

HWRF Code Management and Support

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(a collaboration between DTC, EMC, and HWRF Developers)

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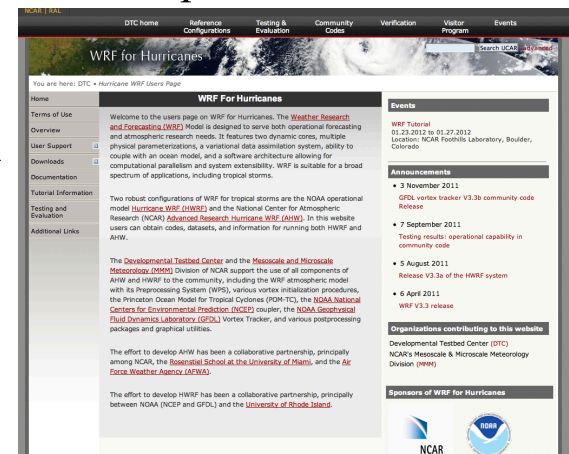
HFIP Telecon





Traditional HWRF code and support

- Yearly HWRF releases are made available at dtcenter.org
 - Corresponding to operational HWRF code of the year
 - Release HWRF v3.3a August 2011 corresponds to 2011 operational code
 - Release HWRF v3.4a Fall 2012 will correspond to 2012 operational code
 - Extensively tested
 - Users' Guide and Scientific Documentation
 - Datasets and test cases
 - Known issues and bugs are posted
 - Helpdesk at wrfhelp@ucar.edu
 - Stable, not-changing code
 - Benchmarks available (HWRF Reference Configuration)





Needs not met by code release

- Access to the latest and greatest developmental code, e.g.,
 - Three-domain HWRF
 - Three-domain HWRF initialization
- A simple path for researchers to return developments to the HWRF code



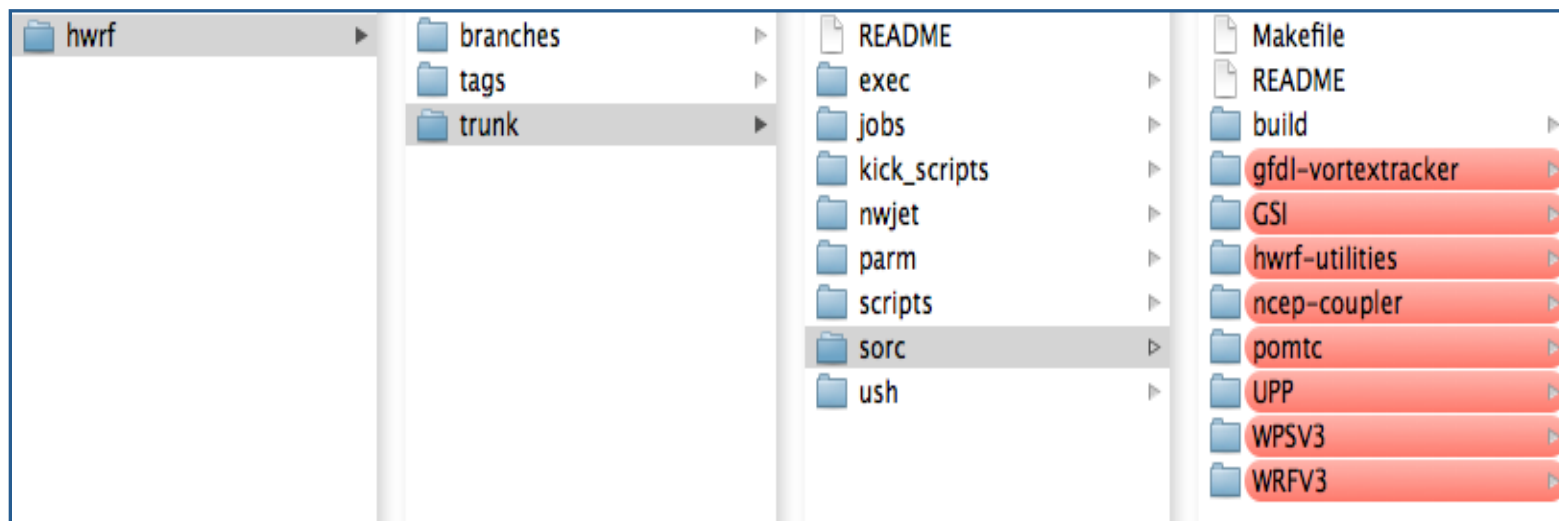
Additional path to HWRF code

For HWRF friendly developers, DTC/EMC now provide

- Access to the unified HWRF code repository hosted by DTC
- Access to the latest experimental codes (e.g., 3-domain)
- Ability to create your own branch, with a clear path to incorporate development in the centralized code
- Mechanism to keep developmental HWRF codes synchronized with the outside community codes to
 - prevent HWRF development code from aging off
 - benefit from work done by others



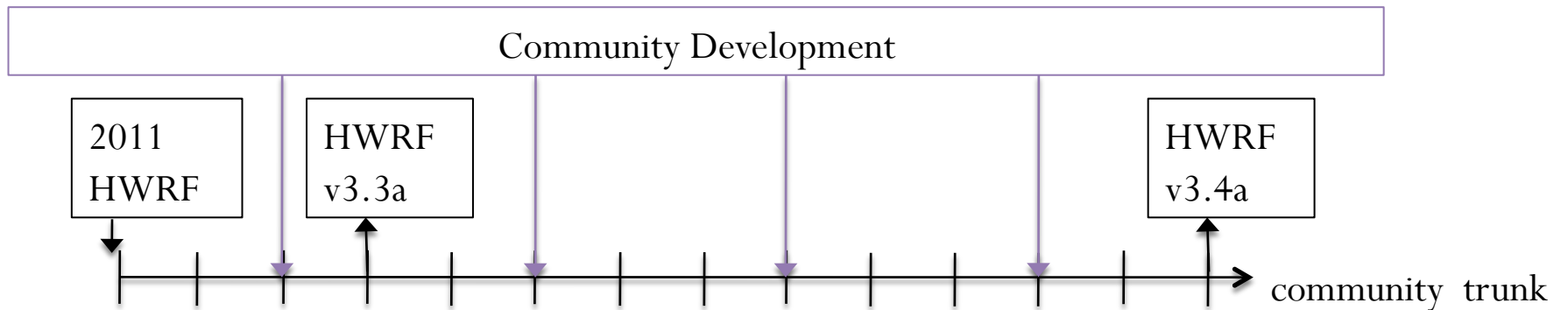
HWRF Repository Structure



The eight components of HWRF are “links” to the community repositories

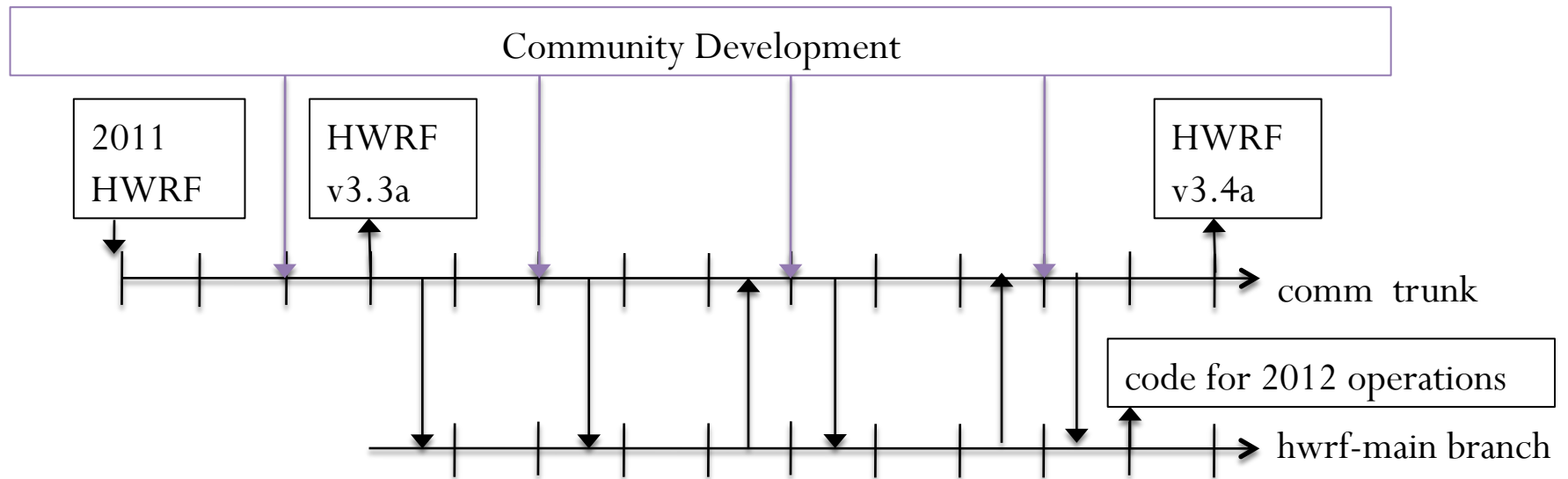
- Provides a safe and straight forward way to transfer code between HWRF developers and the outer community

HWRF Repository Overview



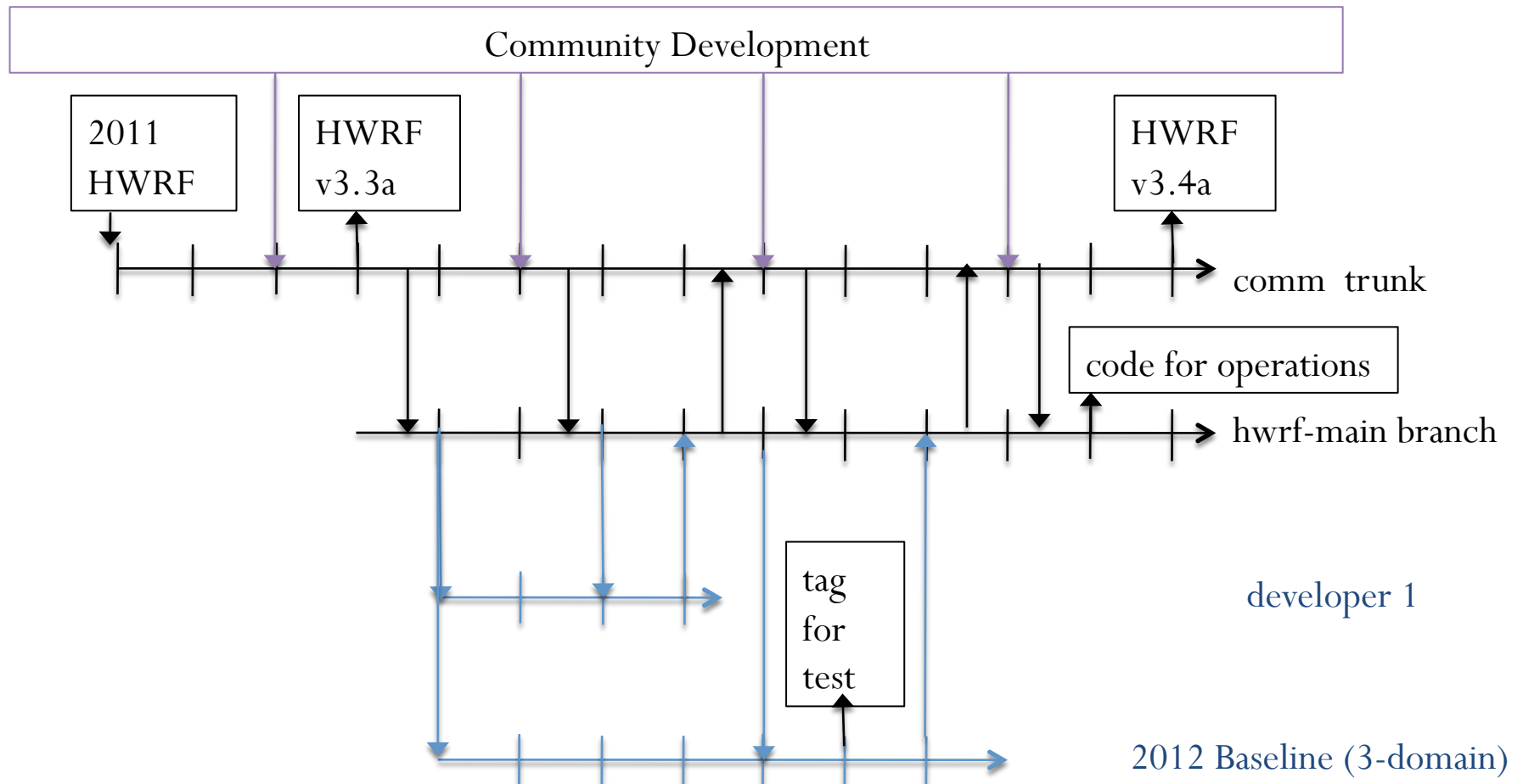
Every HWRF component (WRF, GSI etc) has a community repository where the general community makes the development

HWRF Repository Overview



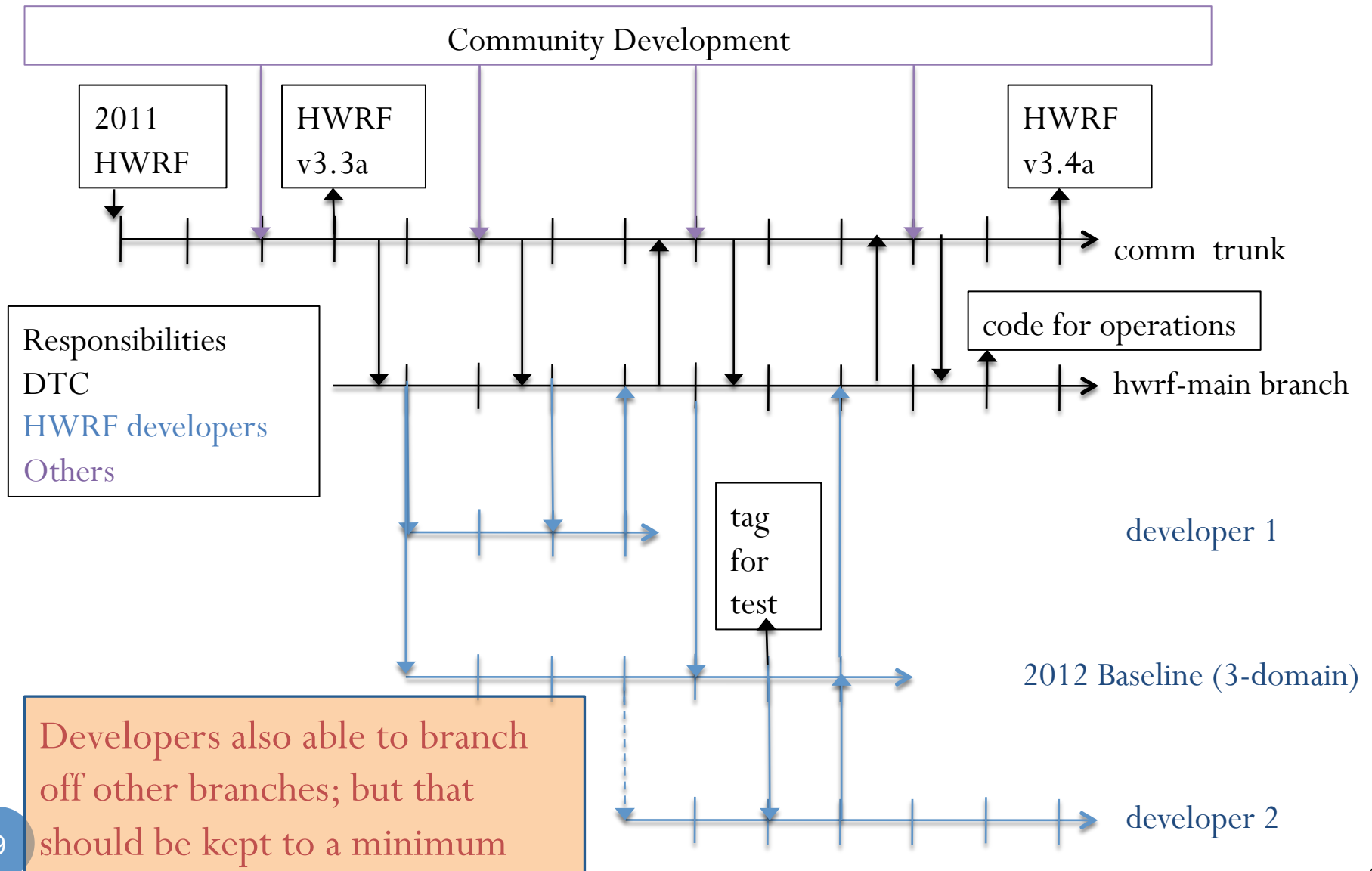
The HWRF repository has a “main branch” which DTC keeps in sync with the trunk

HWRF Repository Overview



Developers use hwrf-main branch to branch off and return their contributions. Tests are run before developments are propagated: hwrf-developers committee.

HWRF Repository Overview





Community release or repository code????

- I am a developer. I want my code changes to feed into HWRF
 - You need access to the repository
- I am a user. I need to get code.
 - My application requires the latest experimental code
 - You need access to the repository
 - My application does not require the latest code
 - You will benefit from using the stable HWRF release
- I don't know
 - Talk to DTC

Release code is stable and well-documented.

Experimental code is volatile, requires a friendly and experienced user, and has limited support from DTC.



Access to the HWRF Repository

- Request access to DTC. Send brief description of intent
 - ligia.bernardet@noaa.gov, stark@ucar.edu
- Obtain usernames/passwords
- Review information on repository structure and access
- If developer
 - ask DTC to create branches of components for development
 - Review information on keeping your branches up-to-date and on how to send your code back to hwrp-main branch



Repository Access

Number of scientists

DTC/JNT: 10

ESRL: 4

EMC: 15

GFDL: 1

HRD: 5

PSU: 1

URI: 4

Branches

Examples of developmental work

- S. Trahan (**2012 HWRF Baseline**)
- Y. Kwon (**HWRF physics**)
- E. Aligo (**Microphysics**)
- M. Tong (**GSI**)
- D. Iredell (**HYCOM**)
- R. Yablonsky (**POM-TC**)
- Q. Liu/X. Zhang (**Vortex Init**)
- J-W Bao (**Idealized HWRF**)

HWRF Registered Users that get code from website: 330
Average number of emails sent by DTC per month: 30