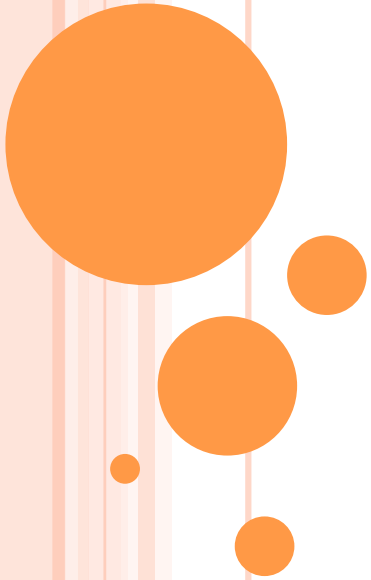

Robotic Control System

Configuration and operation

Layout of OCC filesystem

- /occ
  - /bin
    - various startup and utility scripts
  - /common
    - /ngat
      - NGAT libraries
    - /shared
      - 3rd party libs (jibx, jdom, xerces…)
    - /lib
      - c libs (libjslalib.so, libngatfits.so…)
  - /data
    - data generated by various cron scripts
    - Eg cloud.dat, dust.dat, ocr.dat…
  - /rcs
    - /config
      - configuration files
    - /instruments
      - instrument calib data
    - /tocs
      - ToO accounting
    - /scripts
      - Various scripts
  - /logs
    - The rcs logs for the last day
  - /tmp
    - Temporary logs eg rcs console, various script logs.
  - /backup
    - Dated backups made using /occ/bin/backup script

Processes on OCC

- RCS
  - Started via: /etc/init.d/rcw_init
    - This is a watchdog, it restarts the RCS if it falls over or a restart is requested via the OpsUI.
- Scheduler
  - Started via: /etc/init.d/sched_init
    - The deployed version of this script does not have a stop option – there is one in the dev version.
- Synoptic Model -Phase2 cache (level 1)
  - Started via: /etc/init.d/smp_init
    - There is a level 2 cache but this is still experimental it would probably speed up scheduler execution by a factor of around x5 to x10. Again the deployed script has no stop option but the dev version does.
- Beam Steering System
  - Started via: /etc/init.d/bss_init
    - This has to be running as the instruments (O at least) talk to it.

Main Process

- The RCS main launcher is contained in the class
  - ngat.rcs.RCS_Controller
- It configures and starts all the various subsystems and modules:-
  - TCM
    - configured via *telescope.xml*
  - ICM
    - configured via *ireg.xml*
  - EMS
  - ERS
    - configured via *rules.xml*
  - TMS
    - configured via *task.properties*
    - *agent.properties* and various mode controllers via
    - *soca_ops.properties* , *to_ops.properties*, *background.properties*
  - Ops
    - configured via tsm_reactive.properties

RCS Process startup

- Initialize logs
- Initialize astrometry
- Setup CIL service and CIL Proxy
- Setup ISS and TOCS
- TCM setup
  - Configuration
  - Start monitoring TCS and AG
- ICM setup
  - Configuration of Ireg and instrument status providers
  - Start monitoring instruments
- Legacy providers for LiveData feeds
- EMS setup
  - Configuration
  - Start monitoring WMS, BCS, TNG
- ERS setup
  - Start processing thread
- Monitors setup
  - Tracking, Autoguider lock, Instruments, PMC
- TMS setup
- Ops setup, statemodel and binding to ERS
- MCA setup
  - Configure BGCA, SOCA, TOCA, CA
- A minute or so after everything is setup the time-of-day (PERIOD) and eng/auto (INTENT) state variables, used by the state model are set according to the actual time of day and command line arg (**manual** or **auto**).