

SVN-repository
“nceplibs”
structural design

Goal & Objectives

The goal:

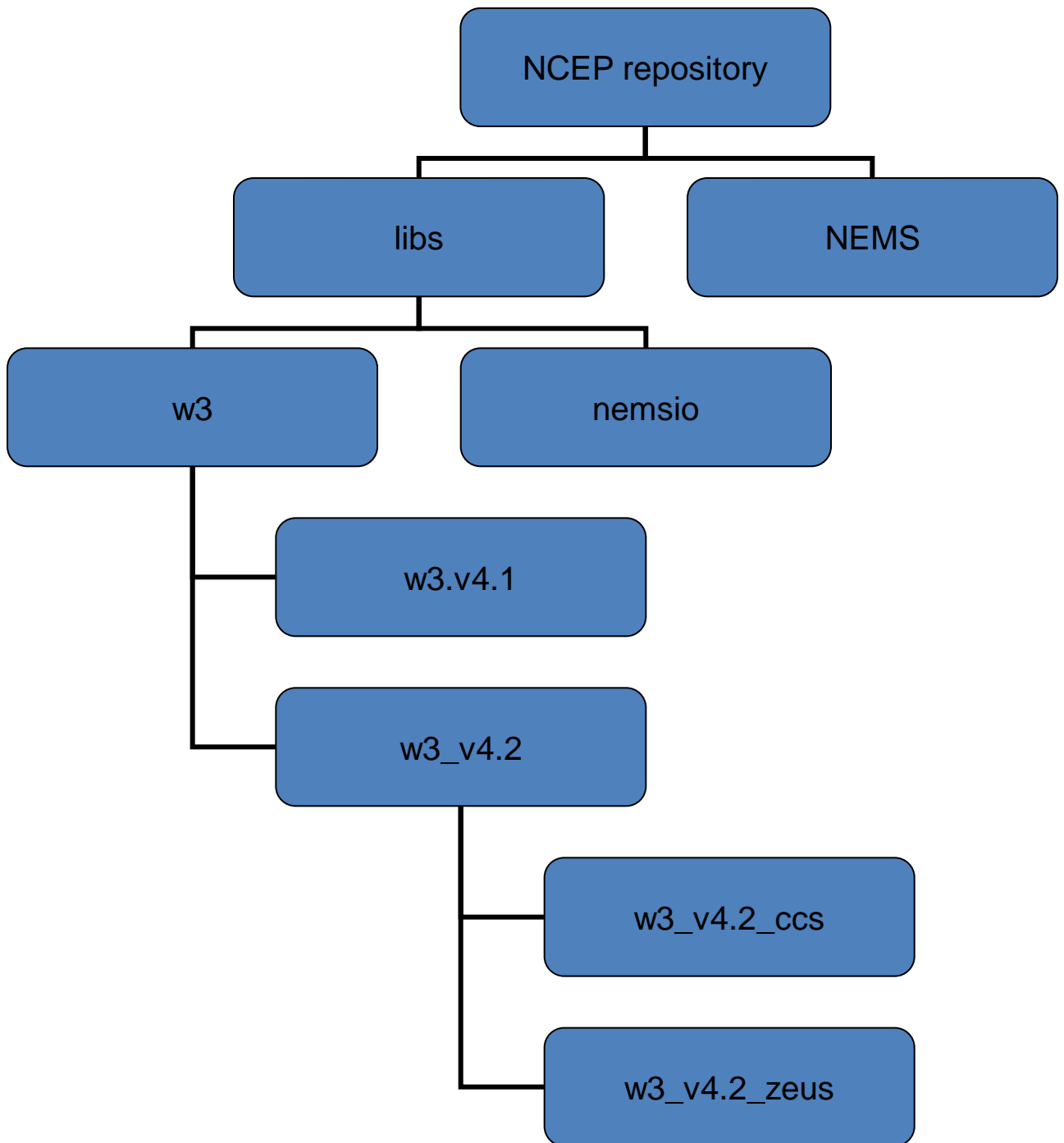
To provide NCEP developed libraries version control, updates and support procedures, serving related NCEP applications with a respect of the current libraries status and legacy of development.

Objectives:

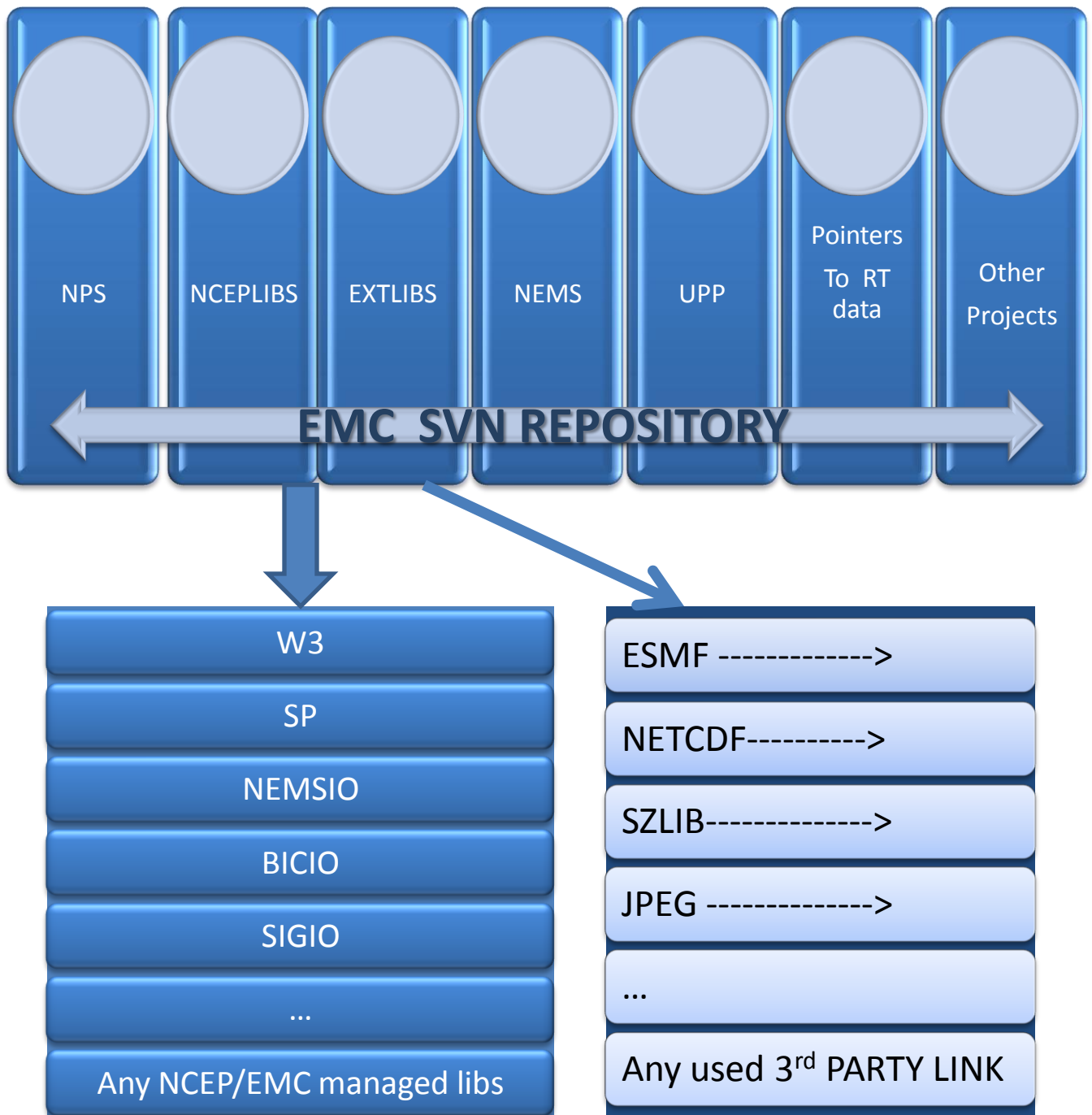
To suggest a structure , answering on following questions:

1. Different people have different “versions” of the libs - where to put?
2. Different applications using different “versions” -- where to put?
3. Different “institutions” have diff versions -- where to put?
4. Different architectures and sites – where to put before integration?
5. “Equivalence” of the nceplib builds. Unit testing.
6. Releases – single tagging – where?
7. Complex (super-) tags – Application/site related – how to do?
8. Data pointers and association? Binary content

GENERAL INTENTION : To Organize



NCEP Applications and Associated Source Cods, LIBS and Data Version Control



Version Control. Discussion.

What is a meaning of this structure

1. We realized, it's a superstructure: the entity is - a `_collection_` of nceplibs as well as a project name "nceplibs", So, checking out of `<svnemc>/nceplibs/trunk` shall give us all of the available libs - which can be quite rare use.
2. Also, a collection s of the libs are never developed all as a single project, but each single separately, so we decided to treat each single lib as a SVN sub-projects' concept, assuming that from a some point, a clean future development of each (after merging and fixing config (auto)) will be done (on for instance):

nceplibs/w3/trunk

nceplibs/w3/tags

nceplibs/w3/branches

and ci/co as a standard sub- project

3. In this case, the update of all libs-set doesn't need super-tags, but will be tagged on Nceplibs/Releases let say for NCO or DTC distributions, which will have a meaning of the certain working combination of the subprojects' status -- super-tags. The TAGS on the Releases will be planned and agreed with the operations upfront. That also may contain ready-to-use Apps-Arch related super-tags.
4. nceplibs/Branches/Apps + Platforms - really a place to collect and provide version control for NOW of all existent developments from different locations of the "versions". In most of the cases they're currently related with applications (GFS; GSI; NEMS..) ported on certain platforms - so it will be easier to collect this way. Needless to say that in the future, they are going to be dead and each sub-libs of the branch will be merge to the single lib development trunks... but it can take unpredictable time, while people do changes without version control. So, hopefully, it could be a temporal, but effective solution.

EMC Repository deployment proposal

```

nceplibs/
  w3/
    branches/ /* development branches */
    tags/ /* singl lib tags/
    trunk/ /* Latest-current integrated singllel ib tags*/
  sigio/
    branches/
    tags/
    trunk/
  sp/
    branches/
    tags/
    trunk/
  nemsio/
    branches/
    tags/
    trunk/ ...
  branches/
    NCEP/
      Apps1_libs /*Application-related & site related
      ongoing development branch */
      Apps2_libs
        w3/
        sigio
        sp/
      DTC/ ...
      Apps1_libs
      Apps4_libs ...
    PORTS/
      Zeus
      Gaea
      Jet /* Ported, site-relevant common use libs
      ... placeholders)
      →(NCEP libs combinations TAGS)
  releases/
    NCEP_libs_release1
    NCEP_libs_release2
    NCEP_libs_release3
    Apps_related_tags /* Super-tagged supported releases (
    platform independent) and some
    milestones, including NCO for /nwprod */

```

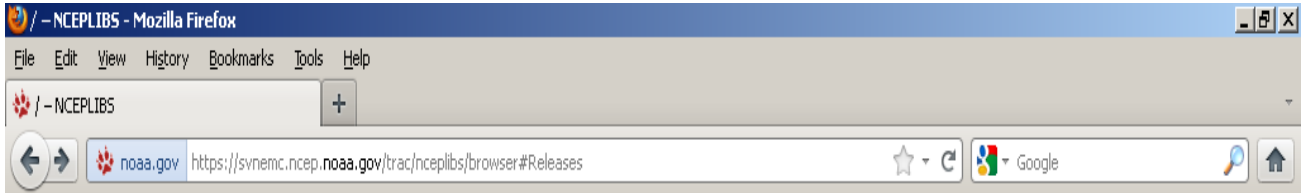
How to make it workable?

1. Collect all available “private versions” of the libraries on the branches – to make it accessible in NCEP repository.
2. Research differences and eventually merge / integrate differences and built mechanisms on the single libs development trunks. .. nceplibs/<lib>/trunk
3. Establish a team with related responsibilities and support procedures.
4. Open EMC - nceplibs forum , allowing to discuss issues outside of the mailboxes.
5. Include into emc-helpdesk duties to collect and follow to the nceplibs’s change functionalities requests.
6. Provide periodic info on the patches and updates.
7. Agree on the plan of the releases and change management of the libs releases.
8. Stop develop “personalized libraries” or call “libraries” personal code development

The NCEPLIBS Team

Name	Responsibilities
Mark Iredell	
Eugene Mirvis	
Nicole McKee	
Paul Van Delst	
Jun Wang	
George Vandenberghe	
George Gayno	
Bradley Mabe	
Eve-Marie Devaliere	

What is there now:: LVL 1?



(please configure the [header_logo] section in trac.ini)

logged in as eugene.mirvis@noaa.gov | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

	Wiki	Timeline	Roadmap	Browse Source	View Tickets	New Ticket	Search	Admin
--	----------------------	--------------------------	-------------------------	--------------------------------------	------------------------------	----------------------------	------------------------	-----------------------

[Last Change](#) | [Revision Log](#)

source: @ 17919

View revision:

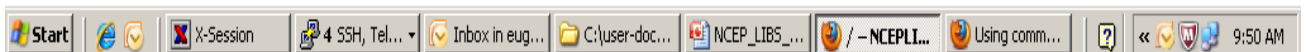
Name ▲	Size	Rev	Age	Author	Last Change
▶ Branches		17919	39 hours	eugene.mirvis	DTC official distribution of comGSI_v2.5 02/27/2010
▶ bufr		17775	13 days	eugene.mirvis	starting tags of bufr library from NCO nwprod source
▶ gfsio		17773	13 days	eugene.mirvis	starting tags of gfsio library from NCO nwprod source
▶ ip		17765	13 days	eugene.mirvis	starting branches directory of the ip lib within nceplibs project
▶ nemsio		17777	13 days	eugene.mirvis	starting tags of nemsio library from NCO nwprod source
▶ Releases		17665	3 weeks	eugene.mirvis	
▶ sfcio		17771	13 days	eugene.mirvis	starting trunk of sfcio library from NCO nwprod source
▶ sigio		17769	13 days	eugene.mirvis	starting tags of sigio library from NCO nwprod source
▶ sp		17768	13 days	eugene.mirvis	starting tags of sp library from NCO nwprod source
▶ w3		17767	13 days	eugene.mirvis	starting trunk of w3 library from NCO nwprod source

Note: See [TracBrowser](#) for help on using the repository browser.

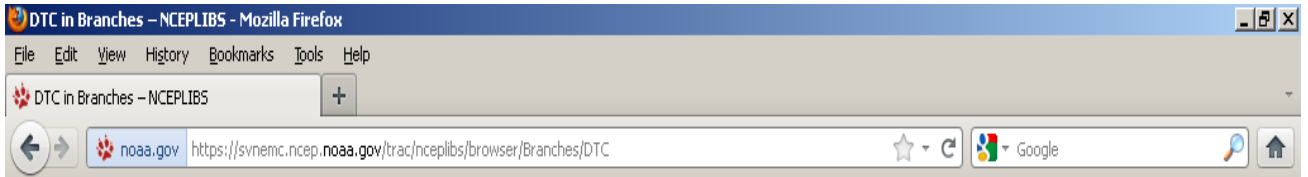


Powered by [Trac 0.12.2](#)
By [Edgewall Software](#).

Visit the Trac open source project at
<http://trac.edgewall.org/>



What is there now:: LVL 2?



(please configure the [header_logo] section in trac.ini)

Search

logged in as eugene.mirvis@noaa.gov | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

[Wiki](#) | [Timeline](#) | [Roadmap](#) | **[Browse Source](#)** | [View Tickets](#) | [New Ticket](#) | [Search](#) | [Admin](#)

[Last Change](#) | [Revision Log](#)

source: **Branches / DTC @ 17919**

View revision:

Name ▲	Size	Rev	Age	Author	Last Change
↑ ../					
▶ comGSI_v2.5_src_libs		17919	39 hours	eugene.mirvis	DTC official distribution of comGSI_v2.5 02/27/2010
▶ E.Mirvis_NEMS_Jet		17916	41 hours	eugene.mirvis	just renamed following new convention
▶ HWRF-UTILITIES_V3.3		17918	39 hours	eugene.mirvis	DTC official distribution of HWRF_utils V3.3 08/08/2011
▶ UPPV1.0_nocrtm2		17869	5 days	eugene.mirvis	DTC distribution of UPPV1.0 : libs directory (except crtm2)
▶ WPPV3.2_lib_nocrtm		17917	41 hours	eugene.mirvis	DTC official distribution of WPPV3.2.tar.gz

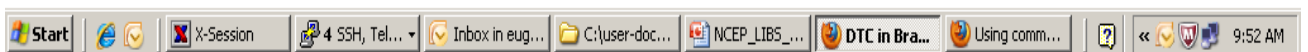
Note: See [TracBrowser](#) for help on using the repository browser.

[View changes...](#)



Powered by [Trac 0.12.2](#)
By [Edgewall Software](#).

Visit the Trac open source project at
<http://trac.edgewall.org/>



What is there now:: LVL 3?

(please configure the [header_logo] section in trac.ini)

logged in as eugene.mirvis@noaa.gov | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

Wiki | Timeline | Roadmap | **Browse Source** | View Tickets | New Ticket | Search | Admin

source: **Branches / PORTS / Gaea @ 17855**

Name	Size	Rev	Age	Author	Last Change
.. /					
▶ Gaea_GFS_para_sm		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.

Note: See [TracBrowser](#) for help on using the repository browser.

trac
Powered by Trac 0.12.2
By Edgewall Software.

Visit the Trac open source project at <http://trac.edgewall.org/>

(please configure the [header_logo] section in trac.ini)

logged in as eugene.mirvis@noaa.gov | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

Wiki | Timeline | Roadmap | **Browse Source** | View Tickets | New Ticket | Search | Admin

source: **Branches / PORTS / Zeus @ 17915**

Name	Size	Rev	Age	Author	Last Change
.. /					
▶ G.Vanderberghe_ALL_nocrtm		17854	6 days	eugene.mirvis	All G.Vandenberghes Zeus ported libs. Intel compiler.
▶ H.Juang_GSM_MSM		17915	42 hours	eugene.mirvis	just renamed following new convention
▶ S.Moorthi_GFS_para		17853	6 days	eugene.mirvis	S. Moorthi Zeus porting for para-GFS

Note: See [TracBrowser](#) for help on using the repository browser.

trac
Powered by Trac 0.12.2
By Edgewall Software.

Visit the Trac open source project at <http://trac.edgewall.org/>

What is there now:: LVL 4?

source: **Branches** / **PORTS** / **Gaea @ 17855**

View revision:

Name	Size	Rev	Age	Author	Last Change
../					
▼ Gaea_GFS_para_sm		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ bacio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ bufr		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ bufr_Daryl		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ g2		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ gfsio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ gfsio.lit		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ gph		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ gphcntr		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ ip		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ landsfcutil		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ nemsio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ nstio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ sfcio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ sfcio.lit		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ sigio		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ sigio.lit		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ sp		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ w3		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ w3lib-1.9		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
▶ w3lib-2.0		17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.
tem	7.5 KB	17855	6 days	eugene.mirvis	S.Moorthi's GFS related nceplibs from Gaea.

Rules of nceplibs development and support

- A role of the “nceplibs” and restrictions.
- Source code and builds availability.
- Stable branch. RC. Releases.
- Operational releases.
- Patching on stable branch.
- Merging bug fixes on the single lib trunks.
- Bugs reporting.
- Collaboration among developers.
- Requests for changes.
- Documentation and news on code changes .

Application LIBS “Versions” Collection

ORG./DIVISION/BRANCH/NAME OR APPS CONTACT:

WHAT IS YOUR MODEL/APPLICATION OR TOOL NAME(S) /VERSION /TAG /SHORT DESCRIPTION IS LINKED AGAINST NCEP LIBRARIES:

Example: NEMS; “NOAA Environmental modeling framework development”

Yours Apps

NCEP LIBRARIES ARE NEEDED (VERSION; REVISION, SVN TAGS - WHATEVER YOU HAVE):

Example: SP, w3-v2.0, sigio etc.

Yours Apps:

UTILIZED SITE SPECIFIC NCEP LIBRARY BUILDS- (AVAILABLE):

Example: Cirrus: /nwprod/lib ; Jet: /mnt/lfs0/projects/dtc/NEMS/NEMS_libs_data/LIB;

Yours Apps:

LOCATION OF THE LIBRARIES SOURCE CODES AND MAKEFILES (IF AVAILABLE @ <SVNEMC> - PLEASE SPECIFY SITE: DISK LOCATION TOO)

Example: Jet: /mnt/lfs0/projects/dtc/NEMS/NEMS_libs_data/NEMSlibs-dtrb; etc.

Yours Apps:

REQUESTED SITE SPECIFIC NCEP LIBRARIES ARE NEEDED TO BE BUILD (ARE NOT AVAILABLE YET):

Example: Zeus:SP, w3 with module PrgEnv-pgi/latest, sigio with with default Intel.. etc.

Yours Apps:

COMPILERS, VERSION, COMPILER OPTIONS, MODULES HAVE BEEN DEPLOYED WITH YOUR APPLICATION(S):

Example: Jet: Intel , PGI, gfortran, or Zeus: module load intel; etc.

Yours Apps:

EXTERNAL (3RD PARTY) REQUIRED LIBRARIES (NO SOURCE ARE NEEDED JUST THE REFERENCES):

Example: ESMF 3_1_0rp2; ESMF 4_0_0rp1; ESMF 5_1_0; NETCDF 3.5.0; NETCDF-4.0.1 .. etc.

Yours Apps:

EXTERNAL ENVIRONMENTAL PARAMETERS FOR THE 3 PARTY LIBS (WHICH ARE SET IN YOUR USER ENVIRONMENT BEFORE BUILDING OF APPLICATION)

Example: \$NETCDF; \$ESMF_COMM; \${INC_ESMF}; etc.

Yours Apps:

OTHER REQUIRED PARAMETERS SETS /USED ENVIRONMENT PARAMETERS TO BUILT YOUR APPLICATION:

Example: \$SVN_EDITOR = nano; \${NWPROD} = \${NEMSdata}/nwprod etc.; \${BASEDIR}

Yours Apps:

UTILIZED BINARY DATA BY YOUR LIBRARIES

Example: none (it could be, for instance <svnemc>/crtm/trunk/fix,

Yours Apps:

ADDITIONAL SITE RELATED PATHS FOR THIS APPLICATION/SITES

Example: JET: \${PATH}:/opt/mvapich2/1.4.1-intel-11.1/include; etc.

Yours Apps:

Announcement ... Soon.

1. Goal, objectives
2. Importance to participate (description)
3. Rules and conventions
4. Template
5. Supplemental info: requests, communication, FAQ, points of contacts
6. User meetings

Frequently Asked Questions

Q: Where nceplibs repository is located:

A: <https://svnemc.ncep.noaa.gov/projects/nceplibs>

Q: Where to put/get your application and side related libraries and changes for now(before merge to single):

A: *On the branch of the every single library via:*

<https://svnemc.ncep.noaa.gov/projects/nceplibs/<lib>/branch>

or from directory "Branches" if such application and site

https://svnemc.ncep.noaa.gov/projects/nceplibs/Branches/PORTS/Zeus/S.Moorthi_GFS_para

Q: Where to put/get your application and side developed libraries in the future:

A: *For the development : from the trunk:*

https://svnemc.ncep.noaa.gov/projects/nceplibs/<single_lib>/trunk

To utilize: co a release from the

https://svnemc.ncep.noaa.gov/projects/nceplibs/<single_lib>/tags/<TBD>

Q:Where to put requests, questions and discussions:

A: *Any uncertain or specific question (unsure a reason) send to:*

Mailing lists for nceplibs help requests, when user is uncertain in ticket submission:

<mailto:NCEP.List.EMC.nceplibs.Support@noaa.gov>

Any general discussion, request for future change, common issue –one of the treads on nceplibs forum or open a new thread:

<http://optimus.ncep.noaa.gov/forum/>

Any application related, time-dependent or tractable issue, including bug or assistance requests – open the ticket with a trac system:

<https://svnemc.ncep.noaa.gov/trac/nceplibs/newticket>

Q: *When I would know that my submitted version has been merged on the main trunk and I request to close my branch?*

A: *The finalizing of the merge is going to be announced and transition testing period will be set.*

Q: *If I need more space on the survey list than a line, given under example, what shall I do?*

A: *Please do not try to safe space, just continue to add all needed information – we will sort it out for you.*

Q:*If I don't know an original version of the library, which I link against or it's somebody else built?*

A:*It's OK, just specify where it is and all you know about it. We'll contact you as needed.*

Q:*If I have question regarding this survey (before help-mailing list availability , to whom I need to contact:*

A: *Please send it to Mark.Iredell@noaa.gov or Eugene.Mirvis@noaa.gov or mirvis@ucar.edu*