iPG2P Steering Committee Update

March 22, 2011

iPlant Collaborative™

Agenda

- Discovery Environment Release (3/10/2011)
  - Current innovations
  - Upcoming features
- Tool Integration
  - Update on process
  - UI Mockups
- Foundational API
  - Status and timeline
  - Outside interest
- Optimization Framework

What's New in the Discovery Environment

- GUI is generated automatically from 'metadata'
- Improved job management in UI
- Abstracted job execution system "JEX" (adds reliability and paves way for workflows)
- Enhanced notification management (now persistent)
- Object state tracking "OSM" (helps with provenance)
- Phylogenetics tools

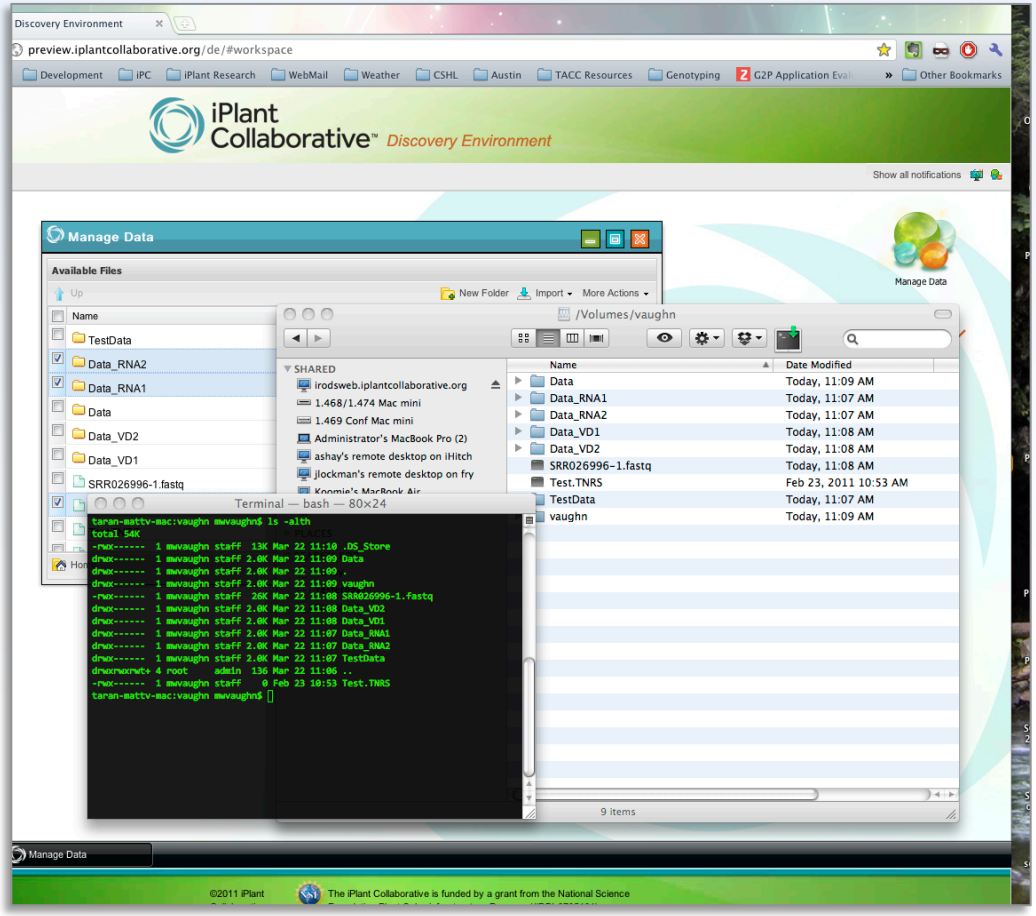
iPlant Collaborative™

What's Coming

- Unified data model – access to iPlant $HOME via DE, mountable file system, command line
- Editor/Viewer Software Development Kit
- First release of Tool Integration SDK
- New G2P tools
  - GeneMania network prediction
  - ermineJ
  - SIFT or other SNP assessment application
  - Improved RNAseq
    - Allele-specific expression*
    - Novel transcript identification
- Data manipulation tools
  - Remainder of FASTX toolkit
  - GNU Text Utilities for text wrangling

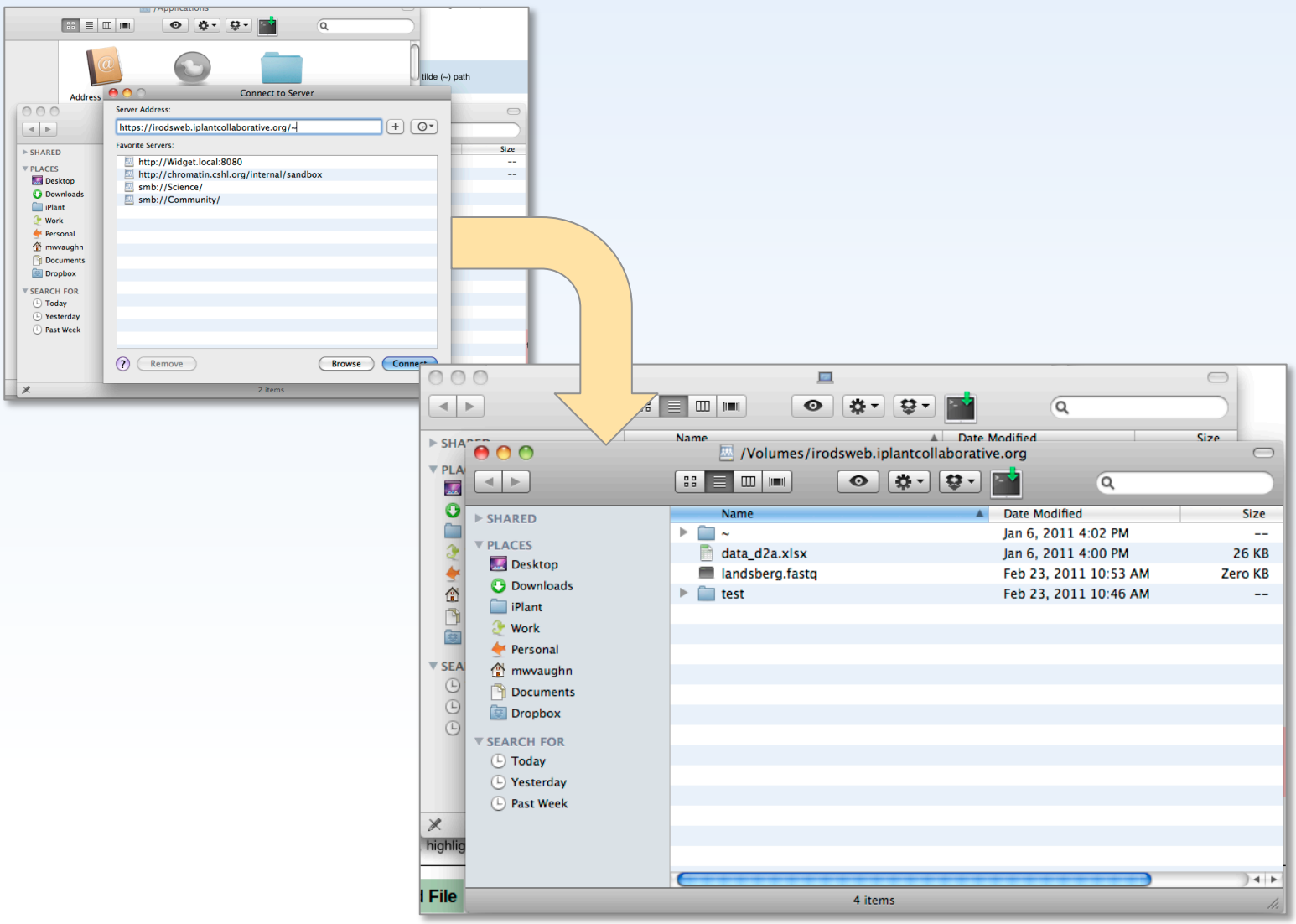
Unified Data Model

"No matter where you go, there you are (and so is your data)"

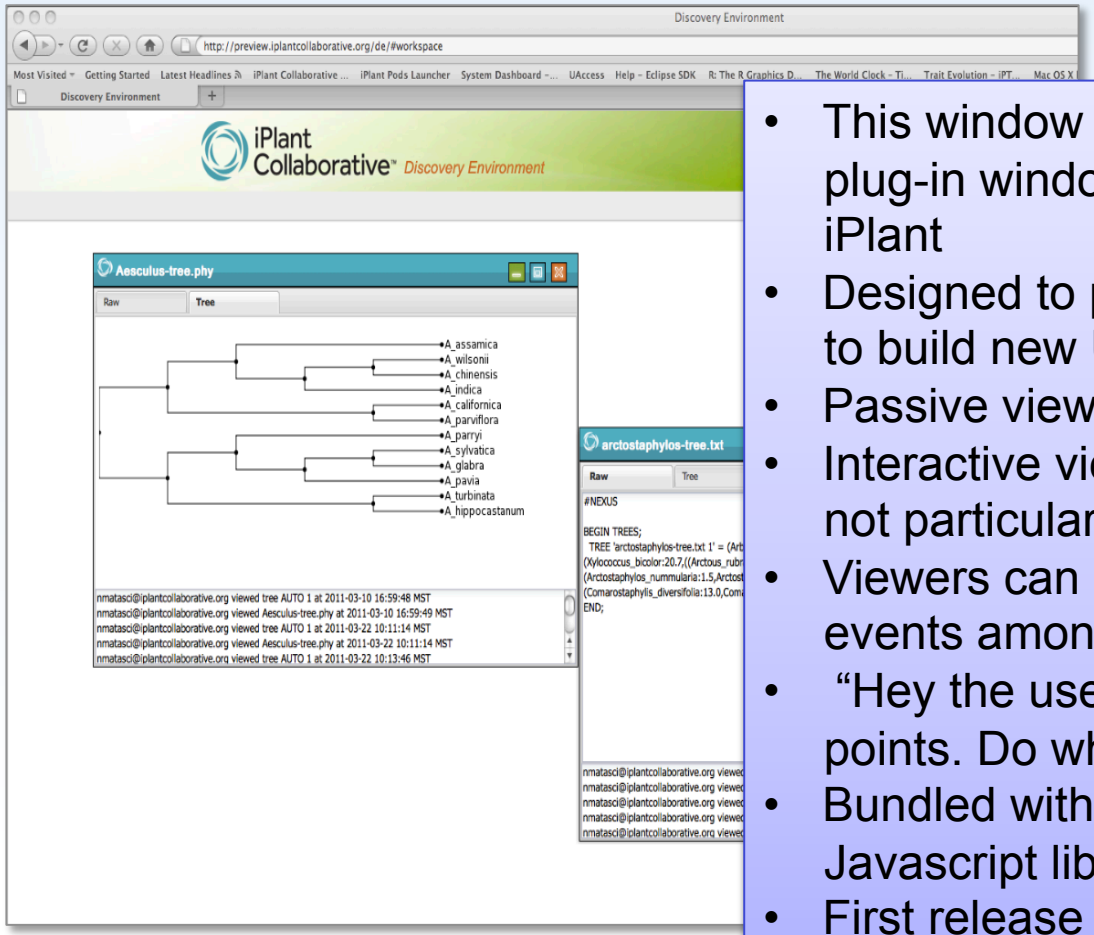


- Discovery Environment
- Mountable filesystem
- Foundational API
- Command line
- DropBox-like interface
- Web applictions

Same data
Same folders
Same permissions

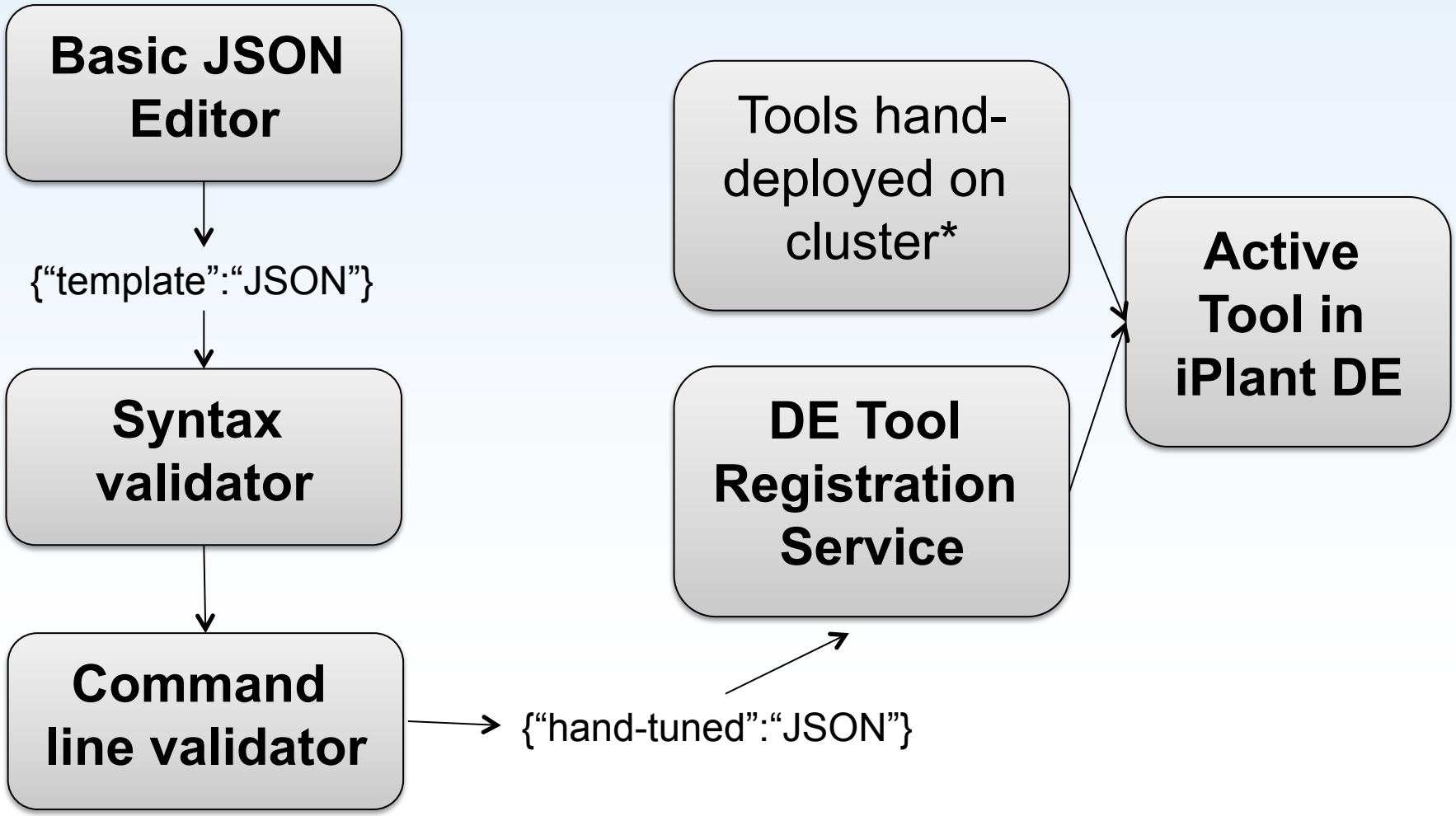

Connect to Server
Server Address:
https://irodsweb.iplantcollaborative.org/~
Favorite Servers:
http://Widget.local:8080
http://chromatin.cshl.org/internal/sandbox
smb://Science/
smb://Community/
Remove
Browse
Connect
/Volumes/irodsweb.iplantcollaborative.org
SHARED
PLACES
Desktop
Downloads
iPlant
Work
Personal
mwvaughn
Documents
Dropbox
SEARCH FOR
Today
Yesterday
Past Week
Name
Date Modified
Size
~
Jan 6, 2011 4:02 PM
--
data_d2a.xlsx
Jan 6, 2011 4:00 PM
26 KB
landsberg.fastq
Feb 23, 2011 10:53 AM
Zero KB
test
Feb 23, 2011 10:46 AM
--
4 items

Viewer/Editor Toolkit

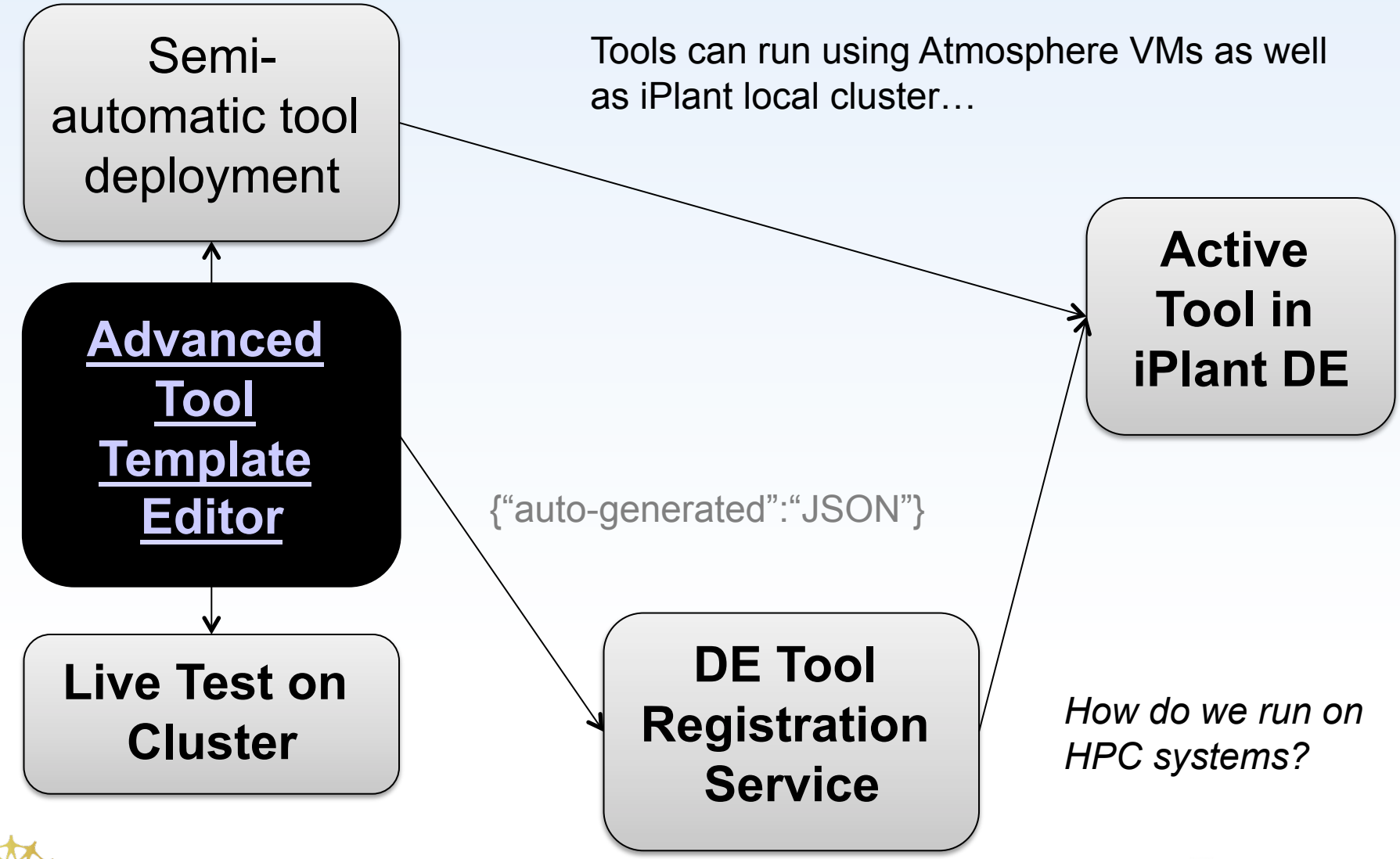


- This window has been integrated using a plug-in window framework developed by iPlant
- Designed to provide developers the ability to build new UI elements in the DE
- Passive viewers are VERY easy
- Interactive viewers and data editors are not particularly hard*
- Viewers can broadcast information and events among themselves
- "Hey the user just selected these ten data points. Do what you will, guys…"
- Bundled with **Stanford ProtoVis** Javascript library for advanced infoviz
- First release of toolkit is **on iPlant Collaborative GitHub** site. Undocumented but that's being remedied.

Improved Tool Integration: This Week



Improved Tool Integration: Soon



Foundation API

- Use the IO and DATA interfaces to abstract the location of data
- Build applications that run on TACC Lonestar and Ranger right in your iRODS $HOME directory
- Describe using simple JSON text. Editor forthcoming.
- Discover applications via access to APPS service
- Launch compute jobs by issuing requests to JOB service
- Register in DE using web-service flavor of Tool Integration (under development)

Foundation API

Service	1.0	1.1
IO	Released	July
DATA	Released	July
APPS	April	Unscheduled
JOB	May	Unscheduled
Others	Unplanned	

Follow along with documentation at: http://goo.gl/w5Tww

iPlant Collaborative™

Foundation API: Adoption

- Proposed basis for Systems Biology Kbase
- Interest by iRODS in IO RESTful API
- Interoperability with iPlant Semantic Web via SSWAP ontology
- Several letters of support for PGRP 2011 reference the Foundation APIs

iPlant Collaborative™