

CASA Installation Report

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In this document we report on the results of the installation of the Common Astronomy Software Application (CASA) after the Alpha release (18/04/2007).

The purpose of the Alpha Release was to distribute CASA for a limited set of Operative Systems (OSs):

- Red Hat Enterprise 4 (RHE4), which is required because of ALMA, as it is the system supported by the Alma Common Software (ACS);
- Mac OSX, which is required through the EVLA.

CASA is distributed as a series of RPMs (Red Hat Package Manager) for Linux RHE4.

The easiest way to install CASA on RHE4 is to download the script *load-casapy* from <https://wikio.nrao.edu/bin/view/Software/ObtainingCasaRedHat>. Once this has been done, the script must be executed (*./load-casapy*) by a user **with root privilege**.

CASA is installed in the */usr/lib/casapy* directory.

1 Scientific Linux 4 installation

We have initially tried to install CASA on a 64-bit/Scientific Linux 4 (SL4) machine by using the *load-casapy* script for RHE4 (version 1.0.8). In fact, according to the installation instructions it should be usable on “compatible” operative system as well.

After the download of the RPMs, the installation failed with the following error message:

error: Failed dependencies:

libcfitsio.so.3 is needed by casapy-20.0.2763-001ds.i386

libcfitsio.so.3 is needed by casapy-shared-20.0.2763-001ds.i386.

The SL4 system already has the libcfitsio-3.006-3.i386 while the script downloads the libcfitsio-3.04-3ds.i386. The same error has been given for the Blas libraries. In order to succeed with the installation we have had to remove the Cfitsio and Blas libraries already mounted on SL4 and to execute the script again.

Prior to the download of the libraries it would be useful for the script to check the presence of versions of the libraries more recent than that required by CASA. In fact, the removal “by hand” of the libraries already present could compromise the use of other packages. This means that the installation of CASA would lead to an incompatibility with other packages, such as Parseltongue, because of the library dependencies.

After the installation, we have tried to start-up CASA and to execute the script for the downloading, calibrating and imaging of the VLA data for the source NGC5921. The script worked correctly. The only problem we have found with the package, outside the script, is the use of the plotter window: CASA crashes at each launch of the graphic tasks which make use of the plotter (plotxy, plotcal).

We have tried again to install CASA on a 32-bit/Scientific Linux 4 (SL4) machine. During the installation we have met the same library-related problems as before, but on the 32-bit machine CASA works properly, including the graphic tasks.

2 Fedora Core 6 installation

We have also tried to install CASA under Fedora Core 6 on a 64-bit machine. To be able to do this we have had to modify the script (version 1.0.8) by adding the instruction

'fedora' => "<PATH>/rhe".

During the installation, the following error message came up again concerning a conflict between libraries required by CASA and those already present:

error: Failed dependencies:

libcrypto.so.4 is needed by casapy-python-2.5-13.i386

libdb-4.2.so is needed by casapy-python-2.5-13.i386

libreadline.so.4 is needed by casapy-python-2.5-13.i386

libssl.so.4 is needed by casapy-python-2.5-13.i386

libtcl8.4.so is needed by casapy-python-2.5-13.i386

libtk8.4.so is needed by casapy-python-2.5-13.i386

libtcl8.4.so is needed by tix-8.1.4-98.i386

libtk8.4.so is needed by tix-8.1.4-98.i386

tk is needed by tix-8.1.4-98.i386

libreadline.so.4 is needed by casapy-shared-20.0.2029-005ds.i386

After the removal “by hand” of the different versions of the libraries that were already present, we have successfully re-executed the *load-casapy* script. We then started-up CASA and ran the script for NGC5921, which worked correctly. However, as in the case of the 64-bit SL4 installation, use of the plotter window (outside the NGC5921-script) caused CASA to crash.

3 Installation of a more recent version

We have also tested the load-casapy version 1.0.10.

The installation of CASA on SL4 gives the same library-related problems as the previous version.

Regarding the Fedora Core installation, the new version of the installation script (1.0.10) is quite different from the previous version (1.0.8). While running, the script makes a check of the libraries that are already installed and asks if you want to remove such libraries and replace

them with the version it needs. However, one cannot replace an arbitrary number of libraries; at some point the installation-script stops with the following error message: *Failed to install:*

casapy-20.0.2763-003ds.i386.rpm

casapy-shared-20.0.2763-003ds.i386.rpm

casapy-ccmtools-python-0.5.5-69ds.i386.rpm

casapy-python-2.5-17.i386.rpm

xerces-c-2.7.0-6.fc6.i386.rpm

error: Failed dependencies:

libantlr.so.2.7.6 is needed by casapy-20.0.2763-003ds.i386

libsqlite3.so.0 is needed by casapy-python-2.5-17.i386.

As a new version of the script for the installation of CASA on Fedora Core 7 will be available for the Beta Release (30 September 2007) we have not proceeded further with the installation on Fedora.

4 Concluding remarks

- It would be desirable for the user to be able to choose a directory for the installation of the software. This would make it easier to install CASA on a computer cluster.
- should the software compilation be static or dynamic?

A static compilation would make CASA usable from different OSs after the installation on a common partition;

A dynamic compilation would imply the use of the same OS and libraries on a computer cluster, but this gives rise to the problem of how to install the same libraries on all the members of the cluster.

- Would the ARclets be expected to update the software on a daily basis?

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