

One Year of Subversion: Lessons and Future Plans

Tomas Wilhelmsson





SMHI

HIRLAM/Aladin All Staff Meeting 2007-04-25

Major repository events during last year

- **2006-03-09 [4530] First Subversion based release (7.0 beta 1)**
- **2006-05-02 [4572] Version control removed from scripts (7.0 official)**
- **2006-06-29 [4599] Start of newsnow branch**
- **2006-11-30 [4792] Introduce HARMONIE**
- **2006-12-28 [4849] Start of rtov8 branch**
- **Upgraded Trac to 0.10.x**

Repository structure








Name ▲	Size	Rev	Age	Last Change
 branches		5110	1 week	jwp: get rid of unused local vars
 tags		5027	1 month	xiaohua: Tag hirlam-7.1
 trunk		5113	6 days	xiaohua: Xiaohua Yang: one additional namelist for LBC
 vendor		4989	2 months	towil: Tag gmckpack 6.2.2

Vendor branches

- **Used to keep track external packages (to which we have local modifications)**
 - ALADIN
 - Gmckpack
 - etc
- **See chapter 4 of “Version control with Subversion” (I do...)**

Current branches

root / **branches**

Name ▲	Size	Rev	Age
 ../			
 hirlam-7.0		4822	4 months
 hirlam-7.1		5036	4 weeks
 newsnow		5072	2 weeks
 openmp		5095	1 week
 overhaul		5110	1 week
 rttov8		5103	1 week

Reasons to branch


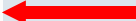

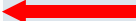
- Only bugfixes, no new developments (“stable branches”)
- Modifications never intended for the reference version
- Developments over long time
- Collaborative work

But note that branches requires some administration!

“Branch on differering policy”

Example:

merges in the newsnow branch

Chgset	Date	Author	Log Message
[5072]	04/12/2007 04:51:46 PM	towil	Stefan Gollvik: Removed erroneous update of surface temps used in ...
[5033]	03/28/2007 04:07:22 PM	towil	Tomas Wilhelmsson: Cleanup deallocations in gemini.F
[5031]	03/28/2007 03:35:36 PM	towil	Stefan Gollvik: Bug fix for running without upper air analysis.
[5013]	03/26/2007 01:47:33 PM	towil	Minor corrections on [5012].
[5012]	03/26/2007 01:28:31 PM	towil	Stefan Gollvik: Snow on canopy added. Veniamin Perov: Improved surface ...
[5011]	03/26/2007 11:15:42 AM	towil	Port [4956:5001] from trunk to newsnow branch. 
[4981]	03/02/2007 08:33:03 PM	xiaohua	Correction of interface error.
[4980]	03/02/2007 08:09:42 PM	xiaohua	bug correction.
[4976]	03/02/2007 02:04:10 PM	towil	Tomas Wilhelmsson: Ported [4800:4951] from trunk to newsnow branch. 
[4843]	12/19/2006 09:11:26 PM	xiaohua	increase memory request to avoid problem with RCR_7.1
[4825]	12/14/2006 08:44:10 AM	xiaohua	Kalle Eerola, increase maximum number of administrative record
[4823]	12/13/2006 09:08:38 PM	xiaohua	back port [4768] from trunk 
[4785]	11/27/2006 02:42:23 PM	xiaohua	port [4784] from trunk 

Merge tracking

- This is IMHO the most important feature of Perforce that Subversion lacks
- Planned for next major Subversion release "1.5.x"
- Without "merge tracking", one has to manually keep track of what changesets that has already been applied to a branch

```
cd newsnow  
svn update  
svn log https://svn.hirlam.org/trunk/hirlam | more
```

```
svn merge -r 4956:5001 https://svn.hirlam.org/trunk/hirlam
```

```
emacs  
svn resolved phys/phys.F  
make  
svn commit -m "Port [4956:5001] from trunk to newsnow branch"
```


Naming scheme for Hirlam releases

- **Alpha releases**
 - Minimal testing
 - Just to get a name for an phase in the development
(Referring to “trunk revision 5123” could do too)
- **Beta releases**
 - More testing done
 - No major changes expected before final release (?)
- **Release candidates**
- **Official releases (7.0, 7.1)**
- **Official bug fix releases (7.0.1)**

Slide from my ASM '06 presentation:
Suggested working practice

- **When using HIRLAM's experiment directories you don't directly benefit from version control**
- **Consider working within a full checkout (a sandbox) instead:**
 - `svn co https://hirlam.org/svn/tags/hirlam-7.0`
- **Your modifications may then be automatically migrated between releases**
 - `svn switch https://hirlam.org/svn/tags/hirlam-7.1`
- **Note! Scripts not yet ready for this**

How Make an Experiment Out of Your Sandbox

- **Check out**

```
svn co https://svn.hirlam.org/tags/hirlam-7.1 myexp
```

- **Make some modifications, (compile) etc.**

```
cd myexp  
vi; make; vi; make; <etc>  
svn status
```

- **Set up experiment**

```
config-sh/Hirlam setup -d `pwd` -r . -h LinuxPC
```

- **Run as usual**

```
config-sh/Hirlam start DTG=2004040200
```

The reference installation (\$HL_REV) and the experiment directory (\$HL_WD)

are the same! 😊