Topics in Configuration Management BoFs @ Lisa '10

Nico Schottelius, ETH Zurich Hal Snyder and Jason Olson, Orbitz

10. November 2010

・ロト ・回ト ・ヨト ・ヨト

E

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

Introduction

Current situation

Nico's stunning config world

Example implementation

Future

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

イロト イロト イヨト イヨト 二日

Current situation Nico's stunning config world Example implementation Future



This is not a vendor BoF

- Originally originated from a discussion
- CM is in: see IRC, meetings and ask yourself why you're here

- Current situation of CM-Tools
- Brainstorming for a better world

Current situation Nico's stunning config world Example implementation Future

This BoFs

- This is not a vendor BoF
- Originally originated from a discussion
- CM is in: see IRC, meetings and ask yourself why you're here

・ロト ・回ト ・ヨト ・ヨト

- Current situation of CM-Tools
- Brainstorming for a better world

Current situation Nico's stunning config world Example implementation Future



- This is not a vendor BoF
- Originally originated from a discussion
- CM is in: see IRC, meetings and ask yourself why you're here

・ロト ・回ト ・ヨト ・ヨト

- Current situation of CM-Tools
- Brainstorming for a better world

Current situation Nico's stunning config world Example implementation Future

This BoFs

- This is not a vendor BoF
- Originally originated from a discussion
- ► CM is in: see IRC, meetings and ask yourself why you're here

・ロト ・回ト ・ヨト ・ヨト

- Current situation of CM-Tools
- Brainstorming for a better world

Current situation Nico's stunning config world Example implementation Future



- This is not a vendor BoF
- Originally originated from a discussion
- CM is in: see IRC, meetings and ask yourself why you're here

・ロト ・回ト ・ヨト ・ヨト

- Current situation of CM-Tools
- Brainstorming for a better world

Current situation Nico's stunning config world Example implementation Future



Tries to optimse his (sysadmin) world

- Hates ugly design in software
- ► Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

イロト イヨト イヨト イヨト

Current situation Nico's stunning config world Example implementation Future



- Tries to optimse his (sysadmin) world
- Hates ugly design in software
- Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

Current situation Nico's stunning config world Example implementation Future



- Tries to optimse his (sysadmin) world
- Hates ugly design in software
- Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

Current situation Nico's stunning config world Example implementation Future



- Tries to optimse his (sysadmin) world
- Hates ugly design in software
- Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

・ロト ・回ト ・ヨト ・ヨト

Current situation Nico's stunning config world Example implementation Future



- Tries to optimse his (sysadmin) world
- Hates ugly design in software
- Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

・ロト ・回ト ・ヨト ・ヨト

Current situation Nico's stunning config world Example implementation Future



- Tries to optimse his (sysadmin) world
- Hates ugly design in software
- Tried cfengine
- Using puppet with another sysadmin at ETH Zurich
- Seen many bugs and problems
- Thinks about writing a new CM

イロト イポト イヨト

CM tools

Chef

- Puppet
- ► Cfengine
- Brcfg
- You name it

・ロト ・回 ト ・ヨト ・ヨト

E

DQC

CM tools

Chef

Puppet

- ► Cfengine
- ► Brcfg
- You name it

・ロト ・回 ト ・ヨト ・ヨト

Э

DQC

CM tools

- Chef
- Puppet
- Cfengine
- ► Brcfg
- ▶ You name it

・ロト ・回 ト ・ヨト ・ヨト

CM tools

- Chef
- Puppet
- Cfengine
- Brcfg
- You name it

・ロト ・回 ト ・ヨト ・ヨト

CM tools

- Chef
- Puppet
- Cfengine
- Brcfg
- You name it

◆□ > ◆□ > ◆豆 > ◆豆 >

Facing the truth

Bugs and design issues

- Weired designs including reinvention of the wheel
- Done parts right, breaking if heavily used
- Wack documentation in many systems
- You scream. The question is when.

Facing the truth

- Bugs and design issues
- Weired designs including reinvention of the wheel
- Done parts right, breaking if heavily used
- Wack documentation in many systems
- You scream. The question is when.

Facing the truth

- Bugs and design issues
- Weired designs including reinvention of the wheel
- Done parts right, breaking if heavily used
- Wack documentation in many systems
- ▶ You scream. The question is when.

Facing the truth

- Bugs and design issues
- Weired designs including reinvention of the wheel
- Done parts right, breaking if heavily used
- Wack documentation in many systems
- ▶ You scream. The question is when.

・ロト ・回ト ・ヨト ・ヨト

Facing the truth

- Bugs and design issues
- Weired designs including reinvention of the wheel
- Done parts right, breaking if heavily used
- Wack documentation in many systems
- You scream. The question is when.

・ロト ・回ト ・ヨト ・ヨト



I know some config tools

- Thus I'm biased towards new systems
- ► l'm lazy
- I love Unix

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

◆□ → ◆□ → ◆ □ → ◆ □ →



- I know some config tools
- Thus I'm biased towards new systems
- ► l'm lazy
- ► I love Unix

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

◆□ → ◆□ → ◆ □ → ◆ □ →

Э

DQR



- I know some config tools
- Thus I'm biased towards new systems
- I'm lazy
- ► I love Unix

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回 ト ・ヨト ・ヨト

Э

DQR



- I know some config tools
- Thus I'm biased towards new systems
- I'm lazy
- I love Unix

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

イロン イヨン イヨン



Different try - turn the world around

- Ignore any existing implementation
- Though, not the concepts
- Create lovely design of what I want

・ロト ・回ト ・ヨト ・ヨト

E



- Different try turn the world around
- Ignore any existing implementation
- Though, not the concepts
- Create lovely design of what I want

・ロト ・四ト ・ヨト ・ヨト



- Different try turn the world around
- Ignore any existing implementation
- Though, not the concepts
- Create lovely design of what I want

・ロト ・四ト ・ヨト ・ヨト



- Different try turn the world around
- Ignore any existing implementation
- Though, not the concepts
- Create lovely design of what I want

・ロット (日) ・ (日) ・ (日)

What do I want today?

Good documentation

- UNIX: reuse of small apps
- Templates
- Discovery of client information (ssh keys, os type, etc.)

イロト イヨト イヨト イヨト

What do I want today?

- Good documentation
- UNIX: reuse of small apps
- Templates
- Discovery of client information (ssh keys, os type, etc.)

・ロト ・回ト ・ヨト ・ヨト

What do I want today?

- Good documentation
- UNIX: reuse of small apps
- Templates
- Discovery of client information (ssh keys, os type, etc.)

・ロト ・回ト ・ヨト ・ヨト

What do I want today?

- Good documentation
- UNIX: reuse of small apps
- Templates
- Discovery of client information (ssh keys, os type, etc.)

・ロト ・回ト ・ヨト ・ヨト

3

What do I want today?

- Good documentation
- UNIX: reuse of small apps
- Templates
- Discovery of client information (ssh keys, os type, etc.)

・ロト ・回ト ・ヨト ・ヨト

3

What do I want today? (2)

Abstraction to dirty stuff (package managers, users, etc..)

- Library support
- ▶ Scaling large (> 10k clients shouldn't be a real issue)
- Easy support for multiple servers
- Push and Pull architecture

What do I want today? (2)

Abstraction to dirty stuff (package managers, users, etc..)

・ロト ・回ト ・ヨト ・ヨト

- Library support
- ▶ Scaling large (> 10k clients shouldn't be a real issue)
- Easy support for multiple servers
- Push and Pull architecture

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

What do I want today? (2)

Abstraction to dirty stuff (package managers, users, etc..)

- Library support
- Scaling large (> 10k clients shouldn't be a real issue)
- Easy support for multiple servers
- Push and Pull architecture

What do I want today? (2)

Abstraction to dirty stuff (package managers, users, etc..)

イロト イポト イヨト

- Library support
- Scaling large (> 10k clients shouldn't be a real issue)
- Easy support for multiple servers
- Push and Pull architecture

What do I want today? (2)

Abstraction to dirty stuff (package managers, users, etc..)

- Library support
- ▶ Scaling large (> 10k clients shouldn't be a real issue)
- Easy support for multiple servers
- Push and Pull architecture

Nice to have

(Almost) No requirements on the clients

Support Windows[^]Wnon-Unix-Variants

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

E

Nice to have

- (Almost) No requirements on the clients
- Support Windows[^]Wnon-Unix-Variants

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

3

DQR

I can reinvent the wheel

But cycling alone is boring

Your input here

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回 ト ・ヨト ・ヨト

Э

How would I ...?

▶ Good documentation: manpages sections 1 and 7

- UNIX: reuse of small apps: use what's available
- Templates: I don't. You do. man stdout.
- Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- Templates: I don't. You do. man stdout.
- Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I ...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

イロト イポト イヨト

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.

How would I...?

- ► Good documentation: manpages sections 1 and 7
- ► UNIX: reuse of small apps: use what's available
- ► Templates: I don't. You do. man stdout.
- ► Discovery of client information: ssh + see above
- Easy to write and/or already known language: I'm dumb. Use shell.

イロト イポト イヨト イヨト

- Abstraction to dirty stuff: Define types
- Library support: Weired ideas existing
- Scaling large: As easy as adding a new server
- Easy support for multiple servers: Use a VCS
- Push and Pull architecture: Easy to do, use triggers.



► (Almost) No requirements on the clients: Shell + Unix

Support Windows[^]Wnon-Unix-Variants: Cygwin

Other stuff: You.

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

3



- ► (Almost) No requirements on the clients: Shell + Unix
- Support Windows[^]Wnon-Unix-Variants: Cygwin
- Other stuff: You.

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

3

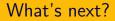


- ► (Almost) No requirements on the clients: Shell + Unix
- Support Windows[^]Wnon-Unix-Variants: Cygwin
- Other stuff: You.

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

Э



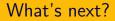
I imagine some people are working on this

I assume if there was a release, you would find it.

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・四ト ・ヨト ・ヨト

E



- I imagine some people are working on this
- ► I assume if there was a release, you would find it.

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management

・ロト ・回ト ・ヨト ・ヨト

3



Thanks for listening!

More stuff can be found on http://www.nico.schottelius.org/blog/

・ロト ・回 ト ・ヨト ・ヨト

E

Nico Schottelius, ETH ZurichHal Snyder and Jason Olson, Orb Topics in Configuration Management