

# Towards more metaconfig

Stijn De Weirdt (UGent)

Quattor workshop 30/09-02/10/2014

# What is ncm-metaconfig?

- ▶ Render structured text for configfiles with minimal effort
- ▶ Limited action upon content change
- ▶ Should cover a lot of service configuration
- ▶ Minimal effort
  - ▶ no perl
  - ▶ still with schema
  - ▶ and unittests
- ▶ It's not like filecopy
  - ▶ should be easy enough to replace filecopy usage

# Supported via perl modules

- ▶ Fixed configuration via existing perl modules
  - ▶ json
  - ▶ yaml
  - ▶ tiny (Config::Tiny; .ini format)
  - ▶ properties (Config::Properties; java properties files)
    - ▶ warning: adds timestamped header
  - ▶ general (Config::General; like a mix of .ini and xml)
- ▶ None of the above support detailed schemas
  - ▶ eg list of strings is not automatically converted to comma/space-separated string

# Supported via TT

- ▶ Template::Toolkit (TT)
  - ▶ <http://template-toolkit.org>
  - ▶ templating framework in perl
    - ▶ now also in python
- ▶ via custom .tt files
  - ▶ can include other TT files etc etc
- ▶ very powerful
- ▶ very nasty if you need to configure something whitespace sensitive
- ▶ e.g. config-templates repo from [github.com/hpcugent/config-templates](https://github.com/hpcugent/config-templates)
  - ▶ bacula,collectl,devicemapper,ganesha,graphite,graylog2
  - ▶ httpd,kerberos,logstash,mrtg,named,nginx,opennebula
  - ▶ perfsonar,rpcidmapd,rsync,snmp,udev,xinetd,zookeeper

## Other components that generate config files?

- ▶ Large fraction of components
  - ▶ generates config
  - ▶ some logic/workflow to act upon changes in config
- ▶ Use CAF::Render (with same metaconfig modules, incl TT) to create text
  - ▶ focus developer effort on getting the logic/workflow correct
- ▶ Ship TT files with component or not
  - ▶ e.g. spma, authconfig, ceph,...
  - ▶ easy unittests when shipped with component?
    - ▶ generalise/rewrite test framework from config-templates in perl?

## config-metaconfig repo

- ▶ Luis started hpcugent repo
  - ▶ <https://github.com/hpcugent/config-templates>
  - ▶ no unittests though
- ▶ repo layout and easy unittesting was added
  - ▶ <https://github.com/hpcugent/config-templates/issues/40>
  - ▶ <https://github.com/hpcugent/config-templates/issues/41>
- ▶ all existing services moved to new structure
  - ▶ most of them with value-based unittests
    - ▶ i.e. generate and test working examples
    - ▶ so no abstract testing of all possibilities
- ▶ also metaconfig templates and schema files are added
  - ▶ and are also tested
- ▶ ready to be moved under quattor project
- ▶ json2tt.pl tool
  - ▶ take current json, render the config output
    - ▶ “view” the config file without running metaconfig
  - ▶ currently not using CAF::Render
  - ▶ would allow to unittest all build in modules of metaconfig

# Migration

- ▶ <https://github.com/hpcugent/config-templates/issues/68>
- ▶ new names
  - ▶ config-templates
  - ▶ CAF::Render
- ▶ review tutorial
- ▶ migrate under current build framework
  - ▶ reimplement test/suite.py using mvn and perl Test::More
- ▶ migrate to Alloy
  - ▶ more features/ease of use
  - ▶ slightly better maintained
  - ▶ still has bugs with perl Json instances
    - ▶ unittests caught those, developer is responding
  - ▶ better packaging
  - ▶ some used features are in TT 2.25 only, packaging and unmaintained