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	2023
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)	---
Start date of the project:	1/1/2022
Expected end date:	31/12/2024 (a request for continuation will be submitted next year)

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)	10 MSBU	4 kSBU	15 MSBU	440 kSBU
Data storage capacity	(Gbytes)	10.000		10.000	

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 2022-2023, efforts on getting started with the Bologna HPC and setting up training for ACCORD Members (who are not familiar with the ECMWF environment) have taken a significant amount of time.

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)

A significant amount of time was spent on porting the Davai tool to the Bologna HPC, a task which included both Davai itself and the underlying Vortex scripting system. Among the difficulties that delayed porting, some late traps were about multiple permission issues on public files on ECFS or $PERM which were by default not accessible (group & others permissions).

This is now fixed and all these shared files will be hosted under the user *acrd* created to host such shared tools within ACCORD. The responsible contact points for this user can be reached out through a new e-mail address spfracco@accord-nwp.org (provided under the MF emailing system).

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

The special project resources have been so far only used for porting. They will now be more extensively used for the validation of the code contributions to CY49T1 and the integration of this cycle during summer and early fall 2023. The intention is to register early enough the necessary users/contributors of CY49T1 to the Special Project, so that they can bill their needed SBUs against SPFRACCO.

In November 2023, an ACCORD-Davaï Working Week dedicated to enlarging the scope of tests within Davai will be carried out. Among the candidate test configurations to be added, one may think of introducing Harmonie-Arome tests. These efforts will be greatly eased by the computing resources of this special project.

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 March this year:

- SANTOS Daniel: Moving towards a more common and transparent environment for ACCORD systems
- MARY Alexandre: Cycles and source code management
- STAPPERS Roel: Experiences and workflows in Github for Harmonie

Summary of results

Davai is now installed on ECMWF HPC and ready for use as a systematic validation tool for contributions to new releases of the IAL ("IFS-Arpege-LAM") code repository (aka the ACCORD source code forge).

The first few contributions to CY49T1 already have been validated thanks to Davai and the SPFRACCO Special Project. With the Special Project providing computing resources to all interested ACCORD Members, we now expect the number of users and the activity on joint code evaluation to grow. Very recently, several webinars have been organized for ACCORD staff with the aim of explaining the use of the source code forge, the use of Davai and the work environment at ECMWF (May-June 2023).