

“Who writes Kubernetes”

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This is meant to be a report of a great collection of raw data regarding Kubernetes development activity. There is a brief analysis below, but feel free to leverage table of contents and treat as a 'choose your own adventure' when it comes to the tables of data below.

Since the Kubernetes project started in June of 2014, 2,760 developers from 1181 companies have contributed to it (including its 68 repositories from 3 organizations: kubernetes, kubernetes-incubator, kubernetes-client). A total of 19.3 million lines have been added and 11.3 million removed. In total, Kubernetes consists of about 162.5M LoC (lines of code).

The main kubernetes/kubernetes repository alone has: 1,361 developers, 540 employees, 4.7 M lines added, 3.2 M lines removed, with a repo consisting of about 11.3 M LoC.

However, this is only the best estimate of the data, as many developers were not working for companies but on their own behalf. 80 developers work on their own behalf and we cannot determine affiliation for 44 developers.

This report uses some special values, they are:

(Self) - meaning the developer is working on his/her own behalf and is not paid for work.

(Not Found) - meaning we tried to determine developer affiliation using many sources (like GitHub, LinkedIn, Twitter, Facebook, Clearbit and other commercial databases for enrichment, etc.) but were still unable to locate.

More detailed data is here:

https://docs.google.com/spreadsheets/d/15otmXVx8Gd6JzfiGP_OSjP8M9zyLeLof5-IGQKEb0UQ/edit?usp=sharing

Developers affiliations are defined here:

https://github.com/cncf/gitdm/blob/master/company_developers.txt

https://github.com/cncf/gitdm/blob/master/developers_affiliations.txt

If You find an error there, please create a pull request:

<https://github.com/cncf/gitdm/pulls>

Key findings:

- 2,760 developers from 1,181 companies
- Top 10 companies sponsoring Kubernetes are: Google, Red Hat, CoreOS, Microsoft, ZTE, Mirantis, Huawei, Fujitsu, Weaveworks, IBM, Engine Yard, SOFTICOM
- The rate of development is very high (the velocity is continuously increasing):
 - There were 32,418 commits last year, which yields: 88.76 commits daily (one commit each 16.2 minutes). Last month (June 2017) there were 2,400 commits which yields one commit every 18 minutes (the speed decreased by 10%). In May 2017 there were 3,063 commits, which yields one commit every 14,5 minutes (a 11% increase). Version 1.7.0 was released on June 30th, so the number of commits before final release was slightly smaller. In February 2017 there were 3,325 commits - one commit each 12.5 minutes (which is 30% more that last year average 76/2016 - 96/2017)
 - There were 10,701 commits in single kubernetes/kubernetes repo last year, which gives: 29,3 commits daily (one commit each 49 minutes). During last month (June 2017) there were 636 commits which gives one commit per 68 minutes. In May 2017 there were 1044 commits, which gives one commit per 43 minutes.
 - Main Kubernetes repository is also very active, there were over 308 thousand GitHub events during last year (that means PRs, issues, commits and comments) and over 31 thousand last month (June 2017), which also means about 21% more speed last month.
- Average release time is about 100 days (ranges from 77 for v1.0.0 -> v.1.1.0 to 172 for v1.1.0 to v1.2.0)
- Kubernetes consists of 3 GitHub organizations and 68 repositories.
- 5.5% of people (by the number of commits on all Kubernetes repositories combined) work on their own behalf, we also have 0.3% developers with no known affiliation, so this number can be from 5.5% to 5.8%. The rest - 94.2% - 94.5% of people work for companies.
- 4% of people (by the number of commits on main Kubernetes repository) work on their own behalf, we also have 0.2% developers without known affiliation, so this number can be from 4% to 4.2%. So 95.8% - 96% of people work for companies.
- 3.7% of people (by the number of LoC on all Kubernetes repositories combined) work on their own behalf. So 96.3% of people work for companies. Developers without known affiliations are about 0.03%.
- 4.3% of people (by the number of LoC on main Kubernetes repositories combined) work on their own behalf. So 95.7% of people work for companies. Developers without known affiliations are about 0.03%.
- Google, Red Hat, CoreOS and Microsoft together make 77.5% changesets and 79.8% lines changed in main kubernetes/kubernetes repository (67.7% and 83.2% of all 68 repositories respectively). There are also smaller companies involved, so it can be assumed that at least 94% of the project is sponsored and paid for.

There are about 2,900 commits between releases, but this number is increasing steadily. It was 2,112 between v1.0.0 and v1.1.0 then 4,435 between v1.5.0 and v1.6.0.

Numbers of lines added: 433 thousand on average - seems stable. The number of lines removed is about 321 thousand between releases.

Release Frequency (this is all for main kubernetes/kubernetes repository):

Average release time is about 102 days (ranges from 77 for v1.0.0 to v.1.1.0 to 172 for v1.1.0 to v1.2.0)

Release	Version Date	Days in development
v1.0.0	2015-07-11	305 (since v0.2 2014-09-09)
v1.1.0	2015-09-26	77
v1.2.0	2016-03-16	172
v1.3.0	2016-07-01	107
v1.4.0	2016-09-26	87
v1.5.0	2016-12-13	78
v1.6.0	2017-03-28	105
V1.7.0	2017-06-30	94

Rate of change:

Average number of changesets is 2,896 (ranges from 2,112 for v1.0.0 to v.1.1.0 to 4,435 for v1.1.0 to v1.2.0).

Release	Changesets	Lines added (thousands)	Lines removed (thousands)
v1.0.0 - v1.1.0	2,112	318	423
1.1.0 - v1.2.0	4,435	420	188
v1.2.0 - v1.3.0	2,579	326	190
v1.3.0 - v1.4.0	2,308	443	260
v1.4.0 - v1.5.0	2,603	583	273
v1.5.0 - v1.6.0	3,586	571	725
v1.6.0 - v1.7.0	2,650	367	190

Average number of changes per day for all releases is 28.2 changesets. Overall there were 20,273 changesets between v1.0.0 and v1.7.0.

Release	Changes	Changes per day
v1.0.0 - v1.1.0	2,112	27.4
1.1.0 - v1.2.0	4,435	25.8
v1.2.0 - v1.3.0	2,579	24.1
v1.3.0 - v1.4.0	2,308	26.5
v1.4.0 - v1.5.0	2,603	33.4
v1.5.0 - v1.6.0	3,586	34.2
v1.6.0 - v1.7.0	2,650	28.2

Source Size:

This table shows how many files are present in Kubernetes releases and how many Go source code lines.

Release	Lines of Go source code	Number of files	Files added/removed
v0.2	103,864	998	
v1.0.0	821,417	6,671	5,673
v1.1.0	921,610	6,221	-450
v1.2.0	1,483,079	8,313	2,092
v1.3.0	1,677,002	7,853	-460
v1.4.0	2,462,422	9,763	1,910
v1.5.0	2,769,222	11,768	2,005
v1.6.0	2,572,397	12,766	998
v1.7.0	2,901,685	14,975	2,209
master (2017-07-03)	2,595,038	14,731	-244

We can see a steady increase in both source code lines and the number of files from v1.0.0 to v1.5.0. Release v1.6.0 was focused on cleaning up sources.

Who does the Work:

The number of distinct developers and companies who developed from previous to given release.

We can see an increase in the number of developers working on next releases and companies (version v1.2.0 was developed about 1.8 times more than others so it is breaking the trend).

Release	Developers	Organisations
v1.1.0	241	105
v1.2.0	347	154
v1.3.0	258	84
v1.4.0	269	81
v1.5.0	271	79
v1.6.0	347	105
v1.7.0	362	116

Since the Kubernetes project started in June of 2014, 2,760 developers from 1,181 companies have contributed to it. A total of 19.3 million lines have been added and 11.3 million removed. In total, Kubernetes consists of about 162.5M LoC (lines of code).

Those numbers for main kubernetes/kubernetes repository alone has: 1,361 developers, 540 employers, 4.7 M lines added, 3.2 M lines removed.

The repository consists of about 11.3 M LoC overall, about 2.9 M lines of go code.

At least 94% of this work is sponsored by companies.

For kubernetes/kubernetes repository 4% to maximum 4.2% of people are working on it in their spare time.

For all 68 kubernetes repositories from 3 organizations numbers are 5.5% to 5.8%.

Top 20 developers of all 68 Kubernetes repositories and their affiliations:

Developer	Company	Changesets	Percent %
Justin Santa Barbara	Self	1,853	3.049
Wojciech Tyczyński	Google	1,217	2.003
Clayton Coleman	Red Hat	1,174	1.932
Brendan Burns	Microsoft	1,138	1.873
Tim Hockin	Google	1,137	1.871
David Eads	Red Hat	1,059	1.743

Chao Xu	Google	1,031	1.697
Daniel Smith	Google	955	1.572
Eric Paris	Red Hat	905	1.489
Marcin Wielgus	Google	864	1.422
Joe Finney	Google	769	1.265
Dr. Stefan Schimanski	Red Hat	754	1.241
Marek Grabowski	Google	745	1.226
Matthew Wong	Red Hat	651	1.071
Ilya Dmitrichenko	Weaveworks	631	1.038
Derek Carr	Red Hat	623	1.025
Vishnu Kannan	Google	610	1.004
Manuel de Brito Fontes	SOFICOM	588	0.968
Zach Loafman	Google	573	0.943
Jeff Grafton	Google	572	0.941

Top 10 developers make 19% changesets and top 20 make 30%.

Top 20 developers for single kubernetes/kubernetes repository and their affiliations:

Developer	Company	Changesets	Percent %
Clayton Coleman	Red Hat	1,025	3.558
Brendan Burns	Microsoft	992	3.443
Wojciech Tyczyński	Google	929	3.224
Tim Hockin	Google	790	2.742
David Eads	Red Hat	754	2.617
Daniel Smith	Google	683	2.371
Chao Xu	Google	661	2.294
Justin Santa Barbara	Self	570	1.978
Marek Grabowski	Google	541	1.878
Derek Carr	Red Hat	527	1.829
Dr. Stefan Schimanski	Red Hat	472	1.638
Jordan Liggitt	Red Hat	436	1.513
Yu-Ju Hong	Google	408	1.416
Janet Kuo	Google	372	1.291
Zach Loafman	Google	324	1.125
Nikhil Jindal	Google	319	1.107

Dawn Chen	Google	314	1.09
Mike Danese	Google	314	1.09
Eric Paris	Red Hat	294	1.02
Eric Tune	Google	293	1.017

Top 10 developers make 26% changesets in the kubernetes repository. And top 20 make 38%.

Top 20 developers for v1.6.0:

Developer	Company	Changesets	Percent %
David Eads	Red Hat	276	7.682
Jordan Liggitt	Red Hat	170	4.731
Dr. Stefan Schimanski	Red Hat	168	4.676
Clayton Coleman	Red Hat	113	3.145
Wojciech Tyczynski	Google	111	3.089
Michail Kargakis	Red Hat	74	2.06
Anthony Yeh	Google	74	2.06
Chao Xu	Google	64	1.781
Mike Danese	Google	59	1.642
Random-Liu	Google	59	1.642
Madhusudan.C.S	Google	52	1.447
Jan Safranek	Red Hat	48	1.336
Derek McQuay	Apprenda	48	1.336
Lucas Kälström	Self	48	1.336
Charlie R.C	Fujitsu	46	1.28
Yu-Ju Hong	Google	45	1.252
Jeff Grafton	Google	45	1.252
Janet Kuo	Google	45	1.252
Marek Grabowski	Google	43	1.197
Andy Goldstein	Red Hat	41	1.141

Top 10 developers make 32.5% of contributions and Top 20 make 45%. We can also see more work comes from Red Hat in v1.6.0.

Top 20 developers for v1.7.0:

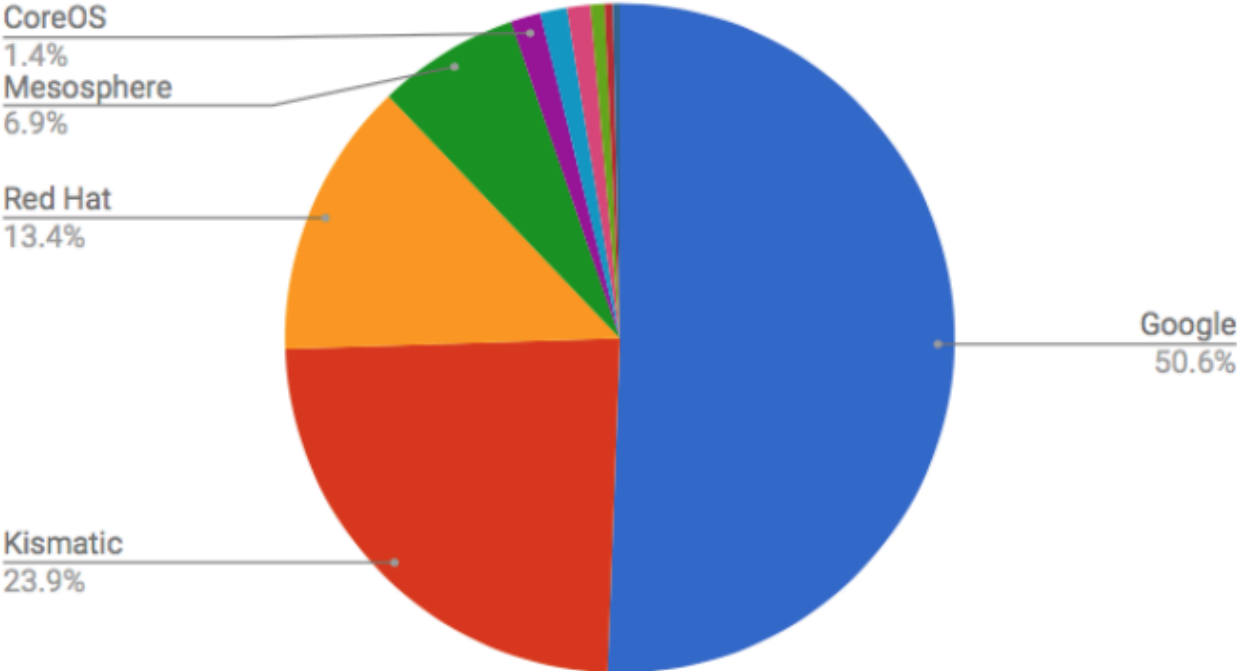
Developer	Company	Changesets	Percent %
David Eads	Red Hat	89	3.327
Wojciech Tyczynski	Google	62	2.318

Chao Xu	Google	57	2.131
Jordan Liggitt	Red Hat	56	2.093
Mike Danese	Google	56	2.093
Dr. Stefan Schimanski	Red Hat	55	2.056
Clayton Coleman	Red Hat	51	1.907
Maru Newby	Red Hat	44	1.645
Anthony Yeh	Google	44	1.645
Cao Shufeng	Fujitsu	42	1.57
shashidharatd	Huawei	42	1.57
Jeff Grafton	Google	41	1.533
Zihong Zheng	Google	41	1.533
zhengjiajin	Caicloud	37	1.383
Yu-Ju Hong	Google	36	1.346
Shyam Jeedigunta	Google	32	1.196
Charlie R.C	Fujitsu	31	1.159
zhangxiaoyu-zidif	ZTE Corporation	30	1.121
mbohlool	Google	28	1.047
Justin Santa Barbara	Self	28	1.047

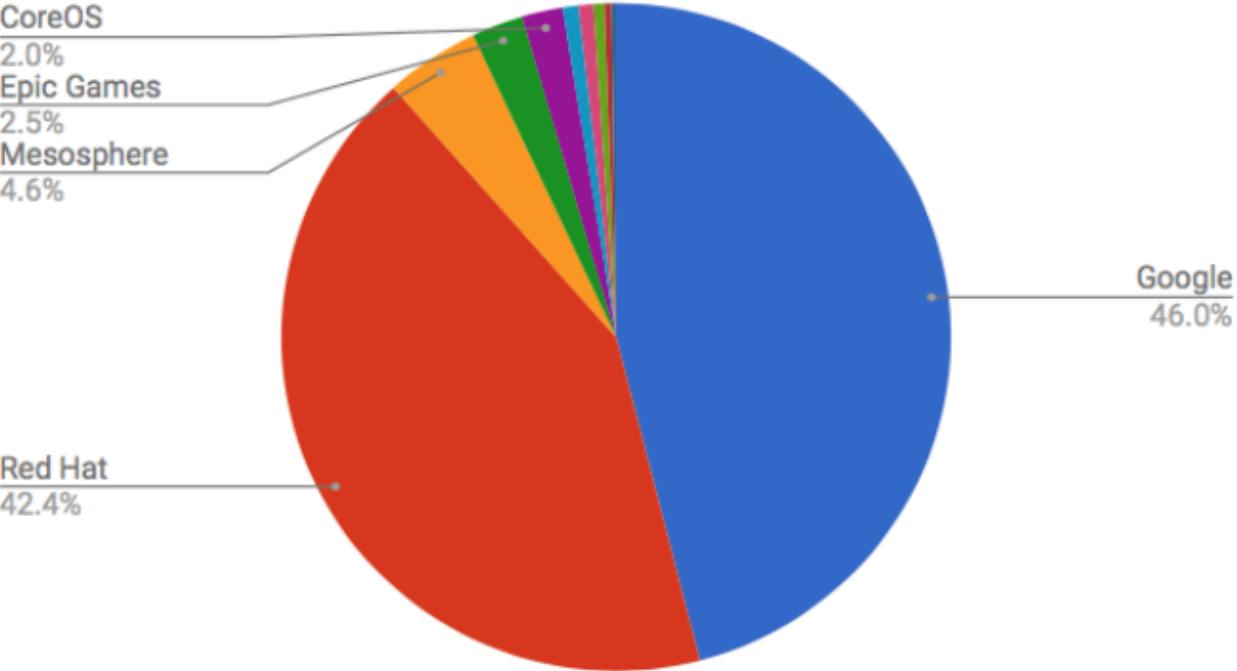
Top 10 developers make 21% of contributions and Top 20 make 34%

The number of lines added by companies in all versions:

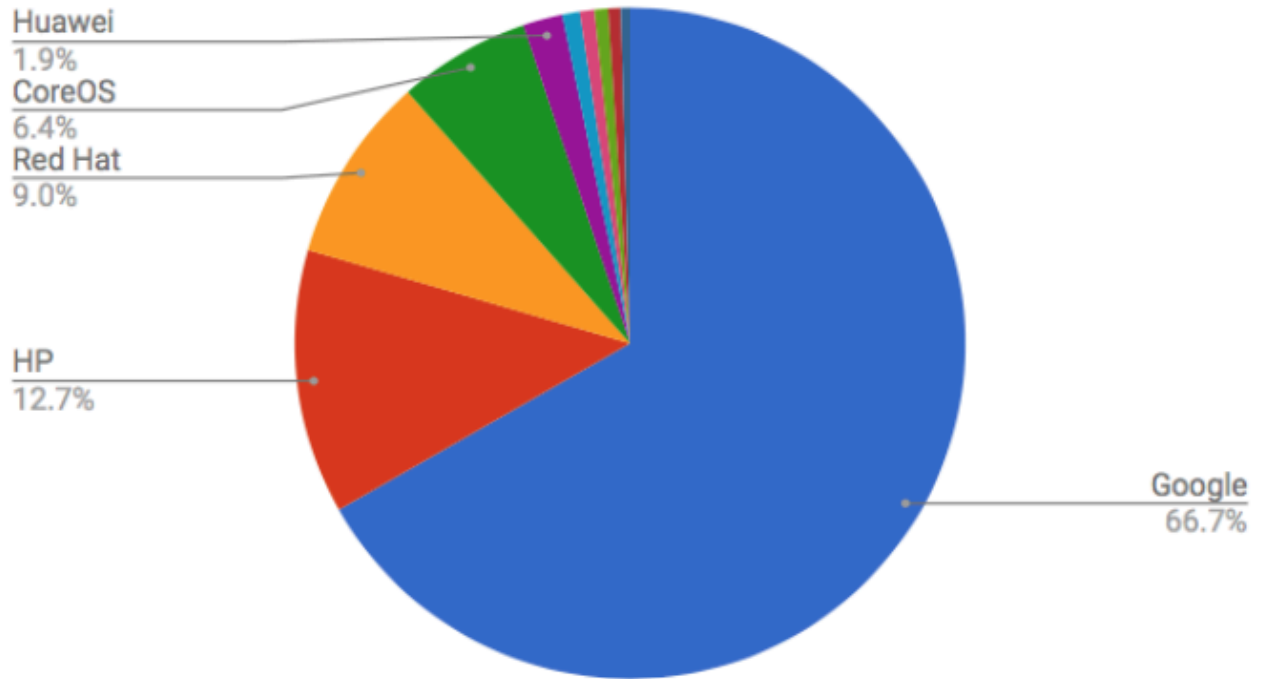
Contributions by Company v1.1.0



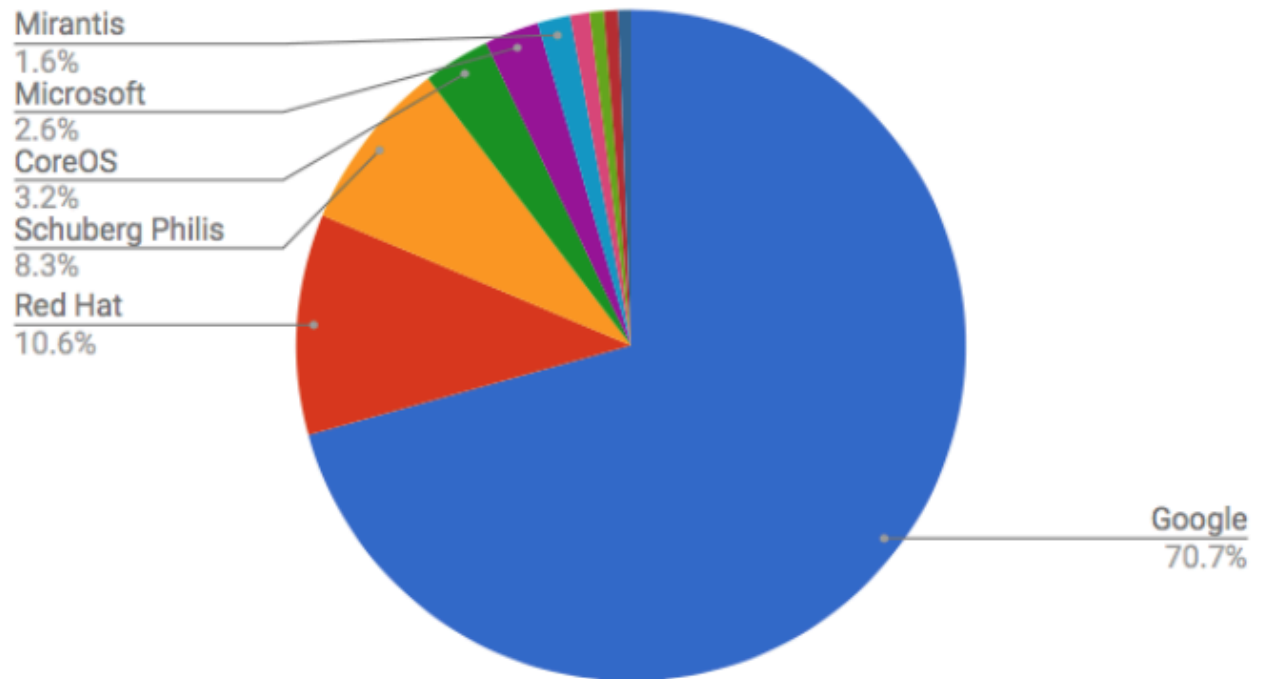
Contributions by Company v1.2.0



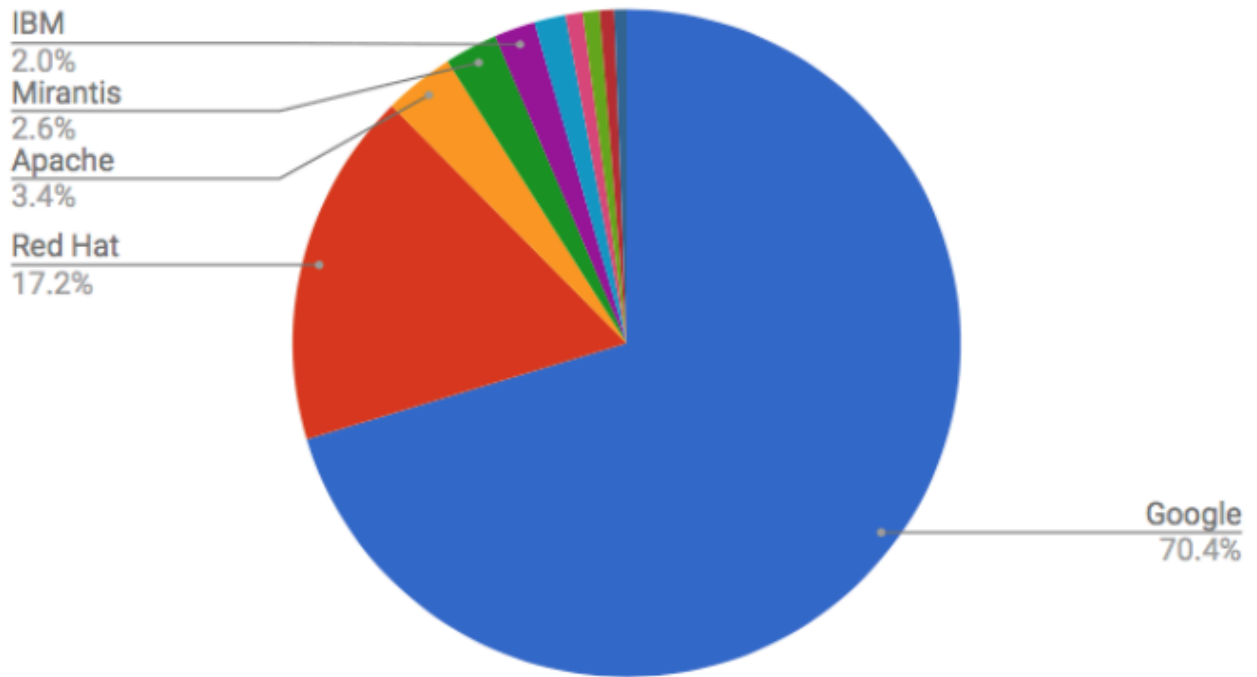
Contributions by Company v1.3.0



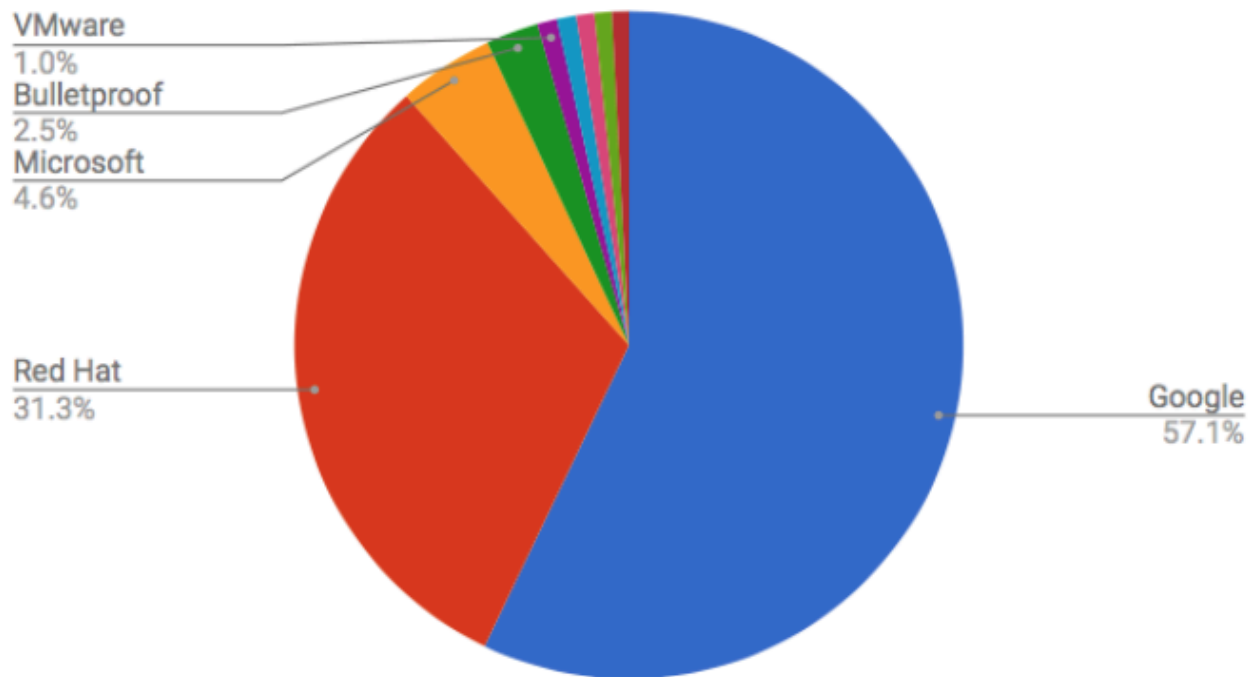
Contributions by Company v1.4.0



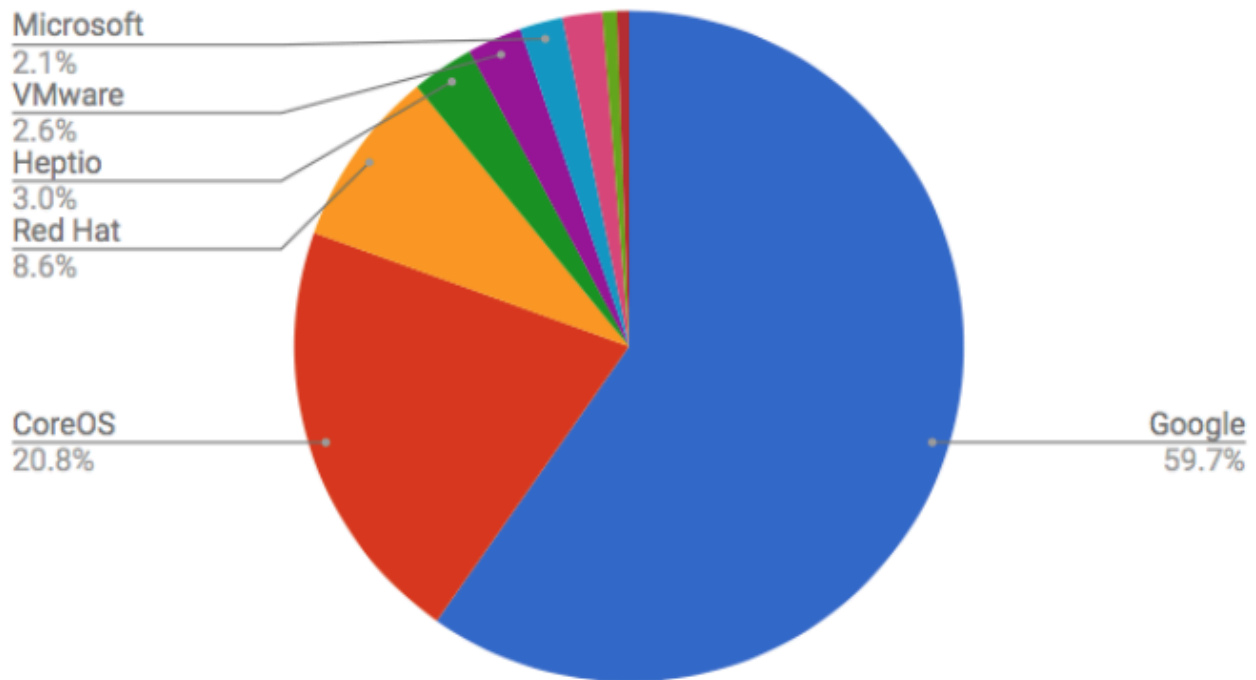
Contributions by Company v1.5.0



Contribution by Company v1.6.0



Contribution by Company v1.7.0



We can see that Google is a top contributor in all releases.

Analyzing number of changesets we can see that Google contributions trend is falling down.

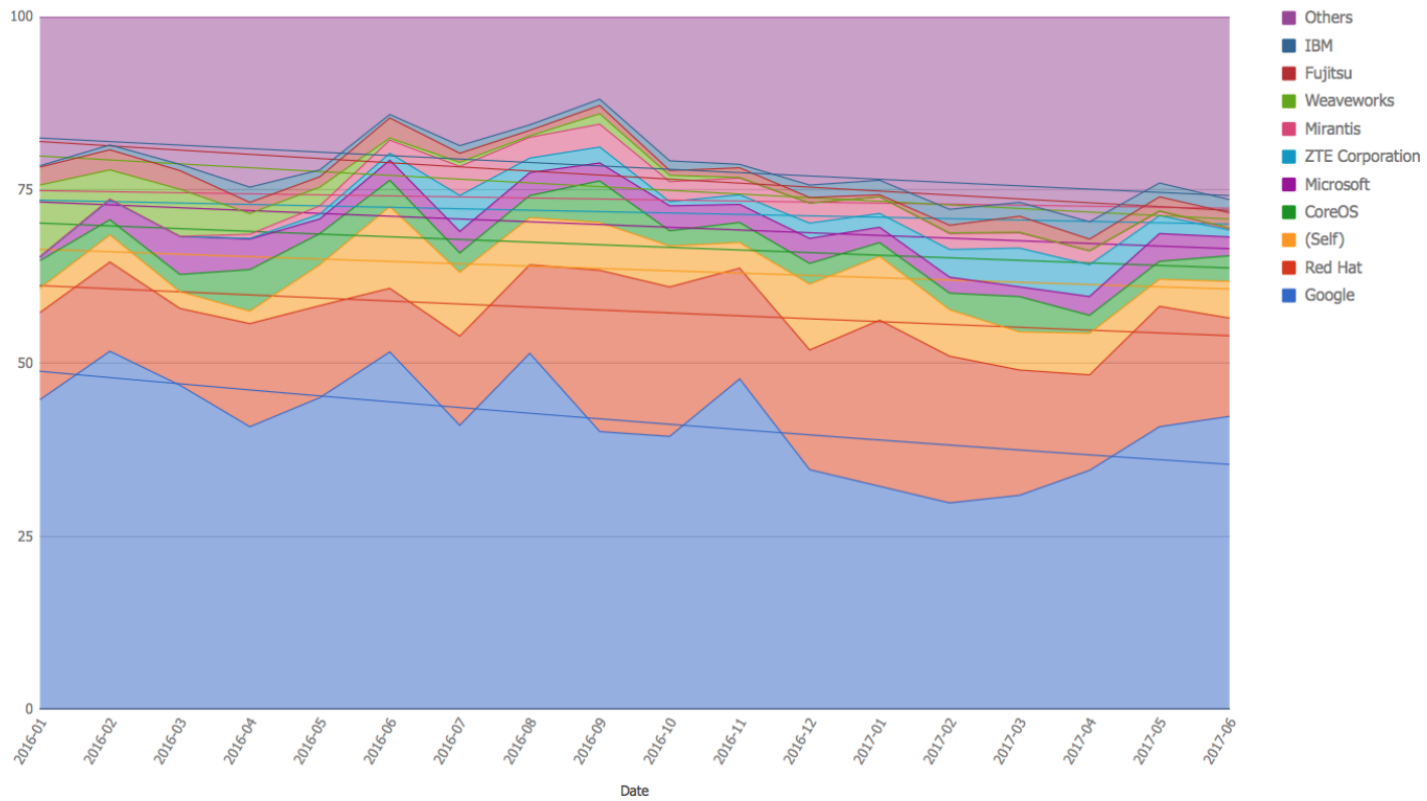
This is a stacked chart of companies contributions starting from 2016.

Two main contributors Google and Red Hat both have downtrend, while there are more & more new companies each month.

Charts for all Kubernetes repositories combined:

Percent of changesets grouped per company for last months:

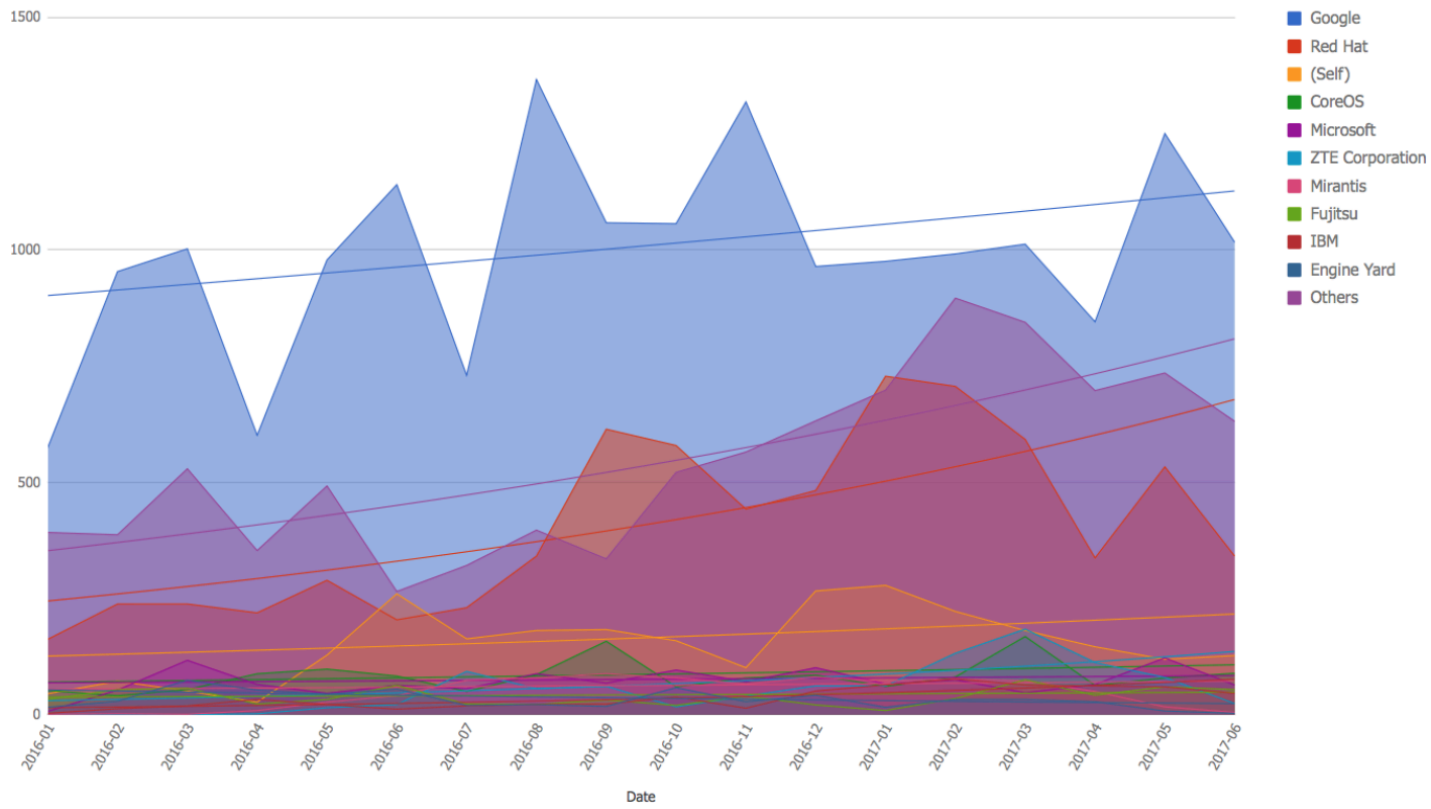
100% stacked chart of monthly companies contributions



Google trendline is falling down, while we can see that Red Hat and Others gain.

Changesets grouped per company for last months:

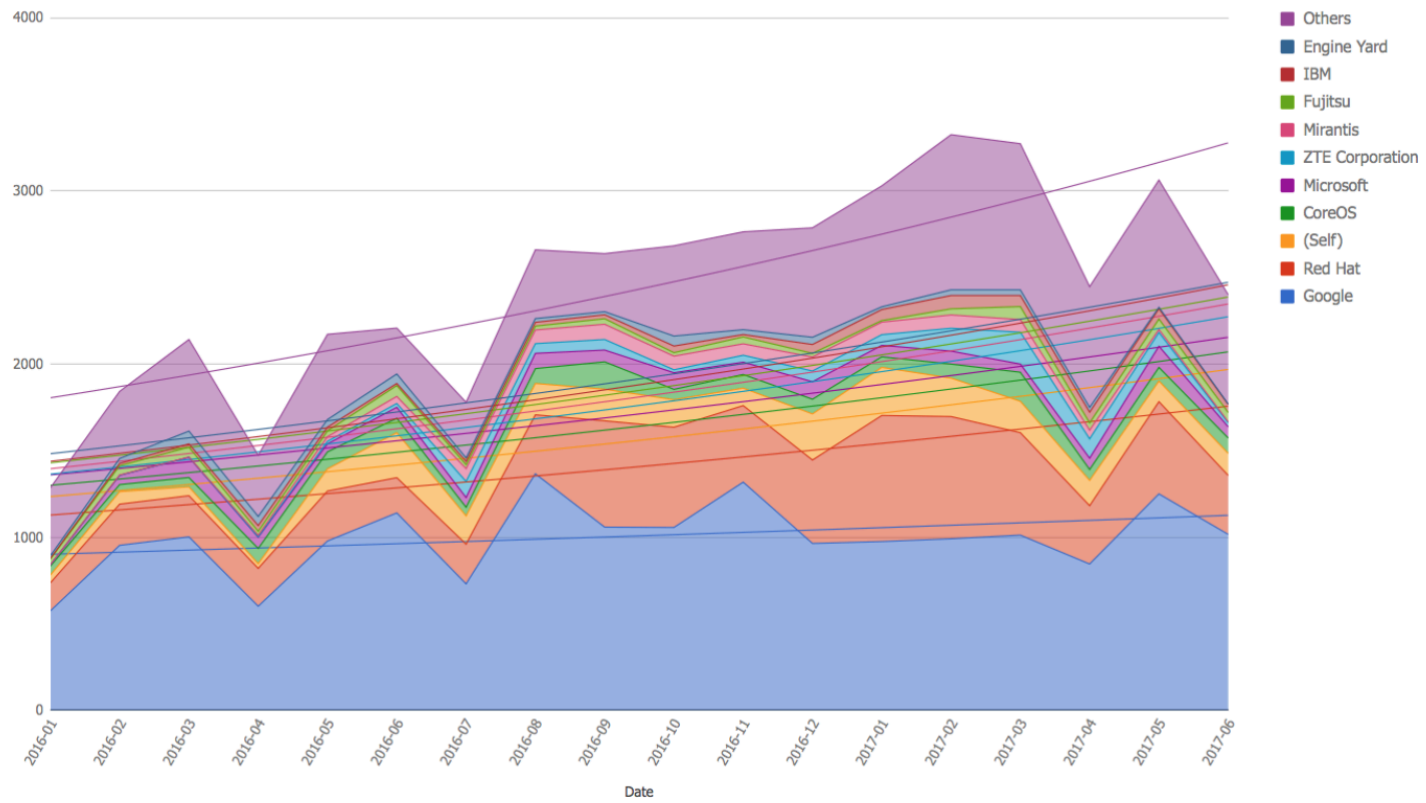
Chart of monthly companies contributions



Number of Google contributions is growing, but slower than Red Hat & Others.

Changesets per company stacked for last months:

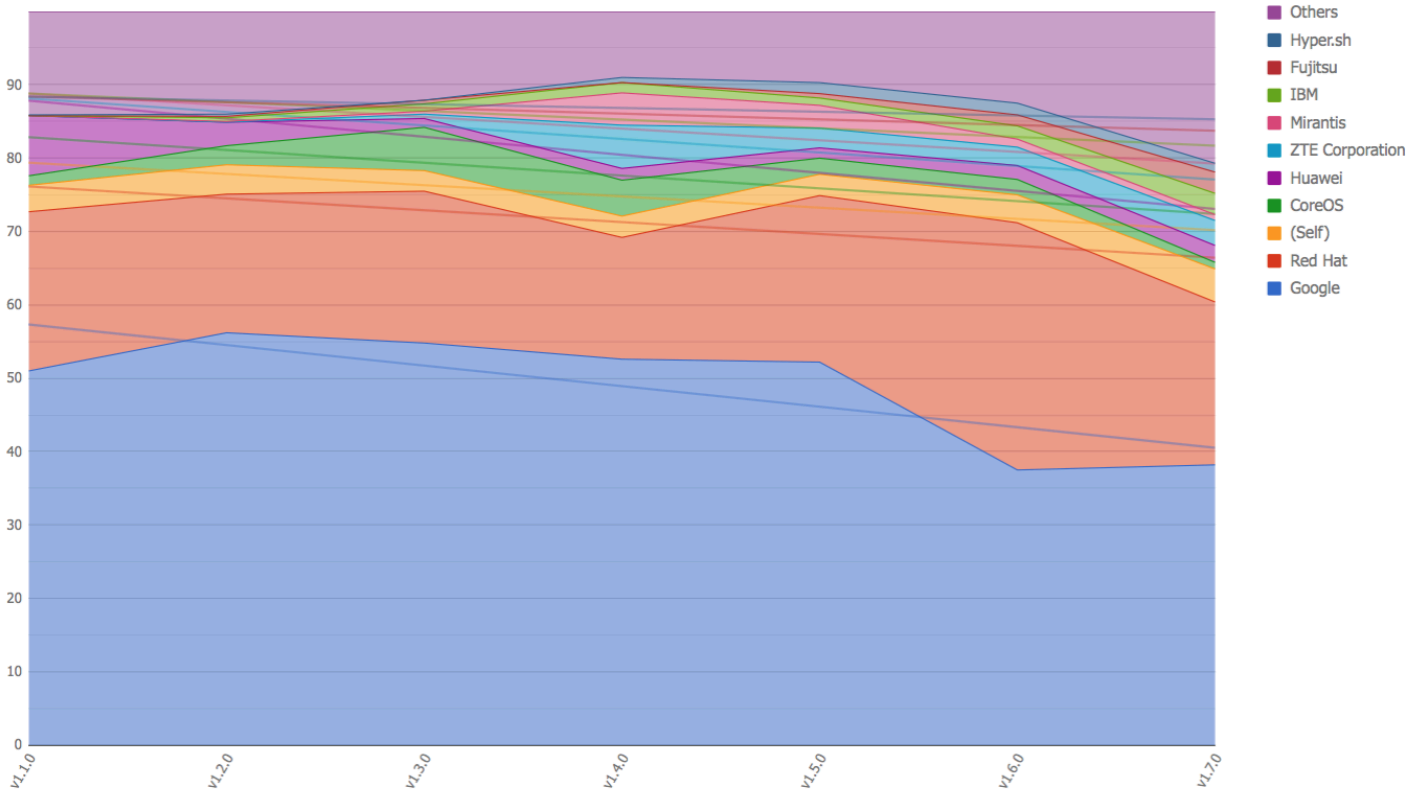
Stacked chart of monthly companies contributions



Releases for main Kubernetes repository:

Percent of changesets grouped per company for releases:

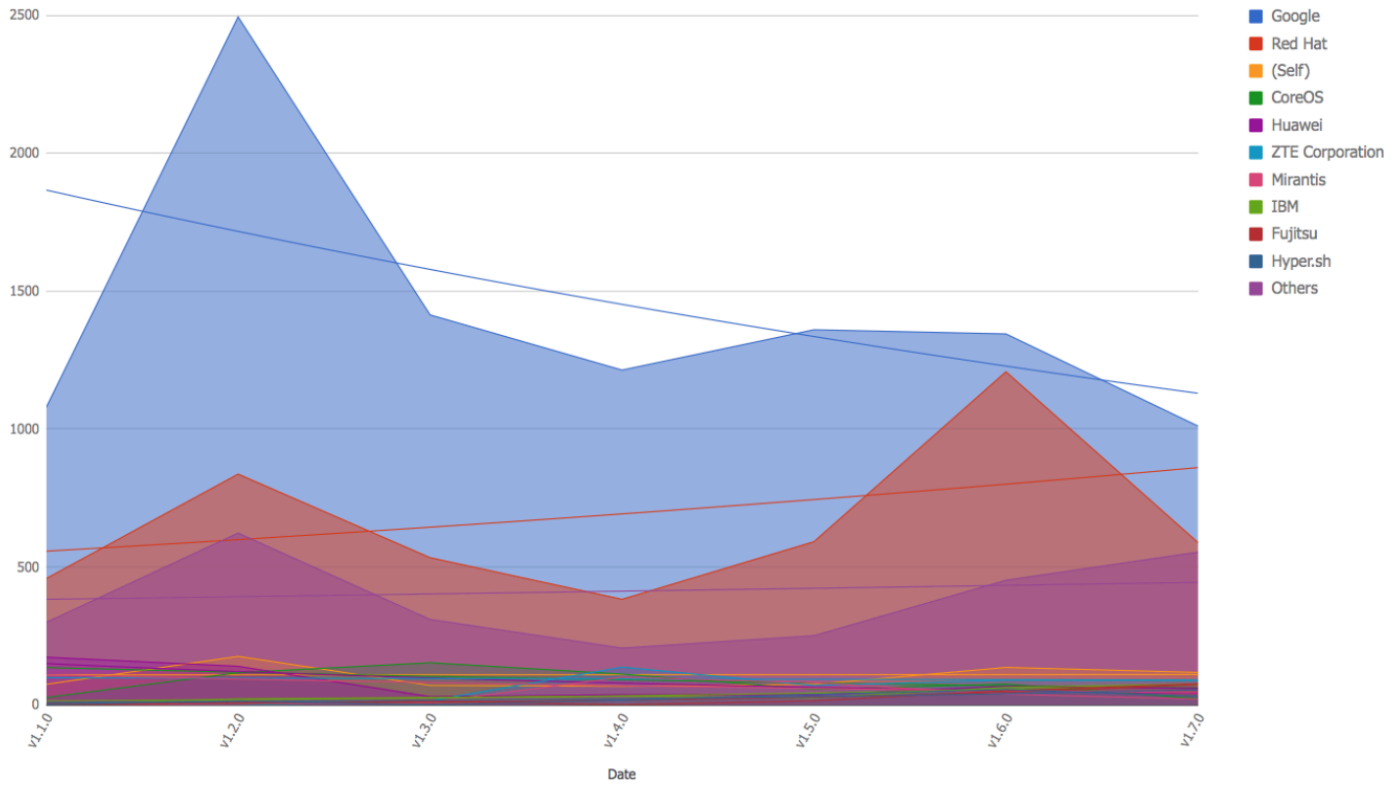
100% stacked chart of company contributions in Kubernetes releases



We can see steady decrease of Google's percent of contributions, Red Hat & Others are growing.

Changesets grouped per company for releases:

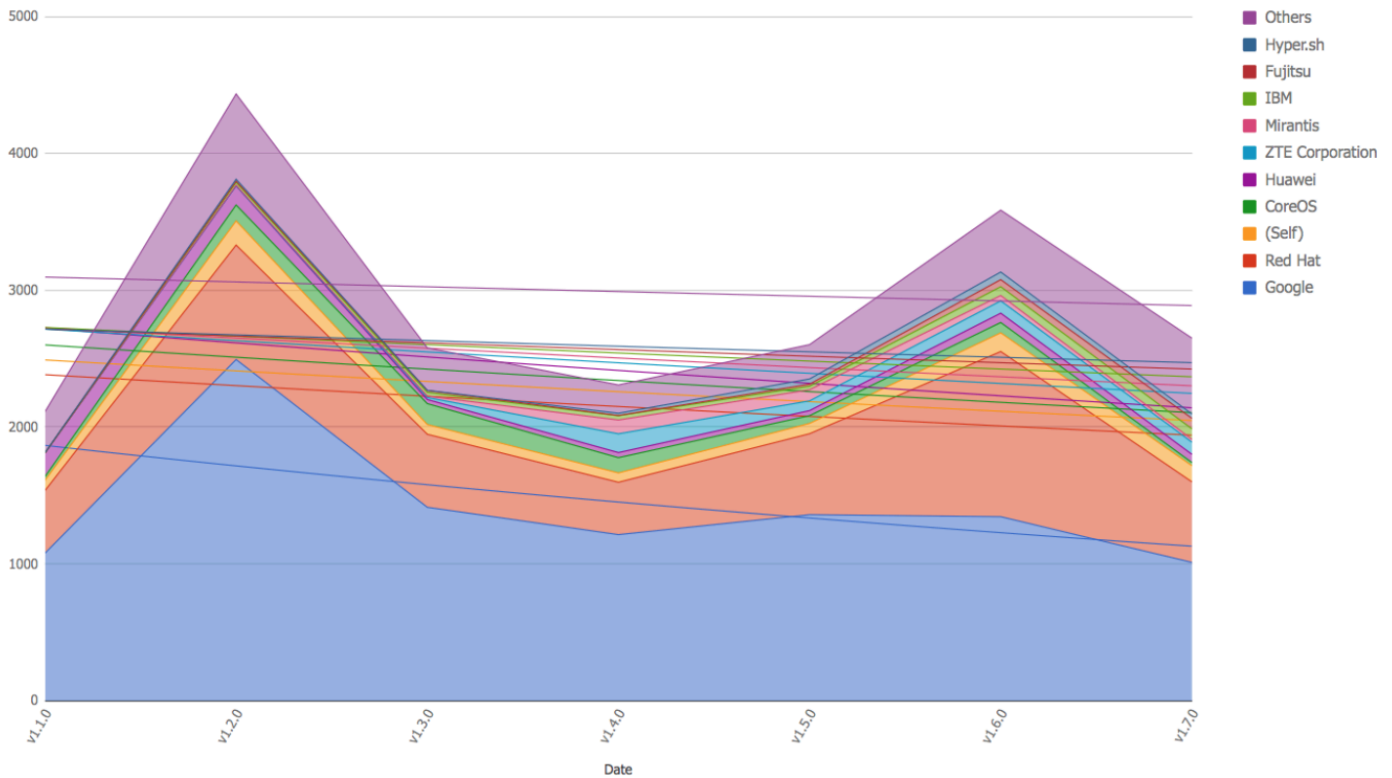
Chart of companies contributions in Kubernetes releases



In this unstacked chart we can see that Google contributions are clearly falling while almost every other company is growing.

Changesets per company stacked for releases:

Stacked chart of companies contributions in Kubernetes releases



For each developer, we're trying to determine His/Her employer by:

- Asking commercial database clearbit
- Determining employers by email domain name
- Checking Stackalytics data JSON
- Determine employer by manually researching developer first, last name and email on Google, Github, LinkedIn, Facebook etc.
- Asking developer via email
- Finally, there are still some unknown developers grouped under "(Not Found)" and some developers are working on their own behalf (grouped as "Self").

This is data for all 68 kubernetes repositories.

Company	Changes	Percent
Google	27,325	45
Red Hat	10,725	17.6

(Self)	3,320	5.5
CoreOS	1,753	2.9
Microsoft	1,327	2.2
ZTE Corporation	964	1.6
Mirantis	846	1.4
Huawei	772	1.3
Fujitsu	756	1.2
Weaveworks	674	1.1
IBM	659	1.1
Engine Yard	612	1
SOFICOM	588	1
Hyper.sh	305	0.5
Apache	304	0.5
Arkena	290	0.5
Mesosphere	281	0.5
Intel	269	0.4
Bitnami	237	0.4
Zalando	232	0.4
(Not Found)	188	0.3

Those companies make 86.4% of all contributions.

Note that there are 5.5% developers who work on their own behalf and also that 0.3% is unknown - so there can be up to 5.8% of working on their own.

This is data for single kubernetes/kubernetes repository:

Company	Changes	Percent
Google	15,038	52.2
Red Hat	6,376	22.1
(Self)	1,139	4
CoreOS	741	2.6
Huawei	577	2
ZTE Corporation	417	1.4
IBM	269	0.9
Mirantis	259	0.9
Mesosphere	196	0.7

Fujitsu	174	0.6
Microsoft	166	0.6
Hyper.sh	164	0.6
Apache	154	0.5
Docker	147	0.5
Net EASE 网易有态度	121	0.4
Apprenda	116	0.4
Canonical	116	0.4
Caicloud	114	0.4
VMware	113	0.4
EasyStack	108	0.4
(Not Found)	63	0.2

Those companies make 92.2% of all contributions.

Note that there are 4% developers who work on their own behalf and also that 0.2% is unknown - so there can be up to 4.2% of working on their own.

This is how it looks like in version v1.6.0:

Company	Changes	Percent
Google	1,333	37.1
Red Hat	1,224	34.1
(Self)	138	3.8
ZTE Corporation	89	2.5
Apprenda	76	2.1
CoreOS	73	2
Huawei	69	1.9
IBM	64	1.8
Hyper.sh	56	1.6
Fujitsu	52	1.4
Microsoft	39	1.1
Mirantis	39	1.1
EasyStack	37	1
VMware	22	0.6

Net EASE 网易有态度	21	0.6
Intel	18	0.5
Bulletproof	15	0.4
Apache	13	0.4
Canonical	11	0.3
(Not Found)	6	0.2

Those companies make 94.5% of all contributions. Self is 3.8% and even if all Unknowns (0.2%) also belong to this group then we have maximum 4% of developers working on their own behalf.

This is how it looks in newest version v1.7.0:

Company	Changes	Percent
Google	1,016	38
Red Hat	596	22.3
(Self)	118	4.4
ZTE Corporation	89	3.3
IBM	78	2.9
Fujitsu	77	2.9
EasyStack	62	2.3
Huawei	60	2.2
Microsoft	46	1.7
Caicloud	41	1.5
VMware	35	1.3
Hyper.sh	32	1.2
Canonical	31	1.2
CoreOS	27	1
ASG Consulting	23	0.9
Mirantis	21	0.8
Kelowna	19	0.7
Heptio	17	0.6
Airbnb	12	0.4
Tata	11	0.4
(Not Found)	6	0.2

Those companies make 90.2% of all contributions. Self is 4.4% and even if all Unknowns (0.2%) also belong to this group then we have maximum 4.6% of developers working on their own behalf.

Let's see how it look like for previous releases:

V1.1.0:

Company	Changes	Percent
Google	1,092	50.8
Red Hat	480	22.3
Huawei	173	8
(Self)	75	3.5
Mesosphere	34	1.6
Docker	30	1.4
CoreOS	28	1.3
Amadeus	12	0.6
(Not Found)	12	0.6
Tyk	12	0.6
Slack	11	0.5
Metaswitch	10	0.5
Apache	7	0.3
Alternative Storage	7	0.3
Canonical	6	0.3
CERN	6	0.3
UNINETT	6	0.3
Box	5	0.2
eBay	5	0.2
Amazon	5	0.2
Box	5	0.2

V1.2.0:

Company	Changes	Percent
Google	2,519	56.1

Red Hat	859	19.1
(Self)	178	4
Huawei	138	3.1
CoreOS	122	2.7
Mesosphere	101	2.2
Docker	73	1.6
Caicloud	52	1.2
Net EASE 网易有态度	36	0.8
Apache	27	0.6
IBM	22	0.5
Udacity	19	0.4
Amadeus	17	0.4
Hyper.sh	14	0.3
(Not Found)	13	0.3
Epic Games	12	0.3
Clarifai	12	0.3
Samsung	9	0.2
Endocode	8	0.2
Fujitsu	8	0.2
(Not Found)	6	0.1

V1.3.0:

Company	Changes	Percent
Google	1,438	54.6
Red Hat	545	20.7
CoreOS	163	6.2
(Self)	73	2.8
Huawei	30	1.1
IBM	27	1
eBay	27	1
Net EASE 网易有态度	22	0.8
Docker	21	0.8
Clarifai	20	0.8
HP	19	0.7

Intel	19	0.7
ZTE Corporation	15	0.6
Fujitsu	14	0.5
Canonical	12	0.5
Apache	12	0.5
Caicloud	11	0.4
Rackspace	10	0.4
Mirantis	10	0.4
CNM Consulting	10	0.4
(Not Found)	3	0.1

V1.4.0:

Company	Changes	Percent
Google	1,234	52.8
Red Hat	384	16.4
ZTE Corporation	137	5.9
CoreOS	114	4.9
Mirantis	102	4.4
(Self)	68	2.9
Huawei	37	1.6
IBM	32	1.4
Hyper.sh	17	0.7
Net EASE 网易有态度	15	0.6
Weaveworks	14	0.6
Microsoft	13	0.6
eBay	13	0.6
Clarifai	10	0.4
Apcera	9	0.4
Intel	8	0.3
Canonical	8	0.3
Docker	7	0.3
HP	6	0.3
SOFICOM	6	0.3
(Not Found)	5	0.2

V1.5.0:

Company	Changes	Percent
Google	1,374	52
Red Hat	606	22.9
Mirantis	82	3.1
(Self)	75	2.8
ZTE Corporation	71	2.7
CoreOS	59	2.2
Hyper.sh	38	1.4
Huawei	37	1.4
Weaveworks	35	1.3
Apprenda	29	1.1
IBM	27	1
Microsoft	23	0.9
VMware	16	0.6
Fujitsu	15	0.6
Net EASE 网易有态度	14	0.5
Apache	13	0.5
HP	12	0.5
Intel	11	0.4
eBay	7	0.3
Canonical	6	0.2
(Not Found)	3	0.1

Now how many new developers joined the project in given releases:

Version	New developers
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v1.2.0	225
v1.3.0	128
v1.4.0	117
v1.5.0	112
v1.6.0	172
v1.7.0	169

Companies that have been most active in bringing new developers into the community

Company	New developers
Google	116
Red Hat	77
Self	49
CoreOS	32
ZTE Corporation	29
NotFound	26
IBM	26
Mirantis	23
Huawei	18
Fujitsu	15
Intel	14
VMware	14
HP	13
Microsoft	12
Cisco	10
Canonical	9
eBay	9
Net EASE 网易有态度	9
Caicloud	8
Tencent	7
Apprenda	7
EasyStack	6

Apcera	6
SalesForce	5
Heptio	5

The above sums up to 545, 49 working on their behalf (Self), 26 unknowns.

Minimum 49 and maximum 75 (all unknown and self) work on their own behalf: which is $49 / 545 = 9 - 14\%$

9 to 14% of developers are being paid for their work since real first commit.

Reviewing work:

Companies with most sign offs are (for all 68 kubernetes repositories):

Company	Signoffs	Percent
Red Hat	981	37.9
Google	528	20.4
(Self)	261	10.1
ZTE Corporation	207	8
IBM	142	5.5
Mirantis	133	5.1
Intel	72	2.8
SUSE/Novell	37	1.4
Zhejiang University	28	1.1
ClusterHQ	26	1
Hyper.sh	22	0.9
Igneous Systems	14	0.5
Cisco	12	0.5
CoreOS	10	0.4
FACEIT	9	0.3
(Not Found)	9	0.3
Huawei	8	0.3
Microsoft	7	0.3
Net EASE 网易有态度	6	0.2
DaoCloud	6	0.2

Main kubernetes/kubernetes repo:

Company	Signoffs	Percent
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Google	272	34.5
Red Hat	233	29.6
ZTE Corporation	130	16.5
(Self)	39	4.9
IBM	29	3.7
ClusterHQ	13	1.6
Cisco	12	1.5
(Not Found)	9	1.1
FACEIT	7	0.9
Huawei	6	0.8
DaoCloud	5	0.6
Docker	5	0.6
Hyper.sh	4	0.5
Tencent	3	0.4
Fujitsu	3	0.4
Apprenda	2	0.3
Amazon	2	0.3
Jd.Com	2	0.3
CoreOS	2	0.3
Weaveworks	1	0.1

Kubernetes release v1.6.0:

Company	Signoffs	Percent
Google	46	43
Red Hat	29	27.1
ZTE Corporation	23	21.5
Tencent	3	2.8
IBM	2	1.9
(Self)	1	0.9
Hyper.sh	1	0.9
YY	1	0.9
Jd.Com	1	0.9

Kubernetes release 1.7.0:

Company	Signoffs	Percent
Red Hat	53	45.3
Google	20	17.1
ZTE Corporation	17	14.5
(Self)	10	8.5
IBM	4	3.4
DaoCloud	3	2.6
Fujitsu	2	1.7
Cisco	2	1.7
CoreOS	2	1.7
Amazon	2	1.7
Weaveworks	1	0.9
Inuits	1	0.9

Analysis of per company working areas:

Different companies work in different project areas.

Statistics for top companies for all kubernetes releases combined (by the number of lines of code changed):

Top companies are:

Order	Company name	Percent of LoC changed
1	Google	60.9%
2	Red Hat	16.76%
3	(Self)	6.46%
4	Kismatic	3.49%
6	Microsoft	1.12%
16	(Not Found)	0.03%

Google contributions analysis (all kubernetes versions), 60.9% of total:

Percent	Percent Total	Directory	Notes
27.878	16.983	pkg	Packages
18.906	11.517	staging	
18.302	11.149	staging/src/k8s.io/client-go	Golang clients
16.835	10.256	third_party	Third party
10.153	6.185	third_party/src	
9.499	5.787	third_party/src/code.google.com/p	
8.701	5.3	third_party/src/code.google.com/p/google-api-go-client	
7.011	4.271	staging/src/k8s.io/client-go/_vendor	
6.988	4.257	api	Kubernetes API
5.438	3.313	staging/src/k8s.io/client-go/1.4	Go client
4.632	2.822	pkg/ui	UI
4.381	2.669	release-0.20.0	Release
4.213	2.566	staging/src/k8s.io/client-go/1.5	Go client
4.143	2.524	pkg/kubelet	
4.113	2.506	test	Tests
4.017	2.447	pkg/client	
3.994	2.433	staging/src/k8s.io/client-go/_vendor/golang.org/x	
3.908	2.381	staging/src/k8s.io/client-go/1.5/_vendor	
3.843	2.341	pkg/api	
3.781	2.303	docs	Documentation
3.558	2.167	api/swagger-spec	

We can see that Google contributes in many areas.

RedHat contributions analysis (all kubernetes versions), 16.76% of total:

Percent	Percent	Directory	Notes
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	Total		
55.434	9.292	pkg	Packages
13.41	2.248	staging/src/k8s.io	
11.271	1.889	pkg/client	
7.308	1.225	staging/src/k8s.io/client-go	
6.374	1.068	pkg/api	Docker client
6.068	1.017	api	Golang client
5.224	0.876	pkg/kubectl	
4.797	0.804	pkg/controller	
4.743	0.795	docs	Documentation
4.718	0.791	test	Tests
4.554	0.763	pkg/kubelet	
4.537	0.761	contrib	
4.101	0.687	api/swagger-spec	
3.611	0.605	pkg/registry	
3.48	0.583	contrib/mesos	
3.472	0.582	plugin	
3.438	0.576	plugin/pkg	
3.398	0.569	pkg/apis	
3.214	0.539	contrib/mesos/pkg	
3.195	0.535	test/e2e	Tests

We can see that RedHat contributes in many areas

Aprenda contribution analysis 3.49%

Percent	Percent Total	Directory	Notes
71.915	2.509	third_party/ui/bower_components	Third party
23.048	0.804	third_party/ui/bower_components/angular-material	
18.526	0.646	www	WWW
15.313	0.534	third_party/ui/bower_components/angular-material/modules	
10.732	0.374	third_party/ui/bower_components/angular	
10.576	0.369	third_party/ui/bower_components/angular/angular.js	
9.505	0.332	pkg/ui	UI
9.346	0.326	www/master	
8.49	0.296	www/app	
7.769	0.271	third_party/ui/bower_components/modernizr	
7.7	0.269	third_party/ui/bower_components/lodash	
7.696	0.269	third_party/ui/bower_components/jquery	
7.669	0.268	third_party/ui/bower_components/lodash/dist	
7.52	0.262	pkg/ui/datafile.go	
7.486	0.261	third_party/ui/bower_components/angular-material/modules/closure	
6.79	0.237	third_party/ui/bower_components/angular-material/modules/js	
6.236	0.218	third_party/ui/bower_components/modernizr/test	
5.407	0.189	www/master/shared	
4.852	0.169	www/master/shared/assets	
4.821	0.168	www/app/shared/assets/sampleData1.json	
4.821	0.168	www/master/shared/assets/sampleData1.json	

We can see that Kismatic is working on third_party stuff (71.9%), www (18.5%) and pkg UI (9.5%)

Microsoft contribution analysis 1.12%

Percent	Percent Total	Directory	Notes
52.246	0.586	docs	Documentation
26.545	0.298	pkg	pkg
21.056	0.236	docs/proposals	
19.173	0.215	docs/design	
14.383	0.161	pkg/generated	
14.378	0.161	pkg/generated/bindata.go	
14.139	0.159	translations	Translations
13.778	0.155	translations/kubectl	
11.756	0.132	docs/devel	
5.439	0.061	translations/kubectl/default/LC_MESSAGES/k8s.po	
5.423	0.061	translations/kubectl/en_US/LC_MESSAGES/k8s.po	
4.955	0.056	pkg/cloudprovider	
4.945	0.055	pkg/cloudprovider/providers	
4.67	0.052	pkg/cloudprovider/providers/azure	
4.405	0.049	cluster	Cluster
2.953	0.033	pkg/proxy	
2.86	0.032	pkg/proxy/winuserspace	
2.805	0.031	cluster/azure	
2.693	0.03	translations/kubectl/template.pot	
2.43	0.027	docs/design/architecture.svg	
2.095	0.023	cluster/azure/util.sh	

52% of Microsoft work is documentation, 26.5% pkg, 14.1% translations and 4% cluster.

Special affiliations: Self (means developers who work for kubernetes in their spare time) and (Not Found) - developers with unknown affiliation.

Self contributions analysis (all kubernetes versions), 6.46% of total:

Percent	Percent Total	Directory	Notes
82.283	5.316	third_party	Third party
82.256	5.314	third_party/src	
76.652	4.952	third_party/src/code.google.com/p	
76.6	4.949	third_party/src/code.google.com/p/google-api-go-client	
12.904	0.834	third_party/src/code.google.com/p/google-api-go-client/compute	
6.942	0.449	pkg	pkg
5.465	0.353	third_party/src/code.google.com/p/google-api-go-client/adsense	
4.245	0.274	third_party/src/code.google.com/p/google-api-go-client/youtube	
3.875	0.25	third_party/src/code.google.com/p/google-api-go-client/compute/v1beta16	
3.722	0.24	third_party/src/code.google.com/p/google-api-go-client/compute/v1beta15	
3.477	0.225	third_party/src/code.google.com/p/google-api-go-client/youtube/v3	
3.364	0.217	cluster	Cluster
3.305	0.214	third_party/src/github.com	
3.163	0.204	third_party/src/code.google.com/p/google-api-go-client/dfareporting	
3.147	0.203	third_party/src/code.google.com/p/google-api-go-client/google-api-go-generator	
2.829	0.183	third_party/src/code.google.com/p/google-api-go-client/analytics	
2.808	0.181	cmd	
2.791	0.18	third_party/src/code.google.com/p/google-api-go-client/google-api-go-generator/testdata	
2.639	0.171	third_party/src/code.google.com/p/google-api-go-client/admin	
2.59	0.167	third_party/src/code.google.com/p/google-api-go-client/drive	

2.59	0.167	cmd/kubeadm	
2.586	0.167	cmd/kubeadm/app	
2.576	0.166	third_party/src/code.google.com/p/google-api-go-client/analytics/v3	
2.398	0.155	third_party/src/code.google.com/p/google-api-go-client/storage	

Unaffiliated developers mostly work on third party stuff 82.2%, then pkg 7%, cluster 3.4%, commands 2.8%

Unknown affiliation contributions analysis (all kubernetes versions), 0.031% of total (almost negligible):

Percent	Percent Total	Directory	Notes
69.442	0.022	pkg	pkg
23.852	0.007	pkg/kubelet	
16.292	0.005	pkg/util	
14.221	0.004	pkg/kubelet/dockertools	
14.086	0.004	pkg/kubectl	
13.096	0.004	test	Tests
13.051	0.004	test/e2e/pods.go	
8.731	0.003	pkg/util/backoff_test.go	
8.281	0.003	pkg/kubelet/container	
8.056	0.003	pkg/kubelet/dockertools/manager_test.go	
6.526	0.002	cluster	Cluster
6.166	0.002	pkg/kubectl/rollout_status_test.go	
6.076	0.002	cmd	Commands
5.761	0.002	pkg/controller	
5.626	0.002	pkg/util/backoff.go	
5.446	0.002	cluster/addons	

5.356	0.002	pkg/kubelet/container/image_puller_test.go	
5.131	0.002	pkg/kubelet/dockertools/manager.go	
4.365	0.001	cluster/addons/fluentd-elasticsearch	
4.32	0.001	cmd/cloudcfg/cloudcfg.go	
4.14	0.001	pkg/kubectl/describe.go	
3.825	0.001	docs	Documentation
3.78	0.001	pkg/credentialprovider	

We can even see individual files there because the sum of all lines changed by unknown developers is only 2222 lines. 70% is pkg, 13% tests, 6.5% cluster, 6% commands.

Release v1.6.0:

Top companies are:

Order	Company name	Percent of LoC changed
1	Google	50.1%
2	Red Hat	36.7%
3	Microsoft	4.7%
4	CoreOS	1.28%
5	(Self)	1.27%
16	(Not Found)	0.001%

Google contributions analysis (Kubernetes v1.6.0), 50.1% of total:

Percent	Percent Total	Directory	Notes
50.439	25.249	staging	Staging
50.424	25.241	staging/src/k8s.io	
49.805	24.931	staging/src/k8s.io/client-go	
49.184	24.62	staging/src/k8s.io/client-go/_vendor	
27.631	13.831	staging/src/k8s.io/client-go/_vendor/golang.org/x	

18.772	9.397	staging/src/k8s.io/client-go/_vendor/golang.org/x/sys	
18.763	9.392	staging/src/k8s.io/client-go/_vendor/golang.org/x/sys/ unix	
18.415	9.218	pkg	Packages
18.27	9.145	staging/src/k8s.io/client-go/_vendor/github.com	
13.611	6.813	docs	Documentation
9.603	4.807	docs/man/man1	
9.31	4.66	staging/src/k8s.io/client-go/_vendor/github.com/ugorji /go	
9.306	4.658	staging/src/k8s.io/client-go/_vendor/github.com/ugorji /go/codec	
6.869	3.438	staging/src/k8s.io/client-go/_vendor/github.com/ugorji /go/codec/fast-path.generated.go	
6.551	3.279	pkg/kubelet	
6.399	3.203	staging/src/k8s.io/client-go/_vendor/golang.org/x/text	
5.978	2.993	test	Tests
4.462	2.233	pkg/controller	
3.642	1.823	test/e2e	
2.987	1.495	pkg/kubelet/api	
2.981	1.492	pkg/kubelet/api/v1alpha1	

Google contributes in many areas.

RedHat contributions analysis (Kubernetes v1.6.0), 36.7% of total:

Percent	Percent Total	Directory	Notes
48.059	17.627	pkg	Packages
30.049	11.022	staging	Staging
29.966	10.991	staging/src/k8s.io	
19.892	7.296	staging/src/k8s.io/client-go	

14.905	5.467	pkg/client	
8.24	3.022	api	Kubernetes API
8.232	3.019	staging/src/k8s.io/client-go/_vendor	
7.705	2.826	staging/src/k8s.io/apimachinery	
7.505	2.753	staging/src/k8s.io/apimachinery/pkg	
6.315	2.316	staging/src/k8s.io/client-go/_vendor/k8s.io/apimachinery	
5.979	2.193	staging/src/k8s.io/client-go/_vendor/k8s.io/apimachinery/pkg	
5.467	2.005	staging/src/k8s.io/client-go/pkg	
4.632	1.699	api/openapi-spec/swagger.json	
4.427	1.624	pkg/controller	
4.13	1.515	cmd	Commands
3.993	1.465	pkg/kubectl	
3.634	1.333	pkg/api	
3.608	1.323	api/swagger-spec	
3.513	1.289	pkg/util	
3.402	1.248	plugin	Plugins
3.379	1.239	plugin/pkg	
3.314	1.216	test	Tests

RedHat contributes in many areas.

Microsoft contributions analysis (Kubernetes v1.6.0), 4.7% of total:

Percent	Percent Total	Directory	Notes
77.04	3.622	docs	Documentation
31.285	1.471	docs/proposals	
28.485	1.339	docs/design	

17.252	0.811	docs/devel	
14.093	0.663	pkg	Packages
8.252	0.388	pkg/generated	
8.245	0.388	pkg/generated/bindata.go	
7.994	0.376	translations	Translations
7.502	0.353	translations/kubectl	
3.611	0.17	docs/design/architecture.svg	
3.59	0.169	pkg/proxy	
3.453	0.162	pkg/proxy/winuserspace	
3.014	0.142	translations/kubectl/en_US/LC_MESSAGES/k8s.po	
3.005	0.141	translations/kubectl/default/LC_MESSAGES/k8s.po	
2.509	0.118	docs/devel/api-conventions.md	
1.672	0.079	docs/design/indexed-job.md	
1.47	0.069	docs/devel/local-cluster	
1.36	0.064	docs/devel/api_changes.md	
1.336	0.063	docs/devel/e2e-tests.md	
1.251	0.059	docs/design/podaffinity.md	
1.204	0.057	docs/proposals/federation.md	

Microsoft contributes mainly in documentation 77%, packages 14.1% and translations 8%.

CoreOS contributions analysis (Kubernetes v1.6.0), 1.28% of total:

Percent	Percent Total	Directory	Notes
48.009	0.612	cluster	Cluster
38.366	0.489	cluster/gce	
37.475	0.478	cluster/gce/coreos	
18.861	0.24	third_party/forked/etcd237	etcd

16.147	0.206	test	Tests
15.729	0.201	test/test_owners.csv	
11.713	0.149	third_party/forked/etcd237/wal	
10.342	0.132	cluster/gce/coreos/kube-manifests	
10.136	0.129	cluster/gce/coreos/configure-helper.sh	
9.067	0.116	cluster/mesos/docker	
8.855	0.113	plugin	Plugins
8.361	0.107	plugin/pkg	
7.765	0.099	cluster/gce/coreos/kube-manifests/addons	
7.141	0.091	third_party/forked/etcd237/pkg/fileutil	
6.991	0.089	pkg	Packages
4.537	0.058	pkg/kubelet	
4.352	0.055	plugin/pkg/client/auth/oidc	
3.954	0.05	cluster/gce/coreos/kube-manifests/addons/cluster-monitoring	
3.913	0.05	third_party/forked/etcd237/wal/wal.go	

CoreOS contributes in many areas, including Cluster, etcd, tests, plugins.

Special affiliations:

Self - developers working on their own.

Not Found - developers with unknown affiliations.

Self contributions analysis (Kubernetes v1.6.0), 1.27% of total:

Percent	Percent Total	Directory	Notes
75.452	0.96	cmd	Commands
71.001	0.903	cmd/kubeadm	
70.891	0.902	cmd/kubeadm/app	
22.522	0.287	cmd/kubeadm/app/phases	
16.464	0.209	cmd/kubeadm/app/master	

15.317	0.195	pkg	Packages
10.378	0.132	cmd/kubeadm/app/cmd	
9.321	0.119	cmd/kubeadm/app/phases/certs	
6.024	0.077	cmd/kubeadm/app/util	
5.79	0.074	pkg/cloudprovider/providers	
5.577	0.071	pkg/cloudprovider/providers/aws	
4.815	0.061	cmd/kubeadm/app/discovery	
4.616	0.059	cmd/kubeadm/app/phases/addons	
4.293	0.055	cmd/kubeadm/app/node	
4.265	0.054	cmd/kube-discovery	
4.101	0.052	cmd/kubeadm/app/phases/kubeconfig	
3.702	0.047	cmd/kubeadm/app/apis/kubeadm	
3.668	0.047	cmd/kube-discovery/app	
3.077	0.039	cmd/kubeadm/app/master/addons.go	
3.057	0.039	cmd/kubeadm/app/phases/kubeconfig/kubeconfig.go	
2.988	0.038	build	
2.802	0.036	build/build-image	
2.789	0.035	build/build-image/cross	

The main work area is kubeadm command 71%.

There are only 14 LoC changed by unknown developers (0.001%).

Release v1.7.0:

Top companies are:

Order	Company name	Percent of LoC changed
1	Google	56.4%
2	Red Hat	19.3%
3	VMware	5.1%

4	Microsoft	3.6%
6	(Self)	1.4%
16	(Not Found)	0.023%

Google contributions analysis (Kubernetes v1.7.0), 56.4% of total:

Percent	Percent Total	Directory	Notes
34.792	19.628	docs	Documentation
30.307	17.097	pkg	Packages
25.248	14.243	docs/man/man1	
12.353	6.969	staging	Staging
12.34	6.961	staging/src/k8s.io	
8.957	5.053	pkg/kubelet	Kubelet
5.619	3.17	api	API
5.083	2.868	test	Tests
5.071	2.861	staging/src/k8s.io/client-go	
4.902	2.765	docs/user-guide/kubectl	
4.23	2.386	pkg/controller	Controller
4.173	2.354	api/openapi-spec/swagger.json	
4.101	2.314	docs/yaml/kubectl	
3.937	2.221	pkg/cloudprovider	
3.927	2.215	pkg/cloudprovider/providers	
3.769	2.126	pkg/cloudprovider/providers/gce	
3.475	1.961	pkg/api	
3.423	1.931	staging/src/k8s.io/apimachinery	
3.394	1.915	staging/src/k8s.io/apimachinery/pkg	

3.261	1.84	pkg/kubelet/dockertools	
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Google contributes in many areas.

RedHat contributions analysis (Kubernetes v1.7.0), 19.3% of total:

Percent	Percent Total	Directory	Notes
35.342	6.825	staging	Staging
35.313	6.82	staging/src/k8s.io	
23.18	4.477	pkg	Packages
16.512	3.189	api	API
13.01	2.513	api/swagger-spec	
12.458	2.406	staging/src/k8s.io/apiserver	
12.342	2.384	staging/src/k8s.io/kube-apiextensions-server	
12.232	2.362	staging/src/k8s.io/apiserver/pkg	
11.239	2.17	test	Tests
10.708	2.068	staging/src/k8s.io/kube-apiextensions-server/pkg	
6.286	1.214	test/e2e	
5.203	1.005	plugin	Plugins
5.17	0.998	plugin/pkg	
4.983	0.962	staging/src/k8s.io/apiserver/pkg/endpoints	
4.953	0.957	api/swagger-spec/batch_v2alpha1.json	
4.91	0.948	staging/src/k8s.io/kube-apiextensions-server/pkg/client	
4.21	0.813	federation	
4.131	0.798	pkg/kubectl	
3.816	0.737	staging/src/k8s.io/kube-aggregator	
3.796	0.733	staging/src/k8s.io/kube-aggregator/pkg	
3.75	0.724	staging/src/k8s.io/apiserver/pkg/server	

3.678	0.71	staging/src/k8s.io/client-go	
3.455	0.667	api/openapi-spec/swagger.json	

RedHat contributes in many areas.

VMware contributions analysis (Kubernetes v1.7.0), 5.1% of total:

Percent	Percent Total	Directory	Notes
90.666	4.63	pkg	Packages
82.378	4.206	pkg/generated/bindata.go	
7.323	0.374	pkg/cloudprovider/providers/vsphere	
6.589	0.336	test/e2e	Tests
5.701	0.291	pkg/cloudprovider/providers/vsphere/vsphere.go	
2.267	0.116	test/e2e/storage	
1.784	0.091	examples	Examples
1.776	0.091	examples/volumes/vsphere	
1.407	0.072	examples/volumes/vsphere/README.md	
1.375	0.07	test/e2e/storage/vsphere_volume_vsan_policy.go	
1.192	0.061	test/e2e/vsphere_volume_placement.go	
1.16	0.059	test/e2e/vsphere_volume_ops_storm.go	
1.046	0.053	test/e2e/vsphere_volume_fstype.go	

VMware contributes mainly in Packages 91% and tests 6.6%

Microsoft contributions analysis (Kubernetes v1.7.0), 3.6% of total:

Percent	Percent Total	Directory	Notes
55.493	2.004	pkg	Packages
40.476	1.462	pkg/generated/bindata.go	
40.155	1.45	translations	Translations
40.023	1.445	translations/kubectl	

15.665	0.566	translations/kubectl/default/LC_MESSAGES/k8s.po	
15.562	0.562	translations/kubectl/en_US/LC_MESSAGES/k8s.po	
8.796	0.318	translations/kubectl/template.pot	
7.276	0.263	pkg/cloudprovider/providers/azure	
3.44	0.124	staging/src/k8s.io/client-go	
3.337	0.121	pkg/kubelet	Kubelet
3.24	0.117	staging/src/k8s.io/client-go/plugin/pkg/client/auth	
3.228	0.117	staging/src/k8s.io/client-go/plugin/pkg/client/auth/azure	

Microsoft contributes in packages 55% and translations 40.2%.

Special affiliations:

Self - developers working on their own.

Not Found - developers with unknown affiliations.

Self contributions analysis (Kubernetes v1.7.0), 1.4% of total:

Percent	Percent Total	Directory	Notes
43.458	0.601	pkg	Packages
26.243	0.363	cluster	Cluster
16.931	0.234	cluster/juju/layers	
16.886	0.234	pkg/cloudprovider	
16.841	0.233	pkg/cloudprovider/providers/aws	
15.464	0.214	staging/src/k8s.io	Staging
10.853	0.15	cluster/juju/layers/kubernetes-master	
8.683	0.12	cluster/images	
8.653	0.12	cluster/images/hyperkube	
7.769	0.107	pkg/controller	Controller
7.695	0.106	staging/src/k8s.io/apiserver	
7.59	0.105	staging/src/k8s.io/apiserver/pkg	

7.365	0.102	staging/src/k8s.io/kube-apiextensions-server	
7.246	0.1	cmd	
6.991	0.097	staging/src/k8s.io/kube-apiextensions-server/test/integration	
6.317	0.087	pkg/controller/volume	
6.287	0.087	pkg/controller/volume/attachdetach	
6.183	0.086	staging/src/k8s.io/kube-apiextensions-server/test/integration/basic_test.go	
6.093	0.084	pkg/kubelet	Kubelet
6.078	0.084	cluster/juju/layers/kubernetes-worker	

Self contributes in many areas.

Unknown developers contributions analysis (Kubernetes v1.7.0), 0.023% of total:

Percent	Percent Total	Directory	Notes
42.727	0.01	pkg	Packages
39.091	0.009	pkg/controller	Controller
35.455	0.008	cmd/kube-controller-manager/app	
33.636	0.008	cmd/kube-controller-manager/app/options/options.go	
22.727	0.005	pkg/controller/podautoscaler	
16.364	0.004	cluster/addons/registry	Cluster
15.455	0.004	pkg/controller/podautoscaler/horizontal.go	
12.727	0.003	pkg/controller/garbagecollector/graph_builder.go	
11.818	0.003	cluster/addons/registry/README.md	
3.636	0.001	pkg/controller/volume/persistentvolume/pv_controller.go	
3.636	0.001	pkg/apis/componentconfig	
3.636	0.001	pkg/controller/volume/persistentvolume	
3.636	0.001	staging/src	Staging

3.636	0.001	pkg/apis/componentconfig/types.go	
3.636	0.001	staging/src/k8s.io	
3.636	0.001	pkg/apis	
3.636	0.001	staging	
3.636	0.001	pkg/controller/podautoscaler/horizontal_test.go	

Main contribution is controller 39% and cluster 16.4%.

Here some stats from alternative tool Facade (run on all 68 Kubernetes repos inside docker container): <https://github.com/lukaszgryglicki/facade>

Available here: <http://85.222.70.18:8888>

Facade does not support excluding robots (so its data differs from data presented above - generated by cncf/gitdm):

**You are currently tracking 162,488,753 lines of code, committed by 3,218 developers,
from 1,005 known organizations, working in 71 repos, on 1 project
over 3 years, 6 months, and 9 days.**

Metric

[Lines added](#) [Lines removed](#) [Whitespace changes](#) [Patches](#) [Unique contributors](#)

Contributor summary

Lines of code added by the top 5 authors, by affiliation

	2014	2015	2016	2017	Total
Red Hat	51,030	580,791	26,460,159	20,852,713	47,944,693
Google	316,299	3,086,956	23,648,908	20,891,424	47,943,587
FathomDB	223	26,440	11,618,655	2,964,517	14,609,835
CoreOS	872	128,336	9,092,525	2,674,268	11,896,001
Self	2,383	12,515	4,714,379	2,208,537	6,937,814

[View all](#)

Metric

[Lines added](#) [Lines removed](#) [Whitespace changes](#) [Patches](#) [Unique contributors](#)

Contributor summary

Lines of code removed by the top 5 authors, by affiliation

	2014	2015	2016	2017	Total
Red Hat	23,816	723,992	16,972,230	20,487,373	38,207,411
Google	71,113	1,224,008	14,498,021	14,642,441	30,435,583
FathomDB	174	4,679	2,569,267	2,054,066	4,628,186
CoreOS	593	113,196	3,765,185	1,898,237	5,777,211
Self	379,510	6,166	4,076,089	532,326	4,994,091

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Metric

[Lines added](#) [Lines removed](#) [Whitespace changes](#) [Patches](#) [Unique contributors](#)

Contributor summary

Whitespace changes by the top 5 authors, by affiliation

	2014	2015	2016	2017	Total
Red Hat	6,314	62,813	2,168,819	1,793,974	4,031,920
Google	45,769	271,194	2,050,419	1,800,444	4,167,826
FathomDB	43	5,063	1,000,197	244,088	1,249,391
CoreOS	104	16,173	696,923	241,533	954,733
Self	168	1,957	294,976	143,728	440,829

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Metric

[Lines added](#) [Lines removed](#) [Whitespace changes](#) [Patches](#) [Unique contributors](#)

Contributor summary

Patched landed by the top 5 authors, by affiliation

	2014	2015	2016	2017	Total
Red Hat	678	3,270	4,536	4,050	12,534
Google	2,720	13,325	17,224	9,207	42,476
FathomDB	9	343	1,509	797	2,658
CoreOS	13	267	1,116	608	2,004
Self	12	202	804	978	1,996

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Metric

[Lines added](#) [Lines removed](#) [Whitespace changes](#) [Patches](#) [Unique contributors](#)

Contributor summary

Unique author emails, by affiliation

	2014	2015	2016	2017	Total
Red Hat	28	84	124	123	201
Google	62	124	188	187	338
FathomDB	1	1	1	1	1
CoreOS	5	20	48	43	74
Self	5	18	53	55	101

[View all](#)

Top unknown authors

Domains with (*Unknown*) affiliation

Domain	Lines of code added
hotmail.com	270,899
arkena.com	27,112
gmail.com	15,696
outlook.com	4,928
users.noreply.github.com	2,428
live.com	2,004
infosleuth.net	1,519
ENG001585.local	1,418
transposit.com	1,343
kutsevol.com	1,090
prisplace.org	1,002
blackwoodseven.com	969
b-rad.info	638
sky.uk	473
morea.fr	408
yandex.com	323
autodata.net	249
madeden.com	153
areed.io	133
flashics.com	122

Emails with (*Unknown*) affiliation

Email	Lines of code added
creazy_stone@hotmail.com	270,833
smaine.kahlouch@arkena.com	27,112
tamertas@outlook.com	4,905
rickyp999+github@gmail.com	2,262
jeffmendoza@live.com	1,594
amy@infosleuth.net	1,519
Hardock@ENG001585.local	1,418
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james.ravn@sky.uk	471