

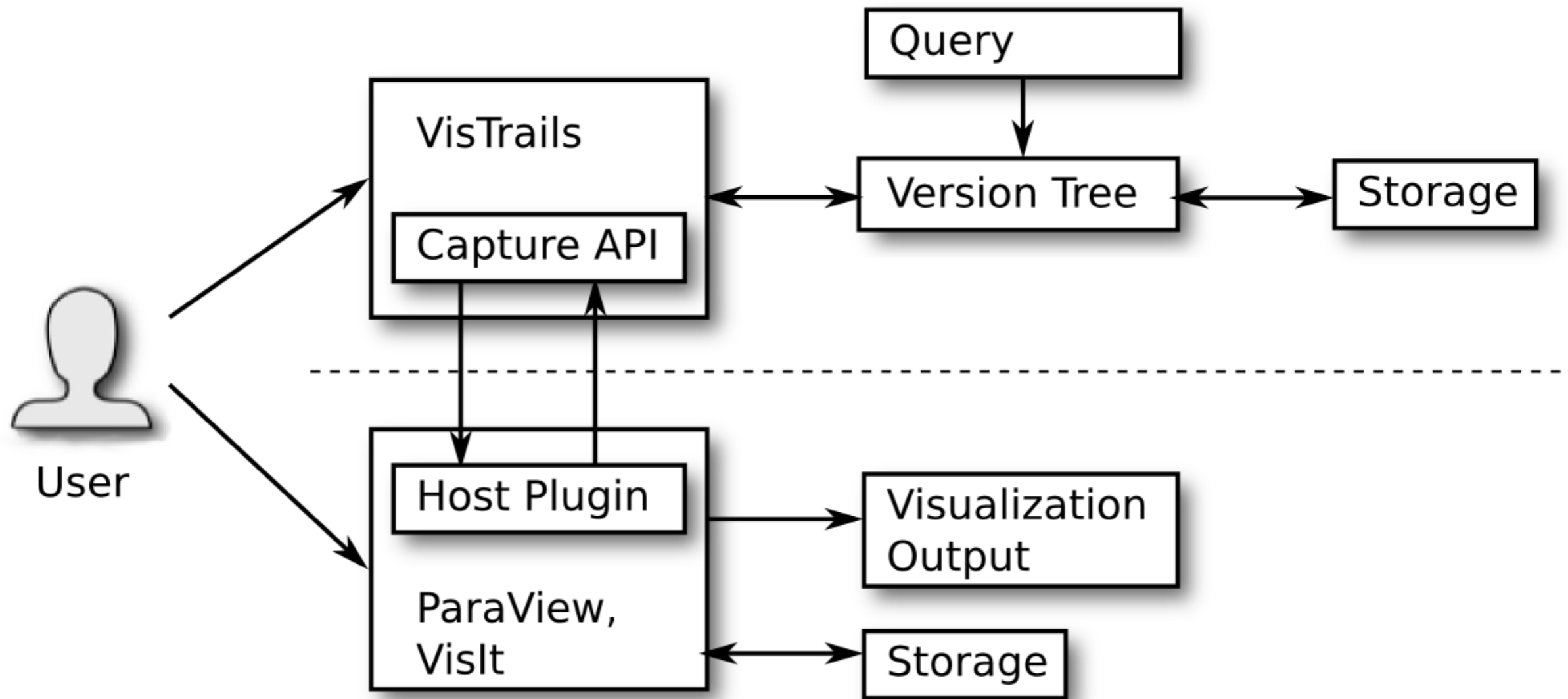
Hands-on tutorial

1. Creating a plugin for ParaView
2. Running VisTrails in server mode
3. Executing parameter exploration in VisTrails using the command line

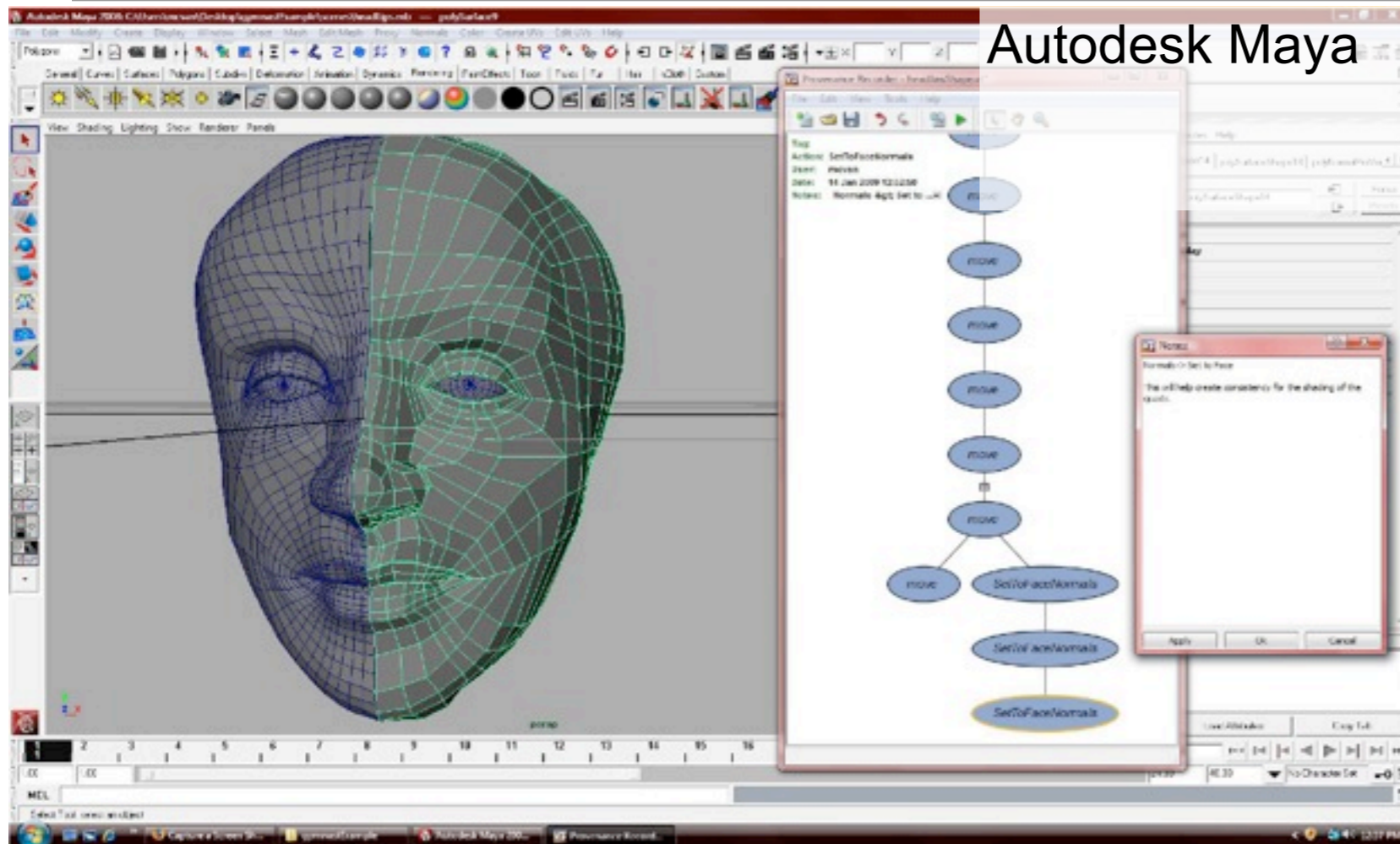
VisTrails Plugins

- Enable provenance management by incorporating the VisTrails version tree
 - Not adding new modules to VisTrails
- Data Exploration
- Reproducibility
- Education

Plugin Architecture

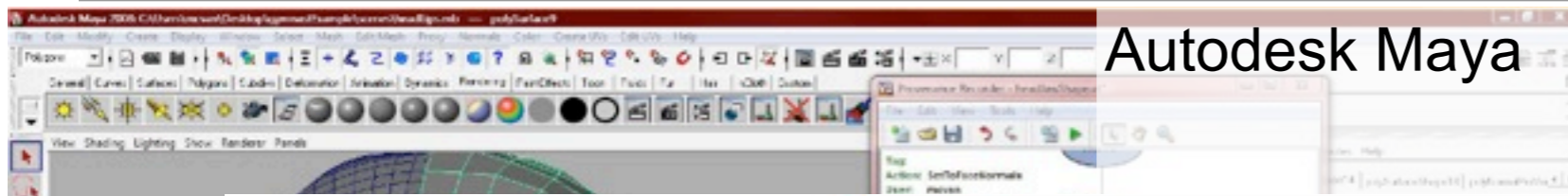


Provenance Enabling 3rd-Party Tools

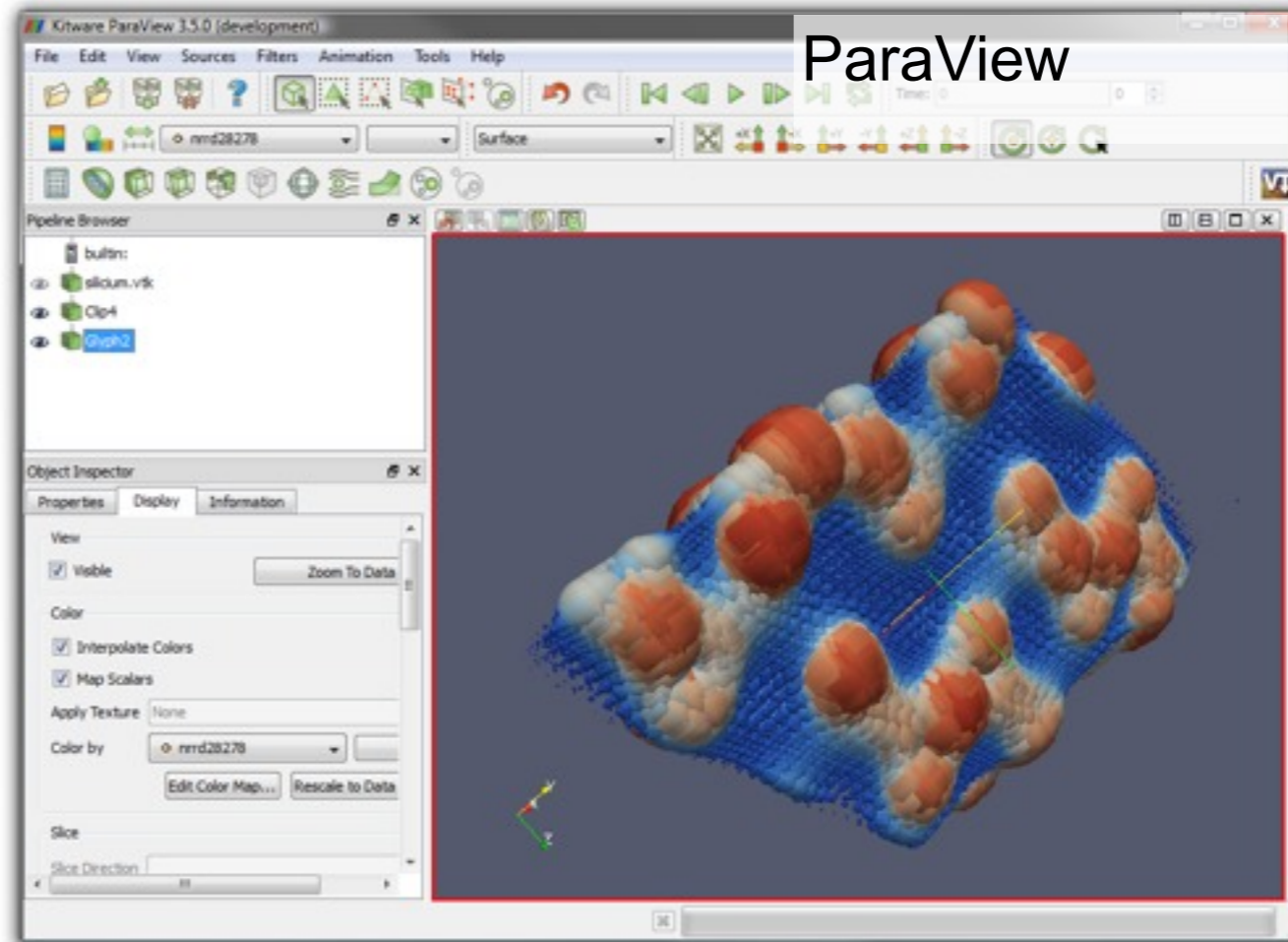


Autodesk Maya

Provenance Enabling 3rd-Party Tools



Autodesk Maya



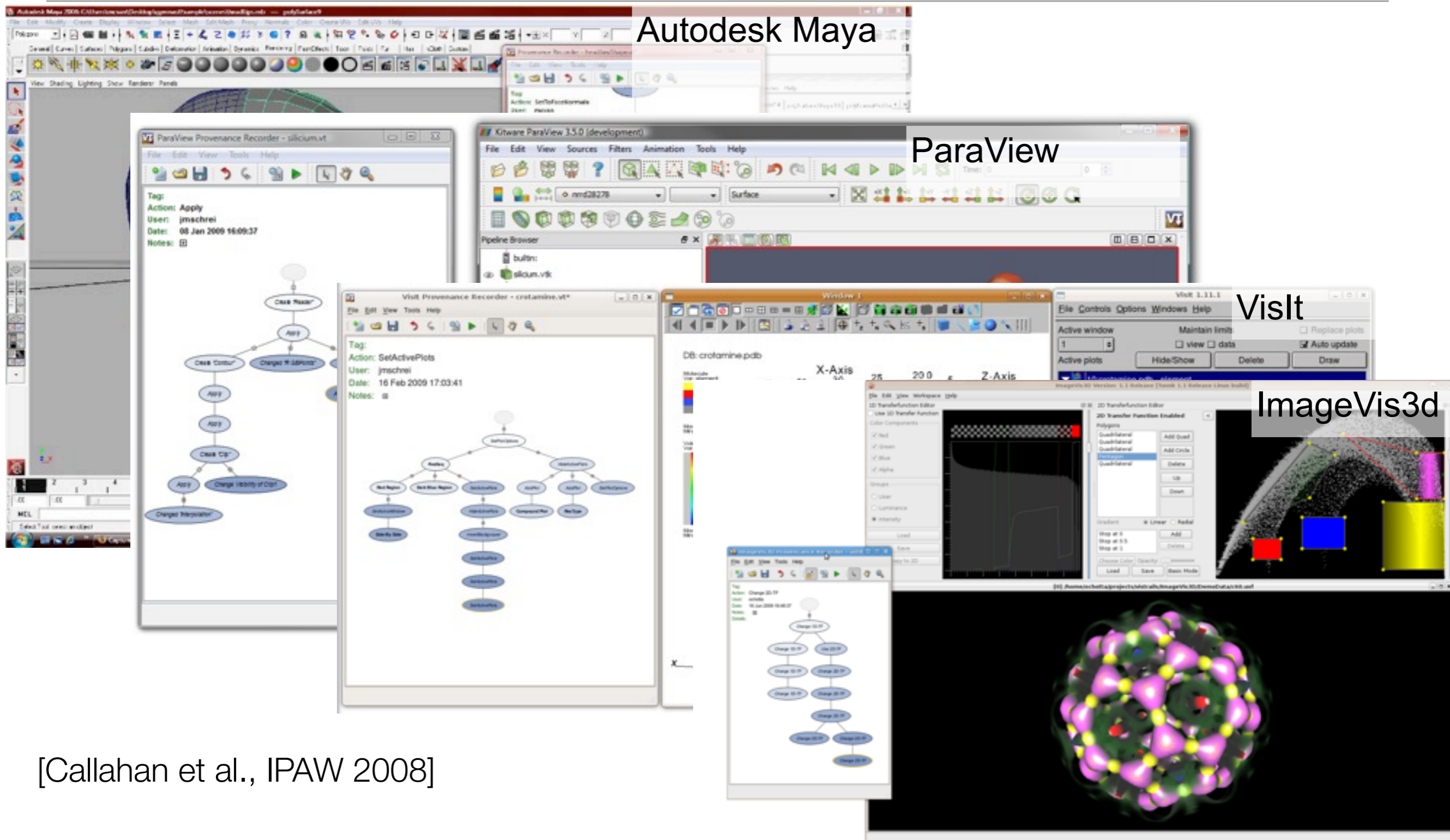
ParaView

Provenance Enabling 3rd-Party Tools

The image displays several software windows illustrating provenance recording:

- Autodesk Maya:** A 3D modeling software interface with a menu bar and tool palette.
- ParaView:** A visualization tool showing a pipeline browser with nodes like 'builtin' and 'silum.vtk'. It includes a 'Provenance Recorder' window with a graph of actions such as 'Apply', 'Change Visibility of Op1', and 'Change Interpolator'.
- VisIt:** A visualization tool showing a 3D molecular model of 'crotamine.pdb' with a color-coded volume plot. It includes a 'Provenance Recorder' window with a graph of actions like 'SetActivePlots' and 'SetColor'.

Provenance Enabling 3rd-Party Tools



[Callahan et al., IPAW 2008]

Provenance Enabling 3rd-Party Tools

VisTrails Plugin for ParaView

Provenance Enabling 3rd-Party Tools

VisTrails Plugin for ParaView

[Callahan et al., IPAW 2008]

ParaView

- Take advantage of built in 'undo' functionality
- When action performed
 - Extract top item from undo stack
 - XML action representation
- When changing versions
 - Apply sequence of XML deltas
- [http://www.vistrails.org/index.php/ParaView Plugin](http://www.vistrails.org/index.php/ParaView_Plugin)

(Show code)

Running VisTrails in server mode

Show code

Run parameter exploration in command-line

Small modifications in `gui/application.py`

Download file: http://www.sci.utah.edu/~emanuele/files/run_param_explore.py and copy it to `vistrails/`

Execute as `python run_param_explore.py -b -p`