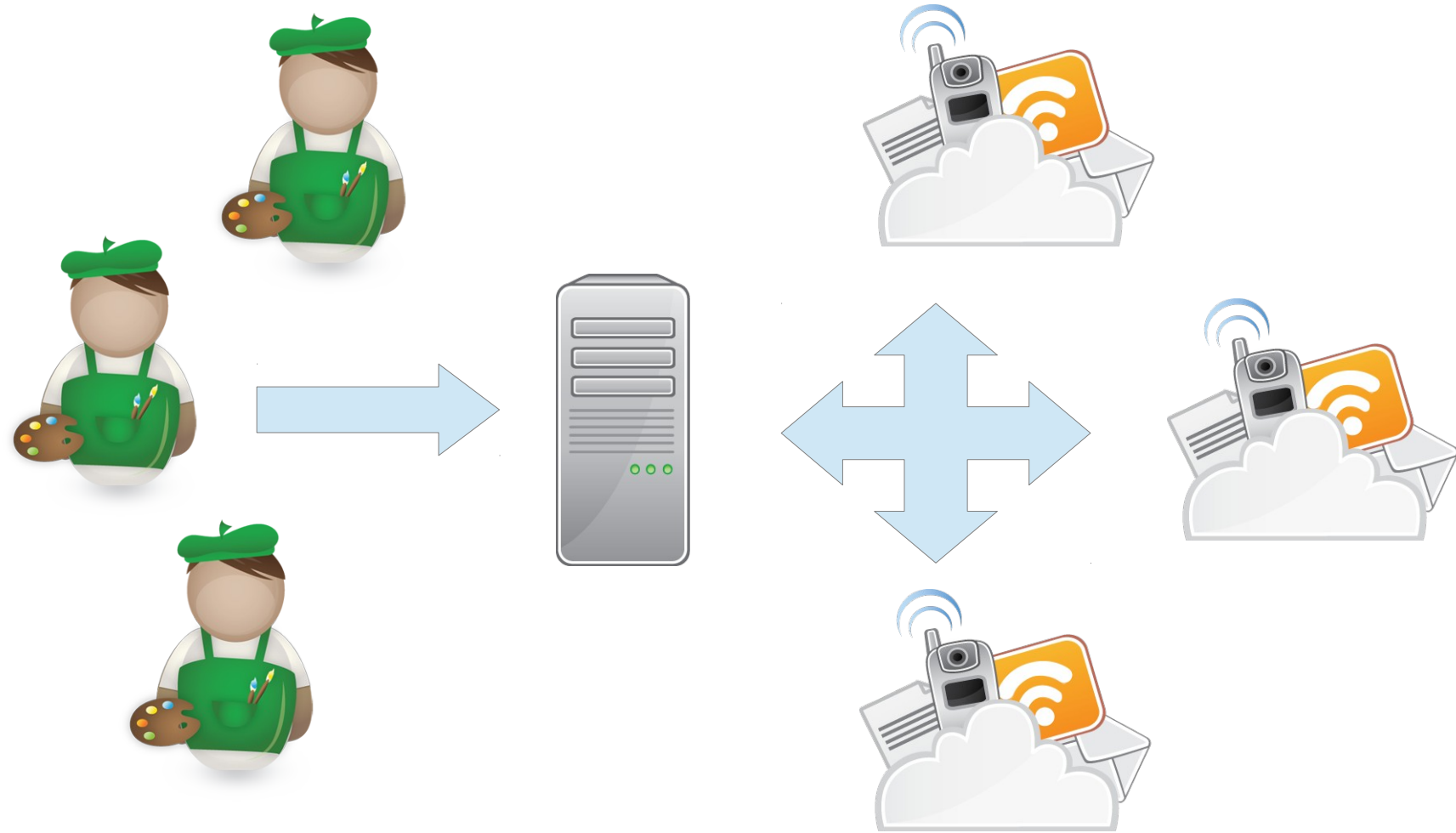
Enable Users



No System Engineer Required



No Configuration Management



Reduce Complexity

Past

- Users depend on System Engineer
- Lot of knowledge required
- Investment into development

CaaS

- Users can configure themselves
- Users defines target state
- Reuse existing configurations

Outcome

- Enable users to configure their systems
- Reduced complexity
- Focus on core competences
- Growing number of configurations

I want to use cdi.st

- cdi.st public release planned for August 2014
- Beta running at customers since June 2014
- Send mail to cdi.st@ungleich.ch

Thank you

- Follow us on Twitter: @ungleich
- cdi.st@ungleich.ch
- <http://www.ungleich.ch>

```
          **          +          +x+=+          S
          dF          @88>          z` ^%          :8
          `88bu,          %8P          + <k          .88
          `*88888bu          +          .@8Ned8"          :888ooo
          .udR88N          ^"*8888N          .@88u          .@^%8888" -*8888888
          <888'888k          beW€ "888L          ^888€` x88; `)8b,          8888
          9888 `Y"          888€ 888€          888€ 8888N=*8888          8888
          9888          888€ 888€          888€ %8" R88          8888
          9888          888€ 888F          888€ @8Wou 9%          .8888Lu=
          ?8888u,./          .888N,.888          888% .888888P `          ^%888*
          "8888P"          `""888*""          R888" ` ^"F          'Y"
          "p"          ""          ""          ""
```