

**Table 1: Appion Software Components**

<b>NRAMM SW:</b> <ul style="list-style-type: none"><li>• ACE1</li><li>• ACE2</li><li>• FindEM (w/ Roseman)</li><li>• TiltPicker</li><li>• DoG picker</li><li>• Manual picker</li><li>• sinedon</li><li>• Leginon</li><li>• MRC reader for PHP</li><li>• numextension</li><li>• pyami</li><li>• dbemtools</li></ul>	<b>Public domain software packages:</b> <ul style="list-style-type: none"><li>• ImageMagick - image tools</li><li>• grace - plotting tools</li><li>• gnuplot - plotting tools</li><li>• wxPython - GUI tools</li><li>• numpy - numerical processing</li><li>• scipy - numerical processing</li><li>• python-imaging - image tools</li><li>• gcc-gfortran - fortran</li><li>• gcc-objc - objective C</li><li>• fftw3 - fourier transform tools</li><li>• fftw2-devel - fourier transform tools</li><li>• gsl - numerical processing</li><li>• db-level – Berkeley DB tools</li><li>• mysql - database</li><li>• MySQL-python - mysql python interface</li><li>• httpd - apache web server</li><li>• php-dlevel – php development tools</li><li>• php - PHP language</li><li>• php-mysql - mysql php interface</li><li>• phpMyAdmin - tool for mysql</li><li>• php-gd – php graphics</li><li>• SSH extension for PHP</li><li>• gcc-c++ - c++ compiler</li><li>• openmpi - multiprocessor library</li><li>• torque - job submission</li><li>• HDF5 - file format library</li><li>• gzip - data compression library</li></ul>
<b>EM community SW:</b> <ul style="list-style-type: none"><li>• EMAN1</li><li>• SPIDER</li><li>• UCSF Chimera</li><li>• Xmipp</li><li>• Imod</li><li>• Frealign</li><li>• Ctffind, ctffilt</li><li>• Protomo</li><li>• Raptor</li><li>• Signature</li><li>• Rmeasure</li></ul>	
<b>Optional commercial SW:</b> <ul style="list-style-type: none"><li>• Matlab</li><li>• Imagic</li></ul>	