Cycles, mitraillette and the like ...

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Outline of my talk

1. R&D cycles, link with MF e-suites, link with export versions
2. Update on mitraillette in one slide
3. OOPS overview
4. Outlook towards major code changes after OOPS

Latest R&D cycles and planning

- **CY45 : 28 June 2017**
  - Significant re-factoring for OOPS !
    - Obs operators [CY43-CY44-CY45]
    - ODB interfaces [CY45]
    - MODEL object in IFS codes [CY45]
- **CY45T1 : 24 January 2018**
  - Updates for Alaro-1 ; for Bator with Hirlam
  - Tests : bug in IDFI, norms of Alaro under investigation, Aladin+Surfex test broken
  - No DA tested
- **CY46 : 10 April 2018**
  - OOPS re-factoring : VarBC, time handling step 1, LBC object, etc.
  - Full-POS for OOPS : re-factoring done (interfaces & methods are working)
  - same level of overall validation than CY45T1 (Alaro norms ?, no DA tested etc.)
  - IDFI fixed, fixes for FP and models included (thus, code probably a bit cleaner than in CY45T1_main)
  - Use ecCodes for accessing GRIB_API interfaces
- **CY46T0 or T1** : autumn 2018 (exact content and timing tbc)
- **CY47** : January-March 2019 (agreed with ECMWF)
  - Robust base version for OOPS ?
- **CY47T1** : spring or autumn 2019

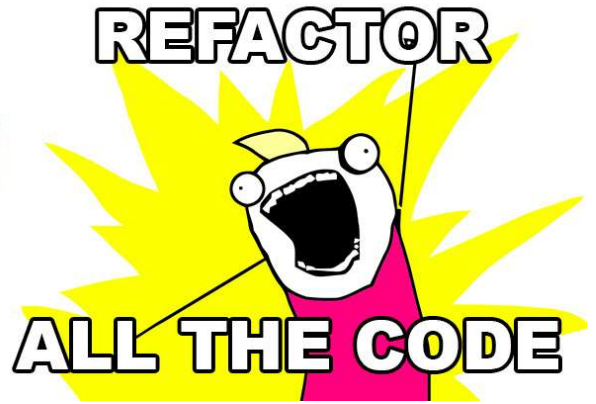
MF e-suite versions ; ALADIN export versions ; versions installed by HIRLAM

- MF code versions :
  - CY42_op2 : operational since 5 December 2017
  - CY42_op3 : e-suite for Arome EDA (AEARO)
  - CY43T2_bf : target base version for 2018 e-suite. Intensive validation effort is ongoing in order to achieve baseline validation for all Arpège and Arome confs (_bf.06 now in MF's GIT)
- ALADIN export versions / HIRLAM shared versions :
  - CY40T1_bf.07 : released 24 April 2017
  - CY43T2_bf.xx : a test version based on _bf.04 is under evaluation by HIRLAM and in CHMI
- Note : all FLUBs (technical memoranda) of recent cycles, minutes from IFS/Arpège coordination meetings and technical videoconferences (incl. OOPS) are available at *http://www.umr-cnrm.fr/aladin/* (note that some pages are pwd-protected)

Update on mitraillette in one slide (K. Yessad, A. Mary, P. Saez)

- Reminder : all namelists and protojobs now available in MF's GIT-GCO repository
- Latest versions :
  - V102017 : CY45T1
  - V042018 : CY46
- New tools in order to help get a complete and user-friendly overview of the many test results :
  - Checkpack.py, ciboulette.py => details by Alexandre at the System WG meeting on Thursday 19 afternoon
- Thoughts about future evolution :
  - Add elements of DA
  - Add other new elements (eg PREP?)
  - Improve user-friendliness
  - Extend to OOPS in due time
  - Open question : use tools as a recommended or somehow compulsory step in code commitment process ?

OOPS overview



- At Project level – timing at ECMWF :
  - OOPS-IFS 4D-VAR fully available in Research by end of 2018, then have staff test OOPS binaries for a long enough period in 2019
  - E-suite and operations : possibly only after move of HPC Centre to Bologna (thus, rather S2/2020) unless this move slips in time
- FORTRAN code re-factoring status :
  - Significant code overhaul over [CY43-CY46], rather welcome by all involved developers and scientists
  - Remaining issues after CY46 : VarQC, all-sky radiances, c-VarBC, restart, time handling step 2 (EC) ; complete plug-in of FP in OOPS (MF) ; DFI (Aladin)
  - Technical testing and validation w/r to « classical » binaries
- Plans at MF in 2018 – 2019 – and beyond :
  - Forecast model tests (Arpège, Arome), Full-POS in various configurations
  - Some simple obs operator tests, TL/AD model tests (coll. With EC)
  - Left for after CY47 : rebuild 4D-VAR and LAM/3D-VAR prototypes, start testing w/r to « classical » VAR confs, test OOPS-FP within 4D-VAR, rephase EnVar codes

Outlook towards major code changes after OOPS

- ATLAS will become visible in IFS codes in CY47, but not compulsory for installation (protected by pre-compile directives)
- New dynamical cores (precise implementation in IFS cycles totally open for now)
- Codes for continuous DA, for COPE
- Changes related to outcome of ESCAPE or next-ESCAPE projects ; changes coming from porting to new HPC architectures ?

Un petit mot pour la fin
sur 3 lignes :
merci pour votre attention !

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Grandmercés per la vòstre atencion

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