

AUTHOR: Glen Otero
CONTACT: gotero@linuxprophet.com
DATE: 2/23/2005
TITLE: BioBrew v.3.1 README

INTRODUCTION:

BioBrew is an open source Linux cluster distribution based on the popular Rocks (www.rocksclusters.org) cluster software and enhanced for bioinformatics. BioBrew includes popular cluster software e.g. MPICH, PVM, Modules, PVFS, Myrinet GM, Sun Grid Engine, gcc, Ganglia, and Globus, *and* popular bioinformatics software e.g. the NCBI toolkit, BLAST, mpiBLAST, HMMER, ClustalW, GROMACS, PHYLIP, WISE, FASTA, MrBayes, and EMBOSS. A BioBrew DVD iso for x86 is freely available for download at BioBrew.org, a Bioinformatics.org sponsored and hosted website. An INSTALL doc is also available on the website.

RELEASE NOTES:

This is the long awaited (by me at least) v.3.1 release of BioBrew. Features you'll find in this release, but not in Rocks, include:

- Infiniband support from Mellanox (/usr/mellanox)
- Myrinet support with gm-2.0.11-1
- Virtual Machine Interface (VMI) 2.0. (/opt/vmi-2.0-gcc)
- mpich built for VMI (/opt/mpich-vmi-2.0-gcc)

VMI Rocks! Basically, it virtualizes all interconnects by allowing you to compile your application once, against one version of mpich (mpich-vmi2), and running it over any interconnect. VMI supports ethernet, myrinet, and infiniband. The performance numbers coming out of NCSA and Mellanox are very impressive.

Application upgrades x86:

added modules back to distro with moduleenv 3.1.6-2
upgraded modulefiles to 1.0.2, including corrections to profile.d scripts submitted by Humberto
upgraded hmmer to 2.3.2-1
upgraded gromacs to 3.2.1-1
upgraded EMBOSS to 2.9.0-6; EMBOSS now installs to /usr/share and not /opt/BioBrew
upgraded NCBI BLAST with ncbiutils 6.1.0-2 and ncbi.tar.gz from 10/20/04)
upgraded mpiBLAST to 1.3; mpiBLAST lives under /opt/NCBI/6.1.0/bin with the rest of the binaries
upgraded Phylip to 3.61-5 and separated it from EMBOSS

New applications:

MrBayes 3.0-1 has been added to BioBrew

Thanks to Joe Landman of Scalable Informatics and Luc Ducazu of BioLinux for their *inspiring* SRPMS. Tinkering with them helped make this release a reality. Thanks also to Aaron Darling for linking to the BioBrew website from the mpiBLAST pages. And special thanks to those folks running the biobrew mirrors!

I encourage BioBrew users familiar with the included bioinformatics packages to contact me with their experiences, problems, successes, and suggestions so that I can improve BioBrew. Biobrew-Discuss@bioinformatics.org is an email discussion list for all things BioBrew. You can subscribe to the list here:

<http://bioinformatics.org/lists/biobrew-discuss>

A very active and helpful NPACI Rocks email discussion list exists at:

npaci-rocks-discussion@sds.edu

You can subscribe to the list here:

<https://lists.sds.edu/mailman/listinfo.cgi/npaci-rocks-discussion>

LICENSES: The individual software packages within BioBrew are believed to be freely redistributable under the terms of the Free/Open Source licenses of each of its components. To the best of my knowledge, all bioinformatics software integrated into BioBrew is redistributable under either the GPL or BSD license. Since

BioBrew is derived from Red Hat Linux, the majority of the software in BioBrew is licensed under the GNU GPL (<http://www.gnu.org/copyleft/gpl.html>). But the software written by the Rocks folks is licensed under the BSD license. License information for the software generated by the Rocks team is included in each package they developed. Neither the GPL or BSD license restricts redistribution of the software. ,Which brings us to the next section.

DISCLAIMER:

BECAUSE BIOBREW IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR BIOBREW, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAMS IN BIOBREW "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAMS IS WITH YOU. SHOULD THE PROGRAMS PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAMS AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAMS (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAMS TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

It is your responsibility to determine the suitability of BioBrew for your intended purpose and the legality of using, modifying, and reproducing it in your jurisdiction.