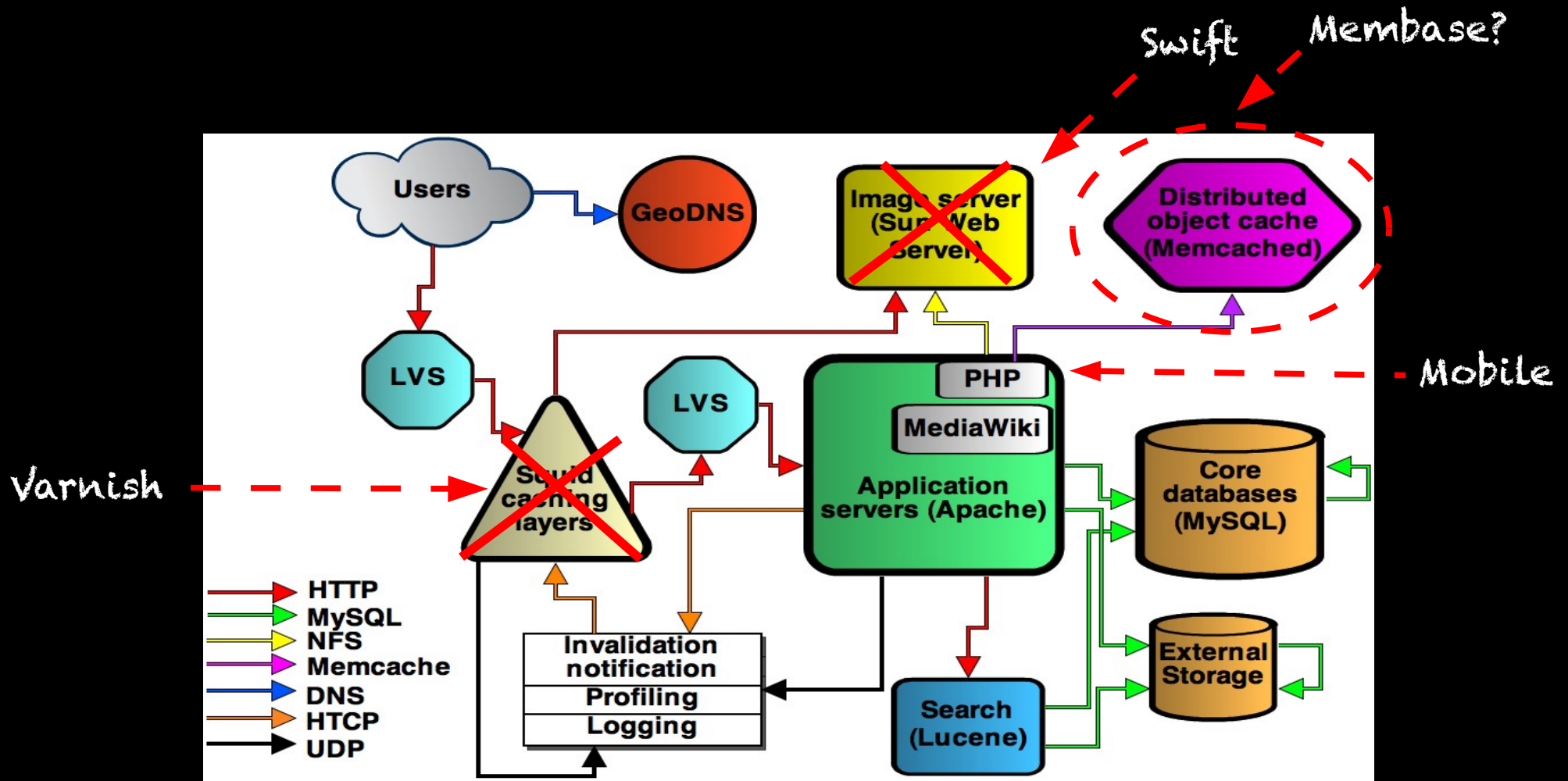



The Site Architecture You Can [Edit](#)

Ryan Lane

Wikimedia Foundation

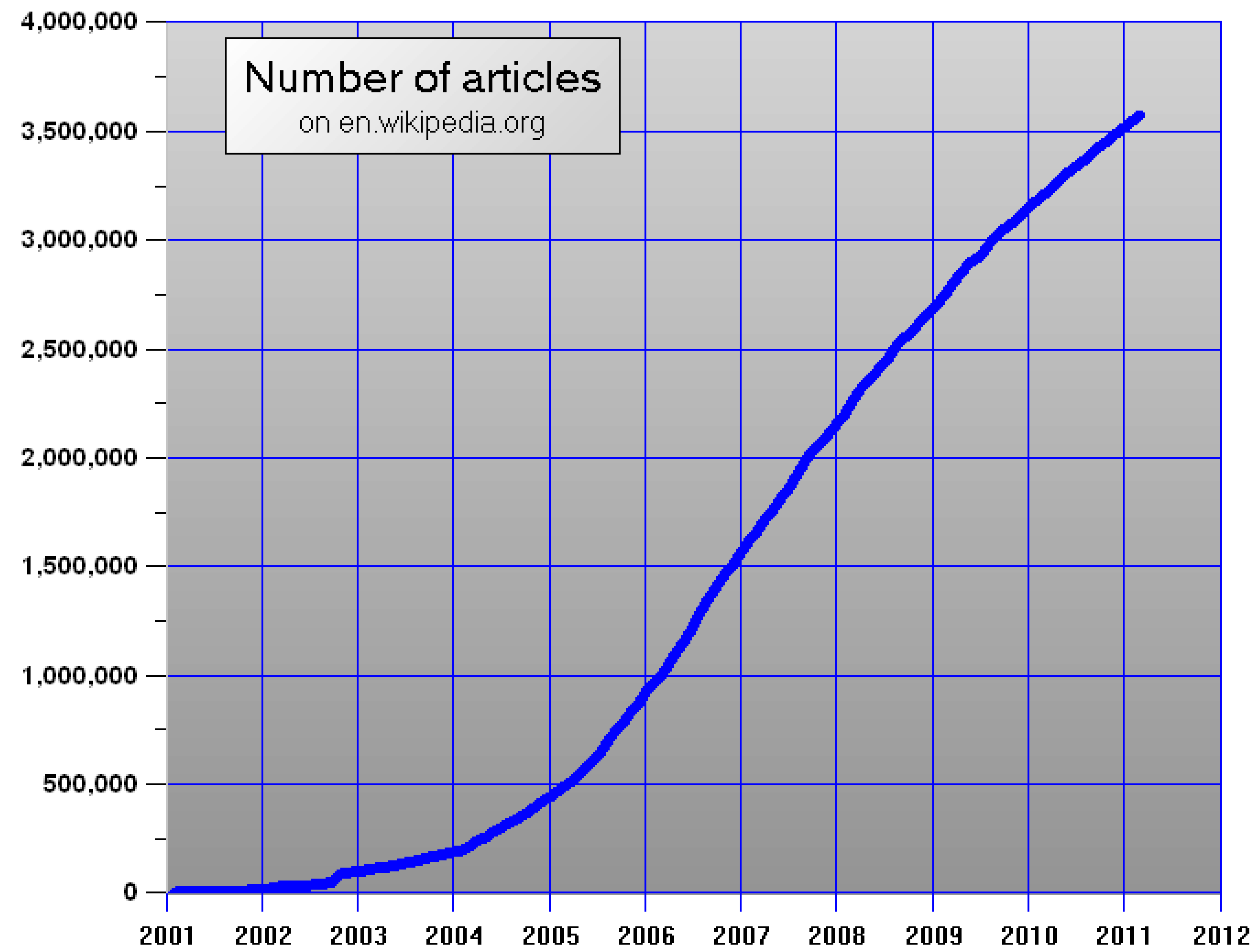


Edit



The ability to edit
is *empowering*.

Number of articles
on en.wikipedia.org



Extend the Community



Early Tech Community: No staff



Early Tech Community: No staff

Howdy, I'm
Jimmy Wales





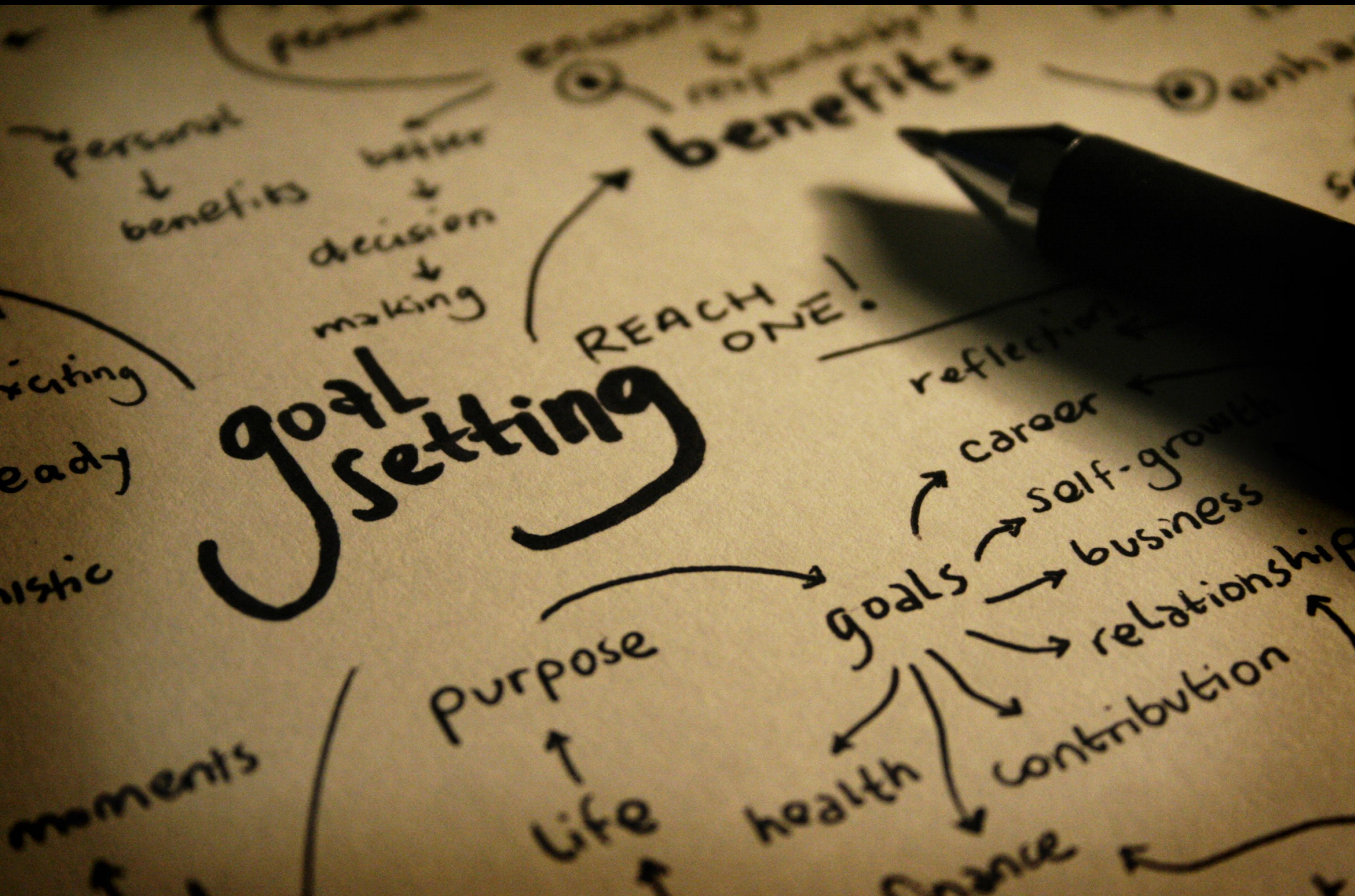
**Current Ops Community:
No new non-staff**

Current Dev Community:
Lack of staff/community
collaboration



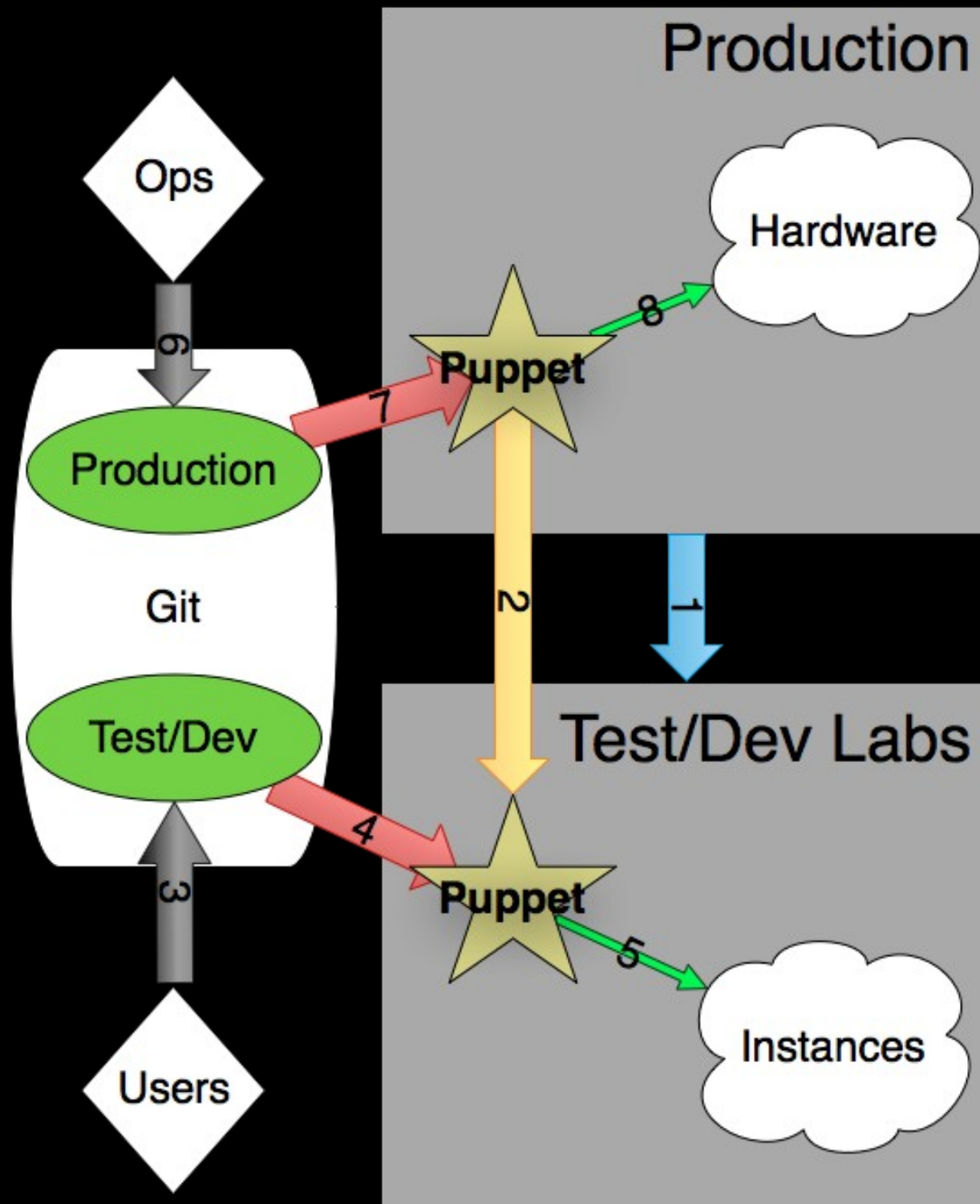
Community Oriented Test and Development (Test/Dev Labs)

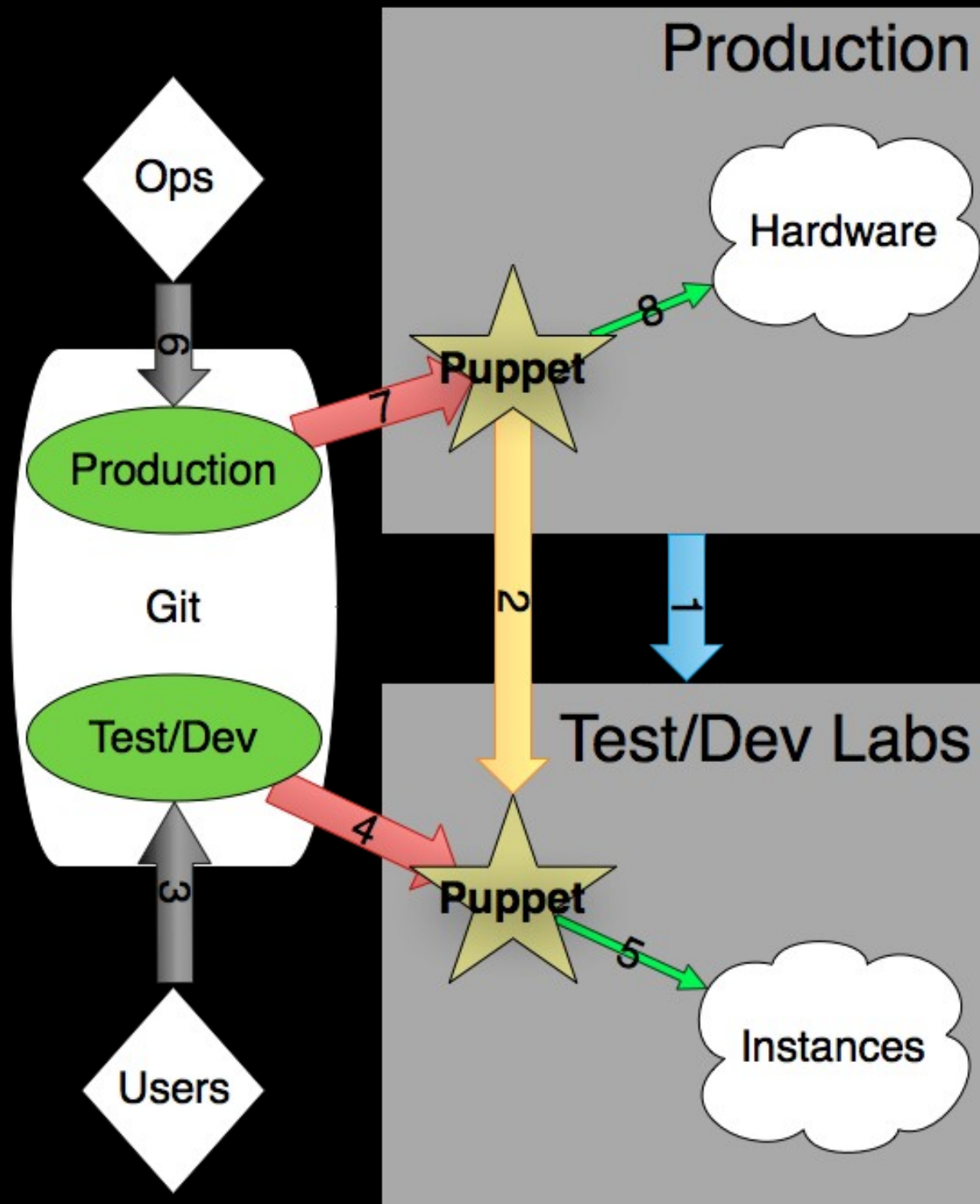
Goals



Achieving the goals

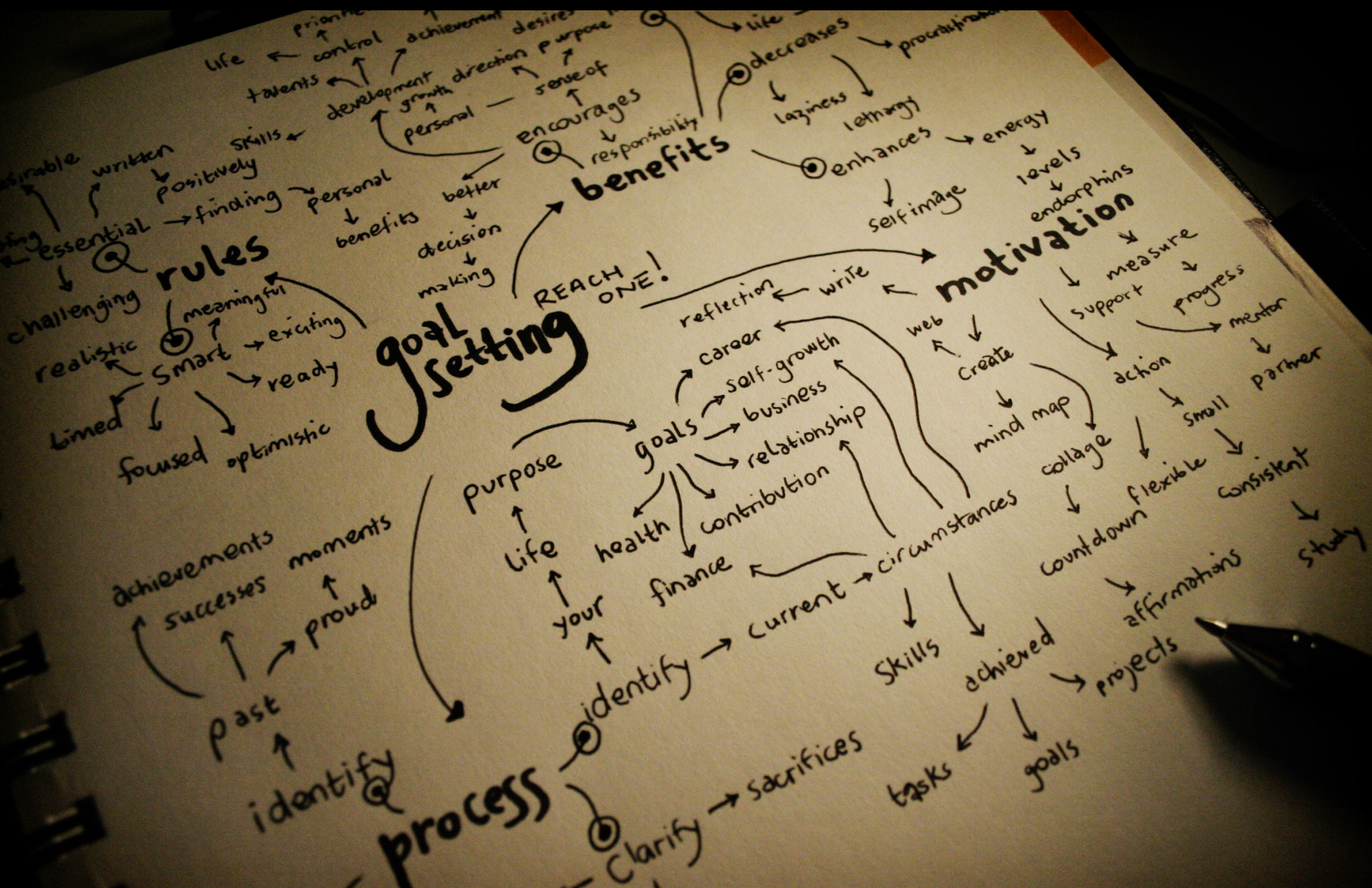




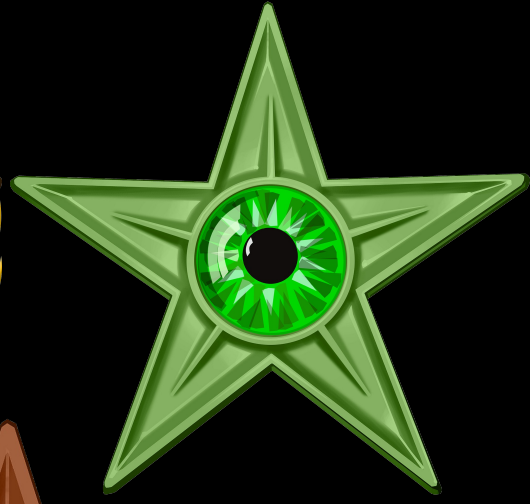


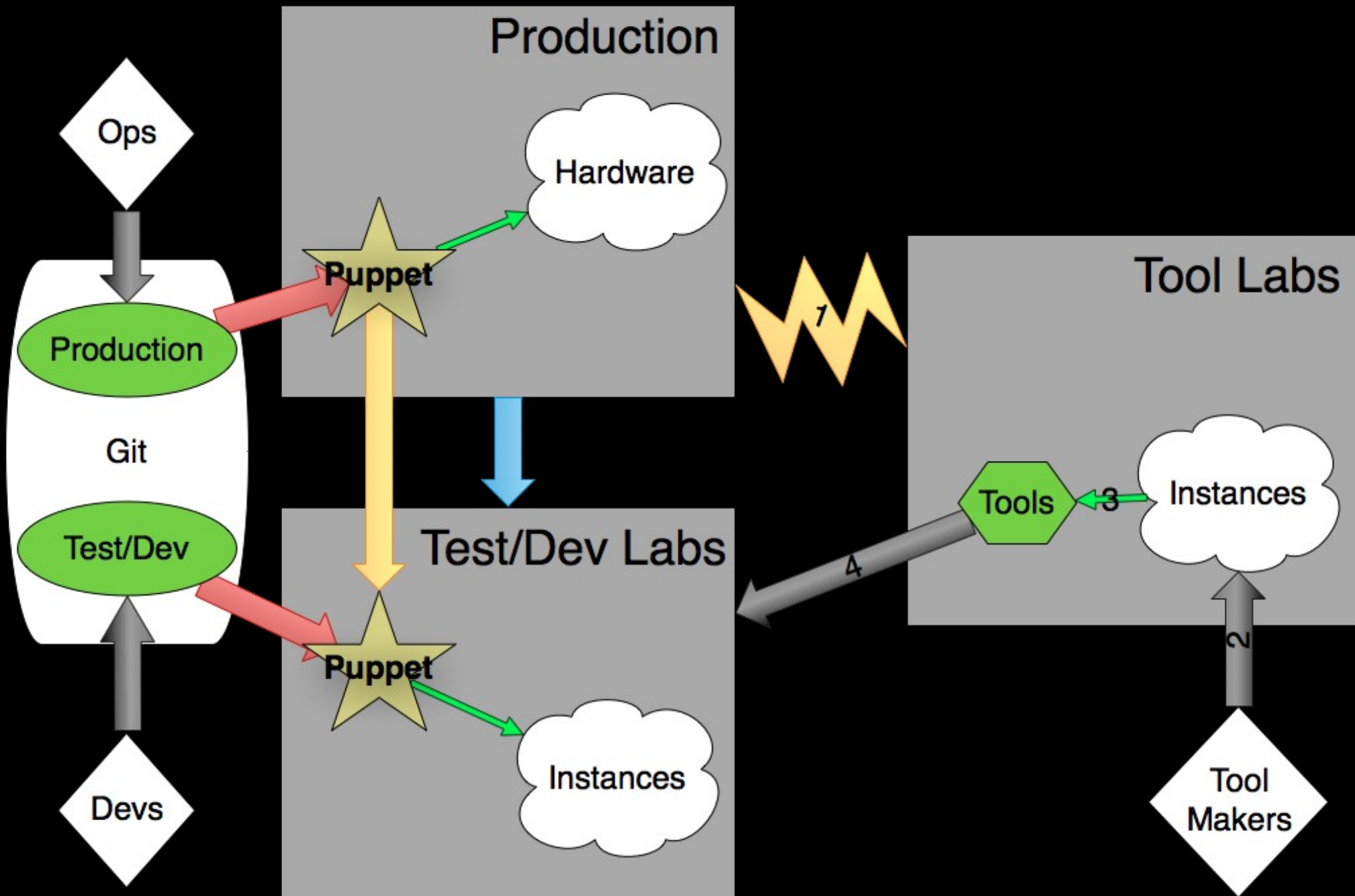
Community Tool Creation and Rapid Prototyping (Tool Labs)

Goals



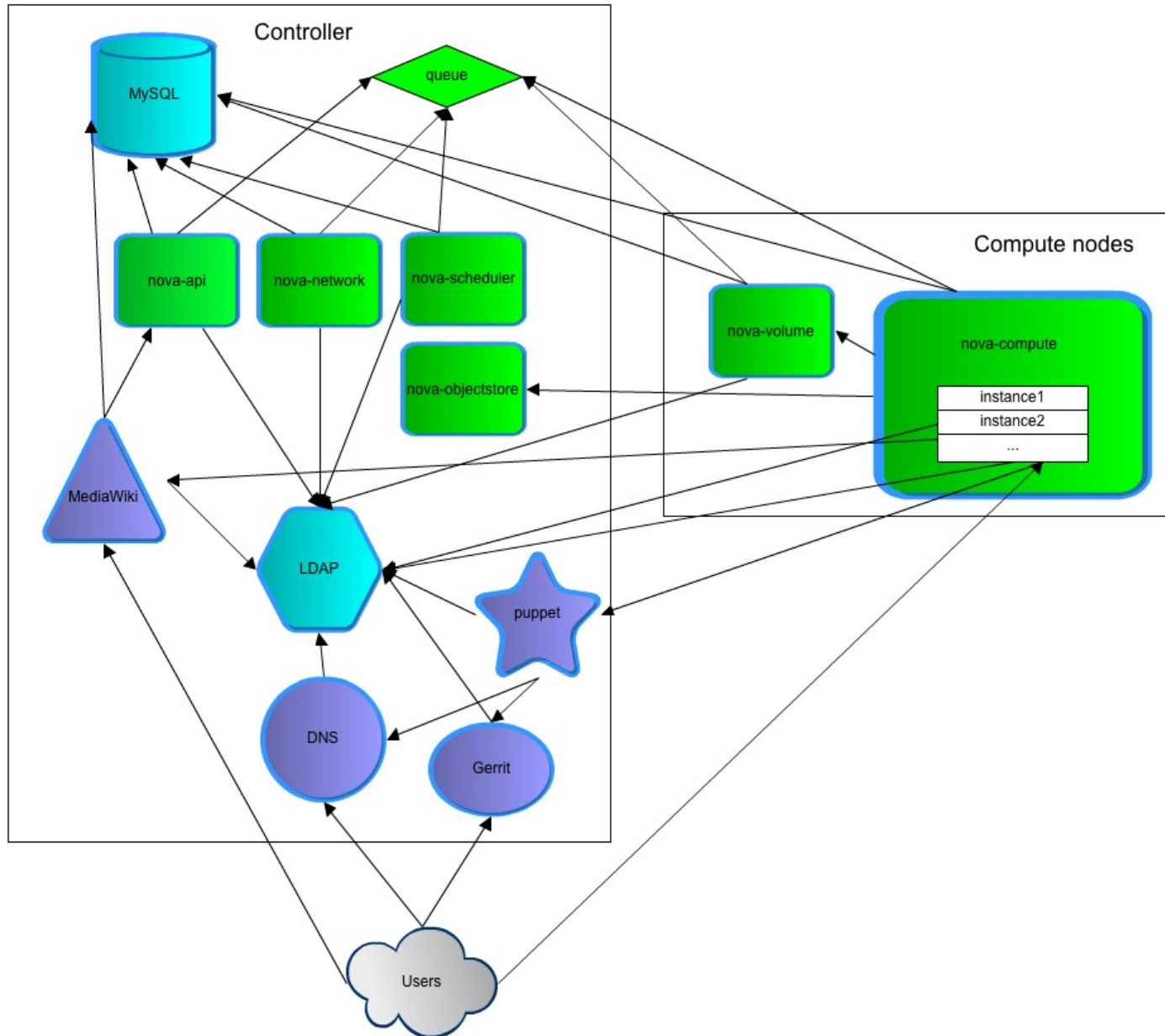
Achieving the goals



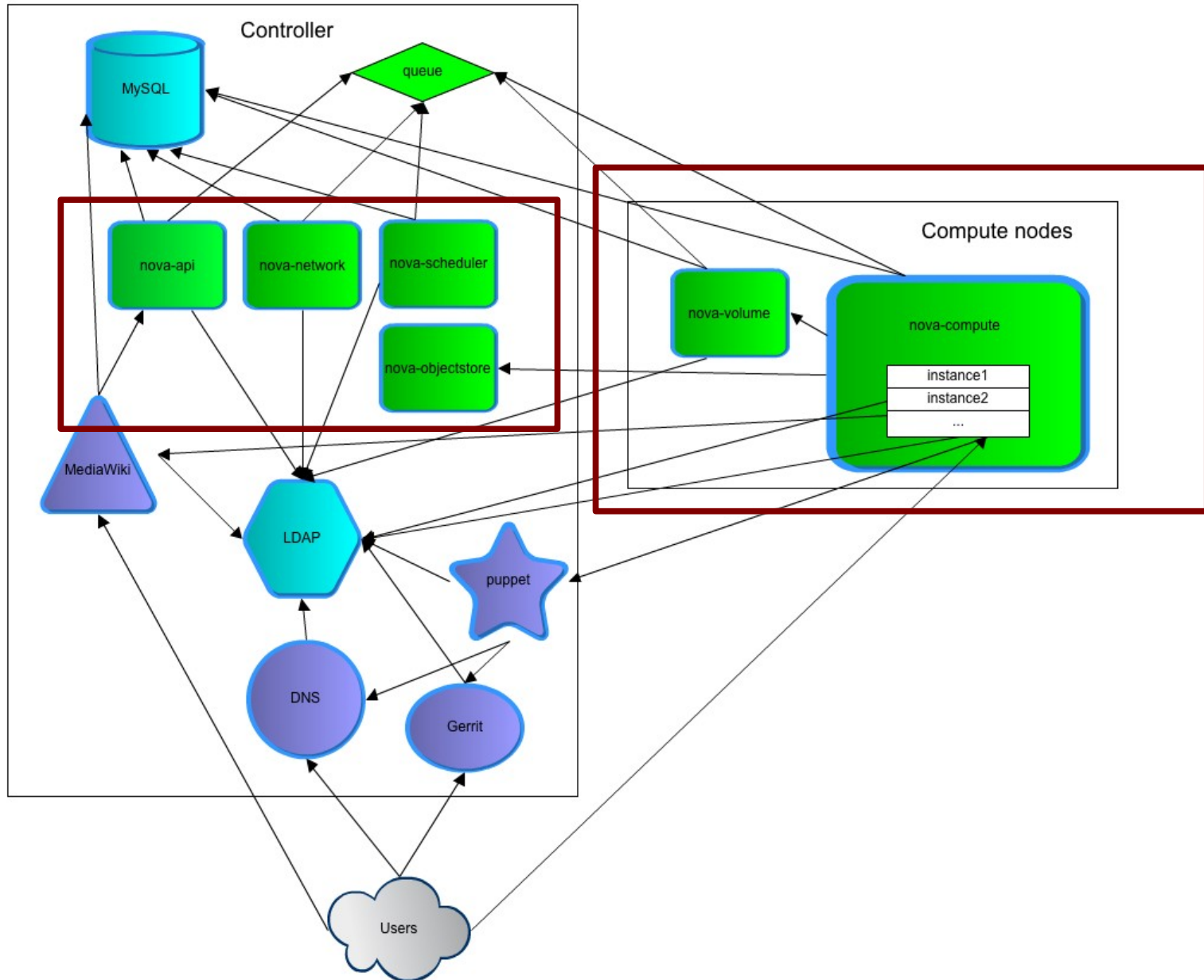


Implementation Details

Initial Labs Architecture

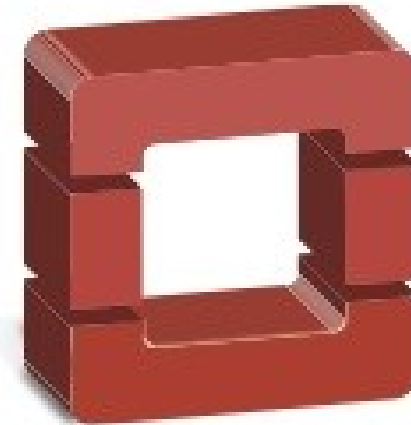


OpenStack



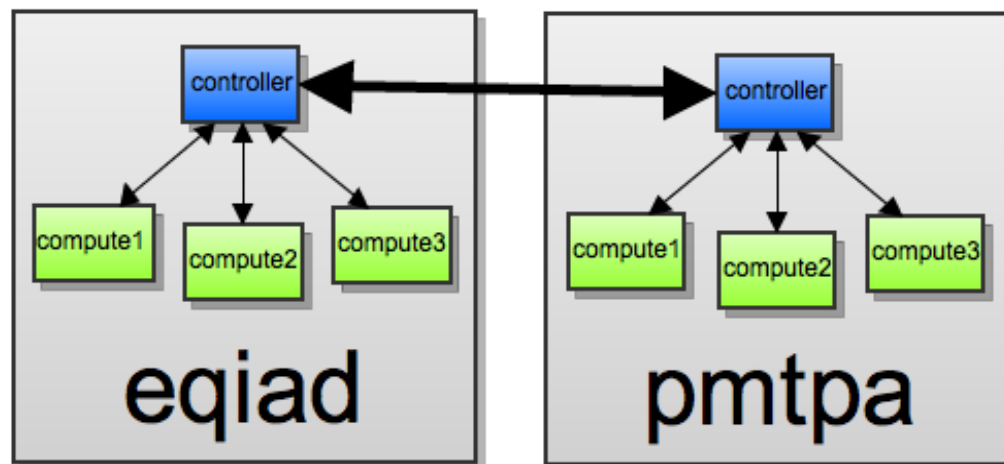
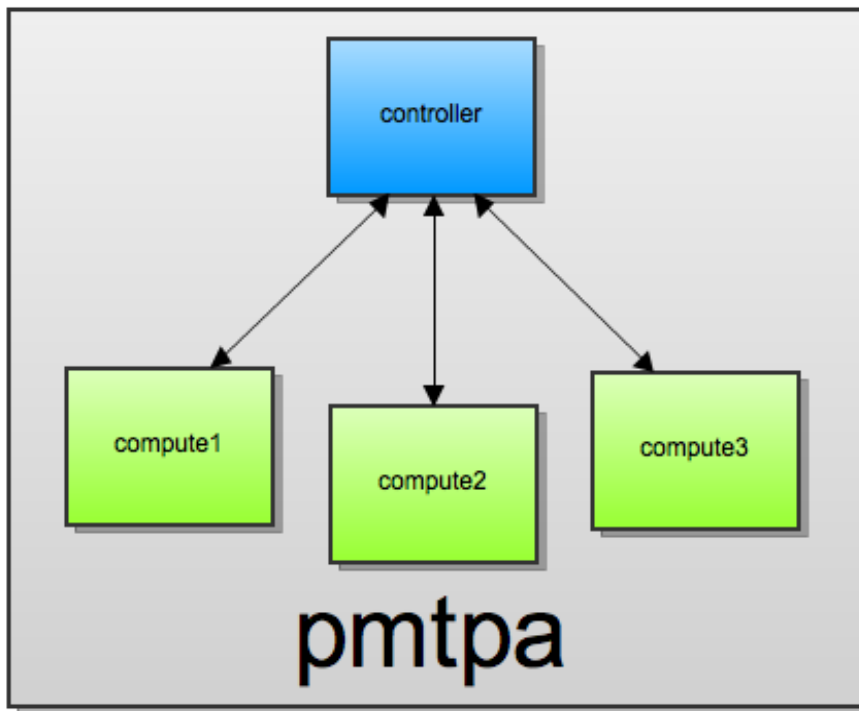
OpenStack

- Private EC2-like environment
 - Virtualization cluster
 - API controlled
- Python based
- Apache licensed

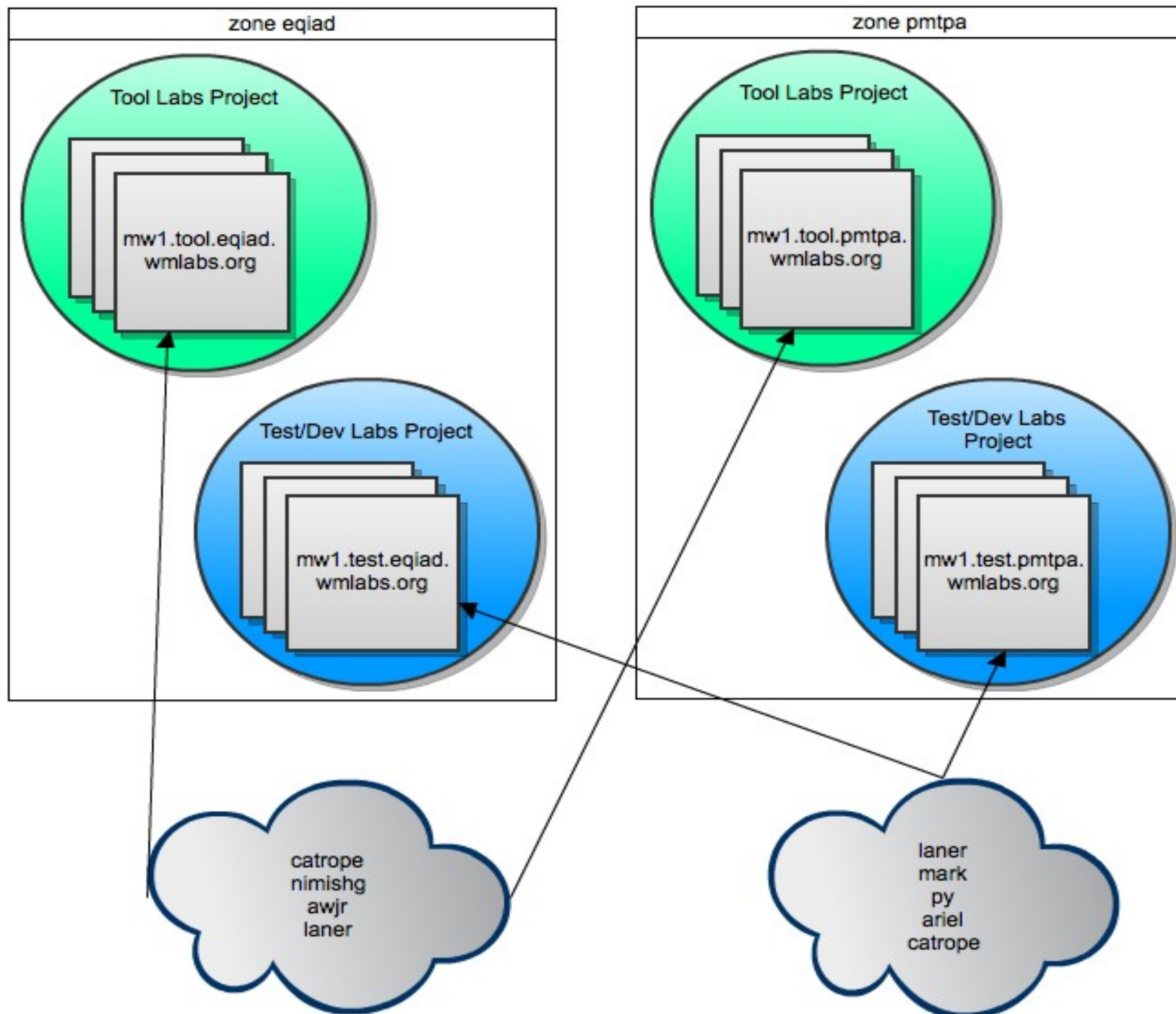


openstack™
CLOUD SOFTWARE

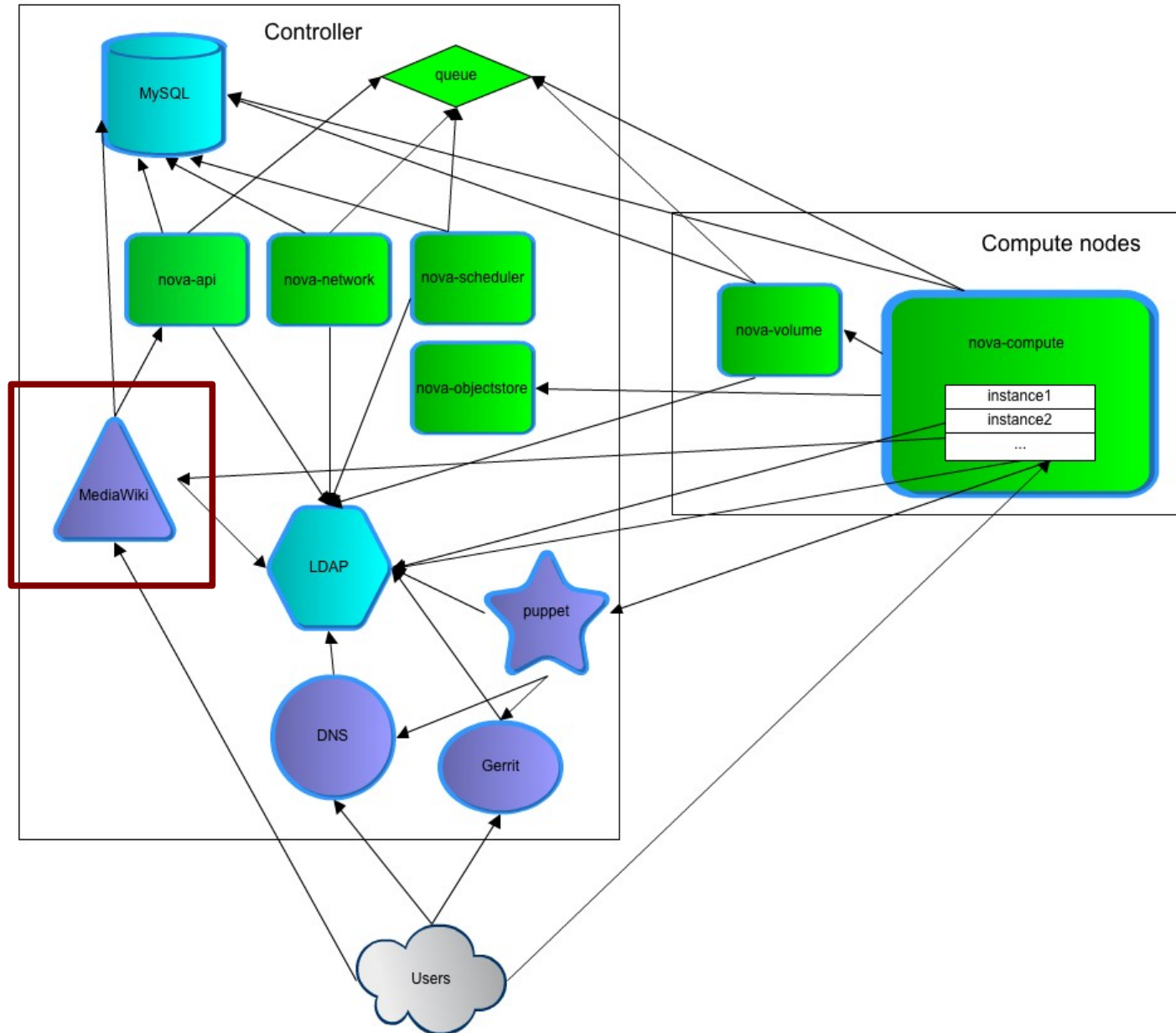
Hardware Architecture



- Current:
 - 1 zone, 1 controller
 - 3 compute nodes
- Future:
 - Test zone per datacenter
 - Production zone per datacenter
 - Tool Labs

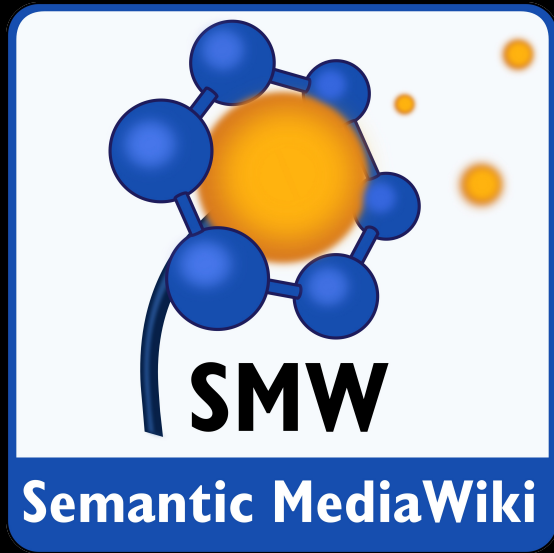


MediaWiki



OpenStackManager





Semantic MediaWiki Integration

Nova Resource:I-00000011

Resource Type	instance
Instance Name	inst13
Reservation Id	r-4qk0bzig0
Instance Id	I-00000011
Instance State	running
Instance Host	nova-compute1
Instance Type	m1.tiny
RAM Size	512
Number of CPUs	1
Amount of Storage	0
Image Id	ami-00000003
Project	tesla
Availability Zone	nova
Region	
Security Group	default
Launch Time	2011-04-13T20:36:14Z ⚠
FQDN	i-00000011.sdtpa.tesla.wmnet
Public IP	208.80.152.242
Private IP	10.0.0.4
Puppet Class	base, ldap::client::wmf-cluster, exim::simple-mail-sender, ganglia
Puppet Var	ldap_all=true, lvs_realservers_ips=, cluster=

Basic query






[\[edit\]](#)

```
{#ask:[[Resource Type::instance]]
?Instance Name
?Instance Type
?Image Id
?FQDN
?Launch Time
?Puppet Class
?Modification date
?Instance Host
?Number of CPUs
?RAM Size
?Amount of Storage
format=broadtable
limit=20
order=DESC
sort=Modification date
offset=0
}}
```

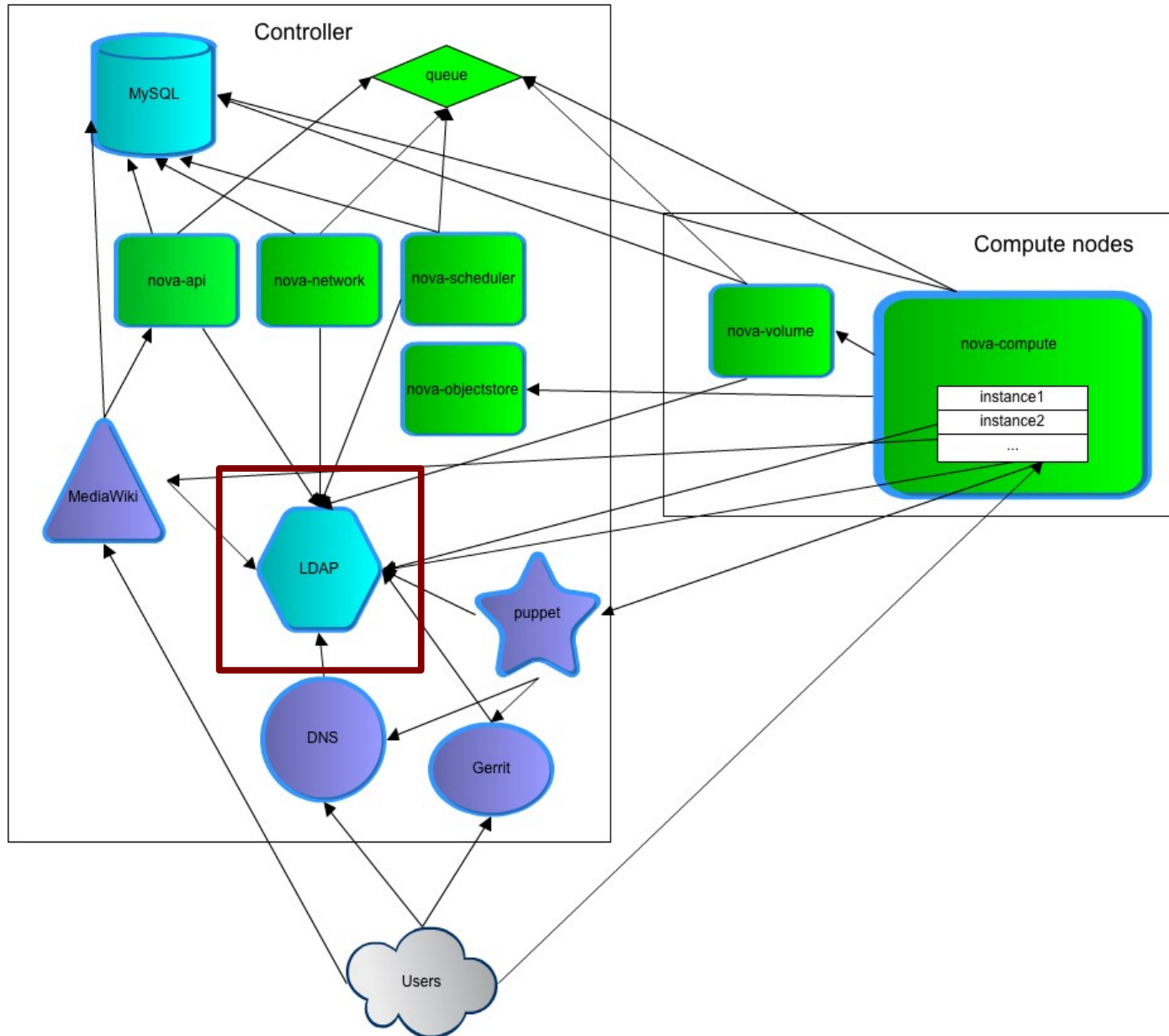
	Instance Name	Instance Type	Image Id	FQDN	Launch Time	Puppet Class	Modification date	Instance Host	Number of CPUs	RAM Size	Amount of Storage
I-00000012	inst14	m1.tiny	ami-00000003	i-00000012.sdtpa.tesla.wmnet		base ldap::client::wmf-cluster exim::simple-mail-sender	25 April 2011 18:42:21	nova-compute2	1	512	0
I-00000011	inst13	m1.tiny	ami-00000003	i-00000011.sdtpa.tesla.wmnet		base ldap::client::wmf-cluster exim::simple-mail-sender ganglia	22 April 2011 23:32:13	nova-compute1	1	512	0

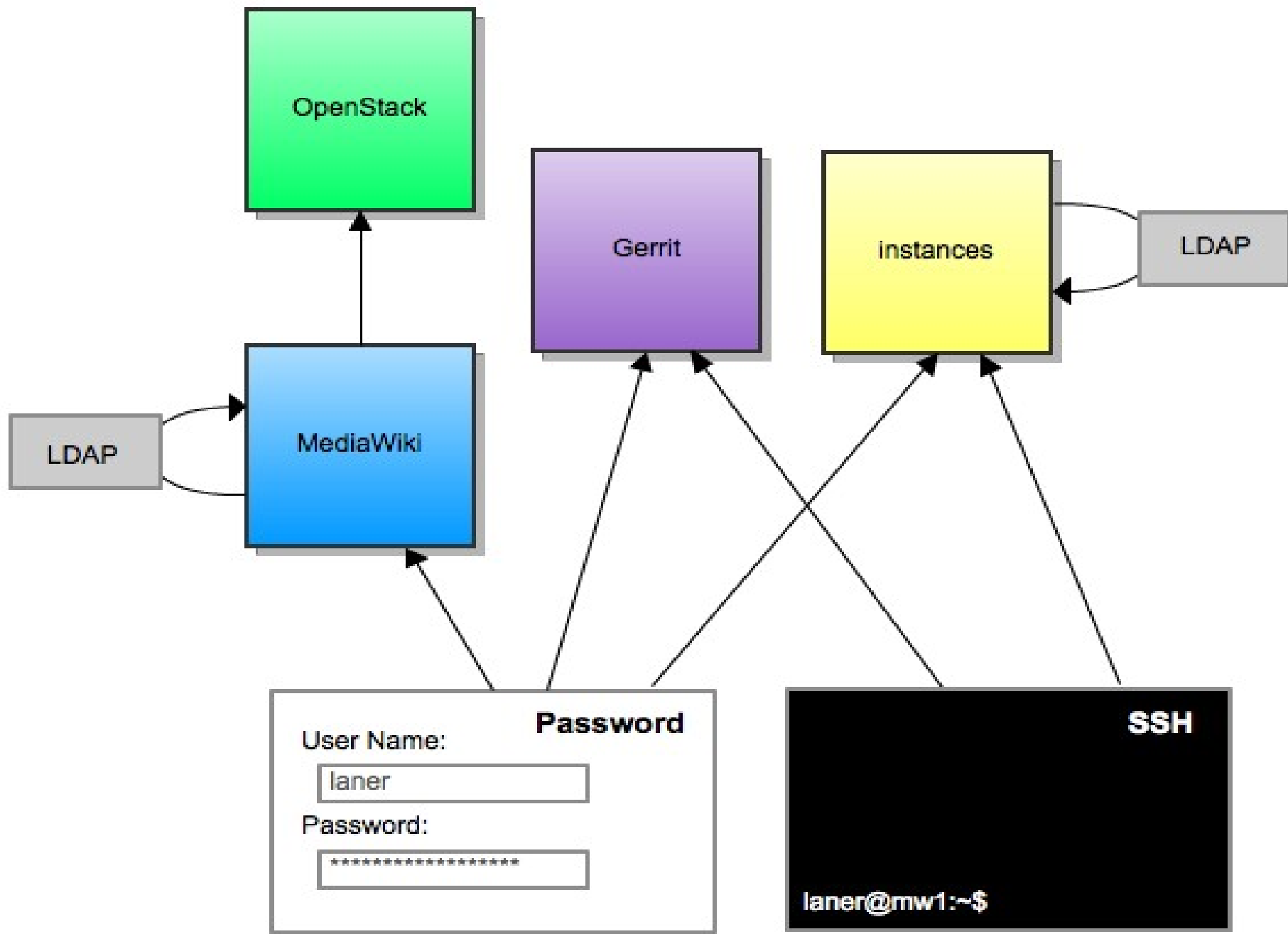
Basic query

```
{ {#ask:[Resource Type::instance]}
|?Instance Name
|?Instance Type
|?Image Id
|?FQDN
|?Launch Time
|?Puppet Class
|?Modification date
|?Instance Host
|?Number of CPUs
|?RAM Size
|?Amount of Storage
|format=broadtable
|limit=20
|order=DESC
|sort=Modification date
|offset=0
}}
```

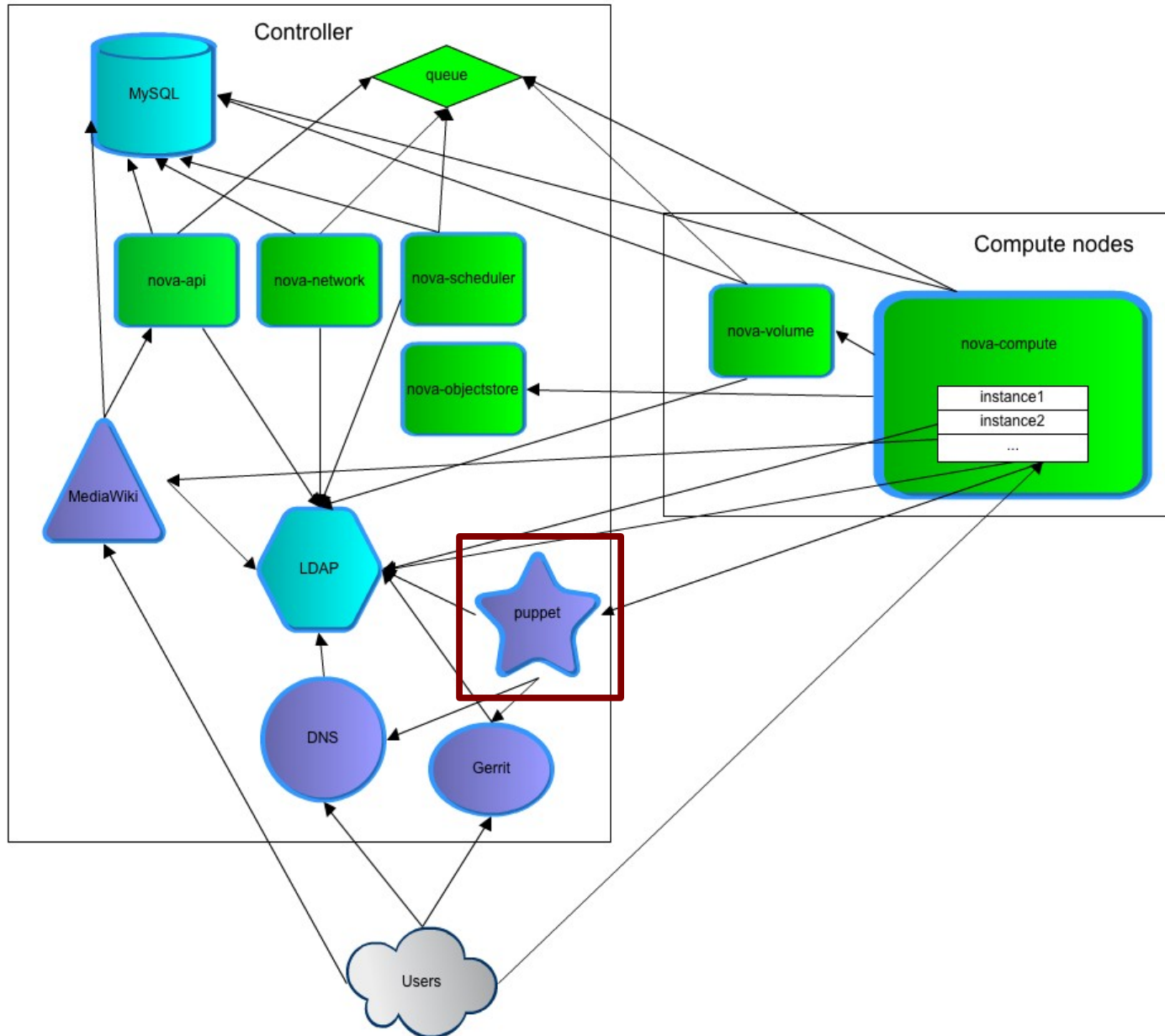
 Instance Id	 Instance Name	 Instance Type	 Image Id	 FQDN
I-00000012	inst14	m1.tiny	ami-00000003	i-00000012.sdtpa.tesla.wmnet
I-00000011	inst13	m1.tiny	ami-00000003	i-00000011.sdtpa.tesla.wmnet

OpenDJ (LDAP)





Puppet

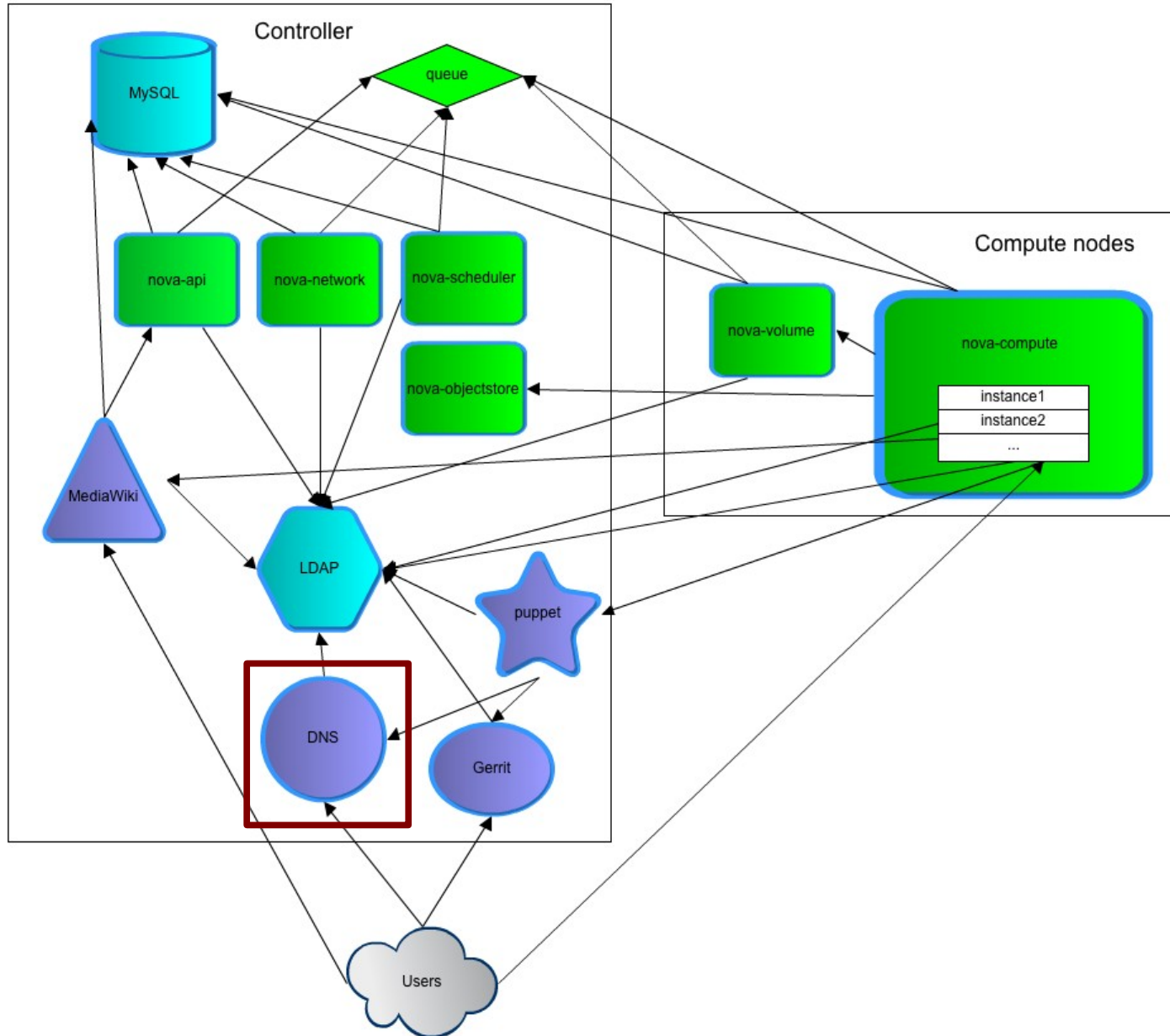


Puppet Integration

- Instance creation = Puppet node
- Puppet defines system type
- Manifests are community defined/maintained



PowerDNS



service1.wmlabs.org
(208.80.153.230)

Public DNS Requests

instance1

instance2

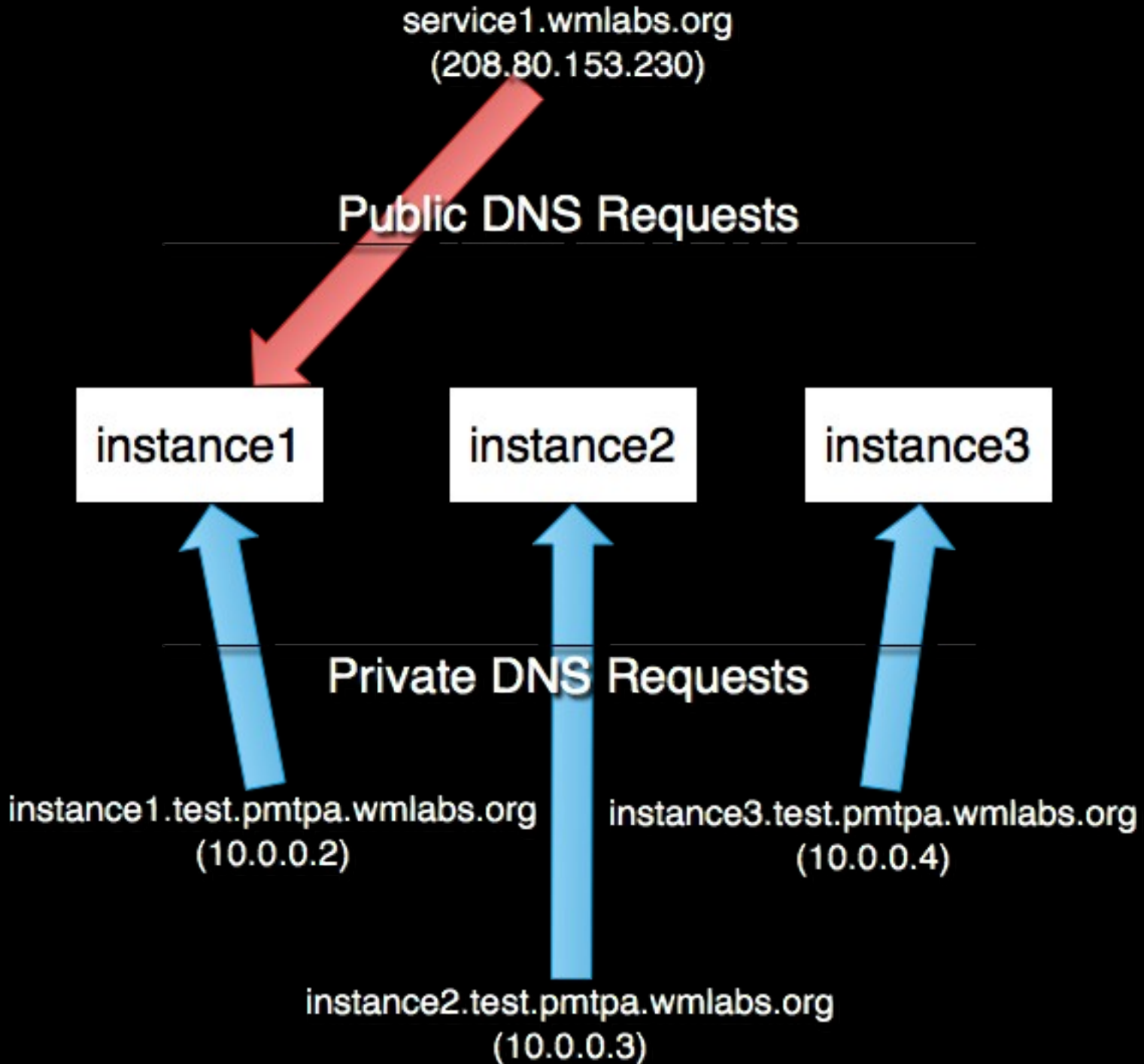
instance3

Private DNS Requests

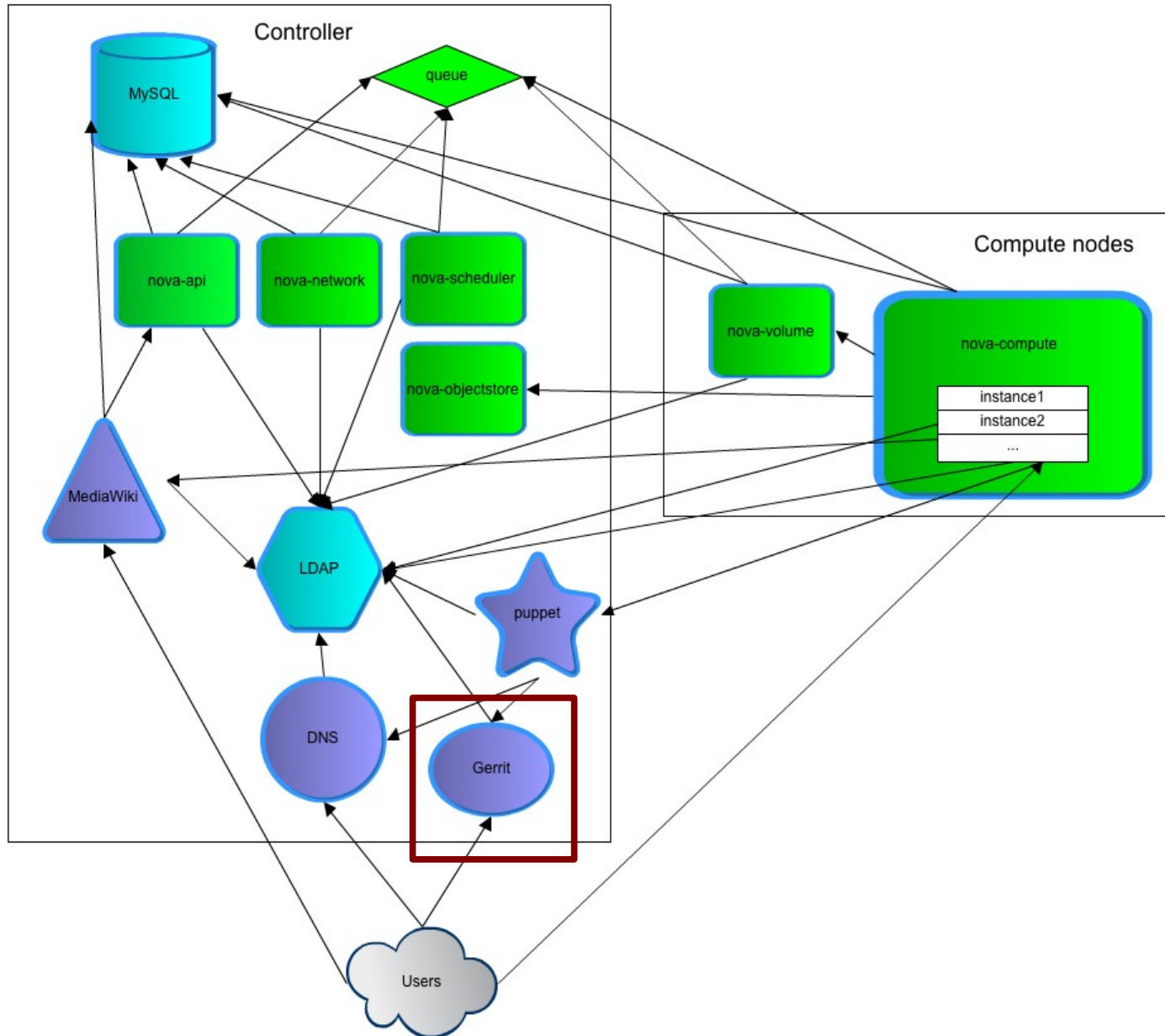
instance1.test.pmtpa.wmlabs.org
(10.0.0.2)

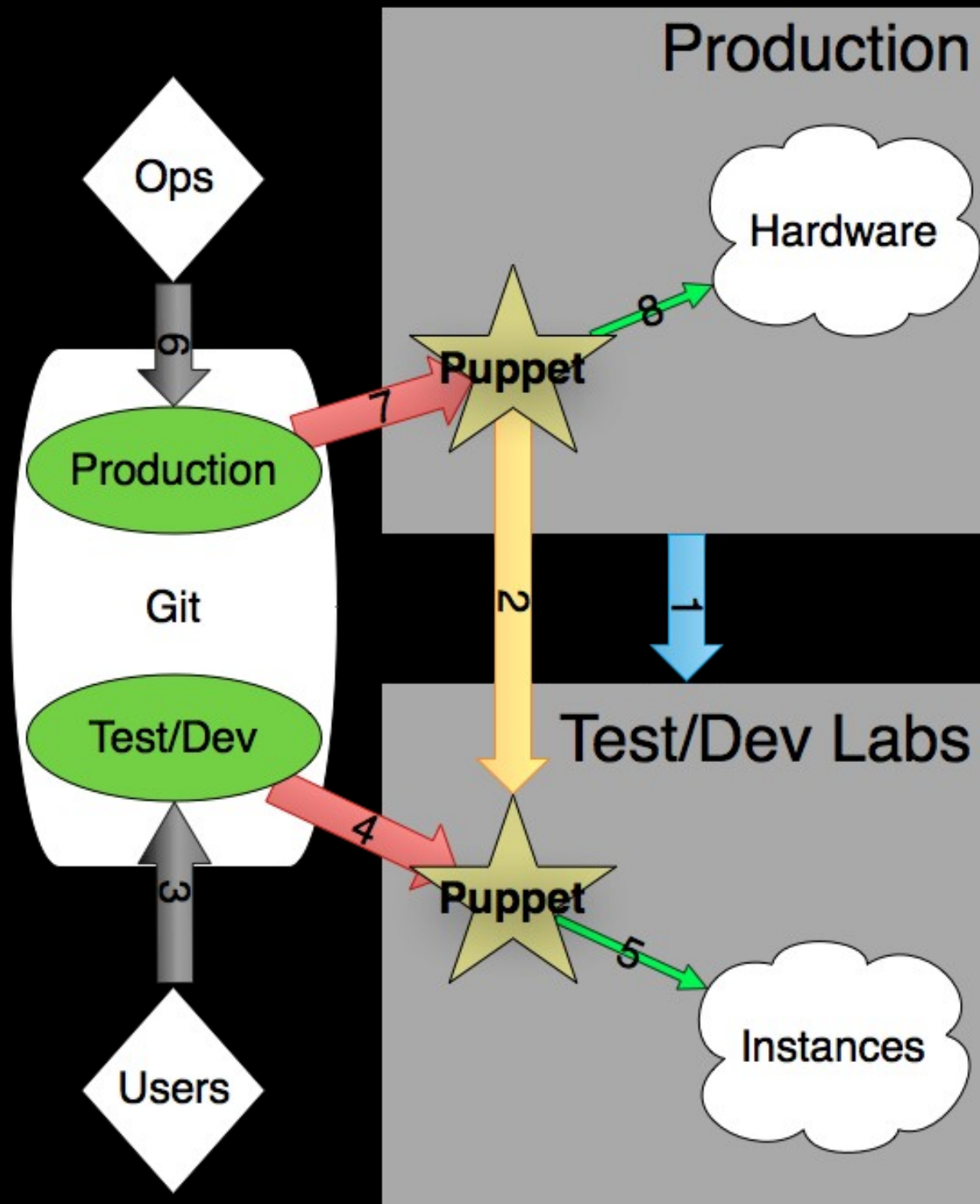
instance3.test.pmtpa.wmlabs.org
(10.0.0.4)

instance2.test.pmtpa.wmlabs.org
(10.0.0.3)



Gerrit







Get Involved!

- Help with development
- Help with operations
- Help with community

Ryan Lane

Wikimedia Foundation

ryan@wikimedia.org

IRC: Ryan_Lane on

Freenode; channels:

- [#mediawiki](#)
- [#semantic-mediawiki](#)
- [#wikimedia-operations](#)
- [#wikimedia-tech](#)
- [#openstack](#)



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- http://commons.wikimedia.org/wiki/File:No_Spam_Barn