The infrastructure of the LibreOffice project

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  The Document Foundation
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About Alex

- A long long time of activity
  for free software
- Member of **The Document Foundation**
- responsible for the project's **infrastructure**
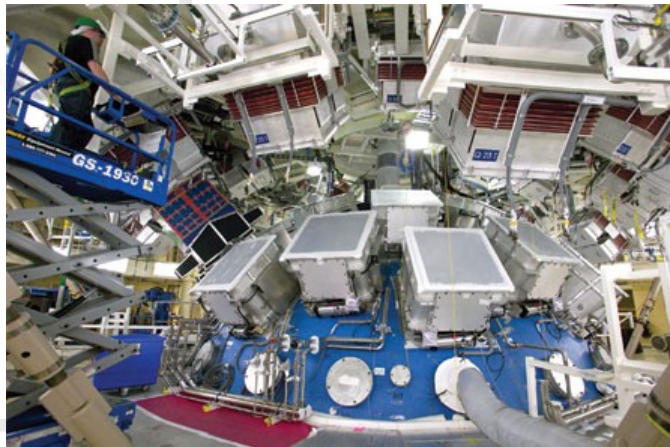 as freelancer
- Python enthusiast

Looking into the engine room

Controlled chaos

- Own dedicated servers
- Dedicated servers rented by others
- Hosted services
- Nginx
- Apache
- MySQL
- PostgreSQL
- Deployment on bare metal
- VMs
- UFW
- Shorewall
- Postfix
- Mirrorbrain
- Askbot
- Plone
- Silverstripe

- Debian 7
- Ubuntu 12.04
- Amavisd
- Mailman
- Mlmmj
- Saltstack
- Owncloud
- Mediawiki
- Dovecot
- Mirmon
- Etherpad
- Planet
- Etc. pp.

Jump to the next level

Taming the chaos

Goals

- High availability of services
- Fewer services with the same purpose
- Better maintainability
- Better use of resources
- Easier scalability

Taming the chaos

Reaching the goals

- High availability
  - Use current virtualization and storage technologies
  - Build a cloud-like infrastructure
  - Get better suited hardware
- Fewer services with the same purpose
  - Find duplicate services
  - Choose the one that works best
- Better maintainability
  - Reduce the number of different speced servers
  - Reduce configuration complexity

Taming the chaos

Reaching the goals

- Better use of resources
    - Software that needs less CPU/RAM
    - Looking for simpler configuration
- Easier scalability
    - Get hardware that is sufficient for quite a number of VMs
    - Make use of an infrastructure/cloud provider

Our new engine

- 64 cores
- 256GB RAM
- 4x2TB Enterprise Level SATA HDDs
- Hardware RAID
- Redundant power supply
- Direct LAN connection between two of them
- IPMI
- enough IPs (both v4 and v6)

The gearbox

- oVirt as infrastructure provider
- Provides virtual machines, virtual storage and virtual networks
- on top of CentOS 6.5
- Running in self hosted engine mode – management engine as VM
- GlusterFS as replicated storage
- Migration of VMs between hosts without downtime
- KVM as virtualization technology

Our chauffeur

- SaltStack for infrastructure orchestration
- One master commands multiple minions
- Simple, yaml based configuration
- Very fast and parallel
- Bootstrapping of the whole platform possible
- Setup of new VM (production ready) from scratch within 20 minutes
- Documentation of the configuration
- Most parts open sourced (github.com/tdf/salt-states-base)

The whole platform

- Easy to give new admins fine-grained access due to salt-based user management

- Easy to maintain: changes to the salt-master propagate to the whole infrastructure

- Highly available: VMs failover to the other host

- Efficient use of resources: VMs can scale very large, memory overcommit included

- It scales easily: VMs and additional hardware hosts can be easily provisioned

The masterplan

What's next

- Writing salt-states that provision the platform on testing hardware
- Allocation of the hardware by the hoster
- Provision the nodes
- Move the existing VMs to the new platform, starting with the staging ones
- Move services from exisiting bare-metal machines to separated Vms
- Change from Apache to Nginx, from MySQL to PGSQL etc.

Join us, it's fun!

- Infra confcall on **Tuesday, September 9, 17:00 CET**
- Help appreciated in all areas
    - Virtualization
    - Backup
    - Monitoring
    - SSO
    - LDAP
    - Databases
    - Webserver
    - Mailserver

Communication channels

- **#tdf-infra** at irc.freenode.net
- **website@global.libreoffice.org** mailing list
  subscribe with website+subscribe@global.libreoffice.org
- own wiki category at
  https://wiki.documentfoundation.org/Infra
- mail the admin team at
  hostmaster@documentfoundation.org

Thank you for your attention!

Any questions?
- E-Mail: alex@documentfoundation.org
- IRC: awerner