

“Hirlam Chemical Branch”

--- Hirlam Source Code
Management

Xiaohua Yang

Outline

- Hirlam-A Programme
- Hirlam Chemical (Enviro-Hirlam) Branch and timeline
- Hirlam Source Code Repository
 - Subversion
 - Trunk, branches, tags
- Access of Hirlam Source
- Hirlam Reference Scripts
- Maintenance and User Support

Hirlam-A Programme

- Hirlam-A is a 5-year research cooperation among 10+ European services on NWP (AEMET, DMI, EMHI, FMI, KNMI, MetEireann, met.no, SMHI, + Meteo France, LEGMA, Meteo Iceland)
- Main objectives in
 - Meso-scale NWP (full code collaboration with ALADIN)
 - Synoptic-scale Hirlam: final development
 - Probabilistic forecast systems
 - Extension to non-NWP branches
- Effort of ~26 fte/year, organised with projects on
 - Physics, dynamics, data assimilation, probabilistic forecasting, system & application

Hirlam Repository and Management

- Hirlam-A programme maintain its source codes ("Hirlam repository") on the server hirlam.org
- Hirlam uses Subversion as its version control system
 - Full functionality requires installation of subversion client on local platform.
 - Subversion is an open source revision control system
- Full Hirlam repository is available via web-browser on <https://hirlam.org/trac/browser>
- Reference book/online Subversion manual:
<http://svnbook.red-bean.com/nightly/en/index.html>
- Hirlam system codes are open to all HIRLAM institutes. External users/collaborators can acquire HIRLAM code for research application via agreement with HIRLAM-A
 - Access to Hirlam server hirlam.org required for external users. Contact xiaohua@DMI.dk

"Chemical Branch" into Hirlam Repository

- In 2008, it has been agreed that the enviro-Hirlam-based development shall be introduced into the reference Hirlam system to promote collaboration within relevant communities
- A Hirlam chemical branch will be launched, with the aim to keep the development on air quality/ACT/enviro-HIRLAM etc in phase with main HIRLAM development
- The current estimate for the set up of the chemical branch is early summer 2009.

Hirlam Source Code Repository: Trunk, branches, tags

- Trunk (<https://svn.hirlam.org/trunk/hirlam>) is the main evolving development code which is targeted to become next official Hirlam version
 - Changes daily, with both new features and bug fixes
 - Not well tested, may easily be buggy

Hirlam Source Code Repository

Trunk, branches, tags

- Branches (<https://svn.hirlam.org/branches>) are evolving development codes which are aimed for special development in Hirlam projects
 - Branches may be setup for different purposes
 - Feature branch with ultimate aim to be merged into main development branch: newsnow, chemical, openmp,overhaul,cis
 - National/platform-specific ranches: metie, refdmi
 - Stable branches. Bug correction version after tagging of codes with new features
 - Changes daily, could contain both new features and bug fixes
 - Usually not well tested, may easily be buggy
 - Distributed management structure possible

Hirlam Source Code Repository

Trunk, branches, tags

- Tags (<https://svn.hirlam.org/tags>) are the frozen code version, copied from trunk or branches
 - Tagged codes are frozen, thus suitable for extended experimentation and operational use.
 - Official releases are always tagged versions, and usually well tested
 - Alternative of using tagged releases is the stable code branch, such as hirlam-7.1,hirlam-7.2...

Access of Hirlam Source

- Via subversion client
 - svn co <https://svn.hirlam.org/branches/chemical>
- Via source code tarball
 - a check-out of the latest code version
 - usually available on ECMWF computer
 - on ecfs: ec:/hirlam/src/tar

Hirlam Reference Scripts

- Mini-sms based, mixture of shell/perl scripts
- Include build, data preparation, analysis and forecast, post-processing
- Multiple platform support
 - IBM Power 5/6, Linux cluster, Cray X1, Cray XT5, SGI cluster, PC linux
- See relevant documentation
 - <https://hirlam.org/trac/wiki/HirlamSystemDocumentation>
- Running reference script is not mandatory, but it is becoming more and more integrated part of the Hirlam source

Maintenance and User Support

- Hirlam system project has the general responsibility to maintain Hirlam repository and offer support
- Core members of hirlam system group:
 - Xiaohua Yang, Tomas Wilhelmsson, Toon Moene, Kai Sattler, Ole Vignes, Ulf Andrae, Sami Niemela
- National/Operational implementation, adaptation and monitoring are responsibilities of local HIRLAM services
- General system matters are discussed in the system-community system@hirlam.org

A suggestion

- Create a mailinglist chemical@hirlam.org to promote communication within the community using Hirlam chemical branch?

- Questions?

Most Commonly Used svn command

- Svn
 - Co
 - Export
 - Blame
 - Merge
 - List
 - Status
 - commit