

# quattor

## Update

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# Quattor Update

- Some history
- Aquilon - 3<sup>rd</sup> Generation
- Quattor at RAL
- Quattor Community

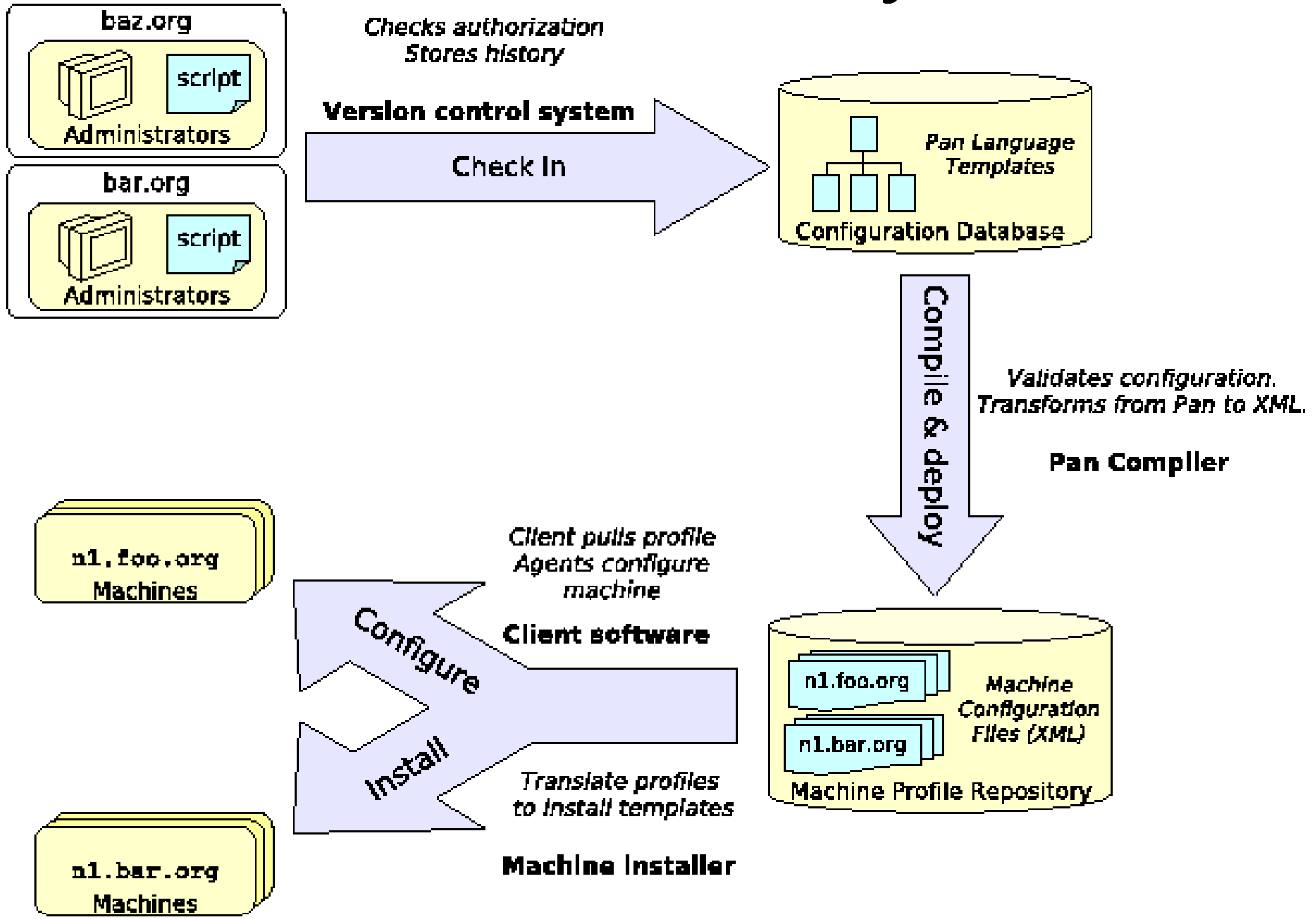
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# Some History

- Abstract, service oriented description of machine configuration, based on Pan language “templates” that can be heavily factorized.
- Machine configuration described in term of final state, not actions required to reach the final state.
- Manage both installation and configuration changes from the same configuration description.
- Configuration description versioning, together with package manager (SPMA) allowing very easy rollback of any change.
- Used to manage non-grid servers, desktops, virtual machines and much more.
- Abstracts hardware, OS, payload and site specific configuration
- Modular architecture allows replacement of different components, integration with existing systems etc.

# Some History



# Some History

- Initial development as European Data Grid project (2001-2004).
- First release 2003
  - CDB (cvs based) configuration datastore– still used at CERN
- Subversion Configuration Database (SCDB) 2004 initially at LAL
  - Now (nearly) all sites have migrated to SCDB – or beyond
- Quattor Working Group (QWG) formed 2006 or so
  - QWG framework developed from templates in use at LAL
    - Designed to support shared/federated configurations
  - Twice yearly workshops
  - Very active development
- Now hosted on SourceForge

# Some History – key properties

Some of the key reasons given by sites for choosing Quattor

- Pan language
- Modular architecture - can pick and choose the components you need
  - Use your own provisioning/deployment system
  - Build a new configuration database and so on
- Pre-deployment verification
  - Know profile is good before delivering to clients
  - Essential to workflow at many sites

All of these remain true

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# Aquilon - 3<sup>rd</sup> Generation

- Aquilon is the third generation configuration datastore for Quattor (1st gen: CDB, 2nd gen: SCDB).
- Biggest single change is the introduction of a broker daemon which has overall ownership of the system including template compilation.
  - This stores most site configuration in a relational database, generating object templates on-the-fly at compile time.
- All user interaction takes place with the broker
  - delegates sandboxes, which take the form of git repositories when changes to pan templates are needed.
- Most operations do not now require editing of templates and can be performed in almost real-time with a single command
  - allows for event driven configuration changes as well as self modification by configured systems.

# Aquilon - 3<sup>rd</sup> Generation

In the last four years in use by major investment bank to manage worldwide grid of 25000+ hosts.

Linux, VMWare hosts & VMs, NetApps, switches, etc, etc

Developed their own configuration database – Aquilon

Templates (e.g. QWG templates) can be seen as a "library" used in a way similar as in SW development: well defined API, no need to dig into it. Developing templates is a task for experts/developers.

Aquilon available as an appliance: part of the work in progress to lower the learning curve.

Work now is adjustments to Aquilon schema and QWG templates to work together

almost there.

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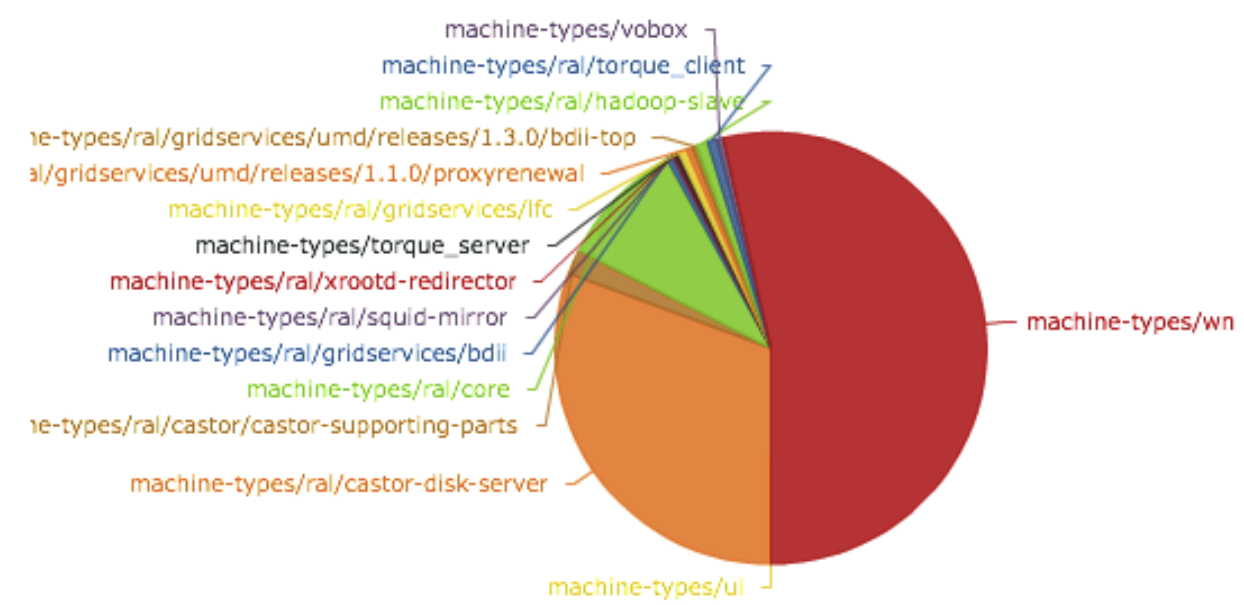
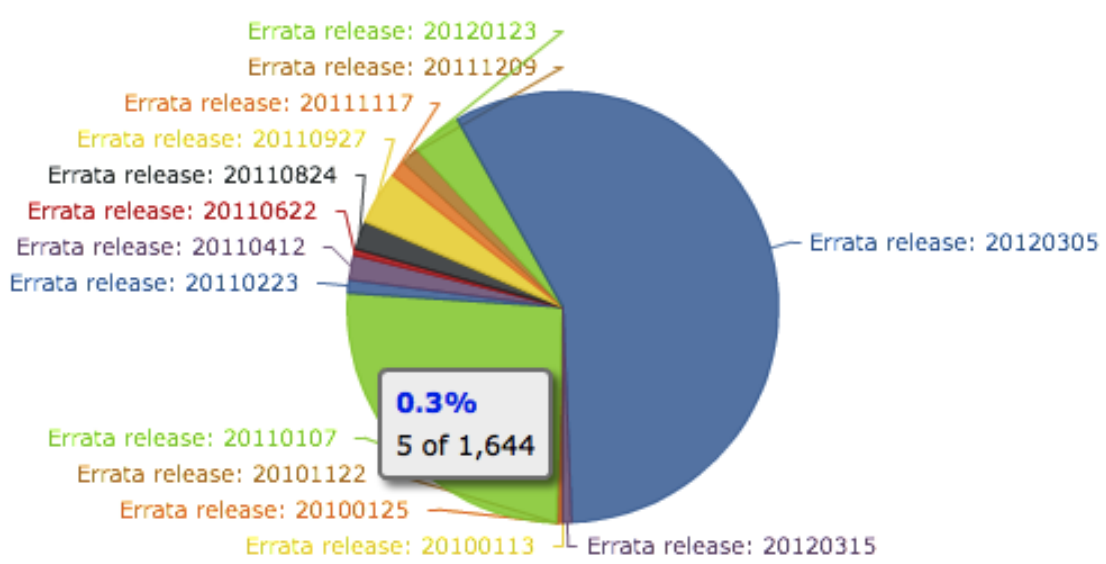
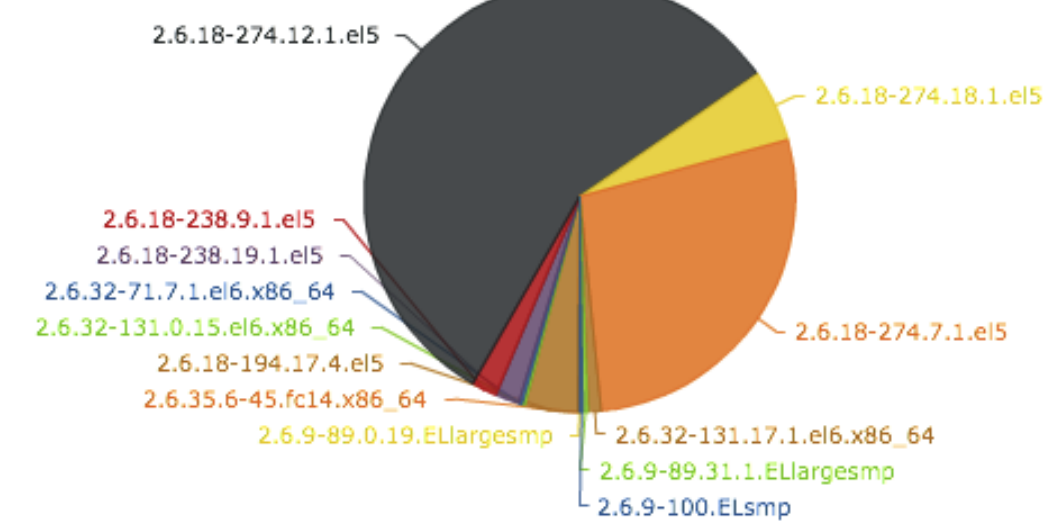
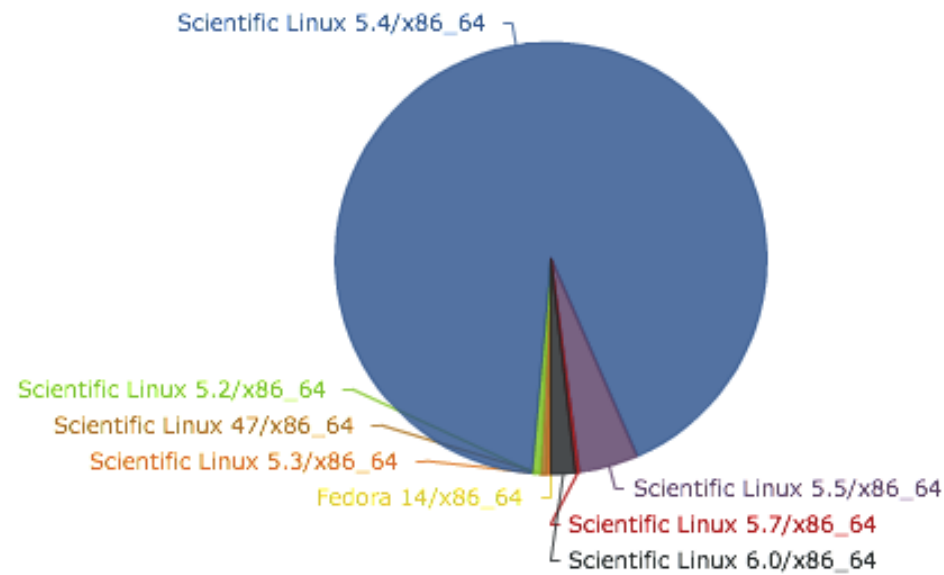
# Quattor at RAL

- Thoroughly embedded across Tier 1 – all new SL deployments – most legacy systems rolled in
  - Still working on RHEL
- Last summer new integrated hardware/network database (magDB) created.
  - Used to populate Quattor templates
  - Used to manage system states (Castor status etc.)
  - Preparation for Aquilon – should be deploying systems in the summer
- Newly deployed default package mechanism makes managing packages much easier.
  - Just need to specify name and arch – means not having to update package versions between OS version

# New Quattor Dashboard

Took up the challenge and developed this week...  
Code will be on sourceforge

## System Property Dashboard



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# Quattor Community

Not large, but very active

- Weekly developers meeting
- Pan language well maintained
- New build tools (maven) & test tools being introduced
- QWG template framework evolving
  - More admins contributing to them
- IPv6 work ongoing

# Quattor Community

- Next workshop:
  - University of Gent this autumn, probably October
- Mailing lists:
  - quattor-discuss, quattor-grid, hosted at sourceforge
- Homepage
  - [www.quattor.org](http://www.quattor.org)



**QUESTIONS?**