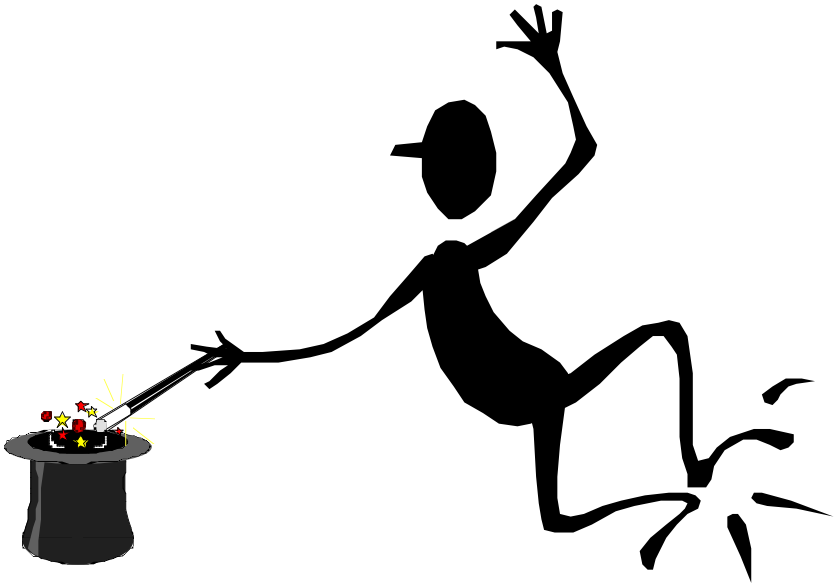
Navigation and Ancillary Information Facility

Getting and Installing the SPICE Toolkit



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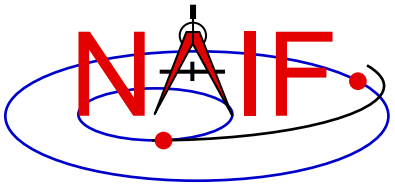
Getting Toolkit

Navigation and Ancillary Information Facility

- All instances of the SPICE Toolkit are freely available 24x7 from the NAIF WWW server

  `http://naif.jpl.nasa.gov/naif/toolkit.html`

- No password or identification is needed
- To download a Toolkit package
  - Select language – FORTRAN, C, IDL, or MATLAB
  - Select computer platform/OS/compiler combination
    - » Be careful to pick the right architecture: 64 or 32 bit
  - Download all toolkit package components
    - » package file – toolkit.tar.Z (or toolkit.zip),
      cspice.tar.Z (or cspice.zip),
      icy.tar.Z (or icy.zip), or
      mice.tar.Z (or mice.zip)
    - » Installation script (if present) – import*.csh
    - » Accompanying documents - README, dscriptn.txt, whats.new



Don’t Port it Yourself

- **The packages provided on the NAIF server have been built and tested by NAIF on these particular environments.**

- **We highly recommend you not try to port any instance of the Toolkit to some other environment, especially without consulting with NAIF first.**
  - **There are portability issues and compiler optimization issues that must be carefully dealt with.**

Installing Toolkit

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Terminal Window

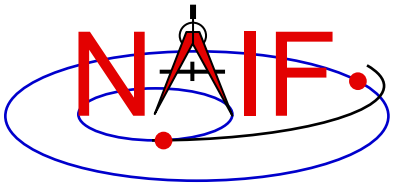
- To install the Toolkit, follow the directions given in the README. Normally this consists of the following (not applicable for PC Windows):

```
prompt> chmod u+x importSpice.csh
prompt> ./importSpice.csh
prompt> rm toolkit.tar
```

- For PCs running Windows, unzip the toolkit (or cspice or icy or mice) to expand the archive.

```
> unzip toolkit.zip
```

- You now have the expanded toolkit (or cspice or icy or mice) package.



Configuring Your Computer

- For some programming environments there are required additional steps to prepare for programming using SPICE.
- For some programming environments there are recommended additional steps to make program development easier.
- Read the "Preparing for Programming" tutorial and the "README" file found in the Toolkit download directory for more information!

Checking It Out

- **Try some executables**
  - **Use *tobin* to convert the SPICE transfer format SPK and CK files supplied with the Toolkit to local binary.**
    - » **cook_01.tsp, cook_02.tsp, cook_01.tc, and cook_02.tc are found in the ../data directory***
  - **Use *brief*, *ckbrief* or *spacit* to summarize the converted kernels.**
- **Problems may occur if operating systems or compiler versions are (way) out of sync with what NAIF used in making its builds**
  - **Rebuild the Toolkit using the script "makeall.csh" (or "makeall.bat") located in the "top level" directory (toolkit or cspice or icy or mice).**
- **In the rare circumstance that things still don't work, contact your System Administrator or NAIF.**

* According to modern SPICE conventions, the file name extensions seen above should be "xsp" and "xc." The "tsp" and "tc" extensions are kept for historical reasons.

Backup

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- **Getting the Toolkit using command line FTP**

Command line FTP - 1

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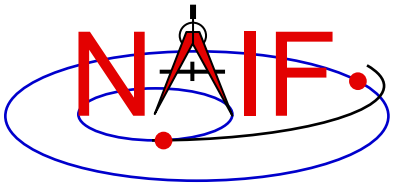
```
prompt> ftp naif.jpl.nasa.gov

220-  ================================================================
220-  |                      Jet Propulsion Laboratory                |
220-  |                                                               |
220-  |                  * * *    W A R N I N G   * * *               |
220-  |                                                               |
220-  |                          Property of the                      |
220-  |                       UNITED STATES GOVERNMENT                |
            etc.   etc.   etc.

Name (your.sight:your_name): anonymous
331 Please specify the password
Password: your@e.mail.address
230-
230-                          Jet Propulsion Laboratory
230-                       * * *    W A R N I N G   * * *
230-                    Property of the UNITED STATES GOVERNMENT
230-       This computer is funded by the United States Government and
230-      operated by the California Institute of Technology in support of
230-      ongoing U.S. Government programs and activities.  If you are not
230-      authorized to access this system, disconnect now.  Users of this
230-      system have no expectation of privacy. By continuing, you consent
230-            to your keystrokes and data content being monitored.
230-
230 Login successful.

ftp> cd pub/naif/toolkit/<FORTRAN or C or IDL or MATLAB>
250 Directory successfully changed.
ftp> dir
```



Command line FTP - 2

Navigation and Ancillary Information Facility

```
ftp> dir
MacIntel_OSX_IFORT_32bit
MacIntel_OSX_IFORT_64bit
MacIntel_OSX_gfortran_32bit
MacIntel_OSX_gfortran_64bit
PC_Cygwin_gfortran_32bit
PC_Cygwin_gfortran_64bit
PC_Linux_IFORT_32bit
PC_Linux_IFORT_64bit
PC_Linux_g77_32bit
PC_Linux_gfortran_32bit
PC_Linux_gfortran_64bit
PC_Windows_IFORT_32bit
PC_Windows_IFORT_64bit
SunIntel_Solaris_SunFORTRAN_32bit
SunIntel_Solaris_SunFORTRAN_64bit
SunSPARC_Solaris_SunFORTRAN_32bit
```

FORTRAN

```
ftp> dir
MacIntel_OSX_AppleC_32bit
MacIntel_OSX_AppleC_64bit
PC_Cygwin_GCC_32bit
PC_Cygwin_GCC_64bit
PC_Linux_GCC_32bit
PC_Linux_GCC_64bit
PC_Windows_VisualC_32bit
PC_Windows_VisualC_64bit
SunIntel_Solaris_SunC_32bit
SunIntel_Solaris_SunC_64bit
SunSPARC_Solaris_GCC_32bit
SunSPARC_Solaris_GCC_64bit
SunSPARC_Solaris_SunC_32bit
SunSPARC_Solaris_SunC_64bit
```

C

```
ftp> dir
MacIntel_OSX_AppleC_IDL8.x_64bit
PC_Linux_GCC_IDL8.x_32bit
PC_Linux_GCC_IDL8.x_64bit
PC_Windows_VisualC_IDL8.x_32bit
PC_Windows_VisualC_IDL8.x_64bit
SunIntel_Solaris_SunC_IDL8.x_64bit
SunSPARC_Solaris_GCC_IDL7.x_32bit
SunSPARC_Solaris_GCC_IDL7.x_64bit
SunSPARC_Solaris_SunC_IDL7.x_32bit
```

IDL

```
ftp> dir
MacIntel_OSX_AppleC_MATLAB8.x_64bit
PC_Linux_GCC_MATLAB7.x_64bit
PC_Windows_VisualC_MATLAB8.x_64bit
SunSPARC_Solaris_SunC_MATLAB7.x_64bit
```

MATLAB

The environments available at the time you download the Toolkit may differ from those shown here.

Command line FTP - 3

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```
ftp> cd <environment>/packages
ftp> binary
200 Switching to Binary mode.
ftp> get toolkit.tar.Z
         ( or toolkit.zip
           or cspice.tar.Z or cspice.zip
           or icy.tar.Z or icy.zip
           or mice.tar.Z or mice.zip )
. . .
ftp> ascii
200 Switching to ASCII mode.
ftp> get importSpice.csh
         ( or importCSpice.csh
           or importIcy.csh
           or importMice.csh )
         ( not available for Windows environment )
ftp> get README
ftp> get dscriptn.txt
ftp> get whats.new
ftp> quit
```