

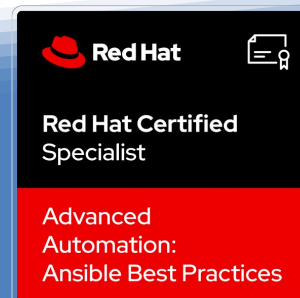
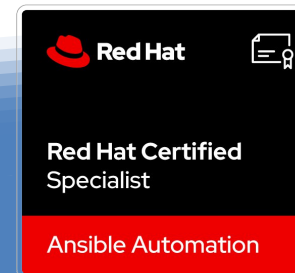
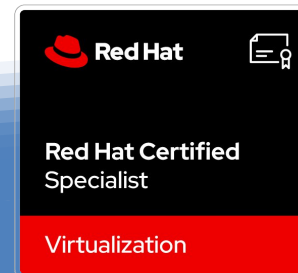
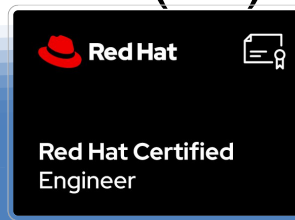
Cron jobs for 2022

Klemen Kobetič

Smart Octopus Solutions

Me

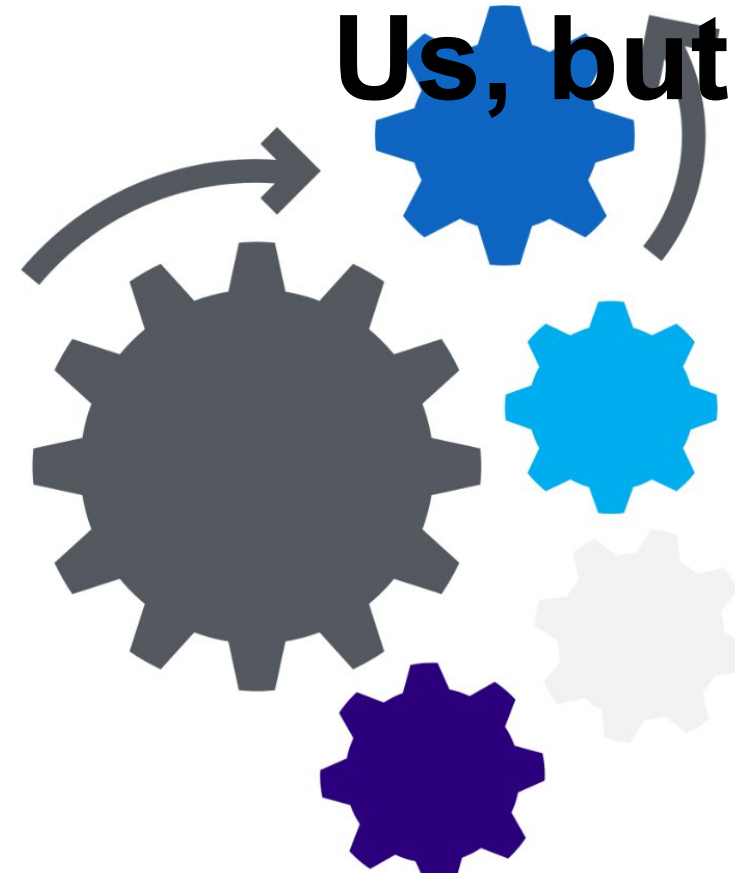
- From Ljubljana, Slovenia
- Pentium 166mhz old
- B.Sc. Computer and inf. science
- Opensource software ❤️
- Azure / AWS, RedHat solutions, on-premise
- DevOps engineer, System engineer/administrator, Cloud Engineer
- Mautic for cca 2 years (v2)



Information

- Slides and material :
 - https://github.com/klemenkobetic/mautic_timers
- Technical :
 - klemen.kobetic@sos-sw.si
- Marketing & Other
 - info@sos-sw.si

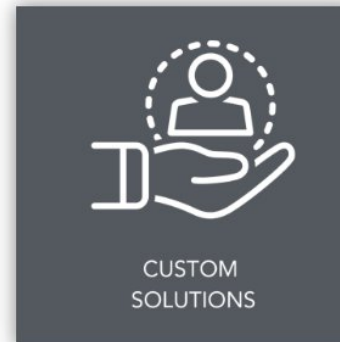
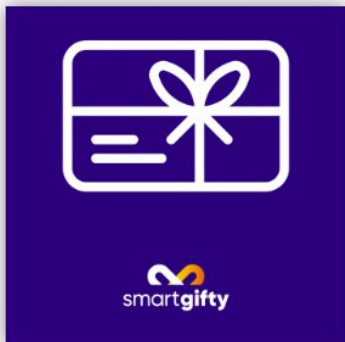
Us, but more



We help you identify, solve and understand problems concerning all kind of identification and offer support with software solutions in different industry fields.

<https://sos-sw.com>

Smart Octopus Solution:



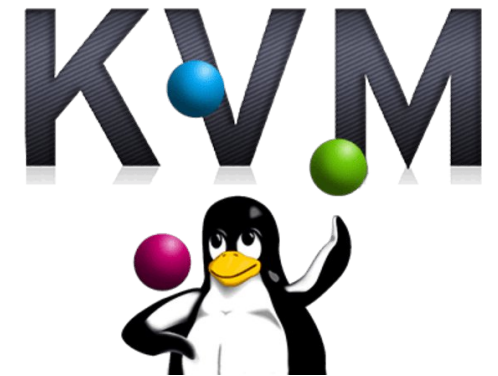
Mautic project

- developed 5+ Custom Mautic plugins
- Loyalty and Mautic
- www.Mautic.si
- Next plugin is for event management



Hardware

- Cloud – AWS
 - mainly T3a.medium
 - Virtual machines
 - 2 vCPU / 4GB RAM
- On-premise
 - Our servers / KVM
 - Standalone HP DL380 G8 servers
 - Virtual machines
 - 2 vCPU / 4GB / 8GB RAM
 - 100 GB of disk
 - Clients / VMware virtualization



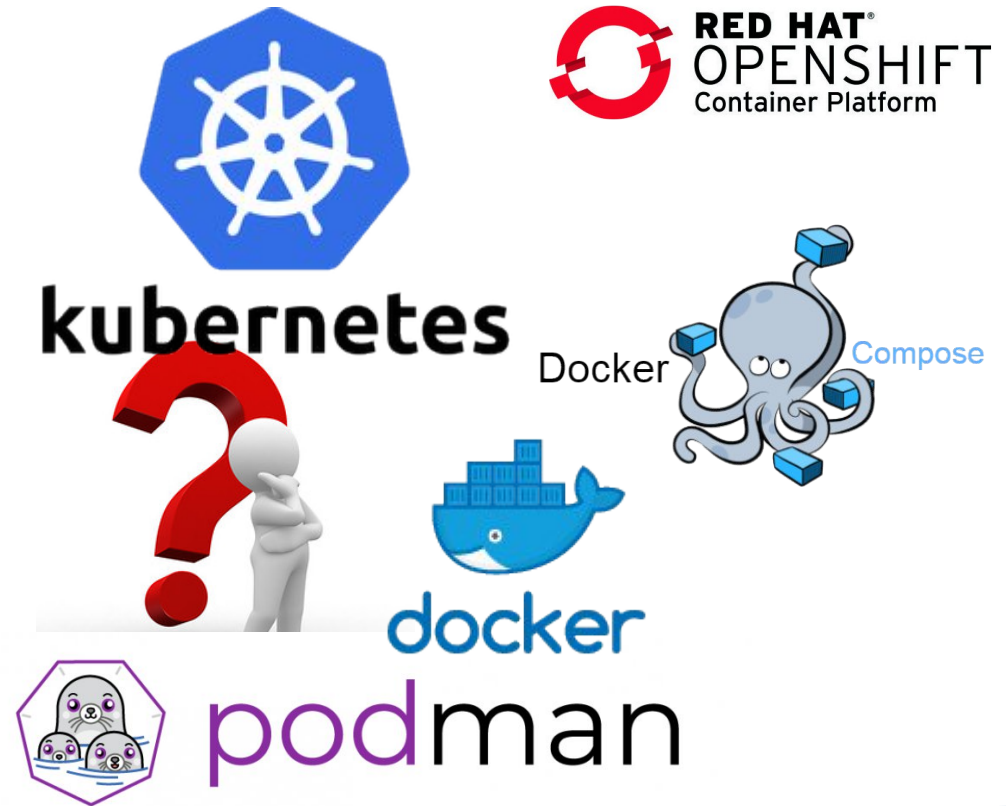
Operating system(s)

- Ubuntu 18.04 LTS
 - would love to say ‘no more’ but still some exist
- Ubuntu 20.04 LTS
- Ubuntu 22.04 LTS
 - testing



Containers

- Not there yet
- No need
 - No push from customer side
 - No push from our side
- Running container in a VM?



The pain

- Mautic tasks are executed by cron jobs
- Segments were not updating frequent enough
- Emails were not send frequent enough
- No (good) way of stopping cron jobs programatically

The problem

- <https://docs.mautic.org/en/setup/cron-jobs>

```
- 0,15,30,45 <- mautic:segments:update  
- 5,20,35,50 <- mautic:campaigns:update  
- 10,25,40,55 <- mautic:campaigns:trigger
```

- Ok, increase the numbers

'Solution'

- /1 <— mautic:segments:update
 -
- /2 <— mautic:segments:update
- /3 <— mautic:segments:trigger
- Better?
 - Yes
 - No
- Configured correctly?

New problems

- Overlapping executions
 - Too frequent
- Still no better at stopping and starting these cron jobs

Solution

- systemd
 - primary component is a "system and service manager"
- Ubuntu 16.04LTS (15.04 -> default)
- Examples :
 - systemctl start myapp.service
 - systemctl stop myapp.service
 - systemctl status myapp.service
- Replaces :
 - SysVinit (service myapp start)
 - Upstart (start myapp)

Timers

- Timers are a part of systemd
- Timers are systemd unit files whose name ends in .timer that control .service files or events
- Timers ~~can be~~ are used as an alternative to cron

Information

- <https://www.freedesktop.org/software/systemd/man/>
- <https://www.freedesktop.org/software/systemd/man/systemd.timer.html>

Ubuntu 20 and logrotate

- /etc/cron.daily/logrotate

```
root@mautic1:/etc# ll /etc/cron.daily/logrotate
-rwxr-xr-x 1 root root 377 Jan 21  2019 /etc/cron.daily/logrotate*
root@mautic1:/etc# cat /etc/cron.daily/logrotate
#!/bin/sh

# skip in favour of systemd timer
if [ -d /run/systemd/system ]; then
```

- switched to timers

```
root@mautic1:/etc/cron.daily# systemctl list-timers | grep logrotate
Wed 2022-05-25 00:00:00 UTC 4h 12min left Tue 2022-05-24 00:00:00 UTC 19h ago      logrotate.timer      logrotate.service
```

- systemctl status logrotate.service
 - /etc/systemd/system/logrotate.service
- systemctl status logrotate.timer
 - /etc/systemd/system/logrotate.timer

Our solution, service file

- /etc/systemd/system
 - file mautic_segments_update.service
 - [Unit]
 - Description=mautic_segments_update job
 - [Service]
 - Type=oneshot
 - User=www-data
 - Group=www-data
 - *StandardError=append:/var/log/cronjobs/timer_mautic_segments_update.log*
 - *StandardOutput=append:/var/log/cronjobs/timer_mautic_segments_update.log*
 - ExecStart=/bin/bash /usr/local/bin/mautic_segments_update.sh

Our solution, timer file

- /etc/systemd/system
 - file mautic_segments_update.timer
 - file has the same name as service
 - [Unit]
 - Description=mautic_segments_update timer
 - [Timer]
 - OnUnitInactiveSec=30s
 - OnBootSec=10s
 - AccuracySec=1s
 - [Install]
 - WantedBy=timers.target

Our solution, bash script

- /usr/local/bin/
 - file mautic_segments_update.sh
 - chmod +x
 - chown
 - #!/bin/bash
 - /var/www/mautic/bin/console mautic:segments:update

Check status

- `systemctl daemon-reload`

```
root@mautic1:/etc/systemd/system# systemctl list-timers
                                mautic_segments_update.timer
NEXT LEFT LAST                PASSED UNIT              ACTIVATES
n/a   n/a   Tue 2022-05-24 19:59:04 UTC 1s ago      mautic_segments_update.timer      mautic_segments_update.service

1 timers listed.
Pass --all to see loaded but inactive timers, too.
root@mautic1:/etc/systemd/system#
```


Final

- Better? The best?
 - Good price/performance ratio
- Advantages?
 - Serial execution
 - ability to start and stop programmatically
 - `systemctl stop mautic_segments_update.timer`
 - `systemctl start mautic_segments_update.timer`



Questions

- Klemen Kobetič
– DevOps engineer
- Tomaž Jurič
– CTO

