

# Introduction to Quattor and Aquilon

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# Outline

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  - Quick overview
- 3 Aquilon
- 4 Conclusion

# What is Quattor?

- A system administration toolkit
- Aimed to control large and very large computer fabrics
  - Installation
  - Configuration
  - Upgrades
  - Inventory
  - ...
- Flexible and modular
- Reliable
- Traceable

# Strong points

- Modularity and reusability
  - Recipes available for configuring lots of services
- Powerful configuration language
  - User-defined restrictions
  - Early detection of mistakes
- Reproducibility of all states
- Scales up



# The Pan language

- Declarative language
- Strongly typed
  - Allows for user-defined constraints
- Compiled into one JSON profile per managed node

# The Pan language

- Modularity
  - Pan source files can be included or instantiated
- Specialization of parts of the configuration
  - Per host, per cluster, per service...

# The Pan language

## Example

```
object template wormadam;  
"/" = create("hostdata/wormadam");  
include "personality/trac-server/config";
```

## Example

```
declaration template quattor/schema;  
type profile = {  
    "system" : structure_system  
    "software" : structure_software  
    "hardware" : structure_hardware  
};  
bind "/" = profile;
```





# Enter Aquilon

- A broker for orchestrating Quattor Operations
- With a DB backend acting as inventory
  - DB contents fed into configurations

# Aqilon workflows

- Aqilon uses Git as a backend
- Git branches for
  - sandboxes** for testing on a small set of hosts  
Easy to implement canary deployments
  - domains** for final configurations  
Prod, devel, test...

# Aqilon operations

- Features and policies require writing Pan code
- But we can tell the broker to integrate features together

## Example

- Host ABC is a web proxy
- With SSL
- With cache
- Located in Madrid
  - So the network settings for our Madrid CC apply
- On a VM with 2 CPUs and 4GiB RAM
- The broker allows for self-service host allocation

# Didn't fit today...

- SSL or Kerberos for profile transfer
  - And other cool security stuff
- Policy-based deployments
- Data warehousing with Elasticsearch
- A full demo
- ...

# Conclusion

- Quattor puts the highest effort in early detection of mistakes
  - Hence the Pan language
- Quattor is extremely flexible
  - Pick the modules, tools you need
  - Use your favourite alternative where you want
- The community shares recipes for lots of common and LCG services
- Documentation is our weakest point today
- Aquilon allows non-experts to set up hosts from small building blocks without help

# Contacts

- Quattor web site

## Questions?

