DAQ Tutorial 2006

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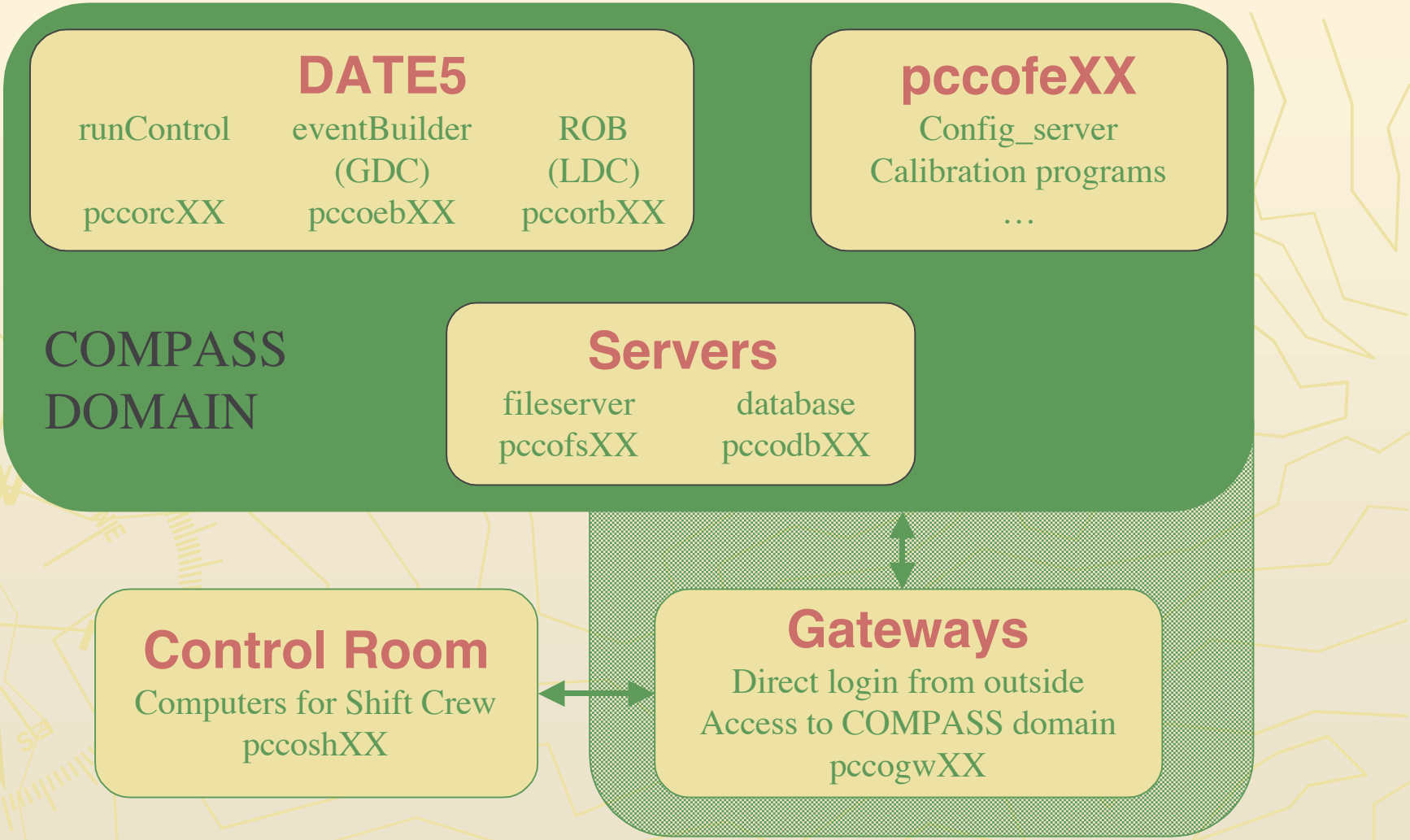
Overview of the whole System



pccofeXX@SLC4

- Diskless boot from PCCOFS01
  - Hardware address -> /etc/dhcpd.conf
  - TFTP config -> /tfptboot/linux-install/pccofe
    - Use system-config-netboot to add new machines
  - Filesystem is at /online/netboot/diskless/root
  - Individual files at /online/netboot/diskless/snapshots
    - In case of severe problems try deleting the particular snapshot
- Test kit (keyboard+monitor) in DAQ barrack
- config_server started by restarter started by CRON every minute

New TCS Stuff

- tcsServer is integrated with config_server
- instead of 'sockclient.pl pccofe01 9876 T ...' use Run Control CalTrig button
- check_trigger continuously displayed in TCS status window of Run Control
- TCSC: command line program for TCS control
  - not well documented yet, experts only
  - in principle it's all DIM:
    dimclient cmd TCS/main/Control 'R 0'
    would start a run...

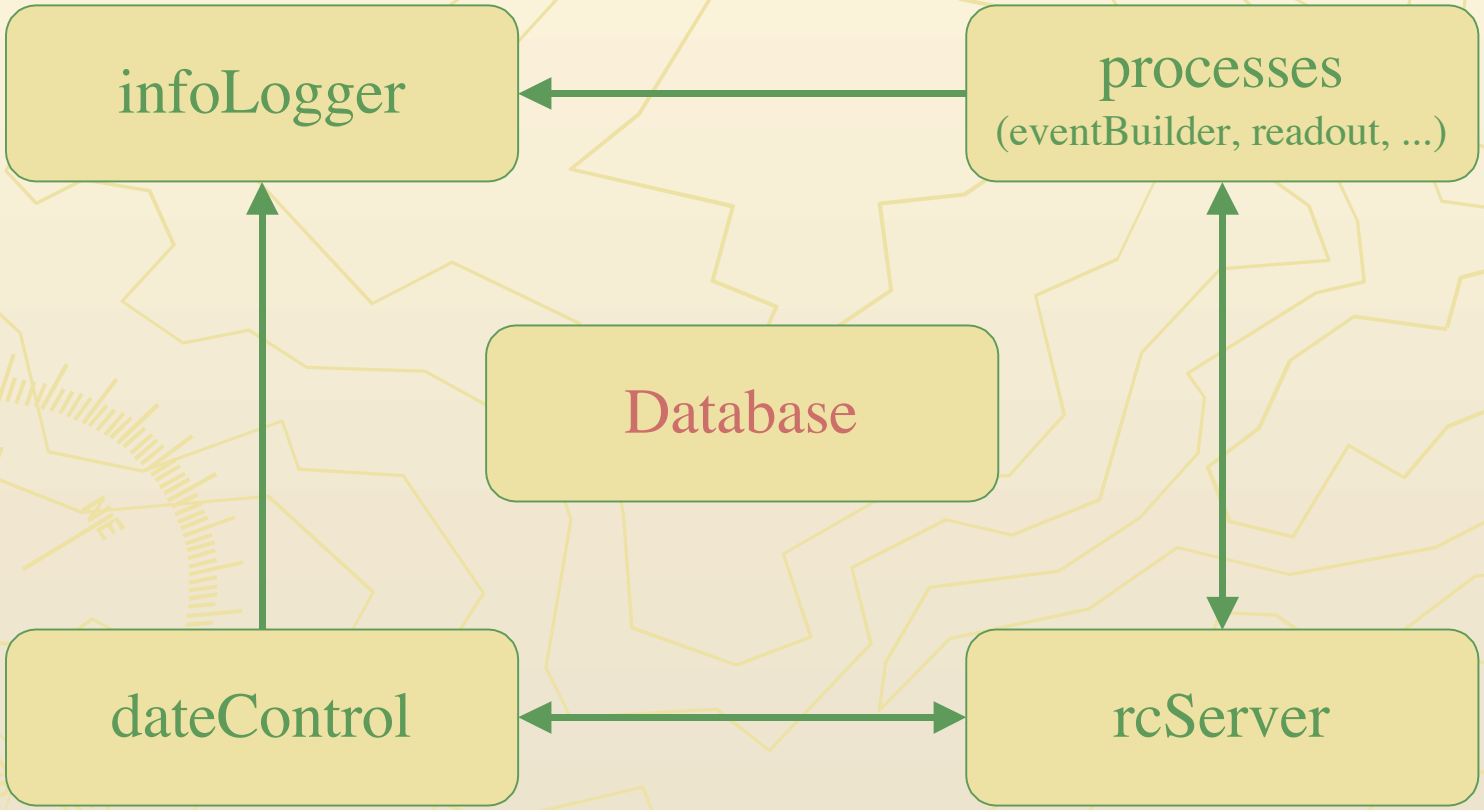
Gateways

- Two gateways, standing in the control room
- Login only as personal user account, no “daq”
- After login only “daq” exists in COMPASS domain
- All login in COMPASS domain without password
- Host keys are managed centrally, in case of problems delete lines from ~/.ssh/known_hosts
- Add/delete accounts with “add_gw_user” as root

Fileserver

- All /online filesystems served via automount/NFS
- root on gateway has no write access
- most important /online/soft/daq, see README
  - client_files/ rsync'ed to all clients every hour using client_files/etc/cron.hourly/rsync_clients
  - password files rewritten every hour (update_passwd)
- DIM DNS running on pccofs01 (see root crontab)

DATE5 Overview



Where to configure what

- editDb for low level access
  - enable/disable hosts
  - configure environment variables
- RunControl Disconnected Configuration
  - hosts taking part in the data taking
  - you must disable all ROBs from which nothing is read
- RunControl Connected Run Parameters
  - should be all the same for each machine type
  - if something is strange copy all settings from working machine

COMPASS Specifics

- SLinks button to configure which links are read
  - currently no checking with enabled ROBs
- CalTrig button for calibration trigger setup
- Filter setting queried at start of run
- Trigger setting changes prescaler immediately
  - button is not active during the run
  - use TCS status window to check the effect
- Bursts limit can be changed during the run

rcServer

- Everything is controlled by SMI “domains”
- dateStart/dateStop start and stop these domains
  - All DATE processes should die with their domains
  - cleanDate is basically dateStop
  - use dateStart in case of “Connection Problem” message to check for dead rcServers
- rcServer controls and monitors all processes, using the infoLogger to report errors

dateControl

- To start DATE, type dateControl on a pccorcXX
  - SMI domains are started
  - runControl background process is created
  - runControlHI frontend is started
- Many frontends can coexist, but only one control
  - need to click the lock icon to get control
  - other frontends are displaying the same -> monitoring
- Status Display is configurable

infoLogger

- Most important debugging tool!
- type “infoBrowser” to get the frontend
- query the database ...
  - % is wildcard, e.g. Hostname “pccorb%” for all ROBs
  - the time fields accept intuitive input like ‘14:00’
- ... or use “Online” mode for debugging
- nearly everything goes to infoLogger database, only SMI debug info is in $DATE_SITE_TMP
- problem solving algorithm: look for first occurred error message and fix the cause ;-)

infoLogger Troubleshooting

- infoLoggerServer running on PCCODB01
  - if not then look into $DATE_SITE_LOG/infoLoggerServerLog
- infoLoggerReader running on each DATE host
  - is automatically started when needed
  - records data “locally” to $DATE_SITE_LOGS in case of no infoLoggerServer
  - can crash if that FIFO is corrupt due to computer crash
    - fix: delete $DATE_SITE_LOGS/infoLoggerReader@<host>.fifo

Summary

- Everything is in the database
- infoBrowser is the most valuable tool
- dateControl to start
- dateStop to stop
- Please read ~daq/Documentation/FAQ