Introduction to Quattor and Aquilon

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Outline

- Introduction
- 2 About Quattor
 - Quick overview
- Aquilon
- Conclusion

What is Quattor?

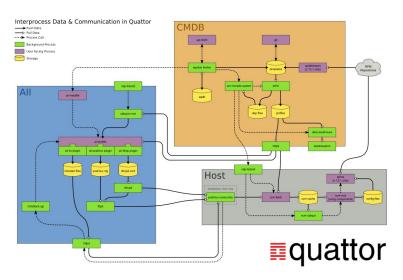
- A system administration toolkit
- Aimed to control large and very large computer fabrics
 - Installation
 - Configuration
 - Upgrades
 - Inventory
- Flexible and modular
- Reliable
- Traceable



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

Architecture (simple use case)



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

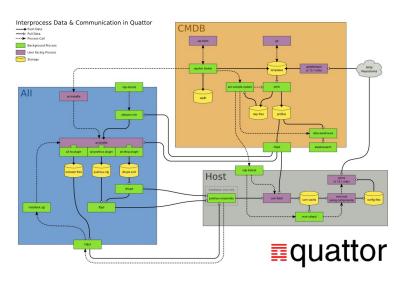
Example

```
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;
```

When we need to scale up...



Enter Aquilon

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

Aguilon workflows

- Aguilon 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...

Aquilon 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?

