

The GNOME Infrastructure



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What do we do?

- We maintain the infrastructure that runs the GNOME Project.
- We make sure that all the services we host are running smoothly.
- We follow-up with every single team, developer or contributor in case they have a problem.
- We coordinate with our hardware sponsors for anything related to hardware failures, old machines replacements and special requests.

Our communication channels

- IRC, #sysadmin at irc.gnome.org.
- Public mailing list, gnome-infrastructure.
- Private mailing list, gnome-sysadmin. (cron and puppet runs, domain renewals, private discussions)

Users

- Services status, status.gnome.org.
- Public infrastructure announces, infrastructure-Announce.
- Public Nagios anonymous view.



Hardware and virtualization

- Three datacenters involved:

1. Red Hat @ Phoenix-2, 22 machines. (hosting our private network channel aka -back)
2. Canonical @ London, 2 machines.
3. OSU Open Source Lab, 4 machines.

- Massive usage of virtual machines (VMs) thanks to the KVM

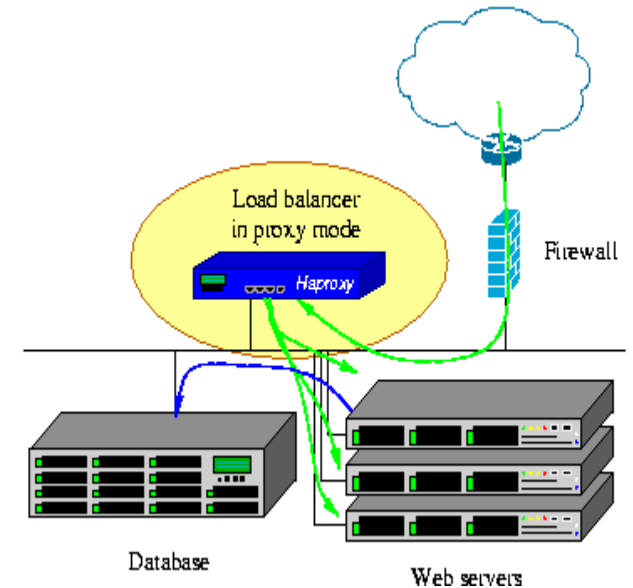
/ Libvirt technology.

- Special naming convention for all the machines involved.

(GTK widgets or just the hosted service name in specific cases)

Software - Web

- Haproxy on the frontend machines with a failover setup. (load balancing then happens with a round robin DNS entry, clients are randomly redirected to one of the two Proxies)
- Apache instance in front of Haproxy for redirecting all requests to HTTPS which is served through a wildcard SSL certificate.
- Backend machines hosting the applications and services. These are only reachable through ssh by the Sysadmins.



Software – Other services

- NFS-mounted users directories on the whole network.
- OpenVPN for machines hosted outside the Phoenix-2 datacenter for accessing the private network.
- OpenLDAP for managing centralized access over the Git and the FTP services. Accounts stored on LDAP are then synced over the whole infrastructure.
- BIND for serving the DNS requests being sent over our two name servers (ns-master, ns-slave) where many domains are pointing to.
- Prosody, the GNOME Jabber server.

Software – Other services

- Postfix and our spam / viruses killer tools (Amavisd, ClamAV, SpamAssassin), keep our mail server up and running while Mailman helps us managing our mailing Lists.
- Wordpress, used on both www.gnome.org and on blogs.gnome.org.
- MoinMoin, the software behind our wikis.
- Extensions, an in-house developed application that helps users customizing their GNOME installation.
- Etherpad, a Node.js app that gives access to editable pads.

Operations

Puppet:

- Maintained through a private Git repository where all the modules and configurations live.
- Changes are mailed to the whole Sysadmin team to make sure everyone is aware about what has been modified and where.
- The changes are then reflected on all the hosts at the next Puppet run.

Standard Operating Procedures (SOP)

- Instructions every Sysadmin should read before taking care of a targeted operation. They also provide information on how the hosts and services have been customized on the infrastructure.

Operations

Backups:

- Each host runs a nightly rsync to an external host.
- Backup machine receives the incremental updates and copies the content to tape drives.
- Handy exclude list for each node file to prevent useless content to be synchronized. (i.e cache, bind mounts)
- Daily report sent to the sysadmins with a list of possible failures during the nightly backups.
- Logs of the rsync runs for diagnosing possible problems.



Monitoring

Nagios:

- 24/7 notifications sent to mail, IRC, XMPP of the pre-configured contacts in the case anything goes wrong on the hosted services.
- Public overview of the status of all the hosts and services available directly through a web browser at <http://nagios.gnome.org>.
- Event handlers, specific actions that are performed whenever a service reaches a certain status reducing the downtime and the need of a manual action.
- Pnp4nagios, per-host/service statistics over the time.



Future plans

- Bugzilla upgrade, possible problems: migrating all the GNOME-specific extensions to the latest format.
- Complete relocation of our machines at Phoenix-2 on a new rack with management consoles attached to each of them to help debugging possible hardware problems like RAID failures.
- Remove shells from master.gnome.org and re-implement the ftpadmin script to allow remote uploads and tarball installations but disallow active ttys.
- Complete mirror of git.gnome.org to Github.



Collaboration tools

Meetbot:

- Allows you to have meetings on IRC on the go
- Will log your meetings by keeping the logs on multiple formats (html, txt) on a publicly accessible web server.
- Designate a leader and control the conversation with just a few easy commands. (#startmeeting, #topic, #info, #agreed, #endmeeting)
- Starting is as easy as reading the little howto hosted at <https://meetbot.gnome.org/Manual.html>.



Collaboration tools

Etherpad:

- Allows you to work on documents together and share them with others who can then comment and modify them.
- Each team can have one or more pads.
- Has proven useful to work collaboratively on many press releases, articles for the GNOME Marketing Team.
- Requesting one is just as easy as opening a bug request against the sysadmin product in Bugzilla.



Collaboration tools

Owncloud:

- Documents storage.
- Will allow you to share presentations, OpenOffice documents, photos, mockups and many other file types.
- Acts as a central document repository.
- Actively supported by the GNOME Online accounts!
- Create a bugzilla ticket asking for access in the case you are a GNOME Foundation member.



Remembering Seth Vidal

This presentation is devoted to the great person you were, Seth.

You've been the most amazing person someone could ever meet in a whole life.

Thanks for the great help you gave me during these years and for your unconditional support.

We'll never forget you.

