Release Notes for Implementation of BACIO v 2.0.2

BYTE-ADDRESSABLE I/O C PACKAGE
NOAA/NCEP/EMC NCWCP 2016
Originally written by M.Iredell & J.Wang
Version v2.0.2 targeted to improve performance by S. Tarhan

Location: URL: https://svnemc.ncep.noaa.gov/projects/nceplibs/bacio/tags/v2.0.2
Directory contains:
```
lib
modulefile_bacio_v2.0.2  - bacio/v2.0.2 modulefile
README                   - readme file
src
unit_test
```

Within a tree:
```
`--lib         - placeholder
`--src         - bacio source code
`--unit_test
|  `--conf     - unit test configuration files
|  `--data     - test data
|  `--exe      - placeholder
|  `--scripts  - test script
|  `--src      - unit test sources
```

General notes

This version vs. operational bacio v2.0.1 has an improved "fast_byteswap" utility by Sam Trahan, which sugnificat speeds up of GFS I/O operations.

Targeted GFS implementation for Q1FY16 will be using this update are as well as GSI and ncep_post.

This version has been preinstalled on WCOSS and intensively tested @ /usrx/local/nceplibs directory as was available for about 6 months before implementation. Results reportedly are bit-identical to the runs made with the bacio v2.0.1 tag and to the operational forecast. Saving in wall time is noticeable. Release also contains unit tests for self verification.

How to build:

1. In bacio directory, checkout from EMC repository:

   svn co https://svnemc.ncep.noaa.gov/projects/nceplibs/bacio/tags/v2.0.2 .

2. cd v2.0.2/src
3. Make sure that ../lib placeholder is empty. Otherwise : rm ../lib/*

Launch site consistent script, like for instance:
>./makebacio_wcoss.sh
Ignore warnings #47
2 archives should be created
> ls ../lib
48514 Jan 28 04:58 libbacio_8.a
48362 Jan 28 04:58 libbacio_4.a

Compilation log is presented as : "compilation_list.log"

The modulefile file:

Presented in the v2.0.2 release tag: named "**modulefile_bacio_v2.0.2**"
Is based on WCOSS: bacio/v2.0.1 modulefile.
Should be placed within NCEPLIBS modulefiles side set as v2.0.2

Testing bacio v2.0.3 builds:

To test your builds by available unit tests:
1. cd ../unit_test/scripts/
2. ./test_bacio.sh >& <your.log>
3. Compare with supplied ../unittest.log
After every test is a confirmation of the successful run and at the end you should see

"…
echo 'BACIO lib unit test finished!'
BACIO lib unit test finished!
…"

Happy computing!