- v1.14.10
  - Downloads for v1.14.10
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.9
    - \* Other notable changes
- v1.14.9
  - Downloads for v1.14.9
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.8
    - \* Other notable changes
- v1.14.8
  - Downloads for v1.14.8
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.7
    - \* Other notable changes
- v1.14.7
  - Downloads for v1.14.7
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Known Issues
  - Changelog since v1.14.6
    - \* Other notable changes
- v1.14.6
  - Downloads for v1.14.6
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.5
    - \* Other notable changes
- v1.14.5
  - Downloads for v1.14.5
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.4
- v1.14.4
  - Downloads for v1.14.4
    - \* Client Binaries
    - \* Server Binaries

- \* Node Binaries
- Changelog since v1.14.3
  - \* Other notable changes
- v1.14.3
  - Downloads for v1.14.3
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.2
    - \* Other notable changes
- v1.14.2
  - Downloads for v1.14.2
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.1
    - \* Other notable changes
- v1.14.1
  - Downloads for v1.14.1
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.0
    - \* Other notable changes
- v1.14.0
  - Downloads for v1.14.0
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
- Kubernetes v1.14 Release Notes
  - 1.14 What's New
  - Known Issues
  - Urgent Upgrade Notes
    - \* (No, really, you MUST read this before you upgrade)
  - Deprecations
  - Removed and deprecated metrics
    - \* Removed metrics
    - \* Deprecated metrics
  - Notable Features
  - API Changes
  - Detailed Bug Fixes And Changes
    - \* API Machinery
    - \* Apps
    - \* Auth
    - \* AWS
    - \* Azure

- \* CLI
- \* Cloud Provider
- \* Cluster Lifecycle
- \* GCP
- \* Network
- \* Node
- \* Scheduling
- \* Storage
- \* Testing
- \* VMware
- \* Windows
- External Dependencies
- v1.14.0-rc.1
  - Downloads for v1.14.0-rc.1
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.0-beta.2
    - \* Action Required
    - \* Other notable changes
- $\bullet$  v1.14.0-beta.2
  - Downloads for v1.14.0-beta.2
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.0-beta.1
    - \* Action Required
    - \* Other notable changes
- v1.14.0-beta.1
  - Downloads for v1.14.0-beta.1
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.0-alpha.3
    - \* Action Required
    - \* Other notable changes
- v1.14.0-alpha.3
  - Downloads for v1.14.0-alpha.3
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.14.0-alpha.2
    - \* Action Required
    - \* Other notable changes
- v1.14.0-alpha.2
  - Downloads for v1.14.0-alpha.2

- \* Client Binaries
- \* Server Binaries
- \* Node Binaries
- Changelog since v1.14.0-alpha.1
  - $*\ Action\ Required$
  - \* Other notable changes
- $\bullet$  v1.14.0-alpha.1
  - Downloads for v1.14.0-alpha.1
    - \* Client Binaries
    - \* Server Binaries
    - \* Node Binaries
  - Changelog since v1.13.0
    - \* Action Required
    - \* Other notable changes

Documentation

# Downloads for v1.14.10

filename	sha512 hash
kubernetes.tar.gz	b2b73d186769461236f94b7d1faa5d5806534bae5d9404f223f3e6aeaf1bc7a
kubernetes-src.tar.gz	93f716ecbb29a5510eac8c6d075b842fc79cd02d979dd27a73c900659448541

filename	sha512 hash
kubernetes-client-darwin-	baeb3f08d027766a1282a55fb5490e8c91b484d17952eb7a99623bdcb5a7b0
386.tar.gz	
kubernetes-client-darwin-	b6d3bd9589edf7282d3c6157fa271cdfdaca393470d7da0acecd8798884bca
amd64.tar.gz	
kubernetes-client-linux-	9dc28d1a7e9ec20170d8980dc9da5c14fbce211b9117c248c92c64b9f0e954
386. tar. gz	
kubernetes-client-linux-	b60f3834a53642ca35c412c0aee0fb30a485005c2280d93bcb01added6012a
amd64.tar.gz	
kubernetes-client-linux-	af29757e2dd82b031219ad3ea1c48a9e7bb03c15bd97d44dad93d0b30eb74d
arm.tar.gz	
kubernetes-client-linux-	63ba22e2b2d37da43250398f15f3a61b94d0cef72947ddca8c81a7ee74d67e
arm64.tar.gz	
kubernetes-client-linux-	c6ba8cf78bb2c2f1610d2585c297d4fbac345eb0c34407d63ef7eca9c1ca21c
ppc64le.tar.gz	

filename	sha512 hash
kubernetes-client-linux- s390x.tar.gz	671b88174e5c551da3e272381300cf23d512af2c8c52fae710f57ed1d8fa9b1
kubernetes-client-windows- 386.tar.gz	8c70038716716e289aa05deda4e2cb723d82b0d9537e7dcebcd76bd40850ebb
kubernetes-client-windows- amd64.tar.gz	5cbe78764a3bd6e7c1ab8654027d73754fbcd5728819a65133b4fa355757ed

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	b66b3c1e34f56891c58d0ac4097f4c83be7422ef7201fde015cffcd1ec214e
kubernetes-server-linux- arm.tar.gz	3e67d2013afe3a60d4e7df8363e887d79271ec59b5a19f0c32721e1bedd9da
kubernetes-server-linux- arm64.tar.gz	c3491e360340816f475f1b44165b81d4f531ce02a9b89cef286e03875c6bb6
kubernetes-server-linux- ppc64le.tar.gz	70d831d7718340ff303afcdef7afbe09e832b7780e03985e6480fd74754661
kubernetes-server-linux- s390x.tar.gz	86696bc9912616d645e0fa3facb3e9d0123a271657b2bc5a4802eb7e8a9e43

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	3f509a406e2c1c889ad447d37f9f34043d61f7e60f14dad2c6a949802833816
kubernetes-node-linux- arm.tar.gz	d1196bfb3584d6bdd9e30907af7f3536c420eebea1d2db9b9506eba53668d4c
kubernetes-node-linux- arm64.tar.gz	954dd6b23c2ff14e6bc5003039093c80f48315e89eb73e9cff0fca13ff66be
kubernetes-node-linux- ppc64le.tar.gz	a1c491707b4974acfaad6d04767dffb04800181aa1205a91019f56188714692
kubernetes-node-linux- s390x.tar.gz	d70599ca75b6024bfd8514801873fd4262cf5c7d6e4524217180854945d82f0
kubernetes-node-windows- amd64.tar.gz	3f8bfc75734c19cc52e6e46bb843cfb429cba61cd7bfa8eab8273d39aa7b13

# Changelog since v1.14.9

# Other notable changes

- azure: update disk lock logic per vm during attach/detach to allow concurrent updates for different nodes. (#85115, @aramase)
- fix vmss dirty cache issue in disk attach/detach on vmss node (#85158, @andyzhangx)
- fix race condition when attach/delete azure disk in same time (#84917, @andyzhangx)
- fix azure load balancer update dns label issue (#85329, @nilo19)
- • Ensure health probes are created for local traffic policy UDP services on Azure (#85328, @nilo19)

# v1.14.9

Documentation

# Downloads for v1.14.9

filename	sha512 hash
kubernetes.tar.gz	bc2de7897543f2c78b5a6ff0cddf60de7dafdb5586e3353b8105cb0ce5324c
kubernetes-src.tar.gz	e869da8eb3c9e6929e8c10f3aa8cf0ea63279935967a88cbe42d643427d43c

filename	sha512 hash	
kubernetes-client-darwin-	cf78d75ffe2e5d618bc707b5d06d243336f4d04c51d6dcca01e37c9b85dec	cf
386.tar.gz		
kubernetes-client-darwin- amd64.tar.gz	bc974988da19fbc5a518059486d1e0d9acd83f1a680ed227814a6f0a22ec2	2f
kubernetes-client-linux- 386.tar.gz	ddf0184d9897bf5ea7aec45af78fd0fedd96fa3cbfcff140efd53215883d8	3e
kubernetes-client-linux- amd64.tar.gz	f7931bc403584f009ba68d7bfdb145d0d097306da06acf192aef0608446b5	5b
kubernetes-client-linux- arm.tar.gz	f9872a45b9b4c96e24e6c3922a45f8fd13f9d1fac7b69a644489836b82326	52
kubernetes-client-linux- arm64.tar.gz	631bedb727aaea5df486e63252ba2fbc90b74af5465631ca6fb77180af2ab	b9
kubernetes-client-linux- ppc64le.tar.gz	e99c2810b36457a1061ba6cd703ce54407a2cd17ca53c0b413d8553ffdad4	19
kubernetes-client-linux- s390x.tar.gz	1182cafc35632dfb651be66f8b4b630b1cca0642cc464236c3bca5d3b0bdc	8£

filename	sha512 hash
kubernetes-client-windows- 386.tar.gz	01e69a9a7f8d4aa005ebef770eb4bacf199d4d55d650be5669afb66502d49c
kubernetes-client-windows-amd64.tar.gz	4387511eaa8229ff4ea08e183a46dc4670d64da576c25bf776bd22db738e7ad

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	2e3905868e8f7cfc4b1e5a7ab49711c2c6c929f0f750bf6d932ada023b87ca
kubernetes-server-linux- arm.tar.gz	9d699ca53692d4316ea3b72fbcf4c0c6e00956879a0d5e396219fe600f371b
kubernetes-server-linux- arm64.tar.gz	4ab4e5e18ca21f79540ff538ea4ae6dd65b6af76c5c3f1ed34662357ff3321
kubernetes-server-linux- ppc64le.tar.gz	7b72f6de77936f3a44e060d0fc0e45604bc1614cf78eecb56ddfb8b5687305
kubernetes-server-linux- s390x.tar.gz	76cb6e81b1c14cb650084c133ec62b5298f8d95988160ad1402d8169490a78

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	b2600ef317d10cc56e7dc965b249d29c2a458eecb3207b06fd134c9e2a6f3a
kubernetes-node-linux- arm.tar.gz	ecd617226b5b30b5bdebf7d9e7729371d25d36fabe672b2354a3ad7b9fdb04
kubernetes-node-linux- arm64.tar.gz	d4c5553dacab15c378d1e744342321943d6f8e66891ea199c00e4129219c11
kubernetes-node-linux- ppc64le.tar.gz	bee9f3c240267fef015fd472cbe2e837204b484e9756cd7073257aebf07ece
kubernetes-node-linux- s390x.tar.gz	79156467ebeed81211bb62e6becf378b07ec91bfe3ee36ec9d623b95b271ca
kubernetes-node-windows- amd64.tar.gz	9d31f669c5dc04647fe44e546a96dc4f1d0e5df66ae44ea6be14d664b16ee3

# Changelog since v1.14.8

# Other notable changes

 Fix kubelet metrics gathering on non-English Windows hosts (#84156, @wawa0210)

- kube-apiserver: Fixed a regression accepting patch requests > 1MB (#84963, @liggitt)
- kube-apiserver: fixed a bug that could cause a goroutine leak if the apiserver encountered an encoding error serving a watch to a websocket watcher (#84693, @tedyu)
- azure: Add allow unsafe read from cache (#83685, @aramase)
- Adds a metric apiserver\_request\_error\_total to kube-apiserver. This metric tallies the number of request\_errors encountered by verb, group, version, resource, subresource, scope, component, and code. (#84780, @RainbowMango)
- fix: make azure disk URI as case insensitive (#79020, @andyzhangx)
- Fixed binding of block PersistentVolumes / PersistentVolumeClaims when BlockVolume feature is off. (#84049, @jsafrane)
- Fixed an issue with informers missing an Added event if a recently deleted object was immediately recreated at the same time the informer dropped a watch and relisted. (#83911, @matte21)
- CSI detach timeout increased from 10 seconds to 2 minutes (#84321, @cduchesne)
- Update to use go1.12.12 (#84064, @cblecker)
- Fix handling tombstones in pod-disruption-budged controller. (#83951, @zouyee)

Documentation

### Downloads for v1.14.8

filename	sha512 hash
kubernetes.tar.gz	1aeaa04a0dfb3656204589fb503a0da98d085514ef82d1da930cf093fb17a06
kubernetes-src.tar.gz	1946bb8035d3cf6b40b6e58a8d886cb0fbd023e656af5a1c68047cc2eb3c28

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	429099a2fface3c82650ec76b2b422d39f18b4efbfd209431a3f60d218f3c18
kubernetes-client-darwin- amd64.tar.gz	e51446c4557eebe65f9c36bd19bc23b72fc90c7a5e3bf3fb070d63ddc518ee8
kubernetes-client-linux- 386.tar.gz	6efe1d19c0c3998c0af559f33468bccc026b7e98d4efda1566b1e8adb9a4bb3
kubernetes-client-linux- amd64.tar.gz	fe1d0816e843c228fdb9da659d61b217f2af9c05a4206bd091b935791422563

filename	sha512 hash
kubernetes-client-linux- arm.tar.gz	cef8f09eb298569582c4861ef9bace4dc9ff3302bae798756f01d42bfb1e93
kubernetes-client-linux- arm64.tar.gz	47c64414d87e68382652db2e5292fda0a86fdda6b9e3abab61f8647d07005c
kubernetes-client-linux- ppc64le.tar.gz	0c4c026912b4ecd27c7ee9c995cc16b688c59cabd01f4702adbb6cceecf12f
kubernetes-client-linux- s390x.tar.gz	9c7aac67511ec12b9176e9067c1d713605bf65f91c5adbf40b82f6e3598fb0
kubernetes-client-windows-386.tar.gz	579c0276d3755a6cad3806fc2c5fce80d19dcbc3301a6dd5a2bf3853265444
kubernetes-client-windows- amd64.tar.gz	7a7a7f4d3543d922c9526b601293f486973137c748e668f048329a375943b2

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	9fbdf873ff96bb47172157022182219ecce92131f1cea8f470340f5237532d8
kubernetes-server-linux- arm.tar.gz	7e0fb35a4322ca960b20feab1e9265daff3823bb83245753fa4ff763b55d5a2
kubernetes-server-linux- arm64.tar.gz	d5f48ee89bb0cd4151c636c8f6f777c49af31bfe5aca6ee62ad1327bbcff543
kubernetes-server-linux- ppc64le.tar.gz	1c2f57ae61e3facb8ec5e9cb47f36173df49870c6c51d08a6eef414c5568cd
kubernetes-server-linux- s390x.tar.gz	4eb8b48ceca578eb88446391858911c229f04bb8948930b521b40406ccc1912

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	05d32dde64178f71e4f95bd0354d25536b298a017c968803c1a9c7e34a591b
kubernetes-node-linux- arm.tar.gz	ce80d5df529a08dc03c27e53f9dcd79a36159e2e9f1a44d475b8151b55e3f9
kubernetes-node-linux- arm64.tar.gz	8905f2fc110439bf992239e09d0dca7cbba918ef2652ab9a1e511361ba3770
kubernetes-node-linux- ppc64le.tar.gz	ccf0dd819fdba4c8e3a32e16fb2d26088b8bce84946a885b5ff2ce56c4704d
kubernetes-node-linux- s390x.tar.gz	c157679a832d0f76bde570d243bc9ddaf21663808a12f6ab4a3477118dea63

filename	sha512 hash
kubernetes-node-windows- amd64.tar.gz	7c87c34736ead06b1823ce004edf27a24773d873d6dff594a587621f3480ff

# Changelog since v1.14.7

#### Other notable changes

- Fixes an issue in the AWS cloudprovider, where ELBs fail to register instances (#82954, @M00nF1sh)
- Fixes a goroutine leak in kube-apiserver when a request times out. (#83333, @lavalamp)
- Fix aggressive VM calls for Azure VMSS (#83102, @feiskyer)
- Fixes a flaw (CVE-2019-11253) in json/yaml decoding where large or malformed documents could consume excessive server resources. Request bodies for normal API requests (create/delete/update/patch operations of regular resources) are now limited to 3MB. (#83261, @liggitt)
- Resolves bottleneck in internal API server communication that can cause increased goroutines and degrade API Server performance (#80465, @answer1991)
- Update to go 1.12.10 (#83139, @cblecker)
- fix: azure disk detach failure if node not exists (#82640, @andyzhangx)

# v1.14.7

Documentation

### Downloads for v1.14.7

filename	sha512 hash
kubernetes.tar.gz	c7ef389927f050fd365a5c4d31a6e4a0b0c8c910cec0a36547ed42338da9c1
kubernetes-src.tar.gz	4d0f790d2b3dddb961874ec89a9de5547682662ea35f4d7c1fcf774548fb23

filename	sha512 hash
kubernetes-client-darwin-	ffc9a90f252bdfe40562c63c2a607e832f883fb734731f22bcc436a7bcb6c58
386.tar.gz	
kubernetes-client-darwin-	04278365c8b3e75b3515ab8982756b613ff79ac76aaf06cfc684d801f00db74
amd64.tar.gz	
kubernetes-client-linux-	12c63a07b0dfc73fa2d08016987baf844ff86076f0abb184b813463479c7ce4
386.tar.gz	

filename	sha512 hash
kubernetes-client-linux- amd64.tar.gz	6d84db16061dd8d3e3eb49c94d2559d0c7cb4896f0ca3003259c733da4fd2dc
kubernetes-client-linux- arm.tar.gz	7c5245c50d4b20d90a5e9726fd0dc6160644310008960476b04a998b8c557f
kubernetes-client-linux- arm64.tar.gz	68fc7335e6f0bc9a3c9f8b70da136d568606e8479d0568d928e04159164e15
kubernetes-client-linux- ppc64le.tar.gz	3347649520483c6a176d3d07ade878cc1949dce7d522b3c0b39822f93b8e1ad
kubernetes-client-linux- s390x.tar.gz	a5dcf9fdf24aaa61c7224fab38018cf3f893a15337cab4dcad0b394bbb1e6a3
kubernetes-client-windows-386.tar.gz	d2ca52057ba30fb579ab9843abe68f98c15b6fb7bfcdc83e587108e814bca38
kubernetes-client-windows- amd64.tar.gz	542e1dddb45a242730e103179637f1a9db8c79ec7e5bf37695e5e09e2ee8bb4

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	108b4fa348c2504d066c15d9bdc3d418780858fca21ce8cb561c30f318b9be
kubernetes-server-linux- arm.tar.gz	c19e1af460d52d2220531dbf899973d9388c22deebf636dbfcb99425f2ac286
kubernetes-server-linux- arm64.tar.gz	f2deeeb924a8202d21479db7a4812ce052da9cc5bde9ca40000c4d1a26b4587
kubernetes-server-linux- ppc64le.tar.gz	a548c9114f3e9cde8f07892e0c39843e5fad0f81a8b722a8c61b345d651d8fd
kubernetes-server-linux- s390x.tar.gz	d905534835fb61856ad5257cf9e9a2353720e8826291d03f036405acf80c769

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	d34df64b7593ee4fe01e85350968caf31bb6f0e8726af8966a978ea8f1b8436
kubernetes-node-linux- arm.tar.gz	d2e570dcedcb36104272616b506802857bea96aef15f1b39425361965ecf3f6
kubernetes-node-linux- arm64.tar.gz	092aa8bdd4741eaf80aa7370d0e214779b984713a02467cb7d107201bbdf046
kubernetes-node-linux- ppc64le.tar.gz	89b6c5b9db9a0bd48b33daaf526a6367584b65013a181c8d500641d88d1c4d2

filename	sha512 hash
kubernetes-node-linux-	bca2c439588fccb4f10f6bb5f2f06bdb9606ed9baf3101cd792b8b826c66890
s390x.tar.gz kubernetes-node-windows- amd64.tar.gz	e67828b5998342f8095f102e9c91e6ad5c59dbae3566c5acc4a83bb042b3ddl

#### **Known Issues**

• There is a known issue #82923 in the AWS cloudprovider, where ELBs fail to register instances. The fix has been merged #82954 and will be included in v1.14.8.

# Changelog since v1.14.6

### Other notable changes

- When the number of jobs exceeds 500, cronjob should schedule without error. (#77475, @liucimin)
- Fix a bug in a piserver that could cause a valid update request to be rejected with a precondition check failure. (#82303, @roycaihw)
- kubectl cp now safely allows unpacking of symlinks that may point outside the destination directory (#82384, @tallclair)
- Limit use of tags when calling EC2 API to prevent API throttling for very large clusters (#76749, @mcrute)
- fix azure disk naming matching issue due to case sensitive comparison (#81720, @andyzhangx)
- Fix kubectl logs -f for windows server containers. (#81747, @Random-Liu)
- Fix VMSS LoadBalancer backend pools so that the network won't be broken when instances are upgraded to latest model (#81411, @nilo19)
- fix: detach azure disk issue using dangling error (#81266, @andyzhangx)
- remove iSCSI volume storage cleartext secrets in logs (#81215, @zouyee)
- Fix a bug in server printer that could cause kube-apiserver to panic. (#79349, @roycaihw)
- Fix a bug in the IPVS proxier where virtual servers are not cleaned up even though the corresponding Service object was deleted. (#80942, @gongguan)

## v1.14.6

Documentation

## Downloads for v1.14.6

filename	sha512 hash
kubernetes.tar.gz	efa84e3a0704ba093bd1d55f82510a5cb48aaf7b31068e3d14782739692efe6
kubernetes-src.tar.gz	24bde69a7b503b23a0ce168688f6cf0227ac515ae7e0edb9faef346805c36b

# Client Binaries

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	587f7c1a0555b3b9bc91d2f392d2bbe7342c3f1a9502eb109667e4cc06888f
kubernetes-client-darwin- amd64.tar.gz	afed84639adb98fed7087a238415dbbbb6643ab7403ecea11a08ea8b230312
kubernetes-client-linux- 386.tar.gz	a5769eaf1dc8ea87c9e74f9992ba1d8772a56e839da6c8dac77a2e90f0bc7d
kubernetes-client-linux- amd64.tar.gz	59624a0d591ba210f8db5bfa1ce7e0e5b3f5c2774fea356f7e459db5d245a1
kubernetes-client-linux- arm.tar.gz	d94de8e20c2ef224a8ec706ea65e321c83aefd4e7b64e99df1ac9bba0f8bc7
kubernetes-client-linux- arm64.tar.gz	8668c27593c10578fee89f609e0eb61ab3b092853ab4fcad83eff081aed405
kubernetes-client-linux- ppc64le.tar.gz	dfa9c32dfa60093e2d9442ab036be7ff48a48c0305f88c4b4b958153473e18
kubernetes-client-linux- s390x.tar.gz	5d3d15f8aacfa61c94b7d2bf3b13855c0fc71441fd20e3cb43f8f9dc119256
kubernetes-client-windows- 386.tar.gz	1f6101dffa7de2345154e85bf78d87e85af4db23d3773182dbab2d382676e5
kubernetes-client-windows-amd64.tar.gz	db9afa90d12cbc99b7b1d9c4c01744da06d11ac7c4c3eeef5033e895757a83

# Server Binaries

sha512 hash
8015cc64f10d25a0fa7890252084c1d256818f161e7dab8fe9a44cf9b74b0b2
476d99a3c05a81480f7e4f197b113f3b1294921686a45184ab5342fcab796b6
524b65e0d41f72783aea50e01e6ccdca86467f867d7d51e934bce208229058
479b4017695c6aa245ba87a8828ad83e7dce92b73590b991af1427077eaab9
5fa9d87803e2ddb488ff8fbf06df8d78d5c39d7c97d3d690ea33a7a0a5000b
_

#### **Node Binaries**

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	7987d3cea7a985aae0211cf03257501eba2218f0038152a4da2ee623f00feb
kubernetes-node-linux- arm.tar.gz	907c019335e531e0316d3538e1f0ff0f827e6eb83d46cee5a64270b9826f7e
kubernetes-node-linux- arm64.tar.gz	3b1470381c806ed29482669cc36bfdec425e9f8f88211b75fa48dde4a29ef6
kubernetes-node-linux- ppc64le.tar.gz	2988fa171f0f1bd73e9e6424d9b87aada1b77f0464551479709f51e52fa008
kubernetes-node-linux- s390x.tar.gz	2ab0fd57591ca42b9a43df110efdb3b7265acd6d94c3d3d62e09192a7374bb
kubernetes-node-windows- amd64.tar.gz	23ab6aabea7eeb95e57a1a392984e9bdd0e7064373eb7b38f9f4bfc7c56e31

## Changelog since v1.14.5

#### Other notable changes

- update to use go 1.12.6~(#78958, @tao12345666333)
- update to use go  $1.12.7 \ (\#79966, @tao12345666333)$
- Update to use go 1.12.8 (#81390, @cblecker)
- $\bullet~$  Update to use go 1.12.9 (#81489, @BenTheElder)
- Update golang/x/net dependency to bring in fixes for CVE-2019-9512, CVE-2019-9514 (#81525, @cblecker)
- cpuUsageNanoCores is now reported in the Kubelet summary API on Windows nodes (#80176, @liyanhui1228)
- API: the metadata.selfLink field is deprecated in individual and list objects. It will no longer be returned starting in v1.20, and the field will be removed entirely in v1.21. (#80978, @wojtek-t)
- Fix Azure client requests stuck issues on http.StatusTooManyRequests (HTTP Code 429). (#81279, @feiskyer)
- Update the GCE windows node image to include hot fixes since July. (#81236, @YangLu1031)
- Fix public IP not found issues for VMSS nodes (#80703, @feiskyer)
- Fix a conformance test that was skipped when client had a newer micro version than server. (#80598, @smarterclayton)
- Fix error in kubeadm join --discovery-file when using discovery files with embedded credentials (#80675, @fabriziopandini)
- make node lease renew interval more heuristic based on node-status-update-frequency in kubelet (#80173, @gaorong)
- Pass-through volume Mount Options to global mount (NodeStageVolume) on the node for CSI  $(\#80191,\,@davidz627)$

- Bugfix: csi plugin supporting raw block that does not need attach mounted failed (#79920, @cwdsuzhou)
- changes timeout value in csi plugin from 15s to 2min which fixes the timeout issue (#79529, @andyzhangx)
- The AWS credential provider can now obtain ECR credentials even without the AWS cloud provider or being on an EC2 instance. Additionally, AWS credential provider caching has been improved to honor the ECR credential timeout. (#75587, @tiffanyfay)
- Reduces GCE PD Node Attach Limits by 1 since the node boot disk is considered an attachable disk (#80923, @davidz627)

Documentation

### Downloads for v1.14.5

filename	sha512 hash
kubernetes.tar.gz	8e529c27d8ce17bb35061870d19135fa7fde84790afc2c3780ecce524da8f3e
kubernetes-src.tar.gz	Ofa3a20b5aad9204507eba2cc6a5126170c652a7d59369dd1da8fa652a3e20

filename	sha512 hash	
kubernetes-client-darwin-	a3b92e34c5e7e9679e306b5fbdea06611b5b0e775db28091ed64af	d6f9b9301
386.tar.gz		
kubernetes-client-darwin- amd64.tar.gz	79e7e1b5dc257d5358f994e518fa1c5dfae789a81ab936c6dec22e	8bb87b364
kubernetes-client-linux-	e0a822d551b0b6634179694f1c188ea716e3ceded9bf268f19c6fc	c39701347
386.tar.gz		
kubernetes-client-linux- amd64.tar.gz	c56527f9378c16e90800b59d2bb2aa535d7ecb731edd8fb5e5824a	5ff8e0d43
kubernetes-client-linux-	23d09797a0927b2f64ca1ffabac5131a2b013fa1ca85879681f75f	83d242326
arm.tar.gz		
kubernetes-client-linux- arm64.tar.gz	3fba6e0c1951f742862d8ead4a361445c8b663fcf605d2d3bdb17c	5ca911f54
kubernetes-client-linux- ppc64le.tar.gz	0481eaa0d8c437511b9edb61338812b3dfac5b9a51a1a5cc1c88d9	a735c66ea
kubernetes-client-linux- s390x.tar.gz	b4e291a966893949bae2d4752a7466d4bfc33265cf95f9caa677eb	1e8f8334
kubernetes-client-windows-386.tar.gz	0f34e1d80e57730daa93d94a375b8b0fe5a571997ee8ce28185684	628b1675a

filename	sha512 hash	
kubernetes-client-windows-	b00ee44e8af93986a3c27da355e5491709b77	7aa1e68d7f4fa0c632389602f4
amd64.tar.gz		

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	69d84f7885829db927205ddb49a4800c708de2922b04f65e85e4052988425c
kubernetes-server-linux- arm.tar.gz	37de1da7bfdbdbc7fd39e6a1f992f44504140bbdd0b36b0a62f16c38d3a172l
kubernetes-server-linux- arm64.tar.gz	051b2cf5753792a58d25a183914c79be57a9a5322057910bafb223294b18030
kubernetes-server-linux- ppc64le.tar.gz	44805eb697eb97833d3c94482bfbc2e5b50acadff9db9b1cb63278990f6afc
kubernetes-server-linux- s390x.tar.gz	024426ecc8f8a0e3ea64d506d678c092a92cc5f90ed998a9d55c7c2e5bf201

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	84bc3a6aa82bc2a56d8f37e1abc1b572eaa7a0d85f242b9225c336b57164af3
kubernetes-node-linux- arm.tar.gz	a7364bb73a000e714478c66fbe1a7094e6e98eed58309fdf0af28d049541f1
kubernetes-node-linux- arm64.tar.gz	2b30640bd37abbf14fb9c887ef62cf280bd397143b55816f76b44ba5912bece
kubernetes-node-linux- ppc64le.tar.gz	1cd0f330f33e476b20de5baffe7cb3b2935670b7ac3b14055af9ef751f697e
kubernetes-node-linux- s390x.tar.gz	67a53cf0ab91cf1c7dc9c8b0bb941a463325e9673380890e9d1a6a61a6ff1e
kubernetes-node-windows-amd64.tar.gz	9e34d7158273cbd5d329ab4f13ea92f9c4d793e0b72c9a10d9d466e2894f86

# Changelog since v1.14.4

- • Fix CVE-2019-11249: Incomplete fixes for CVE-2019-1002101 and CVE-2019-11246, kubectl cp potential directory traversal (#80436)
- Fix CVE-2019-11247: API server allows access to custom resources via wrong scope (#80750)

See also the security announcement for this release.

# Documentation

# Downloads for v1.14.4

filename	sha512 hash
kubernetes.tar.gz	6a25452a4b248c1a0ffbc0ea19316791e10255e5d8f2a54a211a8463b221904
kubernetes-src.tar.gz	5ab052b819c3d3fdb6149d597d3f638d9399b33868ebb76c4430ba34d741e9h

# Client Binaries

filename	sha512 hash	
kubernetes-client-darwin-	73e611d1da3f4acf263a1e9c0b2bdd5a052eac2a28551e01db2	202cd7abaa195
386. tar. gz		
kubernetes-client-darwin- amd64.tar.gz	01fefb89be8d5615f365e0a9860dd72e69b12b14d83272f599a	19806fc652805
kubernetes-client-linux- 386.tar.gz	9498c346f8f2202f220b2ad86bff8637d7de49183279fc72a21	laf44a6475fck
kubernetes-client-linux- amd64.tar.gz	5e3bbc8de68a0c25b84b1160ce874a275447a206ce4ed851d07	'6c108c23140
kubernetes-client-linux- arm.tar.gz	f15fa86947ef71490b5237f1f629f99cddc115626fcd88106ef	iaa6d6a16be60
kubernetes-client-linux- arm64.tar.gz	cdbd6efac49e58ae582d9e3cfa2ac90f2d6dca6271136847f88	3d582a627d1bl
kubernetes-client-linux- ppc64le.tar.gz	43da65bf491dcb12b7f7ab9a3f3db2c933a40e1601302ab8482	≥efe3458ad657
kubernetes-client-linux- s390x.tar.gz	6de5d190edc57dcf602d91da8c44ab5481d614791e64ca697b9	393b53d52b86
kubernetes-client-windows- 386.tar.gz	f7c8b584de9662831f3082bbc8bdfbdf0a2df5056aded12febc	2a843045cb5f1
${\rm kubernetes\text{-}client\text{-}windows\text{-}} \\ {\rm amd} {\rm 64.tar.gz}$	0136940266a354642d50fc4aa24ee1e14cf5098b142f883704	c19bba4626f2

# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	0405b9f0e1472f47739ec8e3d01694c992a3f0debe0f2fb233855a23bc55e6
kubernetes-server-linux-	363105ee4895aa2b9df5ddb42fc4c726a16765dc02c1eb6c4dd3207e3f7726
arm.tar.gz	

filename	sha512 hash
kubernetes-server-linux- arm64.tar.gz	bc8417511f908786240ba295d061ddcaad2fdb60708e6f3bbbf93087cfc1ee2
kubernetes-server-linux- ppc64le.tar.gz	969b128a135c001d48a1652df9b1973769b4b692774247fb8ce2c7aa839d6ed
kubernetes-server-linux- s390x.tar.gz	1492f504541ff3490b1b6e8c2450ae37c9931db5ad8609e1052c7baf99c8f8i

#### **Node Binaries**

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	7397c1005a9ccadfcd46bd158f3a246882c2d47b5a431bf378d5dcc9c99a16
kubernetes-node-linux- arm.tar.gz	5a4b7d20b5485249c4a68060eea1a17233d706412250a9d20f0f62d0c5b9ea
kubernetes-node-linux- arm64.tar.gz	c413ec8b454f3f833f71de6512232ae1c6606fe556b6fe84ec3ffdb5e92869
kubernetes-node-linux- ppc64le.tar.gz	f60cf119c1a704201d44034922fd15bff832eec8b078868219cd38f91cc485
kubernetes-node-linux- s390x.tar.gz	0bafef46dcb4c8dbf88062a228ae6730b29d7536655b07c3fb5283c56508f2
kubernetes-node-windows- amd64.tar.gz	55d93e0f25d33970cfe05b63b9fd4b84e310230456ba1a32de6d3fd3ea87aa

# Changelog since v1.14.3

### Other notable changes

- fix kubelet fail to delete orphaned pod directory when the kubelet's pods directory (default is "/var/lib/kubelet/pods") symbolically links to another disk device's directory (#79094, @gaorong)
- Fix possible fd leak and closing of dirs in doSafeMakeDir (#79534, @odin-
- Default resourceGroup should be used when the value of annotation azure-load-balancer-resource-group is an empty string. (#79514, @feiskyer)
- Remove pids c group controller requirement when related feature gates are disabled  $(\#79073,\,@\text{rafatio})$
- Fix a bug where kubelet would not retry pod sandbox creation when the restart policy of the pod is Never (#79451, @yujuhong)
- Bump ip-masq-agent to v2.3.0 to fix vulnerabilities. (#77832, @anfernee)
- fix pod stuck issue due to corrupt mnt point in flexvol plugin, call Unmount if PathExists returns any error (#75234, @andyzhangx)
- vSphere: allow SAML token delegation (required for Zones support) (#78876, @dougm)

- fix: retry detach azure disk issue (#78700, @andyzhangx)
  - try to only update vm if detach a non-existing disk when got <200, error> after detach disk operation
- This adds some useful metrics around pending changes and last successful (#78602, @paulgmiller)
  - sync time.
  - The goal is for administrators to be able to a lert on proxies that, for
  - whatever reason, are quite stale.
- Fix a string comparison bug in IPVS graceful termination where UDP real servers are not deleted. (#78999, @andrewsykim)
- Resolves spurious rollouts of workload controllers when upgrading the API server, due to incorrect defaulting of an alpha procMount field in pods (#78883, @liggitt)
- Fixes a memory leak in Kubelet on Windows caused by not not closing containers when fetching container metrics (#78594, @benmoss)

Documentation

### Downloads for v1.14.3

filename	sha512 hash
kubernetes.tar.gz	7e82dc2070b55ca8f4746579a66d9dcd61e750f8c20632f901cbeb8c9c5bc28
kubernetes-src.tar.gz	58db2d138b1a0575dfdc9be1a742788c56626275f588d262ab64840627e405

filename	sha512 hash	
kubernetes-client-darwin-		677
386. tar. gz		-
kubernetes-client-darwin- amd64.tar.gz	2cf1680e9dfae84dbf4d1f10e9142a087ac9be56c9c5233b0cea669f9dae	590
kubernetes-client-linux-	39ace58bdb85397b856b52d54e97eb9f489169995f55a55b278c1c923829	с0
386.tar.gz		
kubernetes-client-linux-	dcb6eeebf618a01f274091998984f8afca567f7a20ffff810bef97e9654a	.f5
amd64.tar.gz		
kubernetes-client-linux-	4a7dd3310fa96e842ab3505f7815b0778af621fd639ab8296b4994428d93	0d6
arm.tar.gz		
kubernetes-client-linux- arm64.tar.gz	7f091cff9c63d58623b5b49967b8824e02139a347c9c5eb9c9fa178b3825	320
kubernetes-client-linux- ppc64le.tar.gz	f7f43d71663a19c2526ae8496b76b2e9df2285ae31f94ba054e45704cc94	e2e

filename	sha512 hash
kubernetes-client-linux- s390x.tar.gz	23e782ab1fe8e5d30e1cdff8594de4cc4750ab178ae3c71c177c49acf9f35d\$
kubernetes-client-windows- 386.tar.gz	25c05c105996c0d75443e75b0809b7bf7c33d6d8d1d24d2b0b9c2f872838277
kubernetes-client-windows- amd64.tar.gz	df0da8deca3a354406a4be3f025bd9b6729f68c4414126bdcf58a649228196

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	8d7192d1e74a139feca532d9956f6d3dc5289eb5c3eff643fd13d02815ed11
kubernetes-server-linux- arm.tar.gz	89c26c83562e32340ab58a0aa835c0b586c6626e811231129645205edfc0bf
kubernetes-server-linux- arm64.tar.gz	f74ef5b4a680167251b93d346c9864436f3906f72d676483c9ce27ea0f42e3
kubernetes-server-linux- ppc64le.tar.gz	6bfc3cbd4604112de5a09fa9c8e35ad4637d1fedc024ef20fafb9ef5adf5f1
kubernetes-server-linux- s390x.tar.gz	a1355a9db2e34b062b5e335c52e7a5e2b6e55490896bf9ec1f3900b048b73d

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	1eb8610f93153b5e274ae61f68f9ccd30bdb
kubernetes-node-linux- arm.tar.gz	cedef35f9e84c93d099117a413de39bb5a556
kubernetes-node-linux- arm64.tar.gz	d1f4152ece68cd3d96ff6632fd2229f7da630
kubernetes-node-linux- ppc64le.tar.gz	dbfc833c385c46118aac8d651b9053e48ee9
kubernetes-node-linux- s390x.tar.gz	d715253ab6d2b6b6478d19f4ee4b69d4ba4a6
kubernetes-node-windows- amd64.tar.gz	3e111f2121c4d87d9492c8ba13812537cce1

# Changelog since v1.14.2

# Other notable changes

 Fix vSphere SAML token auth when using Zones (#78180, @dougm)

- IPVS: Disable graceful termination for UDP traffic to solve issues with high number of UDP connections (DNS / syslog in particular) (#77802, @lbernail)
- Fix broken detection of non-root image user ID (#78261, @tallclair)
- fix azure retry issue when return 2XX with error (#78298, @andyzhangx)
- kubelet: fix fail to close kubelet->API connections on heartbeat failure when bootstrapping or client certificate rotation is disabled (#78016, @gaorong)
- Active watches of custom resources now terminate properly if the CRD is modified. (#78029, @liggitt)
- client-go and kubectl no longer write cached discovery files with world-accessible file permissions (#77874, @yuchengwu)
- Fix panic logspam when running kubelet in standalone mode. (#77888, @tallclair)
- Fixed a bug in the apiserver storage that could cause just-added finalizers to be ignored on an immediately following delete request, leading to premature deletion. (#77619, @caesarxuchao)
- Fixes a bug where dry-run is not honored for pod/eviction sub-resource. (#76969, @apelisse)
- fix incorrect prometheus azure metrics (#77722, @andyzhangx)
- fix KUBE\_SERVER\_PLATFORMS null error when cross compiling kubectl for non-linux platform (#78059, @figo)

Documentation

#### Downloads for v1.14.2

filename	sha512 hash
kubernetes.tar.gz	ef1228ef7cdc3a53e9a5003acb1616aff48eba53db147af82c5e318c174f14c
kubernetes-src.tar.gz	1721ea726dd19f06bade3e9751379764ffb16289b8902164d78a000eb22da1

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	f707f3293173cbb47dc8537b19d7da443e40d9c2b3945e8e0559513d227d98a
kubernetes-client-darwin- amd64.tar.gz	dcd61588fc0b27d6539f937106a88f8ebb3f19e9a41d37a79804a2594e12860
kubernetes-client-linux- 386.tar.gz	90ad262988898cc25c2d84fdf1d62d3cdf8f16a9b7598d477a1b516b7e87e19

filename	sha512 hash
kubernetes-client-linux- amd64.tar.gz	a4394293cecdc177db7d3ef29f9d9efb7f922d193b00d83fa17c847e2aa1cd
kubernetes-client-linux- arm.tar.gz	265599b200f6de8d2c01ac36a33a0fca9faf36fb68e3e3dd5dad9166b9e660
kubernetes-client-linux- arm64.tar.gz	31799018b7840cafac0fa4f8cc474396feaab71340eb7f38a122109fdcf759
kubernetes-client-linux- ppc64le.tar.gz	670bbe7c3142ccfa99a1eebc6d94798a8c3720165301ef615812aea64e512e
kubernetes-client-linux- s390x.tar.gz	58d161e747ec0924f3a937bd4e6856be9bad9227ca2564f2b59cdc9bfd063d
kubernetes-client-windows-386.tar.gz	696caeb9611137bce1988c8bf7a1e326f92dbb6f9eb31f82cc2d9cf262888b
kubernetes-client-windows- amd64.tar.gz	156ccc2102a6f92fe1078feaed835913b34eac94bbd0846726eb43fa60f0be

filename	sha512 hash
	SHOULD HOUSE
kubernetes-server-linux- amd64.tar.gz	f7d9687eb49ea71f0d8b1ccfac33ed05cd341d7cfacb0711fce4a722801769
kubernetes-server-linux-arm.tar.gz	5c2247e4cab886cbca59ef47ea32d9ab8bb5f47495f844337dadce2362b76e
kubernetes-server-linux- arm64.tar.gz	a341bb15e659d4000fe29b88371cc1c02df4715786901b870546c04cd943f5
kubernetes-server-linux- ppc64le.tar.gz	d179c809da68cc4530910dd1a7c3749598bd40f5b7a773b2b3a9b9d0b0e25c
kubernetes-server-linux-s390x.tar.gz	fdc8ffccd1c5a2e225f19b52eabceae5e8fac5e599235797b96d37223df10d

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	12c6139a4b497220f239f6c5e9a9b2e864d6dc298495ef4243b780fcf6c9c3
kubernetes-node-linux- arm.tar.gz	53e14c9dd53562747dcfdfff7738bccdd369a2bd6f550e1ce181aa219e48c0
kubernetes-node-linux- arm64.tar.gz	5917436bdafab57f6564d6e32819b28f32d373bdb22ae53a46f7c7510283ff
kubernetes-node-linux- ppc64le.tar.gz	12a8ca3c87f165ef4eb493adcd3038d5689c592b411ebbbc97741b1de67a40

filename	sha512 hash
kubernetes-node-linux- s390x.tar.gz	1919f8b370199261803ec856e558ad75100cf6db8f5619be5710f528a46a6c
kubernetes-node-windows- amd64.tar.gz	86057b6ca519a6b454a4b898c7a12f12a2bb25c8be85e53fd2c9b1e4191e33

# Changelog since v1.14.1

#### Other notable changes

- Update to use go 1.12.4 (#76576, @cblecker)
- Update to use go 1.12.5 (#77528, @cblecker)
- Check if container memory stats are available before accessing it (#77656, @yastij)
- Bump addon-manager to v9.0.1 (#77282, @MrHohn)
  - Rebase image on debian-base:v1.0.0
- If a pod has a running instance, the stats of its previously terminated instances will not show up in the kubelet summary stats any more for CRI runtimes like containerd and cri-o. (#77426, @Random-Liu)
  - This keeps the behavior consistent with Docker integration, and fixes an issue that some container Prometheus metrics don't work when there are summary stats for multiple instances of the same pod.
- Add name validation for dynamic client methods in client-go (#75072, @lblackstone)
- Fix issue in Portworx volume driver causing controller manager to crash (#76341, @harsh-px)
- Fixes segmentation fault issue with Protobuf library when log entries are deeply nested. (#77224, @qingling128)
- Update Cluster Autoscaler to 1.14.2 (#77064, @losipiuk)
  - https://github.com/kubernetes/autoscaler/releases/tag/cluster-autoscaler-1.14.2
  - https://github.com/kubernetes/autoscaler/releases/tag/cluster-autoscaler-1.14.1
- Fixes an error with stuck informers when an etcd watch receives update or delete events with missing data (#76675, @ryanmcnamara)
- [fluentd-gcp addon] Bump fluentd-gcp-scaler to v0.5.2 to pick up security fixes. (#76762, @serathius)
- specify azure file share name in azure file plugin (#76988, @andyzhangx)
- Windows nodes on GCE use a known-working 1809 image rather than the latest 1809 image. (#76722, @pjh)
- kube-proxy: os exit when CleanupAndExit is set to true (#76732, @JieJhih)
- Clean links handling in cp's tar code (#76788, @soltysh)
- Adds a new "storage\_operation\_status\_count" metric for kube-controller-manager and kubelet to count success and error statues. (#75750,

- @msau42)
- kubeadm: Fix a bug where if couple of CRIs are installed a user override of the CRI during join (via kubeadm join –cri-socket ...) is ignored and kubeadm bails out with an error (#76505, @rosti)
- fix detach azure disk back off issue which has too big lock in failure retry condition (#76573, @andyzhangx)
- Ensure the backend pools are set correctly for Azure SLB with multiple backend pools (e.g. outbound rules) (#76691, @feiskyer)
- fix azure disk list corruption issue (#77187, @andyzhangx)
- [IPVS] Introduces flag ipvs-strict-arp to configure stricter ARP sysctls, defaulting to false to preserve existing behaviors. This was enabled by default in 1.13.0, which impacted a few CNI plugins. (#75295, @lbernail)
- [metrics-server addon] Restore connecting to nodes via IP addresses (#76819, @serathius)
- Fixes a NPD bug on GCI, so that it disables glog writing to files for log-counter (#76211, @wangzhen127)
- Fixes bug in DaemonSetController causing it to stop processing some DaemonSets for 5 minutes after node removal. (#76060, @krzysztofjastrzebski)

Documentation

## Downloads for v1.14.1

filename	sha512 hash
kubernetes.tar.gz	87f4cb0c6c137cbd07cc0e0b7049722ed2a3f21866ac02aecf1a0e03d350d1
kubernetes-src.tar.gz	ef1b4ed78ed92124fbec2b2bf54ba3b293038f9c8f1df3883071ae9430450c

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	f9f14293ab8c6e6d49c5be16c2bcfad640a258d3e1ce600d6b327a4ba84c36
kubernetes-client-darwin- amd64.tar.gz	761c6334ff33e0487feb15f9c335e0e44f36fbb1b5b95ddb8aad0383a085c6
kubernetes-client-linux- 386.tar.gz	58c4db0219debd85ded6dd0eac2ceac3432772805826b362d915571aec0b3f
kubernetes-client-linux- amd64.tar.gz	66c3a470caecfb35ce9a995a6298e689aed5fabefbdb8aca5086adff572266
kubernetes-client-linux- arm.tar.gz	50f76e9cca5e056d9dabe7f27de7db72539cb33c3e24bb541e35cf32293b76

filename	sha512 hash
kubernetes-client-linux- arm64.tar.gz	088621d5cbb8587896b38e6e1faa84471490a1bd2371c082143aeebc0bac64
kubernetes-client-linux- ppc64le.tar.gz	d743819920dd3ac906a855af2c1a1327f991e4c295357c610b1fad5d5cd8ab
kubernetes-client-linux- s390x.tar.gz	71cdd44a0d5418500407e9eea6f7118b7384b8c9a4bafaefb78c107b23e050
kubernetes-client-windows- 386.tar.gz	ffeacdc7658da5564811047e66e2b8e370d037b8d983a2af0ceb9cf762f621
kubernetes-client-windows- amd64.tar.gz	f49b8acef5c31b59dfff0d63b4e175f54f605dd5783bdd57e18cdea7667198

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	4775257f919bf013a92d6e3b66099d85e09be32b462189ede82874ea860cca
kubernetes-server-linux- arm.tar.gz	2806099d6bdd32940a3221a076fff51eb9c79729e058a6b5ef283cfbbf7169
kubernetes-server-linux- arm64.tar.gz	1aa3c44189f9be25181b69e6ef336955f92ceb0a35c07579e386e4c0584d4b
kubernetes-server-linux- ppc64le.tar.gz	6e91be7bf7b3cb1dc20a395cbf32c70ad867f1300d09800bb2c6854c93ff8d
kubernetes-server-linux- s390x.tar.gz	ee915182eda63d67292464ed3a3e029c1749d016cd730e15dc8fd19fdcc8ee

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	df2b5010eea175fd45868c908cc769cc8fefb367899af448ef9c64db5e4a7b
kubernetes-node-linux- arm.tar.gz	338ca18540c087c81b07bd341f390b78e446deb270d7e320ef108f9f293518
kubernetes-node-linux- arm64.tar.gz	dd2544dd9543cb9a556def0116fdccb8b14c0e7ae07debbf10f3b4ac0669a1
kubernetes-node-linux- ppc64le.tar.gz	866fd6680f0d35c747c54369e6363b0241a233a505110a899236e1390ec736
kubernetes-node-linux- s390x.tar.gz	87e7b803f1ae05bf4652fd0b2f636ce61bd1100e40ce7c5c25304073462604
kubernetes-node-windows- amd64.tar.gz	0e46f70d7f1ec542b33119a9773a98dfb46d80f96a9f31f22ccc33c902e4bb

# Changelog since v1.14.0

#### Other notable changes

- GCE/Windows: disable stackdriver logging agent to prevent node startup failures (#76099, @yujuhong)
- Support vSphere SAML token auth when using Zones (#75515, @dougm)
- Fix empty array expansion error in cluster/gce/util.sh (#76111, @kewu1992)
- [stackdriver addon] Bump prometheus-to-sd to v0.5.0 to pick up security fixes. (#75362, @serathius)
  - [fluentd-gcp addon] Bump fluentd-gcp-scaler to v0.5.1 to pick up security fixes.
  - [fluentd-gcp addon] Bump event-exporter to v0.2.4 to pick up security fixes
  - [fluentd-gcp addon] Bump prometheus-to-sd to v0.5.0 to pick up security fixes.
  - [metatada-proxy addon] Bump prometheus-to-sd v0.5.0 to pick up security fixes.
- kube-proxy no longer automatically cleans up network rules created by running kube-proxy in other modes. If you are switching the mode that kube-proxy is in running in (EG: iptables to IPVS), you will need to run kube-proxy --cleanup, or restart the worker node (recommended) before restarting kube-proxy. (#76109, @vllry)
  - If you are not switching kube-proxy between different modes, this change should not require any action.
  - This fixes a bug where restarting the iptables proxier can cause connections to fail (https://github.com/kubernetes/kubernetes/issues/75360).
- kubeadm: fixes error when upgrading from v1.13 to v1.14 clusters created with kubeadm v1.12. Please note that it is required to upgrade etcd during the final v1.13 to v1.14 upgrade. (#75956, @fabriziopandini)
- Fixes a regression proxying responses from aggregated API servers which could cause watch requests to hang until the first event was received (#75887, @liggitt)
- Increased verbose level for local openapi aggregation logs to avoid flooding the log during normal operation (#75781, @roycaihw)
- Update Cluster Autoscaler to 1.14.0; changelog: https://github.com/kubernetes/autoscaler/releases/tag/clustoscaler-1.14.0 (#75480, @losipiuk)
- Ensures the conformance test image saves results before exiting when ginkgo returns non-zero value. (#76039, @johnSchnake)
- GCE Windows nodes will rely solely on kubernetes and kube-proxy (and not the GCE agent) for network address management. (#75855, @pjh)
- kubeadm: fix "upgrade plan" not defaulting to a "stable" version if no version argument is passed (#75900, @neolit123)
- kubeadm: preflight checks on external etcd certificates are now skipped when joining a control-plane node with automatic copy of cluster certificates

(-certificate-key)~(#75847,~@fabriziopandini)

• [IPVS] Allow for transparent kube-proxy restarts (#75283, @lbernail)

# v1.14.0

Documentation

# Downloads for v1.14.0

filename	sha512 hash
kubernetes.tar.gz	Oad264a46f185a9ff4db0393508a9598dab146f438b2cfdc7527592eb422870
kubernetes-src.tar.gz	c5175439decc1c5f54254572bfec3c9f61f39d6bd1cbc28d1f771f8f931b98f

# Client Binaries

filename	sha512 hash
kubernetes-client-darwin-	68bdba50a2b0be755e73e34ffc758fd419940adace096b1ddebd44a0eae2c7
386. tar. gz	· · · · · · · · · · · · · · · · · · ·
kubernetes-client-darwin-	255bd93082b3ac5d69bd4e45c75c9f19efee50ad6add50837ff2987ce16cbc
amd64.tar.gz	· ·
kubernetes-client-linux-	2bd115ad2503fdfe5482e4592fcc0c8a2aee36be5205220a13c8050cd1e55dd
386.tar.gz	1
kubernetes-client-linux-	a551adf8019b17fce5aff2b379fab3627588978a2d628b64ba1af6f3be1b43
amd64.tar.gz	
kubernetes-client-linux-	24e771cd4074786330e07f5537259a28d0932102639326230d9161f12a8dc54
arm.tar.gz	
kubernetes-client-linux-	16204f2345ab3523bbe3c868f04806a97c111d940b2594aaff67cf73b425904
arm64.tar.gz	10 000 1505 1 00004 50 105045 1404 7000 15 ( 1041 01 010400504500504
kubernetes-client-linux-	cd9ce829d585dd3331c53d35015d4017026d5efd24b9bc2f342995245628598
ppc64le.tar.gz	400 0 0 578 0740000450 40043 04040 440 - 244 1400 - 625 020000 4 - 0745 25 - 4
kubernetes-client-linux-	482c0a8e53b27f8922f58d89fb81842ddd9c3ffd120e635838992dc97d535e4
s390x.tar.gz kubernetes-client-windows-	4446d66f999e979a7245e1b7ebf4817f7bd23aa247a38853a63b9cda473c7d
	444000001333631339174561016014011110075999741920055905030703419710
386.tar.gz kubernetes-client-windows-	97f4789f21d10fd3df446e55bc489472dcd534c623bb40dc3cb20fe1edd74c
amd64.tar.gz	9/14/891Z101V10301440e33DC4034/Z0Cu334CUZ3DD4VUC3CDZV1e1euu/4C.
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# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	25739802a641517a8bbb933b69000a943e8dd38e616b8778149dd0138737aba
kubernetes-server-linux- arm.tar.gz	c1dbba77a4ff5661eb36c55182a753b88ccc9b89ca31e162b06672126743cf
kubernetes-server-linux- arm64.tar.gz	ad346bbe2a053c1106b51e5125698737dc7b76fa3bf439e14d4b4ba1c262678
kubernetes-server-linux- ppc64le.tar.gz	49f9bd1c751620ecf4b5c152f287d72b36abca21fd1dfe99443d984473c6ef
kubernetes-server-linux- s390x.tar.gz	d6be847f2a0358755a69dea26181e5fc1a80ac4939b8b04a3875e1f6693553

# **Node Binaries**

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	75dc99919d1084d7d471a53ab60c743dc399145c99e83f37c6ba3c241b2c0b
kubernetes-node-linux- arm.tar.gz	49013a4f01be8086fff332099d94903082688b9b295d2f34468462656da470
kubernetes-node-linux- arm64.tar.gz	f8c0cb0c089cd1d1977c049002620b8cf748d193c1b76dd1d3aac01ff92735
kubernetes-node-linux- ppc64le.tar.gz	48fc02c856a192388877189a43eb1cda531e548bb035f9dfe6a1e3c8d3bcbd
kubernetes-node-linux- s390x.tar.gz	d7c5f52cf602fd0c0d0f72d4cfe1ceaa4bad70a42f37f21c103f17c3448ceb
kubernetes-node-windows- amd64.tar.gz	120afdebe844b06a7437bb9788c3e7ea4fc6352aa18cc6a00e70f44f54664f

# Kubernetes v1.14 Release Notes

# 1.14 What's New

Support for Windows Nodes is Graduating to Stable (#116)

- Support for Windows Server 2019 for worker nodes and containers
- Support for out of tree networking with Azure-CNI, OVN-Kubernetes and Flannel
- Improved support for pods, service types, workload controllers and metrics/quotas to closely match the capabilities offered for Linux containers kubernetes/enhancements: #116 [kep]

Updated Plugin Mechanism for kubectl is Graduating to Stable (#579)

• Extends functionality to kubectl to support extensions adding new commands as well as overriding specific subcommands (at any depth).

• Documentation fixes kubernetes/enhancements: #579 [kep]

Durable Local Storage Management is Now GA (#121)

- Makes locally attached (non-network attached) storage available as a persistent volume source.
- Allows users to take advantage of the typically cheaper and improved performance of persistent local storage kubernetes/kubernetes: #73525, #74391, #74769 kubernetes/enhancements: #121 [kep]

Pid Limiting is Graduating to Beta (#757)

- Prevents a pod from starving pid resource
- Ability to isolate pid resources pod-to-pod and node-to-pod kubernetes/kubernetes: #73651 kubernetes/enhancements: #757 [kep]

Pod Priority and Preemption in Kubernetes (#564)

• Pod priority and preemption enables Kubernetes scheduler to schedule more important Pods first and when cluster is out of resources, it removes less important pods to create room for more important ones. The importance is specified by priority. kubernetes/kubernetes: #73498, #73555, #74465 kubernetes/enhancements: #564 [kep]

Pod Ready++ (#580)

• Introduces extension point for external feedback on pod readiness. kubernetes/kubernetes: #74434, kubernetes/enhancements: #580 [kep]

Kubeadm: Automate certificate copy between control planes in HA setups

- Joining control plane nodes to a HA cluster can now be simplified by enabling the optional automatic copy of certificates from an existing control plane node.
- You can now use kubeadm init --experimental-upload-certs and kubeadm join --experimental-control-plane --certificate-key. kubernetes/kubeadm: #1373 kubernetes/enhancements: #357 kep]

Kubeadm: Expose the kubeadm join workflow as phases

• The kubeadm join command can now be used in phases. Similar to the work that was done for kubeadm init in 1.13, in 1.14 the join phases can be now executed step-by-step/selectively using the kubeadm join phase sub-command. This makes it possible to further customize the workflow of joining nodes to the cluster. kubernetes/kubeadm: #1204 kubernetes/enhancements: kep

#### Known Issues

• There is a known issue coredns/coredns#2629 in CoreDNS 1.3.1, wherein if the Kubernetes API shuts down while CoreDNS is connected, CoreDNS will crash. The issue is fixed in CoreDNS 1.4.0 in coredns/coredns#2529.

• Kubelet might fail to restart if an existing flex volume mounted pvc contains a large number of directories, or is full. #75019

## **Urgent Upgrade Notes**

(No, really, you MUST read this before you upgrade)

- kube-apiserver:
  - Default RBAC policy no longer grants access to discovery and permission-checking APIs (used by kubectl auth can-i) to unauthenticated users. Upgraded clusters preserve prior behavior, but cluster administrators wishing to grant unauthenticated users access in new clusters will need to explicitly opt-in to expose the discovery and/or permission-checking APIs: (#73807, @dekkagaijin)
    - \* kubectl create clusterrolebinding anonymous-discovery --clusterrole=system:discovery --group=system:unauthenticated
    - \* kubectl create clusterrolebinding anonymous-access-review --clusterrole=system:basic-user --group=system:unauthenticated
  - The deprecated –storage-versions flag has been removed. The storage versions will always be the default value built-in the kube-apiserver binary. (#67678, @caesarxuchao)
  - The deprecated --repair-malformed-updates flag has been removed (#73663. @danielgsi)
  - The /swaggerapi/\* schema docs, deprecated since 1.7, have been removed in favor of the /openapi/v2 schema docs. (#72924, @liggitt)
  - The /swagger.json and /swagger-2.0.0.pb-v1 schema documents, deprecated since v1.10, have been removed in favor of /openapi/v2 (#73148, @liggitt)
  - kube-apiserver now only aggregates openapi schemas from /openapi/v2 endpoints of aggregated API servers. The fallback to aggregate from /swagger.json has been removed. Ensure aggregated API servers provide schema information via /openapi/v2 (available since v1.10). (#73441, @roycaihw)
  - The OpenAPI definitions with the prefix "io.k8s.kubernetes.pkg" (deprecated since 1.9) have been removed. (#74596, @sttts)
  - The ValidateProxyRedirects feature was promoted to Beta and enabled by default. This feature restricts redirect-following from the apiserver to same-host redirects. If nodes are configured to respond to CRI streaming requests on a different host interface than what the apiserver makes requests on (only the case if not using the built-in dockershim & setting the kubelet flag --redirect-container-streaming=true), then these requests will be broken. In that case, the feature can be temporarily disabled until the node configuration is corrected. We suggest setting --redirect-container-streaming=false on the kubelet to avoid issues.(#72552, @tallclair)

#### • kubectl

- The deprecated --show-all flag to kubectl get has been removed (#69255, @Pingan2017)

#### kubelet

- The deprecated --experimental-fail-swap-on flag has been removed (#69552, @Pingan2017)
- Health check (liveness & readiness) probes using an HTTPGetAction will no longer follow redirects to different hostnames from the original probe request. Instead, these non-local redirects will be treated as a Success (the documented behavior). In this case an event with reason "ProbeWarning" will be generated, indicating that the redirect was ignored. If you were previously relying on the redirect to run health checks against different endpoints, you will need to perform the healthcheck logic outside the Kubelet, for instance by proxying the external endpoint rather than redirecting to it. (#75416, @tallclair)

### • client-go

- The deprecated versionless API group accessors (like clientset.Apps()) have been removed. Use an explicit version instead (like clientset.AppsV1()) (#74422, @liggitt)
- The disk-cached discovery client is moved from k8s.io/client-go/discovery to k8s.io/client-go/discovery/cached/disk. The memory-cached discovery client is moved from k8s.io/client-go/discovery/cached/memory. (#72214, @caesarxuchao)

#### • kubeadm

- kubeadm alpha preflight and kubeadm alpha preflight node are removed; you can now use kubeadm join phase preflight (#73718, @fabriziopandini)
- The deprecated taints node.alpha.kubernetes.io/notReady and node.alpha.kubernetes.io/unreachable are no longer supported or adjusted. These uses should be replaced with node.kubernetes.io/not-ready and node.kubernetes.io/unreachable (#73001, @shivnagarajan)
- Any Prometheus queries that match pod\_name and container\_name labels (e.g. cadvisor or kubelet probe metrics) should be updated to use pod and container instead. pod\_name and container\_name labels will be present alongside pod and container labels for one transitional release and removed in the future. (#69099, @ehashman)

### **Deprecations**

• kubectl

- kubectl convert is deprecated and will be removed in v1.17.
- The --export flag for the kubectl get command is deprecated and will be removed in v1.18. (#73787, @soltysh)

#### kubelet

- OS and Arch information is now recorded in kubernetes.io/os and kubernetes.io/arch labels on Node objects. The previous labels (beta.kubernetes.io/os and beta.kubernetes.io/arch) are still recorded, but are deprecated and targeted for removal in v1.18. (#73333, @yujuhong)
- The --containerized flag is deprecated and will be removed in a future release (#74267, @dims)

# • hyperkube

 The --make-symlinks flag is deprecated and will be removed in a future release. (#74975, @dims)

#### • API

- Ingress resources are now available via networking.k8s.io/v1beta1.
   Ingress resources in extensions/v1beta1 are deprecated and will no longer be served in v1.18. Existing persisted data is available via the new API group/version (#74057, @liggitt)
- NetworkPolicy resources will no longer be served from extensions/v1beta1 in v1.16. Migrate use to the networking.k8s.io/v1 API, available since v1.8. Existing persisted data can be retrieved via the networking.k8s.io/v1 API.
- PodSecurityPolicy resources will no longer be served from extensions/v1beta1 in v1.16. Migrate to the policy/v1beta1 API, available since v1.10. Existing persisted data can be retrieved via the policy/v1beta1 API.
- DaemonSet, Deployment, and ReplicaSet resources will no longer be served from extensions/v1beta1, apps/v1beta1, or apps/v1beta2 in v1.16. Migrate to the apps/v1 API, available since v1.9. Existing persisted data can be retrieved via the apps/v1 API.
- PriorityClass resources have been promoted to scheduling.k8s.io/v1 with no changes. The scheduling.k8s.io/v1beta1 and scheduling.k8s.io/v1alpha1 versions are now deprecated and will stop being served by default in v1.17. (#73555, #74465, @bsalamat)
- The export query parameter for list API calls is deprecated and will be removed in v1.18 (#73783, @deads2k)
- The following features are now GA, and the associated feature gates are deprecated and will be removed in v1.15:
  - CustomPodDNS
  - HugePages
  - MountPropagation
  - PersistentLocalVolumes
- CoreDNS: The following directives or keywords are deprecated and will be removed in v1.15:

- upstream option of kubernetes plugin, becoming default behavior
- proxy plugin replaced by forward plugin

# Removed and deprecated metrics

#### Removed metrics

- reflector\_items\_per\_list
- reflector\_items\_per\_watch
- reflector\_last\_resource\_version
- reflector\_list\_duration\_seconds
- reflector\_lists\_total
- reflector\_short\_watches\_total
- reflector\_watch\_duration\_seconds
- reflector\_watches\_total

#### Deprecated metrics

- rest\_client\_request\_latency\_seconds-> rest\_client\_request\_duration\_seconds
- apiserver\_proxy\_tunnel\_sync\_latency\_secs-> apiserver\_proxy\_tunnel\_sync\_duration\_seconds
- scheduler\_scheduling\_latency\_seconds -> scheduler\_scheduling\_duration\_seconds
- kubelet\_pod\_worker\_latency\_microseconds -> kubelet\_pod\_worker\_duration\_seconds
- kubelet\_pod\_start\_latency\_microseconds -> kubelet\_pod\_start\_duration\_seconds
- $\bullet \ \ kubelet\_cgroup\_manager\_latency\_microseconds \ -> kubelet\_cgroup\_manager\_duration\_seconds$
- kubelet\_pod\_worker\_start\_latency\_microseconds-> kubelet\_pod\_worker\_start\_duration\_secon
- kubelet\_pleg\_relist\_latency\_microseconds -> kubelet\_pleg\_relist\_duration\_seconds
- kubelet\_pleg\_relist\_interval\_microseconds-> kubelet\_pleg\_relist\_interval\_seconds • kubelet\_eviction\_stats\_age\_microseconds-> kubelet\_eviction\_stats\_age\_seconds
- kubelet\_runtime\_operations -> kubelet\_runtime\_operations\_total
- kubelet\_runtime\_operations\_latency\_microseconds-> kubelet\_runtime\_operations\_duration\_s
- kubelet\_runtime\_operations\_errors-> kubelet\_runtime\_operations\_errors\_total
- kubelet\_device\_plugin\_registration\_count -> kubelet\_device\_plugin\_registration\_total
- kubelet\_device\_plugin\_alloc\_latency\_microseconds-> kubelet\_device\_plugin\_alloc\_duration
- docker\_operations -> docker\_operations\_total
- docker\_operations\_latency\_microseconds->docker\_operations\_latency\_seconds
- docker\_operations\_errors -> docker\_operations\_errors\_total
- docker\_operations\_timeout -> docker\_operations\_timeout\_total
- network\_plugin\_operations\_latency\_microseconds-> network\_plugin\_operations\_latency\_seconds->
- sync\_proxy\_rules\_latency\_microseconds-> sync\_proxy\_rules\_latency\_seconds
- apiserver\_request\_count -> apiserver\_request\_total
- apiserver\_request\_latencies-> apiserver\_request\_latency\_seconds
- apiserver\_request\_latencies\_summary -> apiserver\_request\_latency\_seconds
- apiserver\_dropped\_requests -> apiserver\_dropped\_requests\_total
- etcd\_helper\_cache\_hit\_count -> etcd\_helper\_cache\_hit\_total
- etcd\_helper\_cache\_miss\_count -> etcd\_helper\_cache\_miss\_total
- etcd\_helper\_cache\_entry\_count -> etcd\_helper\_cache\_entry\_total

- etcd\_request\_cache\_get\_latencies\_summary -> etcd\_request\_cache\_get\_latency\_seconds
- etcd\_request\_cache\_add\_latencies\_summary-> etcd\_request\_cache\_add\_latency\_seconds
- etcd request latencies summary -> etcd request latency seconds
- transformation\_latencies\_microseconds-> transformation\_latencies\_seconds
- data\_key\_generation\_latencies\_microseconds -> data\_key\_generation\_latencies\_seconds

## **Notable Features**

- Increased the histogram resolution of the API server client certificate to accommodate short-lived (< 6h) client certificates. (#74806, @mxinden)
- Updated to use golang 1.12 (#74632, @cblecker)
- The RunAsGroup feature has been promoted to beta and enabled by default. PodSpec and PodSecurityPolicy objects can be used to control the primary GID of containers on supported container runtimes. (#73007, @krmayankk)
- Added the same information to an init container as a standard container in a pod when using PodPresets. (#71479, @soggiest)
- kube-conformance image will now run ginkgo with the --dryRun flag if the container is run with the environment variable E2E\_DRYRUN set. (#74731, @johnSchnake)
- Introduced dynamic volume provisioning shim for CSI migration (#73653, @ddebroy)
- Applied resources from a directory containing kustomization.yaml (#74140, @Liujingfang1)
- kubeadm: Allowed to download certificate secrets uploaded by init or upload-certs phase, allowing to transfer certificate secrets (certificates and keys) from the cluster to other master machines when creating HA deployments. (#74168, @ereslibre)
- The --quiet option to kubectl run now suppresses resource deletion messages emitted when the --rm option is specified. (#73266, @awh)
- Added Custom Resource support to kubectl autoscale (#72678, @rmohr)
- Cinder volume limit can now be configured from node too (#74542, @gnufied)
- It is now possible to combine the -f and -l flags in kubectl logs (#67573, @m1kola)
- New conformance tests added for API Aggregation. (#63947, @jennybuck-ley)
- Moved fluentd-elastic search addon images to community controlled location (#73819, @coffeepac)
- Removed local etcd members from the etcd cluster when kubeadm reset (#74112, @pytimer)
- kubeadm will now not fail preflight checks when running on >= 5.0 Linux kernel (#74355, @brb)
- Scheduler cache snapshot algorithm has been optimized to improve scheduling throughput. (#74041, @bsalamat)

- It is now possible to upload certificates required to join a new control-plane to kubeadm-certs secret using the flag --experimental-upload-certs on init or upload-certs phase. (#73907, @yagonobre)
- kubectl auth reconcile now outputs details about what changes are being made (#71564, @liggitt)
- Added Kustomize as a subcommand in kubectl (#73033, @Liujingfang1)
- Added kubelet\_node\_name metrics. (#72910, @danielqsj)
- Updated AWS SDK to v1.16.26 for ECR PrivateLink support (#73435, @micahhausler)
- Expanded kubectl wait to work with more types of selectors. (#71746, @rctl)
- Added configuration for AWS endpoint fine control: (#72245, @ampsingram)
- The CoreDNS configuration now has the forward plugin for proxy in the default configuration instead of the proxy plugin. (#73267, @rajansandeep)
- Added alpha field storageVersionHash to the discovery document for each resource. Its value must be treated as opaque by clients. Only equality comparison on the value is valid. (#73191, @caesarxuchao)
- If you are running the cloud-controller-manager and you have the pvlabel.kubernetes.io alpha Initializer enabled, you must now enable PersistentVolume labeling using the PersistentVolumeLabel admission controller instead. You can do this by adding PersistentVolumeLabel in the --enable-admission-plugins kube-apiserver flag. (#73102, @andrewsykim)
- kubectl supports copying files with wild card (#72641, @dixudx)
- kubeadm now attempts to detect an installed CRI by its usual domain socket, so that --cri-socket can be omitted from the command line if Docker is not used and there is a single CRI installed. (#69366, @rosti)
- CSINodeInfo and CSIDriver CRDs have been installed in the local cluster. (#72584, @xing-yang)
- Node OS/arch labels have been promoted to GA (#73048, @yujuhong)
- Added support for max attach limit for Cinder (#72980, @gnufied)
- Enabled mTLS encryption between etcd and kube-apiserver in GCE (#70144, @wenjiaswe)
- Added ResourceVersion as a precondition for delete in order to ensure a delete fails if an unobserved change happens to an object. (#74040, @ajatprabha)
- There is now support for collecting pod logs under /var/log/pods/NAMESPACE\_NAME\_UID to stackdriver with k8s\_pod resource type. (#74502, @Random-Liu)
- Changed CRI pod log directory from /var/log/pods/UID to /var/log/pods/NAMESPACE\_NAME\_UID. (#74441, @Random-Liu)
- RuntimeClass has been promoted to beta, and is enabled by default. (#75003, @tallclair)
- New "dry\_run" metric label (indicating the value of the dryRun query parameter) has been added into the metrics:
  - apiserver\_request\_total

- apiserver\_request\_duration\_seconds
   New "APPLY" value for the "verb" metric label which indicates a PATCH with "Content-Type: apply-patch+yaml". This value is experimental and will only be present if the ServerSideApply alpha feature is enabled. (#74997, @jennybuckley)
- GCE: bumped COS image version to cos-beta-73-11647-64-0 (#75149, @yguo0905)
- Added alpha support for ephemeral CSI inline volumes that are embedded in pod specs. (#74086, @vladimirvivien)
- The NodeLease feature gate has been promoted to Beta, and is enabled by default (#72096, @wojtek-t)

# **API Changes**

• [CRI] Added a new field called runtime\_handler into PodSandbox and PodSandboxStatus to track the RuntimeClass information of a pod. (#73833, @haiyanmeng)

### Detailed Bug Fixes And Changes

## **API** Machinery

- client-go: PortForwarder.GetPorts() now contain correct local port if
  no local port was initially specified when setting up the port forwarder
  (#73676, @martin-helmich)
- Fixed an issue with missing apiVersion/kind in object data sent to admission webhooks (#74448, @liggitt)
- Prometheus metrics for crd\_autoregister, crd\_finalizer and crd\_naming\_condition\_controller are exported. (#71767, @roycaihw)
- Fixed admission metrics in seconds. (#72343, @danielqsj)
- When a watch is closed by an HTTP2 load balancer and we are told to go away, skip printing the message to stderr by default.
- Spedup kubectl by >10 when calling out to kube-apiserver for discovery information. (#73345, @sttts)
- Fixed watch to not send the same set of events multiple times causing watcher to go back in time (#73845, @wojtek-t)
- Fix kube-apiserver not to create default/kubernetes service endpoints before it reports readiness via the /healthz and therefore is ready to serve requests. Also early during startup old endpoints are remove which might be left over from a previously crashed kube-apiserver. (#74668, @sttts)
- Add a configuration field to shorten the timeout of validating/mutating admission webhook call. The timeout value must be between 1 and 30 seconds. Default to 30 seconds when unspecified. (#74562, @roycaihw)
- The apiserver, including both the kube-apiserver and apiservers built with the generic apiserver library, will now return 413 RequestEntityTooLarge error if a json patch contains more than 10,000 operations. (#74000,

- @caesarxuchao)
- Fixed an error processing watch events when running skewed apiservers (#73482, @liggitt)
- jsonpath expressions containing [start:end:step] slice are now evaluated correctly (#73149, @liggitt)
- metadata.deletionTimestamp is no longer moved into the future when issuing repeated DELETE requests against a resource containing a finalizer. (#73138, @liggitt)
- Fixed kube-apiserver not to create default/kubernetes service endpoints before it reports readiness via the /healthz and therefore is ready to serve requests. Also early during startup old endpoints are remove which might be left over from a previously crashed kube-apiserver. (#74668, @sttts)
- watch.Until now works for long durations. (#67350, @tnozicka)
- Added duration metric for CRD webhook converters. (#74376, @mbohlool)
- Fixed keymutex issues which may crash in some platforms. (#74348, @danielqsj)
- Considerably reduced the CPU load in kube-apiserver while aggregating OpenAPI specifications from aggregated API servers. (#71223, @sttts)
- Fixed graceful apiserver shutdown to not drop outgoing bytes before the process terminates. (#72970, @sttts)

### Apps

- Added deleting pods created by DaemonSet assigned to not existing nodes. (#73401, @krzysztof-jastrzebski)
- Pod eviction now honors graceful deletion by default if no delete options are provided in the eviction request. (#72730, @liggitt)

#### Auth

- Added kubectl auth can-i --list option, which allows users to know what actions they can do in specific namespaces. (#64820, @WanLinghao)
- The rules field in RBAC Role and ClusterRole objects is now correctly reported as optional in the openapi schema. (#73250, @liggitt)
- system:kube-controller-manager and system:kube-scheduler users are now permitted to perform delegated authentication/authorization checks by default RBAC policy (#72491, @liggitt)
- Error messages returned in authentication webhook status responses are now correctly included in the apiserver log (#73595, @liggitt)
- Fixed use of webhook admission plugins with multi-version custom resources (#74154, @mbohlool)

#### **AWS**

• Prevented AWS Network Load Balancer security groups ingress rules to be deleted by ensuring target groups are tagged. (#73594, @masterzen)

• AWS ELB health checks will now use HTTPS/SSL protocol for HTTPS/SSL backends. (#70309, @2rs2ts)

#### Azure

- Fixed failure to detach Azure disk when there is server side error (#74398, @andvzhangx)
- Fixed subnet annotation checking for Azure internal loadbalancer (#74498, @feiskyer)
- Fixed mixed protocol issue for Azure load balancer (#74200, @andyzhangx)
- Fixed Azure accounts timeout issue when there is no out-bound IP (#74191, @andyzhangx)
- Fixed Azure Container Registry anonymous repo image pull error (#74715, @andyzhangx)
- Fixed parse devicePath issue on Azure Disk (#74499, @andyzhangx)

#### $\mathbf{CLI}$

- Fixed --help flag parsing (#74682, @soltysh)
- Fixed a bug where kubectl describe cannot obtain the event messages for a static pod (#74156, @gaorong)
- Fixed panic when performing a set env operation on a --local resource (#65636, @juanvallejo)
- Missing directories listed in a user's PATH are no longer considered errors and are instead logged by the kubectl plugin list command when listing available plugins. (#73542, @juanvallejo)
- Now users can get object info like:
  - a. kubectl get pod test-pod -o custom-columns=CONTAINER:.spec.containers[0:3].name
  - b. kubectl get pod test-pod -o custom-columns=CONTAINER:.spec.containers[-2:].name

#### (#73063, @WanLinghao)

- The kubectl api-resources command will no longer fail to display any resources on a single failure (#73035, @juanvallejo)
- kubectl now loads config file once and uses persistent client config (#71117, @dixudx)
- Printed SizeLimit of EmptyDir in kubectl describe pod outputs. (#69279, @dtaniwaki)
- kubectl delete --all-namespaces is now a recognized flag. (#73716, @deads2k)

#### Cloud Provider

• Fixed a bug that caused PV allocation on non-English vSphere installations to fail (#73115, @alvaroaleman)

### Cluster Lifecycle

- kubeadm: fixed nil pointer dereference caused by a bug in url parsing (#74454, @bart0sh)
- CoreDNS adds readinessProbe which prevents loadbalancing to unready pods, and also allows rolling updates to work as expected. (#74137, @rajansandeep)
- kubeadm no longer allows using v1alpha3 configs for anything else than converting them to v1beta1. (#74025, @rosti)
- kubeadm: now allows the usage of --kubeconfig-dir and --config flags on kubeadm init (#73998, @yagonobre)
- kubeadm: all master components are now exclusively relying on the PriorityClassName pod spec for annotating them as cluster critical components. Since scheduler.alpha.kubernetes.io/critical-pod annotation is no longer supported by Kubernetes 1.14 this annotation is no longer added to master components. (#73857, @ereslibre)
- kubeadm no longer dumps backtrace if it fails to remove the running containers on reset. (#73951, @rosti)
- kubeadm: fixed a bug in the underlying library for diff related to characters like '%' (#73941, @neolit123)
- Scale max-inflight now limits together with master VM sizes. (#73268, @wojtek-t)
- kubeadm reset: fixed a crash caused by the absence of a configuration file (#73636, @bart0sh)
- CoreDNS is now version 1.3.1 (#73610, @rajansandeep)
- kubeadm: When certificates are present in joining a new control plane now ensures that they match at least the required SANs (#73093, @ereslibre)
- kubeadm: added back --cert-dir option for kubeadm init phase certs sa (#73239, @mattkelly)
- kubeadm: now explicitly waits for etcd to have grown when joining a new control plane (#72984, @ereslibre)
- kubeadm: now pulls images when joining a new control plane instance (#72870, @MalloZup)
- Exited kube-proxy when configuration file changes (#59176, @dixudx)
- kube-addon-manager was updated to v9.0, and now uses kubectl v1.13.2 and prunes workload resources via the apps/v1 API (#72978, @liggitt)
- kubeadm: Now allows certain certs/keys to be missing on the secret when transferring secrets using --experimental-upload-certs feature (#75415, @ereslibre)

## GCP

- Fixed liveness probe in fluentd-gcp cluster addon (#74522, @Pluies)
- Reduced GCE log rotation check from 1 hour to every 5 minutes. Rotation policy is unchanged (new day starts, log file size > 100MB). (#72062, @jpbetz)

#### Network

• Reduces the cache TTL for negative responses to 5s minimum. (#74093, @blakebarnett)

#### Node

- Fixed help message for --container-runtime-endpoint: only unix socket is support on Linux. (#74712, @feiskyer)
- Image garbage collection no longer fails for images with only one tag but more than one repository associated. (#70647, @corvus-ch)
- Re-issued Allocate grpc calls before starting a container that requests device-plugin resources if the cached state is missing. (#73824, @jiayingz)
- [CRI] Added a new field called runtime\_handler into PodSandbox and PodSandboxStatus to track the RuntimeClass information of a pod. (#73833, @haiyanmeng)
- Kubelet now tries to stop containers in unknown state once before restart or remove. (#73802, @Random-Liu)
- When pleg channel is full, events are now discarded and count is recorded (#72709, @changyaowei)
- Fixed the unexpected NotReady status when Node's iops is full if the runtime is dockershim. (#74389, @answer1991)
- Fixed #73264 cpuPeriod was not reset, but used as set via flag, although it was disabled via alpha gate (#73342, @szuecs)
- Updated kubelet CLI summary documentation and generated webpage (#73256, @deitch)
- Set a low oom\_score\_adj for containers in pods with system-critical priorities (#73758, @sjenning)
- kubelet: Resolved hang/timeout issues when running large numbers of pods with unique ConfigMap/Secret references (#74755, @liggitt)
- Events reported for container creation, start, and stop now report the container name in the message and are more consistently formatted. (#73892, @smarterclayton)
- Removed stale OutOfDisk condition from kubelet side (#72507, @dixudx)
- Fixed the setting of NodeAddresses when using the vSphere CloudProvider and nodes that have multiple IP addresses. (#70805, @danwinship)
- Fixed dockershim panic issues when deleting docker images. (#75367, @feiskyer)
- Kubelet no longer watches ConfigMaps and Secrets for terminated pods, in worst scenario causing it to not be able to send other requests to kube-apiserver (#74809, @oxddr)
- A new TaintNodesByCondition admission plugin taints newly created Node objects as "not ready", to fix a race condition that could cause pods to be scheduled on new nodes before their taints were updated to accurately reflect their reported conditions. This admission plugin is enabled by default if the TaintNodesByCondition feature is enabled.

- (#73097, @bsalamat)
- kubelet now accepts pid=<number> in the --system-reserved and --kube-reserved options to ensure that the specified number of process IDs will be reserved for the system as a whole and for Kubernetes system daemons respectively. Please reference Kube Reserved and System Reserved in Reserve Compute Resources for System Daemons in the Kubernetes documentation for general discussion of resource reservation. To utilize this functionality, you must set the feature gate SupportNodePidsLimit=true (#73651, @RobertKrawitz)

#### Scheduling

- Improved fairness of the scheduling queue by placing pods which are attempted recently behind other pods with the same priority. (#73700, @denkensk)
- Improved scheduler robustness to ensure that unschedulable pods are reconsidered for scheduling when appropriate. (#73700, #72558, @denkensk, #73078, @Huang-Wei)

#### Storage

- Fixed scanning of failed iSCSI targets. (#74306, @jsafrane)
- StorageOS volume plugin updated to fix an issue where volume mount succeeds even if request to mount via StorageOS API fails. (#69782, @darkowlzz)
- Ensured directories on volumes are group-executable when using  ${\tt fsGroup}$  (#73533, @mxey)
- Updated CSI version to 1.1 (#75391, @gnufied)
- Ensured that volumes get provisioned based on the zone information provided in allowedTopologies. (#72731, @skarthiksrinivas)
- Extended the VolumeSubpathEnvExpansion alpha feature to support environment variable expansion (#71351, @kevtaylor)
- Fixed a bug that prevented deletion of dynamically provisioned volumes in Quobyte backends. (#68925, @casusbelli)

### Testing

- e2e storage tests now run faster and are easier to read (#72434, @pohly)
- e2e.test now rejects unknown --provider values instead of merely warning about them. An empty provider name is not accepted anymore and was replaced by skeleton (a provider with no special behavior). (#73402, @pohly)
- Updated to go1.11.5 (#73326, @ixdy)
- Updated to use go1.12.1 (#75413, @BenTheElder)
- e2e tests that require SSH may now be used against clusters that have nodes without external IP addresses by setting the environment variable KUBE\_SSH\_BASTION to the host:port of a machine that is allowed to SSH

to those nodes. The same private key that the test would use is used for the bastion host. The test connects to the bastion and then tunnels another SSH connection to the node. (#72286, @smarterclayton)

- PidPressure now evicts pods from lowest priority to highest priority (#72844, @dashpole)
- Split up the mondo kubernetes-test tarball into kubernetes-test-portable and kubernetes-test-{OS}-{ARCH} tarballs. (#74065, @ixdy)

#### VMware

• Applied zone labels to vSphere Volumes automatically. The zone labels are visible on the PV: (#72687, @subramanian-neelakantan)

#### Windows

Support for Windows nodes and Windows containers went going stable.

Support for Group Managed Service Accounts (GMSA) for Windows containers in Kubernetes. GMSA are a specific type of Active Directory account that provides automatic password management, simplified service principal name (SPN) management, and the ability to delegate the management to other administrators across multiple servers.

- Fixed smb remount and unmount issues on Windows (#73661, @andyzhangx, #75087, @andyzhangx)
- Added network stats for Windows nodes and containers (#74788, @feiskyer)
- The new test [sig-network] DNS should now provide /etc/hosts entries for the cluster [LinuxOnly] [Conformance] will validate the host entries set in the /etc/hosts file (pod's FQDN and hostname), which should be managed by Kubelet. (#72729, @bclau)
- Allowed the kubelet to pass Windows GMSA credentials down to Docker (#73726, @wk8)
- Added kube-proxy support for overlay networking and DSR in Windows and new flags for network-name, source-vip, and enable-dsr. (#70896, @ksubrmnn)
- windows: Ensured graceful termination when being run as windows service (#73292, @steffengy)
- vSphere cloud provider now correctly retrieves the VM's UUID when running on Windows (#71147, @benmoss)
- Kubelet: added usageNanoCores from CRI stats provider (#73659, @feiskyer)
- Introduced support for Windows nodes into the cluster bringup scripts for GCE. (#73442, @pjh)
- Added network stats for Windows nodes and pods. (#70121, @feiskyer)
- CoreDNS is only officially supported on Linux at this time. As such, when kubeadm is used to deploy this component into your kubernetes cluster, it will be restricted (using nodeSelectors) to run only on nodes with that

operating system. This ensures that in clusters which include Windows nodes, the scheduler will not ever attempt to place CoreDNS pods on these machines, reducing setup latency and enhancing initial cluster stability. (#69940, @MarcPow)

## **External Dependencies**

- Default etcd server and client have been updated to v3.3.10. (#71615, #70168)
- The list of validated docker versions has changed. 1.11.1 and 1.12.1 have been removed. The current list is 1.13.1, 17.03, 17.06, 17.09, 18.06, 18.09. (#72823, #72831)
- The default Go version was updated to 1.12.1. (#75422)
- CNI has been updated to v0.7.5 (#75455)
- CSI has been updated to v1.1.0. (#75391)
- The dashboard add-on has been updated to v1.10.1. (#72495)
- Cluster Autoscaler has been updated to v1.14.0 (#75480)
- kube-dns is unchanged at v1.14.13 since Kubernetes 1.12 (#68900)
- Influxdb is unchanged at v1.3.3 since Kubernetes 1.10 (#53319)
- Grafana is unchanged at v4.4.3 since Kubernetes 1.10 (#53319)
- Kibana has been upgraded to v6.6.1. (#71251)
- CAdvisor has been updated to v0.33.1 (#75140)
- fluentd-gcp-scaler is unchanged at v0.5.0 since Kubernetes 1.13 (#68837)
- Fluentd in fluentd-elasticsearch has been upgraded to v1.3.3 (#71180)
- fluentd-elasticsearch has been updated to v2.4.0 (#71180)
- The fluent-plugin-kubernetes\_metadata\_filter plugin in fluentd-elasticsearch has been updated to v2.1.6 (#71180)
- fluentd-gcp is unchanged at v3.2.0 since Kubernetes 1.13 (#70954)
- OIDC authentication is unchanged at coreos/go-oidc v2 since Kubernetes 1.10 (#58544)
- Calico is unchanged at v3.3.1 since Kubernetes 1.13 (#70932)
- crictl on GCE is unchanged at v1.12.0 since Kubernetes 1.13 (#69033)
- CoreDNS has been updated to v1.3.1 (#73610)
- event-exporter has been updated to v0.2.3 (#67691)
- Es-image has been updated to Elasticsearch 6.6.1 (#71252)

- metrics-server remains unchanged at v0.3.1 since Kubernetes 1.12 (#68746)
- $\bullet$  GLBC remains unchanged at v1.2.3 since Kubernetes 1.12 (#66793)
- Ingress-gce remains unchanged at v1.2.3 since Kubernetes 1.12 (#66793)
- ip-masq-agen remains unchanged at v2.1.1 since Kubernetes 1.12 (#67916)
- v1.14.0-rc.1
- v1.14.0-beta.2
- v1.14.0-beta.1
- $\bullet v1.14.0$ -alpha.3
- $\bullet v1.14.0$ -alpha.2
- v1.14.0-alpha.1

# v1.14.0-rc.1

Documentation

# Downloads for v1.14.0-rc.1

filename si	sha512 hash
	5cb5e8b14b301864063fd7531ab3b755fea054f540c55ecce70ac49fb591934

#### Client Binaries

sha512 hash	
ea304f3f8188db30cddd5423b25dc434b8f05315103f77	73619a65f83bee872
17e106b63067429b9228a4879a7350c01ae98650ef2e6f	cc23d00415c2e3a7
406323ea4cbd524807e73b9a2f4eb0a813730b262402c2	224e5076080b844521
293747816e5da30c53ca29f27479fae880404edd5fca41	l3af165e52cc7ea7f1
98b6749c367282048ecd0c5b70ae8b7dafad82c599e359	cbbe782a530bbd7bd
	ļ
0a650c53946ebd9c38705df36efabbf1fbe3da1acdf418	3cc4ab881530e6a908
807263f316f46c9334ec4dad84895cfe2b942ac4ed9aac	cf3ec8a63193e0d0a6
	sha512 hash ea304f3f8188db30cddd5423b25dc434b8f05315103f77 17e106b63067429b9228a4879a7350c01ae98650ef2e6f 406323ea4cbd524807e73b9a2f4eb0a813730b262402c2 293747816e5da30c53ca29f27479fae880404edd5fca41 98b6749c367282048ecd0c5b70ae8b7dafad82c599e358 0a650c53946ebd9c38705df36efabbf1fbe3da1acdf418 807263f316f46c9334ec4dad84895cfe2b942ac4ed9aa6

filename	sha512 hash
kubernetes-client-linux- s390x.tar.gz	5589562ce0da49f4987388e3e2b6fcf29e92859fae65fb57cdd61bba20ff574
kubernetes-client-windows- 386.tar.gz	101245cd70221b443150be046e5b5a2c6c83334085bb17f603f59bb68c5960f
kubernetes-client-windows- amd64.tar.gz	b1c3802f60cc70ebc1258cb8fc4ffa1154ecee8fda473b033be4f9d1b187354

# Server Binaries

		•
filename	sha512 hash	
kubernetes-server-linux- amd64.tar.gz	8e09465aab0a1d1ec39afc98af17de9b5de99	)b763c0c5feb2dc824f2bbae256
kubernetes-server-linux- arm.tar.gz	9409c368e1f9f26e633b7df5d6c9043539493	31d48a21f4ad1548d172b18ac46
kubernetes-server-linux- arm64.tar.gz	3893290dc11ca71746fee77a44a607ad9e020	036bab56b7fc3be247b71b2cf5b
kubernetes-server-linux- ppc64le.tar.gz	8ac1e70cb39aeb5b1fe92c3ebba428db2036b	pe739f462cc2f876f17dc71a01l
kubernetes-server-linux- s390x.tar.gz	80576cb6cc3a69c4fc0a0358dee5772ecb384	37c534a3454c9613426417d4aa

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	71cd5dd6075a2eea851231a5a855e58b3f479d83358defafd068dd1d09e5b2
kubernetes-node-linux- arm.tar.gz	48babf4a52013c2bc69049167579ba1bc70c769b782a2704c9dfcf44a6a8a72
kubernetes-node-linux- arm64.tar.gz	cc19a52beaa7440ca7581e85d1e10137e93c2decdb7d7d7919e7fdcded63e4d
kubernetes-node-linux- ppc64le.tar.gz	241bf20ae366384efa0fb3798e07e1cdd3d4ea7ba91c146ef7761fb0b93a85
kubernetes-node-linux- s390x.tar.gz	37ce3e021073c6c10cf240fb2c3f9a7ab35ece3c0b4a9fecbbdf790eb348b16
kubernetes-node-windows- amd64.tar.gz	3248db12c274171f094ef41d6a59523aec35655ba35d151576ff2d2089c269f

# Changelog since v1.14.0-beta.2

### Action Required

• ACTION REQUIRED: Health check (liveness & readiness) probes using an HTTPGetAction will no longer follow redirects to different hostnames from the original probe request. Instead, these non-local redirects will be treated as a Success (the documented behavior). In this case an event with reason "ProbeWarning" will be generated, indicating that the redirect was ignored. If you were previously relying on the redirect to run health checks against different endpoints, you will need to perform the healthcheck logic outside the Kubelet, for instance by proxying the external endpoint rather than redirecting to it. (#75416, @tallclair)

#### Other notable changes

- Restores –username and –password flags to kubectl (#75451, @liggitt)
- fix race condition issue for smb mount on windows (#75371, @andyzhangx)
- UDP Service countrack entries for ExternalIPs are now correctly cleared when endpoints are added (#75265, @JacobTanenbaum)
- kubeadm: the kubeadm init output now provides join control-plane example only when the preconditions for joining a control plane are satisfied (#75420, @fabriziopandini)
- Fix dockershim panic issues when deleting docker images. (#75367, @feiskyer)
- kubeadm: Allow certain certs/keys to be missing on the secret when transferring secrets using --experimental-upload-certs feature (#75415, @ereslibre)
- Update to use go1.12.1 (#75413, @BenTheElder)
- Update CSI version to 1.1 (#75391, @gnufied)
- Ensure ownership when deleting a load balancer security group (#74311, @hpedrorodrigues)
- kubelet: updated logic of verifying a static critical pod. (#75144, @Huang-Wei)
- Allow disable outbound SNAT when Azure standard load balancer is used together with outbound rules. (#75282, @feiskyer)
- Add ResourceVersion as a precondition for delete in order to ensure a delete fails if an unobserved change happens to an object. (#74040, @ajatprabha)
- $\bullet$  Services of type=LoadBalancer which have no endpoints will now immediately ICMP reject connections, rather than time out. (#74394, @thockin)
- Ensure Azure load balancer cleaned up on 404 or 403 when deleting LoadBalancer services. (#75256, @feiskyer)

### v1.14.0-beta.2

Documentation

# Downloads for v1.14.0-beta.2

filename	sha512 hash
kubernetes.tar.gz	c1d5f2615c3319fc167c577f40f385abe6652bf4fd3bdb04617b36029dc300
kubernetes-src.tar.gz	0a8d8ed208bc0bf424060126c76fcd8dbbd53a9b9695647314a4097f7013f5

# Client Binaries

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	c919d030255c5d3879926d8aaa53939cd5aa37084799748452166ca6668bd
kubernetes-client-darwin- amd64.tar.gz	ec14d4a1d720890065211544b099be17315265534cfd20435194dc842cc80
kubernetes-client-linux- 386.tar.gz	6cee12be5b855600ee80f15d1e0511099941b099bd5b252549abdc2a65c07
kubernetes-client-linux- amd64.tar.gz	27d8cd48c1f3259055965b85a6b973ecb5b8a36894f94c232d773f89539e26
kubernetes-client-linux- arm.tar.gz	7f98230569c61fdf2b141e519f042b2e27ff37aeda746dc30bb7ce226b5d6
kubernetes-client-linux- arm64.tar.gz	159da67010af38d87c5318b7ad594120afd6a9b780d11d6e607e7214862cd
kubernetes-client-linux- ppc64le.tar.gz	d8ca7871d3d40947db69061284cb31c4d072d4da56fbb11a4485f6853f0418
kubernetes-client-linux- s390x.tar.gz	1c58db90b6e09b8d8f956a00263cb20271b8403f7fb6c5b20d76cca9ed973
kubernetes-client-windows- 386.tar.gz	00fb87dd4899208dd6607c22828f3985ebfd5e1f97cb24e3b2c69c249a488
kubernetes-client-windows- amd64.tar.gz	7afdf637d62dde480162ad1521360b2bc78e0d4d20f6e6201e2f19b55b8e9

# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	2ac3c4910cd36f02a62304d78fe144b821edf445c522028e6b57d2dc3bcc738
kubernetes-server-linux- arm.tar.gz	db06b5f1a83ca4ec82428ab771eae2858b188dc23780fb9b146494c06aa617
kubernetes-server-linux- arm64.tar.gz	b40e1745d1ecfcc95f3a750990244fa128381d6d74246798a62aecb8cec9c77
kubernetes-server-linux- ppc64le.tar.gz	c84297fd2b18b6bdade5a135a3da929e286bbba5c8dd66778091bad4eea1ac4

filename	sha512 hash
kubernetes-server-linux- s390x.tar.gz	39c8f6e7f52bec155b11652b4e80c2c52acf8754dbdf80a9d5bab5370d1deb

#### **Node Binaries**

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	bf19ae7140836aea1b6f414532eff886e3b91e0746b9224ce46e60e0b83fa90
kubernetes-node-linux- arm.tar.gz	4b8194340a8675107da3969845173fb34ed2b0a38745ec0ac395ebf2116ee84
kubernetes-node-linux- arm64.tar.gz	8494dae5225f3b543afd575003fe0f30eb0f3cf9bc9dfbae72d6bda8f17c544
kubernetes-node-linux- ppc64le.tar.gz	0bd41d95f0a76c1b057a8913a8b2cffbf6d48c47aef1d9beed0de205b8010e8
kubernetes-node-linux- s390x.tar.gz	169b16512df42a6cb5b000a3d6d6da5ae48a733c5d11b034eaec6b3816b86ed
kubernetes-node-windows- amd64.tar.gz	ccfebde5176cb28529552889250bf706add04df3c3f9aee5b8bdd9ebdb5bce3

# Changelog since v1.14.0-beta.1

### **Action Required**

- ACTION REQUIRED: The node.k8s.io API group and runtime-classes.node.k8s.io resource have been migrated to a built-in API. If you were using RuntimeClasses (an default-disabled alpha feature, as of Kubernetes v1.12), then you must recreate all RuntimeClasses after upgrading, and the runtimeclasses.node.k8s.io CRD should be manually deleted. RuntimeClasses can no longer be created without a defined handler. (#74433, @tallclair)
  - Introduce a RuntimeClass v1beta1 API. This new beta API renames runtimeHandler to handler, makes it a required field, and cuts out the spec (handler is a top-level field).
- Transition CSINodeInfo and CSIDriver alpha CRDs to in-tree CSINode and CSIDriver core storage v1beta1 APIs. (#74283, @xing-yang)
  - ACTION REQUIRED: the alpha CRDs are no longer used and drivers will need to be updated to use the beta APIs.
  - The support for \_ in the CSI driver name will be dropped as the CSI Spec does not allow that.

### Other notable changes

• Support collecting pod logs under /var/log/pods/NAMESPACE\_NAME\_UID to stackdriver with k8s\_pod resource type. (#74502, @Random-Liu)

- -make-symlinks for hyperkube was marked hidden for a while, This flag is now deprecated and will be removed in a future release. (#74975, @dims)
- fix smb unmount issue on Windows (#75087, @andyzhangx)
- Kubelet no longer watches configmaps and secrets for terminated pods, in worst scenario causing it to not be able to send other requests to kube-apiserver (#74809, @oxddr)
- Fixes a bug concerning Quobyte volumes where user mappings only worked if the hosts Kubernetes plugin mount was provided via an external configuration using the *allow-usermapping-in-volumename* option. (#74520, @casusbelli)
- Change CRI pod log directory from /var/log/pods/UID to /var/log/pods/NAMESPACE\_NAME\_UID. (#74441, @Random-Liu)
  - It is recommended to drain the node before upgrade, or reboot the node after upgrade.
- Promote RuntimeClass to beta, and enable by default. (#75003, @tallclair)
- New "dry\_run" metric label (indicating the value of the dryRun query parameter) into the metrics: (#74997, @jennybuckley)
  - apiserver\_request\_total
  - apiserver\_request\_duration\_seconds
  - New "APPLY" value for the "verb" metric label which indicates a PATCH with "Content-Type: apply-patch+yaml". This value is experimental and will only be present if the ServerSideApply alpha feature is enabled.
- GCE: bump COS image version to cos-beta-73-11647-64-0 (#75149, @yguo0905)
- Add duration metric for CRD webhook converters (#74376, @mbohlool)
- Alpha support for ephemeral CSI inline volumes that are embedded in pod specs. (#74086, @vladimirvivien)
- Add support for node side CSI volume expansion (#74863, @gnufied)
- Add mechanism for Admission Webhooks to specify which version of Admission Review they support (#74998, @mbohlool)
  - Add mechanism for CRD Conversion Webhooks to specify which version of ConversionReview they support
- Add a new kubelet endpoint for serving first-class resource metrics (#73946, @dashpole)
- Deprecate AWS, Azure, GCE and Cinder specific volume limit predicates. (#74544, @gnufied)
- PodReadinessGate feature is now GA. The feature gate will not allow disabling it. (#74434, @freehan)
- If CSINodeInfo and CSIMigration feature flags are active in the cluster, Kubelet will post NotReady until CSINode is initialized with basic volume plugin mechanism information for well-known drivers (#74835, @davidz627)
- Add network stats for Windows nodes and containers (#74788, @feiskyer)
- kubeadm: when calling "reset" on a control-plane node, remove the API-Endpoint information for this node from the ClusterStatus in the kubeadm

- ConfigMap. (#75082, @neolit123)
- kube-apiserver now serves OpenAPI specs for registered CRDs with defined (#71192, @roycaihw)
  - validation schemata as an alpha feature, to be enabled via the "CustomResourcePublishOpenAPI" feature gate. Kubectl will validate client-side using those. Note that in
  - -future, client-side validation in 1.14 kubectl against a 1.15 cluster will reject
  - unknown fields for CRDs with validation schema defined.
- Fix kubelet start failure issue on Azure Stack due to InstanceMetadata setting (#74936, @rjaini)
- add subcommand kubectl create cronjob (#71651, @Pingan2017)
- The CSIBlockVolume feature gate is now beta, and defaults to enabled. (#74909, @bswartz)
- Pre-existing log files are now opened with O\_APPEND, instead of O\_TRUNC. This helps prevent losing logs when components crash-loop, and also enables external log rotation utilities to truncate log files in-place without components extending log files to their pre-truncation sizes on subsequent writes. (#74837, @mtaufen)
- the test/e2e/e2e.test binary can test arbitrary storage drivers, see the -storage.testdriver parameter (#72836, @pohly)
- Fix panic in kubectl cp command (#75037, @soltysh)
- iscsi modules haven't even been loaded /sys/class/iscsi\_host directory won't exist (#74787, @jianglingxia)
- the fluentd addon daemonset will now target all nodes. (#74424, @liggitt)
  - setting ENABLE\_METADATA\_CONCEALMENT=true in kube-up will now set a cloud.google.com/metadata-proxy-ready=true label on new nodes. In v1.16, the metadata proxy add-on will switch to using that label as a node selector.
  - setting KUBE\_PROXY\_DAEMONSET=true in kube-up will now set a node.kubernetes.io/kube-proxy-ds-ready=true label on new nodes. In v1.16, the kube-proxy daemonset add-on will switch to using that label as a node selector.
  - In 1.16, the masq-agent daemonset add-on will switch to using node.kubernetes.io/masq-agent-ds-ready as a node selector.
- Kubelet: replace du and find with a golang implementation (#74675, @dashpole)
  - Kubelet: periodically update machine info to support hot-add/remove
- kubeadm: add certificate-key and skip-certificate-key-print flags to kubeadm init (#74671, @yagonobre)
- Admission webhooks rules can now limit scope to only match namespaced, or only cluster-scoped resources with a scope: "Cluster" | "Namespaced" | "\*" field. (#74477, @liggitt)
- The CSIPersistentVolume and KubeletPluginWatcher feature gates cannot be disabled, and will be removed in Kubernetes v1.16 (#74830, @msau42)
- Kubelet won't evict a static pod with priority system-node-critical

- upon resource pressure. (#74222, @Huang-Wei)
- Fixes panic if a kubelet is run against an older kube-apiserver (#74529, @liggitt)
- The resource group name in Azure providerID is not converted to lower cases. (#74882, @feiskyer)
- Remove the out-of-tree PersistentVolumeLabel controller because it cannot run without Initializers (removed in v1.14). If you are using AWS EBS, GCE PD, Azure Disk, Cinder Disk or vSphere volumes and rely on zone labels, then enable the PersistentVolumeLabel admission controller in the kube-apiserver in the --enable-admission-plugins flag. (#74615, @andrewsvkim)
- kubeadm: improved RequiredIPVSKernelModulesAvailable warning message (#74033, @bart0sh)
- Add nullable support to CustomResourceDefinition OpenAPI validation schemata. (#74804, @sttts)
- Fix kube-apiserver not to create default/kubernetes service endpoints before it reports readiness via the /healthz and therefore is ready to serve requests. Also early during startup old endpoints are remove which might be left over from a previously crashed kube-apiserver. (#74668, @sttts)
- kubeadm: fix a bug where standard kubeconfig paths were searched even if the user provided /etc/kubernetes/admin.conf explicitly for commands that accept -kubeconfig, like kubeadm token. (#71874, @neolit123)
  - kubeadm: use the default kubeconfig (/etc/kubernetes/admin.conf) for "kubeadm reset" and "kubeadm upgrade" commands.
- Increase api server client certificate expiration histogram resolution to accommodate short-lived (< 6h) client certificates. (#74806, @mxinden)
- Default RBAC policy no longer grants access to discovery and permission-checking APIs (used by kubectl auth can-i) to unauthenticated users. Upgraded clusters preserve prior behavior, but cluster administrators wishing to grant unauthenticated users access in new clusters will need to explicitly opt-in to expose the discovery and/or permission-checking APIs: (#73807, @dekkagaijin)
  - kubectl create clusterrolebinding anonymous-discovery --clusterrole=system:discovery --group=system:unauthenticated
  - kubectl create clusterrolebinding anonymous-access-review
    --clusterrole=system:basic-user --group=system:unauthenticated
- The PersistentLocalVolumes feature is GA. The feature gate cannot be disabled and will be removed in Kubernetes 1.17 (#74769, @msau42)
- kubelet: resolved hang/timeout issues when running large numbers of pods with unique configmap/secret references by reverting to 1.11 configmap/secret lookup behavior (#74755, @liggitt)
- Convert latency/latencies in metrics name to duration. (#74418, @danielqsj)
  - The following metrics are changed and mark previous metrics as deprecated:
    - $*\ \texttt{rest\_client\_request\_latency\_seconds} -> \texttt{rest\_client\_request\_duration\_seconds}$

- \* apiserver\_proxy\_tunnel\_sync\_latency\_secs-> apiserver\_proxy\_tunnel\_sync\_duration
- \* scheduler\_scheduling\_latency\_seconds-> scheduler\_scheduling\_duration\_seconds
- Fix help message for –container-runtime-endpoint: only unix socket is support on Linux. (#74712, @feiskyer)
- Update to use golang 1.12 (#74632, @cblecker)
- The RunAsGroup feature has been promoted to beta and enabled by default. PodSpec and PodSecurityPolicy objects can be used to control the primary GID of containers on supported container runtimes. (#73007, @krmayankk)
- fix Azure Container Registry anonymous repo image pull error (#74715, @andyzhangx)
- Adds the same information to an init container as a standard container in a pod when using PodPresets. (#71479, @soggiest)
- fix the flake in scheduling queue test.go (#74611, @denkensk)
- The kube-apiserver OpenAPI definitions with the prefix "io.k8s.kubernetes.pkg" (deprecated since 1.9) have been removed. (#74596, @sttts)
- kube-conformance image will now run ginkgo with the –dryRun flag if the container is run with the environment variable E2E\_DRYRUN set. (#74731, @johnSchnake)
- The deprecated MountPropagation feature gate has been removed, and the feature is now unconditionally enabled. (#74720, @bertinatto)
- Introduce dynamic volume provisioning shim for CSI migration (#73653, @ddebroy)
- Fix -help flag parsing (#74682, @soltysh)
- This PR removes the following metrics: (#74636, @logicalhan)
  - reflector items per list
  - reflector items per watch
  - reflector\_last\_resource\_version
  - reflector\_list\_duration\_seconds
  - reflector lists total
  - reflector\_short\_watches\_total
  - reflector watch duration seconds
  - reflector watches total
  - While this is a backwards-incompatible change, it would have been impossible to setup reliable monitoring around these metrics since the labels were not stable.
- Add a configuration field to shorten the timeout of validating/mutating admission webhook call. The timeout value must be between 1 and 30 seconds. Default to 30 seconds when unspecified. (#74562, @roycaihw)
- client-go: PortForwarder.GetPorts() now contain correct local port if no local port was initially specified when setting up the port forwarder (#73676, @martin-helmich)
- The examples in kubectl apply/get/delete are updated to support -k which uses a kustomization.yaml file. (#74140, @Liujingfang1)
- kubeadm: Allow to download certificate secrets uploaded by init or upload-certs phase, allowing to transfer certificate secrets (certificates

- and keys) from the cluster to other master machines when creating HA deployments. (#74168, @ereslibre)
- Fixes an issue with missing apiVersion/kind in object data sent to admission webhooks (#74448, @liggitt)
- client-go: the deprecated versionless API group accessors (like clientset.Apps() have been removed). Use an explicit version instead (like clientset.AppsV1()) (#74422, @liggitt)
- The --quiet option to kubectl run now suppresses resource deletion messages emitted when the --rm option is specified. (#73266, @awh)
- Add Custom Resource support to "kubectl autoscale" (#72678, @rmohr)
- Image garbage collection no longer fails for images with only one tag but more than one repository associated. (#70647, @corvus-ch)
- Fix liveness probe in fluentd-gcp cluster addon (#74522, @Pluies)
- The new test [sig-network] DNS should provide /etc/hosts entries for the cluster [LinuxOnly] [Conformance] will validate the host entries set in the /etc/hosts file (pod's FQDN and hostname), which should be managed by Kubelet. (#72729, @bclau)
  - The test has the tag [LinuxOnly] because individual files cannot be mounted in Windows Containers, which means that it cannot pass using Windows nodes.

# v1.14.0-beta.1

Documentation

#### Downloads for v1.14.0-beta.1

filename	sha512 hash	
kubernetes.tar.gz	065014c751635f8c077fbcc105df578594baf8a	afd8b8339004909198e1bd68d
kubernetes-src.tar.gz	244c19d9fad21ae154ee78fc94888dc60bcfcf3	3ec72bdc28a82e77c572cbc96

#### Client Binaries

filename	sha512 hash
kubernetes-client-darwin- 386.tar.gz	78a61a1e922daa39a9f7dd61b8bad87d202b537bda59f90ae8aae941c0ff41
kubernetes-client-darwin- amd64.tar.gz	5a1d66fd90a5dc07b95b7617b5583595e0a4a664e7005f6281f846c85b21e2
kubernetes-client-linux- 386.tar.gz	30991ce0776bae7551b98a811e3ccb5104b0859805c41a216db7d5779cddfb
kubernetes-client-linux- amd64.tar.gz	5501a9c3a95e43f0c691b05043546f2c497d50a6ad88b88219842d61be83d7

filename	sha512 hash
kubernetes-client-linux- arm.tar.gz	4bf341a2f943719d006f4cacc26fdf4d021560d37d49c8d9c4620d29414204
kubernetes-client-linux- arm64.tar.gz	1c0c660618947b053404ab8ef40bdec0a06d54a1f9edc585a7259806f87832
kubernetes-client-linux- ppc64le.tar.gz	9d2c3f4bfbad03b41859670f9cfda6596f51a89077fd4da2f74490f71b5de1
kubernetes-client-linux- s390x.tar.gz	9be5259caf39ff3c4d0f024d616bff50ac417d42a87c56b6877fbdf5aaadec
kubernetes-client-windows- 386.tar.gz	5b1e75f532d9a4d656cd1c5ec48a19d01c4ca731c6c3d986ebbc48a9f1e1d6
kubernetes-client-windows- amd64.tar.gz	a501d3c0be55d5a73214a83d1f48b39a49d4a84f5f9988fa34cf66ef6bc78d

# Server Binaries

filename	sha512 hash	
kubernetes-server-linux- amd64.tar.gz	aed44ec5bc6bdaf41c20824a9841ee541bfd23362966f9326eca2cafbd0	Зеса
kubernetes-server-linux- arm.tar.gz	e751cb675013183a70a8817dca0b5c456a1ccf075244b411317e813b516	4ae7
kubernetes-server-linux- arm64.tar.gz	3aabb1a9bd07413d0740adfb638b0e5ca4cd4a58eda244c5ebc1ea01780	e0b2
kubernetes-server-linux- ppc64le.tar.gz	3c57e2b47b3b9ddc1039684840886877947141b1e4d31f909793678544f	e92e
kubernetes-server-linux- s390x.tar.gz	fe418cfafc63cbccc1898086296e52026df27ff498753089792175ce0d4	1d88

# Node Binaries

sha512 hash
83b63d7e9d18fe35564105fd70629af9ba8f20112933b3ace92a4888770286
e4ac000be25ced9b308ec698da9702bd10a0a7183bfea9648500ab9d087998
35fa5ec8a7fc001fe33abd89f8a446ce0ea2a011db27dc8ff544c2b199b065
a5b938e9cdc39fc292269af4c3961a17b9bcdaf85b3c58db680f2d1a4fb0886
d8e2b5a945f881ddb0a25576a614d564ccef0ad4e93c84b30cdc57888e81e0

filename	sha512 hash
kubernetes-node-windows-	426774466800ca11cae16821c7d92917b2ce138fcb3f6dca813ec0f060649d
amd64.tar.gz	

## Changelog since v1.14.0-alpha.3

### **Action Required**

- Added cadvisor metric labels pod and container where pod\_name and container\_name are present to match instrumentation guidelines. (#69099, @ehashman)
  - Action required: any Prometheus queries that match pod\_name and container\_name labels (e.g. cadvisor or kubelet probe metrics) should be updated to use pod and container instead. pod\_name and container\_name labels will be present alongside pod and container labels for one transitional release and removed in the future.

### Other notable changes

- fix parse devicePath issue on Azure Disk (#74499, @andyzhangx)
- fix issue: fail to detach azure disk when there is server side error (#74398, @andyzhangx)
- Allow Cinder volume limit to be configured from node too (#74542, @gnufied)
- Fix subnet annotation checking for Azure internal loadbalancer (#74498, @feiskver)
- Allow the kubelet to pass Windows GMSA credentials down to Docker (#73726, @wk8)
- PriorityClass in scheduling.k8s.io/v1beta1 and scheduling.k8s.io/v1alpha1 are deprecated by PriorityClass scheduling.k8s.io/v1 and will not be served starting in v1.17. (#74465, @bsalamat)
- kubeadm: fixed nil pointer dereference caused by a bug in url parsing (#74454, @bart0sh)
- Fix the unexpected NotReady status when Node's iops is full if the runtime is dockershim. (#74389, @answer1991)
- Split up the mondo kubernetes-test tarball into kubernetes-test-portable and kubernetes-test-{OS}-{ARCH} tarballs. (#74065, @ixdy)
- Move fluentd-elasticsearch addon images to community controlled location (#73819, @coffeepac)
- The PriorityClass API has been promoted to scheduling.k8s.io/v1 with no changes. The scheduling.k8s.io/v1beta1 version is now deprecated and will stop being served by default in v1.17. (#73555, @bsalamat)
- fix get azure accounts timeout issue when there is no out-bound IP (#74191, @andyzhangx)
- fix mixed protocol issue for azure load balancer (#74200, @andyzhangx)

- Don't update the Pod object after each scheduling attempt by adding a timestamp to the scheduling queue. (#73700, @denkensk)
- kubeadm: remove local etcd members from the etcd cluster when kubeadm reset (#74112, @pytimer)
- Fix keymutex issues which may crash in some platforms. (#74348, @danielqsj)
- Fixed scanning of failed iSCSI targets. (#74306, @jsafrane)
- kubeadm: Do not fail preflight checks when running on >= 5.0 Linux kernel (#74355, @brb)
- Reduces the cache TTL for negative responses to 5s minimum. (#74093, @blakebarnett)
- The Ingress API is now available via networking.k8s.io/v1beta1. extensions/v1beta1 Ingress objects are deprecated and will no longer be served in v1.18. (#74057, @liggitt)
- kubelet's –containerized flag will no longer be supported and will be removed in a future release (#74267, @dims)
- Optimize scheduler cache snapshot algorithm to improve scheduling throughput. (#74041, @bsalamat)
- Extends the VolumeSubpathEnvExpansion alpha feature to support environment variable expansion (#71351, @kevtaylor)
  - Implements subPathExpr field for expanding environment variables into a subPath
  - The fields subPathExpr and subPath are mutually exclusive
  - Note: This is a breaking change from the previous version of this alpha feature
- Added kube-proxy support for overlay networking and DSR in Windows and new flags for network-name, source-vip, and enable-dsr. (#70896, @ksubrmnn)
- StorageOS volume plugin updated to fix an issue where volume mount succeeds even if request to mount via StorageOS API fails. (#69782, @darkowlzz)
- kubeadm: Allow to upload certificates required to join a new control-plane to kubeadm-certs secret using the flag --experimental-upload-certs on init or upload-certs phase. (#73907, @yagonobre)
- export query parameter is deprecated and will be removed in a future release (#73783, @deads2k)
- e2e storage tests run faster and are easier to read (#72434, @pohly)
- kubectl: fix a bug where "describe" cannot obtain the event messages for a static pod (#74156, @gaorong)
- windows: Ensure graceful termination when being run as windows service (#73292, @steffengy)
- CoreDNS adds readinessProbe which prevents loadbalancing to unready pods, and also allows rolling updates to work as expected. (#74137, @rajansandeep)
- Fixes use of webhook admission plugins with multi-version custom resources (#74154, @mbohlool)

- kubeadm no longer allows using v1alpha3 configs for anything else than converting them to v1beta1. (#74025, @rosti)
- Change kubelet metrics to conform metrics guidelines. (#72470, @danielqsj)
  - The following metrics are deprecated, and will be removed in a future release:
    - \* kubelet\_pod\_worker\_latency\_microseconds
    - \* kubelet\_pod\_start\_latency\_microseconds
    - \* kubelet\_cgroup\_manager\_latency\_microseconds
    - \* kubelet\_pod\_worker\_start\_latency\_microseconds
    - \* kubelet\_pleg\_relist\_latency\_microseconds
    - \* kubelet\_pleg\_relist\_interval\_microseconds
    - \* kubelet\_eviction\_stats\_age\_microseconds
    - \* kubelet runtime operations
    - \* kubelet runtime operations latency microseconds
    - \* kubelet runtime operations errors
    - \* kubelet\_device\_plugin\_registration\_count
    - \* kubelet\_device\_plugin\_alloc\_latency\_microseconds
  - Please convert to the following metrics:
    - \* kubelet\_pod\_worker\_duration\_seconds
    - \* kubelet\_pod\_start\_duration\_seconds
    - \* kubelet\_cgroup\_manager\_duration\_seconds
    - \* kubelet\_pod\_worker\_start\_duration\_seconds
    - \* kubelet\_pleg\_relist\_duration\_seconds
    - \* kubelet\_pleg\_relist\_interval\_seconds
    - \* kubelet eviction stats age seconds
    - \* kubelet\_runtime\_operations\_total
    - \* kubelet\_runtime\_operations\_duration\_seconds
    - \* kubelet\_runtime\_operations\_errors\_total
    - \* kubelet\_device\_plugin\_registration\_total
    - \* kubelet device plugin alloc duration seconds
- This change ensures that volumes get provisioned based on the zone information provided in allowedTopologies. (#72731, @skarthiksrinivas)

```
Storage class spec: kind: StorageClass apiVersion: storage.k8s.io/v1 metadata: name: fastpolicy1
```

provisioner: kubernetes.io/vsphere-volume parameters:

diskformat: zeroedthick storagePolicyName: vSAN

Default Storage Policy allowedTopologies: - matchLabelExpressions:

- key: failure-domain.beta.kubernetes.io/zone values:
- zone1
  - PV creation Logs:
  - I0109 11:17:52.321372 1 vsphere.go:1147] Starting to create a vSphere volume with volumeOptions: &{CapacityKB:1048576 Tags:map[kubernetes.io/created-for/pvc/name:pvcsc-1-policy kubernetes.io/created-for/pvc/name:pvcsc-1-policy kubernetes.io/created-for/pv/name:pvcs-34650c12-1400-11e9-aef4-005056804cc9] Name:kubernetes-

dynamic-pvc-34650c12-1400-11e9-aef4-005056804cc9 DiskFormat:zeroedthick Datastore: VSANStorageProfileData: StoragePolicyName:vSAN Default Storage Policy StoragePolicyID: SCSIControllerType: Zone:[zone1]}

**–** ..

- I0109 11:17:59.430113 1 vsphere.go:1334] The canonical volume path for the newly created vSphere volume is "[vsanDatastore] 98db185c-6683-d8c7-bc55-0200435ec5da/kubernetes-dynamic-pvc-34650c12-1400-11e9-aef4-005056804cc9.vmdk"
- Ran regression tests (no zone) and they passed.
- vSphere cloud provider correctly retrieves the VM's UUID when running on Windows (#71147, @benmoss)
- Re-issue Allocate grpc calls before starting a container that requests deviceplugin resources if the cached state is missing. (#73824, @jiayingz)
- [CRI] Add a new field called runtime\_handler into PodSandbox and PodSandboxStatus to track the RuntimeClass information of a pod. (#73833, @haiyanmeng)
- kubelet: OS and Arch information is now recorded in kubernetes.io/os and kubernetes.io/arch labels on Node objects. The previous labels (beta.kubernetes.io/os and beta.kubernetes.io/arch) are still recorded, but are deprecated and targeted for removal in 1.18. (#73333, @yujuhong)
- This change applies zone labels to vSphere Volumes automatically. The zone labels are visible on the PV: (#72687, @subramanian-neelakantan)
  - \$ kubectl get pv -show-labels
  - NAME CAPACITY ACCESSMODES STATUS CLAIM REASON AGE LABELS
  - pv-abc 5Gi RWO Bound default/claim1 46s failure-domain.beta.kubernetes.io/region=VC1,failure-domain.beta.kubernetes.io/zone=cluster-1
- fix smb remount issue on Windows (#73661, @andyzhangx)
- Kubelet now tries to stop containers in unknown state once before restart or remove. (#73802, @Random-Liu)
- Deprecate –export flag from kubectl get command. (#73787, @soltysh)
- Breaking changes in client-go: (#72214, @caesarxuchao)
  - The disk-cached discovery client is moved from k8s.io/client-go/discovery/cached/disk.
  - The memory-cached discovery client is moved from k8s.io/client-go/discovery/cached to k8s.io/client-go/discovery/cached/memory.
- kubelet now accepts pid=<number> in the --system-reserved and --kube-reserved options to ensure that the specified number of process IDs will be reserved for the system as a whole and for Kubernetes system daemons respectively. Please reference Kube Reserved and System Reserved in Reserve Compute Resources for System Daemons in the Kubernetes documentation for general discussion of resource reservation. To utilize this functionality, you must set the feature gate SupportNodePidsLimit=true (#73651, @RobertKrawitz)

- The apiserver, including both the kube-apiserver and apiservers built with the generic apiserver library, will now return 413 RequestEntityTooLarge error if a json patch contains more than 10,000 operations. (#74000, @caesarxuchao)
- kubeadm: allow the usage of –kubeconfig-dir and –config flags on kubeadm init (#73998, @yagonobre)
- when pleg channel is full, discard events and record its count (#72709, @changyaowei)
- Is ->It in line 6 (#73898, @xiezongzhe)
- Events reported for container creation, start, and stop now report the container name in the message and are more consistently formatted. (#73892, @smarterclayton)
- kubectl auth reconcile now outputs details about what changes are being made (#71564, @liggitt)
- kubeadm: fix a bug in the underlying library for diff related to characters like '%' (#73941, @neolit123)
- kube-apiserver: a request body of a CREATE/UPDATE/PATCH/DELETE resource operation larger than 100 MB will return a 413 "request entity too large" error. (#73805, @caesarxuchao)
  - Custom apiservers built with the latest apiserver library will have the 100MB limit on the body of resource requests as well. The limit can be altered via ServerRunOptions.MaxRequestBodyBytes.
  - The body size limit does not apply to subresources like pods/proxy that proxy request content to another server.
- Kustomize is developed in its own repo https://github.com/kubernetessigs/kustomize (#73033, @Liujingfang1)
  - This PR added a new subcommand kustomize in kubectl.
  - kubectl kustomize has the same effect as kustomize build
  - To build API resources from somedir with a kustomization.yaml file
  - kubectl kustomize
  - This command can be piped to apply or delete
  - kubectl kustomize | kubectl apply -f -
  - kubectl kustomize | kubectl delete -f -
- kubeadm: all master components are now exclusively relying on the PriorityClassName pod spec for annotating them as cluster critical components. Since scheduler.alpha.kubernetes.io/critical-pod annotation is no longer supported by Kubernetes 1.14 this annotation is no longer added to master components. (#73857, @ereslibre)
- Speedup kubectl by >10 when calling out to kube-apiserver for discovery information. (#73345, @sttts)
- kubeadm no longer dumps backtrace if it fails to remove the running containers on reset. (#73951, @rosti)

# v1.14.0-alpha.3

Documentation

# Downloads for v1.14.0-alpha.3

filename	sha512 hash
kubernetes.tar.gz	5060dcf689dad4e19da5029eb8fc3060a4b2bad988fddff438d0703a45c024
kubernetes- $src.tar.gz$	754c948b5d25b01f211866d473257be5fb576b4b97703eb6fc08679d6525e1

# Client Binaries

filename	sha512 hash
kubernetes-client-darwin-	5bd74dfc86bacf89d6b05d541e13bf390216039a42cc90fef2b248820acd8
386.tar.gz	
kubernetes-client-darwin-	34e16661d66d337083583dfb478756ec8cc664d7cfc2dd1817bf1da03cdc3
amd64.tar.gz	
kubernetes-client-linux-	15f99e85bcc95f7b8e1b4c6ecc23de36e89a54108003db926e97ec2e7253f3
386.tar.gz	
kubernetes-client-linux-	2e61cf9b776150c4f1830d068ffee9701cb04979152ed6b62fc1bf53163e6
amd64.tar.gz	
kubernetes-client-linux-	67fb3805bb1b4a77f6603fbde9bd1d26e179de1a594c85618aa7b17be6abc
arm.tar.gz	
kubernetes-client-linux-	28930dc384b51051081a52874bc4d6dafa3c992dfa214b977ef711de2c2bc3
arm64.tar.gz	
kubernetes-client-linux-	f59eda797a57961d52fe67ba8b25a3a10267f9ce46029ed2140ef4b02615b
ppc64le.tar.gz	
kubernetes-client-linux-	c56bfb64e55cf95251157a8229a3e94310b2c46bb1c1250050893873e3112
s390x.tar.gz	
kubernetes-client-windows-	e49a00fbe600892dc5eed0bc21bac64806da65280c818ca79b5e8adbed7fd
386.tar.gz	
kubernetes-client-windows-	797e20969ed4935adcbc80ccbcd72ec5aa697e70b0d071eceefc6dbacea69
amd64.tar.gz	

# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	eddfc9afd7337475c3865443170d1425dcf4a87d981555871a69bcf132e73d
kubernetes-server-linux- arm.tar.gz	dc85cd3a039cc0516beb19018c8378f3b7b88fa2edb8fa1476305e89eb7c64

filename	sha512 hash
kubernetes-server-linux- arm64.tar.gz	d7c3a72abaa4c3e3243f8b4b3a8adb8be2758e0f883423ea62d2c61b2081464
kubernetes-server-linux- ppc64le.tar.gz	b268a94eb056eea8bdf4d5739dec430f75a6a6b3c18e30df68d970c3566b3e4
kubernetes-server-linux- s390x.tar.gz	f4cfd8d2faacdd1f0065f9e0f4f8d0db7bd8f438f812f70a07f4cb5272ae9be

#### **Node Binaries**

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	7040ee3c032ec4fe14530c3e47ee53d731acb947b06e2d560cbcd0e7e51314
kubernetes-node-linux- arm.tar.gz	3d32e5243d1c65bce573cfb0f60d643ef3fc684a15551dbc8c3d5435e6854f
kubernetes-node-linux- arm64.tar.gz	d3a17027fa1c057528422b35e32260f5b7c7246400df595f0ebda5d150456d
kubernetes-node-linux- ppc64le.tar.gz	89ed1f5093b49ab9d58d7a70089e881bf388f3316cb2607fa18e3bf072aff3
kubernetes-node-linux- s390x.tar.gz	755a60824a9b8c4090a791d332e410692708ecece90e37388f58eb2c7dddde
kubernetes-node-windows- amd64.tar.gz	c71d8055d89e535771f345e0f673da021915a7a82c75951855ba2574a4250c

# Changelog since v1.14.0-alpha.2

### **Action Required**

• The –storage-versions flag of kube-apiserver is removed. The storage versions will always be the default value built-in the kube-apiserver binary. (#67678, @caesarxuchao)

# Other notable changes

- fix #73264 cpuPeriod was not reset, but used as set via flag, although it was disabled via alpha gate (#73342, @szuecs)
- Update kubelet CLI summary documentation and generated Webpage (#73256, @deitch)
- Considerably reduced the CPU load in kube-a piserver while aggregating OpenAPI specifications from aggregated API servers. (#71223, @sttts)
- kubeadm: add a preflight check that throws a warning if the cgroup driver for Docker on Linux is not "systemd" as per the k8s.io CRI installation guide. (#73837, @neolit123)
- Kubelet: add usageNanoCores from CRI stats provider (#73659, @feiskyer)

- Fix watch to not send the same set of events multiple times causing watcher to go back in time (#73845, @wojtek-t)
- system:kube-controller-manager and system:kube-scheduler users are now permitted to perform delegated authentication/authorization checks by default RBAC policy (#72491, @liggitt)
- Prevent AWS Network Load Balancer security groups ingress rules to be deleted by ensuring target groups are tagged. (#73594, @masterzen)
- Set a low oom\_score\_adj for containers in pods with system-critical priorities (#73758, @sjenning)
- Ensure directories on volumes are group-executable when using fs Group (#73533, @mxey)
- kube-apiserver now only aggregates openapi schemas from /openapi/v2 endpoints of aggregated API servers. The fallback to aggregate from /swagger.json has been removed. Ensure aggregated API servers provide schema information via /openapi/v2 (available since v1.10). (#73441, @roycaihw)
- Change docker metrics to conform metrics guidelines and using histogram for better aggregation. (#72323, @danielqsj)
  - The following metrics are deprecated, and will be removed in a future release:
    - \* docker\_operations
    - \* docker\_operations\_latency\_microseconds
    - \* docker\_operations\_errors
    - \* docker\_operations\_timeout
    - \* network\_plugin\_operations\_latency\_microseconds
  - Please convert to the following metrics:
    - \* docker\_operations\_total
    - \* docker\_operations\_latency\_seconds
    - \* docker\_operations\_errors\_total
    - \* docker\_operations\_timeout\_total
    - \* network\_plugin\_operations\_latency\_seconds
- kubectl delete --all-namespaces is a recognized flag. (#73716, @deads2k)
- MAC Address filter has been fixed in vSphere Cloud Provider, it no longer ignores 00:1c:14 and 00:05:69 prefixes (#73721, @frapposelli)
- Add kubelet\_node\_name metrics. (#72910, @danielqsj)
- The HugePages feature gate has graduated to GA, and can no longer be disabled. The feature gate will be removed in v1.16 (#72785, @derekwaynecarr)
- Fix a bug that aggregated openapi spec may override swagger securityDefinitions and swagger info in kube-apiserver (#73484, @roycaihw)
- Fixes a bug that prevented deletion of dynamically provisioned volumes in Quobyte backends. (#68925, @casusbelli)
- error messages returned in authentication we bhook status responses are now correctly included in the a piserver log (#73595, @liggitt)
- kubeadm: kubeadm alpha preflight and kubeadm alpha preflight

- node are removed; you can now use kubeadm join phase preflight (#73718, @fabriziopandini)
- kube-apiserver: the deprecated repair-malformed-updates has been removed (#73663, @danielqsj)
- e2e.test now rejects unknown –provider values instead of merely warning about them. An empty provider name is not accepted anymore and was replaced by "skeleton" (= a provider with no special behavior). (#73402, @pohly)
- Updated AWS SDK to v1.16.26 for ECR PrivateLink support (#73435, @micahhausler)
- Expand kubectl wait to work with more types of selectors. (#71746, @rctl)
- The CustomPodDNS feature gate has graduated to GA, and can no longer be disabled. The feature gate will be removed in v1.16 (#72832, @MrHohn)
- The rules field in RBAC Role and ClusterRole objects is now correctly reported as optional in the openapi schema. (#73250, @liggitt)
- AWS ELB health checks will now use HTTPS/SSL protocol for HTTPS/SSL backends. (#70309, @2rs2ts)
- kubeadm reset: fixed crash caused by absence of a configuration file (#73636, @bart0sh)
- CoreDNS is now version 1.3.1 (#73610, @rajansandeep)
  - A new k8s\_external plugin that allows external zones to point to Kubernetes in-cluster services.
  - CoreDNS now checks if a zone transfer is allowed. Also allow a TTL of 0 to avoid caching in the cache plugin.
  - TTL is also applied to negative responses (NXDOMAIN, etc).
- Missing directories listed in a user's PATH are no longer considered errors and are instead logged by the "kubectl plugin list" command when listing available plugins. (#73542, @juanvallejo)
- remove kubelet flag '-experimental-fail-swap-on' (deprecated in v1.8) (#69552, @Pingan2017)
- Introduced support for Windows nodes into the cluster bringup scripts for GCE. (#73442, @pjh)
- Now users could get object info like: (#73063, @WanLinghao)
  - a. kubectl get pod test-pod -o custom-columns=CONTAINER:.spec.containers[0:3].name
  - b. kubectl get pod test-pod -o custom-columns=CONTAINER:.spec.containers[ 2:].name
- scheduler: use incremental scheduling cycle in PriorityQueue to put all in-flight unschedulable pods back to active queue if we received move request (#73309, @cofyc)
- fixes an error processing watch events when running skewed apiservers (#73482, @liggitt)
- Prometheus metrics for crd\_autoregister, crd\_finalizer and crd\_naming\_condition\_controller are exported. (#71767, @roycaihw)
- Adds deleting pods created by DaemonSet assigned to not existing nodes. (#73401, @krzysztof-jastrzebski)
- Graduate Pod Priority and Preemption to GA. (#73498, @bsalamat)

- Adds configuration for AWS endpoint fine control: (#72245, @ampsingram)
  - OverrideEndpoints bool Set to true to allow custom endpoints
  - ServiceDelimiter string Delimiter to use to separate overridden services (multiple services) Defaults to "&"
  - ServicenameDelimiter string Delimiter to use to separate servicename from its configuration parameters Defaults "|"
  - OverrideSeparator string Delimiter to use to separate region of occurrence, url and signing region for each override Defaults to ","
  - ServiceOverrides string example: s3|region1, https://s3.foo.bar, some signing\_region & ec2|region2, https://ec2.foo.bar, signing\_region
- The CoreDNS configuration now has the forward plugin for proxy in the default configuration instead of the proxy plugin. (#73267, @rajansandeep)
- Fixed a bug that caused PV allocation on non-English vSphere installations to fail (#73115, @alvaroaleman)

# v1.14.0-alpha.2

Documentation

# Downloads for v1.14.0-alpha.2

filename	sha512 hash
kubernetes.tar.gz	1330e4421b61f6b1e6e4dee276d4742754bd3dd4493508d67ebb4445065277
kubernetes-src.tar.gz	352c043bebf13a616441c920f3eec80d3f02f111d8488c31aa903e1483bce6

#### Client Binaries

filename	sha512 hash
kubernetes-client-darwin-	ee5aba4efce323167e6d897a2ff6962a240e466333bcae9390be2c8521c6da
386.tar.gz	
kubernetes-client-darwin- amd64.tar.gz	4b5c0b340322956a8d096c595124a765ac318d0eb460d6320218f2470e22d8
kubernetes-client-linux-	7a5bfe68dd58c8478746a410872b615daf8abb9a78754140fb4d014a0c9177
386.tar.gz	
kubernetes-client-linux- amd64.tar.gz	c3139f58070241f2da815f701af3c0bd0ea4fdec1fe54bb859bd11237ac9b7
kubernetes-client-linux- arm.tar.gz	9d96d2e1e11aa61e2c3a5f4f27c18866feae9833b6ee70b15f5cdb5f992849
kubernetes-client-linux- arm64.tar.gz	7b4dd825cf9f217c18b28976a3faa94f0bd4868e541e5be7d57cd770e2b163
kubernetes-client-linux- ppc64le.tar.gz	490638e250c24b6bad8b67358fd7890f7a2f6456ae8ffe537c28bb5b3ce7ab

filename	sha512 hash
kubernetes-client-linux- s390x.tar.gz	9dd8c3361eda15dd1594066c55b79cb9a34578c225b2b48647cd5b34619cf2
kubernetes-client-windows- 386.tar.gz	d624b8aead053201765b713d337528be82a71328ee3dd569f556868ceeb4904
kubernetes-client-windows- amd64.tar.gz	a1cf8c67984dd4eb4610fa05d27fe9e9e4123159f933e3986e9db835b9cf13

# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	b93982b56371994c540cd11e6bc21808279340617164992c10f30d8e6ae4d5e
kubernetes-server-linux- arm.tar.gz	bfd76c6b26e5927166d776f6110b97ee36c1d63ad39e2d18899f3e428ebb0f9
kubernetes-server-linux- arm64.tar.gz	6721dec0df9466cd6c056160c73d598296cebb0af9259eb21b693abb8708903
kubernetes-server-linux- ppc64le.tar.gz	f8cd307db8141d989ae1218dd2b438bc9cee017d533b1451d2345f9689c451
kubernetes-server-linux- s390x.tar.gz	de7514bbd87a1b363e1bc7787f37d5ea10faac4afe7c5163c23c4df16781aa7

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	8c37fd2fe6232d2c148e23df021b8b5347136263399932bcdff0c7a0186f314
kubernetes-node-linux- arm.tar.gz	389e4e77ab9e62968a25b8f4e146a2c3fbb3db2e60e051922edf6395c26cc53
kubernetes-node-linux- arm64.tar.gz	7efc32dfeefcef7f860913c25431bd891a435e92cb8d5a95f8deca1a82aa899
kubernetes-node-linux- ppc64le.tar.gz	da30c03bca4b81d810a7df006db02333dea87e336d6cdca9c93392e01c7e43t
kubernetes-node-linux- s390x.tar.gz	cce43b7f0350b9e5a77ea703225adb9714ef022d176db5b99a0327937d1902
kubernetes-node-windows- amd64.tar.gz	d3accf522d80cbfb3d03e9eaa60a09767ba11e88a8a5b44a629192a7c6916b3

# Changelog since v1.14.0-alpha.1

### **Action Required**

- Promote ValidateProxyRedirects to Beta, and enable by default. This feature restricts redirect following from the apiserver to same-host redirects. (#72552, @tallclair)
  - ACTION REQUIRED: If nodes are configured to respond to CRI streaming requests on a different host interface than what the apiserver makes requests on (only the case if not using the built-in dockershim & setting the kubelet flag --redirect-container-streaming=true), then these requests will be broken. In that case, the feature can be temporarily disabled until the node configuration is corrected. We suggest setting --redirect-container-streaming=false on the kubelet to avoid issues.

## Other notable changes

- Added alpha field storageVersionHash to the discovery document for each resource. Its value must be treated as opaque by clients. Only equality comparison on the value is valid. (#73191, @caesarxuchao)
- Fix admission metrics in seconds. (#72343, @danielqsj)
  - Add metrics \*\_admission\_latencies\_milliseconds and
     \*\_admission\_latencies\_milliseconds\_summary for backward compatible, but will be removed in a future release.
- Pod eviction now honors graceful deletion by default if no delete options are provided in the eviction request (#72730, @liggitt)
- Update to go1.11.5 (#73326, @ixdy)
- Change proxy metrics to conform metrics guidelines. (#72334, @danielqsj)
  - The metrics sync\_proxy\_rules\_latency\_microseconds is deprecated, and will be removed in a future release, please convert to metricssync\_proxy\_rules\_latency\_seconds.
- Add network stats for Windows nodes and pods. (#70121, @feiskyer)
- kubeadm: When certificates are present joining a new control plane make sure that they match at least the required SANs (#73093, @ereslibre)
- A new TaintNodesByCondition admission plugin taints newly created Node objects as "not ready", to fix a race condition that could cause pods to be scheduled on new nodes before their taints were updated to accurately reflect their reported conditions. This admission plugin is enabled by default if the TaintNodesByCondition feature is enabled. (#73097, @bsalamat)
- kube-addon-manager was updated to v9.0, and now uses kubectl v1.13.2 and prunes workload resources via the apps/v1 API (#72978, @liggitt)
- When a watch is closed by an HTTP2 load balancer and we are told to go away, skip printing the message to stderr by default. (#73277, @smarterclayton)
- If you are running the cloud-controller-manager and you have the

- pvlabel.kubernetes.io alpha Initializer enabled, you must now enable PersistentVolume labeling using the PersistentVolumeLabel admission controller instead. You can do this by adding PersistentVolumeLabel in the --enable-admission-plugins kube-apiserver flag. (#73102, @andrewsykim)
- The alpha Initializers feature, admissionregistration.k8s.io/v1alpha1 API version, Initializers admission plugin, and use of the metadata.initializers API field have been removed. Discontinue use of the alpha feature and delete any existing InitializerConfiguration API objects before upgrading. The metadata.initializers field will be removed in a future release. (#72972, @liggitt)
- Scale max-inflight limits together with master VM sizes. (#73268, @wojtekt)
- kubectl supports copying files with wild card (#72641, @dixudx)
- kubeadm: add back --cert-dir option for kubeadm init phase certs sa (#73239, @mattkelly)
- Remove deprecated args '-show-all' (#69255, @Pingan2017)
- As per deprecation policy in https://kubernetes.io/docs/reference/using-api/deprecation-policy/ (#73001, @shivnagarajan)
  - the taints "node.alpha.kubernetes.io/notReady" and "node.alpha.kubernetes.io/unreachable". are no
  - longer supported or adjusted. These uses should be replaced with "node.kubernetes.io/not-ready"
  - and "node.kubernetes.io/unreachable" respectively instead.
- The /swagger.json and /swagger-2.0.0.pb-v1 schema documents, deprecated since v1.10, have been removed in favor of /openapi/v2 (#73148, @liggitt)
- CoreDNS is only officially supported on Linux at this time. As such, when kubeadm is used to deploy this component into your kubernetes cluster, it will be restricted (using nodeSelectors) to run only on nodes with that operating system. This ensures that in clusters which include Windows nodes, the scheduler will not ever attempt to place CoreDNS pods on these machines, reducing setup latency and enhancing initial cluster stability. (#69940, @MarcPow)
- kubeadm now attempts to detect an installed CRI by its usual domain socket, so that –cri-socket can be omitted from the command line if Docker is not used and there is a single CRI installed. (#69366, @rosti)
- scheduler: makes pod less racing so as to be put back into activeQ properly (#73078, @Huang-Wei)
- jsonpath expressions containing [start:end:step] slice are now evaluated correctly (#73149, @liggitt)
- metadata.deletionTimestamp is no longer moved into the future when issuing repeated DELETE requests against a resource containing a finalizer. (#73138, @liggitt)
- The "kubectl api-resources" command will no longer fail to display any resources on a single failure (#73035, @juanvallejo)
- e2e tests that require SSH may be used against clusters that have

nodes without external IP addresses by setting the environment variable KUBE\_SSH\_BASTION to the host:port of a machine that is allowed to SSH to those nodes. The same private key that the test would use is used for the bastion host. The test connects to the bastion and then tunnels another SSH connection to the node. (#72286, @smarterclayton)

- kubeadm: explicitly wait for etcd to have grown when joining a new control plane (#72984, @ereslibre)
- Install CSINode Info and CSIDriver CRDs in the local cluster. (#72584, @xing-yang)
- kubectl loads config file once and uses persistent client config (#71117, @dixudx)
- remove stale OutOfDisk condition from kubelet side (#72507, @dixudx)
- Node OS/arch labels are promoted to GA (#73048, @yujuhong)
- Fix graceful a piserver shutdown to not drop outgoing bytes before the process terminates.  $(\#72970,\,@sttts)$
- Change apiserver metrics to conform metrics guidelines. (#72336, @danielqsj)
  - The following metrics are deprecated, and will be removed in a future release:
    - \* apiserver\_request\_count
    - \* apiserver\_request\_latencies
    - \* apiserver\_request\_latencies\_summary
    - \* apiserver\_dropped\_requests
    - \* etcd\_helper\_cache\_hit\_count
    - \* etcd\_helper\_cache\_miss\_count
    - \* etcd helper cache entry count
    - \* etcd\_request\_cache\_get\_latencies\_summary
    - \* etcd\_request\_cache\_add\_latencies\_summary
    - \* etcd\_request\_latencies\_summary
    - \* transformation\_latencies\_microseconds
    - \* data\_key\_generation\_latencies\_microseconds
  - Please convert to the following metrics:
    - $\ast$  apiserver\_request\_total
    - \* apiserver\_request\_latency\_seconds
    - \* apiserver\_dropped\_requests\_total
    - \* etcd\_helper\_cache\_hit\_total
    - \* etcd\_helper\_cache\_miss\_total
    - \* etcd\_helper\_cache\_entry\_total
    - \* etcd\_request\_cache\_get\_latency\_seconds
    - \* etcd\_request\_cache\_add\_latency\_seconds
    - $*\ {\tt etcd\_request\_latency\_seconds}$
    - \* transformation\_latencies\_seconds
    - \* data\_key\_generation\_latencies\_seconds
- acquire lock before operating unschedulablepodsmap (#73022, @denkensk)
- Print SizeLimit of EmptyDir in kubectl describe pod outputs. (#69279, @dtaniwaki)

- add goroutine to move unschedulable pods to active if they are not retried for more than 1 minute (#72558, @denkensk)
- PidPressure evicts pods from lowest priority to highest priority (#72844, @dashpole)
- Reduce GCE log rotation check from 1 hour to every 5 minutes. Rotation policy is unchanged (new day starts, log file size > 100MB). (#72062, @jpbetz)
- Add support for max attach limit for Cinder (#72980, @gnufied)
- Fixes the setting of NodeAddresses when using the vSphere CloudProvider and nodes that have multiple IP addresses. (#70805, @danwinship)
- kubeadm: pull images when joining a new control plane instance (#72870, @MalloZup)
- Enable mTLS encryption between etcd and kube-apiserver in GCE (#70144, @wenjiaswe)
- The /swaggerapi/\* schema docs, deprecated since 1.7, have been removed in favor of the /openapi/v2 schema docs. (#72924, @liggitt)
- Allow users to use Docker 18.09 with kubeadm (#72823, @dims)

# v1.14.0-alpha.1

Documentation

# Downloads for v1.14.0-alpha.1

filename	sha512 hash
kubernetes.tar.gz	fac80e5674e547d00987516fb2eca6ea9947529307566be6a12932e3c9e430
kubernetes-src.tar.gz	d1b5b2c15cb0daa076606f4ccf887724b0166dee0320f2a61d16ab4689931al

# Client Binaries

filename	sha512 hash	
kubernetes-client-darwin-	307c426e4abaf81648af393ddd641c225d87b(	02d8662d1309fe3528f14ed91 <sup>1</sup>
386.tar.gz		
kubernetes-client-darwin- amd64.tar.gz	8daa85f3e8feaea0d55f20f850038dd113f0f0	08b62eef944b08a9109d4e69f3
kubernetes-client-linux-	28d73c299cb9859fdfeb3e4869a7a9c77f5679	9309c2613bd2c72d92dafd5fa
386.tar.gz		
kubernetes-client-linux-	eb923e13026f80b743a57100d4f94995f322ab	b6f107c34ffd9aa74b5a6c6a4
amd64.tar.gz		
kubernetes-client-linux-	279b0d0c560900021abea4bbfc25aeca7389f0	0b37d80022dc3335147344663
arm.tar.gz		
kubernetes-client-linux- arm64.tar.gz	d69d28361b9c9e16f3e6804ccda92d55ee743	e63aba7fded04edf1f7202b1f

filename	sha512 hash
kubernetes-client-linux-	ca6ebb87df98bf179c94f54a4e8ae2ef2ea534b1bc5014331f937aa9d4c044
ppc64le.tar.gz kubernetes-client-linux-	13fa2058ceba66d8da5ba5982aa302cdd1c61d15253183ab97739229584a17
s390x.tar.gz kubernetes-client-windows-	42ba4bba477e2958aab674a0fbf888bd5401fa5fbc39466b6cad0fc97e249a
386.tar.gz	42044004477629304400744010100004340114310C3340000C4401C9762494
kubernetes-client-windows- amd64.tar.gz	d5f339fe4d37c61babc97208446d1859423b7679f34040f72e9138b72a18d9

# Server Binaries

filename	sha512 hash
kubernetes-server-linux- amd64.tar.gz	bcbcbd3ac4419e54e894d1e595f883e61fcf9db0353a30d794a9e5030cde895
kubernetes-server-linux- arm.tar.gz	fda4ea9168555f724659601b06737dea6ec95574569df4ef7e4ab6c2cca3327
kubernetes-server-linux- arm64.tar.gz	c142857711ec698844cd61188e70b5ab185ba2c8828cf5563a2f42958489e2a
kubernetes-server-linux- ppc64le.tar.gz	524a40c5717b24c5a3b2491c4c61cf3038ba5ae7f343797a1b56a5906d6a0a3
kubernetes-server-linux- s390x.tar.gz	ef943fe326b05ece57f2e409ab1cc5fe863f5effa591abae17181c84a5eb406

# Node Binaries

filename	sha512 hash
kubernetes-node-linux- amd64.tar.gz	396f7588e9131dd1b99d101c8bb94fb7e67ab067327ee58dab5a6e24887d8f
kubernetes-node-linux- arm.tar.gz	b75c1550438da0b66582d6de90436ee3c44e41e67f74947d93ee9a07ed2b77
kubernetes-node-linux- arm64.tar.gz	b6c46f9250b5565fa178ecc99ffedc6724b0bfffb73acc7d3da2c678af7100
kubernetes-node-linux- ppc64le.tar.gz	8d505c61a59bc9fc53d6f219d6434ddd962ba383654c46e16d413cee0ad6bd
kubernetes-node-linux- s390x.tar.gz	83b6cf0fb348faa93fa40ec2a947b202b3a5a2081c3896ae39618f947a57b4
kubernetes-node-windows- amd64.tar.gz	43471680533685c534023787cd40431b67041bab43e93dea457283ee0f08a8

# Changelog since v1.13.0

#### **Action Required**

- action required (#68753, @johnSchnake)
  - If you are running E2E tests which require SSH keys and you utilize environment variables to override their location, you may need to modify the environment variable set. On all providers the environment variable override can now be either an absolute path to the key or a relative path (relative to ~/.ssh). Specifically the changes are:
  - \* Created new GCE\_SSH\_KEY allowing specification of SSH keys for gce, gke, and kubemark.
  - \* AWS\_SSH\_KEY, previously assumed to be an absolute path can now be either relative or absolute
  - \* LOCAL\_SSH\_KEY (for local and vsphere providers) was previously assumed to be a filename relative to ~/.ssh but can now also be an absolute path
  - \* KUBE\_SSH\_KEY (for skeleton provider) was previously assumed to be a filename relative to  $\sim\!\!/.\mathrm{ssh}$  but can now also be an absolute path

# Other notable changes

- Connections from Pods to Services with 0 endpoints will now ICMP reject immediately, rather than blackhole and timeout. (#72534, @thockin)
- Improve efficiency of preemption logic in clusters with many pending pods. (#72895, @bsalamat)
- Change scheduler metrics to conform metrics guidelines. (#72332, @danielqsj)
  - The following metrics are deprecated, and will be removed in a future release:
    - \* e2e\_scheduling\_latency\_microseconds
    - \* scheduling\_algorithm\_latency\_microseconds
    - $* \ {\tt scheduling\_algorithm\_predicate\_evaluation}$
    - \* scheduling\_algorithm\_priority\_evaluation
    - \* scheduling algorithm preemption evaluation
    - \* binding\_latency\_microseconds
  - Please convert to the following metrics:
    - \* e2e\_scheduling\_latency\_seconds
    - \* scheduling\_algorithm\_latency\_seconds
    - \* scheduling\_algorithm\_predicate\_evaluation\_seconds
    - $* \ {\tt scheduling\_algorithm\_priority\_evaluation\_seconds}$
    - \* scheduling\_algorithm\_preemption\_evaluation\_seconds
    - \* binding\_latency\_seconds
- Fix SelectorSpreadPriority scheduler to match all selectors when distributing pods. (#72801, @Ramyak)
- Add bootstrap service account & cluster roles for node-lifecycle-controller,

cloud-node-lifecycle-controller, and cloud-node-controller. (#72764, @andrewsykim)

- Fixes spurious 0-length API responses. (#72856, @liggitt)
- Updates Fluentd to 1.3.2 & added filter\_parser (#71180, @monotek)
- The leaderelection package allows the lease holder to release its lease when the calling context is cancelled. This allows (#71490, @smarterclayton)
  - faster handoff when a leader-elected process is gracefully terminated.
- Make volume binder resilient to races between main schedule loop and async binding operation (#72045, @cofyc)
- Bump minimum docker API version to 1.26 (1.13.1) (#72831, @yujuhong)
- If the TokenRequestProjection feature gate is disabled, projected serviceAccountToken volume sources are now dropped at object creation time, or at object update time if the existing object did not have a projected serviceAccountToken volume source. Previously, these would result in validation errors. (#72714, @mourya007)
- Add metrics-port to kube-proxy cmd flags. (#72682, @whypro)
- kubectl: fixed an issue with "too old resource version" errors continuously appearing when calling kubectl delete (#72825, @liggitt)
- removes newline from json output for windows nodes #72657 (#72659, @jsturtevant)
- The DenyEscalatingExec and DenyExecOnPrivileged admission plugins are deprecated and will be removed in v1.18. Use of PodSecurityPolicy or a custom admission plugin to limit creation of pods is recommended instead. (#72737, @liggitt)
- Fix describe statefulset not printing number of desired replicas correctly (#72781, @tghartland)
- Fix kube-proxy PodSecurityPolicy binding on GCE & GKE. This was only an issue when running kube-proxy as a DaemonSet, with PodSecurityPolicy enabled. (#72761, @tallclair)
- Drops status. Conditions of new PersistentVolume objects if it was not set on the old object during PrepareForUpdate. (#72739, @rajathagasthya)
- kubelet: fixes cadvisor internal error when "-container-runtime-endpoint" is set to "unix:///var/run/crio/crio.sock". (#72340, @makocchi-git)
- The spec.SecurityContext.Sysctls field is now dropped during creation of Pod objects unless the Sysctls feature gate is enabled. (#72752, @rajathagasthya)
  - The spec.AllowedUnsafeSysctls and spec.ForbiddenSysctls fields are now dropped during creation of PodSecurityPolicy objects unless the Sysctls feature gate is enabled.
- kubeadm: fixed storing of front-proxy certificate in secrets required by kube-controller-manager selfhosting pivoting (#72727, @bart0sh)
- Administrator is able to configure max pids for a pod on a node. (#72076, @derekwaynecarr)
- Move users of factory.NewConfigFactory to scheduler.New. (#71875,

- @wgliang)
- The spec.SecurityContext.ShareProcessNamespace field is now dropped during creation of Pod objects unless the PodShareProcessNamespace feature gate is enabled. (#72698, @rajathagasthya)
- kube-apiserver: When configuring integration with external KMS Providers, users can supply timeout value (i.e. how long should kube-apiserver wait before giving up on a call to KMS). (#72540, @immutableT)
- The spec.readinessGates field is now dropped during creation of Pod objects unless the PodReadinessGates feature gate is enabled. (#72695, @rajathagasthya)
- The spec.dataSource field is now dropped during creation of PersistentVolumeClaim objects unless the VolumeSnapshotDataSource feature gate is enabled. (#72666, @rajathagasthya)
- Stop kubelet logging a warning to override hostname if there's no change detected. (#71560, @KashifSaadat)
- client-go: fake clients now properly return NotFound errors when attempting to patch non-existent objects (#70886, @bouk)
- kubectl: fixes a bug determining the correct namespace while running in a pod when the --context flag is explicitly specified, and the referenced context specifies the namespace default (#72529, @liggitt)
- Fix scheduling starvation of pods in cluster with large number of unschedulable pods. (#72619, @everpeace)
- If the AppArmor feature gate is disabled, AppArmor-specific annotations in pod and pod templates are dropped when the object is created, and during update of objects that do not already contain AppArmor annotations, rather than triggering a validation error. (#72655, @liggitt)
- client-go: shortens refresh period for token files to 1 minute to ensure auto-rotated projected service account tokens are read frequently enough. (#72437, @liggitt)
- Multiple tests which previously failed due to lack of external IP addresses defined on the nodes should now be passable. (#68792, @johnSchnake)
- kubeadm: fixed incorrect controller manager pod mutations during self-hosting pivoting (#72518, @bart0sh)
- Increase Azure default maximumLoadBalancerRuleCount to 250. (#72621, @feiskyer)
- RuntimeClass is now printed with extra RUNTIME-HANDLER column. (#72446, @Huang-Wei)
- Updates the kubernetes dashboard add-on to v1.10.1. Skipping dashboard login is no longer enabled by default. (#72495, @liggitt)
- GCP Remove confusing error log entry form fluentd scalers. (#72243, @cezarygerard)
- $\bullet$  change a zure disk host cache to ReadOnly by default (#72229, @andyzhangx)
- Nodes deleted in the cloud provider with Ready condition Unknown should also be deleted on the API server. (#72559, @andrewsykim)
- kubectl apply --prune now uses the apps/v1 API to prune workload

- resources (#72352, @liggitt)
- Fixes a bug in HPA controller so HPAs are always updated every resyncPeriod (15 seconds). (#72373, @krzysztof-jastrzebski)
- IPVS: "ExternalTrafficPolicy: Local" now works with LoadBalancer services using loadBalancerIP (#72432, @lbernail)
- Fixes issue with cleaning up stale NFS subpath mounts (#71804, @msau42)
- Modify the scheduling result struct and improve logging for successful binding. (#71926, @wgliang)
- Run one etcd storage compaction per default interval of 5min. Do not run one for each resource and each CRD. This fixes the compaction log spam and reduces load on etcd. (#68557, @sttts)
- kube-apiserver: --runtime-config can once again be used to enable/disable serving specific resources in the extensions/v1beta1 API group. Note that specific resource enablement/disablement is only allowed for the extensions/v1beta1 API group for legacy reasons. Attempts to enable/disable individual resources in other API groups will print a warning, and will return an error in future releases. (#72249, @liggitt)
- kubeadm: fixed storing of etcd certificates in secrets required by kubeapiserver selfhosting pivoting (#72478, @bart0sh)
- kubeadm: remove the deprecated "-address" flag for controller-manager and scheduler. (#71973, @MalloZup)
- kube-apiserver: improves performance of requests made with service account token authentication (#71816, @liggitt)
- Use prometheus conventions for workqueue metrics. (#71300, @danielqsj)
  - It is now deprecated to use the following metrics:
    - \* {WorkQueueName} depth
    - \* {WorkQueueName}\_adds
    - \* {WorkQueueName}\_queue\_latency
    - \* {WorkQueueName}\_work\_duration
    - \* {WorkQueueName}\_unfinished\_work\_seconds
    - \* {WorkQueueName}\_longest\_running\_processor\_microseconds
    - \* {WorkQueueName} retries
  - Please convert to the following metrics:
    - \* workqueue\_depth
    - \* workqueue\_adds\_total
    - \* workqueue\_queue\_latency\_seconds
    - \* workqueue\_work\_duration\_seconds
    - \* workqueue\_unfinished\_work\_seconds
    - \* workqueue\_longest\_running\_processor\_seconds
    - \* workqueue\_retries\_total
- Fix inability to use k8s with dockerd having default IPC mode set to private. (#70826, @kolyshkin)
- Fix a race condition in the scheduler preemption logic that could cause nominatedNodeName of a pod not to be considered in one or more scheduling cycles. (#72259, @bsalamat)
- Fix registration for scheduling framework plugins with the default plugin

- set (#72396, @y-taka-23)
- The GA VolumeScheduling feature gate can no longer be disabled and will be removed in a future release (#72382, @liggitt)
- Fix race condition introduced by graceful termination which can lead to a deadlock in kube-proxy (#72361, @lbernail)
- Fixes issue where subpath volume content was deleted during orphaned pod cleanup for Local volumes that are directories (and not mount points) on the root filesystem. (#72291, @msau42)
- Fixes kubectl create secret docker-registry compatibility (#72344, @liggitt)
- Add-on manifests now use the apps/v1 API for DaemonSets, Deployments, and ReplicaSets (#72203, @liggitt)
- "kubectl wait" command now supports the "-all" flag to select all resources in the namespace of the specified resource types. (#70599, @caesarxuchao)
- deployments/rollback is now passed through validation/admission controllers (#72271, @jhrv)
- The Lease API type in the coordination.k8s.io API group is promoted to v1 (#72239, @wojtek-t)
- Move compatibility\_test.go to pkg/scheduler/api (#72014, @huynq0911)
- New Azure cloud provider option 'cloudProviderBackoffMode' has been added to reduce Azure API retries. Candidate values are: (#70866, @feiskyer)
  - default (or empty string): keep same with before.
  - v2: only backoff retry with Azure SDK with fixed exponent 2.
- Set percentage of nodes scored in each cycle dynamically based on the cluster size. (#72140, @wgliang)
- Fix AAD support for Azure sovereign cloud in kubectl (#72143, @karataliu)
- Make kube-proxy service abstraction optional. (#71355, @bradhoekstra)
  - Add the 'service.kubernetes.io/service-proxy-name' label to a Service to disable the kube-proxy service proxy implementation.
- kubectl: -A can now be used as a shortcut for --all-namespaces (#72006, @soltvsh)
- discovery.CachedDiscoveryInterface implementation returned by NewMem-CacheClient has changed semantics of Invalidate method the cache refresh is now deferred to the first cache lookup. (#70994, @mborsz)
- Fix device mountable volume names in DSW to prevent races in device mountable plugin, e.g. local. (#71509, @cofyc)
- Enable customize in kubectl: kubectl will be able to recognize directories with kustomization.YAML (#70875, @Liujingfang1)
- Stably sort controllerrevisions. This can prevent pods of statefulsets from continually rolling. (#66882, @ryanmcnamara)
- Update to use go1.11.4. (#72084, @ixdy)
- fixes an issue deleting pods containing subpath volume mounts with the VolumeSubpath feature disabled (#70490, @liggitt)
- Clean up old eclass code (#71399, @resouer)
- Fix a race condition in which kubeadm only waits for the kubelets kube-

- config file when it has performed the TLS bootstrap, but wasn't waiting for certificates to be present in the filesystem (#72030, @ereslibre)
- In addition to restricting GCE metadata requests to known APIs, the metadata-proxy now restricts query strings to known parameters. (#71094, @dekkagaijin)
- kubeadm: fix a possible panic when joining a new control plane node in HA scenarios (#72123, @anitgandhi)
- fix race condition when attach azure disk in vmss (#71992, @andyzhangx)
- Update to use go1.11.3 with fix for CVE-2018-16875 (#72035, @seemethere)
- kubeadm: fix a bug when syncing etcd endpoints (#71945, @pytimer)
- fix kubelet log flushing issue in azure disk (#71990, @andyzhangx)
- Disable proxy to loopback and linklocal (#71980, @micahhausler)
- Fix overlapping filenames in diff if multiple resources have the same name. (#71923, @apelisse)
- fix issue: vm sku restriction policy does not work in azure disk attach/detach (#71941, @andyzhangx)
- kubeadm: Create /var/lib/etcd with correct permissions (0700) by default. (#71885, @dims)
- Scheduler only activates unschedulable pods if node's scheduling related properties change. (#71551, @mlmhl)
- kube-proxy in IPVS mode will stop initiating connections to terminating pods for services with sessionAffinity set. (#71834, @lbernail)
- kubeadm: improve hostport parsing error messages (#71258, @bart0sh)
- Support graceful termination with IPVS when deleting a service (#71895, @lbernail)
- Include CRD for BGPConfigurations, needed for calico 2.x to 3.x upgrade. (#71868, @satyasm)
- apply: fix detection of non-dry-run enabled servers (#71854, @apelisse)
- Clear UDP conntrack entry on endpoint changes when using nodeport (#71573, @JacobTanenbaum)
- Add successful and failed history limits to cronjob describe (#71844, @soltvsh)
- kube-controller-manager: fixed issue display help for the deprecated insecure –port flag (#71601, @liggitt)
- kubectl: fixes regression in –sort-by behavior (#71805, @liggitt)
- Fixes pod deletion when cleaning old cronjobs (#71801, @soltysh)
- kubeadm: use kubeconfig flag instead of kubeconfig-dir on init phase bootstrap-token (#71803, @yagonobre)
- kube-scheduler: restores ability to run without authentication configuration lookup permissions (#71755, @liggitt)
- Add aggregator\_unavailable\_apiservice\_{count,gauge} metrics in the kube-aggregator. (#71380, @sttts)
- Fixes a piserver nil pointer panics when requesting v2beta1 autoscaling object metrics (#71744, @yue9944882)
- Only use the first IP address got from instance metadata. This is because Azure CNI would set up a list of IP addresses in instance metadata, while

- only the first one is the Node's IP. (#71736, @feiskyer)
- client-go: restores behavior of populating the BearerToken field in rest.Config objects constructed from kubeconfig files containing tokenFile config, or from in-cluster configuration. An additional BearerTokenFile field is now populated to enable constructed clients to periodically refresh tokens. (#71713, @liggitt)
- kubeadm: remove deprecated kubeadm config print-defaults command (#71467, @rosti)
- hack/local-up-cluster.sh now enables kubelet authentication/authorization by default (they can be disabled with KUBELET\_AUTHENTICATION\_WEBHOOK=false and KUBELET\_AUTHORIZATION\_WEBHOOK=false (#71690, @liggitt)
- Fixes an issue where Azure VMSS instances not existing in Azure were not being deleted by the Cloud Controller Manager. (#71597, @marcsensenich)
- kubeadm reset correctly unmounts mount points inside /var/lib/kubelet (#71663, @bart0sh)
- Upgrade default etcd server to 3.3.10 (#71615, @jpbetz)
- When creating a service with annotation: service.beta.kubernetes.io/load-balancer-source-ranges containing multiple source ranges and service.beta.kubernetes.io/azure-shared-securityrule: "false", the NSG rules will be collapsed. (#71484, @ritazh)
- disable node's proxy use of http probe (#68663, @WanLinghao)
- Bumps version of kubernetes-cni to 0.6.0 (#71629, @mauilion)
- On GCI, NPD starts to monitor kubelet, docker, containerd crashlooping, read-only filesystem and corrupt docker overlay2 issues. (#71522, @wangzhen127)
- When a kubelet is using —bootstrap-kubeconfig and certificate rotation, it no longer waits for bootstrap to succeed before launching static pods. (#71174, @smarterclayton)
- Add an plugin interfaces for "reserve" and "prebind" extension points of the scheduling framework. (#70227, @bsalamat)
- Fix scheduling starvation of pods in cluster with large number of unschedulable pods. (#71488, @bsalamat)
- Reduce CSI log and event spam. (#71581, @saad-ali)
- Add conntrack as a dependency of kubelet and kubeadm when building rpms and debs. Both require conntrack to handle cleanup of connections. (#71540, @mauilion)
- UDP connections now support graceful termination in IPVS mode (#71515, @lbernail)
- Log etcd client errors. The verbosity is set with the usual -v flag. (#71318, @sttts)
- The DefaultFeatureGate package variable now only exposes readonly feature gate methods. Methods for mutating feature gates have moved into a MutableFeatureGate interface and are accessible via the DefaultMutableFeatureGate package variable. Only top-level commands

- and options setup should access DefaultMutableFeatureGate. (#71302, @liggitt)
- node.kubernetes.io/pid-pressure toleration is added for DaemonSet pods, and node.kubernetes.io/out-of-disk isn't added any more even if it's a critical pod. (#67036, @Huang-Wei)
- Update k8s.io/utils to allow for asynchronous process control (#71047, @hoegaarden)
- Fixes possible panic during volume detach, if corresponding volume plugin became non-attachable (#71471, @mshaverdo)
- Fix cloud-controller-manager crash when using AWS provider and PersistentVolume initializing controller (#70432, @mvladev)
- Fixes an issue where Portworx volumes cannot be mounted if 9001 port is already in use on the host and users remap 9001 to another port. (#70392, @harsh-px)
- Fix SubPath printing of VolumeMounts. (#70127, @dtaniwaki)
- Fixes incorrect paths (missing first letter) when copying files from pods to (#69885, @clickyotomy)
  - local in 'kubectl cp'.
- Fix AWS NLB security group updates where valid security group ports were incorrectly removed (#68422, @kellycampbell)
  - when updating a service or when node changes occur.