SPECIAL PROJECT PROGRESS REPORT

All the following mandatory information needs to be provided. The length should *reflect the complexity and duration* of the project.

Reporting year 2022

Project Title: ACCORD common codes maintenance Special Project

Computer Project Account: SPFRACCO

Principal Investigator(s): Claude FISCHER

Affiliation: Météo-France

Name of ECMWF scientist(s) collaborating to the project (if applicable) none

Start date of the project: 1.1.2022

Expected end date: 31.12.2024

Computer resources allocated/used for the current year and the previous one

(if applicable)
Please answer for all project resources

		Previous year		Current year	
		Allocated	Used	Allocated	Used
High Performance Computing Facility	(units)			10000 kSBU	200 SBU
Data storage capacity	(Gbytes)			10000 Gb	

Summary of project objectives (10 lines max)

The goal of this SP is to provide resources to the ACCORD consortium in order to (1) enhance its capability towards a common maintenance of the shared NWP codes and (2) further develop and ensure the portability of the tools used for this maintenance. The planned activity covers the installation of technical validation testing tools (and testing input data - DAVAÏ -), the installation of tools for user-oriented evaluation of testing results ("ciboulaï", web interfaces, archive of test results), the installation of ACCORD code releases, the installation of compile tools, of user-specific code archives (e.g. "packs" for GMKPACK etc.), the execution of technical benchmark tests as defined in DAVAÏ, by submission on the ECMWF HPC machine.
In 2022, efforts on getting started with the Bologna HPC and setting up training for ACCORD Members (who are not familiar with the ECMWF environment) will still be significant.

This overall activity falls under the strategic goal of ACCORD to move towards a common working practice on code integration and testing of new releases.

Summary of problems encountered (10 lines max)

Key Members of this SP just started at the end of June to set up their environment at the ATOS HPCs. Connection issues with tsh/ssh were noted, only connecting through the "webshell" seemed to work for some of the participants (i.e. a terminal interface in a web browser provided by ECMWF).
Nevertheless, some needed software from the ACCORD galaxy has been ported, like "Epygram", a compiled version of "libs4py.so" (FA & spectral transforms interfaces to Python), and a few other necessary packages. In addition, very recently, the first ACCORD canonical model configurations have been enabled and are now running. This work required adaptations to the new VM ecFlow environment.
The installation work is to be continued ...

Summary of plans for the continuation of the project (10 lines max)

We aim at porting DAVAÏ directly on the ATOS HPC, thus are waiting for it to be stabilised. Currently, some early familiarisation and porting work on the Bologna computer has started (see above). In the autumn 2022, specific online tutorials will be organised with ACCORD staff, in order to train them to use the new work environment. The tutorials will focus on the overall new ACCORD working practices with the codes (source code forge, DAVAÏ etc.), however some online tutorial on how to use the computer and the tools installed on the ATOC HPC also will be provided.
The tutorials will be organised by the ACCORD Integration Leader (Alexandre Mary, from MF) and the ACCORD System Area Leader (Daniel Santos, from DMI).

List of publications/reports from the project with complete references

The most appropriate current references are the talks about the new ACCORD working practices on the common codes, given at the All Staff Workshop in April this year:

- SANTOS Daniel: Evolution of systems in ACCORD: towards a more common and transparent environment
- MARY Alexandre: Cycles and contribution practices

Summary of results

If submitted **during the first project year**, please summarise the results achieved during the period from the project start to June of the current year. A few paragraphs might be sufficient. If submitted **during the second project year**, this summary should be more detailed and cover the period from the project start. The length, at most 8 pages, should reflect the complexity of the project. Alternatively, it could be replaced by a short summary plus an existing scientific report on the project attached to this document. If submitted **during the third project year**, please summarise the results achieved during the period from July of the previous year to June of the current year. A few paragraphs might be sufficient.

The concrete results since 1 January 2022 can be summarised as follows:

- installation of the first ACCORD software tools on the ATOS HPC, in relation to the new working methodologies for preparing and testing new ACCORD code releases,
- publicity and setting up the list of the first ACCORD staff members with new users for the ECMWF HPC environment (from Algeria, Poland, soon Tunisia, and from other countries via their national HPC representative),
- presentations about the new working methods by A. Mary and D. Santos at the ACCORD all staff workshop (April 2022),
- the new working methods are a strategic goal in ACCORD. Their progress has been reviewed by the ACCORD STAC (Scientific and Technical Advisory Committee) in June 2022, and by the Assembly of Directors in early July.