

# How to build an open community infrastructure of participation

Karsten 'quaid' Wade, Red Hat

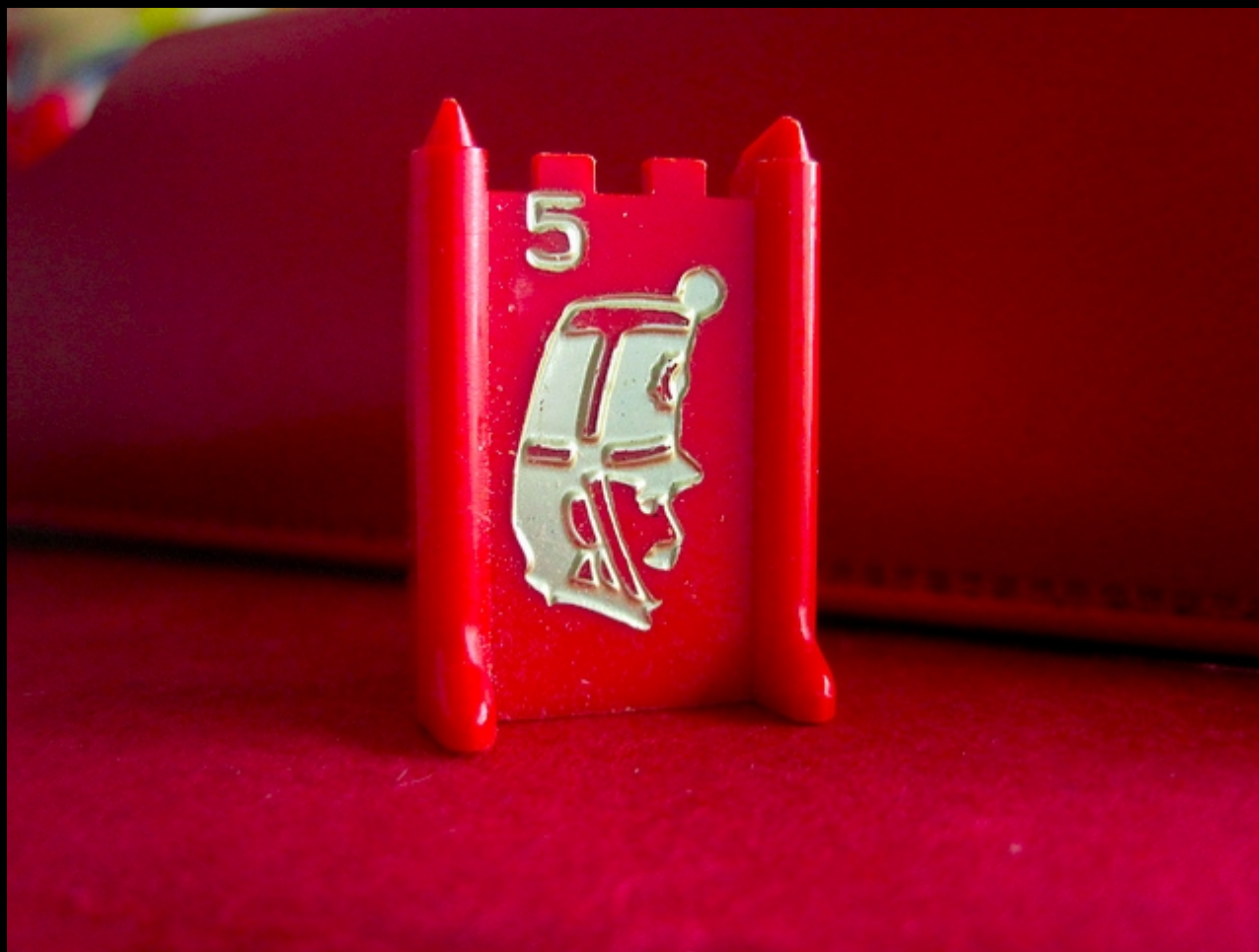


# Definition of:

## Open community Infrastructure of participation



Goal:  
Make everyone win



Why is an open infrastructure  
a win for the free/open source project?



# Why is an open infrastructure a win for the individual contributor?



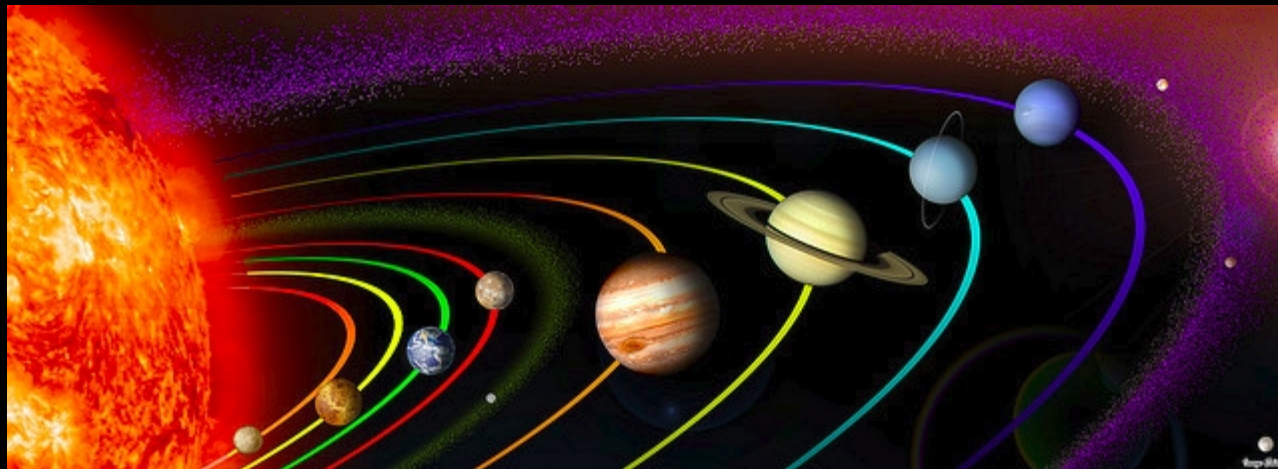
How and why create, grow, and maintain an open infrastructure?



*KyleNielsen.com*

Divide your needs by how close to the metal you need to be ...

Core-essential technology  
Core-non-essential technology  
Non-core technology



Operate like a project – practice  
the open source way.



Key free/open project values:

Merit  
Default to open





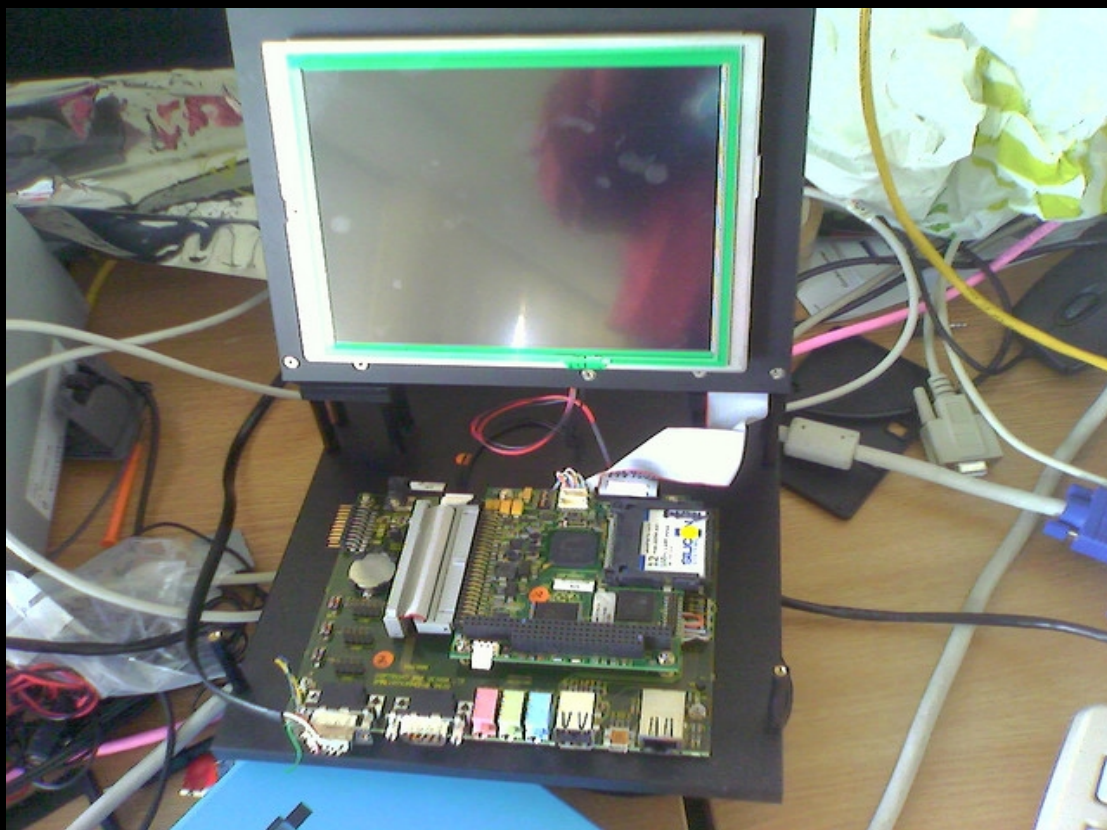
How do you create  
trust when  
you may never meet  
face-to-face?

Hint: no babies are at  
risk and  
mistakes won't get  
you fired.

Segmentize:  
Sudo  
Different hosts & services  
Web UI admin



Start with the bare minimum you  
can or want to afford, then  
scale as you grow.



Start with the bare minimum you  
can or want to afford, then  
scale as you grow.





# Sponsors: finally something for them to do for the project.

## Fedora Sponsors

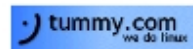
The Fedora Project is proud to have the following organizations as sponsors...

### Primary Sponsor



Red Hat, Inc. is the primary sponsor for the Fedora Project. Red Hat provides the Fedora project with a wide variety of resources, including full-time employee support, infrastructure hardware and bandwidth, event funding, and legal counsel.

The Fedora Project is also grateful to the following sponsors for providing substantial support:



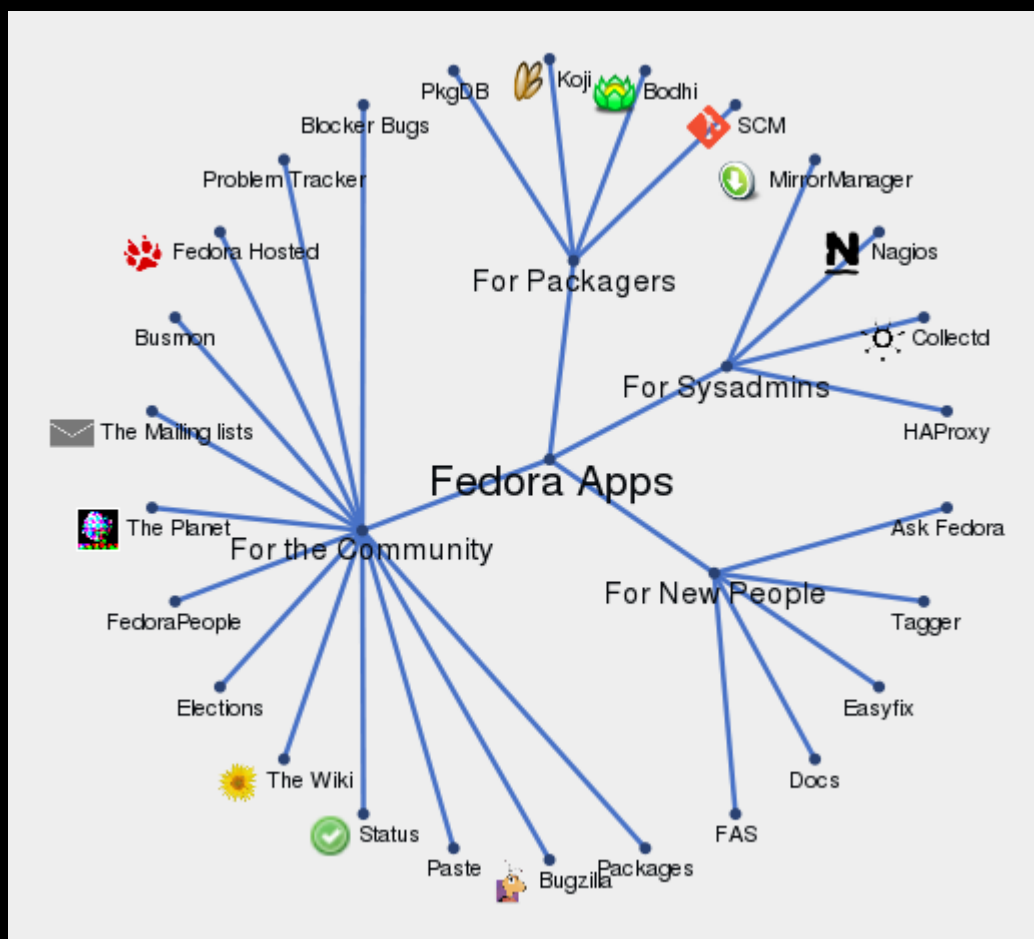
## Example: oVirt

Core-essential	Gerrit, Git, Jenkins, Yum
Core-non-essential	Puppet, Foreman, (Mailman)
Non-essential	MediaWiki, (Mailman)
Other services consumed	GitHub, Identi.ca, Twitter, etc.

## Example sample: Fedora

Core-essential	Koji, pkgDB, Bodhi, Yum, SCM, testing, people pages ...
Core-non-essential	Bugzilla, MediaWiki, WordPress, Elections, Planet, MirrorManager ...
Non-essential	Hosting (sponsors), Mirrors

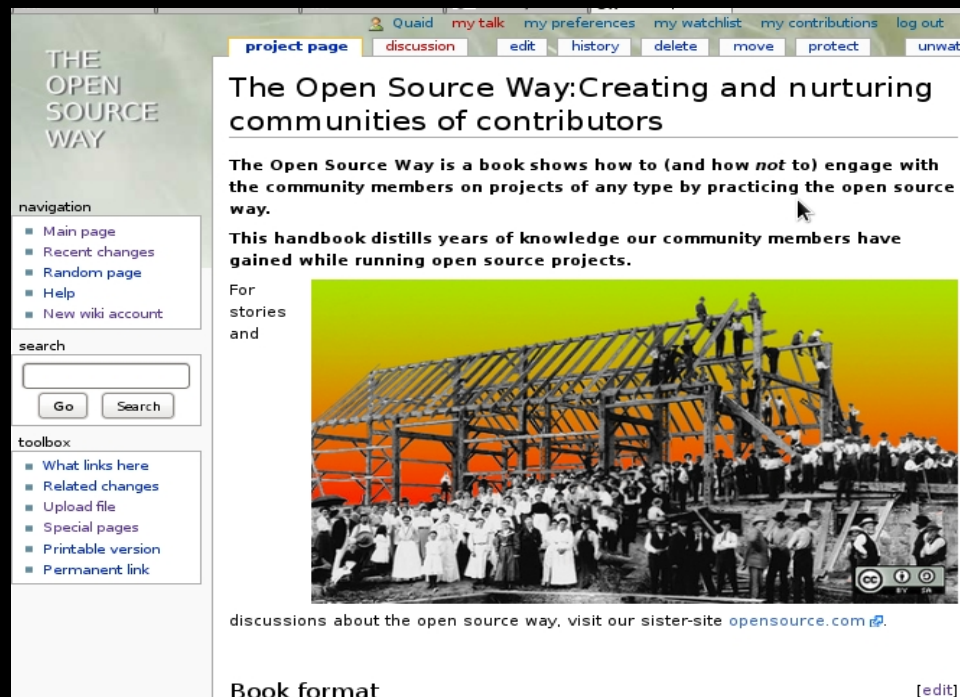
# apps.fedoraproject.org



A few resources:

<http://theopensourceway.org>

<https://fedorahosted.org/csi/>



Questions?

<http://identi.ca/quaidd>

<http://iquaid.org>

[kwade@redhat.com](mailto:kwade@redhat.com)

[http://quaidd.fedorapeople.org/presentations/SCALE\\_11x\\_2013/](http://quaidd.fedorapeople.org/presentations/SCALE_11x_2013/)



## Image credits

- Slide 1 - <http://www.flickr.com/photos/infomatique/5006263970/>
- Slide 2 - <http://www.flickr.com/photos/artefatica/4630519515/>
- Slide 3 - <http://www.flickr.com/photos/puuikibeach/5106738876/>
- Slide 4 - <http://www.flickr.com/photos/sacramentodistrict/5865261080/>
- Slide 5 - <http://www.flickr.com/photos/sarahmworthy/7054636507/>
- Slide 6 - <http://www.flickr.com/photos/madmarv/6194763518/>
- Slide 7 - <http://www.flickr.com/photos/11304375@N07/2818891443/>
- Slide 8 - <http://www.flickr.com/photos/opensourceway/4371000464/>
- Slide 9 - <http://www.flickr.com/photos/artefatica/4827925602/>
- Slide 10 - <http://www.flickr.com/photos/94999676@N00/1217058480/>
- Slide 11 - <http://www.flickr.com/photos/calliope/104603315/>
- Slide 12 - <http://www.flickr.com/photos/alphaxion/2691964551/>
- Slide 13 - <http://www.flickr.com/photos/jonnybrownbill/100388999/>
- Slide 14 - <http://fedoraproject.org/sponsors> (screenshot)
- Slide 17 - <http://apps.fedoraproject.org> (screenshot)
- Slide 18 - <http://theopensourceway.org> (screenshot)
- Slide 19 - <http://www.flickr.com/photos/hyku/920925628/>



## How to build an open community infrastructure of participation

Karsten 'quaid' Wade, Red Hat



Copyright 2013 CC BY SA 3.0

New talk inspired by my experiences in the oVirt and aFedora projects. This is released early, so may have some flaws, such as terminology.

Introduce myself – Red Hat, Fedora, oVirt

Definition of:

Open community  
Infrastructure of participation



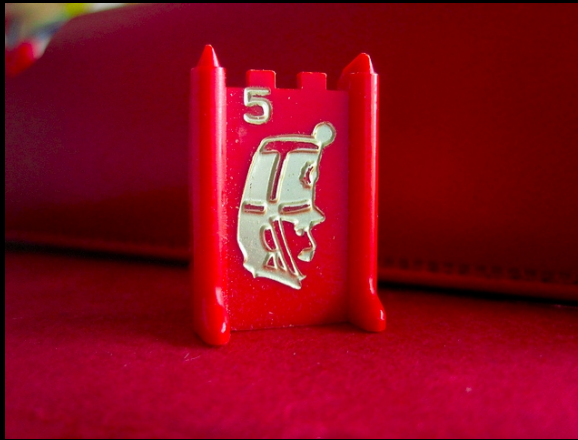
Copyright 2013 CC BY SA 3.0

Open community practices radical transparency and the free/open source way as a method to continuously improve in a practice in a specific domain. We do it for software.

Infrastructure of participation are the technological components needed for the community to be successful in its pursuit. The infra's key mission is to enable people to participate in the project, so must keep eyes on lowering each barrier to a sufficient level.



Goal:  
Make everyone win



Copyright 2013 CC BY SA 3.0

Look for what the individual contributor wants.

Then look for how that can help the project.

Fit the role to the person, not the other way around.

## Why is an open infrastructure a win for the free/open source project?



Copyright 2013 CC BY SA 3.0

Some key reasons are:

- content and data ownership
- control so you are not locked in
- ability to control infra that is core to devel mission
- great pathway to attract & train contributors, i.e. hackers are nurture & nature
- ability to parse out management of non-core items while maintaining first principles of freedom, i.e. it can be OK to use EC2
- pragmatic without giving up values, i.e. maintain your own git & mirror on GitHub
- visibly live the values

## Why is an open infrastructure a win for the individual contributor?



Copyright 2013 CC BY SA 3.0

Some key reasons are:

- support a favorite project/technology
- play with new, cool technology
- gain skills that affect career
- potential for new employment - (mmcgrath example)
- operate nimbly in ways a start-up can only dream about
- put in sweat/blood in support of freedom values
- learn more about effective collaboration across timezones as part of a team



How and why create, grow, and maintain an open infrastructure?



Copyright 2013 CC BY SA 3.0

Before we proceed with the how-to, an important principle to consider:

What happens if you are hit by a raptor?

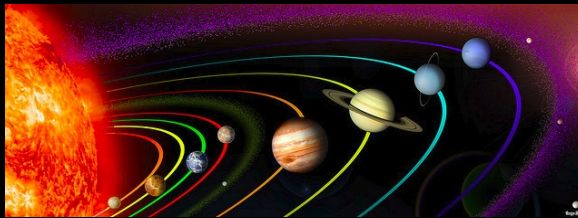
Make sure no one individual is burdened with the responsibility of “everything”.

Radical transparency makes this possible.



Divide your needs by how close to the metal you need to be ...

Core-essential technology  
Core-non-essential technology  
Non-core technology



Copyright 2013 CC BY SA 3.0

Some new terms I'm sort-of happy with.

Core-essential is where project developers have a need to control the technology from the bare metal and/or the OS all the way up. E.g. oVirt uses Jenkins for CI testing, needs to provision on bare metal for some KVM tests.

Core-non-essential is where the developers don't need that deep, but the Infra team needs ability to freely customize technology; can run in a managed environment. E.g. oVirt with Puppet/Foreman

Non-core is technology you can safely run on a platform (PaaS). E.g. oVirt runs MediaWiki on OpenShift PaaS.



Operate like a project – practice  
the open source way.



Copyright 2013 CC BY SA 3.0

It's not just the license that makes a project open. It's how it operates.

It's easy to be lazy about not opening the entire project, focusing on the fancy coding bits.

But extending openness to all corners of the project has a catalyzing, energizing, and synergizing effect.



Key free/open project values:

Merit  
Default to open



Copyright 2013 CC BY SA 3.0

Especially as sysadmins, we tend to think of giving out root as being the ultimate gift that must be protected at all costs. Root access is often more restricted than commit access to the codebase. But does that make sense?

Share by merit – let people prove in safe environments, then give out increasing levels of access as they gain in merit.

The only secret you need to keep are the passwords. Share the entirety of the infrastructure openly, it allows others to best help. Security through obscurity is not a recommended practice anyway.



How do you create  
trust when  
you may never meet  
face-to-face?

Hint: no babies are at  
risk and  
mistakes won't get  
you fired.

Copyright 2013 CC BY SA 3.0

By opening and segmentizing the infrastructure, you make it possible for people to take on smaller-then-growing tasks and be successful. Then you have something to judge them on: work done & how they conducted themselves. Even in a text medium, you can learn if people are trustworthy in your project's infrastructure.

Remember, this is not a mission critical job where mistakes can get you fired. Take it seriously, but not as you would something life-critical for the babies.



Segmentize:  
Sudo  
Different hosts & services  
Web UI admin



Copyright 2013 CC BY SA 3.0

Put services on different hosts or environments, and use technology such as sudo to give controlled access.

Run a testing or pre-production environment to allow people to work in a safe sandbox, show and prove their ideas and skills, then give them limited access to specific services. A Platform-as-a-Service (PaaS) helps, e.g. OpenShift.

Including web interfaces makes it easier to give out management access in a safe/sandbox manner.

Just a few ideas, customize and think about how to open all corners in your project infrastructure.



Start with the bare minimum you  
can or want to afford, then  
scale as you grow.



Copyright 2013 CC BY SA 3.0

Many projects can start with e.g. a DreamHost shared server- you can share shell access to many people by specific service (sub-domain), menu of things to install, inexpensive.

Scale up as you need - go from shared to VM/VPS, then upward; let people pay-for or donate rev'd up servers. (Fedora example of how they identify sponsors.)



Start with the bare minimum you  
can or want to afford, then  
scale as you grow.



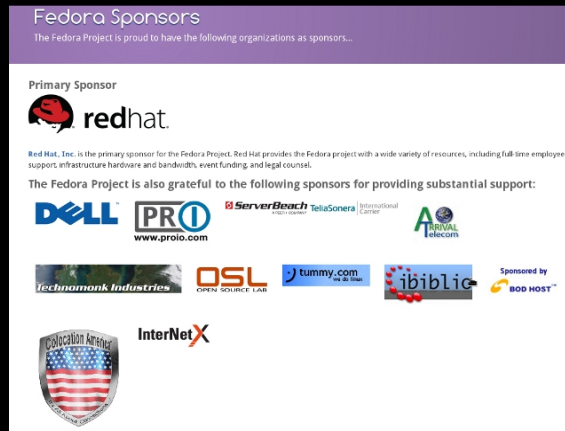
Copyright 2013 CC BY SA 3.0

Many projects can start with e.g. a DreamHost shared server- you can share shell access to many people by specific service (sub-domain), menu of things to install, inexpensive.

Scale up as you need - go from shared to VM/VPS, then upward; let people pay-for or donate rev'd up servers. (Fedora example of how they identify sponsors.)



Sponsors: finally something for them to do for the project.



Copyright 2013 CC BY SA 3.0

People want to donate, find a way they can support your existing hosting by supplementing or replacing.

Use this as a way to diversify so the disappearance of one sponsor doesn't put the project at risk.

E.g. what Fedora, oVirt do



## Example: oVirt

Core-essential	Gerrit, Git, Jenkins, Yum
Core-non-essential	Puppet, Foreman, (Mailman)
Non-essential	MediaWiki, (Mailman)
Other services consumed	GitHub, Identi.ca, Twitter, etc.

Copyright 2013 CC BY SA 3.0

Blank



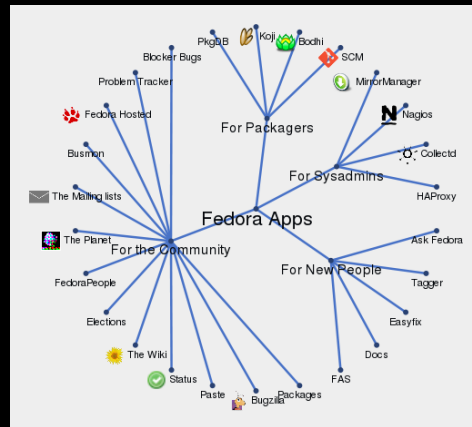
## Example sample: Fedora

Core-essential	Koji, pkgDB, Bodhi, Yum, SCM, testing, people pages ...
Core-non-essential	Bugzilla, MediaWiki, WordPress, Elections, Planet, MirrorManager ...
Non-essential	Hosting (sponsors), Mirrors

Copyright 2013 CC BY SA 3.0

Blank

apps.fedoraproject.org



Blank



A few resources:

<http://theopensourceway.org>

<https://fedorahosted.org/csi/>



Copyright 2013 CC BY SA 3.0

Blank



Questions?

<http://identi.ca/quaid>

<http://iquaid.org>

[kwade@redhat.com](mailto:kwade@redhat.com)

[http://quaid.fedorapeople.org/presentations/SCALE\\_11x\\_2013/](http://quaid.fedorapeople.org/presentations/SCALE_11x_2013/)



Copyright 2013 CC BY SA 3.0

Blank



## Image credits

Slide 1 - <http://www.flickr.com/photos/infomatique/5006263970/>  
Slide 2 - <http://www.flickr.com/photos/artefatica/4630519515/>  
Slide 3 - <http://www.flickr.com/photos/puukibeach/5106738876/>  
Slide 4 - <http://www.flickr.com/photos/sacramentodistrict/5865261080/>  
Slide 5 - <http://www.flickr.com/photos/sarahmworthy/7054636507/>  
Slide 6 - <http://www.flickr.com/photos/madmarv/6194763518/>  
Slide 7 - <http://www.flickr.com/photos/11304375@N07/2818891443/>  
Slide 8 - <http://www.flickr.com/photos/opensourceway/4371000464/>  
Slide 9 - <http://www.flickr.com/photos/artefatica/4827925602/>  
Slide 10 - <http://www.flickr.com/photos/94999676@N00/1217058480/>  
Slide 11 - <http://www.flickr.com/photos/calliope/104603315/>  
Slide 12 - <http://www.flickr.com/photos/alphaxion/2691964551/>  
Slide 13 - <http://www.flickr.com/photos/jonnybrownbill/100388999/>  
Slide 14 - <http://fedoraproject.org/sponsors> (screenshot)  
Slide 17 - <http://apps.fedoraproject.org> (screenshot)  
Slide 18 - <http://theopensourceway.org> (screenshot)  
Slide 19 - <http://www.flickr.com/photos/hyku/920925628/>

Copyright 2013 CC BY SA 3.0

Blank