ASReml 4 Linux Installation Guide

Operating system	Linux (32-bit or 64 bit)
Build platform version details	CentOS release 6.6 (Final) 32 bit: Linux version 2.6.32-504.el6.i686 64 bit: Linux version 2.6.32-504.el6.x86_64 (mockbuild@c6b9.bsys.dev.centos.org) (gcc version 4.4.7 20120313 32 bit: (Red Hat 4.4.7-11) (GCC)) #1 SMP Wed Oct 15 03:02:07 UTC 2014 64 bit: (Red Hat 4.4.7-11) (GCC)) #1 SMP Wed Oct 15 04:27:16 UTC 2014
Limits	32 bit: Max workspace = 2000Mb (2 Gigabytes) 64 bit: Max workspace = 32000Mb (32 Gigabytes)
Features	Interactive graphics with hardcopy options EPS, WMF, JPG, HPGL, HPGL2, BMP, WPM

Please note that this implementation has been produced under CentOS release 6.6 (Final) and should be suitable for other similar Linux versions. Please contact support@asreml.co.uk if any problems arise.

The program is provided in a universal linux version. This should be suitable for most recent versions of Linux. It has been successfully tested on many systems, including versions of Fedora from Fedora Core 6 and upwards, CentOS, OpenSuse, Debian and Ubuntu. The files are contained in a compressed download as follows:

```
asreml-4.x.0.b-vv.32.tgz  (32 bit installation)
asreml-4.x.0.b-vv.64.tgz  (64 bit installation)
```

where the letters 'x','b' and 'vv' are replaced by the sub-version, build number and build letters of the software.

The initial release in December 2014 was formed from:

```
asreml-4.1.0.978-lo.32.tgz (32 bit installation)
asreml-4.1.0.978-lo.64.tgz (64 bit installation)
```

where x=1,b=978 and vv="lo".

Small incremental changes to the sub-version may occur during the lifetime of this software, principally to correct bugs that arise in use.

Files Included in this Installation

The tar archive contains a number of files, some of which are common to all versions, and the executable program which is specific to the target system. The contents of the archive are as follows:

/opt/vsni/asreml/latest/bin

`bin/asreml.sh`	shell script to invoke the program
`bin/asreml-4.x.0.b-vv.64` 64 or 32 bit	executable image file, ASReml version 4.x, build vv,
`bin/ReqeuestLicense`	a tool to generate a license request
`bin/myowngdg.f90`	example Fortran source for OWN variance structure

/opt/vsni/asreml/latest/doc

`doc/ASReml.htm`	HTML Help files (view in normal browser)
`doc/UserGuideFunctional.pdf`	Principal source of reference
`doc/UserGuideStructural.pdf`	Principal source of reference
`doc/UpdateR4.pdf`	Description of changes from previous versions
`doc/pedigree.pdf`	Description of pedigree options

/opt/vsni/asreml/latest/examples

`examples/*.*` User Guides	Data and input files for examples contained within the

Downloading ASReml 4

1. To download ASReml, go to the ASReml Knowledge Base https://asreml.kb.vsni.co.uk/asreml-4-download/
2. Download the appropriate Linux tar archive for your device (32 bit or 64 bit).

Download	Version Number	Date published	Support Version	File Size
Linux 64-bit RPM installer	v4.1.0.2132mx	30 September 2018	1809	12.4 MB
Linux 32-bit RPM installer	v4.1.0.2132mx	30 September 2018	1809	13.2 MB
Linux 64-bit tar archive	v4.1.0.2132mx	30 September 2018	1809	14.0 MB
Linux 32-bit tar archive	v4.1.0.2132mx	30 September 2018	1809	13.3 MB

Installing ASReml 4

1. Create a directory to hold ASReml version 4. The suggested location is:

   `/opt/vsni/asreml/4.x.0.b` (4.x.0.b is the version)

   which will require root privilege. Alternatively, you can install the software in personal file space, e.g. `$HOME/asreml4`.

2. Extract the downloaded tar archive files to the directory you created.

3. Type the following command to create the sub-directories and file contents described in Files Included in this Installation.

   `tar zxf asreml-4.x.0.b-vv.32.tgz` (for 32 bit installation)
   `tar xvzf asreml.4.1.0.978-lo.64.tgz` (for 64 bit installation)

   If you have installed to a location other than /opt/vsni/asreml/4.x.0.b you will need to edit the asreml.sh script to set the appropriate path name for ASREML_DIR, the ASReml home directory.

   The asreml.sh script should be used to invoke the program as it sets up various environment variables required by ASReml. As supplied, the script references the current version of the program, as set by the variable "version". If you later add a new version of the executable file, simply change the setting in the script.

4. Create a symbolic link to reference the latest version using the command:

   ```
   ln -s /opt/vsni/asreml/4.x.0.b /opt/vsni/asreml/latest
   ```

5. To make ASReml easily available to users, create a link to the file in a folder that is included in the default system path, e.g. in `/bin`:

   ```
   ln -s /opt/vsni/asreml/latest/bin/asreml.sh /bin/asreml
   ```

6. (OPTIONAL) If you are keeping more than one version of ASReml, you can make it easier to switch between versions by creating a link to the selection script. **Note**: You must create the symbolic link in step 4 before you can do this.

   ```
   ln -s /opt/vsnI/asreml/latest/bin/asreml_select.sh /bin/asreml_select
   ```

Requesting a License Key

1. Run the `RequestLicense` application which is located in the bin directory. Type the following:

   ```
   /opt/vsni/asreml/latest/bin/RequestLicense
   ```

   This will produce a message similar to the following:

   “Generating a registration file…Please complete your details in ASRemlRegister.txt and submit by email”.

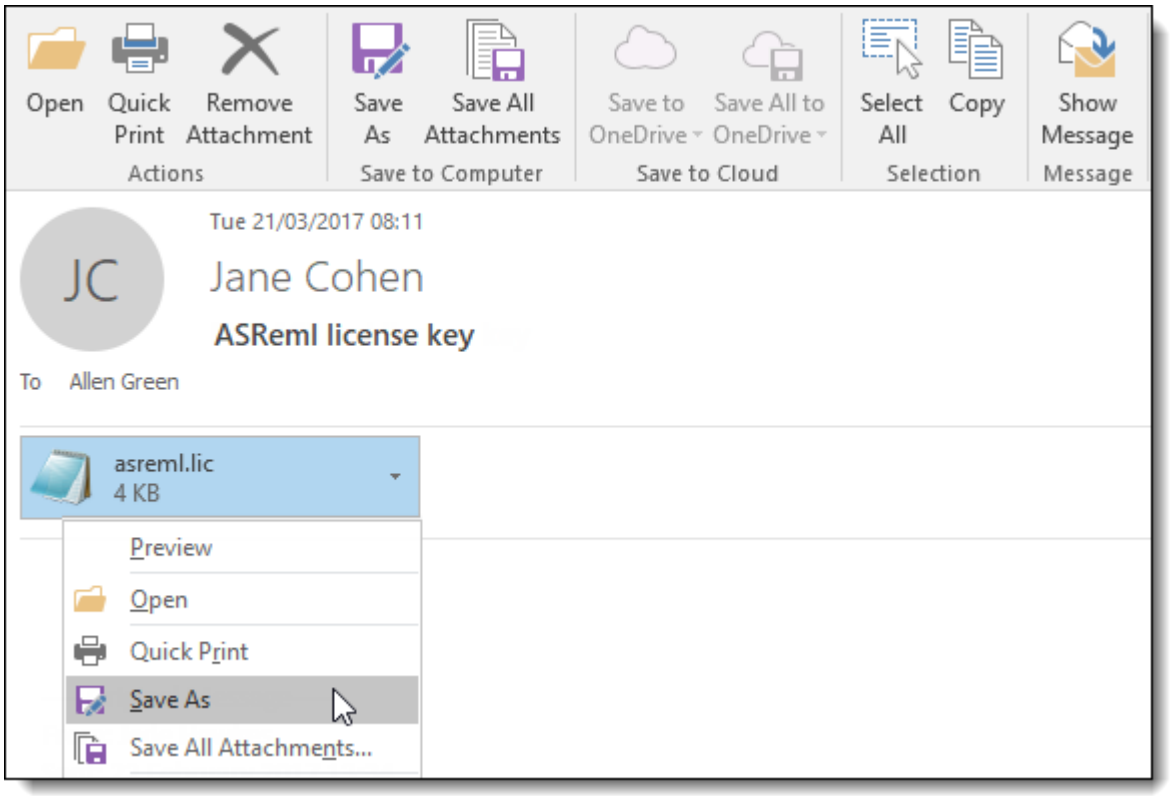
   The file ASRemlRegister.txt will be created in `/opt/vsni/asreml/latest/bin/`.

2. Open and edit this file, adding any missing details then send the file to support@vsni.co.uk.

   We will then send you a license activation key.

Installing a License Key

1. When you have received the license key by email, save the `asreml.lic` file to `/opt/vsni/asreml/latest/bin`.



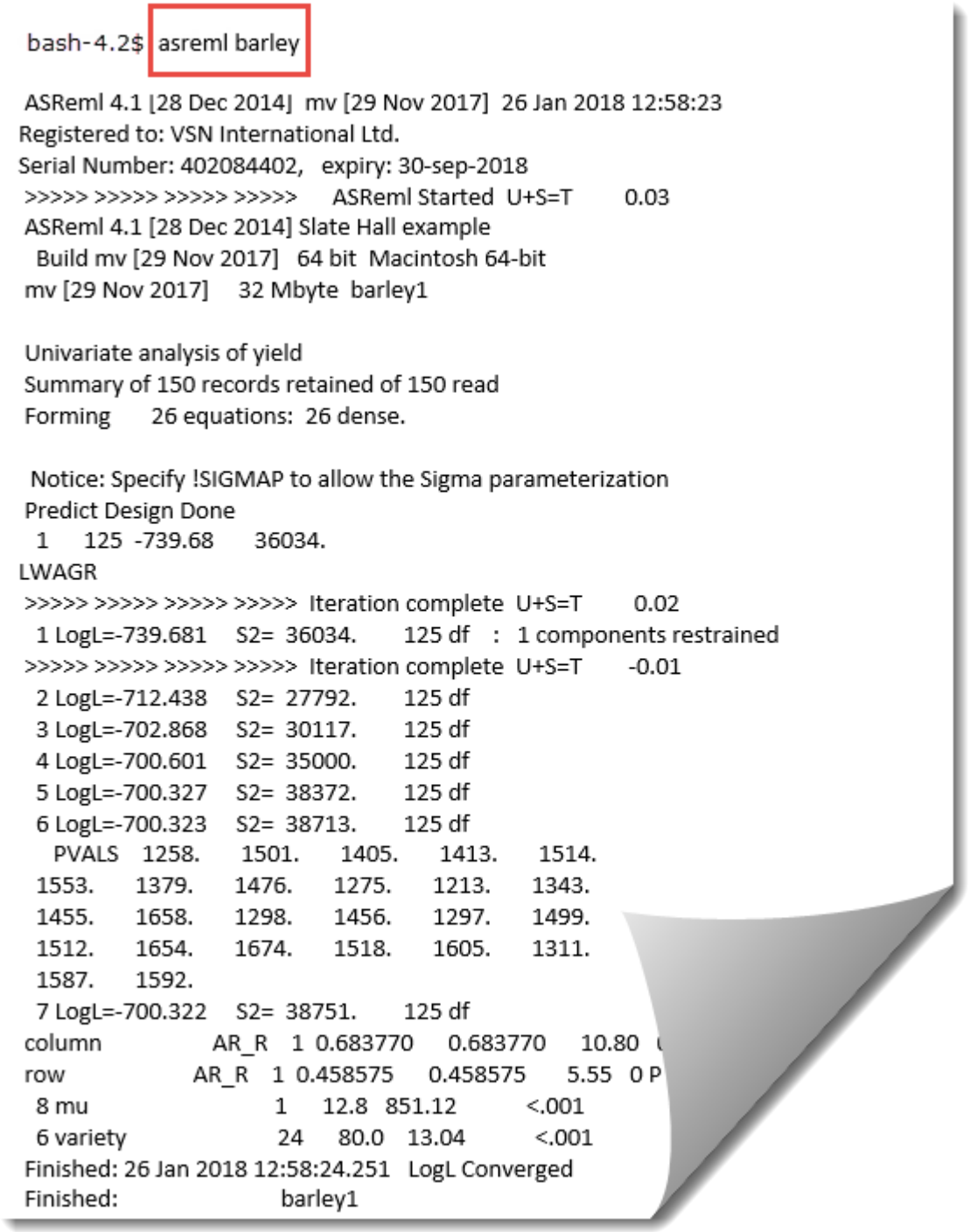
Running ASReml

1. You can now test the installation by running an example. Type the following command to navigate to the `functional` folder:

   ```
   cd /opt/vsni/asreml/latest/examples/functional/
   ```

2. Now run the `barley` example by typing the following:

   ```
   asreml barley
   ```



```
bash-4.2$ asreml barley
 ASReml 4.1 [28 Dec 2014]  mv [29 Nov 2017]  26 Jan 2018 12:58:23
Registered to: VSN International Ltd.
Serial Number: 402084402,   expiry: 30-sep-2018
 >>>>> >>>>> >>>>> >>>>>     ASReml Started  U+S=T       0.03
 ASReml 4.1 [28 Dec 2014] Slate Hall example
  Build mv [29 Nov 2017]   64 bit  Macintosh 64-bit
 mv [29 Nov 2017]    32 Mbyte  barley1

 Univariate analysis of yield
 Summary of 150 records retained of 150 read
 Forming     26 equations:  26 dense.

  Notice: Specify !SIGMAP to allow the Sigma parameterization
 Predict Design Done
  1     125  -739.68      36034.
LWAGR
 >>>>> >>>>> >>>>> >>>>>  Iteration complete  U+S=T       0.02
  1 LogL=-739.681    S2=  36034.      125 df   :  1 components restrained
 >>>>> >>>>> >>>>> >>>>>  Iteration complete  U+S=T      -0.01
  2 LogL=-712.438    S2=  27792.      125 df
  3 LogL=-702.868    S2=  30117.      125 df
  4 LogL=-700.601    S2=  35000.      125 df
  5 LogL=-700.327    S2=  38372.      125 df
  6 LogL=-700.323    S2=  38713.      125 df
    PVALS    1258.     1501.     1405.     1413.     1514.
  1553.     1379.     1476.     1275.     1213.     1343.
  1455.     1658.     1298.     1456.     1297.     1499.
  1512.     1654.     1674.     1518.     1605.     1311.
  1587.     1592.
  7 LogL=-700.322    S2=  38751.      125 df
 column             AR_R   1 0.683770     0.683770     10.80
 row                AR_R   1 0.458575     0.458575      5.55   0 P
  8 mu                      1     12.8   851.12         <.001
  6 variety                24     80.0    13.04         <.001
 Finished: 26 Jan 2018 12:58:24.251   LogL Converged
 Finished:                  barley1
```