

Installing SCI Software

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SCI INSTITUTE
AT THE UNIVERSITY OF UTAH



SCI Software Portal

Download/Installation


NCRR CIBC software

<http://www.sci.utah.edu/cibc/software/>

- SCIRun (release v4.0, development v4.1)
- Seg3D (release v1.10)
- map3D (release v6.5)
- ImageVis3D (beta v0.02b)

SCI Software Portal

Download/Installation



The screenshot displays the SCI Software Portal website. At the top left is the CIBC logo. The main header reads "NCRR CENTER FOR INTEGRATIVE BIOMEDICAL COMPUTING" and "at the Scientific Computing and Imaging Institute". A search bar is located on the right. A navigation menu on the left includes links for Home, About CIBC, Research Cores, Personnel, Collaborations, Software/Datasets, Images/Movies, Publications, Contact, and Links & Event Sites. The main content area features a "Download SCIRun" section with a dropdown menu set to "4.0" and a release date of "November 18, 2008". A link for "[Release Notes]" is provided. Below this is a table listing various software files for download.

File	Product	Version	Size	Distribution
SCIRun_4.0_20081203_osx32.dmg	SCIRun	4.0	51.9 MB	osx32
SCIRun_4.0_20081203_osx64.dmg	SCIRun	4.0	49.6 MB	osx64
SCIRun_4.0_20081203_source.tgz	SCIRun	4.0	154.7 MB	source
SCIRun_4.0_20081203_linux.tgz	SCIRun	4.0	28.3 MB	linux
SCIRun_4.0_20081203_win32.exe	SCIRun	4.0	8.7 MB	win32
SCIRunData_4.0_20081203.tgz	SCIRunData	4.0	412.5 MB	
SCIRunData_4.0_20081203.zip	SCIRunData	4.0	412.7 MB	
SCIRunWithMeshingTools_4.0_20081203_osx64.dmg	SCIRunWithMeshingTools	4.0	50.4 MB	osx64
SCIRunWithMeshingTools_4.0_20081203_osx32.dmg	SCIRunWithMeshingTools	4.0	53.4 MB	osx32
SCIRunWithMeshingTools_4.0_20081203_win32.exe	SCIRunWithMeshingTools	4.0	9.1 MB	win32

Below the table is a link for "CIBC Software".

SCI Software Portal

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Binary builds

- **Windows XP/Vista setup executable**
 - Run to install
- **OS X DMG**
 - Drag app to folder
- **Linux RPMs, Debian packages (Seg3D only)**

SCI Subversion

Download/Installation

Source code management and control system

<https://code.sci.utah.edu>

- Building from Subversion recommended for contributors
- Anonymous checkouts supported
- User account needed to commit code

Browse repository using WSVN

<https://code.sci.utah.edu/wsvn>

Basic SVN Commands

Download/Installation

`svn checkout \`

`https://code.sci.utah.edu/svn/SCIRun/trunk SCIRun`

`svn commit --message "log message here" [file(s) or directory]`

- **Saves file/tree changes, updates repository with new revision information**

`svn diff file/url`

- **Show differences between file local working copy and unmodified version of the file**

`svn update [path/file(s)]`

- **Brings your file/tree up to date with repository**
- **Applies changes from repository**

Basic SVN Commands

Download/Installation

`svn status [--show-updates] [path/file(s)]`

- Status can be modified, conflicted, missing etc.

`svn resolved [--recursive] [path/file(s)]`

- Used after editing conflicted file

`svn revert [--recursive] [path/files(s)]`

- Revert file to same version as repository

`svn info [file(s)]`

- Detailed information about file

`svn blame [file]`

- User, revision information per line

Version Control With Subversion book

<http://svnbook.red-bean.com/>

Download/Installation

Building SCIRun, Seg3D

Development Tools

Download/Installation

Required tools

- **C++ compiler**

- GNU C++ (gcc)

- Recommend v4.x or greater

- Earlier compilers *usually* work, but some do have a few bugs in them depending on platform...

- Get version, run: `gcc --version`

- VC 9.0

- **CMake**

CMake

Download/Installation

Platform independent build system

- **Generates**
 - Native makefiles
 - IDE project files (Visual Studio, XCode, Eclipse C/C++)
- **GNU Makefiles, Visual Studio projects used most frequently**

SCIRun Source Code Layout

Download/Installation

.../SCIRun/src/

- Core/
- Dataflow/
- GUI/ <- TCL files
- XML/ <- Module descriptions
- Modules/ <- C++ code
- Category/
- Packages/
- BioPSE/ <- Duplicates SCIRun/src
- Core/
- Dataflow/

Building SCIRun

Download/Installation

From Subversion

- Use build script
 - downloads, builds cmake, required thirdparty libraries

```
svn checkout https://code.sci.utah.edu/svn/SCIRun/cibc/trunk/SCIRun
```

```
cd SCIRun
```

```
./build.sh
```

For more detailed instructions

[http://software.sci.utah.edu/SCIRunDocs/index.php/
CIBC:Documentation:SCIRun:Installation](http://software.sci.utah.edu/SCIRunDocs/index.php/CIBC:Documentation:SCIRun:Installation)

Seg3D Source Code Layout

Download/Installation

.../SCIRun/src/

- Core/
- Standalone/
- Apps/
- Seg3D/ <- Seg3d Application code

Building Seg3D

Download/Installation

From Subversion

```
svn co https://code.sci.utah.edu/svn/SCIRun/cibc/trunk/SCIRun
```

```
cd SCIRun
```

```
./build.sh \  
  --seg3d-only \  
  --with-wxwidgets \  
  --get-cmake \  
  --cmake-args=-DWITH_MPEG=OFF
```

For more detailed instructions

[http://software.sci.utah.edu/SCIRunDocs/index.php/
CIBC:Seg3D:Documentation:Building](http://software.sci.utah.edu/SCIRunDocs/index.php/CIBC:Seg3D:Documentation:Building)

Thirdparty Software

SCIRun depends on

Download/Installation

- Tcl/Tk and itcl/itk, Blt
- Teem
- mpeg
- PNG
- ZLIB
- Freetype

Why include thirdparty libraries in SCIRun?

- Require a specific version, and/or not (as) common, and/or not easy to install

Thirdparty Software

Download/Installation

Seg3D depends on

- wxWidgets
- Teem
- Insight Toolkit (ITK)

Thirdparty Tools

Download/Installation

Unix platforms

```
cd ../thirdparty.src
```

```
./install.sh <full path to>/thirdparty.bin
```

Windows platforms

- use Visual Studio 2008 solution file in ../thirdparty.win32 or ../thirdparty.win64

Meshing Thirdparty Tools

Download/Installation

Mesquite

<http://www.cs.sandia.gov/optimization/knupp/Mesquite.html>

- Mesh quality improvement, smoothing and optimization

TetGen

<http://tetgen.berlios.de/>

- Tetrahedral mesh generator
- 3D Delaunay triangulator

Common SCIRun Problems

Download/Installation

Missing/Bad system libraries

- View/Send us CMake, compiler output to help diagnose

X11 development packages not installed

Old and/or incorrect graphics drivers installed

Old/bad compiler installed

Bugs

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Please report bugs, feature requests:

<http://bugzilla.sci.utah.edu/bugzilla>

SCIRun Regression Testing

Download/Installation

CTest

http://www.cmake.org/Wiki/CMake_Testing_With_CTest

- **Automated CMake testing tool**
 - Submitting Experimental build

```
ctest -VV \  
  -D Experimental \  
  -A SCIRun/bin/CMakeCache.txt
```
- **Submits results to a Dashboard**

Testing

Download/Installation

CDash Dashboard

<http://www.cdash.org/CDashPublic/index.php?project=SCIRun>

- Nightly regression test results
- Experimental builds
- Testers welcome!

Dashboard

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DASHBOARD CALENDAR PREVIOUS CURRENT NEXT PROJECT														
No update data as of 2008-12-03T00:00:00 EST Help														
Nightly														
Site	Build Name	Update		Configure			Build			Test				Build Time
		Files	Min	Error	Warn	Min	Error	Warn	Min	NotRun	Fail	Pass	Min	
CIBC-RDMAC	Darwin-gcc-4.0.1	2	0	0	0	0.1	0	28	48.1	0	2	888	25.5	2008-12-03T11:31:54 EST
CIBC-RDMAC Release 4.0	Darwin-gcc-4.0.1 Release 4.0	2	0	0	0	0.1	0	28	47	0	2	883	24.1	2008-12-03T12:20:06 EST
CIBC-RD1	REDHAT(84)	4	0	0	0	0.1	0	23	69.3	0	95	574	56.9	2008-12-03T00:01:01 EST
CIBC-RD1 Release 4.0	REDHAT(84) Release 4.0	2	0	0	0	0.1	0	2	1.4	0	28	332	50.5	2008-12-03T04:01:17 EST
CIBC-RD4	VISTA(32)	1	0.1	0	0	0.1	0	50	10.1	0	53	816	25.5	2008-12-03T03:17:45 EST
CIBC-RD3 Release 4.0	VISTA(32) Release 4.0	2	0.1	0	0	0.1	0	44	3.4	0	1	884	28.1	2008-12-03T03:03:19 EST
CIBC-RD2 Release 4.0	WINDOWS_XP(32) Release 4.0	2	0.1	0	0	0.1	0	44	4.2	0	1	884	35.5	2008-12-03T03:38:28 EST
No Continuous Builds														
Experimental														
Site	Build Name	Update		Configure			Build			Test				Build Time
		Files	Min	Error	Warn	Min	Error	Warn	Min	NotRun	Fail	Pass	Min	
YUKON	VISTA(32) Release 4.0	2	0	0	0	0.1	0	50	10.4	0	23	842	138.3	2008-12-03T14:58:53 EST
Totals	8 Builds			0	0		0	267		0	206	4821		
No Coverage														
No Dynamic Analysis														

Contact Us

Download/Installation

SCI Run

- Jeroen Stinstra (jeroen@sci.utah.edu), Ayla Khan (ayla@sci.utah.edu)

Seg3D

- Allen Sanderson (allen@sci.utah.edu)

Map3D

- Rob MacLeod (macleod@cvrti.utah.edu)

ImageVis3D

- Tom Fogal (tfogal@sci.utah.edu)



Contact Us

Download/Installation

SCI Website

<http://www.sci.utah.edu>

- For user mailing lists, instructions:

<http://www.sci.utah.edu/software/maillinglists.html>

Developer Mailing Lists

- scirun-develop@sci.utah.edu
- seg3d-develop@sci.utah.edu
- iv3d-develop@sci.utah.edu

