



SINE NOMINE
ASSOCIATES

Performing Actions on File Events

(with inotify and inotify-tools)

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Agenda

- Why?
- inotify
- inotify-tools
- inotifywait
- Demo
- Q & A



Why?

- Run applications/scripts when files are copied to a directory
- Monitor private files or directories and notify you when someone changes them
- Keep a log of changes to a directory
- Interface with your existing applications or scripts



inotify

- Linux kernel subsystem
- Used via a system API call
- include `<sys/inotify.h>` or `<linux/inotify.h>`
- `init()`, `add_watch()`, `read()`, `rm_watch`



inotify

- file events:

IN_ACCESS, IN_ATTRIB,
IN_CLOSE_WRITE,
IN_CLOSE_NOWRITE, IN_CREATE,
IN_DELETE, IN_DELETE_SELF,
IN_MODIFY, IN_MOVE_SELF,
IN_MOVED_FROM, IN_MOVED_TO,
IN_OPEN



inotify-tools

- Set of inotify command line applications
- Implements common inotify use cases
- Easy to integrate with existing command line applications
- inotifywait



inotifywait

- Command line implementation of inotify's file event system
- Different than inotifywatch, this waits for new event before triggering
- Command line flags allow you to choose file events to watch for and which files/directories to watch



inotifywait

- Common flags:
 - format: Printf-like user specified event output
 - e: Event, specify certain events to watch for
 - m: Monitor, do not stop after receiving single event
 - q: Quiet, will not state when it establishes watches
 - r: Recursive



inotifywait

- **Example:**

```
FORMAT=$(echo %w%f)
```

```
inotifywait -qrme close_write --format "$FORMAT" /tmp | while read  
FILENAME; do
```

```
    # Your code here
```

```
done
```



Demo - inotify

- CentOS 6 VM with gcc-c++
- Sample C program from

<http://www.thegeekstuff.com/2010/04/inotify-c-program-example/>

- Watches /tmp directory for writes and deletes

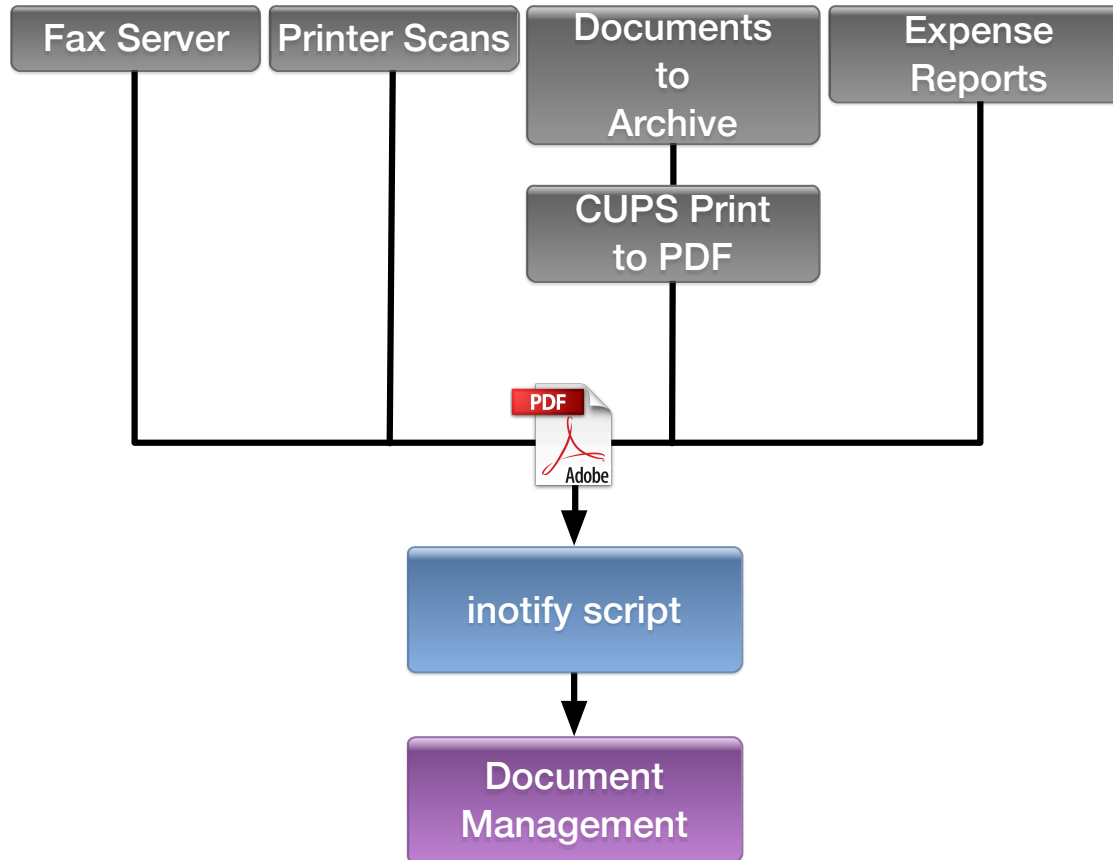


Demo - inotifywait

- CentOS 6 VM with inotify-tools
- Sample inotifywait script from slide 9
- Watches /tmp directory for writes



Example - SNA Setup





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Q&A

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