

Pigeon Tools

Storage Discovery & Testing

The Problem

- The Grid offers a tremendous opportunity!
- Many storage elements with large capacity.

However...

- Diverse resources with different limitations
- Not all are configured correctly for all VO's.
- Not all sites actually do what they advertise.
- (BDII information stale or incorrect)
- Difficult to find, discover, and use storage.

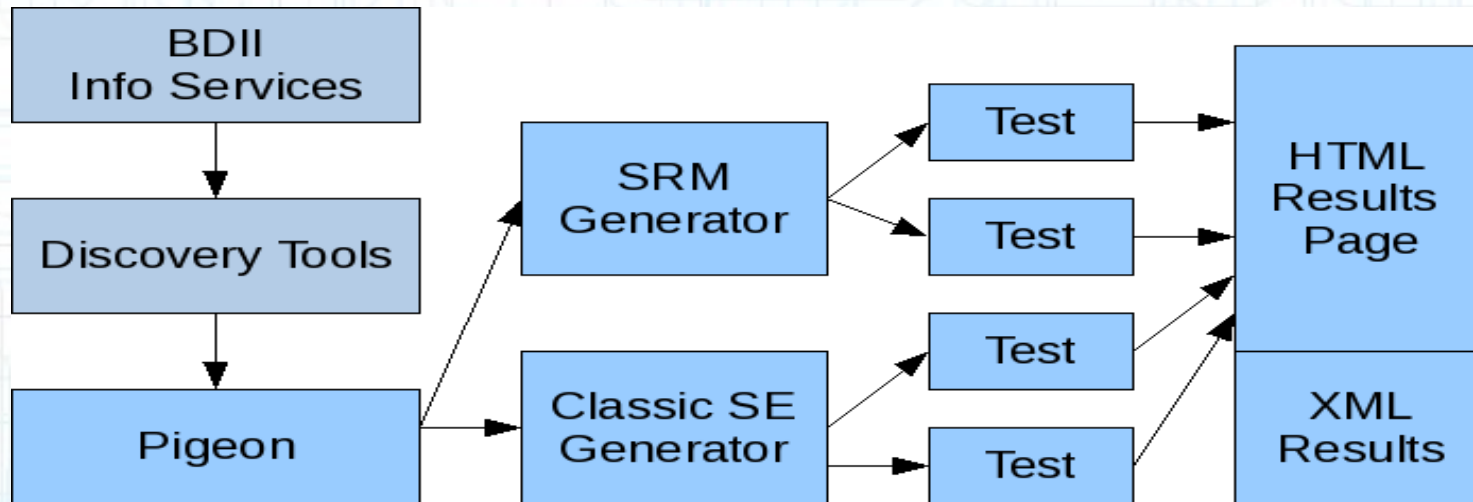
Pigeon Tools

- Pigeon tools: simplifies one step on the way to using storage elements.
- Pigeon tools will **query** BDII via discovery tools and find which storage elements advertise
- Pigeon tools will **verify** this information by testing via SRM/Gridftp to see if it actually
- Will catch mount point problems, authentication issues, etc by using the VO's actual credentials.

Pigeon Features

- 2 generators (test suites)
 - surlGenerator: finds SRM servers and tests srm-ping, srm-ls, srm-copy, srm-mkdir, srm-rm, srm-rmdir
 - turlGenerator: finds classic storage elements (gridftp servers) and tests a globus-url-copy
- Has archives of previous test results
- Dependencies (e.g. copy won't run if ping failed)
- Ability to link to GOC ticket (w/mod_python)

How it works



- Pigeon runs generator to create a suite of tests appropriate to your VO
 - (based on BDII results)
- Pigeon runs tests every hour.
- Pigeon prints results out to an HTML Page

Requirements

To use Pigeon, you need:

- Python 2.4+: provided in SL4+
- Valid x509 cert w/VO proxy: needed to run grid commands
- Apache: comes with VDT (mod_python optional)
- Discovery Tools: comes with VDT.
- Pigeon cannot be on a read-only partition.

Installation

- Stored in cvs:

```
cvs -d :pserver:anonymous@cdcvns.fnal.gov:/cvs/cd_read_only co pigeon
```

- Configure (populates Params.py):

Welcome to the Pigeon Tools (v0.5) Installer

=====

What is the location of python [/usr/bin/python]? /usr/bin/python

What is the location of pigeon tools [ie. this location]?

What is the location of the osg client? /usr/local/osg_client

What is the vo you'd like to query [Engage]?

What is the location of discovery tools [/usr/local/osg_client]?

What is the location of your output directory?

This will probably be a web-enabled

directory:/usr/local/vdt_tomcat/apache/htdocs/gip

Please enter the location of your proxy (typically X509_USER_PROXY).

Leave blank for default:

Installation 2

- Generate Test suite (configure.sh)

Would you like to discover SRM servers that support your vo right now [y/n]?

Would you like to discover classicSE servers that support your vo right now [y/n]?

- Or manually:

```
python src/sUrlGenerator.py VONAME
```

```
python src/tUrlGenerator.py VONAME
```

- The tests directory will now have one file for each test you will run.

Installation 3

- Run tests
- Python file Run.py will check the tests folder and see if any tests can be run
 - Each test has a cron (ie “47 * * * *”)
 - Each test can have dependencies
 - (ie if ping fails, don't try to copy files)
- Add Run.py with “crontab -e” so that it runs every minute:
 - “* * * * * /usr/bin/python PIGEON_DIR/src/Run.py”

HTML Page

- Should see pigeon results after an hour.
- <https://gw014k0.fnal.gov:8443/gip/>
(Engage example)
- See next page for snapshot

GLOW

<u>1ping_GLOW</u>	2010-12-08 09:28:02.000514	Success	Command finished.	Archive Create Link
<u>2srmcp_GLOW</u>	2010-12-08 09:33:01.661508	Failure	Authorization Error	Archive GOC TICKET 8799
<u>3srmlsfile_GLOW</u>		Not Run	Dependent test 2srmcp_GLOW has failed.	Archive Create Link
<u>4srmmkdir_GLOW</u>		Not Run	Dependent test 2srmcp_GLOW has failed.	Archive Create Link
<u>5srmlsdir_GLOW</u>		Not Run	Dependent test 4srmmkdir_GLOW has not run yet due to dependencies.	Archive Create Link
<u>6srmrmdir_GLOW</u>		Not Run	Dependent test 4srmmkdir_GLOW has not run yet due to dependencies.	Archive Create Link
<u>7srmmrmdir_GLOW</u>		Not Run	Dependent test 2srmcp_GLOW has failed.	Archive Create Link
<u>globus_url_copy_GLOW</u>	2010-12-08 09:32:01.832147	Failure	Command failed. (exit code 1)	Archive Create Link

Future Developments

- Will be integrated into RSV
 - (currently in ITB)
 - Packaged in VDT
 - Conf with RSV probes to run per SE
 - Runs with rsv-control (like vdt-control)

More Information

- Pigeon Tools
 - <http://home.fnal.gov/~dstrain/pigeon/>
- Discovery Tools
 - <https://twiki.grid.iu.edu/bin/viewauth/ReleaseDocumentation/OSGStorageDiscoveryTool>