

- R CMD build and check have been completely re-written in Perl. In addition to running examples, check now also checks the directory structure and control files, makes a temporary installation and runs \LaTeX on the help pages. build has been reduced to cleaning, rewriting indices and creating tar files.

The same files of Perl code are now also used under Windows.

- Add-ons for utilities like Perl or \LaTeX have now

a central place in '\$R_HOME/share'. Migration of existing files might take a while, though.

- Preliminary support for building R as a shared library ('libR') under Unix. Use configure with option '--enable-R-shlib' or do make libR in directory 'src/main' to create the shared library.

There is also a linker front-end R CMD LINK which is useful for creating executable programs linked against the R shared library.

Changes on CRAN

by Kurt Hornik and Friedrich Leisch

Introduction

This column, named *Changes on CRAN*, will be one of the regular columns appearing in every volume of the newsletter. We will try to shortly summarize all changes on CRAN and the R web pages, list new or updated extension packages, new manuals, etc.

Split of CRAN and R homepage

During the second half of 2000 we have split up R's web pages into two separate web sites:

<http://www.r-project.org/>
<http://cran.r-project.org/>

The first is meant as R's central homepage, giving information on the R project and everything related to it. The second—CRAN—acts as the download area, carrying the software itself, extension packages, PDF manuals; in short everything you may need to download for using R.

The main motivations for this "artificial" split were:

- CRAN is mirrored on a number of sites worldwide, hence we should try to keep it as small as possible to make life for the mirror sites easier. It should carry the material users of R need to download on a regular basis, such that having a mirror nearby pays off.
- We do not want to be (technically) limited in the possibilities how to present material on the homepage of R. However, a site like CRAN that is intended for other sites to mirror is very limited, because the administrators have no control of the mirror web servers. Hence, not even

the simplest CGI scripts are possible, everything has to be hardcoded into physically existing HTML files.

Both sites are closely linked to each other, and we try to avoid duplicating information in as much as possible. In fact, <http://www.r-project.org/> and <http://cran.r-project.org/> are aliases for the same machine.

New CRAN mirrors

Laszlo Tornoci of the Semmelweis University Medical School in Budapest has set up a CRAN mirror for Hungary. Daniele Medri, with the Economics Faculty of University of Bologna, is working on setting up an Italian mirror.

Thus far, CRAN mirrors only exist in Europe and North America. In the interest of preserving bandwidth, we would like to add mirrors in other continents as well. Please contact wwwadmin@cran.r-project.org if you are interested in providing a new CRAN country mirror.

CRAN packages

CRAN contains R extension packages in four locations:

'src/contrib': The main location containing packages that pass R CMD check at least on one platform¹.

'src/contrib/Devel': Packages that are under development, incomplete, do not pass R CMD check or where the authors think they are not ready for the main section.

¹Debian GNU/Linux, the platform CRAN itself runs on and is used by the CRAN maintainers. The reason is a simple and practical one: before installing a package on CRAN we check it ...

'src/contrib/Omegahat': Packages from the Omega-hat project, see the article by John Chambers and Duncan Temple Lang on "*Omegahat Packages for R*".

'contrib/extra': Packages that run only on a limited number of platform, e.g., because they are only available in binary format or depend on other software which is not free.

This section will list new or updated extension packages in 'src/contrib' since the last newsletter. Of course this is hard in the first volume, hence we decided to list all new packages since the release of R 1.1.0, which basically covers the second half of 2000:

Matrix A Matrix package for R, by Douglas Bates and Saikat DebRoy

PHYLOGR Functions for phylogenetically-based statistical analyses, by Ramón Díaz-Uriarte and Theodore Garland, Jr.

RODBC ODBC support and a back end database, by Michael Lapsley

RPgSQL PostgreSQL access, by Timothy H. Keitt

Rstreams Binary file stream support functions, by B. D. Ripley and Duncan Murdoch

XML XML parsing tools for R and S, by Duncan Temple Lang

conf.design Construction of factorial designs, by Bill Venables

dse Multivariate time series library, by Paul Gilbert

ellipse library ellipse for drawing ellipses and ellipse-like confidence regions, by Duncan Murdoch and E. D. Chow (porting to R by Jesus M. Frias Celayeta)

exactRankTests Exact distributions for rank tests, by Torsten Hothorn

foreign Read data stored by Minitab, SAS, SPSS, Stata, ..., by Thomas Lumley, Saikat DebRoy and Douglas M. Bates

gafit Genetic algorithm for curve fitting, by Telford Tendys

gld Basic functions for the generalised (Tukey) lambda distribution, by Robert King

maptree Mapping and graphing tree models, by Denis White

mgcv Multiple smoothing parameter estimation and GAMs by GCV, by Simon Wood

muhaz Hazard function estimation in survival analysis, S original by Kenneth Hess, R port by Robert Gentleman

mvnmle ML estimation for multivariate normal data with missing values, by Kevin Gross

mvtnorm Multivariate normal and *t* distributions, by Alan Genz and Frank Bretz, R port by Torsten Hothorn

scatterplot3d 3D scatter plot, by Uwe Ligges

sn The skew-normal distribution, by Adelchi Azzalini

splancs Spatial and space-time point pattern analysis, by Barry Rowlingson and Peter Diggle, adapted and packaged for R by Roger Bivand

tensor Tensor product of arrays, by Jonathan Rougier

wle Weighted likelihood estimation, by Claudio Agostinelli

xtable Export tables, by David Dahl

New Linux packages

The 'bin/linux' subdirectory of every CRAN site now also contains Mandrake 7.2 i386 packages by Michele Alzetta. In addition, RedHat 7.0 packages for the alpha and i386 platforms and SuSE 7.0 i386 packages were added. These packages are maintained by Naoki Takebayashi, Martyn Plummer, and Albrecht Gebhardt, respectively.

The Debian GNU/Linux packages can now be accessed through APT, the Debian package maintenance tool. After adding the line

```
deb \
  http://cran.r-project.org/bin/linux/debian \
  distribution main
```

(where *distribution* is either 'stable' or 'unstable'; feel free to use a CRAN mirror instead of the master) to the file '/etc/apt/sources.list', the programs apt-get, apt-cache, and dselect (using the apt access method) will automatically detect and install updates of the R packages.

Kurt Hornik
Technische Universität Wien, Austria
Kurt.Hornik@ci.tuwien.ac.at

Friedrich Leisch
Technische Universität Wien, Austria
Friedrich.Leisch@ci.tuwien.ac.at