

HBase Monitoring

How do I enable JMX in HBase

Please see HBase Metrics page for instructions.

Do I need to add a separate SPM Application for each HBase server/node I want to monitor

No, one Application is enough. Think of an SPM “Application” as a “HBase Cluster”. Thus, to monitor N HBase servers that belong to the same cluster you would create just a single SPM Application and use its Token in SPM configuration file on all HBase servers that are a part of this cluster.

Why don't some HBase metrics graphs have any data

There could be 2 possible reasons:

1. Some metrics are for RegionServers (HBase slaves), some for HBase Master. Thus, if you select the Master node in the UI, graphs that contain Slave-specific metrics will be blank and vice-versa.
2. Different versions of HBase provide different metrics. Thus, if you have an older version of HBase, it may not be providing all metrics that SPM collects and graphs.

Which versions of HBase does SPM support

SPM has been tested with HBase 0.90, 0.92, 0.94, and 0.98, but will work for newer versions, including all CDH versions.

Metrics

Report: HBase JVM

Chart: Log

Metric Name	Metric Description
fatal	Hadoop:service=HBase,name=JvmMetrics#LogFatal
error	Hadoop:service=HBase,name=JvmMetrics#LogError
warn	Hadoop:service=HBase,name=JvmMetrics#LogWarn
info	Hadoop:service=HBase,name=JvmMetrics#LogInfo

Chart: Threads

Metric Name	Metric Description
new	Hadoop:service=HBase,name=JvmMetrics#ThreadsNew
runnable	Hadoop:service=HBase,name=JvmMetrics#ThreadsRunnable
blocked	Hadoop:service=HBase,name=JvmMetrics#ThreadsBlocked
waiting	Hadoop:service=HBase,name=JvmMetrics#ThreadsWaiting
timed waiting	Hadoop:service=HBase,name=JvmMetrics#ThreadsTimedWaiting
terminated	Hadoop:service=HBase,name=JvmMetrics#ThreadsTerminated

Chart: Memory

Metric	Description
non heap used	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapUsedM
non heap committed	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapCommittedM
heap used	Hadoop:service=HBase,name=JvmMetrics#MemHeapUsedM
heap committed	Hadoop:service=HBase,name=JvmMetrics#MemHeapCommittedM
non heap max	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapMaxM
heap max	Hadoop:service=HBase,name=JvmMetrics#MemHeapMaxM

	Metric De- Metricscrip- Name tion
total max	Hadoop:service=HBase,name=JvmMetrics#MemMaxM
non heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapCommitte
heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemHeapCommittedM

Report: UGI

Chart: Login Success & Failure

	Metric De- Metricscrip- Name tion
success ops	Hadoop:service=HBase,name=UgiMetrics#LoginSuccessNumOps
failure ops	Hadoop:service=HBase,name=UgiMetrics#LoginFailureNumOps
success time *	Hadoop:service=HBase,name=UgiMetrics#LoginSuccessAvgTime
Lo- gin- Suc- cess- Nu- mOps	

Metric De- Metricscrip- Name tion
failure Hadoop:service=HBase,name=UgiMetrics#LoginFailureAvgTime time *
Login- Fail- ureNu- mOps

Chart: Get Groups

Metric Name	Metric Description
ops	Hadoop:service=HBase,name=UgiMetrics#GetGroupsNumOps
time	Hadoop:service=HBase,name=UgiMetrics#v * GetGroupsNumOps

Report: RS WAL

Chart: Sync & Append Ops & Time

Metric De- Metricscrip- Name tion
syncs Count of syncs the HLog to HDFS.Hadoop:service=HBase,name=RegionServer,sub=WAL#Sync'

	Metric De- scription
appendCount	Count of ap- pend to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append
sync time	The time it took to sync the HLog to HDFS.Hadoop:service=HBase,name=RegionServer,sub=WAL#Sync * Sync- Time__mean
appendTime	Time an ap- pend to the log took.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append * Ap- pend- Time__mean

Chart: Append Ops & Size

Metric Description	
appendCount	Count of appends to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append
appendSize	Size (in bytes) of the data appended to the HLog.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append
appendSize_mean	Append-Size_mean

Chart: Sync & Append Max & Min Time

Metric Description	
sync_min_time	Hadoop:service=HBase,name=RegionServer,sub=WAL#SyncTime_min

	Metric De- Metricscrip- Name tion
sync	Hadoop:service=HBase,name=RegionServer,sub=WAL#SyncTime_
max	
time	
append	Hadoop:service=HBase,name=RegionServer,sub=WAL#AppendTim
min	
time	
append	Hadoop:service=HBase,name=RegionServer,sub=WAL#AppendTim
max	
time	
append	Hadoop:service=HBase,name=RegionServer,sub=WAL#AppendSize
min	
size	
append	Hadoop:service=HBase,name=RegionServer,sub=WAL#AppendSize
max	
size	

Chart: Slow Appends

	Metric De- Metricscrip- Name tion
slow	Number
ap-	of
pend	ap-
s	pend
	that
	were
	slow.Hadoop:service=HBase,name=RegionServer,sub=WAL#slowAp

Metric De- scrip- tion	
appendCount	Count of appends to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#appendC

Report: RS Compact & Flush

Chart: Flush Queue

	Metric Description
flush queue length	Length of the queue for region flushes. If increasing, we are falling behind with clearing mem-stores out to HDFS. Hadoop:service=HBase,name=RegionServer,sub=Server#flush

Chart: Blocked Updates

	Metric De- scrip- tion
updates blocked time	Number of MS up- dates have been blocked so that the mem- store can be flushed.
	Hadoop:service=HBase,name=RegionServer,sub=Server#updatesBlocked

Chart: Flush Counts/Size

	Metric De- scrip- tion
flushed cells	The num- ber of cells flushed to disk.
	Hadoop:service=HBase,name=RegionServer,sub=Server#flushedCells

Metric Description	
flushedThe cells to size	The total amount of data flushed to disk, in bytes.
Hadoop:service=HBase,name=RegionServer,sub=Server#flushed	

Chart: Compaction Queue

Metric De- scrip- tion	
Client compaction queue depth of the com- paction re- quest queue. If in- creas- ing, we are falling be- hind with store- file com- paction.	Hadoop:service=HBase,name=RegionServer,sub=Server#com

Chart: Compaction Counts/Size

Metric Description	
compact cells	The number of cells processed during minor compactions.
major compacted cells	The number of cells processed during major compactions.

Metric Description	
compact cells size	The total amount of data processed during minor compactions, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#compact
major compact cells size	The total amount of data processed during major compactions, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#major

Report: Master Assign Mngr

Chart: Assigns Ops & Time

```
assign Hadoop:service=HBase,name=Master,sub=AssignmentManger#Assign-
time *
      As-
      sign_num_ops
```

```

rit      The
old-    age
est     of
age     the
        longest
        re-
        gion
        in
        tran-
        si-
tion.Hadoop:service=HBase,name=Master,sub=AssignmentManger#

```

	Metric De- scription
rit count	The number of regions in transition. Hadoop:service=HBase,name=Master,sub=AssignmentManger#
rit count over thresh- old	The number of regions that have been in transition longer than a threshold time (default: 60 seconds). Hadoop:service=HBase,name=Master,sub=AssignmentManger#

Chart: Assigns Max & Min Time

	Metric De- Metricscrip- Name tion
bulk as-sign max time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#BulkAssignmentMaxTime
bulk as-sign min time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#BulkAssignmentMinTime
assign max time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#AssignmentMaxTime
assign min time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#AssignmentMinTime

Report: RS Operations

Chart: Operation Calls & Time

	Metric De- Metricscrip- Name tion
append	Hadoop:service=HBase,name=RegionServer,sub=Server#Append_num
deletes	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_num
mutates	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate_num
gets	Hadoop:service=HBase,name=RegionServer,sub=Server#Get_num

	Metric
De- Metricscrip- Name tion	
replays	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_num
incremental	Hadoop:service=HBase,name=RegionServer,sub=Server#Incremental
append time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Append_n
Ap- pend__mean	
delete time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_num
Delete__mean	
mutate time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate_num
Mu- tate__mean	
get time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Get_num
Get__mean	
replay time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_num
Re- play__mean	
incremental time *	Hadoop:service=HBase,name=RegionServer,sub=Server#Incremental
In- cre- ment__mean	

Chart: Slow Operations

	Metric
De-	
Metricscrip-	
Name tion	
slow	The
deletesnum-	ber
	of
	Deletes
	that
	took
	over
	1000ms
	to
	com-
	plete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowL
slow	The
in-	num-
cre-	ber
ments	of
	In-
	cre-
	ments
	that
	took
	over
	1000ms
	to
	com-
	plete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowL

	Metric De- scrip- tion
slow_gets	The number of Gets that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowC
slow_appends	The number of Appends that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowA
slow_puts	The number of Puts that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowP

Metric
De-
Metricscrip-
Name tion

Chart: Operation Max & Min Time

Metric
De-
Metricscrip-
Name tion
appendHadoop:service=HBase,name=RegionServer,sub=Server#Append_min min time
delete Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_min min time
mutateHadoop:service=HBase,name=RegionServer,sub=Server#Mutate_min min time
get Hadoop:service=HBase,name=RegionServer,sub=Server#Get_min min time
replay Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_min min time
incrementHadoop:service=HBase,name=RegionServer,sub=Server#Increment_min min time
appendHadoop:service=HBase,name=RegionServer,sub=Server#Append_max max time

	Metric
De-	
Metricscrip-	
Name tion	
delete	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete__ma
max	
time	
mutate	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate__m
max	
time	
get	Hadoop:service=HBase,name=RegionServer,sub=Server#Get__max
max	
time	
replay	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay__ma
max	
time	
increment	Hadoop:service=HBase,name=RegionServer,sub=Server#Increment__
max	
time	

Report: Master Snapshot

Chart: Snapshot Ops & Time

	Metric De- scrip- tion
restoreCount	Count of re- storeS- nap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots
clonesCount	Count of cloneS- nap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots
snapshotCount	Count of snap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots

	Metric Description
restoreTime	Time it takes to finish restoreSnapshot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots*
cloneTime	Time it takes to finish cloneSnapshot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots*
	SnapshotRestoreTime_mean
	SnapshotCloneTime_mean

Metric De- Metricscrip- Name tion	
snapshot time	Time it takes to fin- ish snap- shot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapsh *
Snap- shot- Time__mean	

Chart: Snapshot Max & Min Time

Metric De- Metricscrip- Name tion	
restore min time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotRest
restore max time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotRest
clone min time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotClon
clone max time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotClon

	Metric
De-	
Metricscrip-	
Name tion	
snapshot	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotTime
min	
time	
snapshot	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotTime
max	
time	

Report: Master FS

Chart: Split Ops & Time

	Metric
De-	
Metricscrip-	
Name tion	
hlog	Count
splits	of
	HLog.splitLog()
	in-
	vo-
	ca-
	tions.Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSp
meta	Count
hlog	of
splits	split-
	Met-
	a-
	Log()
	in-
	vo-
	ca-
	tions.Hadoop:service=HBase,name=Master,sub=FileSystem#MetaH

Metric Description	
hlog split time	Time it takes to finish HLog.splitLog().Hadoop:service=HBase,name=Master,sub=FileSystem*
	HlogSplit-Time__mean
meta hlog split time	Time it takes to finish split-MetaLog().Hadoop:service=HBase,name=Master,sub=FileSystem#MetaH*
	MetaHlogSplit-Time__mean

Chart: Split Ops & Size

	Metric De- scription
hlog splits	Count of HLog.splitLog() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSp
meta hlog splits	Count of split- Met- a- Log() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=FileSystem#MetaH
hlog split size	Size of HLog files be- ing split.Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSp * HlogSplit- Size__mean

Metric De- Metricscrip- Name tion	
meta Size hlog of split hbase:meta size HLog files be- ing split.Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSplit- *	MetaHlogSplit- Size__mean

Chart: Split Max & Min time

Metric De- Metricscrip- Name tion	
hlog Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitTime split min time	
hlog Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitTime split max time	
meta Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSplit hlog split min time	

	Metric De- Metricscrip- Name tion
meta hlog split max time	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp
hlog split min size	Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitSiz
hlog split max size	Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitSiz
meta hlog split min size	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp
meta hlog split max size	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp

Report: RS Regions & Stores

Chart: Indexes & Bloom Filters

Metric De- Metricscrip- Name tion	
static Uncompressed in- size dex of size the static in- dexes.Hadoop:service=HBase,name=RegionServer,sub=Server#staticE	
static Uncompressed bloom size size of the static bloom fil- ters.Hadoop:service=HBase,name=RegionServer,sub=Server#staticE	

Chart: Regions & Stores

Metric De- Metricscrip- Name tion	
regionsNumber of re- gions.Hadoop:service=HBase,name=RegionServer,sub=Server#regionE	
stores Number of Stores.Hadoop:service=HBase,name=RegionServer,sub=Server#storeE	
store Number files of Store Files.Hadoop:service=HBase,name=RegionServer,sub=Server#storeE	

Metric
Description
Metrics
Name

Chart: Store Files

Metric
Description
Metrics
Name

store file size	Size of store-files being served.
store file index size	Size of indexes in store-files on disk.

Chart: Mem Stores

	Metric De- Metricscrip- Name tion
mem store size	Size of the mem-store.Hadoop:service=HBase,name=RegionServer,sub=Server#memS
upper limit	Property 'hbase.regionserver.global.memstore.upperLimit' value.
lower limit	Property 'hbase.regionserver.global.memstore.lowerLimit' value.

Report: IPC

Chart: Connections & Handler

	Metric De- Metricscrip- Name tion
open con- nec- tions	The num- ber of open con- nec- tions at the RPC layer.Hadoop:service=HBase,name=IPC,sub=IPC#numOpenConne

Metric De- Metricscrip- Name tion
active Number han- of dlers ac- tive rpc han- dlers.Hadoop:service=HBase,name=IPC,sub=IPC#numActiveHandl

Chart: Queue & Process Calls & Times

Metric De- Metricscrip- Name tion
queue Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime__num_ calls
procesHadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime__num_ calls
queue Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime__mean_ call * time Queue- Call- Time__num_ops
procesHadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime__mean_ call * time Pro- cess- Call- Time__num_ops

Chart: Authentication & Authorization

Chart: Send & Received Bytes

Metric Description	
sent	Number of bytes sent.
received	Number of bytes received.
Hadoop:service=HBase,name=IPC,sub=IPC#sentBytes	
Hadoop:service=HBase,name=IPC,sub=IPC#receivedBytes	

Chart: Queue

Metric Description	
queue size	Number of bytes in the call queues.
Hadoop:service=HBase,name=IPC,sub=IPC#queueSize	

	Metric De- scription
calls in general queue	The number of currently en-queued user re-quests. Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInGen
calls in replica- tion queue	Number of calls in the replica- tion call queue. Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInRep

	Metric De- scription
calls in priority queue	The number of currently en-queued priority (internal house-keeping) requests.
	Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInPriorityQueue

Chart: Queue & Process Max & Min Times

	Metric De- scription
process call min time	Hadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime_min
queue call min time	Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime_min

	Metric De- Metricscrip- Name tion
process	Hadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime_max call max time
queue	Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime_max call max time

Report: RS Requests

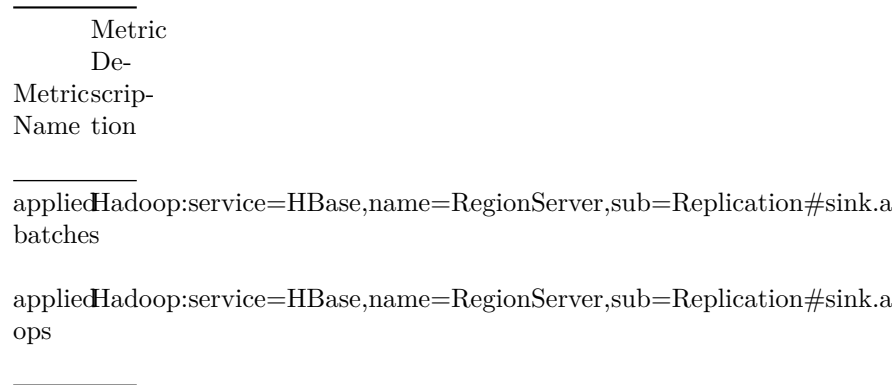
Chart: Requests

	Metric De- Metricscrip- Name tion
total re- quests	Total num- ber of re- quests this Re- gion- Server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#total

	Metric De- scription
read re- quests	Number of read re- quests this re- gion server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#read
write re- quests	Number of mu- ta- tion re- quests this re- gion server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#wri
read re- quests	Hadoop:service=HBase,name=RegionServer,sub=Server#readReques
write re- quests	Hadoop:service=HBase,name=RegionServer,sub=Server#writeReque

Report: RS Replication

Chart: Sink Ops & Batches



Report: Master Balancer

Chart: Balancing Min & Max Time

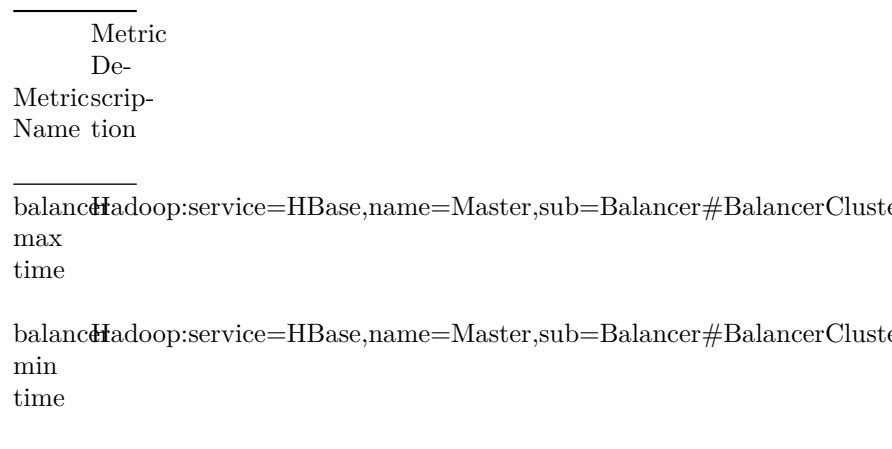


Chart: Balancing Ops & Time

	Metric De- Metricscrip- Name tion
ops	Hadoop:service=HBase,name=Master,sub=Balancer#BalancerClusterMean
time	Hadoop:service=HBase,name=Master,sub=Balancer#BalancerClusterMean
	* Bal- ancer- Clus- ter_mean

Chart: Misc Invocations

	Metric De- Metricscrip- Name tion
misc	Hadoop:service=HBase,name=Master,sub=Balancer#miscInvocations
in- vo- ca- tions	

Report: RS MOB

Chart: MOB Cache Stats

	Metric De- Metricscrip- Name tion
file cache ac- cesses	The count of ac- cesses to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl
file cache misses	The count of misses to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl
file cache evic- tions	The num- ber of items evicted from the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl

	Metric De- Metricscrip- Name tion
file cache hits	The hit percent to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mob

Chart: MOB Compaction Stats

	Metric De- Metricscrip- Name tion
compact from mob cells	The number of cells moved from mob during compaction.Hadoop:service=HBase,name=RegionServer,sub=Server#mo

Metric Description	
compact	The number of cells moved to mob during compaction.
compact	The total amount of cells move from mob during compaction, in bytes.

Metric De- Metricscrip- Name tion	
compactThe into to- mob tal cells amount size of cells move to mob dur- ing com- paction, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#mobC	

Chart: MOB Cache Files

Metric De- Metricscrip- Name tion	
file The caches count of cached mob files.Hadoop:service=HBase,name=RegionServer,sub=Server#mobFi	

Chart: MOB Scan Stats

	Metric De- Metricscrip- Name tion
scan cells	The num- ber of scanned mob cells.Hadoop:service=HBase,name=RegionServer,sub=Server#mobS
scan cells size	The to- tal amount of scanned mob cells, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#mobS

Chart: MOB Flush Stats

	Metric De- Metricscrip- Name tion
flushes	The num- ber of the flushes in mob- enabled stores.Hadoop:service=HBase,name=RegionServer,sub=Server#mob

Metric Description	
flushedThe cells number of mob cells flushed to disk.	Hadoop:service=HBase,name=RegionServer,sub=Server#mobFl
flushedThe cells total amount of mob cells flushed to disk, in bytes.	Hadoop:service=HBase,name=RegionServer,sub=Server#mobL

Report: RS Files

Chart: HLog

Metric De- Metricscrip- Name tion	
hlog files	The number of write ahead logs not yet archived.Hadoop:service=HBase,name=RegionServer,sub=Server#hlogF
hlog files size	Size of all HLog Files.Hadoop:service=HBase,name=RegionServer,sub=Server#hlogF

Chart: Local Files

	<div> <div></div> <div>Metric</div> <div>De-</div> <div>Metricscrip-</div> <div>Name tion</div> </div>
local files	<div> <div></div> <div>The percent of HFiles that are stored on the local hdfs data</div> <div>node.Hadoop:service=HBase,name=RegionServer,sub=Server#perce</div> </div>

Report: Master Servers

Chart: Region Servers

	<div> <div></div> <div>Metric</div> <div>De-</div> <div>Metricscrip-</div> <div>Name tion</div> </div>
region servers	<div> <div></div> <div>Hadoop:service=HBase,name=Master,sub=Server#numRegionServer</div> </div>
dead re-gion servers	<div> <div></div> <div>Hadoop:service=HBase,name=Master,sub=Server#numDeadRegionS</div> </div>

Chart: Requests & Load

Metric Description	
clusterHadoop:service=HBase,name=Master,sub=Server#clusterRequests	
averageHadoop:service=HBase,name=Master,sub=Server#averageLoad	

Report: RS Check & Mutate

Chart: Check & Mutate Calls

Metric Description	
mutateNumber failed of ops Check and Mu- tate calls that failed the checks.Hadoop:service=HBase,name=RegionServer,sub=Server#che	

Metric	De-	Metricscrip-	Name	tion
--------	-----	--------------	------	------

mutateNumber	
passedof	
ops	Check
	and
	Mu-
	tate
	calls
	that
	passed
	the

```
checks.Hadoop:service=HBase,name=RegionServer,sub=Server#check
```

Chart: Mutations

<hr/>	
Metric	
Description	
Number of mutations that have been sent by clients with the write ahead logging turned off.	
Number of mutations that have been sent by clients with the write ahead logging turned off.	Hadoop:service=HBase,name=RegionServer,sub=Server#mutations
Size of data that has been sent by clients with the write ahead logging turned off.	
Size of data that has been sent by clients with the write ahead logging turned off.	Hadoop:service=HBase,name=RegionServer,sub=Server#mutationSize
<hr/>	

Report: RS Cache

Chart: Cache Blocks

Metric Description	
cache count	Number of block in the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
cache free size	Size of the block cache that is not occupied.Hadoop:service=HBase,name=RegionServer,sub=Server#block
block cache size	Size of the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block

Chart: Cache Stats

	Metric De- scription
hits	Count of the hit on the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
miss	Number of re- quests for a block that missed the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
evictions	Count of the num- ber of blocks evicted from the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block

Metric Description	
hit%	Percent of block cache requests that are hits.Hadoop:service=HBase,name=RegionServer,sub=Server#blockC
express	The percent of the time that requests with the cache turned on hit the cache.Hadoop:service=HBase,name=RegionServer,sub=Server#blockC

Report: RS Replication Src

Chart: Log Queue

	Metric De- Metricscrip- Name tion
log queue	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

Chart: Log Reads

	Metric De- Metricscrip- Name tion
log ed- its read	Hadoop:service=HBase,name=RegionServer,sub=Replication#source
log ed- its fil- tered	Hadoop:service=HBase,name=RegionServer,sub=Replication#source
log read bytes	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

Chart: Shipped Ops & Size

	Metric De- Metricscrip- Name tion
shipped batches	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

	Metric De- Metricscrip- Name tion
shippedHadoop:service=HBase,name=RegionServer,sub=Replication#source	ops
shippedHadoop:service=HBase,name=RegionServer,sub=Replication#source	bytes

Report: Overview

Chart: Requests

	Metric De- Metricscrip- Name tion
total re-quests	Total num-ber of re-quests this Re-gion-Server has an-swered.Hadoop:service=HBase,name=RegionServer,sub=Server#total

Metric Description	
read requests	Number of requests read by this region server has answered. Hadoop:service=HBase,name=RegionServer,sub=Server#read
write requests	Number of mutation requests by this region server has answered. Hadoop:service=HBase,name=RegionServer,sub=Server#wri

Chart: Compaction Queue

Metric Name	Description
compaction-queue depth	Comment: If increasing, we are falling behind with store-file compaction. Hadoop:service=HBase,name=RegionServer,sub=Server#compaction-queue-depth

Chart: Disk Space Used

Metric Name | Metric Description — | — used space |

Chart: Mem Stores

	Metric De- Metricscrip- Name tion
mem store size	Size of the mem-store.Hadoop:service=HBase,name=RegionServer,sub=Server#memS
upper limit	Property 'hbase.regionserver.global.memstore.upperLimit' value.
lower limit	Property 'hbase.regionserver.global.memstore.lowerLimit' value.

Chart: Region Servers

	Metric De- Metricscrip- Name tion
region servers	Hadoop:service=HBase,name=Master,sub=Server#numRegionServers
dead re-gion servers	Hadoop:service=HBase,name=Master,sub=Server#numDeadRegions

Chart: Garbage Collectors

Metric Name | Metric Description — | — collection time | collection count | avg collection time |

Chart: Flush Queue

	Metric Description
flush queue length	Length of the queue for region flushes. If increasing, we are falling behind with clearing memstores out to HDFS. Hadoop:service=HBase,name=RegionServer,sub=Server#flush

Chart: Local Files

	Metric De- scrip- tion
local files	The per- cent of HFiles that are stored on the lo- cal hdfs data node.Hadoop:service=HBase,name=RegionServer,sub=Server#perce

Chart: CPU

Metric Name | Metric Description — | — ‘user’ | ‘system’ | ‘wait’ | ‘interruption’
| ‘soft interrupt’ | ‘nice’ | ‘steal’ | ‘idle’ |

Report: RS Hedged Reads

Chart: Hedged Reads

Metric Description	
hedgeThe reads num-ber of times we started a hedged read.Hadoop:service=HBase,name=RegionServer,sub=Server#hedged	
hedgeThe read num-ber of times we started a hedged read and a hedged read won.Hadoop:service=HBase,name=RegionServer,sub=Server#hedged	

Report: HBase Store (0.94)

Chart: Stores

Metric Name | Metric Description — | — stores | store files |

Chart: Compaction

Metric Name | Metric Description — | — compactions | avg time |

Chart: StoreFile Index

Metric Name | Metric Description — | — store file index size | store files |

Chart: Memstore Flush

Metric Name | Metric Description — | — flushes | avg time |

Report: HBase FS (0.94)

Chart: Min Time Latency

Metric Name | Metric Description — | — read | write | sync |

Chart: Avg Time Latency

Metric Name | Metric Description — | — read | write | sync |

Chart: Max Time Latency

Metric Name | Metric Description — | — read | write | sync |

Report: HBase Memstore (0.94)

Chart: Memstore Size

Metric Name | Metric Description — | — memstore size | memory store upper limit | memory store lower limit |

Chart: Memstore Flush Queue

Metric Name | Metric Description — | — flush queue |

Chart: Memstore Flush Operations

Metric Name | Metric Description — | — flushes | avg time |

Chart: Memstore Flush Size

Metric Name | Metric Description — | — max | avg | min |

Chart: Memstore Flush Time

Metric Name | Metric Description — | — max | avg | min |

Report: HBase Requests (0.94)

Chart: HBase Request Rate

Metric Name | Metric Description — | — request rate |

Report: HBase Compactions (0.94)

Chart: Compaction Size

Metric Name | Metric Description — | — max | avg | min |

Chart: Compaction Operations

Metric Name | Metric Description — | — compactions | avg time |

Chart: Compaction Time

Metric Name | Metric Description — | — max | avg | min |

Chart: Compaction Queue

Metric Name | Metric Description — | — compaction queue |

Report: HBase Block Cache (0.94)

Chart: Block Cache Hit Ratio

Metric Name | Metric Description — | — blockCacheHitCachingRatio | block-
CacheHitRatio |

Chart: Block Cache Size

Metric Name | Metric Description — | — cache size | cache free | block cache
count |

Chart: Block Cache Operations

Metric Name | Metric Description — | — evicted count | hit count | miss count
|

Report: Split (0.94)

Chart: Split Time

Metric Name | Metric Description — | — max | avg | min |

Chart: Split Operations

Metric Name | Metric Description — | — splits | avg time |

Chart: Split Size

Metric Name | Metric Description — | — max | avg | min |

Report: HBase Regions (0.94)

Chart: Regions

Metric Name | Metric Description — | — regions |

Chart: Splits

Metric Name | Metric Description — | — splits | avg time |

Metrics HBase 0.94

Report: HBase Store (0.94)

Chart: Stores

Metric Name | Metric Description — | — stores | store files |

Chart: Compaction

Metric Name | Metric Description — | — compactions | avg time |

Chart: StoreFile Index

Metric Name | Metric Description — | — store file index size | store files |

Chart: Memstore Flush

Metric Name | Metric Description — | — flushes | avg time |

Report: HBase FS (0.94)

Chart: Min Time Latency

Metric Name | Metric Description — | — read | write | sync |

Chart: Avg Time Latency

Metric Name | Metric Description — | — read | write | sync |

Chart: Max Time Latency

Metric Name | Metric Description — | — read | write | sync |

Report: HBase Memstore (0.94)

Chart: Memstore Size

Metric Name | Metric Description — | — memstore size | memory store upper limit | memory store lower limit |

Chart: Memstore Flush Queue

Metric Name | Metric Description — | — flush queue |

Chart: Memstore Flush Operations

Metric Name | Metric Description — | — flushes | avg time |

Chart: Memstore Flush Size

Metric Name | Metric Description — | — max | avg | min |

Chart: Memstore Flush Time

Metric Name | Metric Description — | — max | avg | min |

Report: HBase Requests (0.94)

Chart: HBase Request Rate

Metric Name | Metric Description — | — request rate |

Report: HBase Compactions (0.94)

Chart: Compaction Size

Metric Name | Metric Description — | — max | avg | min |

Chart: Compaction Operations

Metric Name | Metric Description — | — compactions | avg time |

Chart: Compaction Time

Metric Name | Metric Description — | — max | avg | min |

Chart: Compaction Queue

Metric Name | Metric Description — | — compaction queue |

Report: HBase Block Cache (0.94)

Chart: Block Cache Hit Ratio

Metric Name | Metric Description — | — blockCacheHitCachingRatio | block-CacheHitRatio |

Chart: Block Cache Size

Metric Name | Metric Description — | — cache size | cache free | block cache count |

Chart: Block Cache Operations

Metric Name | Metric Description — | — evicted count | hit count | miss count |

Report: Split (0.94)

Chart: Split Time

Metric Name | Metric Description — | — max | avg | min |

Chart: Split Operations

Metric Name | Metric Description — | — splits | avg time |

Chart: Split Size

Metric Name | Metric Description — | — max | avg | min |

Report: HBase Regions (0.94)

Chart: Regions

Metric Name | Metric Description — | — regions |

Chart: Splits

Metric Name | Metric Description — | — splits | avg time |

Metrics HBase 0.98

Report: HBase JVM

Chart: Log

Metric Name	Metric Description
fatal	Hadoop:service=HBase,name=JvmMetrics#LogFatal
error	Hadoop:service=HBase,name=JvmMetrics#LogError
warn	Hadoop:service=HBase,name=JvmMetrics#LogWarn
info	Hadoop:service=HBase,name=JvmMetrics#LogInfo

Chart: Threads

Metric Name	Metric Description
new	Hadoop:service=HBase,name=JvmMetrics#ThreadsNew
runnable	Hadoop:service=HBase,name=JvmMetrics#ThreadsRunnable
blocked	Hadoop:service=HBase,name=JvmMetrics#ThreadsBlocked
waiting	Hadoop:service=HBase,name=JvmMetrics#ThreadsWaiting
timed waiting	Hadoop:service=HBase,name=JvmMetrics#ThreadsTimedWaiting
terminated	Hadoop:service=HBase,name=JvmMetrics#ThreadsTerminated

Chart: Memory

	Metric De- Metricscrip- Name tion
non heap used	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapUsedM
non heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapCommitte
heap used	Hadoop:service=HBase,name=JvmMetrics#MemHeapUsedM
heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemHeapCommittedM
non heap max	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapMaxM
heap max	Hadoop:service=HBase,name=JvmMetrics#MemHeapMaxM
total max	Hadoop:service=HBase,name=JvmMetrics#MemMaxM
non heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemNonHeapCommitte
heap com- mit- ted	Hadoop:service=HBase,name=JvmMetrics#MemHeapCommittedM

Report: UGI

Chart: Login Success & Failure

Metric	Description
successHadoop:service=HBase,name=UgiMetrics#LoginSuccessNumOps	ops
failureHadoop:service=HBase,name=UgiMetrics#LoginFailureNumOps	ops
successHadoop:service=HBase,name=UgiMetrics#LoginSuccessAvgTime	time *
failureHadoop:service=HBase,name=UgiMetrics#LoginFailureAvgTime	time *
	Login-FailureNumOps

Chart: Get Groups

Metric Name	Metric Description
ops	Hadoop:service=HBase,name=UgiMetrics#GetGroupsNumOps
time	Hadoop:service=HBase,name=UgiMetrics#v * GetGroupsNumOps

Report: RS WAL

Chart: Sync & Append Ops & Time

	Metric De- scription
syncs	Count of syncs the HLog to HDFS.Hadoop:service=HBase,name=RegionServer,sub=WAL#Sync
appends	Count of ap- pends to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append
sync time	The time it took to sync the HLog to HDFS.Hadoop:service=HBase,name=RegionServer,sub=WAL#Sync * Sync- Time__mean

Metric De- Metricscrip- Name tion
appendTime time an ap- pend to the log took.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append *
Ap- pend- Time__mean

Chart: Append Ops & Size

Metric De- Metricscrip- Name tion
appendCount of ap- pend to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append

Metric De- Metricscrip- Name tion	
appendSize size (in bytes) of the data ap- pend- to the HLog.Hadoop:service=HBase,name=RegionServer,sub=WAL#Append *	Ap- pend- Size_mean

Chart: Sync & Append Max & Min Time

Metric De- Metricscrip- Name tion	
sync min time	Hadoop:service=HBase,name=RegionServer,sub=WAL#SyncTime_min
sync max time	Hadoop:service=HBase,name=RegionServer,sub=WAL#SyncTime_max
append min time	Hadoop:service=HBase,name=RegionServer,sub=WAL#AppendTime_min

Metric De- Metricscrip- Name tion	
appendHadoop:service=HBase,name=RegionServer,sub=WAL#AppendTime	max time
appendHadoop:service=HBase,name=RegionServer,sub=WAL#AppendSize	min size
appendHadoop:service=HBase,name=RegionServer,sub=WAL#AppendSize	max size

Chart: Slow Appends

Metric De- Metricscrip- Name tion	
slow Number ap- of pends ap- pend that were slow.Hadoop:service=HBase,name=RegionServer,sub=WAL#slowAppends	
appendCount	of ap- pend to the log.Hadoop:service=HBase,name=RegionServer,sub=WAL#appendCount

Report: RS Compact & Flush

Chart: Flush Queue

Metric Description	
flush queue	Length of the queue for region flushes.If increasing, we are falling behind with clearing mem-stores out to HDFS.Hadoop:service=HBase,name=RegionServer,sub=Server#flush

Chart: Blocked Updates

	Metric De- scrip- tion
updates blocked time	Number of MS up- dates have been blocked so that the mem- store can be flushed.
	Hadoop:service=HBase,name=RegionServer,sub=Server#updatesBlockedTime

Chart: Flush Counts/Size

	Metric De- scrip- tion
flushed cells	The num- ber of cells flushed to disk.
	Hadoop:service=HBase,name=RegionServer,sub=Server#flushedCells

Metric Description
The total amount of data flushed to disk, in bytes.
Hadoop:service=HBase,name=RegionServer,sub=Server#flushed

Chart: Compaction Queue

Metric De- scrip- tion	
Client compaction queue depth of the com- paction re- quest queue. If in- creas- ing, we are falling be- hind with store- file com- paction.	Hadoop:service=HBase,name=RegionServer,sub=Server#com

Chart: Compaction Counts/Size

Metric Description	
compact cells	The number of cells processed during minor compactions.
major compacted cells	The number of cells processed during major compactions.

Metric Description	
compact cells size	The total amount of data processed during minor compactions, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#compact
major compacted cells size	The total amount of data processed during major compactions, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#major

Report: Master Assign Mngr

Chart: Assigns Ops & Time

```
assign Hadoop:service=HBase,name=Master,sub=AssignmentManger#Assign-
time *
      As-
      sign_num_ops
```

```

rit      The
old-    age
est     of
age     the
        longest
        re-
        gion
        in
        tran-
        si-
tion.Hadoop:service=HBase,name=Master,sub=AssignmentManger#

```

	Metric Description
rit count	The number of regions in transition. Hadoop:service=HBase,name=Master,sub=AssignmentManger#
rit count over thresh-old	The number of regions that have been in transition longer than a threshold time (default: 60 seconds). Hadoop:service=HBase,name=Master,sub=AssignmentManger#

Chart: Assigns Max & Min Time

	Metric De- Metricscrip- Name tion
bulk as-sign max time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#BulkAs-sign-max-time
bulk as-sign min time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#BulkAs-sign-min-time
assign max time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#Assign-max-time
assign min time	Hadoop:service=HBase,name=Master,sub=AssignmentManger#Assign-min-time

Report: RS Operations

Chart: Operation Calls & Time

	Metric De- Metricscrip- Name tion
append	Hadoop:service=HBase,name=RegionServer,sub=Server#Append_num
deletes	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_num
mutates	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate_num
gets	Hadoop:service=HBase,name=RegionServer,sub=Server#Get_num

	Metric
De-	
Metricscrip-	
Name tion	
replays	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_num
incremental	Hadoop:service=HBase,name=RegionServer,sub=Server#Incremental
append	Hadoop:service=HBase,name=RegionServer,sub=Server#Append_n
time *	
	Ap-
	pend__mean
delete	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_num
time *	
	Delete__mean
mutate	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate_num
time *	
	Mu-
	tate__mean
get	Hadoop:service=HBase,name=RegionServer,sub=Server#Get_num
time *	
	Get__mean
replay	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_num
time *	
	Re-
	play__mean
incremental	Hadoop:service=HBase,name=RegionServer,sub=Server#Incremental
time *	
	In-
	cre-
	ment__mean

Chart: Slow Operations

	Metric
De-	
Metricscrip-	
Name tion	
slow	The
deletesnum-	ber
	of
	Deletes
	that
	took
	over
	1000ms
	to
	com-
	plete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowL
slow	The
in-	num-
cre-	ber
ments	of
	In-
	cre-
	ments
	that
	took
	over
	1000ms
	to
	com-
	plete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowL

	Metric De- scrip- tion
slow_gets	The number of Gets that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowC
slow_appends	The number of Appends that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowA
slow_puts	The number of Puts that took over 1000ms to complete.Hadoop:service=HBase,name=RegionServer,sub=Server#slowP

Metric
De-
Metricscrip-
Name tion

Chart: Operation Max & Min Time

Metric
De-
Metricscrip-
Name tion
appendHadoop:service=HBase,name=RegionServer,sub=Server#Append_min min time
delete Hadoop:service=HBase,name=RegionServer,sub=Server#Delete_min min time
mutateHadoop:service=HBase,name=RegionServer,sub=Server#Mutate_min min time
get Hadoop:service=HBase,name=RegionServer,sub=Server#Get_min min time
replay Hadoop:service=HBase,name=RegionServer,sub=Server#Replay_min min time
incrementHadoop:service=HBase,name=RegionServer,sub=Server#Increment_min min time
appendHadoop:service=HBase,name=RegionServer,sub=Server#Append_max max time

	Metric
De-	
Metricscrip-	
Name tion	
delete	Hadoop:service=HBase,name=RegionServer,sub=Server#Delete__ma
max	
time	
mutate	Hadoop:service=HBase,name=RegionServer,sub=Server#Mutate__m
max	
time	
get	Hadoop:service=HBase,name=RegionServer,sub=Server#Get__max
max	
time	
replay	Hadoop:service=HBase,name=RegionServer,sub=Server#Replay__ma
max	
time	
increment	Hadoop:service=HBase,name=RegionServer,sub=Server#Increment__
max	
time	

Report: Master Snapshot

Chart: Snapshot Ops & Time

	Metric De- scrip- tion
restoreCount	Count of re- storeS- nap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots
clonesCount	Count of cloneS- nap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots
snapshotCount	Count of snap- shot() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=Snapshots#Snapshots

	Metric
De-	
Metricscrip-	
Name tion	
restoreTime	
time it	
	takes
	to
	fin-
	ish
	re-
	storeS-
	nap-
	shot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapsh
	*
	Snap-
	shotRe-
	store-
	Time__mean
clone Time	
time it	
	takes
	to
	fin-
	ish
	cloneS-
	nap-
	shot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapsh
	*
	Snap-
	shot-
	Clone-
	Time__mean

Metric De- Metricscrip- Name tion	
snapshot time	Time it takes to fin- ish snap- shot().Hadoop:service=HBase,name=Master,sub=Snapshots#Snapsh *
Snap- shot- Time__mean	

Chart: Snapshot Max & Min Time

Metric De- Metricscrip- Name tion	
restore min time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotRest
restore max time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotRest
clone min time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotClon
clone max time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotClon

Metric Description	
snapshot min time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotTimeMin
snapshot max time	Hadoop:service=HBase,name=Master,sub=Snapshots#SnapshotTimeMax

Report: Master FS

Chart: Split Ops & Time

Metric Description	
hlog splits Count of HLog.splitLog() invocations	Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitCount
meta hlog splits Count of split-Metadata Log() invocations	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSplitCount

Metric Description	
hlog split time	Time it takes to finish HLog.splitLog().Hadoop:service=HBase,name=Master,sub=FileSystem*
	HlogSplit-Time__mean
meta hlog split time	Time it takes to finish split-MetaLog().Hadoop:service=HBase,name=Master,sub=FileSystem#MetaH*
	MetaHlogSplit-Time__mean

Chart: Split Ops & Size

	Metric De- scription
hlog splits	Count of HLog.splitLog() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSp
meta hlog splits	Count of split- Met- a- Log() in- vo- ca- tions.Hadoop:service=HBase,name=Master,sub=FileSystem#MetaH
hlog split size	Size of HLog files be- ing split.Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSp * HlogSplit- Size__mean

Metric De- Metricscrip- Name tion	
meta Size hlog of split hbase:meta size HLog files be- ing split.Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSplit- *	MetaHlogSplit- Size__mean

Chart: Split Max & Min time

Metric De- Metricscrip- Name tion	
hlog Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitTime split min time	
hlog Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitTime split max time	
meta Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSplitTime hlog split min time	

	Metric De- Metricscrip- Name tion
meta hlog split max time	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp
hlog split min size	Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitSiz
hlog split max size	Hadoop:service=HBase,name=Master,sub=FileSystem#HlogSplitSiz
meta hlog split min size	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp
meta hlog split max size	Hadoop:service=HBase,name=Master,sub=FileSystem#MetaHlogSp

Report: RS Regions & Stores

Chart: Indexes & Bloom Filters

	Metric De- Metricscrip- Name tion
static in- dex size	Uncompressed size of the static in- dexes.Hadoop:service=HBase,name=RegionServer,sub=Server#staticE
static bloom size	Uncompressed size of the static bloom fil- ters.Hadoop:service=HBase,name=RegionServer,sub=Server#staticE

Chart: Regions & Stores

	Metric De- Metricscrip- Name tion
regions	Number of re- gions.Hadoop:service=HBase,name=RegionServer,sub=Server#region
stores	Number of Stores.Hadoop:service=HBase,name=RegionServer,sub=Server#store
store files	Number of Store Files.Hadoop:service=HBase,name=RegionServer,sub=Server#storeF

Metric
Description
Metrics
Name

Chart: Store Files

Metric
Description
Metrics
Name

store file size	Size of store-files being served.
store file index size	Size of indexes in store-files on disk.

Chart: Mem Stores

	Metric De- Metricscrip- Name tion
mem store size	Size of the mem- store.Hadoop:service=HBase,name=RegionServer,sub=Server#memS
upper limit	Property 'hbase.regionserver.global.memstore.upperLimit' value.
lower limit	Property 'hbase.regionserver.global.memstore.lowerLimit' value.

Report: IPC

Chart: Connections & Handler

	Metric De- Metricscrip- Name tion
open con- nec- tions	The num- ber of open con- nec- tions at the RPC layer.Hadoop:service=HBase,name=IPC,sub=IPC#numOpenConne

Metric De- Metricscrip- Name tion
active Number han- of dlers ac- tive rpc han- dlers.Hadoop:service=HBase,name=IPC,sub=IPC#numActiveHandl

Chart: Queue & Process Calls & Times

Metric De- Metricscrip- Name tion
queue Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime__num_ calls
processHadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime__num_ calls
queue Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime__mean_ call *
time Queue- Call- Time__num_ops
processHadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime__mean_ call *
time Pro- cess- Call- Time__num_ops

Chart: Authentication & Authorization

Metric De- scrip- tion	
<div>Number of authentication failures</div> <div>Number of authentication failures. Hadoop:service=HBase,name=IPC,sub=IPC#authenticationFailures</div>	
<div>Number of authorization failures</div> <div>Number of authorization failures. Hadoop:service=HBase,name=IPC,sub=IPC#authorizationFailures</div>	
<div>Number of authentication successes</div> <div>Number of authentication successes. Hadoop:service=HBase,name=IPC,sub=IPC#authenticationSuccesses</div>	
<div>Number of authorization successes</div> <div>Number of authorization successes. Hadoop:service=HBase,name=IPC,sub=IPC#authorizationSuccesses</div>	

Chart: Send & Received Bytes

Metric Description	
sent	Number of bytes sent.Hadoop:service=HBase,name=IPC,sub=IPC#sentBytes
received	Number of bytes received.Hadoop:service=HBase,name=IPC,sub=IPC#receivedBytes

Chart: Queue

Metric Description	
queue size	Number of bytes in the call queues.Hadoop:service=HBase,name=IPC,sub=IPC#queueSize

	Metric De- scription
calls in general queue	The number of currently en-queued user re-quests. Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInGen
calls in replica- tion queue	Number of calls in the replica- tion call queue. Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInRep

	Metric De- Metricscrip- Name tion
calls in pri- or- ity queue	The num- ber of cur- rently en- queued pri- or- ity (in- ter- nal house- keep- ing) re- quests.Hadoop:service=HBase,name=IPC,sub=IPC#numCallsInPriorityQueue

Chart: Queue & Process Max & Min Times

	Metric De- Metricscrip- Name tion
process call min time	Hadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime_min
queue call min time	Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime_min

	Metric De- Metricscrip- Name tion
process	Hadoop:service=HBase,name=IPC,sub=IPC#ProcessCallTime_max call max time
queue	Hadoop:service=HBase,name=IPC,sub=IPC#QueueCallTime_max call max time

Report: RS Requests

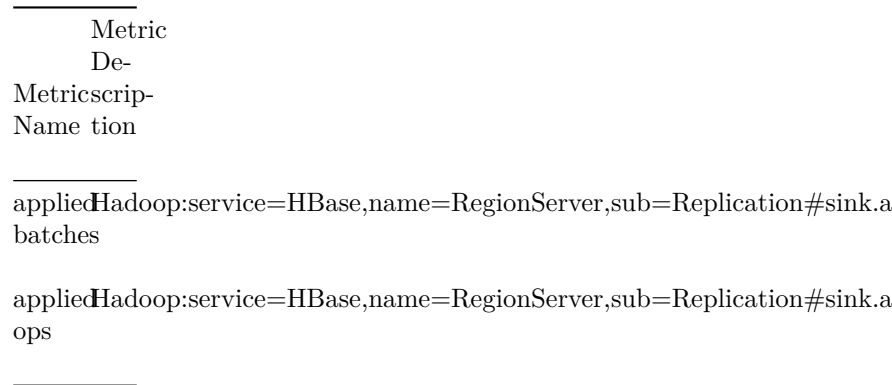
Chart: Requests

	Metric De- Metricscrip- Name tion
total re- quests	Total num- ber of re- quests this Re- gion- Server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#total

	Metric De- scription
read re- quests	Number of read re- quests this re- gion server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#read
write re- quests	Number of mu- ta- tion re- quests this re- gion server has an- swered.Hadoop:service=HBase,name=RegionServer,sub=Server#wri
read re- quests	Hadoop:service=HBase,name=RegionServer,sub=Server#readReques
write re- quests	Hadoop:service=HBase,name=RegionServer,sub=Server#writeReque

Report: RS Replication

Chart: Sink Ops & Batches



Report: Master Balancer

Chart: Balancing Min & Max Time

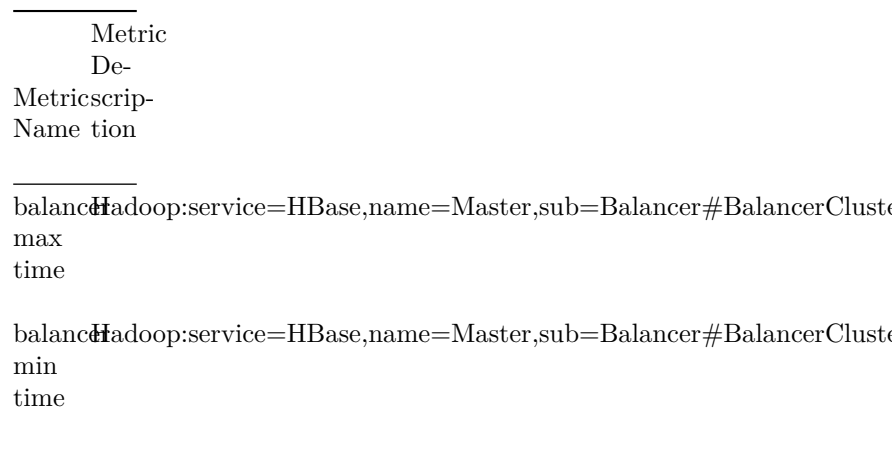


Chart: Balancing Ops & Time

	Metric De- Metricscrip- Name tion
ops	Hadoop:service=HBase,name=Master,sub=Balancer#BalancerClusterMean
time	Hadoop:service=HBase,name=Master,sub=Balancer#BalancerClusterMean
	* Bal- ancer- Clus- ter_mean

Chart: Misc Invocations

	Metric De- Metricscrip- Name tion
misc	Hadoop:service=HBase,name=Master,sub=Balancer#miscInvocations
in- vo- ca- tions	

Report: RS MOB

Chart: MOB Cache Stats

	Metric De- Metricscrip- Name tion
file cache ac- cesses	The count of ac- cesses to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl
file cache misses	The count of misses to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl
file cache evic- tions	The num- ber of items evicted from the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mobl

	Metric De- Metricscrip- Name tion
file cache hits	The hit percent to the mob file cache.Hadoop:service=HBase,name=RegionServer,sub=Server#mob

Chart: MOB Compaction Stats

	Metric De- Metricscrip- Name tion
compact from mob cells	The number of cells moved from mob during compaction.Hadoop:service=HBase,name=RegionServer,sub=Server#mo

Metric Description	
compact	The number of cells moved to mob during compaction.
into mob cells	The number of cells moved to mob during compaction.
from mob cells size	The total amount of cells move from mob during compaction, in bytes.

Metric De- Metricscrip- Name tion	
compactThe into to- mob tal cells amount size of cells move to mob dur- ing com- paction, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#mobC	

Chart: MOB Cache Files

Metric De- Metricscrip- Name tion	
file The caches count of cached mob files.Hadoop:service=HBase,name=RegionServer,sub=Server#mobFi	

Chart: MOB Scan Stats

	Metric De- Metricscrip- Name tion
scan cells	The num- ber of scanned mob cells.Hadoop:service=HBase,name=RegionServer,sub=Server#mobS
scan cells size	The to- tal amount of scanned mob cells, in bytes.Hadoop:service=HBase,name=RegionServer,sub=Server#mobS

Chart: MOB Flush Stats

	Metric De- Metricscrip- Name tion
flushes	The num- ber of the flushes in mob- enabled stores.Hadoop:service=HBase,name=RegionServer,sub=Server#mob

Metric Description	
flushedThe cells number of mob cells flushed to disk.	Hadoop:service=HBase,name=RegionServer,sub=Server#mobFl
flushedThe cells total amount of mob cells flushed to disk, in bytes.	Hadoop:service=HBase,name=RegionServer,sub=Server#mobL

Report: RS Files

Chart: HLog

	Metric De- Metricscrip- Name tion
hlog files	The num- ber of write ahead logs not yet archived.Hadoop:service=HBase,name=RegionServer,sub=Server#hlogF
hlog files size	Size of all HLog Files.Hadoop:service=HBase,name=RegionServer,sub=Server#hlogF

Chart: Local Files

	<div> <div></div> <div>Metric</div> <div>De-</div> <div>Metricscrip-</div> <div>Name tion</div> </div>
local files	<div> <div></div> <div>The percent of HFiles that are stored on the local hdfs data</div> <div>node.Hadoop:service=HBase,name=RegionServer,sub=Server#perce</div> </div>

Report: Master Servers

Chart: Region Servers

	<div> <div></div> <div>Metric</div> <div>De-</div> <div>Metricscrip-</div> <div>Name tion</div> </div>
region servers	<div> <div></div> <div>Hadoop:service=HBase,name=Master,sub=Server#numRegionServers</div> </div>
dead re-gion servers	<div> <div></div> <div>Hadoop:service=HBase,name=Master,sub=Server#numDeadRegions</div> </div>

Chart: Requests & Load

Metric Description	
clusterHadoop:service=HBase,name=Master,sub=Server#clusterRequests	requests
averageHadoop:service=HBase,name=Master,sub=Server#averageLoad	load

Report: RS Check & Mutate

Chart: Check & Mutate Calls

Metric Description	
mutateNumber	failed of
ops	Check and Mu- tate calls that failed the checks.Hadoop:service=HBase,name=RegionServer,sub=Server#che

Metric Description	
mutateNumber	Number of
passed	ops
ops	Check and Mutate calls that passed the checks.
Hadoop:service=HBase,name=RegionServer,sub=Server#check	

Chart: Mutations

Metric Description	
Number of mutations that have been sent by clients with the write ahead logging turned off.	Hadoop:service=HBase,name=RegionServer,sub=Server#mutations
Size of data that has been sent by clients with the write ahead logging turned off.	Hadoop:service=HBase,name=RegionServer,sub=Server#mutationSize

Report: RS Cache

Chart: Cache Blocks

Metric Description	
cache count	Number of block in the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
cache free size	Size of the block cache that is not occupied.Hadoop:service=HBase,name=RegionServer,sub=Server#block
block cache size	Size of the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block

Chart: Cache Stats

	Metric De- scrip- tion
hits	Count of the hit on the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
miss	Number of re- quests for a block that missed the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block
evictions	Count of the num- ber of blocks evicted from the block cache.Hadoop:service=HBase,name=RegionServer,sub=Server#block

Metric Description	
hit%	Percent of block cache requests that are hits.Hadoop:service=HBase,name=RegionServer,sub=Server#blockC
express	The percent of the time that requests with the cache turned on hit the cache.Hadoop:service=HBase,name=RegionServer,sub=Server#blockC

Report: RS Replication Src

Chart: Log Queue

	Metric De- Metricscrip- Name tion
log queue	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

Chart: Log Reads

	Metric De- Metricscrip- Name tion
log ed-its read	Hadoop:service=HBase,name=RegionServer,sub=Replication#source
log ed-its fil-tered	Hadoop:service=HBase,name=RegionServer,sub=Replication#source
log read bytes	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

Chart: Shipped Ops & Size

	Metric De- Metricscrip- Name tion
shipped batches	Hadoop:service=HBase,name=RegionServer,sub=Replication#source

	Metric De- Metricscrip- Name tion
shippedHadoop:service=HBase,name=RegionServer,sub=Replication#source	ops
shippedHadoop:service=HBase,name=RegionServer,sub=Replication#source	bytes

Report: Overview

Chart: Requests

	Metric De- Metricscrip- Name tion
total re-quests	Total num-ber of re-quests this Re-gion-Server has an-swered.Hadoop:service=HBase,name=RegionServer,sub=Server#total

Metric Description	
read requests	Number of requests read by this region server has answered. Hadoop:service=HBase,name=RegionServer,sub=Server#read
write requests	Number of mutation requests by this region server has answered. Hadoop:service=HBase,name=RegionServer,sub=Server#wri

Chart: Compaction Queue

Metric Name	Description
compaction-queue depth	Comment: If increasing, we are falling behind with store-file compaction. Hadoop:service=HBase,name=RegionServer,sub=Server#compaction-queue-depth

Chart: Disk Space Used

Metric Name | Metric Description — | — used space |

Chart: Mem Stores

Metric De- Metricscrip- Name tion	
mem Size store of size the mem- store.Hadoop:service=HBase,name=RegionServer,sub=Server#memS	
upper Property limit ‘hbase.regionserver.global.memstore.upperLimit’ value.	
lower Property limit ‘hbase.regionserver.global.memstore.lowerLimit’ value.	

Chart: Region Servers

Metric De- Metricscrip- Name tion	
region Hadoop:service=HBase,name=Master,sub=Server#numRegionServer servers	
dead Hadoop:service=HBase,name=Master,sub=Server#numDeadRegionS re- gion servers	

Chart: Garbage Collectors

Metric Name | Metric Description — | — collection time | collection count | avg
collection time |

Chart: Flush Queue

	Metric De- scrip- tion
flush queue	Length of the queue for re- gion flushes.If in- creas- ing, we are falling be- hind with clear- ing mem- stores out to HDFS.Hadoop:service=HBase,name=RegionServer,sub=Server#flush

Chart: Local Files

	Metric De- scrip- tion
local files	The per- cent of HFiles that are stored on the lo- cal hdfs data node.Hadoop:service=HBase,name=RegionServer,sub=Server#perce

Chart: CPU

Metric Name | Metric Description — | — ‘user’ | ‘system’ | ‘wait’ | ‘interruption’
| ‘soft interrupt’ | ‘nice’ | ‘steal’ | ‘idle’ |

Report: RS Hedged Reads

Chart: Hedged Reads

	Metric De- Metricscrip- Name tion
hedgedThe reads num- ber of times we started a hedged read.Hadoop:service=HBase,name=RegionServer,sub=Server#hedged	
hedgedThe read num- wins ber of times we started a hedged read and a hedged read won.Hadoop:service=HBase,name=RegionServer,sub=Server#hedged	