

Enabling Users through *Community* Access to TeraGrid Visualization Resources

Michael E. Papka

Argonne National Laboratory / University of Chicago

Joseph A. Insley and Jonathan DiCarlo

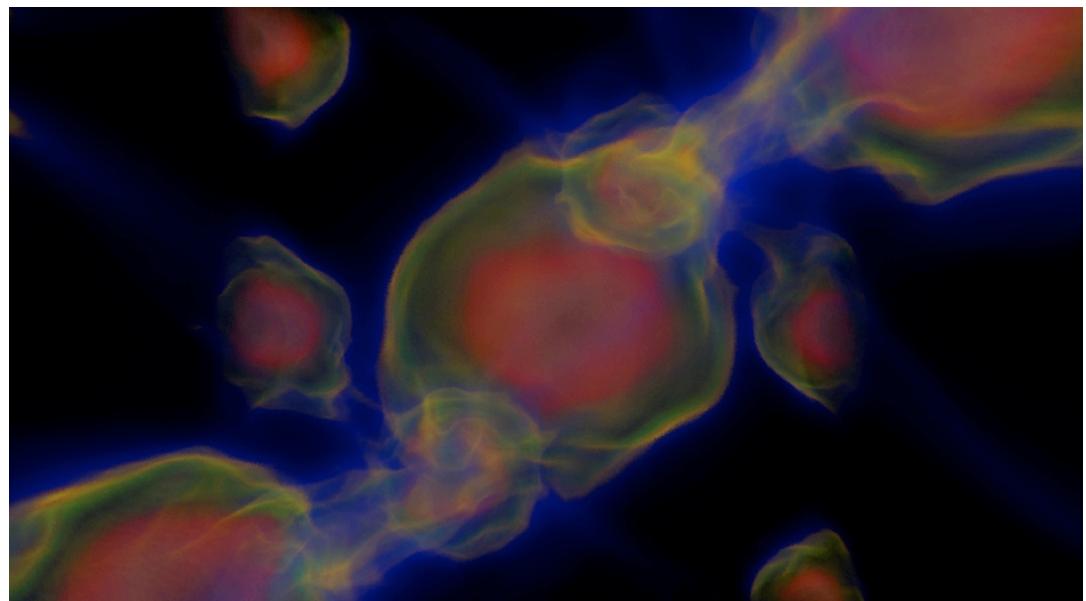
Outline

- Introduction
- Current state
- Where we are going
 - Community accounts
 - Policy
 - Progress
- Issues

Introduction

- Simplified access to visualization resources
 - TeraGrid users
 - Community users
- Beyond focused gateways

What a User Wants



Not This

- Get an account
- Mail ssh keys
- Get added to appropriate file
- Find data
- Transfer data
- Launch backend services
- Install frontend client
- Connect client to services

Current Technology

- Built using
 - OGCE2
 - uPortal 2.4.1 -> 2.5
 - myProxy
 - ParaView

ParaView

- An open-source, multi-platform visualization application
- Supports distributed computation models to process large data sets
- Open, flexible, and intuitive user interface
- An extensible architecture based on open standards

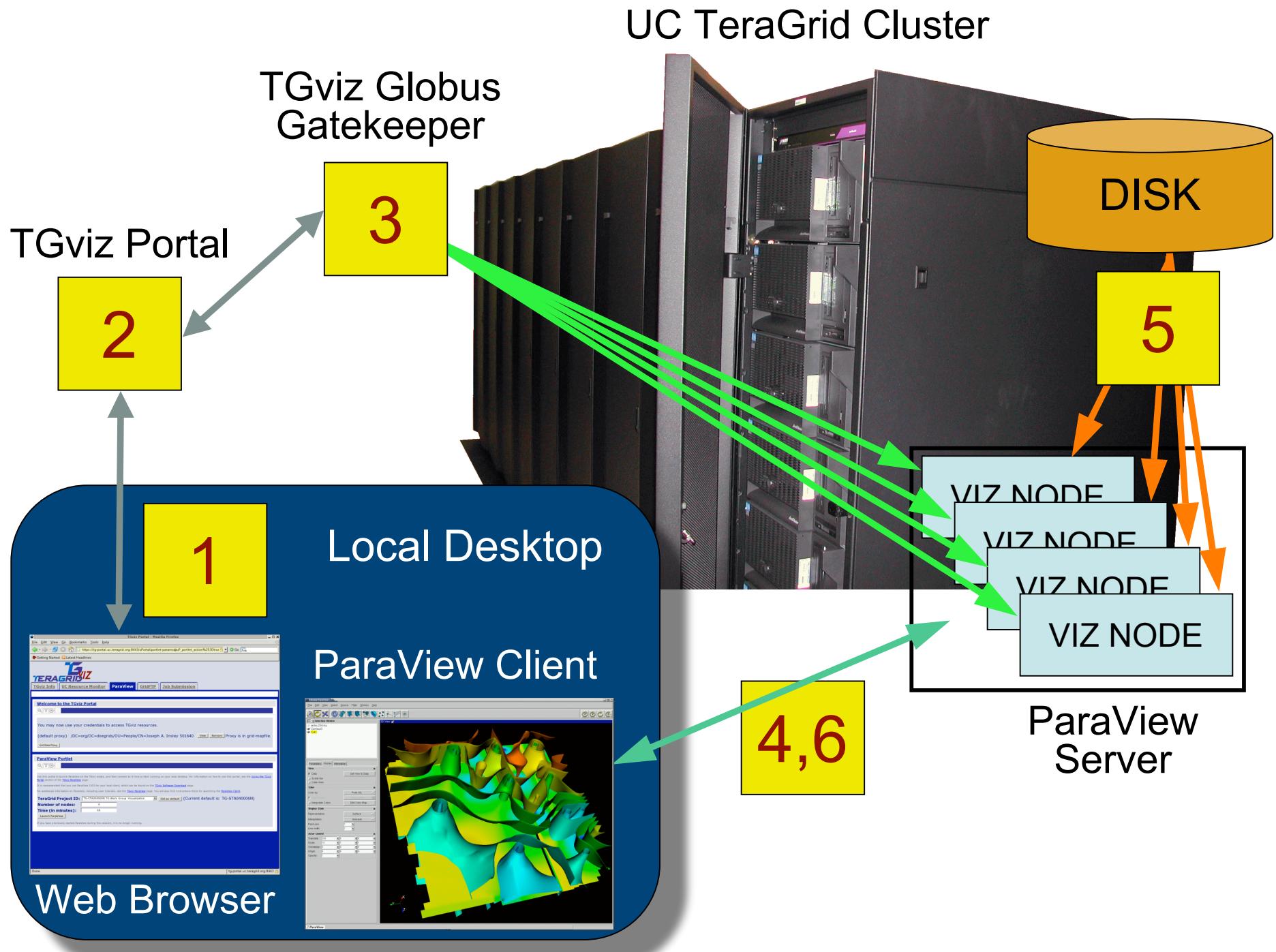
From ParaView website www.paraview.org

Portal - Today

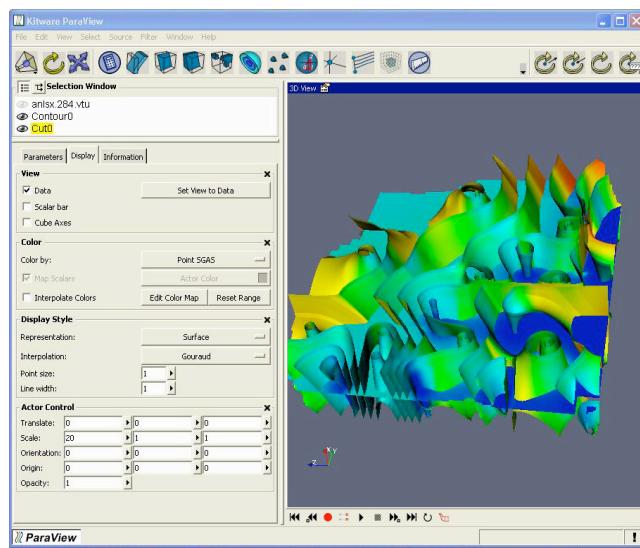
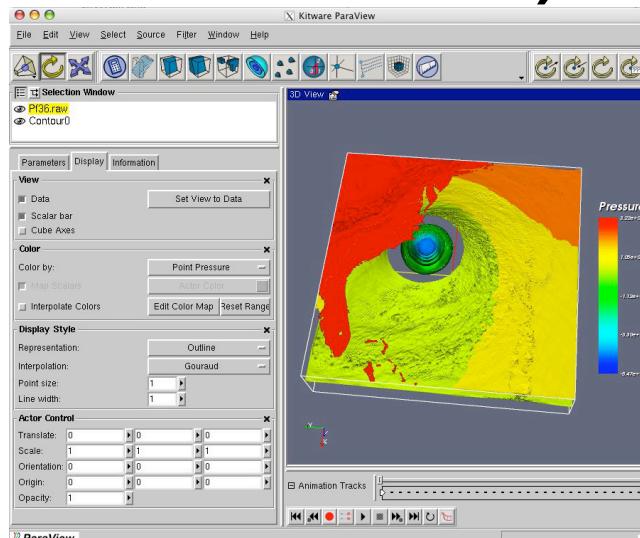
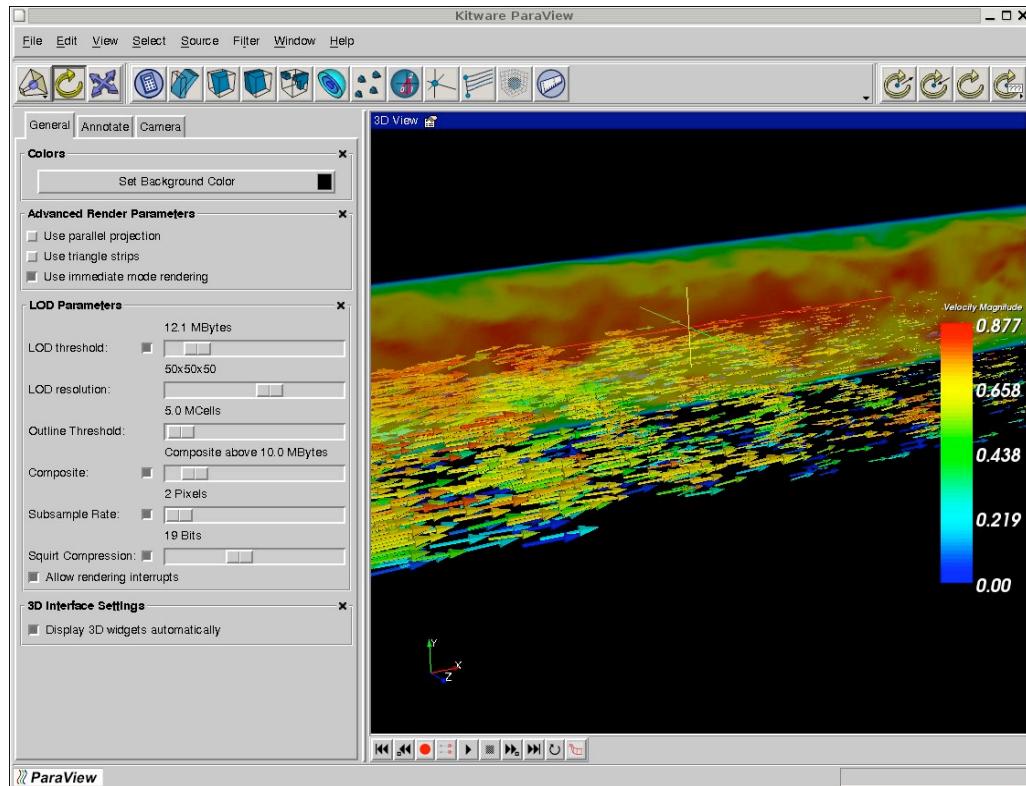
The screenshot shows the TGviz Portal interface running in Mozilla Firefox. The title bar reads "TGviz Portal - Mozilla Firefox". The address bar shows the URL https://tg-portal.uc.teragrid.org:8443/uPortal/portlet-params@uP_portlet_action. The main content area displays two portlets:

- TGviz Portal Portlet:** This portlet is titled "Welcome to the TGviz Portal". It contains a form for retrieving a proxy from a MyProxy server. The fields are:
 - Hostname: myproxy.teragrid.org
 - Port: 7512
 - Username: insley
 - Password: (redacted)
 - Lifetime: 2 (hours)

Below the form is a note: "Note: the lifetime of your GSI proxy credential will depend on the maximum lifetime specified for delegated credentials when you stored your long-term GSI proxy credential in the MyProxy server (by default 2 hours)." A "Get Proxy from MyProxy" button is at the bottom.
- ParaView Portlet:** This portlet is titled "ParaView Portlet". It contains instructions for launching ParaView on the TGviz nodes. It includes a note about using the "Using the TGviz Portal" section of the "TGviz ParaView" page, and links to "Starting the ParaView Client from the TGviz Portal" and "TGviz Software Download". It also provides information on ParaView version and reload options.



Client View (Linux, Mac, Windows)



Where are we going?

- Hide technology
 - Leverage portal technology
 - Leverage COGkits
 - Leverage visualization frameworks (VTK)
 - Leverage visualization systems (ParaView)
- Simplifying Access
 - Community based accounts

Issues with Where We are Going

- Community Accounts
 - Open accounts
 - Verified via email
 - Automated account generation
 - Limited access to resources
- Policy
 - Length of accounts
 - Use of resources

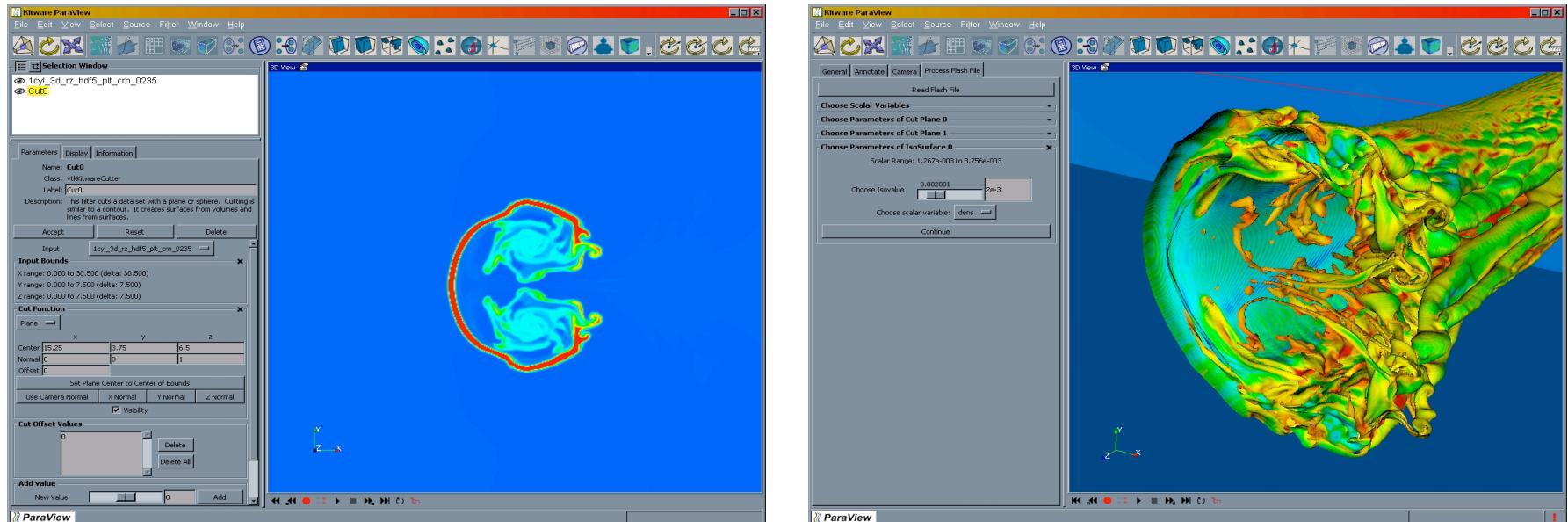
Progress

- Data outside TeraGrid
 - Implemented dual credential transfers
- Deployed tg-portal.uc.teragrid.org
 - OGCE, uPortal, mySQL, simpleCA, myProxy
- ParaView
 - Client side launching

What's Next

- Deploy community accounts
- Deploy additional visualization services
- Target application areas

Example - Simplified Interface



Application Target Areas

- Atmospheric sciences - 2005
- Astrophysics and fluid dynamics - 2006
- Life sciences - 2007
- Nanotechnology and material science - 2008
- High energy physics and astronomy - 2009

Funding

- Early Operation Funding
- Leveraged efforts from DOE ASC
- DOE SBIR Partnership with Kitware Inc.