CLUSTERSHELL
Scalable command execution library and tools
PRINCIPLES

Improve administration tools

- Common framework
  - For command line, shell scripts and Python tools

- Fast
  - Parallel and scalable command execution

- Comprehensive
  - Manage set of nodes
  - Run commands
  - Process results
Node list handling

$ nodeset -f @compute -x @slurm:idle foo[1-5,9]

- Various outputs (fold, expand, count)
- Set-like operations
- Groups
  - Simply defined from flat or YAML files (@compute)
  - Or from Plugins (Bash upcalls) (@slurm:idle)

- And much more...
Parallel execution command

```
$ clush -bL -w foo[1-1000] uname -m
foo[11-49]: aarch64
foo[1-10,50-1000]: x86_64
```

- Compatible with pdsh (steroids added)
- Various output modes
- File copy (in parallel, both ways)
- Stdin propagation
- Local or remote command execution
- Connect to nodes using SSH or RSH variants
  - Could be extended with **Python plugins**
  - Transparent execution using relay nodes (gateways)

- And more...
Write your scripts or tools in Python

- **Nodeset manipulation**

  ```python
  from ClusterShell.NodeSet import NodeSet
  ns1 = NodeSet('blade-[3-5]-[2-8]')
  ns2 = NodeSet('@rack[5-9]')

  for node in ns1 + ns2:
    print node
  ```

- **Command execution**

  ```python
  from ClusterShell.Task import task_self
  task_self().run('echo Hello World', nodes='foo[1-15]')

  for output, nodes in task_self().iter_buffers():
    for node in nodes:
      print "%s: %s" % (node, output)
  ```
MORE INFORMATION

Website
- http://cea-hpc.github.io/clustershell/

Documentation
- http://clustershell.readthedocs.org/

Try it!
- Already available in **Debian**, **Ubuntu**, **Fedora** and **EPEL**:

  $ apt-get install clustershell
  $ yum install clustershell
  $ dnf install clustershell