FINGERPRINTING APPLICATION DEPENDENCIES

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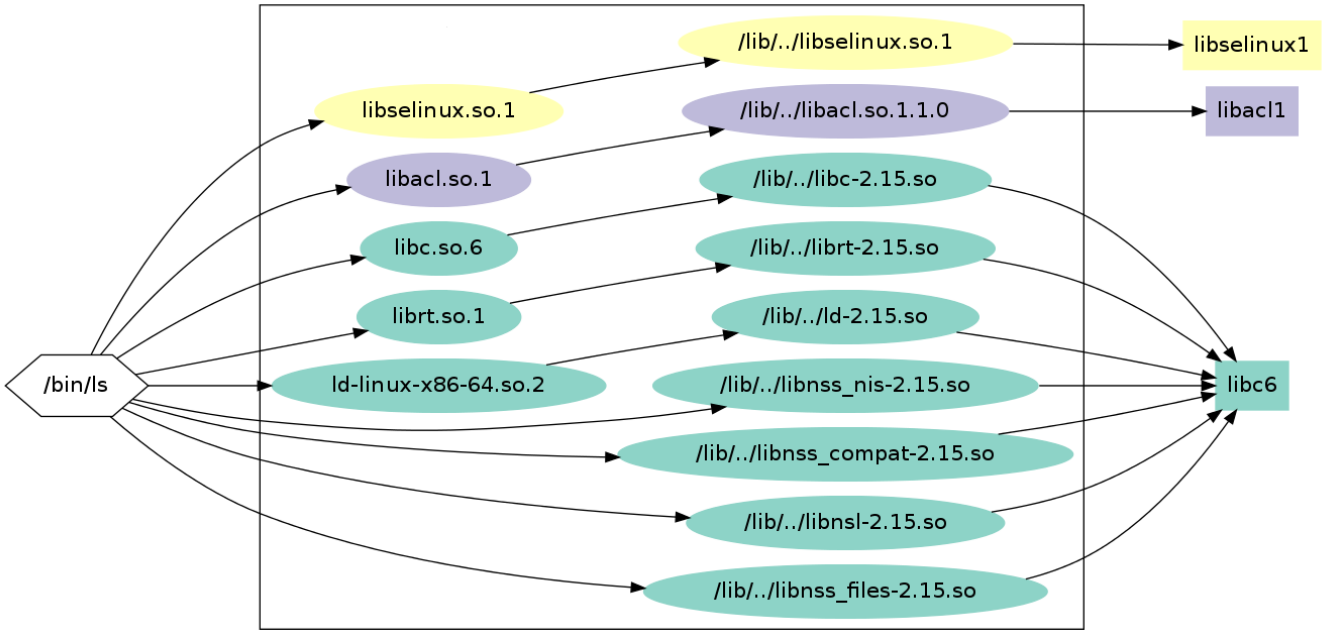
Calit2

The Problem

- Modern scientific research is dependent on reliable software environments
- Every applications relay on several shared libraries and external files

ls -l

- 9 files
- 12 shared libraries
  - 4 dynamically loaded
- 4 OS packages



paraview

- 139 files
- 382 shared libraries
  - 68 dynamically loaded
- 122 OS packages

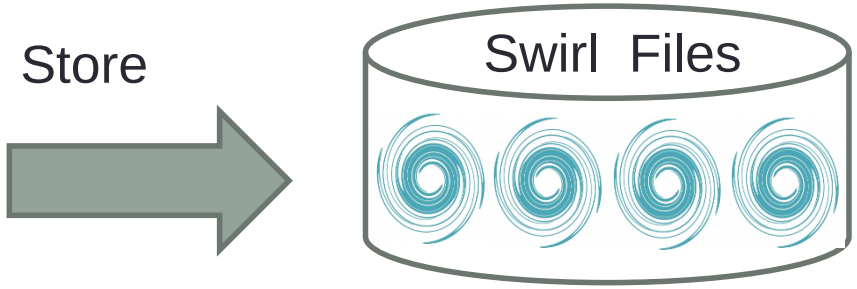
Our approach

Fingerprinting application dependencies

Create

Static
fingerprint

```
# fingerprint -c "/bin/ls"
```



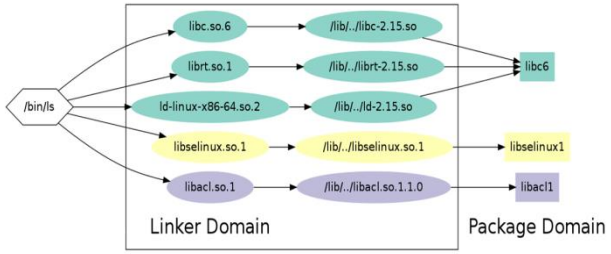
Dynamic
fingerprint

```
# fingerprint -cx "namd2 tiny.namd"
```

Use

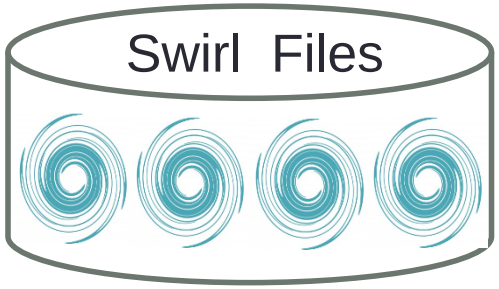
Dependencies Display

```
# fingerprint -d -g file.dot
```



System Validation

```
# fingerprint -y
```



Read

Software Stack Integrity

```
# fingerprint -yi
```

Automatic Systems Definition

```
# fingerprint -c -m
```

Thank you!

- Questions?

Source code available at:

- Fingerprint: https://github.com/rocksclusters/FingerPrint

Contacts:

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