PyPI Testing Infrastructure

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What is PyTI

- Propose a set of metrics
- Testing the python distribution
- Architecture for testing
Purpose of pyti

- to check what is uploaded
- Quality Analysis of projects that is uploaded
Two Parts of PyTI

- Environment Part
- Execution Part
Environment

- virtual machine
- slave
- master
- result handler
Virtual Machine Management

"Securing a computer system has traditionally been a battle of wits: the penetrator tries to find holes, and the designer tries to bury them." - M. Gosser
Transfer of data between guest and host

- VDFuse
- Fuse mount
Master - Slave

- Slave looks for requests in the Queue
- Slave accepts a request if it satisfies certain conditions and executes them
What happens in a slave

- Downloads projects
- Computes and downloads dependencies
- Transfer of files to virtual Machine
- Virtual Machine execution
- Transfer of result back to host(slave)
- Result send to result handler
architecture

PyPI

2) Downloads distributions + dependencies

3) Uploads distribution + config into disk

Slave

Fuse Mount

5) Downloads result from disk

Queue

1) Gets request from queue

result handler

6) Sends raw data from execution of tasks

Guests

VM1

VM2

4) Runs tasks in VM
Execution part

- Extract the python distributions
- Installs the distributions
- Launches the tasks
Tasks & Recipes

- Tasks are places where logic code is declared for testing.
- Bundled tasks are called recipes.
- Recipes are used to determine PyTI tests.
- The sequence of tasks is determined by task Manager which evaluates the order of the tasks.
- eg for a task: extract a "$Zip" file
What's yet to be done

- Setting up the infrastructure to atleast have few slave working
- Evaluation of dependencies of tasks for more than one dependency
- Kernal probing to determine illegal execution
How to contribute

- Download the code and hack it
- Subscribe to mailing list pyti@librelist.com
- IRC channel #python-testing
Questions???????