VDI nodes

Two large memory graham remote desktop machines pre/post-processing

- access to all files (don't have to transfer data back and forth)
- full details on docs.computecanada.ca

Accessing

Connect via VNC (TigerVNC viewer recommended) to `gra-vdi.computecanada.ca`

Windows and OS X

Download latest version from TigerVNC website

- releases (at top) -> binaries are available from bintray (end of changes list)

Linux

Install with your package manager

- Debian and Ubuntu: `sudo apt-get install tigervnc-viewer`
- Fedora: `sudo yum install tigervnc`

Software

Compute Canada stack is not loaded by default

- Compute Canada stack does not support hardware accelerated OpenGL
- Nix stack uses hardware accelerated OpenGL (prefer for ParaView)
- Limited number of local-only packages: `module load clumod`

ParaView

Personal computer

Available for Windows, OS X, and Linux

Windows and OS X

Download latest version from ParaView website

- older version may if newer fails on older OS or graphics card

Linux

Install with your package manager (can also download as above)

- Debian and Ubuntu: `sudo apt-get install paraview`
- Fedora: `sudo yum install paraview`

VDI

Load `CcEnv` and `StdEnv` to make the standard module available and then load the module

```
$ module load CcEnv StdEnv
$ module load paraview
```

or install in your personal Nix environment

```
$ module load nix
$ nix-env -iA nixpkgs.paraview
```

Tutorial

Working through the ParaView tutorial is one of the quickest and easiest ways to get up-to-speed on ParaView.

- basic usage (what we will be going over)
- batch python scripting
- visualizing large models

```
$ cp -r /home/tyson/ParaView .
```

Basis of visualization

- map raw data to visual data
- spacial and temporal data
- topology and types of grids

User interface

- menu bar
- tool bars
- pipeline browser
- properties panel
- view

Basic interface

- creating a source
- interacting with a 3d view
- modifying visualization paramaters (filter, display, view)
- undo and redo (regular vs camera)

Loading data

- opening file (selecting which variables to load)
- representation and field coloring

- scaling

Filters

- selecting filters (toolbar, menu, and search)
- applying a filter (contours, slices)

Multiview

- creating a multiple views
- linking cameras
- re-arranging the views

Vector visualization

- streamlines
- tubes and glyphs
- surface LIC

Volume rendering

- Enabling
- Transfer function

Plotting

- histogram plot
- plot over a line in space
- plot over a curve
- plot over time

Selections

- Query and view based selections
- Data vs spatial selections
- Selection labels
- Extract selection and spreadsheet