The Tragedy of systemd

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Bedazzled by Blockchain

Michael Warren Lucas

author of "hit commit murder"
Tragedy (from the Greek: τραγῳδία, tragōidia) is a form of drama based on human suffering that invokes an accompanying catharsis or pleasure in audiences.
Aurynn Shaw, “Contempt Culture”

http://blog.aurynn.com/2015/12/16-contempt-culture
Change
The Ancestry of systemd
UNIX
NAME
   init, rc - process control initialization

SYNOPSIS
   /etc/init
   /etc/rc

DESCRIPTION
   Init is invoked as the last step of the boot procedure (see `boot(8)`).
   Generally its role is to create a process for each typewriter on which
   a user may log in.
When `init` comes up multiuser, it invokes a shell, with input taken from the file `/etc/rc`. This command file performs housekeeping like removing temporary files, mounting file systems, and starting daemons.

Then `init` reads the file `/etc/ttys` and forks several times to create a process for each typewriter specified in the file. Each of these processes opens the appropriate typewriter for reading and writing. These channels thus receive file descriptors 0, 1 and 2, the standard input, output and error files. Opening the typewriter will usually involve a delay, since the `open` is not completed until someone is dialed up and carrier established on the channel. Then `/etc/getty` is called with argument as specified by the last character of the `ttys` file line. `Getty` reads the user’s name and invokes `login(1)` to log in the user and execute the shell.
Seventh Edition Unix (1979)
... housekeeping functions like... mounting filesystems, and starting daemons.

- `init(8)` manual page, Seventh Edition Unix
$ ps ax
   PID TTY  TIME   CMD
    0  ?  15749:26  swapper
    1  ?   2:34   /etc/init
 24075  co  0:01    -sh
 22531  ?   0:00   /etc/init
   15  ?   1:59   /etc/update
   18  ?   6:49   /etc/cron
   744  ?   0:00   /etc/init
   22  ?   0:00   /etc/init
 24087  ?   0:00   /etc/init
   24  ?   0:00   /etc/init
 24082  05  0:00    -2
 24089  06  0:03    -sh
 24066  07  0:01    -sh
 24096  06  0:03  ps ax

PDP-11/70, Seventh Edition Unix
```
$ ps ax
    PID  TT STAT TIME COMMAND
     0  ?  D  5:41 swapper
     1  ?  I  0:30 init
     2  ?  D  0:08 pagedaemon
    35  ?  S  19:48 syslogd
    46  ?  S  58:03 update
    49  ?  I  69:49 cron
    65  ?  S  18:56 routed -q
    70  ?  S  10:37 inetd
    87  co I  0:00 - Console-1200 console (getty)
   2643 p0 I  0:13 telnetd
   2644 p0 I  0:11 -csh (csh)
   13990 p1 S  0:01 telnetd
   13991 p1 S  0:04 -sh (sh)
   13992 p1 R  0:00 ps ax
```

VAX-11/730, 4.3BSD
Living Computers Museum + Labs

https://livingcomputers.org
Then things changed
Service
... housekeeping functions like... mounting filesystems, and starting daemons.

- `init(8)` manual page, Seventh Edition Unix
System Configuration
System Configuration

Service Bootstrap
Automated Service Management
The Idea of systemd
launchd
The Idea of launchd
From launchd to systemd
Lennart Poettering, “Rethinking PID 1”

http://0pointer.net/blog/projects/systemd.html
For a fast and efficient boot-up two things are crucial:

➤ To start less.

➤ And to start more in parallel.

-Lennart Poettering, “Rethinking PID 1”
An init system that is responsible for maintaining services needs to listen to hardware and software changes.

-Lennart Poettering, “Rethinking PID 1”
[I]s this kind of logic new? No, it certainly is not. The most prominent system that works like this is Apple's launchd system...

-Lennart Poettering, “Rethinking PID 1”
System Management
The Reality of systemd
Adoption
<table>
<thead>
<tr>
<th>Operating System</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fedora 15</td>
<td>May, 2011</td>
</tr>
<tr>
<td>openSUSE 12.2</td>
<td>September, 2012</td>
</tr>
<tr>
<td>CentOS 7.14.04</td>
<td>April, 2014</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 7.0</td>
<td>June, 2014</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 12</td>
<td>October, 2014</td>
</tr>
<tr>
<td>Debian 8</td>
<td>April, 2015</td>
</tr>
<tr>
<td>Ubuntu 15.05</td>
<td>April, 2015</td>
</tr>
</tbody>
</table>
“It violates UNIX philosophy!”
“It’s bloated and monolithic!”
“It’s buggy!”
“I can’t stand Lennart Poettering!”
“It’s not portable!”
UNIX is dead
cgroups
User-level units
Change
The Tragedy of systemd
Change
systemd represents change
The Knee-jerk
Abuse Isn’t Cool
Contempt Isn’t Cool
#systemd got you down? Come see my talk "Switching to the BSDs" at @lfnw this weekend.
linuxfestnorthwest.org/conferences/If...
Why?
The Next Generation
The Promise of systemd
Picture if you will...
Message Transport
RPC Framework
Service Lifecycle
Automation via API
Containers
The System Layer
The Greater Heresies
Consistent Device Naming
Better Log/Event/Audit Handling
A New Model Of An Application
Catharsis

From Wikipedia, the free encyclopedia

Catharsis (from Greek κάθαρσις katharsis meaning "purification" or "cleansing") is the purification and purgation of emotions—particularly pity and fear—through art or any extreme change in emotion that results in renewal and restoration.